

VIEWPOINT

Development of a Global Health Teaching Fellowship for Global Health Care Capacity Building

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INTRODUCTION

With the transition from the Millennium Development Goals to the post-2015 agenda of Sustainable Development Goals, there is a shift in focus from vertical, disease-based interventions to horizontal, health systems-strengthening programs.¹ Although increasing global investment in horizontal approaches carries the promise of improved health care systems, it has highlighted the need to build health care capacity.² Given their expertise in education and clinician training, there is a clear opportunity for academic medical centers to be at the center of this evolution in global health.³ This article highlights one approach to health care capacity building taken by the Arnhold Global Health Institute (AGHI) at Mount Sinai, through the creation of the AGHI Teaching Fellowship. Supporting fellowship-level training in global health is a key component of many academic centers' global health programs. This particular fellowship was developed to capitalize on the educational expertise available at the Icahn School of Medicine at Mount Sinai and translate it to allow the fellows to become trainers and teachers to all levels of health care workers, from the community health care worker to the practicing clinician. The primary goal of this fellowship is to produce expert educators for global health care capacity building. The secondary goals are to meet the demand among US postgraduate physicians for further global health education, and to leverage the skills of the fellows to support AGHI field programs in creating long-term, sustainable, and collaborative partnerships. To accomplish these goals, the AGHI Fellowship supports extended stretches

of fieldwork, provides teaching opportunities in the field and domestically, and offers flexible access to didactics. This article describes the process of developing the Fellowship, its structure, and lessons learned.

BACKGROUND

The demand for fellowship-level global health training among US physicians-in-training is increasing, and there are a growing number of fellowship programs being offered.^{4,5} A recent survey identified 80 fellowship programs across at least 7 specialties.⁶ Other efforts have also been made to survey the field, but keeping abreast of current fellowship offerings is challenging as the landscape is changing quickly.^{7,8} Although there is consensus among trainees that they want to learn about global health, there is no clear consensus on how to deliver this training.^{9,10} The structure of existing global health fellowships varies greatly; differences include the duration of training; number of trainees; location and type of fieldwork; whether a master's degree or other diploma is offered; and the amount of time spent on clinical responsibilities, research, coursework, or teaching.^{6,11,12}

Regardless of structure, the rapid growth in the number of fellowships offered speaks to the increasing demand for advanced training in global health⁶ and a growing appreciation for how fellows can contribute during and after their fellowship to the changing landscape of global health. As North American global health programs evolve to reflect the broader changes in the field,¹³⁻¹⁵ there is increasing recognition of the need for skilled educators to maintain focus on developing long-term,

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sustainable, and collaborative partnerships that emphasize local capacity building and empowerment.¹⁶ As such, the development of teaching skills and experience have become important aspects of global health fellowship training. In a 2012 survey of global health fellowship programs nationwide, 75% of respondents (27 of 36) reported teaching as a component of their fellowship, the majority of which took place in both international and US settings.⁶ Teaching may include direct clinical instruction of US or foreign students or health professionals, community education/training, curriculum development, or other activities.

The Arnhold Global Health Institute (AGHI) Teaching Fellowship was developed in response to these needs in order to meet both the individual professional development goals of this new cadre of global health educators and the overall program goals of the institute.

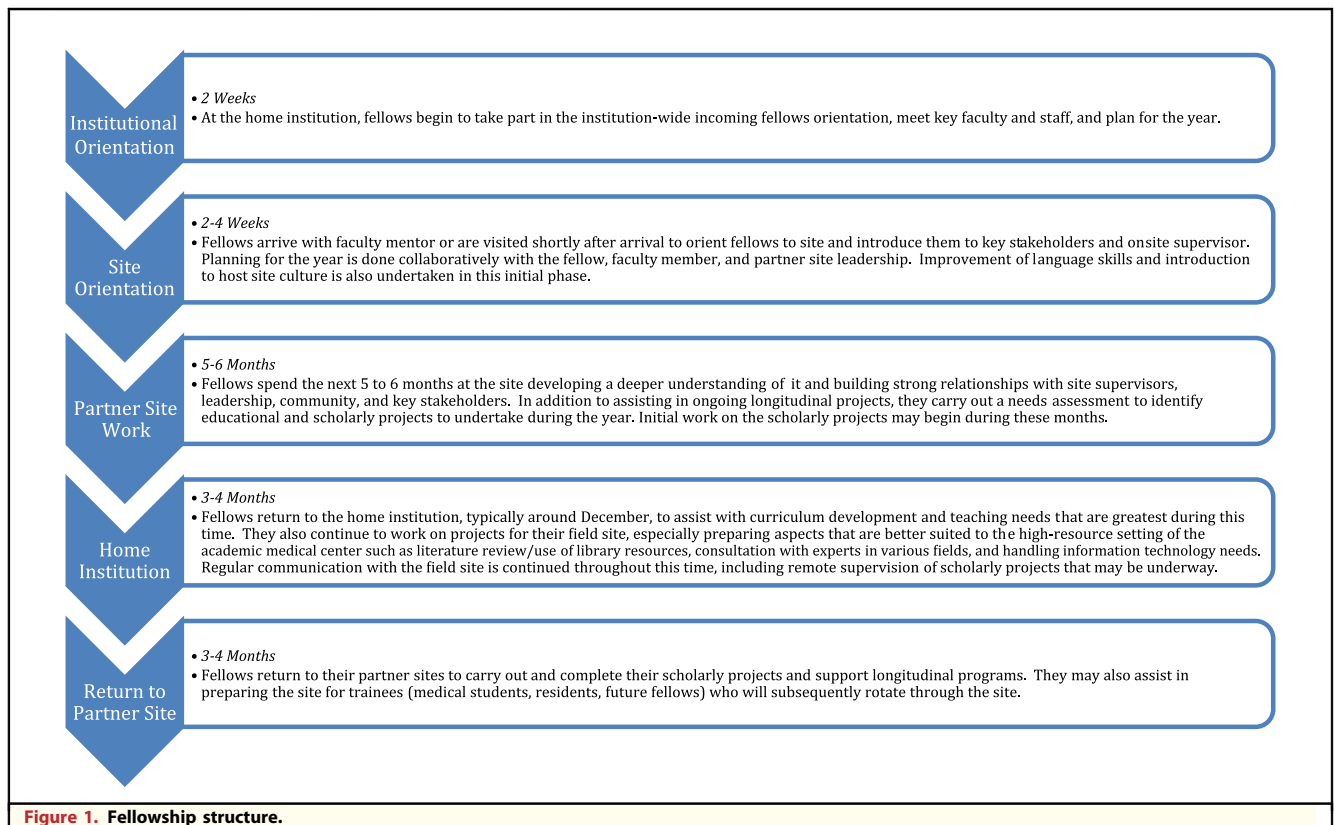
THE ROLE OF THE TEACHING FELLOW IN THE GLOBAL HEALTH PROGRAM AT MOUNT SINAI

Global health at Mount Sinai has been growing over the past 10 years, with formal institute status achieved in 2013. AGHI offers classroom and field experiences for medical and public health students and directs global health tracks within several residency programs. Global health became part of the core curriculum for all medical students as of the 2013–2014 academic year, with approximately 45 hours of dedicated curriculum time over 2 years. Teaching Fellows serve as teaching assistants (TAs) for a 1-week global health intensive for first-year medical students within this compulsory curriculum. These fellows focus on creating and teaching small-group sessions within their area of expertise during this week. The AGHI faculty also teaches a trimester-long, skills-oriented global health preparatory course for all medical and public health students and residents who are planning to participate in a field project, and Teaching Fellows also serve as TAs for this course. This allows fellows to gain experience codirecting a master's level course and also exposes them to content that will support their own fieldwork.

Over the decade since the formal global health program was founded at Mount Sinai, multiple training sites have been established worldwide, including within the United States. AGHI is now concentrating on strengthening its engagement at a limited number of “flagship” sites. Flagship programs are

primarily focused on capacity building and quality improvement in health care delivery through training. Examples of this include partnerships with nongovernmental organizations (NGOs) for the training and support of community-based lay health workers, and partnerships with academic institutions for curriculum support within medical schools and residency programs. At flagship sites, the development of strong partnerships and effective programs based on locally identified needs requires significant investment of AGHI resources, including faculty time. Over the past 3 years, Teaching Fellows have become an integral support for the development of these flagship sites. The Teaching Fellowship allows fellows to spend extended time in the field, approximately 8 months, where they can contribute to longitudinal, capacity-building projects and build their teaching skills further in a community-based or institutional setting. Fellows are matched to specific flagship site locations based on the needs expressed by local partners; overall institutional program needs; and the individual skills of the fellow, such as clinical specialty, language, and prior public and global health experience. On the ground, fellows contribute to training programs for multiple levels of local health care workers and gain experience with curriculum design and implementation of educational systems. Their extended time in the field enables them to build strong collaborative relationships with local partners, and their presence supports both the expansion of local programs and the experiences of Mount Sinai medical students or residents who are also participating in projects at that field site.

The basic structure of the Teaching Fellowship has developed to meet the needs of the partner sites while coordinating with the academic calendar of the home institution (Fig. 1). Experiences of fellows and partner sites have thus far been overwhelmingly positive. Both sides enjoy the benefits of lengthy onsite time and have capitalized on this to undertake an extensive range of projects and scholarly work (Table 1). The focal point of the Fellowship is the teaching project. Over the course of the year, fellows design or take part in a long-term capacity building project at one of the flagship sites. These projects focus on improvement in health care quality and delivery through teaching of health professionals and para-professionals such as community health workers. In the process, fellows hone their own teaching techniques and skills. Projects are to be based in evidence but adapted to the local context



and must also include monitoring and impact evaluations.

KEY EDUCATIONAL OBJECTIVES AND COMPETENCIES

The primary goal of the Teaching Fellowship is to create effective global health educators, who in turn build global health care capacity through the training and mentoring of health care workers in underserved settings in the United States and abroad. As such, although clinical knowledge and skills are necessary foundation, they are not the primary focus of the curriculum. Rather, the program's unique focus is on supporting fellows in developing teaching strategies and techniques so they can effectively educate health care workers and improve quality of care in settings with resource shortages. Although the teaching project includes fellows working with local health professionals to improve clinical skills and service delivery, the scope is actually much broader because of the integral role that traditional providers and community members have in promoting health in these communities. This position therefore also requires and

develops competence in cross-cultural communication, group facilitation, management, administration, and research in addition to skills as an educator.

Fellows also act as conduits to enable access by partner sites to the extensive resources available at Mount Sinai through the Icahn School of Medicine, the Institute for Medical Education, the Masters of Public Health (MPH) Program, and the AGHI. Fellows likewise bring knowledge and experience gained at partner sites back to Mount Sinai, disseminating this practical knowledge through design of curricular content in the medical school and graduate program; input into the selection, design, and implementation of trainee projects; and guidance regarding the direction of longitudinal programs at the partner sites.

Core competencies for the Teaching Fellowship were based on established Accreditation Council for Graduate Medical Education (ACGME) divisions, and specifically tailored for relevance in global health settings. Additionally, non-ACGME competencies specific to global health and teaching were added to better assess the analytic, policy, planning, program management, public health,

Table 1. Examples of Fellow Projects

Partner-site projects (country)

- Improvement of data-collection systems and meaningful analysis for a community health worker program (Mozambique).
- Initiation of new partnerships for curriculum support at urban medical and public health schools (Mozambique).
- Facilitation of training workshops for traditional birth attendants and community health workers (Mozambique).
- Implementation of collaborative continuing education sessions for nurses at a district-level hospital (Mozambique).
- Development of quality control guidelines and systems to coordinate delivery of care through mobile clinics (Mozambique).
- Establishment of a workplace HIV/STI peer education program at partner NGO (Mozambique).
- Development of a supplemental core curriculum for a family medicine residency program (Dominican Republic).
- Development of triage protocols and systems in an urban community hospital (Dominican Republic).
- A comprehensive community-based analysis of preconception risks and reproductive attitudes in Dominican women (Dominican Republic).
- Development of quality improvement initiatives to improve prenatal care delivery systems (Dominican Republic).
- Development and evaluation of an m-Health intervention to increase contraceptive compliance in adolescents (East Harlem, New York).

Home institution projects

- Development of new global health core curriculum at ISMMS
 - Preparation of small-group teaching modules on the following topics: global trends in traditional birth attendant programs, eWaste, indoor air pollution, maternal and newborn health disparities in the United States, and community-based newborn care.
- Provided assistance in recruitment and coordination of outside speakers and supplemental events.
- Serve as TA for global health skills course for residents, medical, and public health students preparing for global health rotations

ISMMS, Icahn School of Medicine at Mount Sinai; NGO, nongovernmental organization; STI, sexually transmitted infection; TA, teaching assistant.

and teaching skills required to become effective global health educators (Table 2).

SUPERVISION

Adequate supervision is essential to optimize the fellow's experience and also ensure that the needs of partner sites are met. As such, a realistic review of institutional capacity for sufficient supervision both domestically and abroad must be undertaken before the initiation of a fellowship program. At Mount Sinai, this has been possible through dedicated faculty who are provided the time and resources needed for international travel and supervision activities by the AGHI.

While on campus at Mount Sinai, supervision of fellows is carried out by the fellowship director and other AGHI faculty. They work closely with fellows on curriculum development and implementation, allowing for consistent mentorship, practical instruction and feedback on educational products, and demonstration of teaching abilities. Feedback is also garnered from formal evaluation of the coursework and direct teaching activities of fellows within the medical school and public health curriculum via a standardized online assessment system. Fellows also attend weekly AGHI departmental meetings where updates about their work are presented and feedback solicited from the wider global health faculty. The fellowship director also carries out a semi-annual evaluation.

Because fellows spend approximately 8 months of the year at field sites, onsite supervision is a significant feature of the program. At each flagship site, a long-term relationship has been developed between the AGHI and the local host program. Therefore, all onsite supervisors, ranging from physicians holding leadership positions in local academic institutions to program managers of partner NGOs, are stakeholders in the local projects. Onsite supervisors collaborate with the fellows toward project goals and maintain ongoing, direct communication with AGHI faculty regarding the activities and performance of the fellows. Additionally, the director of the Teaching Fellowship and other AGHI faculty carry out supervision of the fellows during field visits. The first visit takes place at the time of a fellow's arrival onsite, permitting orientation of the fellow to the field site and introduction to local partners. Interval visits are also conducted by faculty at several points throughout the year to perform direct observation of teaching activities in the field and supervision of scholarly projects. Regular communication between fellows and AGHI faculty via Skype and e-mail is maintained throughout the duration of the fellows' field experiences.

PRACTICAL CONSIDERATIONS AND FUNDING

The process for institutional approval for the 1-year Teaching Fellowship, currently in its third

Table 2. Selected ACGME and Non-ACGME Competencies

ACGME Competencies
<p>Patient care (when applicable)</p> <ul style="list-style-type: none"> ● Fellows will obtain and document appropriate history taking, physical exam, laboratory interpretation, and management approaches for patients in underserved settings globally. <p>Medical knowledge</p> <ul style="list-style-type: none"> ● Fellows will gain understanding of the epidemiology, diagnosis, and management of chronic diseases in a medically underserved setting. ● Fellows will gain understanding of tropical and other infectious illnesses that affect patients in the region where the field project is taking place. <p>Interpersonal skills and communication</p> <ul style="list-style-type: none"> ● Fellows will incorporate strategies for interacting with persons from diverse backgrounds (e.g., cultural, socioeconomic, educational, racial, ethnic, sexual orientation, professional). ● Fellows will consider the role of cultural, social, and behavioral factors in the accessibility, availability, acceptability, and delivery of public health services. <p>Professionalism</p> <ul style="list-style-type: none"> ● Fellows will communicate with physicians, nurses, other health professionals, and patients in a manner appropriate with the cultural setting. ● Fellows will display appropriate dress and personal conduct expected of professionals in the culture of the host site <p>Practice-based learning</p> <ul style="list-style-type: none"> ● Fellows will identify internal and external problems that may affect the delivery of essential public health services. ● Fellows will promote individual, team, and organizational learning opportunities. ● Fellows will modify organizational practices in consideration of changes in the public health system, and the larger social, political, and economic environments. <p>Systems-based practice</p> <ul style="list-style-type: none"> ● Fellows will assess community linkages and relationships among multiple factors (or determinants) affecting health. ● Fellows will collaborate in community-based participatory research efforts. ● Fellows will establish linkages with key stakeholders. ● Fellows will facilitate collaboration and partnerships to ensure participation of key stakeholders. ● Fellows will use community input when developing public health policies and programs.
Non-ACGME Competencies
<p>Global Health Competencies</p> <ul style="list-style-type: none"> ● Fellows will identify evidence-based approaches to addressing common global health problems in resource-limited settings, ● Fellows will describe the changing burden of diseases worldwide. ● Fellows will describe how globalization affects the health and well-being of people of the world and understand the effect of external political and financial forces on low-resource communities. ● Fellows will describe the characteristics of a population-based health problem (eg, equity, social determinants, environment). ● Fellows will articulate the implications of policy options (eg, health, fiscal, administrative, legal, ethical, social, political). ● Fellows will use decision analysis for policy development and program planning. ● Fellows will use methods and instruments for collecting valid and reliable quantitative and qualitative data. ● Fellows will make community-specific inferences from quantitative and qualitative data (eg, risks and benefits to the community and health and resource needs). <p>Teaching Competencies</p> <ul style="list-style-type: none"> ● Fellows will acquire an understanding of the range of methods of adult medical and public health education. ● Fellows will understand how education fits into the larger goals of behavior change. ● Fellows will demonstrate application of a range of adult education techniques.

cycle, began in 2012. Although there is no mechanism for official ACGME accreditation for global health programs, the fellowship has been approved by the Mount Sinai Graduate Medical Education office. Fellows are credentialed by the hospital in a manner similar to incoming fellows in all other specialties.

The Teaching Fellowship is entirely privately funded, made possible by generous donations and extensive support from the Mount Sinai Office of Development. This private funding provides the AGHI and fellows with significant flexibility and control over the structure of the fellowship and means that fellows are able to spend extended periods of time

at field sites. Although revenue-generating clinical duties at the main campus would create a more sustainable funding source for fellowship, it would come at the expense of time currently dedicated to fieldwork. This emphasis on fieldwork and teaching rather than on direct clinical care is an important aspect for prospective fellows to consider in deciding how the Teaching Fellowship would fit into their training goals.

The Teaching Fellowship is open to all specialties, and recruitment has largely been achieved through the Fellowship's web site, postings to fellowship directories, and information sent to listservs in various specialties. Qualification and skills required of applicants include successful completion of an accredited residency and strong performance in clinical training, evidence of experience in both teaching and global health, and a clear intention to make global health and teaching the focus of their lifelong career.

LESSONS LEARNED

Over the 3-year period since its inception, the Teaching Fellowship has evolved to better meet both trainee and institutional demands by learning from challenges and successes. This has occurred through a semiformal process, as fellows, faculty, staff, and administration are all engaged in a continuous and collective process of self-evaluation and iterative redesign of the program.

As initially conceived, fellows had the option to use the Teaching Fellowship to develop independent projects at field sites or with organizations of their choice. However, it became evident that this was not ideal in practice. To provide sufficient mentorship and structure for a meaningful experience, and to align the outcomes of the fellowship with the mission of the AGHI, it was necessary to engage fellows at field sites where Mount Sinai already maintained stable partnerships. The recruitment process now specifically states that fellows will be placed at one of the AGHI flagship sites and prioritizes applicants with the skills, experience, and language capabilities to support project development at these sites.

In 2012, when the program was established, the opportunity to obtain a funded MPH at Mount Sinai was offered as part of an optional 2-yearlong fellowship package. In subsequent years, due to budgetary restraints, this option was no longer offered. It also became evident that the demands

of doing the MPH created too many constraints on time in the field, which was considered higher priority. Although this changed the pool of potential applicants, it did not prove to be a significant impediment to recruitment of strong candidates, including those who already had their MPH.

An essential consideration in recruitment and successful field placement of fellows has been language skills. The ability to function independently at partner sites and to forge relationships with partner leadership and staff is essential. Working long-term in the field with translators is challenging for local partners in terms of programmatic productivity, and for fellows in terms of learning and ability to navigate social and cultural experiences. Feedback from these early experiences has allowed the program to adapt and improve, with an emphasis now placed on matching language skills with field placements. More recently, integrating 4 weeks of intense Portuguese-language training into the initial field placement of a fluent Spanish-speaking fellow proved successful in equipping her for both the professional and personal aspects of her field experience in Mozambique.

The importance of strategizing for retention of Fellowship graduates as AGHI faculty has also become apparent during the early years of the Teaching Fellowship program. In the future, we hope to make faculty positions available to our graduates, supporting and capitalizing on their unique education and strong partner site relationships for the benefit of both Mount Sinai trainees and our global partners.

CONCLUSIONS

The AGHI Teaching Fellowship at Mount Sinai has thus far been successful at achieving the goals of furthering domestic global health education, increasing health care capacity at underresourced partner sites through curriculum development and quality improvement, and building a cohort of specialized global health faculty. The early experiences have demonstrated the benefits of this field-based model both for the institution and its partners, successfully meeting trainee demand while simultaneously addressing partner site needs and supporting educational functions at the home institution. Goals for the future include development of a more robust platform for research funding and mentorship, and eventual expansion of the program to enable recruitment and placement of a Teaching Fellow at each of the AGHI flagship sites.

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