Training Physicians for Global Health

- Latin American Medical School - First Graduation
- Doctors for the Developing World
- Training Human Resources for Health in The Gambia, South Africa & Venezuela

Headlines in Cuban Health: Cuba Responds to Katrina Disaster
Training Physicians for Global Health
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EDITORIAL

A Global Workforce for Health

Recently the G8 patted itself on the back for its pledge to double aid to Africa to US$50 billion annually while committing to universal access to HIV/AIDS treatment by 2010. Clearly, Africa needs this financial help and universal treatment is a heroic goal. But the $50 billion question remains: who is going to deliver that treatment?

The answer is that no one is quite sure. Although medical science is at its zenith, the global crisis in human resources for health (HRH) means we cannot care for our own. Collapsing health systems, alarming burdens of disease, and immoral disparities in quality of life and access to care typify the shameful state of international health today. There are simply not enough health workers, not well enough trained or distributed, with sufficient equity, to staff the health systems of the world - particularly those of developing countries. Even most rich nations, which harbor poor communities that mimic health outcomes of the Third World, are not immune to the workforce crisis. This is thrown into sharp relief following natural disasters like Hurricane Katrina (see Cuba’s Response to Katrina Disaster).

If the status quo prevails, there is little hope for reversing the trend, according to the WHO’s 5-year Millennium Development Goal (MDG) progress report in health released on August 22. “A failure of health systems, [has] failed to protect the poor from the consequences of ill health.” Significantly, the report points specifically to the HRH crisis: “much of the burden of disease can be prevented or cured...the problem is getting staff, medicine, vaccines and information...to those that need them. In too many countries, the health systems needed to achieve these objectives either do not exist or are on the point of collapse.”[1]

The situation is most acute in Sub-Saharan Africa, which carries 25% of the world’s burden of disease, but has only 1.3% of the world’s health workforce.[2] But Latin America and the Caribbean also suffer a dearth of health professionals, with entire indigenous and marginalized populations without health care. In an effort to spur governments and other public health stakeholders to foster a sustainable solution to the complex HRH problem, the Joint Learning Initiative (JLI) in its seminal report Human Resources for Health, called for a “decade for human resources for health (2006-2015).”

Leading the global charge, Cuba effectively inaugurated such a decade on August 20th with Havana graduation ceremonies for 1,610 new MDs for the Global South (Top Story: Where There Were No Doctors: First MDs Graduate from Latin American Medical School). Part of a long-term, multi-faceted strategy designed to confront the crisis in health workforce capacity development (Spotlight: Doctors for the (Developing) World; International Cooperation Report: Joining Forces to Develop Human Resources for Health), the new doctors, representing 28 nations, have pledged to return to their countries to work in underserved communities.

Most of the graduates could only dream of becoming doctors before Cuba made full, six-year scholarships available. Indeed, this is true for new graduates like Dr. Luther Castillo from Honduras, who shares his experiences in MR Feature: Profiles in Commitment: Conversations with ELAM Students, as for Dr. Cedric Edwards (MR Interview: Cedric Edwards, MD: First U.S. Graduate of the Latin American Medical School).

Cuba’s extension of full medical scholarships to U.S. students from underserved communities also attempts to address health care disparities in the United States itself. According to the Sullivan Commission’s report Missing Persons: Minorities in the Health Professions, “African Americans, Hispanic Americans, and American Indians, only account for less than 9% of nurses...[and] 6% of physicians, meaning these groups tend to receive less and lower quality health care than whites, resulting in higher mortality rates.”[3]

Global health equity and the education of minority doctors are the focus of this month’s International Voices - a new section offered by MEDICC Review - which reprints articles by international experts concerning Cuban health and medicine. We are pleased to debut this section with “Global Health Equity” from The Lancet and “Affirmative Action, Cuban Style” from the New England Journal of Medicine.

Cuba’s efforts to create a workforce to deliver quality, equitable health care in resource-scarce settings are the result of decades-long experience, as evidenced by the story of 1983 graduate Thabo Mnisi (MR Feature: Profiles in Commitment: Thabo Mnisi, MD, Clinical Manager; Alexandra Health Centre and University Clinic, South Africa). The role of Cuban faculty in divergent international settings – where community and problem-based learning prevail – is addressed in our Professional Literature section (Experience of Cuban Faculty in Establishing a Medical School in the Republic of The Gambia; Community Health Diagnosis as a Curriculum Component: Experience of the Faculty of Health Sciences, Walter Sisulu University, Eastern Cape, South Africa).

Cuba’s practical contribution to the global health workforce merits serious recognition by the international medical community. This year’s graduates should be taken at their word and placed promptly by health authorities in their home countries in the mountains, deserts, villages and favelas where their skills and commitment are urgently needed. And the world should take note: the decade for human resources for health has begun - the clock ticking in the short lives of the underserved who have no time to wait.

The Editors

References

SPOTLIGHT

Doctors for the (Developing) World

By Michele Frank, MD & Gail A. Reed

Cuba's contribution to the world's health workforce has been essentially a practical one, focusing on health care delivery and medical education writ large: today, 24,950 Cuban health professionals serve in 68 countries[1]; and in an unprecedented effort, 12,000 international students are enrolled on full scholarship in Cuban medical education institutions. Medical students alone account for more than 11,000 of them - a figure expected to reach over 25,000 in 2005-06.

A Bit of History

By 2004, Cuba had over 68,000 doctors (1 X 165 inhabitants), and a total of over 380,000 health workers. But this was not always the case: right after the 1959 revolution, nearly half the country's 6,000 physicians emigrated. Yet, imbued with the spirit of the times, as independent Caribbean and African countries emerged from colonialism, Cuba began almost at once to train students from developing countries alongside their own. “The idea of international assistance in health was part of our activity, part of our principles from the beginning,” asserts Dr. Francisco Durán, Director of Higher Medical Education in Cuba’s Ministry of Public Health. From 1966 through 2004, nearly 4,000 international students graduated from Cuban medical schools - some found today among the developing world’s health ministers and secretaries of health (see MR Feature: Profiles in Commitment: Thabo Mnis, MD).

In 1976, a medical school in Yemen was founded by Cuban professors - and under bilateral agreements in later years, Cuban faculty would go on to found another eight schools of medicine in Africa, Latin America and the Caribbean (see International Cooperation Report: Joining Forces to Develop Human Resources for Health). Moreover, Cuban professors would provide the backbone for struggling medical schools in other countries of the Global South - including Angola and South Africa (see Community Health Diagnosis as a Curriculum Component: Experience of the Faculty of Health Sciences, Walter Sisulu University, Eastern Cape, South Africa).

The Latin American Medical School Program

By far the most ambitious program for international medical training is the Latin American Medical School. When the fury of Hurricanes Georges and Mitch struck Central America and the Caribbean in 1998, 1,000 Cuban doctors were sent as volunteers to the disaster zones.

Discovery of the underlying disaster of entire populations without health care led the Cuban government to two decisions: offer Cuban medical teams for longer-term assistance to bolster local health systems, and open a medical school in Cuba with 10,000 scholarships for students from those countries. This became the Comprehensive Health Program (CHP), aimed to build in sustainability to Cuba’s international health cooperation for the first time, since the long-term goal was for these graduates to replace the Cuban doctors on the ground in their countries.

By 2004, enrollment in the program topped 9,000, and by 2005, it hit the 10,000 mark. Government-to-government agreements have expanded the program to 27 countries, and in the case of the United States, attracted students even in the absence of a bilateral accord.

Approximately 1,000 students from other nations - primarily African - are studying medicine in Cuba under other programs.

In all cases, the basic curriculum consists of a 6-month to one-year pre-medical bridging course, which includes Spanish language for those who need it; two years of basic science at either the Havana or Santiago campuses; followed by four years of clinical rotations, when students are dispersed to Cuban medical schools in all 14 provinces and train alongside Cuba’s future physicians.

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LATIN AMERICAN MEDICAL SCHOOL:
Enrollment by Students’ Country of Origin
Academic Year 2004-2005

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Source: Latin American Medical School, August 2005

Differences in the Cuban Approach to International Medical Education

Even a cursory look at the brain drain leads to the conclusion that training more professionals is only part of the solution to a complex problem: national health systems must be able to retain health professionals (primarily in the public sector) and also to distribute them where they are most needed (often the most remote and difficult places). While Cuban health authorities are not in a position to address these issues directly, their philosophy of medical education and the process of student recruitment itself merit continued appraisal, since they represent a significant departure from medical training around the world.

Student recruitment: The majority of these international scholarship students are recruited from underserved communities - from poor, remote, marginalized and indigenous populations. This has resulted in a Latin American Medical School student body made up of 101 ethnic groups from 27 countries - 51% of them women.

Graduates’ commitment: Students know when they enroll that they are expected to make a commitment to serve in undeserved communities - their own or another - upon graduation. This is reinforced throughout their studies, says Dr. Durán, “not by any course on ‘humanitarianism,’ but by the examples they have at hand. Cuban doctors who have been abroad in very difficult situations are all around these students. And they see people, their Cuban patients, who have a right to health care.”

The commitment is also reinforced by a summer program devised by the students themselves, in which they spend part of their vacations serving in their home communities under the supervision of Cuban professors. This can sometimes provide dramatic assistance to local health systems, as in the case of the dengue epidemic in Tegucigalpa, Honduras, where over 400 Honduran students went to work on health brigades to control the outbreak and carry out vital community education (see MR Feature: Profiles in Commitment: Conversations with ELAM Students).

The curriculum: The study plan embodies the Cuban philosophy that also inspires the organization of the island’s health system, combining population-based public health principles and prevention with clinical medicine. In concrete terms, this means that students are exposed to working with Cuban communities even in their basic science years and that public health is an important subject in their clinical training. The focus is biopsychosocial; individual, family and community. For developing countries, where health professionals must be especially conscious of the economic, social, cultural and environmental determinants of health in order to be effective, this approach to training gives them essential tools.

The scenarios: In addition to Cuban communities, the program includes two important elements that tailor studies to the students’ home situation. First is enhanced emphasis on tropi-
cal and infectious diseases, a curriculum component designed by Cuba’s Pedro Kourí Institute of Tropical Medicine. And second, a pilot experience in early 2005 offered sixth-year students the opportunity to return to their home countries for the last six months of their internship, mentored by Cuban professors serving there. Interns from Haiti, Venezuela, Honduras and Guatemala were among the first to participate (see Top Story: Where There Were No Doctors).

The “calling”: It is difficult in today’s material world to suggest a paradigm shift in what it means to be a doctor. But that is precisely what the Cuban approach to medical training is proposing: to reverse the trend that has patients becoming clients and customers, and healers becoming income-driven service providers. The Cuban premise is that medicine as merchandise has not - and will not - guarantee health for the world’s poor majorities; health as a human right must be guaranteed by health professionals who believe the same, and who are willing to make sacrifices to make it possible.

The scope of the Cuban programs continues to grow: at the Latin American Medical School’s first graduation on August 20, President Fidel Castro announced the country will join with Venezuela to train 100,000 physicians for developing countries - including 60,000 new scholarships for Venezuela and 30,000 for the rest of Latin America and the Caribbean. This means a total of 100,000 new physicians - from low-income families themselves - for these countries over the next ten years.

Will these graduates be the harbingers of a fundamental shift in the profession of medicine for the Third World, in desperate need of their services and commitment? Will they live up to their communities’ expectations? Cuban medical educators predict the majority will - but even if only some do, then Cuba will have made a substantial contribution.

References


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### Latin American Medical School Curriculum

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<td>Metabolism &amp; its Regulation</td>
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Source: Vice Ministry for Medical Education and Research, Ministry of Public Health

1 Forensic Medicine and Medical Ethics
2 Complementary / Alternative Medicine, called “Traditional and Natural Medicine” in Cuba

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6th-year ELAM student working to improve health outcomes back home in Honduras.
In South Africa, there are 25 doctors for every 100,000 people. In the United States, while there may be 279 doctors for every 100,000 inhabitants, there are also 45 million - one in every six people - without any health insurance. Africa suffers from ‘brain drain,’ sucking homegrown doctors to richer, industrialized markets, and much of Central America threatens to buckle under poverty that makes medical school prohibitively expensive.

Confronting these inequities is precisely why the Latin American Medical School (ELAM; Escuela Latinoamericana de Ciencias Médicas) was founded. By extending medical school scholarships to students from 27 countries who likely otherwise wouldn’t become doctors, Cuba, and the nations represented at the school, aim to provide health care to some of the world’s neediest communities.

No one is better equipped to talk about the commitment and vision of Cuba’s international medical education program than its students, past and present. What follows are excerpts from interviews with current and recently-graduated ELAM students, wherein they discuss their lives and individual experiences at the school.

**Sarpoma Sefa-Boakye** is a first generation American, one of three children of immigrant parents from Ghana who moved to Los Angeles several years before she was born. She’s in her third year of medical school.

**Why did you decide to become a doctor?**

I would say my first experience in Africa when I was 9... I saw kids suffering from beri-beri, their stomachs distended... I had never seen [that] in the U.S., and I said “What’s going on?” My parents said “you eat everyday but they don’t.” And I couldn’t understand... so I secretly put my clothes inside a (back)pack, and one day there were some kids on the street, kids who had walked from Eastern Ethiopia... It was during the time of the famine over there, and they were all going to Ghana and living in the streets. And I went and gave my clothes and toys to the kids on the street, and I talked to my mother; and I said “Mommy I want to do this every day in my life, I want to give every day of my life, that’s what I want to do...”

When I came back to the U.S. I thought, ‘well, I’m gonna be a doctor.’ But the interesting thing is that I was nine and I didn’t realize that that happens in Africa, but it also happens in Los Angeles - I mean kids with no food. They were talking about a case of beri-beri in Los Angeles, kids with distended bellies because of malnutrition; asthma because of roaches. All these different things going on, so I thought my fight was in Africa, but without realizing it, it’s not only Africa. These rich countries that we’re living in, you know they have these Third World countries within... And that kind of reinstated my desire to make this a lifelong commitment.

**What’s different about Cuban medicine from your experience in the States? What do you notice first off?**

[Cuban doctors] are very open to what the patients say. The patients say “I’m depressed because x, y and z.” They’re really taught to become doctors... they integrate everything, and so they are physicians, but also psychologists and lawyers... and they really know how to talk, to understand and to listen. And so, we’re really taught how to listen to the patient, to really get to what they want to say.

**What about living with students from other countries? What’s that like?**

Oh, it has actually been good! Here you learn something every day. You learn that we’re more alike than different. I don’t know how else I could have ever had this experience. I wake up in the morning and I can hear Portuguese, I hear Garifuna, I hear indigenous languages that could have been lost... but that are here. It’s such a beautiful thing, it’s almost like an encyclopedia... What are the Andes Mountains like? I can just go out and ask a student.
program that took her to Cuba for her first five years of training. We spoke with her just before she returned home to complete her final year internship.

When you go back to South Africa, do you have any obligations to do any service because you went to school in Cuba?

Oh yes. We have to work for our government for the same amount of time that we’ve been training, which is like five years. We signed a contract with the South African government that we are chosen as students from disadvantaged areas who are willing to work anywhere in South Africa where we are most needed. It’s all about serving the communities. We agreed that we’d do that, under whatever conditions...

Being a doctor is not just a profession, it’s a calling...It’s like being a Reverend, you go to where the people need you the most... You have to make sure that (medicine) gets to everyone who needs it. And that is what we have in our minds - medicine and health care and health services for all South Africans.

What do you think is the most important thing you’ve learned studying in Cuba?

When I saw the way Cuba is structured. Their health system and their emphasis on primary health care in all areas...they actually attack the problem before it becomes bigger for them to handle. [In] the South African health system, we tend to attend more to sick patients, to patients who are at different stages of the disease’s development than to attack it at the core, at the base of the problem before it gets to be a problem. Like infectious diseases: if you were to attend to them before they become a bigger problem, before we have a magnitude of people with the same type of infections with parasites and infectious diseases of the lungs or respiratory or digestive systems, a lot can be done. Simple measures can be done to stop that.

How would you compare medical schools in South Africa to here? What’s the difference in how you’re getting educated?

Here in Cuba, if you are a student having a certain problem, the lecturer will actually tell you “I think you are a good student.” “You’re doing better,” or “I think you’re having problems, would you like me to help out?” You get to relate more to your lecturers...they’ve more time to help you out [and] if they need more time to help you understand, they will give that time to you. But they will not compromise on good results and things done properly.

“This is what we’re talking about. This is how you should treat it. This is how you should relate to a patient.” You get trained on how to do that. You get to see more and you get to be more confident about what you are doing.

One problem in South Africa is that lots of doctors and nurses leave. They get recruited from other countries or companies which lure them with the opportunity to make a lot of money. Do you think that could ever change?

If we bring more health to the communities, [it] could make ourselves feel more attached to our communities. The more attached we are to our communities, the less we are going to be attracted by all these packages from outside...once we have a connection to our communities, that will overcome the migration of our professionals out of the country to other parts of the world because there’s nothing like being home.

“Being a doctor is not just a profession, it’s a calling...you go to where the people need you the most...And that is what we have in our minds - medicine and healthcare and health services for all South Africans.”

Dr. Nontembeko Sweetness Kunene, South African graduate

I think [the training here] is very good because there are no limits - you get exposed to almost everything, and you do hands on. Like we have done in the hospital today. You are shown patients. You get to see for yourself. This is what you have learnt in the book.

Dr. Luther Castillo is a Garifuna from a small community in the Mosquitia region of Honduras. He is the second oldest of eight children and had to overcome many obstacles (including walking six hours roundtrip to high school), to make it here, as a doctor and ELAM graduate.

Why did you want to become a doctor?

I was searching for an opportunity to study, to prepare myself for life...There’s only one medical school in Honduras and that’s in the capital. So you have to emigrate to Tegucigalpa, and there you have to pay for food and housing and that’s nothing compared to the books. It’s very expensive, you know? So I tried; I did it for one semester, but the cost of anatomy books alone was around 5000 pesos and my monthly income was around 600 pesos, so I had to quit studying.

For me, the idea of studying medicine was closely linked to the situation I saw in my community...some doctors came to other neighboring communities to do their social service. And I noticed some contradictions between these doctors and the people in the communities. Historically, the people in the communities were used to traditional medicine, herbs and such...and the way these doctors approached them - simply saying that what they had been doing for years was wrong or that they were ignorant and what they needed were antibiotics or another drug. And I believed that my efforts could be more helpful since I understood the history, the
Vo... with her two children and one of them was bleeding, so we took... first because there were so many people... This mother came... how serious their condition was, so the doctors knew who to see... We were classifying the patients in A, B or C according to... of them already showing signs of hemorrhage, children bleed... mothers brought their children suffering from dengue, some... shared this story about the experience:

In the Alonso Suazo clinic, where hundreds of... problems there and that this could serve the process of the communities’ development, that the doctor could play an important role in the communities.

**What are the main health problems in your community?**

The main health problems are parasites, malnutrition, acute respiratory infections or diarrhea, seen more frequently in children. Now AIDS is heavily attacking our region. That’s one problem that is not much publicized, but it is also a serious problem in our communities because of some customs that must be tackled.

**What services existed in your community for people who needed medical attention?**

At that time, [the late 80s], there was no health care center in my community. There was another community close by - four hours away on foot - where there was a religious order of nuns who weren’t doctors... they sold medicines, and they could suture wounds and things like that. So if someone had an accident or was ill, he was carried on a hammock - that was the ambulance service - and taken there on foot, walking four hours until they reached that point where the sisters could at least mitigate the problem, maybe care for a wound, give them some medicine... some people died on their way to that place because it took so long to get there. Now some things have changed. Now there’s a hospital where Cuban doctors work, about 2-1/2 hours from the community; on weekends, the Cuban doctors visit peoples’ homes, and now we have a Cuban doctor in the community who is living in my house (laughing). He is living there and that’s very important for the community.

**How do you people see Cuban medicine?**

They see it as excellent medicine...the Cuban doctors’ service in these communities has been transcendental... The challenge is for us to offer something comparatively new or better. People have great expectations, they expect us to be like the Cuban doctors, to help them like the Cuban doctors, to have the same training they had but also to take social factors into account, to have the conscience - the human factor - that is so characteristic of the Cuban medicine in which we are being trained.

When I went back on vacation, someone told me “I’m 75 years old and I had never been treated by a doctor without showing disgust for me.” They use this term “disgust” to refer to a kind of rejection, you understand? And he said “No one had ever examined me with such delicacy, sitting by my side, holding my hand…”

**In the summer of 2003, 497 Honduran ELAM students worked almost their entire vacation with the team of Cuban doctors in the country, fighting a dengue epidemic. Luther shared this story about the experience:**

We were in the Alonso Suazo clinic, where hundreds of mothers brought their children suffering from dengue, some of them already showing signs of hemorrhage, children bleeding... We were classifying the patients in A, B or C according to how serious their condition was, so the doctors knew who to see first because there were so many people... This mother came with her two children and one of them was bleeding, so we took him to the doctor right away. The doctor said the child needed a blood test urgently and sent the mother upstairs with the order. When the woman got there, they told her she had to pay 30 lempiras for the test and she didn’t have the money, so she left with her two children. We were waiting for her in the emergency room and noticed that 10 minutes had passed, and the blood test should have taken 3 or 4 minutes at most. When we went to look for her, the woman was like three blocks away already, taking her child back home because she couldn’t afford the blood test. Our students collected the money among themselves and paid for the test.

That kind of thing made an impact on people. That, and the humane treatment given to patients in the emergency ward, 50 to 80 people there. The presence of a student wearing a white coat with the human quality of our students was important for the mothers psychologically. Our students brought their own thermometers to take the patients’ temperatures and see who needed help first. All this work and the dedication of our students day and night in the struggle against dengue was a great experience for us and besides, it came from real commitment.

**Evelyn Erickson**, 4th year, is a Dominican-American whose family moved to the Washington Heights area of New York City when she was 11. In addition to a Bachelor’s Degree in Biological Sciences, she holds a Master’s Degree in Education.

**Why Cuba?**

I think first of all, it was feeling like it was a good match. I had visited the country and felt a connection to it - ever since I came here. But I think it was the feeling that I would come to a place where I would have academic support; that was important for me. I think in the United States, I didn’t feel like that in most of my classes - simply being a woman of color as a biology major. It was quite a struggle to graduate.

In my class, there were several of us, and very few of us graduated, especially in the sciences. So it was the feeling that I

“I feel like people here want you to succeed, whereas in the States, I felt people were trying to weed me out so that I wouldn’t make it... I thought if I came here I would be well prepared, especially thinking about the board exams and the MLE exams... I knew there would be a support group to help us with the step one exam.”

Evelyn Erickson, 4th Year
would have support here. And it was also about the reputation Cuba has in its health care system, how the health care system works here, how medicine is seen more as a right than a privilege and that the patient is seen kind of more holistically...the doctors here try to be more holistic in the way they see the patient. And there’s more inclusion of alternative medicine. It is just more integrated; it was something I thought I could apply more to the doctor I would want to be in the future.

Have you gotten the academic support you thought you needed?

Absolutely. Here, if you have a question you can go to people. I feel like people here want you to succeed, whereas in the States, I felt people were trying to weed me out so that I wouldn’t make it. I had several encounters with professors that were very discouraging. So that kind of everyday help on a daily basis - I am thankful that I am here. My professor is excellent in the clinical aspect of the career, which is the most exciting part of it. We get to see patients and we apply what we’ve learned in the last three years. So my professor is excellent. She prepares us well, and so I feel I am learning a lot.

And something else: I thought if I came here I would be well prepared, especially thinking about the board exams and the MLE exams. And I am not the best test-taker in the world. I know that these kind of exams are very rigorous. So I knew that if I came here, there would be a support group to help us with the step one exam, that I would get that personalized attention. And that has been great.

What are the needs in your community back home?

There are so many. I think there’s a need, definitely, for more doctors of color, for doctors that can be more culturally sensitive. In my community [Washington Heights], a lot of people don’t go to the doctor because they don’t feel comfortable...Sometimes they know English, sometimes they don’t, sometimes they cannot find someone to translate for them. Sometimes they cannot miss work. Sometimes it is a situation that even if they can communicate in the language to the doctor, the doctor isn’t culturally sensitive. And if you say, ‘Well, I had a little tea to make this...’ And they say, ‘tea, no; this is what you need to take,’ and they don’t understand they need to work with the patient, with their values. And I think that makes a lot of people not want to go to the doctor.

I know for me, education has always been important, so I think part of the thing I have always wanted to do is to open up schools to young people to have access to science, to have access to medicine.

I remember as a young person of color, it was really difficult. My high school didn’t even have a chemistry department, and so when I went to college I didn’t even have chemistry. And it was so easy at times to just say, ‘I’m going to give up. Forget this, I will major in something else.’ And I didn’t because it was important to look at the long-term goal. And I was lucky that I had people that supported me along the way. But I think it is important to develop ways to educate so that students can say, ‘yes, I can do this.’ So that if you see more doctors like you, maybe you’ll consider being a doctor. If you see more teachers like you, you’ll probably consider being a teacher or learning becomes more acceptable to you.

More than anything, [in Cuba], we have learned to be students of science and conscience, to become doctors that are both scientists and conscientious. We are learning to serve people, as it should be, to treat people because of who they are - not because of what they have. We are being trained in the principles of solidarity. We are learning from the Cuban people’s charisma. We’re grateful, and our people are already grateful too. You hear people thanking Cuba for the opportunity it has given us; if this opportunity hadn’t arisen, I wouldn’t be studying medicine. I would have been working during the day as I did before and studying at night.

How did your family react?

At the time [my mother] was the only breadwinner of the household and she told me not to think twice about it, that I should go, that they would make any sacrifice to be able to send me a little something, because it was a once in a lifetime opportunity. She told me that in Honduras I would never be able to study medicine because it demanded full-time study and a lot of money for books and everything...And I feel good because I know that the final result will be great for our people.

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Wendy Pérez, 4th Year

What do the clinical years of your studies look like?

I’m in Calixto Garcia Hospital, learning very much, in contact with patients, learning more about diseases because it’s not only theory but also practice. You go to operating rooms, to the wards, there you receive your lessons, you get to know the illnesses. It’s not only the books anymore, it’s reality. Your knowledge is deeper because you’re in touch with reality, not only with theory. And we feel satisfied because the professors give us the attention we need, they know us well, if we have any difficulties they come and ask what’s happening, if we have academic problems, they solve our doubts so that we can do better.

How do patients react when they see a Honduran student treating them?

When the patients ask, I tell them I’m from Honduras and they show surprise but react very well and collaborate with me. And I ask them to help me learn because I want to learn from them, and the relationship is always excellent.
By Gail A. Reed

Eight miles away loom the glass skyscrapers of modern, promising Johannesburg; on the opposite hill rests a cemetery, where baby bottles and stuffed animals serve as tombstones, precious companions to the inhabitants of too-small graves. Somewhere in the middle is Alexandra - or simply Alex to its nearly 500,000 residents - one of the legendary “townships” of apartheid South Africa and now a residential community fighting its way out of history.

Founded in 1912, as a “native township,” Alexandra was one of the few areas where black people could own land under freehold title, a right that was swept off the books in 1948 when the Department of Native Affairs decided to expropriate properties and start forced removals to reduce the population.

From 1958 to 1973, over 50,000 people were removed, but the township was never completely razed, in part because it provided such a large labor pool for the wealthy white suburbs around Johannesburg. Individual homes, however, seemed always in danger: in the sixties, the apartheid government decided to wipe out individual units altogether and rebuild Alexandra as a “hostel city,” with plans for 25 hostels, each to house 2,500 laborers.

All the while, the people of Alex were simmering, sometimes boiling over, into bus boycotts, protests against the inclusion of women in the pass laws controlling the daily movements of black people, and finally the 1976 student rebellion, known internationally as the Soweto uprising. In clashes that pitted youngsters against anti-riot squads and army helicopters, 19 people from Alex died, students who had rebelled against being taught in Afrikaans.

This is where Thabo Mnisi’s story begins. “I was one of the students protesting,” he tells me, suddenly recalling that our interview was taking place on the eve of Soweto, 19 years later. He’s standing beside the house where he was raised in Alex, his arm resting on the shoulder of an older cousin. “We started out protesting Afrikaans as a medium of instruction,” he says. “But we ended up protesting against the government, about all issues affecting blacks in South Africa. That night the police started looking for me, they raided my house; they arrested some of my friends. Some of my friends were killed. And so I had no other option but to leave the country.”

“We were excited, we were angry, we were throwing stones,” Mnisi remembers. “But the ANC (African National Congress) helped us ask the question ‘what next?’ Helped us to understand that we had to have the capacity and the skills to prepare ourselves for a new government, a different future.” And that is how he made his way to Cuba and to a scholarship in medicine. “I loved medicine, and my mother was a nurse. Sometimes I would go with her and help a patient from Alex who needed something. I was very enthusiastic to become a doctor, and even when I was in exile, my parents encouraged me a lot. And we certainly didn’t have enough doctors.”

In 1977, Mnisi began his studies at the Higher Institute of Medicine in Santiago de Cuba, returning to Havana to specialize in surgery. He would spend nearly 10 years on the island, taking away his MD, a fine command of the Spanish language, and experiences he says serve him well today.

“When I was studying in Cuba,” he says, “is when I realized that a country that has a government that gives support and invests
its funding in the health of its people - even when resources are limited - is a country that will achieve something.”

We walked through Alex as we talked, Mnisi stopped here and there by a shout, a handshake, a small girl’s giggle. What first struck me was the sheer number of people crowded into this maze of narrow streets and alleyways where thousands upon thousands of shacks have been thrown up one against the other, sometimes leaning alongside sturdier houses of brick or blocks. I learn that these streets were paved, electricity brought in, and sanitation improved only after the fall of apartheid a decade ago. But there is a ways to go, as tap water is still communal in many places; there is little green to breathe; and woefully, 60% of adults are unemployed. Many people are simply desperately poor, with HIV/AIDS sapping the strength and the lives of too many, too young. The cemetery is witness.

Are his studies in Cuba relevant to Alex? “I think Cuba has got one of the best medical schools,” he told me. “Now we are talking here about family medicine, district health. But that already existed in Cuba, where we also had the experience of interacting with the best doctors and health specialists there.

“What I liked was that the Cubans don’t hesitate to talk about other good experiences like the British primary health care system. What the Cubans did was to take all these experiences and produce their own model, and that’s what makes the Cuban health system so outstanding. Cuba’s is a health system that is accessible by even the poorest in the country. And it is also community-oriented. That is one of the biggest lessons we learned in Cuba: that the problem of health does not lie in the hands of the professionals alone, but in a joint venture between them and the community.”

Past the gate at the Alexandra Clinic, we entered an oasis of sprawling lawns, freshly painted pastel buildings, and murals everywhere. And we came upon a small round structure dubbed “the quiet room,” a sort of layman’s chapel for “people who need peace of mind,” explained Mnisi, “people who have had difficult news about their families, and want to be alone or together, to work out their stress or their pain.”

Dr. Thabo Mnisi is the medical director of the clinic, which is an independent institution receiving most of its funding from the South African government. Mnisi is quick to point out that a major fundraising campaign is going on to expand the labor unit at the heart of the clinic’s maternal-child services. But he says functional independence gives the staff the creative latitude to work with the community on the kind and quality of services needed and wanted in Alex.

He returns to his experience in Cuba: “I realized at that time that people have the power to change conditions and make them what they want. Not what others want, but what they want. People approaching problems together and seeking solutions as a team. That’s what I saw in Cuba, and I treasure that. When I came to Alexandra Health Centre, I found there were certain similarities with Cuba - the partnership between the clinic and the community is very dynamic, capable of overcoming any obstacle.”

“This is one of the oldest clinics in the township,” says Mnisi, walking on. “During the apartheid era, community members would come and hide in this clinic when the police came, and at one stage it was bombarded by the regime and there were casualties among staff. So this clinic identified itself with the aspirations of the community early on. Because of this history, it was very easy for the clinic to get the community involved. The board of directors is formed by elected community members. And then (as part of the outreach program) we also have satellite clinics and mobile clinics where we do immunization; school health services, services right in the community.

“Now we are facing the problem of AIDS, so we organized the Community Health Forum, to get each and every street involved - a project with the ups and downs that come with lack of resources. But we keep on, because if you go back to the concept of Cuba, you realize that expertise alone never will resolve health problems. Alex clinic is doing a lot of good work. I think it’s one of the models of primary health
care, one institution that with limited resources is able to do so much. And I think this is one of the things we learned from Cuba: that with little, you can still do a lot.

As we walked through the health center, Dr. Mnisi explained, “We have three major components: emergency services, consisting of the labor unit, casualty and of course the antenatal clinic. Then we have the outpatient department (OPD), including sub-units such as male and female clinics, pediatric service, and the chronic clinic which specializes in diabetes....And finally, we have the community outreach service, as I said, to take our services to the community - in which medical students (from the various universities) also participate. At the end of the day, these students must understand that when we talk about community health - what in Cuba they call medicina familiar - is not just the doctor going there, it’s the doctor going and interacting with the community. That way, both white and black students are also exposed to different realities.”

At first, he said, patients were asked to pay a small fee at the clinic. “But we didn’t get anywhere with that. We ended up in conflict with the community - some could, but many couldn’t pay. We realized that we were doing a service for this community - so nobody must pay. Contributions can come as donations from people who have the money.”

“The casualty (emergency service) was built for Alex because during the apartheid era, no blacks were admitted to the nearest hospital - they had to go very far to Tembisa Hospital,” Dr. Mnisi continued, as we rounded a corner towards the department. “So, the community requested this 24-hour casualty. It’s a very busy place. We are seeing a reduction in gunshot and stab wounds with better control of crime, but also a rise in motor vehicle accidents. And of course, those who come in with complications of chronic diseases and HIV/AIDS.”

Over 15 newborns are delivered in the small labor unit each day, with women coming not only from Alexandra, but from surrounding communities as well. “I think they appreciate the service, and that’s why they come here,” says Dr. Mnisi. But this, too, presents problems: “The biggest crisis that we face here is that a significant number of mothers come to the clinic already in the stage of delivery - they’ve not been through the antenatal clinic. And so they can come with complications, especially with the prevalence of HIV/AIDS now. With HIV/AIDS, we’re also seeing a lot of associated diseases among babies as well, like respiratory infections and diarrhea.”

It was afternoon, and we sat down on a bench vacated by patients who have already been seen - testimony, Mnisi noted with a smile, to the clinic’s determination to reduce waiting times, which stretch to over 12 hours in some hospitals. What made him return to Alexandra, once he was repatriated to South Africa as a young doctor in 1992, with so many other possibilities before him? I asked, mindful that at some South African medical schools today, over 70% of the graduates leave the country, never mind the townships.

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At the historic first graduation of Cuba’s Latin American Medical School (ELAM) on August 20th, young women and men from over two dozen countries received their medical degrees in the presence of fellow students, friends and family members, plus leaders from Cuba and abroad (see Top Story: Where There Were No Doctors: First MDs Graduate from Latin American Medical School). Cedric Edwards, MD of New Orleans, Louisiana, is the first to graduate among 65 U.S. students enrolled here. Dr. Edwards not only passed his Cuban licensing exams, but also his U.S. boards - the USMLE (U.S. Medical Licensing Examination) - required for admission to residency programs in the United States. On the eve of graduation, Edwards and his wife, another ELAM student, Inmaculada Ncogo Allene of Equatorial Guinea, spoke with MEDICC Review.

**MEDICC Review:** Why don’t we start with you telling us a little bit about yourself.

**Cedric Edwards:** I am the oldest of three sons and I went to Middlebury College in Vermont, graduating with a degree in Molecular Biology and Biochemistry. Then I started medical school at Louisiana State University. Unfortunately there were some problems there, and I didn’t finish. I ended up going to Howard University Law School in Washington, D.C. I was in my first year there when I found out about the opportunity to study medicine in Cuba.

**MR:** How did that happen?

**CE:** I had a friend who knew that I was really interested in studying medicine. He knew somebody who knew somebody who knew about the program. At the time I was writing for the school newspaper at Howard, and I decided to do an article on this Cuba medical school scholarship program. After researching the article, I began to think, ‘Hey! maybe this is something I should seriously look into for myself.’ And that’s what I did: I applied and I was accepted and here I am.

**MR:** Why did you decide to apply to medical school after Middlebury?

**CE:** It was while I was at Middlebury that I decided I wanted to study medicine. During my first semester of my freshman year, my younger brother had a football accident, playing American football. He broke his neck. I went back home to help out my family with that whole situation. I was very disappointed with the medical care my brother received - there was really so little in terms of medical technology available for people with spinal cord injuries.

My brother is still paralyzed from the neck down. He’s been that way ever since his last year in high school. But he graduated, he went to college and to law school, and now he’s preparing to take his boards so that he can practice law.

After the accident, I started doing research on spinal cord injuries. Every year, every summer, I did research in neuroscience and neurosurgery. I talked with a lot of neuroscience people, with a lot of researchers, and they told me that if I wanted to continue as a researcher in the field - if I wanted to do serious clinical research - the best thing for me to do would be to get a medical degree.

So that’s what I decided to do. My plan was to go to medical school and then possibly go into neuroscience or neurosurgery. I found I really didn’t like neurosurgery at all, unfortunately. So then I decided that I would go into medicine and wait to decide on a specialty.

**MR:** Did you apply to a lot of medical schools?

**CE:** Yes, quite a few, and I got into most of them.

**MR:** What made you choose Louisiana? Was it because it was close to home?

**CE:** No not really, even though that was a positive factor. The main thing was that they offered me scholarships, and I figured that if I could go to medical school and not have to pay back all the loans, that would be a big advantage. I was accepted to Northwestern and I almost went there. I really wanted to go there, but I thought about being a hundred thousand dollars or even more in debt. It would have been really tough on me and my family, so that’s why I chose Louisiana. As it turned out, that wasn’t the best decision.
**MR:** Why? You mentioned earlier that there were problems at medical school in Louisiana. Would you mind talking about that a little?

**CE:** I definitely had some problems. What happened was I was studying very hard and everything was working out all right, but then there was almost like a sudden change in my grades. My grades were not reflecting my studying. I mean, for all the studying I was doing, all the work I was putting into it, the grades just weren't coming in like they should have been. I got very discouraged and very frustrated. I didn't have the kind of support that I needed, I guess, and I began to think that the best thing to do would be to take a leave of absence or maybe even drop out.

**MR:** Generally, ELAM students are expected, or asked directly, to make a commitment when they finish their training to work in underserved communities in the U.S. Did you make that commitment? How do you feel about being asked to do that kind of thing?

**CE:** Actually, I have no problem whatsoever with that. And the fact is, honestly, I would want to make a commitment because a lot of times when people talk about an underserved community, they're talking about my community: African-Americans in the United States. So I want to go back to my community and practice there. I know first-hand what "underserved" means. I know the people, I know the culture and I know a lot about the problems that affect the community. I want to make a difference.

**MR:** What do you think about the medical education that you received here in Cuba? What is your evaluation in terms of the pros and cons?

**CE:** I like the fact that this medical school has so many students from other countries. I think that's a very good thing because you get a chance to relate to other people from other cultures (see MR Feature: Profiles in Commitment: Conversations with ELAM Students). And of course in the U.S., there are also a lot of people from many different countries. I also like the fact that everything's in Spanish. I think it's very important to know Spanish in the U.S., especially for physicians. There's a huge Spanish-speaking population in the U.S., yet most physicians don't speak Spanish. It's critical, really: how do you elicit the information you need from a patient in order to take a good history or make a diagnosis? How do you establish the doctor-patient relationship? The trust? The confidence that's such an important part of successful treatment?

One of the things I definitely like and I think is very important is that here everyone has access to health care. I think it's really a shame that in the United States so many people have to go to the Emergency Room for healthcare, in order to see a physician. I don't think the Cuban people really appreciate this as much as I appreciate it, coming from the U.S., being one of the people who did not have access to health care. I also like the fact that the training here incorporates a lot of complementary/alternative medicine (CAM).

I received training here in disciplines like acupuncture, homeopathy and herbal medicine, which I didn't receive in the States, nor was I ever aware of it being an integral part of any medical school curriculum in the U.S. Also, in Cuba, there's more emphasis on community-based systems of care, preparation for international service, and disaster medicine - all of which seem to be lacking in U.S. training programs.

**MR:** And the cons?

Life is very different here from what we're used to in the U.S. Living in Cuba is pretty tough; it's easier living in the U.S. Some people, when they came down and saw how different the lifestyle is, decided to leave. There are a lot of things we take for granted in the U.S. that are problems here: access to books, communications, transportation, food variety, shopping and stores; even regular electricity and regular running water sometimes. But I decided from the beginning that I was going to take advantage of this opportunity to get a good medical education and a medical degree. So I have been very motivated to stay.

Of course Cuba doesn't have the technology and abundance of resources that are available at U.S. medical schools. In Cuba they use what they have when they can, and since this is a resource-poor country in the general scheme of things, there's a lot more reliance on thorough history taking, a good physical, good communication with the patient and family, diagnostic discussions with colleagues, etc. I think this is all good. We learn to use and rely on our clinical skills, clinical thinking, intuition and experience.

**MR:** Why is this greater emphasis on hands-on, clinical skills important for you – especially since you plan to return to the U.S. to practice?

**CE:** I think I'll be a better physician for it. I don't think technology is a bad thing, but still you don't want to be dependent on technology and equipment. For instance, what if you're in a rural area or in the midst of a disaster situation? You want to be able to do something, to help people, to provide medical assistance without having to rely on something that isn't available. We have to be able to function as physicians in all circumstances, without being dependent on technology, because when you don't have it, you believe there's nothing you can do and that's really never the case – or it shouldn't be, at any rate.

**MR:** When you go back to the U.S., you may need to get updated in terms of the latest technology, new medications, etc. Do you feel confident that when you do go home to do the residency, you'll be able to “catch up” in this regard?

**CE:** Oh yes. Actually we do have access to a lot of the latest from the States; at least theoretically, by books or online; and there are U.S. professors that come down regularly to give special courses for the boards. Also, Cuba uses a lot of the same textbooks we used there, except they're translated into Spanish. One thing I should mention is that even though Cuba doesn't have certain newer medications, for example, or a lot of modern equipment, the training still covers their use or application. It's just that we don't get the same level of practice as we might in another place.

**MR:** You've been studying and living side-by-side with people from many different countries and cultures. In fact, you're married to Inmaculada from Equatorial Guinea. Inmaculada, let me ask you - are there many students from your country here?

**INA:** At the moment there are 52 of us. Most are studying in Pinar del Rio Province. I've finished my 5th year and will
begin the 6th/internship year in September. I came here to study medicine because of all the family members I’ve lost, all the people I’ve seen die - all of my life - due to lack of medical care. When I was 8 years old, I decided I wanted to be a doctor. My father didn’t have the money for me to study medicine so I went to nursing school. The year I was to graduate, I heard about these scholarship offers, so I applied and was accepted. That’s how I came here to study.

In my first year here, my father died – he died because the nearest medical post was too far away, they couldn’t get him there in time – he had a heart problem that shouldn’t have killed him. My brother’s death was also due to lack of medical attention. He died from an acute gastro-intestinal problem because there were no doctors available to operate, no surgeons in the country. Rush arrangements were made to fly him to Spain for surgery but he died on the plane. I have nephews and nieces, little children, who have died of dehydration...there are so many preventable deaths in my country.

**MR:** Inmaculada, have you been able to go back to your country since you’ve been here?

**INA:** Yes, I went back for my father’s funeral and I went back for my brother’s funeral. It was terrible. Thank God I had met Cedric. I had decided that I wasn’t going to continue my medical studies, but Cedric is a very positive, understanding and optimistic person. He talked with me a lot and he always said, ‘Look, your father wanted you to study medicine. He was proud that you were doing this, he wanted this.’ Cedric gave me lots of support which I really needed – it would have been just too difficult otherwise.

**MR:** And what about you, Cedric? You talked about not having good support when you had problems in medical school in Louisiana. Do you feel you received adequate support this time around? I know this is an issue for many ELAM students – it’s hard to be so far from home and in such a different environment and then to be studying medicine on top of that.

**CE:** I think one of the most important things for me is my brother. I mean, he was paralyzed from the neck down, and he went to college and then law school. I’ve used this to find strength in myself. It’s a motivating factor to help keep things in perspective.

But that’s not the only thing. Here in Cuba I have received a lot of support from many people, especially from the Cubans. The Cuban medical school system here is set up in such a different way. There’s built-in support almost. Also, in general, Cubans are very, very optimistic: if there’s a problem, you invent a solution. If you have a problem, people are willing to help out, they’re willing to talk with you, they check in on you. That kind of thing has helped me get through the tough times. Medical school is hard, it’s demanding, the standards are high, it’s not easy to get good grades, but you feel like most people want you to succeed, and they’re willing to help and support you. I’m not saying there aren’t things that drive me crazy or anything like that! You know, there’s always something, but hey...

**MR:** The other thing I wanted to talk about with you is the fact that you are the person representing the U.S. students – you are the first U.S. graduate from the Latin-American Medical School. You’ve also passed the USMLE. How do you feel?

**CE:** Well, before I was the first U.S. student to graduate, I was the first U.S. student that was expected to graduate, since I had already done some medical school in the States. I’ve been going through the whole process of taking the exams, checking out residency options, trying to open doors, and finding out how things work. In all honesty, it’s been pretty scary – really, from the beginning, for me, each step of the way has been scary. It’s all working out, I guess, but I’ve made a lot of mistakes along the way, not knowing what is the right way to do things, and learning as I go. I hope it will be easier for the other U.S. students.

Probably the thing that’s most unsettling for me now is that nothing’s settled yet! I know I like Internal Medicine, but...Also, since I’m coming from Cuba, I don’t really know how that might affect things - positively or negatively. I guess it depends on the program, and maybe whether they know much about Cuba and the Cuban health care system.

When I first received the opportunity to study here, part of me was worried. When I talked to family and friends, everyone was saying negative things about Cuba. It’s mostly because so many folks in the U.S. just don’t know much about Cuba. I guess a lot of people may automatically think negatively about Cuba and the medical system here, but hopefully as more people learn more, it will change opinions and people’s outlook.

**MR:** I’ve found that there is a lot of openness to learning more about the Cuban health care system in the United States, about the unique things that are done here, interest in joint research initiatives and exchanges that might be beneficial to both countries.

**CE:** Listening to you reminds me that there’s something else I wanted to say...While I’ve been here, I’ve tried not to get involved in politics. I really came here to study, and being a medical student is a lot of work - you really have to spend just about all your time studying. But I do want to say that I disagree with the blockade. Not only do I think it’s wrong, but I think regardless of what your feelings are about it, it’s ineffective.

What I’m saying applies to both sides. Cuba has a lot of vaccines and medical products, for example, and it doesn’t make any sense that U.S. people can’t have access to them because of the blockade. Just like it makes no sense that Cuban people don’t have access to medicines and technology from the U.S. I think this is wrong.

**MR:** What plans do you both have for after you graduate?

**CE:** Well, for now I’m going back to the U.S. to apply for the match, to get into a residency program. I’m looking for an Internal Medicine program and then I would like to go into Cardiology.

**INA:** I want to do a residency. I think I’d like to specialize either in Pediatrics or Geriatrics. I know it sounds funny, but I love children and I love old people! But I don’t know what will happen. There are no residency programs in my country. If I can continue my studies here, I will, or wherever I am offered the opportunity. – M –
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INTERNATIONAL COOPERATION REPORT

Joining Forces to Develop Human Resources for Health

By Conner Gorry

The entire country of Niger, population 11.5 million, has only 386 doctors; Tanzania has just 216 dentists for 36 million; and in Zimbabwe, a country of almost 13 million, there are only 12 pharmacists.[1] Such dire statistics, and many more like them, have led a mosaic of public health stakeholders to sound the alarm on the human resource crisis already threatening the world's health outcomes.

Efforts are collaborative, from both the public and private sector: WHO is dedicating its 2006 World Health Report, provisionally entitled “Working for Health,” to the emergency and in July, Baylor College of Medicine and Bristol-Meyers Squibb announced a joint initiative dubbed the “AIDS Peace Corps.” This five-year treatment project in Africa is distinguished by a program design that trains local doctors and provides technical support so African health authorities are able to treat their populations once the project ends. Its reference point is the seminal report (Healers Abroad) by the Institutes of Medicine released earlier this year, advocating the U.S. government take just such an initiative.

Enabling the local health workforce to care for its own population is critical to providing a sustainable solution to a problem that is hard to quantify. Still, in its comprehensive Human Resources for Health, the Joint Learning Initiative “estimate[s] the global shortage at more than 4 million (healthcare) workers; sub-Saharan Africa countries must nearly triple their current number of workers by urgently adding at least 1 million workers.”[2]

Often, they’ve had to wean themselves from more traditional teaching methods to capture the best of this combined approach. Dr. Julio Aguirre, of the Health Sciences Faculty and coordinator of the Cuban professors at Walter Sisulu University (UNITRA) since 1996 says, “problem-based learning is a process where students…develop the capacity to think and put things together and integrate knowledge” through clinical health scenarios provided by actual cases. Dr. Aguirre’s colleague Dr. Mayra Garí, another veteran professor from the Cuba-UNITRA collaboration elaborated: “problem-based learning puts emphasis on the diseases that are important for that particular country and community…the students learn based on real cases [and] in that way are learning to apply knowledge in a medical context…then, when they go to the community or the hospital, they know what to do; they become a lot more effective.”

For almost three decades, Cuba has collaborated with health authorities around the globe to develop medical education programs to train such urgently-needed professionals (see Table 1) with curricula formulated to meet international standards and local health needs. In this way, the Cubans have established medical schools and provided badly needed faculty reinforcements.

In South Africa, the Gambia and Venezuela, Cuban professors have adapted various problem-based learning curriculum designs, adding their own strong community-based education experience that speaks to primary healthcare needs in these countries (see Community Health Diagnosis as a Curriculum Component: Experience of the Faculty of Health Sciences, Walter Sisulu University, Eastern Cape, South Africa).

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Professor E.L. Mazwai, Dean of UNITRA’s Health Sciences Faculty credits the Cuban’s implementation of the program for sensitizing students to the health needs of the community and increasing their commitment to serve.

The Gambia’s First Medical School

Tiny Gambia fits squarely into the sub-Saharan profile of a country under siege from the combined pressure of poverty and disease. In 2002, Gambians had a life expectancy of 54 and 62% of adults were illiterate; more than 82% of the population was living on less than US$2 a day and the country counted only four physicians per 100,000 population.[3]

Given this backdrop, The Gambia’s President, Dr. Alh. Yahya A.J.J. Jammeh prioritized health and education, and made the progress of young women a political commitment in this Muslim nation. Primary school became free for girls; dozens of health centers were built; a new hospital in Farafenni
town went up; and perhaps most important of all, the School of Medicine became the lead faculty in establishing the first university in Gambian history.

Former health minister Dr. Yankuba Kassama recalls that President Jammeh made his first visit to Cuba in the late 1990’s, where he discussed his proposal. The Gambia needed a medical school to train doctors with a commitment to serve, says Dr. Kassama: “We needed to sensitize people that nation-building is about sacrifice sometimes. If (professionals) don’t stay, who will build this country?”

As a result, in September 1999, the first Cuban professors arrived in The Gambia, led by Dr. Arturo Menéndez (see Experience of Cuban Faculty in Establishing a Medical School in the Republic of The Gambia). The curriculum slowly began to take shape, with further assistance from Cuba and the World Health Organization. In 2006, The Gambia will graduate the first 15 physicians from the school, which has incorporated the Royal Victoria Teaching Hospital for the clinical years. This 540-bed hospital has undergone major changes to merit accreditation as a teaching facility, including complete remodelling of the accident and emergency services, blood bank, and ICU; plus a new pediatric wing, dental clinic, pharmacy, administration buildings, library and teaching labs and classrooms.

Table 1: Countries with Medical Schools Established by Cuban Cooperation

<table>
<thead>
<tr>
<th>Country</th>
<th>Year Established</th>
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<tbody>
<tr>
<td>Yemen</td>
<td>1976</td>
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<tr>
<td>Guyana</td>
<td>1984</td>
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<tr>
<td>Ethiopia</td>
<td>1984</td>
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<tr>
<td>Uganda</td>
<td>1986</td>
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<tr>
<td>Ghana</td>
<td>1991</td>
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<tr>
<td>Gambia</td>
<td>2000</td>
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<tr>
<td>Equatorial Guinea</td>
<td>2000</td>
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<tr>
<td>Haiti</td>
<td>2001</td>
</tr>
<tr>
<td>Guinea Bissau</td>
<td>2004</td>
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</tbody>
</table>

Source: Vice Ministry for Education and Research, Ministry of Public Health, Havana

The Student Perspective

Ousman Sanyang and Abba Hydara expect to be among the school’s first graduates. Their stories are not unique, and they help to illustrate the hopes, frustrations, and commitment of their classmates.

Ousman, who comes from the urban area of Serrekunda adjacent to the capital, had the opportunity to study in another West African country and even in the USA, but when he heard about The Gambia’s own school, he opted to enroll at home.

“The most important thing for the school at the beginning was that we had the will of government, of the students and of the lecturers. The facilities came later,” he told MEDICC Review. “The Cuban professors sometimes brought their own books, or would photocopy materials. We didn’t have Internet or even textbooks at first. We were sometimes frustrated. But our Cuban professors - who should have been put off by the lack of facilities - just said ‘this is how we started in Cuba, too.’ And so we got going.”

“What I’ve found is that practicing in a developing country is not easy. It has its limitations. The facilities for sophisticated diagnostic equipment often don’t exist, for example. But if we can make a diagnosis based on a detailed clinical history and a thorough physical examination - which is true for 85% of cases - then we even have an edge over students trained in Western Europe or the States. And that’s what our training concentrates on.”

Dr. Nestor Shivute, World Health Organization representative in The Gambia, notes that “we did not have medical doctors trained here before. They were trained in Western countries. And they tended to stay there, and only come home to visit….Yet, the most important resources are human resources. They are the key.”

One issue faced by the Gambian government - as in virtually all developing countries - is that government salaries are not on par with private sector earnings, and additional benefits have yet to be put in place. Special allowances for physicians posted in rural areas, plus additional benefits in the public sector, are among the incentives the ministry is reviewing in order to have a better chance to keep the doctors The Gambia is now training.

Abba Hydara’s father is an accountant, his mother a rice farmer. He grew up in his grandfather’s compound of some 50 relatives in Brikama, near Banjul. Earlier he received training as a physician’s assistant and was certified to operate on cataracts. He said it was the presence of Cuban professors at The Gambia’s medical school that convinced him that “finally something was going to happen. I saw all these professors from Cuba looking serious, and the Cubans are no jokers! So it seemed the school was finally going to be set up.”

He gave up a more comfortable position with the health ministry to go to school, and dug in with the Cuban professors
in pre-medical and basic sciences. “The team of teachers was under pressure, especially because of language,” he noted. “But in the end, only one had problems, and the other eight stayed with us. They taught us never to take anything for granted; to study and be disciplined; and their system was very good for us since it includes almost weekly evaluations. That kept us on our toes.”

“But above all,” he said, “they brought their spirit. From the start it was clear that they were teaching to prepare us, to make sure we understood we had a responsibility to our people, to help them come out of the cycle of disease and poverty and ignorance. They never minced words about that. And so, from the beginning, we visited communities and families to get a sense of their problems, and to lay the foundation for ourselves.”

The students make a commitment to serve in the public health system (a practice known as “bonding”) for the same period of their studies - six years. While tuition is US$600 annually, all students until now have received scholarships either from the World Health Organization or The Gambian government.

Venezuela – Defying The Paradigm

From cataract operations to trade agreements, literacy campaigns and sporting events, Cuban-Venezuelan cooperation has been flying along at Mach speeds recently. With education and health care among the highest priorities for Hugo Chávez' government, it should come as no surprise that Cuba – internationally recognized in both fields – should be called upon to help.

Venezuela’s health workforce goals are Homeric, with the first phase aiming to graduate 60,000 physicians by 2015. To make this a reality, the country has embarked on a multi-faceted medical education strategy that includes availing itself of scholarships offered in Cuba, like those at the Latin American Medical School (see Top Story: Where There Were No Doctors), and the creation of the Comprehensive Community Physician Training Program (CCPTP; Programa de Formación de Medicina Integral Comunitaria) in Venezuela itself.

Part of the government’s universal primary care system in poor neighborhoods known as “Barrio Adentro,” the Program is a partnership between Venezuelan and Cuban health authorities, physician mentors, and medical educators, to train 40,000 of these new doctors in Venezuela. Months of intense planning, coordinating, program design and staff training preceded a nationwide call for applicants that netted more than 20,000 students who are expected to begin medical school on October 3.

These are not run-of-the-mill medical school classes however, as the program introduces several pedagogical and methodological innovations. To learn the details, MEDICC Review conducted exclusive interviews in Caracas this August with the health professionals responsible for the new curriculum design.

The fundamental innovation is re-focusing the learning environment to emphasize community settings. No longer will students spend the first two years of their medical education solely in the classroom. Instead, the curriculum is split between the classroom and clinic, whereby the students work as “assistant interns” in a local Barrio Adentro clinic under the mentorship of qualified Cuban physician-instructors.

How it Works

There are 7,898 local clinics across Venezuela in the Barrio Adentro project; most of them staffed by a Cuban doctor-Venezuelan nurse team in a setup similar to the family doctor-nurse team in Cuba. According to the new curriculum, each Cuban doctor has two Venezuelan students assisting half-days in their clinic, attending classes the rest of the time in multipurpose classrooms with some 35 other students.

The Venezuelan program is six years, with five years spent in the clinic-classroom module and the sixth year as interns.

Dr. Luis Armando Wong, of the Cuban faculty coordinating team in Venezuela, explained, “this education system defies the paradigm because even from the basic sciences stage, students aren’t only learning in the classroom; they’re learning in the clinic, with real patients. So they read about heart disease in class and then see it at the clinic in a living person, not a cadaver.”

Although classes don’t start until October, many students have already been working in the clinics in a “familiarization” program coupled with bridging coursework in Biology, Chemistry and Spanish to bring students to the same starting point. Dr. Neisy Torres, attending physician at the Bloque 26 clinic that serves

Dr. Neisy Torres and Midgalia Ruiz are the Cuban physician-Venezuelan nurse team at this clinic in the 23 de Enero neighborhood of Caracas where students will be trained.
over 2,000 people in the 23 de Enero neighborhood of Caracas, has already begun working with her two Venezuelan students. “The familiarization stage is complicated,” she told MEDICC Review, “but after a time, the students begin to feel like health professionals.”

Another innovative aspect of the Venezuelan program is how the coursework is taught. In a new step for Cuban teaching staff, the problem-based component calls for related basic science subjects to be combined into one module called Human Morphophysiology, allowing for a more holistic, integrated understanding of the human body and the pathologies affecting it. Using a methodology that treats anatomy, physiology, histology, immunology, embryology and other subjects together rather than separately, teachers present scientific content in a way that more closely resembles how students will see it expressed in everyday clinical practice.

Despite new methodologies, certain fundamentals of the Cuban public health philosophy have been translated to the Venezuelan program – above all, the emphasis on primary care and prevention. In a visit to the Cardiovascular Center, Director Dr. Luis Manuel Reyes explained that most of the patients he sees already suffer from heart disease or hypertension, and are surprised when “we focus on prevention and health promotion, dedicating 10 to 15 minutes of each patient visit discussing prevention.” Other hallmarks of Cuban public health are also found here, as Cuban doctors practice what their own professors preached back home: “treat the patient, not the disease.”

Challenges & Horizons

Coordinating thousands of students, some from isolated, jungle communities who might travel to their clinic or classroom by canoe, (the program is designed to prevent brain drain to the cities by allowing people from rural areas to study close to home), matching them with clinics and professors, plus designing the curriculum, has demanded a monumental effort. Drawing up autochthonous educational materials that speak to the Venezuelan health picture and learning environment was among the initial challenges, along with training Cuban faculty in the innovative pedagogical model.

According to its designers, Cuban physicians serving as mentors have been required to take post-graduate courses in three areas, the pillars of the teaching methodology for the Venezuelan program:

- Seminars to update knowledge in basic sciences and their integration;
- Pedagogical preparation in medical education for lecturers;
- Methodological preparation specific to the Comprehensive Community Physician Training Program curriculum.

Ongoing evaluation of the program, the professors and the students - another aspect of the integrated Cuban philosophy of health that has been transported to Venezuela - is vital to the success of this “university without walls…the University of Barrio Adentro” as Dr. Wong called it. Professors, like students, partake in weekly evaluations to measure their progress, prepare for upcoming course units, share and debate ideas. To facilitate learning, interactive CDs and other audio-visual materials detail which subjects need to be mastered by when; and the clinical-classroom model, in which students are working alongside their tutors, encourages dialogue between teacher and pupil to further enhance learning.

Venezuelan-Cuban cooperation in medical education also includes a post-graduate component in family medicine. Equivalent to a residency in Cuba, it lasts 30 months and has been adapted for the Venezuelan system, thus far enrolling 1,050 general practitioners. Ten Master’s degree options in medicine and two in dentistry are also available, and - addressing another piece in the health workforce puzzle - medical technicians will begin their training in Venezuela in October.

At the historic first commencement of the Latin American Medical School in Havana on August 20th, President Hugo Chávez took human resource goals from the Homeric to the Herculean, announcing that a second Latin American Medical School would be founded in his country.

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2. ibid., pp. 33.
Experience of Cuban Faculty in Establishing a Medical School in the Republic of The Gambia

Arturo Menéndez Cabezas, MD, PhD

Introduction

Cuban academic collaboration with Third World countries has a decades-long tradition, as a contribution to the training of qualified human resources to improve health in those nations. This took on a new dimension with the Comprehensive Health Program (PIS, according to its Spanish acronym), that since 1998 has been extended throughout Central and South America, the Caribbean, Africa and Asia. One example is a medical school established in the Republic of The Gambia.

Background

Cuban medical collaboration with the Republic of The Gambia began in May 1996 with the arrival of a medical team composed of 22 specialists including three dentists, 12 nurses and two technicians, who were assigned to various hospitals and health centers by the Gambian government’s Department of State for Health and Social Welfare. These professionals laid the groundwork for long-term, expanded cooperation based on humanistic and internationalist principles, and offered further training to general practitioners and nurses from The Gambia and other countries working in the public sector. Scholarships for young Gambians to study in Cuba were also included in the bilateral agreements at this stage.

In April 1999, the President of the Republic of The Gambia visited Cuba. As a result of top-level conversations, this small sub-Saharan West African country joined the Comprehensive Health Program, including assistance in organizing and setting up an in-country medical school there.

In May 1999, a Cuban delegation led by the Director of the Collaboration Division of the Ministry of Public Health, made a working trip to The Gambia to prepare for the June arrival of the rest of the Cuban medical team, which included a number of medical school professors.

At that time, the country still had no university, although the goal had existed for many years prior. A government-designated commission of experts had even drawn up a voluminous report of recommendations for establishing a national university, and the legislature had agreed to establish such an institution the previous March. During the previous few years, collaboration with a private Canadian university permitted training professionals in a few fields, excluding medicine, and at a high cost to the country.

However, there did exist a broad, well organized and fruitful experience in training of general and obstetric nurses, as well as environmental and public health officers - all at the technical level - at the Schools of Nursing and Public Health, which together with the Schools of Education and Agriculture constituted Gambia College. Although not at the university level, the country had two more prestigious institutions under the Department of Education for technical-level training in administration, finance and trade.

The main points agreed upon concerning opening the medical school included:

- Begin medical training by Cuban faculty in October 1999;
- The Gambians would set up a preparatory course for young people wishing to pursue a career in medicine, from which a maximum of 25 students would be selected;
- The recently renovated Gambia College School of Nursing would temporarily lend a number of its classrooms to the medical school;
- The Gambian authorities would look for ways to acquire necessary books and laboratory equipment;
- The Cuban curriculum would serve as a provisional program that could be revised once the university was constituted.
- Questions concerning accreditation and degree granting were left for later analysis.

Prior to the arrival of the new Cuban medical contingent in June, the Gambian Secretary of State for Education named the Chairman and other members of the “University Council,” (the governing body of the university in the British tradition), comprised of notable figures in the fields of science, culture, government and the private sector.

Organizational Phase

On June 16, 1999, the Cuban professors arrived in The Gambia as part of a new group of 156 health professionals and technicians, to organize and begin university-level medical training in the country. The faculty included nine teachers from medical sciences institutes and schools from several Cuban provinces. Table 1 summarizes the group’s composition.

As is evident, most of the faculty had a good deal of teaching experience, as well as having held various positions of responsibility in medical schools or in public health. Three had some international collaboration experience and two had been active participants in establishing new medical schools in Cuba.

In addition to this team, two specialists in Family Medicine and other Cuban specialists from the contingent collaborated at various stages of the school’s development.

Activities conducted in this phase were:

- Curriculum revision, including formulation of course content for each of the first year, first semester subjects;
- Updating resources needed to begin teaching;
- Coordinating sessions with the University Council and officials from the Health and Education ministries;
- Identification of areas, labs and other facilities in schools, research and health centers that could provide support or help in teaching activities;
- At the request of the University Council, presentation of a detailed report on Cuban postgraduate education, with an emphasis on development of specialists, to assist in the process of making categories or academic ranks comparable;
- Convening an advanced English course for those Cuban faculty with English-language difficulties, to be taught by a teacher from Gambia College.

In September 1999, leaders from the West African Health Organization (WAHO) visited the school, and together with the World Health Organization (WHO) representative, convened the main stakeholders involved in the opening of the school to analyze...
the proposed curriculum. The group included the Departments of Health and Education, the University Council, the local WHO office, representatives of other government agencies, and the Coordinator of the Cuban faculty. The group became an ad-hoc working commission for establishing the medical school.

During the meeting, several regional principles and policies were discussed regarding the training of human resources for health, including community orientation and the need for general practitioners with skills in the basic medical specialties, who were capable of working in difficult situations, as well as being prepared in disaster management. Concrete suggestions for taking steps towards beginning the teaching of medicine in the country were also made. Internships were not to be included in the curriculum. After discussion of all these aspects, a consensus was reached on changes to be incorporated into the curriculum, and the Cuban faculty was charged with formulating the revisions, which contemplated incorporating a year of pre-medical studies, among other things.

Based on the WAHO report and other documents and materials from the region and its universities facilitated by the organization and WHO, as well as on a preliminary definition from the Department of Health concerning the competencies required of the school’s graduates, the Cuban faculty formulated the mission and philosophy of the new curriculum; outlined the characteristics of the school; and offered a proposal on the organization of the pre-medical course. The aforementioned working commission discussed and provisionally approved the proposal until such a time as the new university had sufficient maturity and conditions to revisit this aspect. WHO announced it would provide some material resources and a consultant, beginning important assistance from this international organization.

The two-semester introductory or pre-medical course was designed as a group of introductory subjects to reinforce and update knowledge in basic sciences - Biology, Chemistry and Physics - as well as English and the social sciences. The student selection process began at the same time. The admissions committee included two representatives from the University Council, one from the university administration, one each from the Departments of Health and Education, and three Cuban faculty members. They interviewed 68 applicants and reviewed their records, including high school academic performance, scores on the regional ordinary and advanced exams - with special emphasis on biology, chemistry and English, - as well as their marks on the preparatory course organized by the Department of Education. They examined their level of motivation, vocational aptitude, previous health-related work experience and oral communication skills. They also took into account their general health and age, without imposing rigid limits. At the end of three days they reached a consensus on 25 students: 22 males and 3 females between the ages of 19 and 25, and one 34-year-old.

On October 1, 1999, the first introductory or pre-med course was inaugurated. The 25 students and the Cuban professors were joined by the Chairman of the University Council, representatives from the Departments of Education and Health, and representatives from WHO, UNESCO and other institutions throughout the country.[4] The coordinator for the Cuban professors presented the components of the introductory course as well as the medical program curriculum. Classes began the following day.

The WHO Director for Africa visited the school in March 2000, resulting in the donation of a photocopier and computer for use at the Nursing School’s library, important for reproducing teaching materials. That same month, a Memorandum of Understanding regarding the medical school was signed between the University of The Gambia and the Cuban Ministry of Public Health.

In November 2000, as part of the preparatory work for the University of The Gambia, the Faculty of Medicine and Allied Health Sciences held its First Methodological Workshop. In addition to the medical school curriculum, the workshop analyzed proposals for university-level programs in Nursing and Public Health, which, at the request of the university authorities and the Department of Health, were scheduled to begin at the end of 2000 or beginning of 2001.[5] Thus, the Cuban faculty also contributed to the first steps in curriculum formulation for these professions.

Features Of The Medical School’s Curriculum

The medical school curriculum includes the following features:

- It is a 6-year program that includes one year of pre-medical or introductory courses offered by the Schools of Science and Humanities, followed by five years of medical studies;
- Community orientation: Community Medicine and Primary Health Care (CM and PHC) is taught throughout all years of the curriculum, and includes several subjects plus community work. It also includes disaster preparedness training. Students are required to present and defend a community health project in their final year;
- The first three semesters of the medical sciences curriculum cover basic biomedical sciences, with an inter-disciplinary approach. Human Anatomy, considered an integrated discipline, includes the origin and development of tissues, organs and other parts of the human organism (Embryology); characteristics of cells and tissues (Histology); and the structures of the various systems, parts and organs (Gross Anatomy), with the particularity that the themes are structured according to regions of the body. Physiology themes are distributed during the semesters, taking into account

<table>
<thead>
<tr>
<th>Specialty/Field</th>
<th>Academic Rank</th>
<th>Years of Experience</th>
<th>Other Credentials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemistry and History</td>
<td>Professor (Coordinator)</td>
<td>28 &amp; 17</td>
<td>MD, PhD</td>
</tr>
<tr>
<td>Histology</td>
<td>Professor</td>
<td>18 &amp; 10</td>
<td>MD, 2nd Degree Specialist</td>
</tr>
<tr>
<td>Embryology</td>
<td>Professor</td>
<td>23 &amp; 14</td>
<td>MD, PhD</td>
</tr>
<tr>
<td>Physiology</td>
<td>Associate Professor</td>
<td>22 &amp; 5</td>
<td>MD, 2nd Degree Specialist</td>
</tr>
<tr>
<td>Anatomy</td>
<td>Assistant Professor</td>
<td>17 &amp; -</td>
<td>MD, 2nd Degree Specialist</td>
</tr>
<tr>
<td>Psychology</td>
<td>Assistant Professor (Senior Lecturer)</td>
<td>18 &amp; -</td>
<td>BS, MS</td>
</tr>
<tr>
<td>Pharmacology</td>
<td>Assistant Professor (Senior Lecturer)</td>
<td>11 &amp; 5</td>
<td>MD, 1st Degree Specialist, BS in Pharmacology</td>
</tr>
<tr>
<td>Biostatistics</td>
<td>Instructor (Lecturer)</td>
<td>6 &amp; 7</td>
<td>MD, 1st Degree Specialist</td>
</tr>
<tr>
<td>Epidemiology</td>
<td>Instructor (Lecturer)</td>
<td>6 &amp; 6</td>
<td>MD, 1st Degree Specialist</td>
</tr>
</tbody>
</table>

Table 1: Characteristics of the first Cuban faculty offering university-level medical training in The Gambia, 1999
the morphological and Biochemistry themes that have come before, and in many cases there is a horizontal relationship between Physiology and Biochemistry;

- Clinical disciplines emphasizing practical training are offered as rotations. Rotations in Internal Medicine include the “minor” clinical specialties, and those in Surgery include the various surgical specialties;
- Electives are offered in the final years;
- There is no internship year. Instead, following graduation, there is a year or more of practice at an institution accredited by the Medical and Dental Council;
- Professional competency exams are administered in blocks with the participation of outside (external) examiners. The first block is given at the end of the first three semesters of the basic or pre-clinical courses; the second follows what are known as the para-clinical subjects (Pathology, Pharmacology, Microbiology, Hematology); and the third block is given at the end of the fourth year following clinical rotations in almost all specialties. The final competency test is given in the final year after completing consolidating rotations in the four basic clinical disciplines (Internal Medicine, Surgery, Pediatrics and OB/GYN), as well as all subject matter and practical work in Community Medicine and Primary Health Care, including a successful defense of a student’s community health project.

Table 2 shows the subjects by semester and year of study.

Medical Teaching Phase

In December 2000 the first year of the medical program began and the Coordinator of the Cuban professors was officially named Dean, the first official appointment at the new Gambian university.

There were still no laboratories. Construction, funded by WHO, was being completed on the anatomy laboratory adjacent to the Pathology Department at the Royal Victoria Hospital in Banjul. Some textbooks had been received from WHO and other donors, and the Cuban faculty had prepared various study materials for the first semester classes. On this basis, the University administration approved initiation of classes even though most practical activities had to be postponed. A good part of the laboratory work in Histology and Embryology was possible, thanks to microscopes lent by Gambia College. Physiology and Biochemistry coordinated with the Hospital for some practical activities. At the end of December, the anatomy laboratory was completed and arrangements were being made to obtain cadavers and formaldehyde to preserve them - a difficult task given the traditions and predominant beliefs in the country, as well as the absence of any legislation on the subject. In February 2001, hands-on training in Anatomy began with the dissection of the first cadaver.

At the same time, the selection process for the second group of medical students and the first nursing and public health students

<table>
<thead>
<tr>
<th>Year</th>
<th>1st Semester</th>
<th>2nd Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>Human Anatomy I (Gross Anatomy, Histology and Embryology)</td>
<td>Human Anatomy II (Gross Anatomy, Histology and Embryology)</td>
</tr>
<tr>
<td></td>
<td>Biochemistry I</td>
<td>Biochemistry II</td>
</tr>
<tr>
<td></td>
<td>Physiology I</td>
<td>Physiology II</td>
</tr>
<tr>
<td></td>
<td>Community Medicine (CM) and Primary Health Care (PHC) I</td>
<td>CM and PHC II</td>
</tr>
<tr>
<td></td>
<td>Biostatistics I</td>
<td>Biostatistics II</td>
</tr>
<tr>
<td></td>
<td>Principles of Primary Health Care</td>
<td>Community Health and the Environment</td>
</tr>
<tr>
<td></td>
<td>Epidemiology</td>
<td>Community Posting</td>
</tr>
<tr>
<td>Second</td>
<td>Pathology I (General Pathology, Chemical Pathology, Microbiology, Immunology)</td>
<td>Pathology I (General Pathology, Chemical Pathology, Microbiology, Immunology)</td>
</tr>
<tr>
<td></td>
<td>Pharmacology and Therapeutics I</td>
<td>Pharmacology and Therapeutics I</td>
</tr>
<tr>
<td></td>
<td>Introduction to Clinical Medicine</td>
<td>CM and PHC IV</td>
</tr>
<tr>
<td></td>
<td>CM and PHC V</td>
<td>Research Methodology</td>
</tr>
<tr>
<td></td>
<td>Non-Communicable Diseases</td>
<td>Medical Psychology I</td>
</tr>
<tr>
<td></td>
<td>Medical Psychology II</td>
<td>Internal Medicine I (rotation)</td>
</tr>
<tr>
<td></td>
<td>Rotations in:</td>
<td>Surgery I (rotation)</td>
</tr>
<tr>
<td></td>
<td>Internal Medicine II</td>
<td>Pediatrics I (rotation)</td>
</tr>
<tr>
<td></td>
<td>Pediatrics II</td>
<td>CM and PHC VI</td>
</tr>
<tr>
<td></td>
<td>Surgery II</td>
<td>Medical Ethics and Jurisprudence</td>
</tr>
<tr>
<td></td>
<td>Obstetrics and Gynecology I</td>
<td>Family and Community Health</td>
</tr>
<tr>
<td></td>
<td>Hematology and Transfusion</td>
<td>Community Posting</td>
</tr>
<tr>
<td></td>
<td>CM and PHC VII (Administration, Disaster Preparedness, Community Project and General Medical Practice)</td>
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<tr>
<td></td>
<td>Elective</td>
<td></td>
</tr>
<tr>
<td>Fourth</td>
<td>Internal Medicine III</td>
<td>Internal Medicine I (rotation)</td>
</tr>
<tr>
<td></td>
<td>Surgery III</td>
<td>Surgery I (rotation)</td>
</tr>
<tr>
<td></td>
<td>Pediatrics III</td>
<td>Pediatrics I (rotation)</td>
</tr>
<tr>
<td></td>
<td>Obstetrics and Gynecology II</td>
<td>CM and PHC VI</td>
</tr>
<tr>
<td></td>
<td>CM and PHC VIII (Work in a Community Project and General Medical Practice)</td>
<td>Medical Ethics and Jurisprudence</td>
</tr>
<tr>
<td></td>
<td>Elective</td>
<td>Family and Community Health</td>
</tr>
<tr>
<td></td>
<td>Elective</td>
<td>Community Posting</td>
</tr>
<tr>
<td>Fifth</td>
<td>Internal Medicine III</td>
<td>Internal Medicine I (rotation)</td>
</tr>
<tr>
<td></td>
<td>Surgery III</td>
<td>Surgery I (rotation)</td>
</tr>
<tr>
<td></td>
<td>Pediatrics III</td>
<td>Pediatrics I (rotation)</td>
</tr>
<tr>
<td></td>
<td>Obstetrics and Gynecology II</td>
<td>CM and PHC VI</td>
</tr>
<tr>
<td></td>
<td>CM and PHC VIII (Work in a Community Project and General Medical Practice)</td>
<td>Medical Ethics and Jurisprudence</td>
</tr>
<tr>
<td></td>
<td>Elective</td>
<td>Family and Community Health</td>
</tr>
<tr>
<td></td>
<td>Elective</td>
<td>Community Posting</td>
</tr>
</tbody>
</table>
Community Health Diagnosis as a Curriculum Component: Experience of the Faculty of Health Sciences, Walter Sisulu University, Eastern Cape, South Africa

Amalio del Río, MD

ABSTRACT: Community diagnosis is used to determine and describe the health status of the population (HSP), reflected in health indicators in a community over a specific time period. In public health practice, community diagnosis is a tool for evaluating HSP. The purpose of the community diagnosis (health diagnosis) in the Community-Based Education and Service (COBES) curriculum for third-year medical students is to provide a training component that exposes students to intervention methods that depend on working directly with populations and on understanding patients in the context of their communities.

This paper presents the main facets of the community diagnosis as a core component of COBES for third-year medical students at the Walter Sisulu University Faculty of Health Sciences (formerly University of the Transkei, UNITRA). For 12 weeks per academic year in the period between 1998–2004, over 300 students worked in different communities, visiting 3,600 houses applying a questionnaire designed to identify the main risk factors and other health and social problems facing the communities surveyed. With this information, the students analyzed the main health problems and suggested recommendations for improving the HSP. Students presented their results in a final written and oral project.

As a result of carrying out the community diagnosis, students acquired knowledge, skills, and attitudes necessary for working in different rural and peri-urban communities, learned from real-life situations, applied their Epidemiology, Biostatistics and other health sciences’ knowledge, gained necessary skills for their future work as physicians, as well as learned a more comprehensive approach to the main health problems encountered in the Eastern Cape Province of South Africa. Working with the community health diagnosis, the Faculty of Health Sciences has been fulfilling one of the main pedagogical pillars of its curriculum - Community-Based Education (CBE) - training students to work with the communities they serve.

REFERENCES


The Author

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CUBAN PROFESSIONAL LITERATURE - REVIEW ARTICLE

Experience of the Faculty of Health Sciences, Walter Sisulu University, Eastern Cape, South Africa

Amalio del Río, MD

Experience of the Faculty of Health Sciences, Walter Sisulu University, Eastern Cape, South Africa

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INTRODUCTION

The Faculty of Health Sciences of the Walter Sisulu University (formerly University of the Transkei, UNITRA) is located in Umtata, in South Africa’s Eastern Cape Province. This essentially rural region, known under apartheid as the Transkei bantustan, is historically one of the poorest provinces in the country (see Table 1).

Today, in an effort to offer high quality and relevant education to medical students, the Faculty has developed a Problem-Based Learning (PBL) and Community-Based Education (CBE) curriculum. Its main aim is to train and equip doctors with technical skills for patient care, as well as with the necessary social skills for assuming broader responsibilities in health care delivery and health promotion.

The community-based branch of this curriculum (CBE) has two essential components:

1. Community-Based Experience and Service (COBES) during the first three years of study;
2. Community Clinical Clerkship (COMCC) for later years of study.

The main learning objectives of COBES are to:

- Sensitize medical students to clinical situations that reflect the social, cultural and economic factors that are important causal factors for disease;
- Enable students to appreciate the importance of health promotion and disease prevention;
- Increase students’ knowledge related to Epidemiology and Biostatistics;
- Increase students’ awareness about behaviors and practices that may affect health;
- Expose students to methods of intervention that are applied as close as possible to communities served by health centers and clinics, thus gaining an understanding of the main goals of primary health care;
- Develop favorable attitudes among students for working among disadvantaged communities, including concern for individual and social circumstances that will serve as a basis for building relations with community members;
- Enable students to extend the skills of problem-based learning to gain insights into community health problems and understand patients as part of a community.

This COBES Program for third-year medical students is developed through three main activities:

1. Clinical Skills;
2. Know Your Clinics and Evaluation of Health Centers;
3. Community Diagnosis.

The community diagnosis is made in order to define and describe the health status of the population (HSP) in a specific community. Students learn that the HSP is a complex phenomenon including morbidity, mortality, disability, composition and reproduction, and influenced by other related indicators, such as food supply and nutrition, educational level and opportunities, employment, etc.

Similarities and differences exist between the approaches of clinical medicine and community health: “The clinician examines the individual patient and has to recognize and identify the pathological significance of the clinical symptoms and signs in order to make a specific diagnosis and to prescribe the appropriate treatment. In community health, epidemiological skills are needed to examine the whole population and to select the most suitable diagnostic indicators that describe and explain the health problems in the community. It is then necessary to make the community diagnosis and decide which (interventions) would be most effective in raising the health status of the population. A clinician may order a variety of laboratory or other special tests after making a preliminary assessment of a patient, based on the case history and physical examination. In the same way, the doctor in the community may need to organize special surveys in order to obtain more epidemiological information…however, there is a fundamental difference in the approach: the clinician usually sees the patient after the disease has started...by contrast, the epidemiologist attempts to understand why the disease exists...and how it can be prevented.”[1]

“Decisions on the management of a patient require a clinical diagnosis, based on the history, examination and special investigations. Management of ill-health in the community as a whole requires a community diagnosis which rests on epidemiological information.”[2]

One main question is the starting point and guide for working with students throughout the community diagnosis: How healthy is this community?

The objective of this article is to present the main activities of community diagnosis as a core component of Community-Based Education for third-year medical students.

Methodology

Students visited community health centers every Wednesday, where morning sessions were devoted to clinical skills and knowledge of health centers.

Table 1: Demographics of Eastern Cape Province, South Africa

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Eastern Cape</th>
<th>South Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (2003)</td>
<td>6,603,201</td>
<td>46,429,823*</td>
</tr>
<tr>
<td>Public Sector-Dependent Population (2003)</td>
<td>5,839,874</td>
<td>38,613,666</td>
</tr>
<tr>
<td>Rural Population (1996)</td>
<td>63.4%</td>
<td>46.3%</td>
</tr>
<tr>
<td>Education/No schooling (2001)</td>
<td>22.8%</td>
<td>17.9%</td>
</tr>
<tr>
<td>Households with no toilet (2001)</td>
<td>30.8%</td>
<td>13.6%</td>
</tr>
<tr>
<td>Households with indoor plumbing (2001)</td>
<td>17.8%</td>
<td>32.3%</td>
</tr>
<tr>
<td>Poverty prevalence (1998)</td>
<td>66.5%</td>
<td>40%</td>
</tr>
<tr>
<td>Unemployment (2001 census)</td>
<td>54.6%</td>
<td>41.6%</td>
</tr>
</tbody>
</table>

*Eastern Cape is 14% of total population
afternoons to community activities. Students were divided into groups, each one assigned to a different health center as follows: 4 centers/groups (1998-2000); 6 (2001-2003); and 7 (2004-forward).

Each group was assigned a tutor, and students were also assisted by the matrons (supervising nurses) in charge of the health centers, community liaison officers, community health workers and other health personnel.

The COBES Program is carried out over the entire third year as follows:

1. **Clinical Skills Sessions** (January-September, 20 weeks, every Wednesday morning);

2. **Know Your Clinics and Evaluation of Health Centers** (January-May, during 8 weeks, Wednesday afternoons);

3. **Community Health Diagnosis** (June-September, during 12 weeks, Wednesday afternoons). Over 300 students have learned how to make the community health diagnosis, visiting 3,600 houses in 33 communities, where they applied a structured questionnaire created specifically for this activity. The survey is designed to inquire about the main risk factors and other health and social problems that affect the health status of the population. By analyzing the results of the survey, plus interpreting the main health indicators, students described and explained the main health problems - reaching a community health diagnosis.

Selected topics covered in the household survey questionnaire:

- **Part 1:** General Information (age, sex, occupation, marital status, income, etc.);
- **Part 2:** Main Risk Factors (lifestyle, environment, including sanitation and hygiene, health services, biogenetics);
- **Part 3:** Morbidity/Mortality;
- **Part 4:** Knowledge, Behavior and Compliance (regarding main diseases in the family).

In the household survey questionnaire, separated by community disorders and disease causes, the following factors were considered:

- Risk factors: nutrition, lifestyle, environment, smoking, alcohol intake, etc.
- Medical services: referrals, sources of medical care, types of services, cost.
- Social determinants: education, occupation, income, family composition.

For the purpose of monitoring the program, weekly meetings were held between students and tutors to discuss results, difficulties, what students had learned that week, aspects that needed greater attention, etc.

Each October, students presented their Community Health Diagnoses in oral presentations in the University Auditorium, accompanied by a written report, including essential recommendations and proposals for improving the health status of these communities. These presentations were made before an audience consisting of fellow students, University and Faculty managers and senior staff, faculty, Department of Health representatives, distinguished guests, health center workers, community members and other guests. Figures 1 and 2 are excerpted from student final reports, presented in Power Point.

Students are assessed as individuals and as a group, according to their participation in clinical and community activities, group reports on specific activities, and their final project. The resulting grade contributes to their year’s mark in Community Medicine.

The following are examples of PowerPoint pages from a 2003 third-year medical student presentation: sample conclusions from their household survey and epidemiological research.

**Figure 1**

![Tuberculosis](image1.png)

- Incidence: 2.4%
- Prevalence: 29.9%
- Females: 39.1%
- Infants under 1 year of age: 72.9% of TB cases
- Dampness was present in 36.4% of TB cases

**Figure 2**

![Living Conditions](image2.png)

- Most households have solid structures (97%)
- 54% have to share 3 or more people per room
- Dampness was recorded in 25%
- 46.9% live in CB house (lowest level in SA)
- Increased risk of droplet-borne infections such as TB

**Results**

“Community-Based Education is a means of … implementing a community-oriented educational program. It consists of learning activities that take place within the community where not only students, but also teachers, members of the community and representatives of other sectors, are actively engaged through the educational experience...Community-Based Education can be conducted wherever people live, be it in a rural, suburban or urban area, and wherever it can be organized.” (WHO, 1987)

Students – with their tutors - worked according to COBES’ main objectives for third-year medicine, learning to:

- Carry out the community health diagnosis;
- Assess medical services aiming at improving health care delivery and promotion;
- Work with health care delivery teams;
- Perform health promotion activities;
- Work with epidemiological and biostatistical data;
- Establish relations with community members;
- Work in real-life conditions;
- Initiate and conduct research within an ethical framework.

At the community level, the immediate impact has been to:
• Develop a closer relationship among community members, health workers and the Faculty of Health Sciences.
• Gain access to the Faculty’s human resources.
• Have an opportunity to contribute to the education of medical students in the Eastern Cape.

The medium-term community-level impact should be to:
• Achieve behavioral changes leading to healthier lifestyles;
• Increase awareness of health-related matters and their role in quality of life;
• Decrease suffering by improving health;

At the Faculty of Health Sciences level, the immediate impact has been to:
• Improve the emphasis on student-centered learning;
• Gain a new perspective on the teaching-learning process.
• Identify areas for research;
• Connect the community with medical school curriculum;
• Increase development of graduates.

Discussion

Third-year medical students at the Walter Sisulu University of Health Sciences have benefited from the necessary process of integrating clinical skills and a public health approach, so as to enhance their epidemiological thinking and be of greater use to the communities where they will practice. As a result, they have learned and acquired knowledge and skills from real-life situations, and have had an opportunity to work in problem-solving and decision-making processes. They have applied critical thinking, and become - with other actors - agents of change towards better health.

These community health diagnosis activities are an integral part of the whole educational process, as demonstrated by the total weight given to this program in the form of time spent working in the community and as an important component in determining their final grades for graduation.

With COBES in their third year specifically oriented to work on community health diagnosis, students have transformed their learning experience, exchanging the classroom for the community. In the process, classroom lectures have been enriched by interacting with the life and professional experiences of health centers, their staff and community members. Therefore, the community has become their chief learning environment.

Conclusions

The Alma-Ata Conference (“Health for All”) confirmed the need for a new paradigm for educating tomorrow’s physicians and health workers. In the Walter Sisulu University Faculty of Health Sciences, the author and other tutors have attempted to develop such an approach, aimed at making graduates relevant to the health of communities beginning in their student years. From our experience, we are convinced that the community diagnosis has and will continue to produce positive results for the community, students, staff and Faculty as a whole.

In particular, this curriculum component has helped students gain a greater sense of social responsibility and a deeper understanding of the problems facing communities. At the same time, community leaders have supported this program by introducing students into the communities, and have expressed satisfaction with the results.

Finally, this modality of teaching is a way to practically demonstrate that the link between the University and society is possible. That is, the University can serve the community and thus society, with specific activities to improve health and the skills of students who will serve as future health professionals.

At the same time, community-based teaching of medicine does not constitute a “lower level” of professional training, but rather a comprehensive approach for equipping physicians with adequate skills, appropriate approaches and a knowledge base that will serve them well in all settings, particularly in the most disadvantaged communities.

REFERENCES


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The Need for Teaching the Molecular Fundamentals of Nutrition During the Basic Science Portion of Medical Training

Ana María Gómez Álvarez, MD
Lidia Cardellá Rosales, MD

ABSTRACT: Throughout the world, and especially in Latin America, nutritional disorders are among the primary causes of morbidity and mortality. The sociopolitical systems and serious economic crises that exist in underdeveloped countries foster malnutrition and poor eating habits, while lack of knowledge often exacerbates the situation. Medical professionals, whose primary duty it is to provide basic medical attention, must have solid nutritional knowledge to provide preventative and curative care.

Medical school does not include subjects that teach such information. We feel that - particularly for the students at the Latin American Medical School (ELAM) - the discipline of Biochemistry, because of the depth of knowledge it encompasses, can be used to introduce the molecular basics of nutrition for the human being.

Introduction

There is an intrinsic link between one’s health and one’s eating habits. Throughout history there have been numerous sayings that show that people understood this relationship, at least empirically. Such sayings include:

‘Food and medicine is the same thing.’[1]
‘Let food be your medicine, and medicine will be your food.’ (Hypocrates, 460 BC)[2]
‘We are digging our grave with our teeth.’ (French doctor, 17th Century)[3]

Nutrition is the science that deals with the composition and chemical properties of food and how the body uses the nutrients in one’s diet. It’s about the changes in dietary requirements under different physiological and pathological situations, such as illnesses caused by nutritional deficiencies or excesses.[4,5]

Malnutrition continues to be one of the primary causes of death and morbidity in underdeveloped countries around the world. It has been calculated that 450 million people suffer from malnutrition, and it is expected that this figure will rise with population growth.[6] A balanced diet prevents multiple illnesses, and one of the primary pillars of treatment in many illnesses is diet-based.

Along with other information taught to medical students, nutrition should be included because once these students graduate, it will assist them in their preventative medicine work, as well as contributing to the dietary education of their community. Although it will not solve the nutritional problems of humanity, an adequate knowledge of dietary needs will lead to better use of available food, and be another tool in their therapeutic medicine chest.

With the implementation of the new Biochemistry curriculum, the subject matter previously dealing with the molecular basis of human nutrition was eliminated; the current curriculum includes some elementary aspects of proteins, lipids and sugars under the course on Metabolism, while omitting relevant aspects such as requirements for energy, vitamins, minerals and other nutrients.

Objectives

This article has two objectives:

1. To substantiate the need to include subject matter on basic and clinical nutrition in the study of medicine in Cuba;
2. To propose the introduction of Biochemistry of Nutrition in the semester on Basic Sciences at the Latin American Medical School (ELAM).

Program Development

Malnutrition: A Worldwide Health Issue - Particularly in Latin America

According to the Pan American Health Organization, death from malnutrition in absolute figures on the American continent numbered 32,156 during the 1980s, 40% of whom were over the age of 65. Figures for Latin America are much better than those from Asia and above all, Africa.[7]

According to the nutritional balance for children worldwide from 1990-2000, South America has achieved a 60% reduction in the prevalence of low-weight births, although only about half of nursing infants relied exclusively on their mothers’ milk in the first four months of life.[8]

Countries like Ecuador, El Salvador, Guatemala, Peru and the Dominican Republic have not been able to attain the goal of lowering the rate of low-weight births to under 10%. The link between malnutrition and infection remain the most serious problem among children throughout Latin America.[9] Chronic malnutrition is the most serious nutritional problem facing Latin America because it is primarily the result of heretofore irreversible conditions; If we do not work to improve conditions for the current generation, there is dim hope for the future.

Populations suffering from chronic malnutrition don’t have much hope for improvement during this generation: ‘We will have to start from square one,’ according to Dr. José María Bengoa. ‘We have to begin with the moment of conception to ensure adequate fetal development. The strategy should include breast-feeding, control of the possibility of infection, and adopting better eating habits.'
Nutritional Education during Medical Training, particularly in the Basic Sciences

At present, there is no course dedicated to nutrition, although certain aspects of this discipline are scattered throughout other subjects such as Intermediate Metabolism and its Regulation (Biochemistry), Physiology, Pediatrics, Epidemiology and Public Health.[10,11]

As for postgraduate studies, the Nutrition specialty was eliminated in 1989, although in 1992, an MS in Nutrition and Public Health was launched at the Institute of Nutrition and Food Hygiene (INHA).[12]

Nutritional training is prioritized by the FAO and WHO, both of which lead community teaching programs, teachers’ training, etc., in many countries throughout the Third World. In UNESCO’s Studies Abroad, published annually, there are several postgraduate, Master’s and academic degree programs in this discipline.

When will a medical student in Cuba learn the basics of human nutritional needs before their postgraduate studies? As the current curriculum is structured, it is not adequately included. Within the study of Biochemistry, begun in 1988, students get basic nutritional training in Biochemistry III.

Biochemistry and its Ability to Introduce the Molecular Fundamentals of Human Nutritional Needs

Knowledge of biochemistry is essential to understanding nutrition. Many examples of nutrition courses including the intrinsic link between the two can be cited.

This year, a new university-level career has begun at the INHA called Nutrition and Diet; one of the subjects included in this plan is Biochemistry.[13] In the curriculum for a Master’s in Nutrition at the Pontifical Catholic University of Chile, Biochemistry is taught,[14] just as it is for a Master’s in Nutrition at the Central American Institute of Nutrition in Guatemala.[15]

At ELAM, courses in Nutrition are given to the North American students to prepare them for their first level exam (Board I) in Basic Sciences.

It is impossible to understand the complexity of the metabolism of different nutrients if one lacks the basic knowledge of their functions. Because of the breadth of information it covers, the course in Biochemistry is needed to introduce the basic elements of nutrition during initial training in the Medical Sciences, supplemented with other subjects, especially in the areas that focus on Clinical Nutrition.

Understanding the importance of the molecular bases of human nutrition, our Biochemistry Department has utilized various intra- and extracurricular activities with this goal in mind, such as:

- Student scientific studies beginning in 2001-2002 - One such study was a survey on the understanding of the basic elements of nutrition among students from the two first courses, in order to determine their mastery of the topic, which verified a poor understanding of the subject.[16]

- Elective on the Molecular Bases of Human Nutrition for second-year students - The course consisted of the theory and practice of nutrients in which their values were measured under various physiological conditions. It was inspiring to see the quality of the work presented by each student as his/her final evaluation for the course.[17]

In a survey conducted among second-year ELAM students on different electives they were offered by the school, a large number indicated their preference for this course, an indicator of our students’ interest in Nutrition. The ELAM can contribute to helping the Latin American [medical] professional to ‘return to square one,’ quoting José María Bengoa, in tackling the problem of malnutrition among their people.

Upon graduation, the future [medical] professionals whose fundamental function will be carrying out primary medical attention, will be able to use their knowledge of Basic and Clinical Nutrition to practice preventative medicine. This is not only true for those pathologies caused by malnutrition, but it is also for use in Modern and Traditional Medicine, diet therapy, and to contribute to raising the awareness among their community as to what constitutes a safe and complete dietary regime, leading to healthy new generations.

Conclusions

It is necessary to analyze the medical degree curriculum and evaluate the inclusion of this subject into the Biochemistry course “Intermediate Metabolism and its Regulation.” This would necessitate a time frame adjustment. Another option is to evaluate inclusion of another subject – within the Biochemistry course – perhaps giving it in the second year to guarantee preparation of the students in the Molecular Bases of Human Nutrition, adequately preparing them for later training in Clinical Nutrition.

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THE AUTHORS

Professors in the Biochemistry Department of the Latin American Medical School (ELAM).
Over 1,600 jubilant graduates unfurled their parchment Doctor of Medicine diplomas, eyes on the balconies of the hall packed with their parents and relatives on August 20th in Havana. The moment was the culmination of six years of study for the first graduates of Cuba’s Latin American Medical School (ELAM), and once just a dream for most of these families from developing countries.

At the commencement ceremonies, 1,610 students from 28 countries received their medical degrees, including 1,498 enrolled in the ELAM and another 112 Caribbean graduates enrolled under different Cuban MD programs.

The School was originally established by the Cuban government as a sustainable response to dual hurricanes that struck Central America and the Caribbean in 1998 (see Spotlight: Doctors for the (Developing) World). That year, the door was opened wide - with full scholarships primarily for low-income students - in exchange for a pledge to practice in underserved communities upon graduation. Since then, the program has expanded to enroll 10,500 students from Latin America, the Caribbean, North America (65 U.S. students) and Africa; the total number of foreign medical students in Cuba is now nearly 12,000 from 83 countries.

Over the years, these new MDs are expected to replace some 25,000 Cuban doctors serving in the most remote villages...
and poverty-stricken slums of their countries - the objective being to dramatically increase accessibility to health services by underserved populations and strengthen health systems in poor countries. At the August graduation, Cuban President Fidel Castro told the class that their community-oriented commitment was just what the doctor ordered: “You are the kind of physician that millions, billions of poor people in the world desperately and urgently need.”

His observation is underscored by the appalling lack of physicians in most of the countries represented among the graduates, and the concentration of the health workforce in the cities and private sector. Factoring in a second crop of foreign students who will graduate with over 1,900 Cubans in September, Cuba has graduated this year nearly 1,800 new physicians for 47 developing countries plus the United States. Those 47 - many in Africa - have an average physician-population ratio of 0.98 physicians for every 1,000 inhabitants, compared to Europe which averages over 3, the U.S. at over 5, and Cuba nearly 6.

“We are faced with the challenge of our doctors and nurses being recruited by richer countries, and we can’t compete,” Dominica’s Prime Minister Roosevelt Skerrit told the ELAM Class of 2005. “There is always a temptation to acquire wealth,” he counseled, “but our people are waiting for you to return home. That is the only way you can make a contribution to your communities and to the world.”

The evening’s most dramatic announcement came from President Hugo Chávez of Venezuela, who revealed his government’s decision to establish a second Latin American Medical School, so that jointly with Cuba, the two countries will be able to provide free medical training to at least 100,000 physicians for the Global South over the next ten years, including 30,000 new places for low-income applicants from Latin America and the Caribbean. Given the spiraling cost of medical education internationally, this commitment would amount to a US$20 to 30 billion contribution to developing countries.

Innovative Cuban programs, piloted by the flagship Latin American Medical School in Havana, speak to efforts to apply world-class teaching standards to give students a first-hand understanding of the specific health problems they will encounter in their communities and inspire the social commitment needed to tackle them. Thus, during the spring of 2005, 300 of the graduates spent the last six months of their internship back in their home countries, mentored by Cuban physician-instructors serving there. In Guatemala, a group received in-service

Latin American Medical School Commencement, 2005

Dignitaries attending included: Cuba’s President Fidel Castro and other Cuban leaders; Panama’s President Martín Torrijos; Venezuela’s President Hugo Chávez; Prime Minister of Antigua and Barbuda Baldwin Spencer; Prime Minister of Dominica Roosevelt Skerrit; Prime Minister of St. Vincent & the Grenadines Ralph Gonsalves; Prime Minister of St. Kitts-Nevis Denzil Douglas; Prime Minister of Grenada Keith Mitchell; Vice President of Ecuador Alejandro Serrano; Deputy Prime Minister of St. Lucia, Mario Michel; Samuel Rudolph, Foreign Minister of Barbados; Marco Tulio Soza, Health Minister of Guatemala; Camilo Alleyne, Health Minister of Panama; Higher Education Minister of the Dominican Republic Lígia Amada de Melo; Assad Shoman, special envoy from the President of Belize; and Rev. Lucius Walker, Director of Pastors for Peace, USA.

Graduates from 28 countries: Antigua and Barbuda, Argentina, Belize, Bolivia, Brazil, Colombia, Costa Rica, Chile, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Haiti, Honduras, Jamaica, Nicaragua, Panama, Paraguay, Peru, St. Vincent & the Grenadines, St. Lucia, St. Kitts-Nevis, Trinidad & Tobago, Uruguay, Venezuela and the United States.
training in a program against river blindness (oncocercosis) jointly organized by Guatemalan health authorities, Cuba and the Carter Center in Atlanta, Georgia. In Honduras, students served in the Mosquitia, and in Haiti, they joined forces to provide desperately needed health services. “We lived with our (Cuban) professors,” Haitian graduate Dr. Jean Pierre Brizmar told the commencement audience, speaking on behalf of the graduating class. “And during that time, we saw 773,000 patients. We donated our own blood when necessary, and nobody went home unattended.”

Some of the region’s public health systems are already providing for the insertion of the new graduates, offering them posts in poor and especially indigenous, communities; in others, IMF agreements freezing public health jobs will make it tougher for them to practice. Finally, many of the new MDs are considering yet another option just announced: to continue their studies in Cuba with residency programs combining family medicine with a choice of pediatrics, ob-gyn or internal medicine.

Cleofes Castillo, father of Garifuna graduate Luther Castillo of coastal Honduras, expressed the hope of many parents at the ceremonies, clad as they were in Sunday best: “I’ve worked all my life for my children, so they can be at least a little bit better than I am, have a little more opportunity. But I never dreamed Luther would be the doctor our village has always needed. I never dreamed I would see a commencement like this one, with so many indigenous and Black graduates. Now it’s up to them to go and make a difference.”

August 20th Medical School Commencement
For International Students

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELAM Graduates</td>
<td>1,498</td>
</tr>
<tr>
<td>Other Graduates</td>
<td>112</td>
</tr>
<tr>
<td>Total Graduates</td>
<td>1,610</td>
</tr>
<tr>
<td>Average Age</td>
<td>26 years</td>
</tr>
<tr>
<td>% Women</td>
<td>45.9</td>
</tr>
<tr>
<td>Ethnic representation</td>
<td>33 indigenous populations</td>
</tr>
<tr>
<td>Social Origin</td>
<td>71.9% working class or rural</td>
</tr>
<tr>
<td>Academic Results</td>
<td>1,143 or 74.7% GPA over 4.0 (of 5)</td>
</tr>
<tr>
<td>Graduating with Honors</td>
<td>180 (12% with GPA over 4.75)</td>
</tr>
<tr>
<td>Promotion/Graduation</td>
<td>84.6% of originally enrolled graduated</td>
</tr>
</tbody>
</table>

Source: Dr. Juan Carrizo, Rector, Latin American Medical School, Havana.
HEADLINES IN CUBAN HEALTH

Cuba’s Response to Katrina Disaster

By Conner Gorry

As we went to press with this issue, Hurricane Katrina was a catastrophic fait accompli, leaving large swaths of the Gulf Coast in ruins and a wake of destruction reminiscent of a war zone. Although the number of lives lost was incalculable at press time, the hurricane’s aftermath posed serious public health concerns, with the potential to spark widespread epidemics. Indeed, unsanitary conditions in hospitals and shelters, contaminated drinking water, lack of medicines for the chronically ill and other disaster-related health problems had already manifested just days after the storm struck.

Tetanus, dengue, E. coli, cholera, malaria and other water- and vector-borne diseases are among the health risks following an event of this scale. Psychological trauma, particularly for the more than 250,000 displaced children affected by this disaster, is a longer term and often more difficult public health challenge now facing the U.S. How to effectively and efficiently address such challenges in the atmosphere of despair, loss, violence and confusion that gripped the U.S. South after Katrina, takes a specialist health workforce trained to recognize pathologies and deliver health care in disaster scenarios.

On August 30, Cuba - recognized by the UN, Oxfam and other international organizations as a leader in disaster response (see International Voices Weathering the Storm: Lessons in Risk Reduction from Cuba) - paired its condolences to the devastated families with an unconditional offer to send over 1,000 Cuban doctors to the disaster zone at its own expense. On September 4th, the number was raised to 1,586, with another 300 in reserve. The volunteers from across the island were concentrated in Havana preparing to travel if needed, along with scores of recently graduated Latin American Medical School MDs who also volunteered. (see Top Story Where There Were No Doctors: First MDs Graduated from Latin American Medical School). The medical teams, which the Cuban government pledged to have on the ground in the areas worst hit, have been named the Henry Reeve Brigade, in honor of the U.S. hero who joined the fight for Cuban independence from Spain.

Specialists in family medicine, cardiology, pediatrics, epidemiology and other fields, and trained in disaster response and the health risks engendered by such events, the health professionals were outfitted with two backpacks each, filled with 24 kilograms (52.8 pounds) of essential medicines. Resources carefully selected to provide maximum coverage for such a disaster, the backpacks contained re-hydration therapies, insulin, hypertension medications, treatments for systemic and topical infections, and minor surgical instruments, among others. With their packs on their backs and an average of 10 years clinical experience, these physicians were prepared to provide an experienced, mobile team able to move where health care was most needed. This flexibility would be enhanced by diagnostic kits carried by the doctors working alone or in pairs, for on-site patient evaluation in either English or Spanish.

The team as a whole already has considerable international experience, collectively having worked in 43 countries. They committed to stay in the disaster zone as long as necessary, as have many Cuban emergency medical teams before them (see Table 1).

Table 1: Examples of Cuban International Disaster Relief Missions (1960-2000)

<table>
<thead>
<tr>
<th>Year</th>
<th>Country</th>
<th>Disaster/Description</th>
<th>Medical Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>Chile</td>
<td>Earthquake - 5,000 dead</td>
<td>Medical team</td>
</tr>
<tr>
<td>1970</td>
<td>Peru</td>
<td>Earthquake - 60,000 dead</td>
<td>Medical team, 6 rural hospitals, 106,000 blood donations</td>
</tr>
<tr>
<td>1972</td>
<td>Nicaragua</td>
<td>Earthquake - 5,000 dead</td>
<td>Medical team, food, medicines</td>
</tr>
<tr>
<td>1974</td>
<td>Honduras</td>
<td>Hurricane Fifi - 2,000 dead</td>
<td>Medical team</td>
</tr>
<tr>
<td>1990</td>
<td>Soviet Union</td>
<td>Chernobyl disaster program</td>
<td>17,733 children treated in Cuba through October, 2004</td>
</tr>
<tr>
<td>1990s</td>
<td>Brazil</td>
<td>Radiation poisoning</td>
<td>52 patients treated in Cuba</td>
</tr>
<tr>
<td>1998</td>
<td>Central America</td>
<td>Hurricane Mitch - 30,000</td>
<td>Medical teams</td>
</tr>
<tr>
<td>1998</td>
<td>Haiti</td>
<td>Hurricane Georges</td>
<td>Medical team</td>
</tr>
<tr>
<td>1999</td>
<td>Venezuela</td>
<td>Torrential rains, mudslides - 9,000 dead</td>
<td>Medical team</td>
</tr>
<tr>
<td>2000</td>
<td>El Salvador</td>
<td>Dengue epidemic - 10,000 cases over 16 weeks</td>
<td>Medical team, advisors and equipment</td>
</tr>
</tbody>
</table>

Physician volunteer: “We’re ready to go wherever we are most needed.”
Over 50 countries offered aid to the U.S., many from the comparatively resource-scarce Global South, including Venezuela, Sri Lanka, South Korea and Guatemala. U.S. Secretary of State Condoleezza Rice stated that no offer from foreign governments would be turned down, although Cuba was still awaiting an official response when this issue of MEDICC Review went to print in early September. Meanwhile, the 1,586 Cuban medical professionals remained on-call in Havana, ready to fly to the U.S. at a moment’s notice.

The following are some vital statistics of the Cuban emergency medical team prepared to carry 36 tons of medical aid and their own clinical skills to victims of Hurricane Katrina:

- 857 are women; 729 are men.
- 699 have previously worked overseas.
- Average age is 32 years old.
- Average clinical experience is 10 years.
- 1,097 are specialists in family medicine.
- 72 physicians have two or more specializations.
- All have disaster-preparedness training.

Most significantly perhaps, they were prepared to go to the most isolated, hardest hit and poorest regions—clearly an important disposition, given the social composition of the victims left behind when the hurricane struck. Analysis of census data by the Associated Press of Katrina victims in the three dozen hardest-hit communities in Mississippi, Alabama and Louisiana revealed:

- Some 60% were minorities.
- 2 out of 10 households had no car—double the national average.
- Almost 25% live under the poverty line—about double the national average.
- 1 of 100 homes did not have adequate plumbing—double the national average [1].

With the remodeling of more Cuban hospitals, an airplane soon to be pressed into service by Venezuela, and the incorporation of other Venezuelan medical facilities, the program has enhanced its capabilities to screen for and treat such conditions as cataracts, retractive disorders, corneal leucoma, myopias, and strabismus. According to the Cuban President, services for treating glaucoma are also expected to be included in the plan.

In the immediate future, 100,000 Venezuelan, 100,000 Cuban, 120,000 Central and South American, and 25,000 Caribbean visually-impaired persons will be eligible for the free program, staffed primarily with Cuban ophthalmologists and related specialists.

In Antigua and Barbuda, one of the countries whose people have benefited thus far, the local Antigua Sun newspaper called the program a “worthwhile lesson in the way CARICOM (the Caribbean Community) can operate by pooling the resources that exist right here in the region,” and praised such South-South cooperation for expanding access to vital health services.

References


Seeing is Believing:
Sight-Saving Extended for Region’s Poor

By Gail A. Reed

Some six million low-income patients from the region will be offered sight-saving care over the next 10 years in Cuban and Venezuelan medical facilities, according to an August announcement in Havana. Presidents Fidel Castro and Hugo Chávez, who attended the graduation ceremonies of the Latin American Medical School August 20th, reported that 50,403 Venezuelan patients and over 1,000 from Caribbean countries have already received surgery and other ophthalmological therapies in Cuba under the plan that foresees treatment for 100,000 in 2005. Many of these people were blind or near blind before treatment.

An estimated four million poor in Latin America and the Caribbean are afflicted annually with disorders affecting eyesight, and “over half a million lose their sight each year, many times without ever having been examined by a doctor,” President Castro said in his commencement address.

President Fidel Castro stressed that the Cuban government and medical team assembled were “waiting patiently” for a response from Washington, but noted critical hours had already passed during which the doctors could already have been on the ground.

To learn more about Cuba’s disaster preparedness strategy, see MEDICC Review’s issue dedicated to the theme “Disaster Management in Cuba: Reducing the Risks,” available free online at http://www.medicc.org/medicc_review/1204/index.html.

Waiting for Washington: Cuban medical team assembled in Havana.
Cuban Treatment for Diabetic Foot Enters Phase III Trials

By Conner Gorry

Diabetes is one of the greatest disease burdens to public health worldwide: according to the Centers for Disease Control and Prevention, one third of children born in the US in 2000 will develop diabetes (translating to 45 to 50 million by 2050). Meanwhile, WHO warns of a more than 100% increase in general diabetes prevalence globally, from 140 million to 300 million, by 2025, most in the developing South. Of these, up to 15% - or 45 million people worldwide - will have a toe, foot or leg amputated due to diabetes.

For these people, a new Cuban treatment using recombinant human growth factor offers hope.

“Diabetic foot,” whereby a neuropathic or ischemic foot ulceration incapable of self-repair leads to lower extremity amputation (LEA), affects between 5% and 15% of diabetics and is the number one cause of non-traumatic amputations. Furthermore, life expectancy following amputation is only five years. Reports have shown that surgical and pharmacological treatment cannot entirely obviate LEA, while education and prevention can only limit the occurrence of non self-repairing foot ulcers. Into this clinical picture steps the Cuban product called Citoprot-P, developed by the Center for Genetic Engineering and Biotechnology (CIGB) in Havana.

Based on the human epidermal growth factor (rHuEGF), Citoprot-P helps stimulate scar tissue growth in third- and fourth-stage non-healing ischemic ulcers; the lyophilized injections – administered three times weekly over five to eight weeks - successfully regenerated epithelial tissue in 85% of the 41 patients participating in Phase II trials, according to Dr Calixto Valdés of the National Institute of Angiology and Vascular Surgery. In the second half of 2005, the treatment will enter Phase III clinical trials in angiology departments in Cuban hospitals nationwide. In Cuba, 50% of amputations (about 3,000) each year, are caused by diabetic foot.

Although surgical interventions for diabetics with non-healing foot ulcers caused by osteomyelitis (bone inflammation) exist, there is no pharmaceutical therapy on the market similar to Citoprot-P. “This is science providing an answer for an important health problem not only in Cuba, but also in many countries of the First World,” said Dr Luis Herrera, director of CIGB. Clearly, prevention of diabetes remains the ideal, but in the meantime, proper intervention with surgical procedures or pharmacological therapy with products such as Citoprot-P offer hope for diabetic foot sufferers.

INTERNATIONAL VOICES

Weathering the Storm: Lessons in Risk Reduction from Cuba

A Report by Oxfam America

Perhaps the most comprehensive English-language study ever published on the topic, this 2004 Oxfam America report explains how Cuba so consistently, successfully and equitably reduces risk and mitigates disaster damage. The authors Martha Thompson and Izaskun Gaviria, have an accessible and readable writing style that not only analyzes the causes and consequences of natural disasters and how Cuba’s program safeguards lives during these extreme events, but also explores the possibility of duplicating this success.

Indeed, the chapter dedicated to “Replicating the Cuban Experience,” serves as a narrative blueprint for other countries looking to improve their risk management of natural disasters mostly, but also industrial accidents like chemical spills and large-scale transportation accidents.

Replicating the model is not just wishful thinking, according to the authors. The Cuban example, “raises the distinct possibility that life-line structures (concrete, practical measures to save lives) might ultimately depend more on the intangibles of relationship, training, and education than on high cost procedures and resources, a possibility that holds great hope for other poor countries facing high risks of disaster.” Towards this end, the report outlines 12 factors called the “golden dozen” that Cuba manages successfully in its risk management program:

- Social cohesion and solidarity (self-help and citizen-based social protection at the neighborhood level);
- Trust between authorities and civil society;
- Political commitment to risk reduction;
- Good coordination, information-sharing, and cooperation among institutions involved in risk reduction;
- Attention to the most vulnerable populations;
- Attention to lifeline structures (concrete procedures to save lives, evacuation plans, and so on);
- Investment in human development;
- An effective risk communication system and institutionalized historical memory of disasters, laws, regulations, and directives to support all of the above;
Global Health Equity

By Paul E Farmer, Jennifer J Furin, Joel T Katz

Reprinted by permission from The Lancet 2004; 363:1832-33

Every decade or so, it seems, there is a major shake-up in medical education. The current one revolves around topics with which many medical educators are unfamiliar or uncomfortable: health as a human right and the growing disparities of outcome between well-to-do and poor patients.

The burden of disease is growing disproportionately in precisely those regions most commonly afflicted by “the brain drain.” From Africa and the poorer regions of Asia and Latin America, doctors and nurses who cannot make living wages flee rural areas for cities, then make their way to industrialised countries. A decade ago, there were more Haitian psychiatrists in the city of Montreal, Canada, than in all of Haiti.[1] A more recent survey in a Kenyan teaching hospital showed that most trainees were contemplating quitting their jobs; many met clinical criteria for major depression.[2]

Here is the irony: more and more trainees in affluent nations seek to dedicate at least part of their working lives to benefit the world’s destitute sick,[3] while the brain drain draws culturally and linguistically competent clinicians away from their home countries. What is our pedagogic plan? How can medical schools and teaching hospitals respond, with conscience and pragmatism, to the goodwill of trainees from rich countries desiring to serve in the settings that endure the exodus of their own health professionals?

Growing inequalities are at the heart of this irony. Medicine is developing evidence, but has no equity plan: we lack a rights-based approach to its distribution. Medicine and public health goods are still parochial, limited to a few beneficiaries. We have developed no compelling strategy for medicine to exert the same global reach as, say, finance.

According to economists such as James Galbraith, there has been a sharp upturn in global inequality since about 1980.[4] Regardless of their origins, social and economic inequalities are reflected epidemiologically: disparities of outcome in and between countries are now major challenges in medicine and public health. If health is ever to be construed as a human right, such disparities must be seen as the chief challenge for medical education.

What matters most, for those training the next generation of health workers, is not improved curricula in international health or tropical or geographical medicine. None of these terms captures the dilemma so well as does “global health equity.”[5] Too much conventional international health education shrinks from acknowledging the social roots of grotesque inequalities. Too many in medicine are unwilling or unable to confront the complexities by which, for example, financial institutions exhort poor countries to cap spending on health and education. Above all, too many of us are slow to incorporate rights into our health and teaching practices.

As medical educators, we can turn away from these complexities, shrug them off, delegate them to economists or policy-makers. However, more and more students and trainees are now eager to span the worlds of the rich and poor - which also means reducing the divide between clinical medicine and public health. Thus, we are launching, at Boston’s Brigham and Women’s Hospital, a global health equity residency. It will enable residents in internal medicine to train in public health and work to address inequalities of access and outcome. It will be underpinned by a rights-based approach to responding to growing inequalities in health.

We close with a question: why only internal medicine? The same inequalities exist in surgery, psychiatry, obstetrics and gynaecology, radiology, and paediatrics. What branch of medicine or public health is not forced to confront the growing outcome gap that promises to shield the privileged, while the world’s bottom billion continue to die from readily preventable or treatable disease?

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Affirmative Action, Cuban Style

By Fitzhugh Mullan, M.D.

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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 costs 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 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 sparse 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.

References


Editors’ note

For more on the U.S. students studying at the Latin American Medical School see:

MR Interview: Cedric Edwards, MD, First U.S. Graduate of the Latin American Medical School; MR Feature: Profiles in Commitment: Conversations with ELAM Students

Author’s Clarification

MEDICC Review’s July 2005 issue (Epidemics: The Cuban Approach, Vol. VII, No. 7, July 2005), carried Spotlight: Cuba’s Epidemic-Fighting Model by Francisco Rojas Ochoa, MD, PhD. On page 2, second paragraph, the author noted the “overall efficacy of the Cuban meningitis B vaccine, (VA-MENGO-C-BC) was 69.3%,” citing “La enfermedad meningococcica en Cuba” (Valcarcel M, Rodriguez R, Ferry H. in Cronologia de una epidemia. Havana, ECIMED, 1991, p. 307). This data refers to efficacy based only on preliminary data, since the same source (p. 397) reported 83% efficacy upon completion of trials.

Correction

In MEDICC Review’s July 2005 issue (Epidemics: The Cuban Approach) the Abstract Epidemic Optic Neuropathy in Cuba was incorrectly attributed and sourced. The authors are the CDC Members of the Cuba Neuropathy Field Investigation Team, and the source is N Engl J Med 1995; 333:1176-1182. We regret the error.
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