

Global Health Rotation Curriculum Proposal

Michael Schick

The Problem

Medical trainees, specifically resident and fellow physicians have strong motivations to learn and work internationally during their training periods. Many seek programs that specifically offer these experiences as they believe they can offer opportunities for global work and better prepare them to work in limited resource health settings. Many of these trainees will be working in a global and low resource setting for the first time and may not have the necessary attitudes, knowledge and skills to work and learn effectively. Additionally, without a mentor contextualizing the experience, trainees may develop negative outlooks about their work and may not participate in the future. Some sources describe a widening gap between trainees who want to work globally and available educational opportunities, which leads trainees to seek their own experiences unprepared and without mentorship.ⁱ To ensure better preparation and success I propose to develop an online course of study that is designed (and eventually required) for all medical trainees who will be working abroad (at UC Davis).

Needs Assessment

The curriculum will specifically target residents and fellows, but with an eye to expand to medical students, NP and PA students. The curriculum must cover a core set of material all trainees must know before and debrief about after their work, but also provide supplemental material for the specific specialty areas. Required pre-travel material should include material that will practically prepare them for travel, the required steps for travel and safety, practical knowledge of working in a different system with low resources and a culture different than their own, and the tips for a successful experience. Post-trip material will be included for effective debriefing, which will help the trainee contextualize the work and hopefully lead to retention of knowledge, skills, and a passion for future global work. I hope to create a program that is focused enough to apply to all trainees, but nimble enough to include the relevant materials for included specialties. This will require meeting with the subspecialty groups and collaborating on their high yield material, as well as turning to the literature and professional societies for guidance. It will also require coordinating with all departments and resident program directors to facilitate participation and adherence.

Trip preparation and debrief can apply to all trainees and therefore there are available resources already developed online that are readily accessible. The two most relevant may be "The Practitioners Guide to Global Health"ⁱⁱ and "SUGAR Prep"ⁱⁱⁱ. While both resources have significant merits and I intend to use them both, there are drawbacks as well. The Practitioner's Guide is fully online and does not require mentorship or expert guidance, which provides significant flexibility for trainees, but does not allow for personalization of the educational experience, assessment or expert and novice interaction. The SUGAR curriculum is more

comprehensive, allows for significant interaction and assessment, but is very time heavy for both instructor and trainee. While these two pre-and post-trip curricula are not the only options, they are excellent representation of the options available and demonstrate the need to evaluate both to decide what ought to be included for the trainees at my institution. In my setting, flexibility is important, but close mentorship is greatly valued as well. A combination of these described options will need to be curated.

There are several characteristics unique to my institution that create the specific need for this online course. First, there is a need to have a central online location that can be accessed by all departments where carefully curated material is available for pre-and post-trip planning and education. Part of the pre-trip planning is unique to my institution as there is a specific security and approval process that must be adhered to. Secondly, there is no central location in existence at my institution where educators or trainees can view and discuss past, current and future trips and projects. Creating an easily accessible course with a curated discussion forum and resources will allow siloed groups to collaborate and learn about opportunities, which will hopefully lead to greater participation in global work and greater impact. I can then develop orientation material for specific UC Davis projects and sites, while promoting coordination between departments and projects. Trainees can post and contribute their past experiences, tips and strategies for success. Thirdly, there is no current system for trainee timely feedback and evaluation regarding global work. While this process has been heavily standardized through ACGME at home institutions, it is often unclear how to address this in global settings where the work settings are diverse and not standardized. I propose that developing a standard method and strategy for eliciting feedback from global supervisors and local mentors throughout the global experience will improve the overall trainee experience and quality of work. Each resident should be provided (1) prerequisite clinical (or research) training; (2) pre-travel orientation and preparation; (3) mentorship by host and US faculty; and (4) post-travel evaluation and feedback.^{iv}

Goals

1. Learn how to safely and effectively participate in global health rotations, projects and volunteer work.
2. Develop a one stop location where trainees can access the resources they need to prepare and plan for their global work.
3. Create an online location where trainees can communicate with their peers and mentors regarding global travel, projects and work.
4. Develop a system where trainees can formulate their unique learning objectives and competencies.
5. Develop a system for timely trainee feedback and evaluations.

Outcomes

1. Improve the quality of the trainee's global health rotation experience.
2. Increase the impact and quality of work trainees have in global health settings.

3. Improve the quality of the global sites experience with hosting UC Davis trainees.
4. Increase the number of trainees participating in global health rotations and projects.
5. Increase the number of global health mentors.
6. Increase the number of the global health projects.
7. Increase the inter-departmental and inter-disciplinary collaboration of global health projects.
8. Increase the visibility of global health work at UC Davis.
9. Garner funding sources from inside and outside the university to support trainees.

Objectives

By the end of the resident or fellow's global health experience, they will:

1. Learn the pre-requisite clinical or research knowledge and skills necessary to safely and effectively work in the limited resourced health setting.
 - a. Self-identify key topics necessary for the learner's success.
 - b. Identify an ethically and educational sound global health opportunity.^v
 - c. Identify the necessary recourses to learn the key topics.
 - d. Review the core clinical or other related material identified by the mentor.
 - e. Utilize a mentor and site advisor to further identify the necessary skill set.
2. Understand the core concepts and challenges of working in the low resource health setting and be ready to apply them during their global work.
 - a. Explore personal motivations for doing global work.
 - b. Identify ways to align personal goals with global site goals.
 - c. Describe culture shock and what you may experience during and after the global work.
 - d. Describe the intended role you will play within the health system and the impact you expect to have.
 - e. Recognize key ethical challenges when working in the determined environment including barriers to care.
 - f. Describe the key contributors to poor health in the determined setting.
 - g. Review the WEIGHT guidelines.^{vi}
 - h. Describe the basic workings of the health system at the determined setting.
3. Have completed their pre-departure safety training, trip registration, and preparation.
 - a. Review the basic health precautions of global travel and working in low resource health settings.
 - b. Consider personal medical needs and limitations including vaccinations and pre- and post-exposure prophylaxis of infectious diseases. A travel medical visit may be required.
 - c. Assess site specific health and safety risk and develop an emergency evacuation plan. Travel insurance will be required and is provided for free from the University when your trip is registered.
 - d. Discuss strategies to reduce risk and maintain health while traveling.
 - e. Identify the logistical considerations of traveling and prepare for them.
 - f. Develop your personal "travel kit".

- g. Research the region, people, and culture of the determined site.
4. Develop and refine their global health project through deliberate practice and mentorship.
 - a. Identify the goals, objectives and outcomes of your intended work and project.
 - b. Develop a plan of how you will execute your work and project and elicit feedback from your mentor.
 - c. Create the necessary materials and tools to complete your work and/or project.
 - d. Create a way to gather needs assessment data if applicable.
 - e. Develop a strategy to gather feedback during and after your work and/or project.
5. Grow their knowledge and skill of how to effectively work in a limited resource health setting.
 - a. Set daily, weekly, and monthly goals and review them at the end of each period. This will provide reflection, reinforcement and gauge how you are learning.
 - b. Record challenges, unexpected occurrences, aspects that went well or poorly. Use these experiences to reflect and research on how to improve by growing your attitudes, knowledge and skills.
 - c. Seek out feedback, ask questions from local experts, and strive to be an active learner throughout your experience.
6. Contextualize and reflect upon their experience through targeted exercises and mentorship.
 - a. Create a reflective essay to share with your UC Davis global health community on your experience. It should include the challenges, achievements, strategies you would recommend for others, areas for future work, and suggestions for collaborative efforts. Answer questions such as: What would you have done differently? What went well? What was unexpected? What ethical dilemmas did you encounter? How could you have made a greater impact or been more effective?
 - b. Review your experience with your mentor.

Educational Strategies

The educational strategies to accomplish the set goals, outcomes and objectives will require a hybrid course of curated online material, discussion forum, connecting trainees with mentors and either small group or individual mentorship done through online, in person meetings or seminars. Many institutions around the country hold regular global health and orientation seminars throughout the year, which are required for those applying for global health rotations. Seminars are typically held 5-6 times per year and can be multi-disciplinary. As I have been building a global health track within our emergency medicine residency for the past two years, I must integrate this system into newly proposed Global Health Certificate Program, which may be run out of the School of Medicine. As part of the newly proposed certificate program, seminars will be an important part of the educational strategy. These seminars can be targeted to include some the objectives listed above, while other objectives may be covered in online didactics or monthly global health journal clubs.

Currently, my institution uses Canvas for hosting courses and educational materials. Therefore, the online course and content will be hosted on Canvas. The online course will be structured into modules that students can work through at their own pace and where instructors and mentors can monitor their progress and interact as needed. There will be curated discussion pages related to global sites, strategies for effectively working globally, and others initiated by both trainees and mentors.

In person mentorship, will be tailored to the learner, where learners from the same or related disciplines will be paired and can meet in person or virtually. Much of the mentored work may be completed in group settings at monthly global health events that are currently being planned, but will be altered based on this intended curriculum.

Seminars will be collaborative weekend events that will qualify participants to be part of the global health certificate program. They will be planned in inter-disciplinary groups and therefore the topics are yet to be determined concretely. Seminars will be great opportunities to have inter-disciplinary groups work on and discuss complex problems and scenarios in global health utilizing team based and problem based learning models.

Implementation Barriers

Communication between departments, programs, projects and individuals is one barrier to this project. There are many entities working globally within the university in series or in parallel without knowledge of the other. Taking stock of what people and programs are operating where and in what capacity will take time, many conversations, and then a central platform to maintain the lines of communication. The implementation of this curriculum will take the coordinated efforts and buy-in from multiple departments, their residency directors, department chairs, and identifying global health faculty mentors.

Support, interest and time are barriers to endorsing this project. It's endorsement is necessary from residency program directors, department chairs, and school deans. They must be convinced this is a worthwhile endeavor, it is worth their valuable time and possibly money to develop and maintain such a program at UC Davis. My personal time to devote to such a large endeavor is major barrier at present. Securing personal support is required prior to scaling up this project beyond my department. There is a huge administrative burden of time associated with this project and securing salary support for an administrator may be a necessary barrier to overcome. Additionally, travel funding for trainees is not available at present and will often be a barrier for trainees to substantively participate in the proposed curriculum.

Relationships with global partners must be further developed and maintained. This takes time, support and careful planning and negotiation to make sure it is a true partnership, not exploitative and both parties have goals and objectives explicitly stated and fulfilled.

At present, COVID19 is a major barrier to travel and global work. Easing restriction may be on the horizon, but it is unclear how viral variants and vaccinations rates around the world will play.

Assessment

Assessment for trainee global education has long been absent from the experience. Often this is because international supervisors are not provided the necessary tools to assess learners and learners have not been empowered to actively seek feedback. I intend to create templates and rubrics for international supervisors and instructors to assess global learners as well as rubrics for learners themselves where they can check if they are on track to regarding their rotation goals and objectives.

Learners will complete modules and quizzes in the online learning environment before and after rotations, which can be tracked and graded in Canvas. Learners will also submit reflective pieces to the site and blog for instructors and learners to comment on and provide feedback. Live assessment can occur during weekend seminars, in person mentor sessions, and if faculty travel with trainees. This assessment and feedback would be less formal and formative.

Learner's global rotation experience will begin by developing goals and objectives for their experience and most will have a specific project they are working towards. The end of the rotation will include going over and reflecting on these goal, objectives, and project with their mentor to assess their progress. Feedback and evaluation of the global site and overall course will be completed by each participant and routinely by global site directors and mentors, with an eye on improving the process and experience for all those involved.

ⁱ Nelson B. Developing a Career in Global Health: Considerations for Physicians-in-Training and Academic Mentors. *Journal of Graduate Medical Education*. 2012; 301-306.

doi:<http://dx.doi.org/10.4300/JGME-D-11-00299.1>

ⁱⁱ www.edx.org/course/the-practitioners-guide-to-global-health

ⁱⁱⁱ sugarprep.org

^{iv} Torjesen K, Mandalakas A, Kahn R, Duncan B. International child health electives for pediatric residents. *Arch Pediatr Adolesc Med*. 1999;153(12):1297–1302.

^v St Clair N et al. Global Health: Preparation for Working in Resource-Limited Settings.

PEDIATRICS Volume 140, number 5, November 2017:e20163783.

doi:<https://doi.org/10.1542/peds.2016-3783>

^{vi} Crump J et al. Global Health Training Ethics and Best Practice Guidelines for Training Experiences in Global Health. *Am. J. Trop. Med. Hyg.*, 83(6), 2010, pp. 1178–1182

doi:10.4269/ajtmh.2010.10-0527