



A Man Carting Water to His Temporary Home in Bana, Allai Valley.

true in Indonesia after the tsunami, and polls have shown that U.S. assistance improved Indonesians' opinions about the United States.⁴ Many observers would consider continued contributions by the U.S. government to recovery efforts in Pakistan an appropriate demonstration of solidarity with an ally that has provided highly valued assistance in the search for Al Qaeda.

Many lessons may be learned from the earthquake and the response to it — the first response to a large international disaster in which the United Nations implemented its new “cluster” approach. This approach entails the identification of a lead agency

within each sector to improve coordination among responding agencies, as well as the quality, consistency, and predictability of the relief effort. In Pakistan, 10 main cluster working groups were established, focusing on health, emergency shelter, water and sanitation, logistics, camp management, protection, food and nutrition, information technology and communications, education, and reconstruction. The approach had an uneven start, largely because of a general lack of understanding about the objectives, procedures, and responsibilities, as well as inconsistent leadership. A disaster of this scale warranted the deployment of lead-agency professionals trained not only in technical areas of expertise but also in the science and practice of disaster management and, especially, the art of coordination, the lack of which has been said to be a leading cause of death in disasters.⁵ Too many of the lead-agency coordinators in Pakistan appeared to be poorly equipped and lacking in the skills required to chair a meeting, set a strategy, and articulate priorities.

Fortunately, under the leader-

ship of the World Health Organization, the Health Cluster Working Group in Geneva has initiated a process for training future sector leaders, with an emphasis on both technical and management skills. It is in the interest of all future victims that an “A team” be consistently deployed to manage large-scale disasters.

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BECOMING A PHYSICIAN

The New Medical “Missionaries” — Grooming the Next Generation of Global Health Workers

Claire Panosian, M.D., and Thomas J. Coates, Ph.D.

Noelle Benzekri is a first-year medical student with a mission. Even before the 27-year-old New York native spent a year as a clinic assistant and polio *vaccinateur* in Senegal, she knew that global health was her calling. “It’s the reason I decided to go

to medical school,” the former philosophy major acknowledged at a recent meeting of our journal club on global health at the University of California, Los Angeles (UCLA). Spurred by memories of her African patients, Benzekri intends to return to Africa some-

day to train local health workers to deliver care to the poorest of the poor.

The journal club has become a magnet for UCLA students, trainees, and faculty members who share Benzekri’s hopes for greater global equity in health. Many

attendees have already worked overseas; others have contributed domestically and now wish to apply their skills and experience abroad. All are hungry to discuss diseases of poverty as well as international policy and aid programs. In the curricula at most medical schools and postgraduate institutions in the United States, these topics receive little time and attention. A new generation of activists could change that.

Take, for example, Sue Tuddenham, a classmate of Benzekri's and a journal-club member. After graduating from Yale, she completed a degree in international relations at the London School of Economics, worked in the Hanoi office of the Population Council, and then took a job with the International Trachoma Initiative evaluating trachoma-control programs in Niger, Tanzania, and Vietnam. During her first week of medical school, she was already seeking mentors for a career in global health policy. Tuddenham and Benzekri have organized a series of lectures on global health at UCLA.

Both students are eager to return overseas once they have a few more courses and clinical skills under their belts. And they are not alone. In 2003, at least 20 percent of students graduating from U.S. medical schools had participated in overseas activities related to international health during medical school, as compared with 6 percent of 1984 graduates.^{1,2} On many U.S. medical campuses, introductory courses in global health and related student-run interest groups are flourishing.

Since 1991, the Global Health Education Consortium (GHEC) has helped to foster this growth

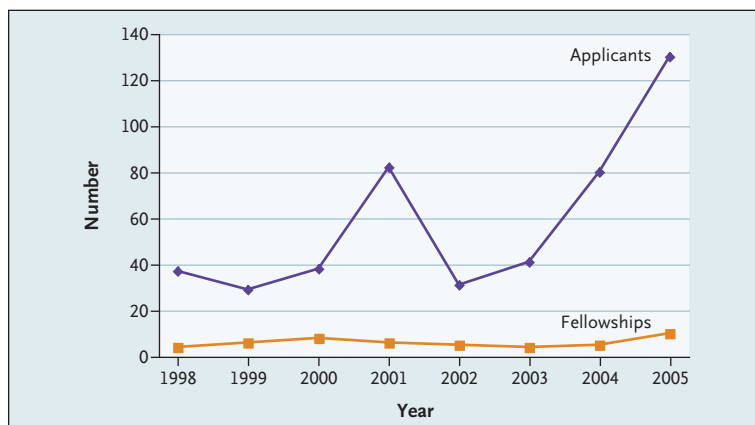
of interest. A nonprofit organization representing medical schools in the United States, Canada, and Central America, the GHEC held a conference in 2005 entitled "Training the Global Health Workforce," which brought together students, academic leaders, and professionals from the nonprofit sector and the World Bank. The 2005 conference of the Association of American Medical Colleges (AAMC) also highlighted global health and featured an address by former secretary of state Madeleine Albright. The GHEC and the AAMC, in collaboration with the Foundation for Advancement of International Medical Education and Research, are now conducting a survey to learn more about organized international opportunities at U.S. medical schools. Groups such as the GHEC and the American Society of Tropical Medicine and Hygiene (ASTMH) also are advocating an updated, standardized curriculum in global health.

Back on their campuses, internationally minded students are often inspired by peers who have already rotated abroad. Tuddenham and Benzekri, for instance, may look to Sagar Vaidya, an M.D.–Ph.D. candidate who has volunteered at a rural clinic in Mexico and has also completed clerkships in India and Vietnam. Or Shilpa Sayana and her husband, Rishi Manchanda, residents in internal medicine who recently participated in a rollout of antiretroviral drugs in Durban, South Africa. Sayana grew up in Botswana and studied women's reproductive health in Egypt. Manchanda's résumé includes clinical stints in Botswana and Mozambique, plus a year in India studying primary care services.

Such trainees will always find exciting international medical opportunities if they search hard enough and are willing to pay their own expenses. But their schools and residency programs rarely give anything more than moral support and elective credit. As a result, the few travel fellowships available to medical trainees are flooded with applicants each year. Last year, an ASTMH-sponsored program received 130 applications and awarded 10 student fellowships for projects in a variety of venues, including an entomologic field site in Senegal, a war-torn setting in Uganda, and a mobile, railroad-based hospital in India (see graph).

At the postgraduate level, the Yale–Johnson & Johnson Physician Scholars in International Health program has long been committed to education and service abroad, and it underwrites some of its awardees' expenses. The program currently sponsors rotations of four to eight weeks in Brazil, Eritrea, Haiti, Honduras, India, Mexico, Nepal, Russia, South Africa, Uganda, Vietnam, and Zambia, as well as at the U.S. Indian Health Service. Two thirds of Yale's residents in internal medicine, medicine and pediatrics, and primary care take part, as do another 30 physicians selected annually from a national pool of applicants. Graduates of this program express a greater commitment to underserved populations at home and abroad than do nonparticipants.³

Rarely, a department head will use discretionary funds to pay for trainees' overseas electives — as Gautam Chaudhuri, executive chair of the UCLA department of obstetrics and gynecology, has done.



Numbers of Applicants and Funded Benjamin H. Kean Traveling Fellowships in Tropical Medicine from the American Society of Tropical Medicine and Hygiene (ASTMH).

Since the ASTMH established the fellowship in 1998, an increasing number of medical students from North America have applied. Data are courtesy of Christopher V. Plowe, University of Maryland School of Medicine.

Nearly all of UCLA's OB-GYN residents, traveling in pairs and accompanied by at least one faculty member, now spend three weeks in Eritrea, a country in which the rates of complications during childbirth are among the highest in the world. The visiting doctors often repair vesicovaginal and rectovaginal fistulas that have resulted from prolonged, obstructed labor.

What is fueling the hunger for overseas learning among the next generation of medical professionals? Many of these young people “have already traveled a lot,” says Michele Barry, cofounder of the Yale program, and media coverage has raised their awareness of global health issues. In addition, she notes, first-generation Americans whose families come from developing countries often want to give back to less privileged people and regions of the world.

No matter what motivates them at the outset, long-term benefits can accrue from trainees' spend-

ing even a few weeks overseas — and not just broadened clinical and cultural competence. As medical educators, Barry and her colleague Frank Bia see practical, domestic benefits from the program they launched on a shoestring 25 years ago. They believe that the weeks residents spend in low-resource settings teach cost-conscious practice and back-to-basics diagnosis. According to Malini Anand, a chief OB-GYN resident at UCLA, returning residents also continue to bear witness — to colleagues, family, and friends — regarding the health conditions they have seen. Their reports, in turn, increase public awareness, which may be partly responsible for the recent increase in U.S. foreign aid for global health.

Historically, so-called missionary medicine was focused on spreading religion as well as compassionate care. Today, the forces behind global health efforts are more secular. Nonetheless, the movement continues to be motivated by a sense of mission — a

word with a Latin root, *mittere* (to send), that suggests an important question: If there is new fervor for global health on the part of medical professionals and international policymakers, shouldn't the “sending” process be more organized — and the vision bigger and bolder?

In a 2005 report, the Institute of Medicine recommended establishing a federally funded U.S. Global Health Service that would send midcareer professionals overseas to help augment local responses to human immunodeficiency virus infection and AIDS, tuberculosis, and malaria; provide fellowships and partial repayment of student loans; foster international health care partnerships; and create a global health employment clearinghouse for paid or volunteer positions.⁴ The establishment of such a federal program would offer some hope of support for young professionals who are ready to dedicate themselves to global health.

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