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MEDICAL EDUCATION

Medical Education Capacity-Building Partnerships for Health Care Systems Development

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Abstract

Health care workforce development is a key pillar of global health systems strengthening that requires investment in health care worker training institutions. This can be achieved by developing partnerships between training institutions in resource-limited and resource-rich areas and leveraging the unique expertise and opportunities both have to offer. To realize their full potential, however, these relationships must be equitable. In this article, we use a previously described global health ethics framework and our ten-year experience with the Makerere University-Yale University (MUYU) Collaboration to provide an example of an equity-focused global health education partnership.

Introduction

In global health collaborations between institutions in resource-rich and resource-limited communities, money and expertise typically flow in one direction. Research relationships have built significant capacity—in infrastructure and human expertise—for basic science and clinical investigation over time. More recently, there has been increasing emphasis on translating this research into improving health outcomes in the study communities [1, 2]. Global health educational relationships, on the other hand, often develop out of the desire of academic institutions in resource-rich environments to provide their trainees with clinical experiences in resource-limited environments. These experiences are intended to provide trainees with exposure to globally relevant diseases and health care systems challenges that are uncommon in their home institutions, with the expectation that this perspective will enhance their clinical skill and knowledge as well as their understanding of the complexity of delivering care in resource-limited environments [3, 4]. Benefits to the partner institutions, however, are not as well defined [5]; this is, in part, due to lack of scholarly attention to this issue, although how benefits are defined would also depend heavily on the framework of the relationship.

As noted in the 2010 Lancet Commissions report, "Health Professionals for a New Century: Transforming Education to Strengthen Health Systems in an Interdependent World" [6], there is a gross mismatch between population needs and provider capacity as

a result of major global gaps in current postsecondary training programs in medicine, nursing, and public health. The report called for a social movement within the health professions—with professional educators, students, and young professionals serving as key players along with other stakeholders—to promote a common, global, cross-disciplinary strategy to address health systems strengthening needs. Among a host of other reforms, this strategy sets the stage for a new philosophy of global health educational partnerships, one that demands grounding in the "principles of non-exploitative and non-paternalistic equitable sharing of resources to generate mutual benefit and accountability" [7]. One key component of bidirectional partnership involves leveraging the experience of academic institutions to develop medical faculty for resource-limited regions. More than simply a training-of-trainers focus, the development of academic faculty serves to enhance capacity for both clinical reasoning and critical thinking and, thereby, the local human resources available to address health systems issues. In this model of partnership, the institutions in resource-rich regions also benefit by enhancing the breadth of their training and research capacity.

In order to achieve their goals, however, these collaborations must first and foremost be equitable relationships. Within this framework, equity requires that more resources be directed toward the less advantaged partner, thereby ensuring that the outcomes of the relationship will place both parties on an appropriately enhanced footing. This article will discuss such a framework, using the example of the Makerere University-Yale University (MUYU) Collaboration, a global health education capacity-building project between Mulago Hospital (MH)-Makerere University College of Health Sciences (MakCHS) in Kampala, Uganda, and the Yale School of Medicine (YSM) in New Haven, Connecticut.

An Equity-Focused Global Health Education Collaboration Model

MUYU was launched in 2006, with the Yale portion of the partnership having grown out of the global health program in the Department of Internal Medicine at the YSM. The Yale program had been sponsoring ongoing international clinical health elective rotations for residents since 1981, making this one of the oldest such programs in the United States [8]. As has been previously described [9], Mulago Hospital, operated by the Ministry of Health, is the main Ugandan National Referral and Teaching Hospital, with a very high volume of patients that typically exceeds its 1,500-bed capacity. Mulago Hospital also serves as the primary clinical training site for MakCHS undergraduate medical and nursing students as well as postgraduate medical and surgical trainees. Although MakCHS has many ongoing international research collaborations and has an office dedicated to hosting international clinical trainees and faculty, MUYU is one of very few educational collaborations with a focus on *bilateral* capacity building.

The concept for MUYU was born in 2002, when faculty from the Yale Global Health Program joined together with MakCHS faculty leadership to develop a vision of a mutually beneficial relationship with a primary focus on improving the quality of patient

care on the wards of Mulago Hospital. It was agreed that the primary transformative mechanism would be training of key clinical faculty in areas identified by the leadership at MH-MakCHS. Faculty training would in turn enhance the quality of training of MakCHS postgraduate (residents) and undergraduate trainees while providing opportunity for Yale students, residents, and faculty to participate in MH-MakCHS clinical, educational, and research activities.

From this foundation has grown a robust collaboration that involves five elements: (a) an organizational structure headed by co-directors (one from MakCHS and one from Yale); (b) administrative offices to support visiting trainees and faculty at both institutions; (c) a faculty exchange program (as described elsewhere [9]) to support the development of junior Mulago Hospital physicians and MakCHS faculty in areas that are identified as priorities for the leadership at MH-MakCHS; (d) a Yale-to-MakCHS exchange program for short-term clinical and research experience for faculty, residents in various specialties (i.e., internal medicine, emergency medicine, neurology, and obstetrics and gynecology), and senior medical, physician associate, nursing, and public health students; and (e) a MakCHS-to-Yale senior medical student exchange program for selected students to participate in short-term and often transformative clinical training in internal medicine, funded by the Yale School of Medicine in reciprocity for the resources devoted by MakCHS faculty to hosting and educating Yale students in Kampala.

In addition, MUYU has given rise to a host of offshoot capacity-building initiatives in Uganda. These include a program within the MakCHS structure that specifically supports the education of postgraduate internal medicine trainees; the development of the Uganda Initiative for Integrated Management of Non-Communicable Diseases (a multisectoral partnership with the mission of building capacity in the realms of prevention, care, training, and research to enable the provision of effective and integrated care) [10]; capacity building within teaching laboratories at MH; and MakCHS medical library enhancement. Of note, the MUYU Collaboration developed at the same time that specific global health education ethics recommendations were emerging; it is instructive, therefore, to have this concrete example in mind during the subsequent discussion of two of the key guidance documents.

Ethics and Equity in Global Health

In 2010, a geographically and professionally diverse group of leaders in global health education and ethics came together as the Working Group on Ethics Guidelines for Global Health Training (WEIGHT). The resulting guidelines [11] provide a framework to support the multiple stakeholders in global health training programs (identified as sending and host institutions, trainees, and sponsors) in developing ethically responsible training experiences and programs. The group drew a clear link between the ethics of global health collaboration and the concept of equity, stating:

> Global health training that benefits the trainee at the cost of the host is clearly unacceptable; mutual and reciprocal benefit, geared to achieving the program goals of all parties and aiming for equity, should be the goal [12].

Acknowledging the Western philosophical bias and focus on the individual patient-physician relationship of the classic four principles of biomedical ethics (autonomy, beneficence, nonmaleficence, and justice) [13], Pinto and Upshur have proposed an additional set of ethical principles that may be more useful in the setting of global health endeavors that aim for equity [14]. Although these principles were articulated as guidance for individual students or health practitioners, we find that introspection, humility, solidarity, and social justice can also be useful in framing an equity-focused global health educational collaboration.

Introspection. The first step is to openly define one's motives in becoming involved in such a collaboration. This mutual understanding, in conjunction with a shared vision for the partnership, will then drive the structure for implementing the vision. It was critical for YSM participants in MUYU to recognize that the major strength of the YSM lies in faculty members' expertise as educators and investigators, coupled with the availability of other resources that could enrich collaboration. We therefore hoped to improve the quality of care provided to patients at MH through training of junior and mid-level physicians and faculty in the areas of need identified by the MH-MakCHS leadership, which would have a magnified downstream effect on the training of future clinicians, researchers, and leaders. In return, this partnership would provide a rich environment for Yale faculty, residents, and health professions students to enhance their knowledge and skill in areas relevant to their clinical or investigative interests.

Humility. Humility requires that resource-rich institutions enter into relationships with institutions in resource-limited areas, recognizing that partners are best positioned to identify their own core problems and solutions. This necessitates a willingness to hear partners' ideas with an open mind. The leaders at MH-MakCHS defined a primary need for increased capacity in noncommunicable diseases and asked that the collaboration focus on training faculty in these fields. The partnership was, therefore, structured to clearly respond to this need.

Solidarity. The concept of solidarity is best crystalized in the following question: Are the partners working in a unified manner toward a common goal? The YSM partners felt strongly that—by virtue of engaging with MH-MakCHS—Yale had the responsibility to help strengthen MH and MakCHS, two institutions that are ultimately responsible for providing care and training a significant portion of the health care workforce for Uganda. The MUYU co-directorship, an administrative model involving leadership from both institutions, was devised to further strengthen commitment to this goal. The result of

these decisions is that—since 2006—the partnership has facilitated the bilateral and ongoing exchange of more than 400 faculty, residents, and students, including 15 Ugandan attending physicians and faculty trained in specific subspecialty areas identified as high priority by the leadership at MH-MakCHS.

Social justice. The concept of social justice is exemplified by this question: Is the collaboration designed to decrease human suffering in the resource-limited region? In the case of MUYU, the Ugandan consultants and faculty have, thus far, all returned to Uganda, and 12 of 15 have assumed MH-MakCHS positions in which they have used skills and concepts learned at Yale to develop new systems of education, applied research, and clinical care. This partnership thus has had significant impact on the training of students and residents as well as on the care of patients in the national referral hospital. This partnership has also enriched the education of trainees and students at Yale and has begun to provide a template for joint applied research endeavors. The process of sensitization to specific issues that are faced by Ugandan patients and clinicians, and the development of academic partnerships between Ugandan and US trainees and providers, has allowed MUYU to serve as a launching pad for collaboration on scholarly activities aimed at raising global awareness of these issues, with the goal of further improving patient care in Uganda and the region [10, 15-17].

Conclusion

In considering the Lancet Commission's call for educators to join health systems strengthening efforts in resource-limited areas of the world, the idea of equity in partnerships is central to the development of ethically sound global health education endeavors. The WEIGHT guidelines and global health ethics framework proposed by Pinto and Upshur [14] help to demonstrate how MUYU serves as one model of an equity-focused educational partnership. Importantly, the last ten years have shown how this collaboration has both thrived and laid the groundwork for the evolution of additional projects that may have even greater impacts on the Ugandan health system and individual patient care. Our hope is that the description of this global health ethics framework and collaborative model will be taken up and adapted for educational partnerships in other settings as a means of empowering educators to move health systems forward, independently of policymakers and special interest groups—a true social justice mission.

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