

Supplemental Digital Appendix 1

Results of a Literature Review Conducted for the Ghana–Michigan Collaborative Health Alliance for Reshaping Training, Education, and Research, or CHARTER Project, 2009

In a literature review completed for the Bill and Melinda Gates CHARTER program, we (FA,GR and SR) conducted an extensive search to find evidence that issues of collaboration had been explicitly addressed prior to implementation of a global health research or training program between “northern” and “southern” institutions.

The literature search was developed and conducted in July 2009 and October 2009. In order to ensure a comprehensive search of the literature, six databases, identified for relevant content were searched: MEDLINE; Web of Science; EMBASE; CINAHL; SCOPUS; and Sociological Abstracts. Due to the nature of the topic, instead of conducting one search, the topic was divided into two discrete topic searches. The two search strategies were devised and implemented in MEDLINE in July 2009. After researchers’ initial appraisal of resulting MEDLINE citations, a minor revision to the search strategies was done to provide higher search specificity and relevant citation retrieval in the forthcoming searches. The finalized search strategies in all six databases were run in October 2009. A total of 14 discrete searches were conducted. All search retrieval from the two July 2009 MEDLINE searches and retrieval from the two revised search strategies run in the six databases in October 2009 were included in the appraisal. An update of the July 2009 MEDLINE search strategies were re-run in October 2009 to retrieve additional relevant citations indexed between July and October 2009. The search update was done to maintain comprehensiveness and provide consistency to the search process.

The searches conducted in all six databases used a variation on similar search terms, utilizing a combination of keywords and subject headings, in order to maintain uniformity. All search strategies were limited to English language articles published between 1999 and 2009. Due to the attempt to conduct as comprehensive a search as possible, irrelevant citations were retrieved. Also, due to the subject of the searches and the use of similar search terms in the databases, duplicate citations were retrieved. An effort to remove duplicate citations was done by importing all citations to a RefWorks, citation management program, and using the duplicate removal feature before processing and appraising the final search results.

1800 abstracts were returned from the initial search. All abstracts were reviewed independently by the authors and relevant articles were pulled for further review. Those that were not considered relevant to the current search were excluded. Many articles were personal accounts of short term medical mission trips and were not included. Others were excluded because they did not discuss partnership dynamics. Some manuscripts were descriptions of projects or programs executed only in one location in the developed world and were not considered relevant.

Exclusion criteria included: European only, American only, Needs statement (defined as authors making a case for developing a partnership agreement or similar, but not discussing any particular project or document), Editorial, Statement on Migration / brain drain, Program description, Donor policies, Clinical contributors, Agriculture / veterinary, Regulation, Single site, Volunteerism, One-way medical rotations.

Inclusion criteria included: Evaluations of opportunity (Lessons learned and Limitations), Original research about collaboration, Clearly or explicitly stated US / Canadian / European to developing country collaborations, Frameworks, documents, New approaches, Models,

principles, Guidelines, Educational exchange. All articles that were pulled were again reviewed by both authors independently and those that were found to be relevant are included in the discussion below.

The articles that were included in the analysis fit into four categories: Description (which include papers that describe, in depth, the development of projects between developed and developing countries and also describe either positive aspects or challenges around partnerships), Research (often traditional research), Training (both educational interventions as well as research training projects in which local scientists were partnered with counterparts from other institutions) or Collaboration. We reviewed 2912 abstracts using wide ranging search terms exploring global partnerships and chose 12 articles were chose for inclusion in this review.

Five of the articles describe academic partnerships to address HIV/AIDS in Africa. In one, authors described the explicit goal of the partnership to have a collaborative, African-based and African-led approach to building healthcare infrastructure and capacity. Having high-level support, specifically from the Vice Chancellor at Makerere University, the dean of the medical sciences and from the Ministry of Health, aided in the progression of this project.¹ A second project describes the initiation of their long-term (started in 1990) sustainable, multi-sectorial (including food provision) program that is a partnership between the Indiana University School of Medicine and the Moi University School of Medicine and Moi Teaching Hospital in Kenya to create and implement a system to control HIV/AIDS in western Kenya². In this program, departmental and institutional commitments were the initial connections, rather than starting from the Ministry level working down. The authors call on academic medical centers to engage

in a committed and equitable relationship with their developing world counterparts. The authors noted that altruism is a necessary but insufficient reason for either institution to continue the partnership. Authors also noted the “essential role that multi institutional cooperation played in creating and sustaining the partnership”. Orem and colleagues (2005)³ describe a collaborative HIV/AIDS research training program between Case Western Reserve University in Ohio and institutions in both Uganda and Kenya. The authors recognized the importance of a long-term international commitment of the collaborating investigators and institutions on the success of the project. Genuine respect for cultural differences and focusing on problems of interest and important to East African collaborators has been of paramount importance. Challenges focus on the ethics of biomedical research HIV treatment studies. Colatrella (2008)⁴ describes the Mectizan Donation Program, a 20-year collaboration to deliver a drug to combat river blindness. The lessons learned from this project include: free drugs are not enough, partnerships are critical, and the sustainability of a project must be addressed at the beginning. The Boston University partnership with programs in Lesotho found that “by combining the expertise from various schools and departments to focus on a single country, a university can significantly advance international development, strengthen its service mission, enrich teaching, and provide new opportunities for research”.⁵

Three articles describe discrete research projects between institutions in the “North” and a partner in the “South”. In a Kellogg Foundation-supported research collaboration between the School of Nursing at Case Western Reserve University and the University of Zimbabwe, faculty members at each institution worked together to develop research projects both amongst themselves as well as for Zimbabwean nursing masters students.⁶ The article included information about “forming research partnerships” which discusses issues that may arise with

international collaborations such as language and methods of communication, study design, culturally sensitive research methodology, and lack of resources, among others. Authors noted problems with language, methods of communication, study design, culturally sensitive instruments, access to subjects, availability of technological resources, official restrictions at many levels, and lack of resources for research funding. Ogden and Porter (2000) describe their experiences in building and maintaining cross-cultural research relationships between themselves, the London School of Tropical Medicine, and colleagues in India.⁷ In this manuscript, the authors discuss problems with developing equal partnerships due to huge disparities in research cost at respective institutions. The authors also seek to clarify semantic differences that, in their experience, caused issues. The authors suggest using the term “collaborations” to describe institutions that come together to accomplish work, while “partnership” be used to discuss work between individuals. In a case study of capacity building for epidemiologic research, authors noted that the short term projects and changing priorities of the donor agencies make long term capacity development difficult, and projects can be derailed by lack of cooperation among partner agencies with different mandates and difficult local conditions⁸. The authors suggest “open and visionary participation” among local and international partners to create conditions for the projects to be successful.

The four articles that were classified as Collaborations describe projects that relied on a large scale level of collaboration to accomplish. Parry and Percy (2007)⁹ describe Links, a method of collaboration that provides medical volunteers from the north to work in priority areas developed by southern partners. Amoah *et al* (2000)¹⁰ describe the collaborative development of a national diabetes program in Ghana between medical schools, industry, and governmental health care institutions. Authors noted that at the beginning of the program, communication “often broke

down” and that a documenting in writing a communication plan was needed to “ensure consensus and cooperation on program objective and implementation.” Yee *et al* (2005)¹¹ describe the process and outputs of an international collaboration to promote oral health and infection control, including the development of a national infection control policy and training program for oral health care workers in Nepal but did not address the tensions or problems. Suchdev *et al* (2007)¹² describe a model to provide sustainable, positive, short-term international health trips for physicians. They identify some general ethical challenges of short-term medical trips including self serving activities, raising expectations, therapies that fail to address the root causes, imposing burdens on local health care facilities, and care that does not follow current standards of health care delivery. Noting the lack of published principles for guidance, the authors suggest the identification of a mission, promote collaboration, provide education for both parties, service, sustainability, and evaluation as key principles for project success.

Many of the reviewed articles concluded that there is great need for collaborators, both from the North and from the South, to develop ethical, committed, long-term, sustainable, and representative partnerships. We were unable, however to identify a published example of an explicit process that occurred prior to implementation of a global program to address these critical issues.

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