Yale SCHOOL OF MEDICINE

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Yale doctors around the world

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As a medical student in South India in the mid-1980s, Unni Karunakara, M.P.H. '95, Dr.Ph., read a magazine article that he remembers still. It was about Médecins Sans Frontières (MSF, also known as Doctors Without Borders), a medical humanitarian organization famed for rushing medical aid to disaster areas and war zones. Karunakara wrote to MSF saying he would like to work with them.

He never received a reply. But 10 years later, as a Yale public health student on his way home from a fellowship in South Africa, Karunakara met an MSF representative in the Brussels airport. Soon he was offered a job. "It was never meant to be a lifetime engagement," he recalled. "Now it's been about 15, 16 years." After managing viral hemorrhagic fever outbreaks in Africa and caring for Bangladeshi cyclone victims—among other responsibilities—Karunakara is now MSF's international president. Based in Geneva, he chairs their international board and represents the organization to the international community and national governments between travels to field projects all over the world.

Like Karunakara, Yale medical students and graduates routinely cross borders to work in what are usually low-resource medical settings. The tradition of service abroad dates to the 19th century, when such medical school alumni as Peter Parker and Moses C. White traveled to China as medical missionaries; it experienced a resurgence in the 1990s with a renewed interest in global health, once known as tropical medicine or international health. Some alumni began training overseas as students, while others have incorporated overseas work into their practice, made international health a career focus, or even moved abroad permanently. The work forces them not only to recall fundamental skills but also to confront medicine's intersections with policy, the environment, religion and culture, economics, and poverty. And for those willing to forgo fast diagnostics and advanced medications, working abroad can provide satisfaction that practice in the United States may not.

"There's almost never a day that goes by when you don't think, 'Boy, I really saved that patient's life or limb,' " said Kinari Webb, M.D. '02, who started a clinic in rural Borneo and has made Indonesia her home. By contrast, she said, as a family practice resident in the United States, "I felt like my major successes as a physician were getting people off 15 meds and down to four."

"You're getting to the heart of why we go into medicine," said Anna Gibb Hallemeier, M.D. '02, HS '06, who has worked in Kenya and New Zealand. "The impact that you can make is a lot more visible, I think, than doing primary care in the States." And, she said, international medicine can put the vagaries of American practice, from its prescriptions for wrinkles to its constant threat of lawsuits, into perspective.

Travels abroad and medicine

It was an international experience that led Hallemeier to medicine. As an undergraduate she studied chimpanzees in Uganda, and that's where she changed her career plans. Webb had had a similar epiphany after studying orangutans in Borneo. "When Kinari and I met in medical school, we compared our admissions essays, and they were essentially identical," Hallemeier said. "We both went to the forest and decided we preferred the human primate to the other primates." Her change of heart occurred as she watched her local guides and hosts falling victim to diseases like HIV/AIDS and malaria. "It was just so unavoidable—how important public health was, how important prevention was," said Hallemeier. "I realized I'd rather be working to do something about these diseases than observing chimpanzees in the forest and trying to pretend that these problems weren't there."

For Ellis L. Webster, M.D. '91, an ENT and head and neck surgeon, the road to international medicine was the road—or rather the flight—home. In addition to a busy practice in West Palm Beach, Fla., he spent years caring for poorer patients 30 miles west in Belle Glade, many of whom paid him in mangoes and lettuce; and he provides free surgical care for patients from Haiti, some of them victims of the 2010 earthquake. Now, he works on the Caribbean island of Anguilla every month. "The reason why I wanted to do medicine was to help people," he said. "It seems like a cliché."

Webster grew up on the island, a British overseas territory that is home to about 13,500. Urged by his mother, who had six other children, to avoid his fisherman father's path and get an education, Webster began his health care career as a 16-year-old studying dentistry in Trinidad; attended the University of the Virgin Islands; completed medical school at Yale; and trained in otolaryngology at the University of Iowa. As he made a career in the United States, the knowledge that his own people lacked ENT care weighed on him. "It's like a Third World country in terms of the medical care that's provided," he said. The territory's few primary care physicians are sent by the British Foreign and Commonwealth Office to serve one-year terms fresh out of medical school.

So Webster started a part-time practice on the 35-square-mile island in 2010. He set up an office, shipped equipment (the Anguillan government waived some import duties), and opened his doors that September. One week a month he cares for Anguillans' nasal polyps, sinusitis, mastoiditis, and goiters, as well as an occasional tongue cancer. He sees patients with long-neglected chronic conditions like draining ears or goiters; the latter can leave people short of breath for years, but after surgery they may return to their usual way of life. The gratitude his patients show, said Webster, makes the monthly trip to his home island deeply satisfying. It was something he had always wanted to do, he said; "something I needed to do to give back. Now my people do not have to travel abroad for routine ENT care and I can treat head and neck diseases before they become debilitating or unresectable."

Low-resource medicine

Medical practice is challenging at the best of times, but it can be much more so in a low-resource setting. Emergency physicians may have to manage long-term diabetes care without access to benchmark blood tests. Gastroenterologists may have to guess whether a patient is having a heart attack. A coughing patient's diagnosis may require a therapeutic trial of

antibiotics—if those don't work, maybe it's TB. Maybe. "It requires comfort with uncertainty, which many Western physicians can't handle," said Webb, who has worked with dozens of American students and physicians at her clinic. And though the cost of treatment is an issue in the United States, it can be a deal-breaker abroad: A family without a safety net may risk starvation if they sell their rice fields or cow to pay for treatment. "You are treating the whole community and you are treating the whole family," said Webb. "Sometimes that means you've got to tell them that they shouldn't spend any more money on care."

Even providing basic care may not be simple. To get the right medication to some Anguillan patients, Webster often brings drug reps' free samples to the island because staples like nasal steroid sprays and advanced antihistamines aren't available there. "I find that I am writing for meds that are antiquated by U.S. standards," he said. Diagnostic tools are similarly scarce, he added, which means he sometimes relies on "intuition and gut feelings. This is where you really put what you learned in medical school and residency to work. It takes up to three months to get pathology reports; therefore I have to make intraoperative and treatment decisions based on prior experience. I also often see patients with non-ENT conditions, who show up to get medical attention."

A veteran of many field hospitals, Karunakara is intimately aware of the challenge of simplifying Western medicine for the field without sacrificing quality. For sleeping sickness, he said, MSF found a way to cut the usual four-times-a-day infusions to twice a day and then finish the treatment with oral medications. And MSF pushed drug companies to create fixed-dose combinations of HIV drugs, which have made it much easier for patients to adhere to treatment. "These are common-sense innovations," he said. But making fixed-dose combinations possible, however, required the ingenuity of generic drug companies in India and taking on some of the most powerful corporations in the world.

The big picture in medicine

Indeed, working in developing countries often means physicians must think about the big picture in a way they may never have to do at home. The effects on medical practice of politicians, polluters, corporations, and cultures can be clearer when viewed from a foreign, low-resource perspective, perhaps because one's patients tend to be poorer and more vulnerable. The ways in which such forces interact with medicine were a topic of intense discussion during medical school among four students who matriculated in the class of 2002: Webb; Hallemeier; Alison Norris, M.Phil. '04, Ph.D. '06, M.D. '08; and Margaret Bourdeaux, M.D. '03. All went on to make such questions a part of their professional lives, and they remain connected to one another today through Webb's Borneo work. "We were systemic thinkers," Webb recalled. "We were interested in how medicine fit into the whole world."

In the years since, Webb quite literally saw the forest for the trees. She began an NGO called Health in Harmony and opened a clinic near a rainforest in Indonesia. It combines clinical practice, public health, and rain forest conservation, which suits the physician who hasn't stopped caring about orangutans and their habitat. "I know that the conservation and academic part are incredibly important for the long term, but

I also need to combine it for myself with the short-term satisfaction" of patient care, Webb said.

Norris traveled to Kenya as an undergraduate to study a new drug for trypanosomiasis, a disease caused by parasitic protozoa; though the drug killed more lab mice than trypanosomes, she found herself enamored of East Africa. "I [was] excited by how much one can do with so little," she said. She returned to the region before medical school and again as a Downs Fellow, then wrote her Ph.D. thesis on sexually transmitted diseases on a sugar plantation in Tanzania—this time with two small children in tow. Norris is now an assistant professor of epidemiology at Ohio State University's College of Public Health; she is also president of Health in Harmony's board of directors.

Bourdeaux and Hallemeier are also involved with international work from the United States while remaining clinically active. Hallemeier combines a Cape Cod practice with Health in Harmony work. Though she spent two months in Kenya's Maua Methodist Hospital as a medical student "gaining hands-on experience on the inpatient wards," then six weeks in New Zealand as a Yale/Johnson & Johnson scholar, family obligations have kept her stateside while she continues her international medical involvement. Hallemeier has served as both board president and a board member of Health in Harmony, where she talks with potential donors and volunteers and helps coordinate their complex trips to Borneo.

"I couldn't be in Borneo myself, so I wanted to do what I could from this end," Hallemeier said.

Bourdeaux studies global health policy and humanitarian aid at Boston's Brigham and Women's Hospital while caring for neonates there. She grew interested in the mechanics of humanitarian aid during two stints in Kosovo shortly after the war there had ended. For her M.D. thesis, she did an ethnography of the health system there that made her rethink her assumptions about the effectiveness of humanitarian intervention when an NGO doesn't understand local culture. Albanian physicians who had fled as refugees were often hired by NGOs to staff postwar hospitals, but because they had fled, those same physicians had lost the trust of the population. "Nobody wanted to go to the publicly run clinics or hospitals because there was such a huge trust deficit," said Bourdeaux. "The international community didn't recognize this at all."

The situation on the ground

Such confusion is familiar to Rachel Bronzan, M.D. '95, M.P.H., a veteran of the Centers for Disease Control and Prevention's Epidemiology Intelligence Service who studied malaria and provided clinical care in Malawi for several years. She now serves as an advisor to the government of Togo from her home in Seattle. Rural women in Malawi, Bronzan recalled, sometimes knelt before asking her a question. Such things "[make] it clear that you just don't understand or know where [people are] coming from."

Not fully understanding the cultural situation on the ground is a problem for many NGOs attempting to provide aid. In fact, the last 15 years or so have seen an intense international effort to better delineate aid organizations' responsibilities. It's human nature to want to rush to the scene of a disaster to try to help—an impulse that may be especially strong in people like physicians who have specialized skills. Yet, as the flawed hires in Kosovo demonstrate, there are too many ways to go wrong. In the aftermath of the 2010 Haiti earthquake, responders ranging from teenage Scientologists to pediatric ICU specialists descended upon the island, while stacks of boxes containing old clothes mailed by American churches accumulated under tarps at the airport. This shower of unorganized labor and supplies is what experts sometimes refer to as the second disaster. Not all personnel and supplies are needed, yet they will have to be dealt with somehow, sometimes at great cost to other responders.

This "second disaster" points to the disturbing idea that humanitarian aid can do more harm than good. To help requires more than good will and a black bag.

"We have so many people going out there with a trunk full of albuterol and thinking that's going to help," said Bourdeaux. "There needs to be some recognition that humanitarian response requires some training and some thought." She compared the world's checkered and disorganized disaster responses to the way that a town without a fire department might respond to a house blaze. "What you have is a bunch of neighbors ... with fire hoses. Some of the people who own them have experience putting out fires, some don't. We need a fire department."

Bourdeaux now studies military approaches to humanitarian aid, including those initiated by the United States military and NATO. "There's lots of potential for improvement in how the international community responds to things," she said. "I find it to be one of the most fascinating stories of our generation."

A new interest in global health

Whatever overseas commitment Yale medical students and alumni are making, they are doing so these days in increasing numbers. When Bronzan graduated in 1995, international work didn't strike her as a prominent option at Yale. Such faculty members as polio expert Dorothy Horstmann, M.D., FW '43, infectious disease specialist Robert E. Shope, M.D., HS '58, and virologist Wilbur G. Downs, M.D., M.P.H., routinely worked in the developing world; and the Wilbur Downs International Health Travel Fellowship Program for student research abroad has been available since 1966, but foreign opportunities were still "more of a curiosity" in Bronzan's time. "People would be encouraging," she said, "but there was not a big culture of it at all."

One of the people who changed that state of affairs and helped put Yale on the international medicine map is Frank Bia, M.D., M.P.H., FW '79, professor emeritus of internal medicine. Bia graduated from medical school at Cornell in 1971; his yen to work abroad [chronic pruritus pedis] was so unusual that it invited ribbing. "You seem to think we're running a travel agency rather than a medical school," his dean told him. After medical school, Bia worked at the Albert Schweitzer Hospital in Haiti. Along with Michele Barry, M.D., HS '77, he co-founded Yale's international health program in 1981. Twenty years later, the program received funding from Johnson & Johnson. Between 1981 and 2011, what is now called the Yale/Stanford Johnson & Johnson Global Health Scholars Program had funded overseas rotations for some 600 physicians. Residents and career physicians can apply to work in one of five sites in South Africa, Uganda, Liberia, Indonesia, and Rwanda; many of the slots come with funding for travel and expenses.

Information, said Bia, is behind the explosion of interest in international medicine, in part because the Internet has made disparities so obvious. "Medical students are coming to medical school with a sense of global citizenship," he said. Technology is also easing interactions across borders in an unprecedented way. A few decades ago, physicians serving in remote areas might not have had access to a telephone, much less an Internet connection. Now Bia can co-author a manuscript with someone in Eritrea.

Bia left Yale in 2008 to serve as the full-time medical director of the NGO AmeriCares. By that time, overseas rotations were already a highly sought-after option among medical students. The school's 2006 establishment of an Office of International Medical Student Education, headed by Robert Rohrbaugh, M.D. '82, HS '86, FW '88, professor of psychiatry, formalized this development, providing funding and supervised international electives as well as hosting foreign students in a bilateral exchange. Under its auspices, three Yale medical students went abroad in 2007, the program's first year. Last year, 30 did.

Yale is not alone in providing international opportunities for its students. Carol A. Aschenbrener, M.D., chief medical education officer at the Association of American Medical Colleges, said that as of 2010, two-thirds of the 130 medical schools that responded to a survey said that they had integrated global health into their curricula. "Things that happen here affect health elsewhere in the world and conditions in other countries affect our health," she said. "Understanding the major issues in global health is really critical for future physicians."

No single approach

How can physicians and students be sure they'll be useful? Webb's clinic is designed to be a permanent presence in its community and effect long-term change. By contrast, Karunakara thinks MSF and other humanitarian aid organizations should stick to rapid relief and not take on capacity-building. "You're there to help people and not to help systems," he said; the goal of aid is to alleviate suffering rather than to alleviate poverty, which is the role of long-term development programs. MSF's long-term effects arise, he said, when the organization provides a model that can be scaled up by domestic authorities. "Very often, these demonstrations get taken up by other agencies, and they try it on, and they improve on it."

Whether doctors sign up for a one-week mission trip or join an organization like Health in Harmony or MSF with an aim to live abroad for months or years, there are some things to look out for. "Going with an organization that has been there for a long time in-country is important," said Bourdeaux. "Not just ones that are famous. Get a sense of their authenticity and street cred." She also recommended that physicians consider deploying not in the immediate wake of an acute emergency, but some time later, when world interest has receded.

However carefully chosen the organization, alumni say that whether a doctor will find international work satisfying may depend on the doctor. Bronzan recalls how one Western physician in Malawi reacted to the death of a child from severe meningitis. "He just lost it," she said, and recalled the man saying, " 'This is outrageous—in my entire career, no child has ever died of meningitis.'... He went ballistic and wanted to change everything." What he didn't appreciate was that children in that clinical setting had underlying medical and social conditions that sometimes made meningitis all but impossible to treat.

Webb echoes many international physicians who advise doctors to think past the altruistic satisfaction of a short trip. "Western physicians should only ever be going to teach and learn from their local colleagues," she said. "I think that the whole point is capacity building. It's not about tourism; it's not about getting your own experiences. It's about improving care for people in the long run." YM

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This Article was submitted by Claire M. Bessinger - Van Graan, on Tuesday, February 12, 2013.
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