Preparing future osteopathic physicians to practice in the global village

BRUCE D. DUBIN, DO, JD

Recent trends in healthcare require a new and expanding role in the study of international medicine during the training of physicians. As populations throughout the world live longer, there is an increasing trend toward global commonality of health concerns. Reports indicate that without US involvement, our national health, economic viability, and security will suffer. Disease has no formal boundaries; with the companionship of poverty and malnutrition, disease is present throughout the world. “In a global village, microbes travel at the speed of commerce. Infections can spread from the jungle to the urban doorstep in less than a day.” One has only to recall the recent outbreak of West Nile Virus in New York to understand that our future healthcare providers need to possess a broad comprehension of health and disease from an international perspective.

Outbreaks of diseases not thought to reside in the United States occur regularly and frequently. Chagas’ disease has been reported in southern Florida and Georgia (M. Grijalva, PhD, oral communication, March 1999). ProMED, a daily online digest for infectious disease junkies, reported Cyclospora clusters—possibly linked to Guatemalan raspberries—in California, Florida, Nevada, New York, and Texas. Best-selling novels and movies depict the concern Americans have about the possibility of a worldwide health disaster affecting the United States. Witness the popularity of such films as The Andromeda Strain and Outbreak. Health has been linked to national and international security. In truth, an outbreak of any hemorrhagic fever is only hours away on any international airline flight.

Objectives for international rotations

In developing international rotations for the Ohio University College of Osteopathic Medicine (OUCOM), it became important to develop explicit goals and objectives for medical study abroad. Sending students abroad without clear-cut learning objectives would be tantamount to starting a journey without a map. The following are some of the more important learning opportunities that students gain from participating in international medical education.

Opportunities to improve diagnostic skills—Physician training today demonstrates increased dependence on technology and laboratory tests. Some residents routinely replace the stethoscope with an echocardiogram during routine physical diagnostic evaluations, and many physicians lose the ability to palpate the abdomen due to the ease of ordering a CT scan. International rotations in countries that rely less on technology and more on actual physical diagnosis improve students’ abilities to use their own diagnostic skills and develop a sense of mastery and confidence.

Study of emerging diseases—Exposure to medical care in developing countries provides student physicians firsthand exposure to endemic areas of disease that have not yet appeared in the Western Hemisphere. The world has already witnessed the evolution of the hemorrhagic virus in sub-Saharan Africa and its occurrence in Western Europe. Less deadly disorders such as Chagas’ disease have been reported in the United States. Americans receive influenza vaccinations based on strains of a virus that emerge halfway around the globe before reaching the United States. Medical study abroad increases awareness and understanding of disorders that may “jump species and/or locations” into new and unforeseen geographic areas.

Opportunity to study other healthcare delivery systems—Knowledge of international healthcare must include an understanding of healthcare delivery systems that differ from those practiced in the United States. From a global perspective, the systems of healthcare delivery depend on resource allocation and rely on a country’s economy. Economic changes in any country may affect the provision of basic healthcare within that nation’s boundary. The United States has the most expensive of systems, outstripping by over half the healthcare expenditure of any other country. One must ask why the United States ranked 37th in overall health system performance in the World Health Organization’s World Health Report 2000. Certainly, expenditure alone is not the sine qua non of good healthcare. Thus, trainee exposure to another country’s healthcare delivery system can reveal new and different methods of capital expenditure and human resource allocation. Perhaps studies of resource utilization and regional education abroad will provide us with a better understanding of the geographic variations to healthcare evident in our own society.

Cultural competency—Exposure to healthcare in a different country often exposes trainees to new and different cultures. Other cultures may incorporate diverse concepts of health and disease, and exposure to these provides improved respect for cultural competency in health promotion, disease prevention, and healthcare delivery within
the changing face of American culture. As the US population continues to become more diverse, opportunities for international rotations will prove to be an invaluable experience for those who will deliver our future healthcare.

Opportunities for field research—International rotations offer unique opportunities for research in different geographic and climatic areas. At OUCOM, medical students have the opportunity to work with the Tropical Disease Institute and to participate in field research in the Amazon basin of South America. Trainees can work side by side with research biologists as they study vector-borne diseases. As part of OUCOM’s SHARE Kenya project, Ohio University students designed and carried out a research project correlating the relationship of sickle cell disease in an endemic malaria population. These types of opportunities can be exciting and challenging and can spark enthusiasm for later research careers.

Understanding travel medicine—Within our mobile society, international travel has become the rule rather than the exception. Business conducted globally often requires travel on demand as an economic necessity in widespread international markets. Physicians in training must become aware of the essential immunization profiles and health requirements for travel abroad. They must be able to provide their patients with adequate advice and medication to ensure safe travel. With rapidly changing disease profiles in emerging countries and tropical locations, students must learn to use Web sites like the Centers for Disease Control and Prevention and ProMED to best advise and familiarize themselves with those diseases they anticipate will be frequently encountered.

Infrastructure for international rotations

The development and implementation of international rotations as part of the medical education experience can involve risks and hardships. Terrorist activity, unfamiliar laws, and the risk of becoming ill represent a few of the realities that must not be overlooked. These risks can be minimized if careful planning and diligence characterize the early phases of establishing international rotations. Student-initiated electives abroad must be viewed cautiously by academic deans, and preference given to those international rotations that have been developed by the college.

For a medical school, international rotations are best created by personal contact between administrators and faculty members from each country. Face-to-face meetings lend themselves to the development of long-standing relationships. The meetings can occur at medical symposia or continuing medical education conferences that draw an international audience. Our plan at OUCOM has included travel to countries where we have met public health-care officials and private practitioners. This has opened doors that have been mutually beneficial. It also gives the college of medicine the ability to explore and understand the country, culture, and facilities that students will experience during their clinical training abroad. Prior to a student’s arrival at his or her rotation site, curriculum goals and objectives must be discussed with foreign faculty. Evaluation methods must be clearly understood. International rotation sites must have a clear understanding of the level of training each student has achieved prior to the beginning of any rotation. This prevents students from being expected to provide a level of healthcare they have not yet been trained to deliver.

The student application process for an international rotation must be thorough. It must include a health questionnaire to ascertain the absence of any preexisting illness that might be exacerbated by the planned rotation. Students should receive a TB skin test prior to travel in an endemic area. This will prove useful should they test PPD-positive after their return.

Immunizations must be planned and verified. Many areas require yellow fever vaccination prior to arrival. Although students may have already received immunization for hepatitis B, titers should be verified to ensure that the immunization has provided antibody protection. If the student requires malaria prophylaxis, it must be discussed and started prior to travel.

HIV prophylaxis must be discussed with trainees and provided prior to any student rotation in an endemic area. Students must demonstrate competency in universal precautions, and care must be taken to ensure that the location allows/ provides materials to practice universal precautions. If rotation sites do not provide protective gowns, gloves, or other basic protective gear, then the school must ensure that an adequate supply accompanies the student. HIV prophylaxis with the current needle stick guidelines must accompany each student or group of students. Students and faculty need to clearly understand how this prophylaxis will be started and taken, as time is of the essence in these situations. Local policy and provisions for patient HIV blood testing should be discussed with the proposed rotation site ahead of time, should a needle stick or exposure occur.

Insurance to cover students and faculty must be well planned. The college of medicine and student should realize that US health insurance programs might not be recognized abroad. Many foreign hospitals require cash payment at the time
service is rendered for expatriates. This may require availability of credit or having cash readily transferable—possibly difficult in remote locations where telephone and other methods of communication are poor to nonexistent. All students and faculty must have medical evacuation insurance to provide for transportation to a hospital that meets accepted western standards, should the need arise. Travel insurance should be discussed, as natural disasters and unforeseen circumstances can alter plans. If a large group travels to an area of potential natural disaster or civil unrest, group evacuation plans must exist.

Passports and visas must be obtained well in advance. This exercise provides an excellent learning opportunity for students to study the aspects of foreign travel that many of their patients will encounter. The school and student must query the US State Department about travel advisories to proposed sites of rotation. All parties involved in international rotations would be well advised to take advantage of the State Department’s list-serve e-mail advisories. This service provides up-to-the-minute accounts of potential problems for US citizens abroad. Each member of the travel party should have the telephone number and know the location of the US embassy in the country they plan to visit. Travel itineraries must be kept current with both the school and family/friends. Methods of communication with home must be discussed prior to travel abroad.

Medical supplies and equipment for group rotations such as SHARE Kenya must be planned well ahead of time. What medications will be required? It makes no sense to transport antihypertensive medications to populations where hypertension does not pose a health issue. What antibiotics might be needed and which are locally available? What medications are in most demand? What surgical supplies will be required? If the group intends to bring its own supplies, what customs requirements will the group encounter? Securing letters of support and/or transit from appropriate government officials or ministers of health prior to travel will help to expedite custom inspections.

**Comments**

Language and culture are important aspects of any international rotation. Students must become familiar with the language and culture of the country they intend to visit. In developing parts of the world, poverty and poor sanitation can have devastating effects on trainees unless they have been adequately prepared. OUCOM holds specific lectures and cultural workshops to discuss unique aspects of the culture students will encounter on their anticipated rotation. OUCOM has also developed texts of medical translation in Kiswahili and Luo to ease language barriers in Kenya. While on group rotations, communities often provide translators to facilitate healthcare delivery and education.

OUCOM has taken the first steps in pursuing the journey into international healthcare education, but there are still many roads to travel down this path. Some will argue that healthcare training efforts should stay at home. They will say that we have economic problems and health problems in the United States. We have a large number of uninsured and underinsured, and there are pockets in our country where lack of access makes healthcare almost nonexistent. It stands to reason, however, that the study of healthcare from an international perspective will provide important and useful lessons that will assist our future US-trained physicians. International rotations provide trainees with the development of better healthcare delivery skills and improved concepts of healthcare policy that will benefit all our citizens. Some of the medical and scientific knowledge needed to protect the health of our people is uniquely available or acquired most cost-effectively through the study of populations abroad. International rotations, if properly developed and maintained, can provide an invaluable training resource for our current medical trainees.

**References**