

an increased incidence of cancer. Furthermore, the gap between the number of organs available and the demand for organs increases every year, giving rise to serious ethical dilemmas of equity versus utility in the allocation of this increasingly valuable resource.

Without question, since that momentous occasion in 1954, clinical organ transplantation has remained an enormously exciting field, and transplantation can rightly be considered one of the medical miracles of the 20th century. Moreover, transplantation provided the initial stimulus for the definition of the major histocompatibility complex in humans at a time when its predominant role in the cellular reactions of the immune response was unknown. Indeed, a whole science of transplantation biology has arisen during the past 50 years. I would venture to suggest, however, that the next 50 years will be even more exciting and will see the translation of laboratory models of tolerance into

the clinic, the successful development of xenotransplantation, and the use of stem-cell technology to provide tissues for transplantation. And, I hope, we will see the prevention of many of the causes of end-stage organ failure for which transplantation is currently the most attractive, or indeed the only, therapeutic option.

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Affirmative Action, Cuban Style

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"I feel as if I'm standing on the backs of all my ancestors. This is a huge opportunity for me," Teresa Glover, a 27-year-old medical student, told me during a recent visit to her medical school. "Nobody in my family has ever had the chance to be a doctor." Glover's mother is a teacher, and her father a dispatcher for the New York subway system. Her background is a mix of African American, Barbadian, and Cherokee. She graduated from the State University of New York at Plattsburgh. "I wanted to be a doctor, but I wasn't sure how to get into medicine. I had decent grades, but I didn't have any money, and even applying to medical school cost a lot."

This young woman from the Bronx may be helping to rectify the long-standing problem of insufficient diversity in the medical profession in the United States. Twenty-five percent of the U.S. population is black, Hispanic, or Native American, whereas only 6.1 percent of the nation's physicians come from these backgrounds.¹ Students from these minority groups simply don't get into medical school as often as their majority peers, which results in a

scarcity of minority physicians. This inequity translates into suffering and death, as documented by the Institute of Medicine.² Poorer health outcomes in minority populations have been linked to lack of access to care, lower rates of therapeutic procedures, and language barriers. Since physicians from minority groups practice disproportionately in minority communities, they are an important part of the solution to the health-disparities quandary.

In her third year, Glover is negotiating the classic passage from the laboratory to the clinic. But her school isn't in the United States. She is enrolled at the Latin American School of Medicine (ELAM, which is its Spanish acronym) in Havana — a school sponsored by the Cuban government and dedicated to training doctors to treat the poor of the Western hemisphere and Africa. Twenty-seven countries and 60 ethnic groups are represented among ELAM's 8000 students.

Glover's mother heard about ELAM from her congressman, Representative José Serrano (D-N.Y.). "Mom calls me. 'I have news. There's a chance for



U.S. Medical Students at the Latin American School of Medicine Talking with Visiting U.S. Physicians.

Courtesy of Bill Bronston

you to go to medical school.' She waits for it to sink in. 'You'd get a full scholarship.' She waits again. 'But it's in Cuba.' That didn't faze me a bit. What an opportunity!"

The genesis of Glover's opportunity dates to June 2000, when a group from the Congressional Black Caucus visited Cuban president Fidel Castro. Representative Bennie Thompson (D-Miss.) described huge areas in his district where there were no doctors, and Castro responded with an offer of full scholarships for U.S. citizens to study at ELAM. Later that year, Castro spoke at the Riverside Church in New York, reiterating the offer and committing 500 slots to U.S. students who would pledge to practice in poor U.S. communities.

That day, 26-year-old Eduardo Medina was at his parents' house in New York, listening to Castro's speech on the radio. "Castro announces that Cuba has started a new medical school and has invited students from all over Latin America to come, train, and return to treat the poor in their countries. Then he starts quoting figures about poor communities in the U.S. 'We'll be more than happy to educate American medical students,' he says, 'if they'll commit to going home to take care of the poor.' The place went nuts. I'm standing in my basement saying, 'Yes! Yes! Yes!'"

Medina was raised in Brooklyn and Queens, the child of a Colombian father and a mother of Puerto Rican, Jewish, and Irish descent — both public-

school teachers who pushed their children to work hard in school. "When I was little, they sent me to a summer enrichment program in Manhattan," recalls Medina. "I would travel on the subway every day with this huge book bag. I was young and it was hot. But I was excited." The work paid off, and Medina won partial scholarships to a boarding school and to Wesleyan University. "There weren't many students of color at either private school, particularly in the sciences," he says. "Culturally, economically, ideologically, it was a real culture clash for me, but the education was good."

Medina was found to have diabetes when he was 12 years old and spent a week in the hospital. "When I saw what the doctors could do for me, I knew I wanted to be a doctor. In college, I spent a year in Ecuador, and I knew I wanted to practice community medicine." But medicine wasn't going to come easily. Medina had a mediocre grade or two in science courses, a middling score on the Medical College Admission Test (MCAT), and \$45,000 in student debts. He worked as a research assistant to buy himself time to retake the MCAT and organize his medical-school campaign. After hearing Castro, Medina applied to ELAM and happily grabbed the chance to attend. "I didn't know if I'd get into U.S. schools, and if I did, I had no idea how I was going to pay."

There are 88 U.S. students at ELAM, 85 percent of them members of minority groups and 73 percent of them women. Recruitment and screening are handled by the Interreligious Foundation for Community Organization (IFCO), a New York-based interfaith organization. Applicants are required to have a high-school diploma and at least two years of premedical courses, to be from poor communities, and to make a commitment to return to those communities. Students who don't speak Spanish start early with intensive language instruction. Glover and Medina get home about once a year. They report that living conditions are spare and English textbooks hard to come by, but they are well taken care of and the education is rigorous.

The Bush administration's restrictions on travel to Cuba have been a thorn in the side of the program from the beginning. Since the Cuban government pays the students' room, board, tuition, and a stipend, the ban was not initially applied to them. But the administration's further attempts this summer to curtail Cuban travel threatened the students and sent their families scrambling for political help. Representatives Barbara Lee (D-Calif.) and Charles

Rangel (D-N.Y.) led a campaign of protest, and 27 members of Congress signed a letter to Secretary of State Colin Powell asking that the ELAM students be exempted from the ban. In August, the administration relented and granted the students permission to remain in Cuba.

The Cuban health care system in which these students are working is exceptional for a poor country and represents an important political accomplishment of the Castro government. Since 1959, Cuba has invested heavily in health care and now has twice as many physicians per capita as the United States and health indicators on a par with those in the most developed nations — despite the U.S. embargo that severely reduces the availability of medications and medical technology.^{3,4} This success clearly plays well at home and has enabled Cuba to send physicians abroad to Cold War hot spots such as Nicaragua and Angola. Yet Cuba has also sent thousands of physicians to work in some of the world's poorest countries. Since 1998, 7150 Cuban doctors have worked in 27 countries — on a proportional basis this is the equivalent of the United States sending 175,000 physicians abroad.⁵ In the same spirit, ELAM trains young people from these countries and sends them home to practice medicine. Although these programs make political points for Cuba, they also represent an extraordinary humanitarian contribution to the world's poor populations.

The U.S. students face a hurdle that their classmates in Cuba do not. To obtain residency positions in the United States and uphold their side of the deal with Castro, U.S. students will have to pass two steps of the United States Medical Licensing Exam (USMLE) and the new Clinical Skills Assessment test. The first large group of ELAM students will take Step 1 later this year, and the results will be critical to the future of the program.

The ELAM invitation is not limited to minority students, although the emphasis on coming from and returning to poor communities has naturally selected students of color. Physicians from minority groups accounted for only 3 percent of U.S. doctors during the middle years of the 20th century. After the civil-rights movement, the number of minority medical students increased steadily, rising to 11.6 percent of medical school graduates in 1998. Schools used scholarship money, academic enrichment

programs, and special admissions criteria to increase minority enrollment. In recent years, such initiatives have flagged — victims of court decisions opposing affirmative action, continued escalation of medical-school tuition, and a supply of minority students that, in the judgment of some medical educators, is tapped out. Today, roughly 11 percent of graduating medical students are members of minority groups.¹

Glover, Medina, and their schoolmates have gotten into and mastered strong academic programs despite their disadvantaged backgrounds. However, half of all applicants to U.S. medical schools are rejected. By the unforgiving standards of the application process, a C in a science class or a so-so MCAT score dooms an applicant. Castro has removed the financial barriers and bet on motivation to overcome any educational liabilities that students bring with them to ELAM.

Which brings us back to Castro's gambit. Why is he reaching out to U.S. students? What an irony that poor Cuba is training doctors for rich America, engaging in affirmative action on our behalf, and — while blockaded by U.S. ships and sanctions — spending its meager treasure to improve the health of U.S. citizens. Whether one considers this a cunning move by one of history's great chess players or an extraordinary gesture of civic generosity — or a bit of both — it should encourage us to reexamine our stalled efforts to achieve greater racial and ethnic parity in American medicine. If Castro can find diamonds in our rough, we can too.

From *Health Affairs*, Project Hope, Bethesda, Md.

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