

An International Health Elective in Haiti: A Case for Osteopathic Medicine

Sidney Coupet, DO, MPH, MSc
Joel D. Howell, MD, PhD
Barbara Ross-Lee, DO

From the Robert Wood Johnson Foundation Clinical Scholars Program (Drs Coupet and Howell) and the departments of internal medicine (Drs Coupet and Howell), history (Dr Howell), and health management and policy (Dr Howell) at the University of Michigan in Ann Arbor and the office of health sciences and medical affairs at the New York Institute of Technology College of Osteopathic Medicine in Old Westbury (Dr Ross-Lee). Dr Coupet is the founder and chief executive officer of Doctors United For Haiti (DUFH) and a Robert Wood Johnson Foundation clinical scholar.

Financial Disclosures:
None reported.

Address
correspondence to
Sidney Coupet, DO, MPH,
MSc, Robert Wood Johnson
Foundation Clinical Scholars
Program, Department of
Internal Medicine,
University of Michigan,
2800 Plymouth Rd,
Ann Arbor, MI 48109-0600

E-mail:
scoupet@umich.edu

Submitted
January 18, 2013;
revision received
February 15, 2013;
accepted
February 22, 2013.

As global health education becomes increasingly important, more physicians are participating in international health electives (IHEs). Haiti is a favorable site for an IHE because of its substantial health care needs and rich culture. Although both osteopathic and allopathic physicians can provide effective health care to Haitians, osteopathic physicians may be particularly well suited to serve in Haiti because of their training in osteopathic manipulative treatment (OMT). Because OMT's laying of the hands (high touch) is similar to the touch inherent to Haiti's traditional ethnomedical practices, osteopathic physicians' use of OMT can enhance trust among Haitians and increase Haitians' willingness to work with westernized medical practitioners. In addition, an IHE in a low-resource country such as Haiti can provide osteopathic physicians with a global outlook on medicine and a range of critical communication and clinical skills. The authors advocate for the development of an IHE in Haiti for osteopathic physicians.

J Am Osteopath Assoc. 2013;113(6):484-489

Physicians-in-training are requesting rotations abroad, or international health electives (IHEs), in growing numbers.¹ In addition, global health professionals have recognized the importance of providing future physicians with global experiences.² Haiti is an especially favorable site for an IHE because of its substantial health care needs and rich culture.³ Although both osteopathic and allopathic physicians can lend effective health care services and support to Haiti, US-trained osteopathic physicians can offer additional benefits with their unique modality of osteopathic manipulative treatment (OMT). The laying of the hands (high touch) approach of OMT aligns with the approach of ethnomedicine practices in Haiti; for Haiti's *docte zo* (bone setters), touch is an important component of patient care. By using OMT, osteopathic physicians can help bridge Haiti's traditional ethnomedical practices with Western evidence-based medicine and serve as key players for the delivery of quality health care to the Haitian population. As the US osteopathic medical profession continues to become increasingly involved in global health, we propose the development of an IHE program in Haiti for osteopathic physicians.

Benefits of an IHE

An IHE in a low-resource country provides physicians-in-training with a global outlook on medicine and helps physicians develop a range of important communication and clinical skills. Physicians who participate in IHEs become more aware of cultural diversity and develop cultural humility.⁴ These physicians also learn to rely on patient history and physical examination findings when caring for patients because they may not have ready access to diagnostic tests while abroad.^{4,5}

International health electives can also benefit the US health care system. The Institute of Medicine has recognized a cross-cultural experience as an important competency for delivering quality health care to underserved populations in the United States.⁶ Physicians who have participated in an IHE program are more likely to go into generalist specialties (eg, family medicine, pediatrics, internal medicine) and choose to practice in underserved communities.⁷ These traits are increasingly desirable in physicians as the US health care system focuses on primary care and preventive services.

The World Health Organization has suggested that we should no longer distinguish between domestic and international health problems.⁸ The need for this change in mindset is evident with the epidemiologic progression of human immunodeficiency virus (HIV) and AIDS, which have affected both low- and high-income countries around the world and continue to be a global challenge.⁹ Through IHEs, physicians have the opportunity to provide support to low-resource countries that are facing issues such as poor coordination of health care services and health care workforce shortages. Haiti is one such country with public health issues that could use the help of US physicians-in-training. In addition, Haiti's proximity to the United States could potentially make it attractive to US physicians who are interested in a global health experience but are unable to travel long distances.¹⁰

Haiti's Health Care Status

The 7.0-magnitude earthquake that occurred in Haiti in January 2010 killed more than 200,000 and injured more than 300,000 Haitians.¹¹ The earthquake also destroyed 8 hospitals and seriously damaged 22 hospitals, limiting access to emergency and basic health care supplies and services. The effects of the earthquake were compounded by Haiti's already fragile state: Even before the earthquake, Haiti was the poorest nation in the Western hemisphere, with a chronic and persistent shortage of health care professionals. Haiti's inflation rate averaged approximately 13% from 2003 to 2012, with an all-time high of approximately 42% in September 2003.¹² In 2005, the country had a total of 1949 physicians, 760 of whom worked in the public sector.¹³ In other words, there were approximately 2 physicians per 10,000 people.

Haiti is predominantly agrarian, with a workforce that is 25% agricultural, 9% industrial, and 66% service-related.¹⁴ With this largely agricultural and service-related (ie, manual labor) workforce, Haiti's population is predisposed to chronic musculoskeletal conditions and injuries. Malnutrition and muscle wasting due to hunger are also common in Haiti. In 2005, 1 of every 3 children aged 5 years or younger in Haiti exhibited stunted growth or was undernourished in some capacity.¹⁵ Adequate sanitation systems and a reliable, safe water supply are unavailable in most parts of the country. Not a single Haitian city, irrespective of size, has an adequate public sewage and drainage system.¹⁶ Any major storm can produce serious flooding and subsequently increase the transmission of water-borne illnesses and infectious diseases. Large amounts of land are lost each year because of soil erosion (only 2% of Haiti's land is covered by forest),¹⁶ further compromising the national economic and health care infrastructure.

Currently, more than 9 million people live in Haiti, with an average life expectancy of 62 years.¹⁴ In comparison, the average life expectancy in the United States

is 78 years.¹⁴ Haiti has a maternal death rate of 350 deaths per 100,000 live births, compared with the US rate of 8-11 deaths per 100,000 live births.¹⁷ The probability at birth of a person reaching age 65 years in Haiti is 34%, compared with a probability of 77% in the United States.¹⁷

Contributing to Haiti's low average life expectancy are its high morbidity and mortality rates for most diseases. The top 2 causes of death in Haiti are communicable/infectious diseases and circulatory diseases. Among infectious diseases, HIV/AIDS was the number 1 cause of death, accounting for 5.2% of the total deaths in Haiti in 1999.¹⁸ In 2009, the prevalence of HIV/AIDS in Haiti was 1.9%, compared with a prevalence of 0.6% in the United States.¹⁸ Haiti's diarrheal and intestinal disease death rate among children prior to the October 2010 cholera outbreak was 12.1%, compared with the US rate of 7.4% among all age groups.^{19,20} The insufficient health care workforce, limited resources, inadequate infrastructure, and high prevalence of disease remain important factors in Haiti's continuing health care crisis.

Haiti's Ethnomedical Practices

Haiti has several types of ethnomedical practitioners such as *voodoo priests* and *priestesses*, *docte fey* or *medsen fey* (leaf doctors), and *docte zo* (bone setters).²¹ Since the 1800s, these ethnomedical practitioners have provided health care for the Haitian people.^{21,22} Approximately 40% of Haitians rely solely on traditional ethnomedical practices for health care,²³ and nearly all Haitians use ethnomedical practices for some of their health care needs.²¹

The practices of voodoo priests and priestesses, *docte fey*, and *docte zo* represent the health and spiritual beliefs that are part of a long cultural continuum.²¹ The ethnomedical practices of Haiti are similar to those of other countries of Latin America in that they stem from the belief that disease causation is mediated through a

hot-cold humoral system. According to this theory, disease is defined as a disruption of the natural equilibrium of the humoral system.²¹ Spiritual (ie, good and evil) illnesses are managed by voodoo priests and priestesses. These voodoo practitioners are more common in rural Haiti and have extensive knowledge of phytomedicinals (ie, medicine derived from plants), as well as prayers, songs, and religious rituals. Voodoo practitioners are usually required to complete a lengthy apprenticeship before they assume their roles.²¹ *Docte fey* are the most common ethnomedical practitioners.²¹ They treat patients who have common colds, helminth infections, diarrhea, and stomachaches. Lastly, the *docte zo* treat patients who have broken bones, musculoskeletal maladies, and joint discomfort. Treatment techniques used by the *docte zo* include massage, physical manipulation, poultices, and prayer.

Osteopathic Medicine and Manipulation

Osteopathic medicine was founded in the United States by Andrew Taylor Still, MD, DO, in 1874.²⁴ The 4 major principles of the US model of osteopathic medicine are (1) the organ systems in the body form a single, interconnected unit; (2) the body possesses self-regulatory mechanisms; (3) organs and their functions are reciprocally interrelated; and (4) the rationale for treatment is based on understanding these first 3 basic principles.²⁵ According to osteopathic philosophy, the body has an inherent capacity to maintain homeostasis. If this normal adaptability is disrupted or if environmental changes overcome the body's capacity for self-maintenance, disease may ensue.

These osteopathic principles are incorporated into the US model of osteopathic medical education. Like students in allopathic medical schools, osteopathic medical students complete 4 years of undergraduate medical education. Osteopathic medical students,

however, have an additional 200 hours of course work in osteopathic principles and practice, including osteopathic manipulative medicine.²⁵ Both allopathic and osteopathic physicians are required to pass state licensing examinations to practice medicine. Osteopathic physicians can enter practice after passing either the osteopathic or the allopathic licensing examination. Compared with allopathic physicians, osteopathic physicians are more likely to select generalist specialties, such as family medicine, pediatric medicine, and general internal medicine. For instance, in 2006 approximately 30% of allopathic medical students chose to specialize in generalist disciplines compared with approximately 50% of osteopathic medical students.²⁶

Osteopathic medicine is self-described as the “high touch” medical profession, and osteopathic educational requirements reflect this description. Touch is an important part of the practice of osteopathic medicine. All osteopathic physicians are educated and trained to use their hands. Osteopathic physicians use their hands to communicate caring, to promote healing, to diagnose neuromuscular skeletal conditions, and to provide manual treatment when necessary.

Osteopathic manipulative treatment (OMT) is a manual diagnostic and therapeutic intervention applied to the neuromusculoskeletal system. Evidence has shown predictable effects of OMT on organ systems (ie, somatovisceral reflex) in the human body.²⁷ Using manual techniques, osteopathic physicians diagnose visceral disease through the identification of manifested aberrations in the musculoskeletal tissue texture and intervertebral joint motion (ie, viscerosomatic reflex).²⁴ Osteopathic manipulative treatment is used to manage these diagnosed somatic dysfunctions.

The benefits of OMT are not limited to mechanical and the neurophysiologic effects; the simple act of laying of the hands has a positive impact on patients.²⁸ Whether it is being used to manage asthma, diarrhea, tuberculosis, or HIV (all are common diseases in Haiti),

OMT has a role as an adjunct therapy.^{24,29} In addition, laying of the hands facilitates patient-physician communication and therefore plays a key role in the practice of osteopathic medicine.

Osteopathic Medicine and Haiti’s Traditional Health Care System

Elements of Haitian’s traditional ethnomedicine are similar to elements of osteopathic medicine. For example, Haitian ethnomedical practitioners’ belief that treatment must be applied in the opposite direction of the body’s imbalance to restore equilibrium corresponds to osteopathic physicians’ belief that the body has an inherent capacity to maintain homeostasis. Also, the manual treatment techniques used by the *docte zo* parallel the manual treatment techniques used by osteopathic physicians.

Haitians have a well-documented distrust of westernized medicine,³⁰ which likely increases their risk for inadequate health care. Because aspects of osteopathic medicine evoke the *docte zo*’s practices, however, the Haitian community may accept osteopathic medicine and OMT. On the basis of their cultural acceptance of traditional Haitian ethnomedicine, Haitians may be more willing to trust a Western medicine practitioner, such as an osteopathic physician, who practices manipulation and who has demonstrated distinct clinical skills related to diagnostic touch. For example, AIDS patients in Haiti with common musculoskeletal manifestations would benefit from OMT for symptom relief.²⁹ This acceptance could extend to the acceptance of other aspects of Western medicine.

Of course, the similarities between Haitian ethnomedicine and OMT alone will not be sufficient to completely overcome the long and deep-rooted distrust of Haitians toward Western medicine. Building trust also requires that osteopathic physicians understand Haiti’s culture and ethnomedical practices.

This opportunity, however, is rarely taken. According to the American Osteopathic Association and the American Association of Colleges of Osteopathic Medicine, although osteopathic physicians practice in Haiti and participate in humanitarian work in the country, no osteopathic physicians permanently reside or practice full time in the country. An IHE in Haiti for osteopathic physicians would provide the opportunity for osteopathic physicians to study Haiti's ethnomedical practices and help foster a long-term relationship between Haitians and the osteopathic medical profession. If successful, this IHE could serve as a model for other international programs that are seeking to reduce the distrust of westernized medicine in low-resource countries with traditional hands-on medical practices.

Conclusion

The osteopathic medical profession should establish an IHE in Haiti for osteopathic physicians. Osteopathic physicians, with their training in OMT, are in a unique position to bridge the ethnomedical practices of Haiti with Western evidence-based medicine, potentially facilitating Haitian trust of Western medicine and contributing to improved health status in Haiti.

References

1. Drain PK, Holmes KK, Skeff KM, Hall TL, Gardner P. Global health training and international clinical rotations during residency: current status, needs, and opportunities. *Acad Med*. 2009;84(3):320-325.
2. Kerry VB, Auld S, Farmer P. An international service corps for health—an unconventional prescription for diplomacy. *N Engl J Med*. 2010;23;363(13):1199-1201. <http://www.nejm.org/doi/full/10.1056/NEJMp1006501>. Accessed February 9, 2013.
3. Ivers LC. Strengthening the health system while investing in Haiti. *Am J Public Health*. 2011;101(6):970-971.
4. Coupet S. International health electives: strengthening graduate medical education. *J Am Osteopath Assoc*. 2012;112(12):800-804.
5. Sawatsky AP, Rosenman DJ, Merry SP, McDonald FS. Eight years of the Mayo International Health Program: what an international elective adds to resident education. *Mayo Clin Proc*. 2010;85(8):734-741. <http://www.mayo.edu/mayo-edu-docs/mayo-school-of-graduate-medical-education-documents/mihp-aug-2010.pdf>. Accessed February 9, 2013.
6. Institute of Medicine. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, DC: The National Academies Press; 2001:1-8. http://www.nap.edu/openbook.php?record_id=10027&page=1. Accessed February 9, 2013.
7. Miller WC, Corey GR, Lallinger GJ, Durack DT. International health and internal medicine residency training: the Duke University experience. *Am J Med*. 1995;99(3):291-297. http://dukeglobalhealth.org/files/1995_international%2520health.pdf. Accessed February 9, 2013.
8. Bateman C, Baker T, Hoornenborg E, Ericsson U. Bringing global issues to medical teaching. *Lancet*. 2001;358(9292):1539-1542.
9. Oberpichler-Schwenk H. HIV and AIDS - a global challenge [in German]. *Med Monatsschr Pharm*. 2011;34(6):187.
10. Coupet S. 700 miles away: a new view of U.S. health care. Robert Wood Johnson Foundation website. <http://www.rwjf.org/en/blogs/human-capital-blog/2011/10/700-miles-away-a-new-view-of-u-s-health-care.html>. Accessed February 9, 2013.
11. Pan American Health Organization. Earthquake in Haiti—one year later: PAHO/WHO report on the health situation. World Health Organization website. http://www.who.int/hac/crises/hti/haiti_paho_jan2011_eng.pdf. Accessed May 16, 2013.
12. Haiti inflation rate. Trading Economics website. <http://www.tradingeconomics.com/haiti/inflation-cpi>. Accessed May 7, 2013.
13. Degennaro V Jr, Degennaro V Sr, Ginzburg E. Haiti's dilemma: how to incorporate foreign health professionals to assist in short-term recovery while capacity building for the future. *J Public Health (Oxf)*. 2011;33(3):459-461. <http://jpubhealth.oxfordjournals.org/content/33/3/459.full.pdf+html>. Accessed February 9, 2013.
14. US Central Intelligence Agency. The world factbook: Central America and Caribbean—Haiti. US Central Intelligence Agency website. <https://www.cia.gov/library/publications/the-world-factbook/geos/ha.html>. Accessed February 9, 2013.

15. Suh S. At a glance: Haiti—new survey shows rates of child malnutrition are decreasing in Haiti. UNICEF website. http://www.unicef.org/infobycountry/haiti_62654.html. Accessed February 9, 2013.
16. Food and Agricultural Organization of the United Nations (FAO). FAO initiative on soaring food prices: Haiti. FAO website. <http://www.fao.org/isfp/country-information/haiti/en/>. Accessed February 9, 2013.
17. Health statistics: probability of reaching 65—male (most recent) by country. NationMaster website. http://www.nationmaster.com/graph/hea_pro_of_rea_65_mal-health-probability-reaching-65-male. Accessed May 7, 2013.
18. Health situation analysis and trends summary. (Pan American Health Organization website. www1.paho.org/english/dd/ais/cp_332. Accessed May 7, 2013.
19. Country profiles: Haiti. Pan American Health Organization website. http://www.paho.org/english/dd/ais/be_v24n1-haiti.htm. Accessed February 9, 2013.
20. Health statistics: intestinal diseases death rate (most recent) by country. NationMaster website. http://www.nationmaster.com/graph/hea_int_dis_dea_rat-health-intestinal-diseases-death-rate. Accessed May 9, 2013.
21. Miller NL. Haitian ethnomedical systems and biomedical practitioners: directions for clinicians. *J Transcult Nurs*. 2000;11(3):204-211.
22. DiGiovanna EL, Schiowitz S, Dowling DJ, eds. *An Osteopathic Approach to Diagnosis and Treatment*. 3rd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2004.
23. Wamai RG, Larkin C. Health development experiences in Haiti: what can be learned from the past to find a way forward? *JMAJ*. 2011;54(1):56-67. http://www.med.or.jp/english/journal/pdf/2011_01/056_067.pdf. Accessed February 9, 2013.
24. Lesho EP. An overview of osteopathic medicine. *Arch Fam Med*. 1999;8(6):477-484.
25. American Association of Colleges of Osteopathic Medicine. What is osteopathic medicine? American Association of Colleges of Osteopathic Medicine website. <http://www.aacom.org/about/osteomed/pages/default.aspx>. Accessed February 9, 2013.
26. US Government Accountability Office. *Primary Care Professionals: Recent Supply Trends, Projections, and Valuation of Services*. Washington DC: US Government Accountability Office; 2008:1-22. <http://www.gao.gov/new.items/d084721.pdf>. Accessed February 9, 2013.
27. Guiney PA, Chou R, Vianna A, Lovenheim J. Effects of osteopathic manipulative treatment on pediatric patients with asthma: a randomized controlled trial. *J Am Osteopath Assoc*. 2005;105(1):7-12.
28. Callaghan MJ. The role of massage in the management of the athlete: a review. *Br J Sports Med*. 1993;27(1):28-33. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1332102/pdf/brjmed00017-0032.pdf>. Accessed February 9, 2013.
29. Coupet S, Nassiri R. HIV/AIDS in Haiti: a clinical investigation [abstract C13]. *J Am Osteopath Assoc*. 2006;106(8):471-510. <http://www.jaoa.org/content/106/8/471.full.pdf+html>. Accessed February 9, 2013.
30. Farmer P. *AIDS And Accusation: Haiti and the Geography of Blame*. Berkeley, CA: University of California Press; 2006.

© 2013 American Osteopathic Association