

Developing an International Health Area of Concentration in a Family Medicine Residency

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Background and Objectives: We sought to develop an Area of Concentration (AOC) in international health to inspire and better prepare interested residents for such experiences during residency and in the future. **Methods:** The curriculum has three phases: pre-experience preparation, the international experience, and post-experience debriefing. In the last 2 years, residents and faculty have worked in Sri Lanka, Pakistan, Mexico, and Tanzania. The three main types of experiences have been disaster relief, clinical care, and community-based primary health care. **Results:** Compared to only two or fewer residents participating annually prior to the establishment of the AOC, more than 30 residents and faculty have participated in an international experience in the last 2 years. Our department now has at least two established annual international experiences and has developed educational and process manuals. **Conclusions:** An AOC curriculum can nurture interest and provide relevant skills that can be used in the care of vulnerable populations in the United States and abroad.

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In the aftermath of the natural disasters of 2004–2005, there was an increased interest in international work by physicians who would otherwise not consider international volunteering. As a specialty, family medicine, with its ability to provide comprehensive care for entire families, is well suited for this kind of work.

A survey conducted in 2000 for the *International Health Care Opportunities in Family Medicine Guide* showed that 16% of responding family medicine residencies indicated that they offered residents educational opportunities abroad, and 64% of respondents stated they provided assistance to interested residents who enlisted in such activities.¹ However, these experiences can be quite variable, and physicians often feel inadequately trained for such work.

With 12 residents per year, our program is based at an inner-city public safety-net hospital serving indigent patients, many of whom are immigrants. We developed an Area of Concentration (AOC) in international health, seeking to better train physicians to provide culturally competent care in the United States while nurturing interest and skills needed for international health endeavors. We present here our experience in the

first 2 years of this AOC curriculum, along with some preliminary outcomes.

Methods

In the aftermath of the Asian tsunami, an overwhelming interest among our residents to organize a relief mission led our department to develop a more-formalized curriculum with an AOC in international health to help prepare residents for current and future international work. This optional AOC was available to interested second- and third-year residents in good standing with the department's Residents' Evaluation Committee.

Curriculum

Two established faculty with international health experience helped facilitate the development of the curriculum, including site assessment, education, and evaluation. This curriculum has three phases: pre-experience preparation, international experience, and post-experience debriefing (Table 1).

Preparation for International Experience. This phase started almost a year prior to the actual experience. Residents and faculty worked together to prepare monthly educational and planning seminars. Using several resources, faculty-resident teams developed a curriculum covering a wide range of topics from travel

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Table 1

Area of Concentration Curriculum Outline:
Timeline and Content

Pre-trip Preparation (6–12 months):**Monthly dinner meetings coordinated by residents and faculty**

- Site selection
- Selection and working with appropriate host and international organizations
- Site/country background (political, cultural, basic language, etc)
- Cross-cultural and communication issues
- Community-based primary health care:
 - Development of health assessment tools
- Working with interdisciplinary teams
- Social determinants of health
- Health and human rights
- Maternal and child health
- Site-specific medical illness:
 - Tropical medicine (example: malaria, tuberculosis, Chagas disease, parasitic infections, HIV/AIDS)
 - Disaster relief: wound management, fractures, mental health
 - Diseases of poverty (example: malnutrition, dehydration)
 - ALSO/ACLS/PALS review
- Working in under-resourced communities
- Fund-raising
- Development of site-specific manuals
- Journaling and blogging on the Web
- Trip planning
 - Travel Medicine 101
 - Personal health, safety, immunizations
 - Passports and visas
 - Travel insurance/liability insurance, etc
 - Contract and consent agreements

International Experience (2 weeks)

- Regular meetings (daily to a few times a week) to discuss issues and medical cases

Post-trip Debriefing (two meetings over dinner within 1 month of return)

- Debriefing/feedback
- Written narratives of experience
- Grand Rounds presentation

ALSO—Advanced Life Support in Obstetrics

ACLS—Advanced Cardiac Life Support

PALS—Pediatrics Advanced Life Support

logistics and local diseases to poverty and its effects on health.²⁻⁴

International Experience. Faculty with prior experience at the site accompanied each team. This faculty was the liaison between the residents and the local staff. The faculty member was also responsible for the education and evaluation components.

Post-experience Debriefing. Upon returning to the United States, we conducted debriefing sessions in which residents discussed their experiences and made suggestions for enhancing the experience for future residents. Residents were required to submit written narratives and give grand rounds presentations.

Site and Experience Description

Sites (Table 2) were selected based on prior faculty experiences or on resident interest in a particular region. After selection of the site, the team tried to establish a relationship with an existing organization that had a long-term commitment to the health of that area. Thus far, the three main types of experiences have been disaster relief, clinical care, and community-based primary health care (CBPHC).

Disaster Relief. Trips were organized with an international agency in the post-tsunami-affected areas of Sri Lanka and earthquake regions of Pakistan.⁵ Most of the work at these sites involved daily mobile health clinics for the disaster victims at different internally displaced people (IDP) camps.

Clinical Care. Hospital San Carlos, in the highlands of Chiapas, one of the poorest states in Mexico, is one of the few hospitals serving the indigenous communities there. A few transitional local and international volunteers staff the hospital.^{6,7} The principal component of our residents' experience was provision of outpatient and inpatient care for pediatrics through adults, including women's health services. Physicians also accompanied community health workers (CHW) to remote communities to provide health care and education. More locally, across the Mexican border, our physicians supported undergraduate premedical students to provide quarterly health fairs to a transitional peri-urban encampment.

CBPHC. Sota, a small village in Tanzania, is in one of the poorest regions in the African continent. Working under the auspices of a local organization, residents saw patients in the clinic but were primarily involved in a door-to-door community health assessment.

Evaluation

A modified Kirkpatrick's model was used to evaluate curricular outcomes. We looked at learners' reactions, attitudes, acquisition of knowledge and skills, and behavior changes. These were based on their participation in the planning process, evaluation by faculty during the experience, post-trip debriefing, written narratives, and presentations. We also examined benefits to the site and changes in our program level.

Results

During the last 2 years, more than 30 residents and faculty have participated in an international experience, compared to only zero to two residents participating annually prior to the establishment of the AOC (Tables 2 and 3).

Resident/Learner Outcomes

Reactions/Attitudes. Most residents reported being taken aback by the degree of poverty among the local populations. They felt that community-based activities were essential to help health providers understand the social determinants of health that may not be evident in the confines of the exam room. For many, the inter-

national experience was a life-changing event, and they encouraged other residents toward similar work.

Knowledge and Skills. Residents learned about tropical medicine and diseases of poverty. They also learned to use their clinical skills for diagnosis without advanced technology. They practiced the provision of culturally and linguistically different care while learning to accept different values, beliefs, and attitudes of life, death, and health. For example, learning to “let go” when families accept death and forgo tertiary care, or rationing treatment when resources were limited, were frustrating but valuable and necessary mind-set shifts for work in such communities.

Table 2

Area of Concentration: Demographics/Description of Sites and Residents

	Sri Lanka Pakistan	Chiapas, Mexico	Tecate, Mexico	Sota, Tanzania
General description	Death toll: Tsunami >250,000 Pakistan earthquake >45,000	Indigenous Maya/Zapatista communities; subsistence farmers	Transitional border communities; main source of income—brick making	Village of ~400 families; subsistence farming by women; fishing by men
Language	Tamil (SL) Urdu (Pakistan)	Spanish Mayan *	Spanish	Swahili
Clinical site description	Refugee camps—tents or in old buildings; ~400–500 families/camp	60 beds with basic emergency, outpatient, inpatient services	No services	Clinic with basic labs serving families in Sota and surrounding villages
Site staffing	International volunteers or no services at remote camps	Five transitional local and one to two volunteer physicians	None	One US board-certified family physician
Community partners	NWMTI	HSC, DGH, DOW	LSHP	SHED
Experience type	<ul style="list-style-type: none"> Disaster relief at IDP camps Mobile clinics 	<ul style="list-style-type: none"> Clinical care CBPHC: outreach to remote villages 	<ul style="list-style-type: none"> Border health Quarterly health fairs 	<ul style="list-style-type: none"> CBPHC: door-to-door health assessments Clinical care
Resident requirements and other	Optional curriculum available to all PGY-2 and PGY-3 residents (n=24)			
	Residents required to be in good standing with the department's Resident Review and Evaluation Committee			
		Spanish fluency		
	Other experiences such as health education, surveying, documentation available for family or friends			
Finances	Residents have to use vacation or unpaid leave during away elective			
	Paid by relief organization	Airfare and \$10/day room and board		Airfare and \$10/day room and board
Experience dates (2 week)	January 2006 (two teams) February 2006	May 2005 September 2006	Quarterly	January 2007 February 2007
Participating resident demographics	All residents were PGY-2 or PGY-3 graduates from US medical or osteopathic schools			
	n=6	n=3	n=variable/4–6	n=11
	Three female; two male	Two female; one male	Variable	Six female; five male
Other Participants	One family member			One IM; one Peds; one PS; three family members
Faculty	n=4	n= 2	Variable	n= 4

* Mayan languages: Tzeltal, Tzotzil, Tojolobal, Chol

CBPHC—community-based primary health care; DGH—Doctors for Global Health; DOW—Doctors of the World; HSC—Hospital San Carlos; IDP—internally displaced people; IM—internal medicine resident; LSHP—Latino Student Health Project at University of California, Los Angeles; n—number of residents and faculty participants in the experience; NWMTI—North West Medical Teams International; Peds—pediatrics resident; PS—psychiatry resident; SHED—Shirati Health Education and Development Foundation; SL—Sri Lanka

Table 3

Area of Concentration in International Health: Evaluation/Outcomes

Learner's reactions

- Residents were taken aback by the extreme level of poverty in these communities.
- Residents felt this was a life-changing experience and encouraged their colleagues to seek out similar experiences.

Modification of attitudes and perception among residents

Participating residents stated that:

- As physicians they felt it was important to be out in the community to understand the many other social determinants of health.
- They were more likely to practice in under-resourced communities.
- They were more likely to consider international volunteering.

Acquisition of knowledge and skills among participating residents

- Improved confidence in basic clinical diagnosis with less reliance on advanced laboratories and technology.
- Increased knowledge of tropical medicine and poverty-related illnesses.
- Increased skills in providing culturally and linguistically competent care.
- Learning to work alongside community members and local organizations to bring about positive changes.
- Increased knowledge of COPC/CBPHC practice and theory:
 - Skills in developing, conducting, and analyzing community health needs assessments.

Change in residents' behavior

- Increased number of residents interested and participating in international health electives (more than 30 residents and faculty in the last 2 years).
- Three graduating residents applying for full-time international health positions and another three graduates returning in the upcoming academic year to supervise resident teams on international electives.

Changes at program level

- Two established international electives in Mexico and Tanzania offered each year.
- Increased participation and support by other faculty and departments.
- Easily adaptable general process manual that can be used to establish experiences at new sites.
- Increase in department grand rounds focusing on international health and diseases of poverty.

Benefits to site

- Sri Lanka/Pakistan
 - Provide clinical care at IDP camps and first health teams to provide care to some of the remote earthquake-affected villages of Pakistan.
 - Medical formulary developed for future volunteers.
 - Increased mental health provider training based on our health assessments
- Chiapas, Mexico
 - Provide annual coverage/respice for local health providers.
 - Provide curricular and financial support for community health workers' training program.
 - Site-specific manual developed for future teams.
- Tecate, Mexico
 - Quarterly health fairs and education to remote border communities.
- Sota, Tanzania
 - Clinical care and mobile clinics.
 - Household health assessment survey conducted to prioritize health needs.
 - Promotional video for the SHED Foundation.
 - Funds raised to purchase mosquito nets.
 - Site-specific manual developed.

CBPHC—community-based primary health care; COPC—community-oriented primary care; IDP—internally displaced people; SHED—Shirati Health Education and Development Foundation

The Tanzania teams also learned about the principles of CBPHC. They developed, implemented, and analyzed a community health assessment survey while partnering with a local organization. Preliminary findings of this work are now being used by the organization to implement focused interventions.

Behavior Changes. Most participating residents expressed a desire to be involved in international work in the future, and three graduates have returned to supervise resident teams. Among the current graduating class, three have applied for full-time international health positions, and three others have committed to supervising teams this upcoming year.

Site Outcomes. Because faculty had an established relationship with the local providers, the hosts did not have the burden of orienting the teams. Our residents gave the local providers needed relief from their heavy workloads while engaging in the exchange of knowledge and skills.

(1) Sri Lanka and Pakistan. Reports generated by our teams helped prioritize health needs in the IDP camps. Mental health, domestic violence, hygiene, and related illnesses were identified as some of the main health needs. Some recommended interventions have been incorporated by the international organization partnering with local agencies to train workers in providing mental health services at the camps. An extensive medication formulary developed by our team has been an indispensable resource for other volunteers.

(2) Mexico. In Chiapas, our department has made an annual commitment to help staff the hospital during the critical weeks when most local house staff take time off to take national specialty exams. Support of long-term projects such as the CHW training program through financial and curricular assistance is also underway. In Tecate, quarterly health fairs at this border site have become the main source of health care for many who are not able to access the local health system.

(3) Tanzania. The community health needs assessment has been valuable to prioritize health interventions. Having identified malaria and schistosomiasis as major disease burdens, residents have raised funds and purchased mosquito nets for the families. Discussions regarding water treatment schemes were also initiated. Our team produced a promotional video for the host organization that has now been incorporated onto their Web site.⁸

Program Outcomes. Besides the direct influence that the international experiences have had on our residents, the department now has at least two planned annual international experiences and a faculty dedicated to facilitate our AOC curriculum. Besides site-specific guides, two educational manuals—first, a step-by-step planning guide for establishing electives at new sites and second, a manual on illnesses most prevalent at existing sites—have been developed. This established curriculum has helped ease the transition and work of future residents who seek to develop new experiences. This curriculum has also helped promote the role of family medicine with other hospital departments who have sent their residents with us.

Discussion

Our AOC in international health has produced a significant increase in the number of residents and fac-

ulty participating in such experiences during and after residency. Resident feedback, an organized curriculum, and a team approach have encouraged other initially reluctant residents to participate as well.

Obstacles to the AOC have been fund-raising to compensate for resident salaries that are not covered by our public county hospital during out-of-town electives. Also, to accommodate the increasing number of residents interested in international experiences, our department has had to implement creative coverage schemes for resident duties.

Overall, however, our experience shows that an international health AOC can be incorporated into a 3-year family medicine training without disrupting graduate medical education requirements. While potentially forging lasting relationships abroad, this curriculum can better prepare physicians to provide competent care to vulnerable communities domestically and internationally.

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