

A Student Perspective on ELAM and its Educational Program

Razel Remen and Lillian Holloway

Introduction

The health of the world's population is divided into two groups, those who have access to health care services and those who do not. The effects of this divide can be seen on the international level where life expectancy in Switzerland averages 80 years as opposed to 38 years in Zambia¹. Infant mortality rates are often used as a general indicator of health and socioeconomic conditions since rates are affected by factors such as access to perinatal health care. A direct relationship has been shown between higher income and education level and lower rates of infant mortality. This may explain in part an infant mortality rate of 4.5 per 1,000 live births in Connecticut in comparison with 12.2 in the Washington, DC area². A major influence in access to services is the availability of trained health care workers. The World Health Organization estimates that the world will need at least 4,250,000 additional health workers to address these health disparities³. In the face of this work force crisis we are left wondering how to fill in the gaps left by the mass exodus of health workers from developing nations to industrialized ones.

Cuba has tried to address these problems by sending thousands of healthcare professionals to work in some of the most impoverished and medically underserved regions in the world. Over the years, their attempts have evolved to include training professionals from underserved areas to

provide enduring sources of health care for their populations. Perhaps the most valiant of efforts was the creation of the Latin American School of Medicine in Cuba (called ELAM, Escuela Latinoamericana de Medicina), which currently is training over 10,000 students from at least 27 countries, including the United States. Despite ELAM's impressive numbers, its founders recognized that solutions to what has become a global health care crisis depend not only on the *number* of physicians produced but also on *how* they are trained as providers of care. To that end training is oriented toward primary care, public health and hands-on clinical experience. Perhaps no one can speak better about the training at ELAM than the actual students sitting in its classrooms. The following is a student perspective on ELAM and its educational program highlights, as viewed by two of its North American students.

A Brief History of the ELAM Project

In 1998, Hurricanes Mitch and George devastated much of Central America, creating a medical and economic state of emergency. The devastation left in the wake of the hurricanes was compounded by the existing shortage of physicians and healthcare workers. Thousands of medical personnel were needed throughout the area to respond to the virtually-destroyed regions. Since 1969 it has been part of Cuba's international policy to provide social and medical relief to other third world countries. This time, instead of just sending Cuban doctors to the areas most affected by the hurricanes, former Cuban president Fidel Castro decided to create a medical faculty that would train youth from these regions to become physicians who would service

* Medical Students, Latin American School of Medicine (ELAM), Havana Cuba
Corresponding Author: Razel Remen
Email: razelremen@yahoo.com
Submitted: 12/26/2007
Accepted: 3/27/2008
Conflicts of Interest: None

their communities for a lifetime. In the fall of 1998 Cuba began the construction of ELAM. With the help of its first students from Nicaragua and Guatemala, an old naval academy was converted into the medical faculty. Since its inauguration ELAM's mission has been to train international scholarship students from medically underserved areas to become permanent sources of healthcare for their communities. As of today ELAM accepts students from Latin America, Africa, Asia, the Caribbean and North America.

In June 2000, a delegation from the U.S. Congressional Black Caucus was invited to visit ELAM and meet with Castro. Representative Bennie Thompson (D-Mississippi) recounted to Castro the great need for medical doctors throughout the impoverished Mississippi Delta. Castro's response was to offer scholarships for medical education at ELAM for U.S. nationals from Mississippi; he later expanded the offer to include all districts represented by the Congressional Black Caucus. In a September 2000 speech at the Riverside Church, New York City, Castro announced a further expansion to provide several hundred places at ELAM for students from medically underserved communities anywhere in the U.S. The scholarship would include tuition, books, accommodations, and board and even a small monthly stipend would be provided. The only repayment Cuba has asked in return is that upon graduation the students work in communities in need, whether it be their own or another.⁴

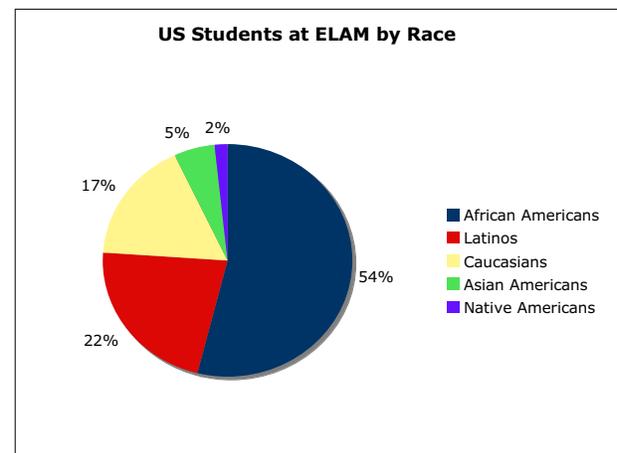
The US Student Selection Process

ELAM requires that all applicants be between the ages of 18 and 30 and be physically and mentally fit. US student selection is based on secondary-school records, test results and interviews. Applicants must have completed a year of college level chemistry, organic chemistry, biology and physics. Students from humble backgrounds, underserved and rural communities are preferred.

The US recruitment and the application process is administered by the New York City-based Interreligious Foundation for Community Organization (IFCO), a nonprofit organization

headed by the Reverend. Lucius Walker, Jr., noted human rights activist and critic of the U.S. embargo against Cuba. All applications are initially evaluated by IFCO's medical school advisory committee on the basis of academic transcripts, essays, recommendation letters, volunteer work and commitment to work with the underserved. Applicants who meet the requirements set by both IFCO and ELAM are then offered an interview at either of two IFCO offices, one in California and the other in New York. The interview is conducted by members of the IFCO advisory committee and is aimed at determining a student's interest in the program, motivation for studying medicine and overall maturity. If the advisory committee determines that a potential student has the right qualities for the program the applicant is then invited for a final group interview/orientation in New York where prospective students learn more about the program. All of the candidates for the next entering class are interviewed as a group to determine group dynamics. After the interview/orientation IFCO sends the applications of recommended students to Cuba where administrators at ELAM make the final admission decisions.

The first intake of US students took place in the spring of 2001, with 8 students enrolling in the premedical portion of the program. The first class of nearly 1,500 ELAM doctors graduated in August 2005; 28 countries, including the US were represented among the graduates. Currently there are 113 U.S. students from 23 states plus Washington, D.C. and Puerto Rico; a majority comes from New York and California. 85% are members



of minority groups (Figure) and 73% are women.

Travel Regulations

Originally the American students traveled to Cuba under the “fully hosted” clause, which allowed travel without a license if a third party outside of the US financed all expenses. Since the scholarship offered by the Cuban government covered tuition, accommodations and board, US students were able to legally travel to Cuba under this clause. In the spring of 2004, the Bush Administration revoked the “fully hosted” clause making it illegal for any US nationals to travel to Cuba without a license. It was one of tightest restrictions on travel since the Reagan Administration. According to the new regulations all U.S. citizens in Cuba had to leave the country or face severe criminal penalties upon return to U.S. soil⁵. A campaign led by Rep. Barbara Lee (D-California) and Rep. Charles Rangel (D-New York) put pressure on the Bush Administration to make a specific exception to the new regulations for the American students studying medicine at ELAM. Twenty-seven members of Congress signed a letter to Secretary of State Colin Powell requesting an exemption for the ELAM students.⁶ In August 2005 the Bush Administration authorized the issue of an unprecedented license specifically allowing American students at ELAM to travel to Cuba. The license was valid for two years, and since its issue has been renewed without hindrance.

Curriculum

The first six months of the curriculum are devoted to premedical subjects with courses in general chemistry, biology, physics, and mathematics; classes in history and Spanish are also included. The premedical courses are an important element of the program in that they ensure that all of the students begin on the same basic academic level. The premedical program helps to make certain that students without access to the best of academic training in their home country are able to keep up with their peers during the first two years of rigorous basic science training. US students are also required to take an intensive Spanish course based upon level of proficiency.

The actual medical training takes six years and consists of two years of basic medical sciences, three years of clinical rotations, and a one-year internship. After the first two years at ELAM, students continue their medical education at one of 21 teaching hospitals in Cuba. The curriculum is based on the bio-psycho-social model of practicing medicine and places special emphasis on the most common health problems of the developing world. Primary care in the form of family practice is considered so important to the development of a good physician that the students have a seven week rotation in family medicine in five out of the six years of their medical training.

The third year is spent almost entirely in the internal medicine wards where students dedicate most of the first semester (23 weeks) to learning the art of clinical diagnosis. The second semester of the third year is devoted to learning individual disease processes and treatments. Students are taught how to make a differential diagnosis based on the interview and physical examination. Laboratory testing and imaging techniques are used solely to confirm the diagnosis. Students are encouraged to be creative in their thinking and their use of medical supplies. Indeed a favorite question that the Cuban professors love to pose to their students is ‘What would you do and how would you make the diagnosis if you were working in the middle of the Amazon and did not have access to any diagnostic tests?’ This type of problem-based learning stems not only from having to practice medicine in a developing country where certain diagnostic workups are not always readily available, but also from the understanding that a majority of the graduates will be returning to their home countries to work in the most under-equipped of settings.

The fourth year includes nine weeks of surgery, nine weeks of obstetrics/gynecology, 18 weeks of pediatrics and a two-week disaster medicine course. The surgical rotation mimics the internal medicine rotation in that most surgical cases are diagnosed based almost entirely on the interview and physical examination. Students learn about management of pre and post-operative patients; they learn to perform minor surgical procedures and the instrumentation for major procedures. Obstetrics/gynecology is dealt

with in separate specialty hospitals. Students spend about half of their time rotating through the various subspecialties of gynecology and the other half rotating through wards that specialize in the complications encountered in pregnancy such as diabetes and hypertension. The students also practice diagnosing pregnancy and determining the age of a first trimester pregnancy based on the pelvic examination. Once a week the students are on call in the hospital. Half of this time is spent in the emergency room where they learn how to diagnose and manage frequently occurring emergencies. The rest is spent in the labor and delivery room where students learn how to perform uncomplicated deliveries and the instrumentation and surgical technique for Cesarean sections.

Cuba's pediatric population is also cared for in separate pediatric hospitals; these are divided into wards according to subspecialty. The students spend between one and three weeks in each of the wards learning its most prevalent illnesses. In the fifth year pediatrics is revisited in the form of outpatient care in the clinical subspecialties of ophthalmology, otolaryngology, orthopedics, urology, dermatology and psychiatry. There the students spend one day a week during each rotation treating the ambulatory patients seen at the pediatric hospital. The other rotations in the fifth year are the second part of disaster medicine and public health. During the sixth and final year students are enrolled in an internship in each of the core rotations, which include internal medicine, surgery, obstetrics/gynecology, pediatrics and family practice. Interns from countries where Cuban medical teams are already in place complete part of their internship year in their home countries under the supervision of Cuban physicians.

Disaster Medicine

Students study different types of disasters, their socio-economic and health consequences and what preventive or preparatory steps should be taken. Students learn how to examine populations and determine, based on the demographics and location of the neighborhood, its socio-economic development and available resources, if that population is in danger of facing a disastrous event

and potential vulnerabilities should this occur. They learn how to stage a disaster and determine the steps needed during each stage in order to minimize the damage. They learn everything from patient triage and treatment to the organization of medical personnel and supplies. Students study the history of various disasters and examine how each was dealt with and then discuss what was done, what should have been done and what could be done to prevent a recurrence.

The class ends with a final project where students break out into groups according to country of origin. They examine a disastrous event that occurred in their homeland and how that event was dealt with. They then come up with their own plan of action. In the last class, the students chose to do their projects on everything from flooding in the Dominican Republic, to a devastating fire in Paraguay, to nuclear waste disposal in New Mexico and even a homicide epidemic in Philadelphia.

Public Health

Public health is a nine-week rotation, equal in length to many of the core rotations. In this course, students learn the fundamentals of epidemiology, disease prevention and control. From the beginning students are assigned to a local family doctor's office and neighborhood polyclinic. They are taught to look at their patient population not only as a group of individuals with individual health problems, but also as a community whose health determinants are multifaceted. Public health is addressed on three main levels: the first level is the health of the individual, physical, psychological and social; the second level is the health of the environment, including everything from housing, to sanitation, to clean water and air, to family and community relationships, and the third level is the actual healthcare services in place as well as the quality and the accessibility of these services.

In the public health course, students first determine the most prevalent illnesses in each age group for their assigned population. They then learn to identify the associated risk factors at the level of the individual, the family and society for each disease present. If hypertension is shown to be the leading cause of morbidity in a given population,

students examine the risk factors for the individual such as stress, obesity, poor diet, and a sedentary lifestyle that contribute to the development and acceleration of the disease. Then they look at environmental factors that bring about the evolution of individual risk factors. For example: is the person stressed because of unfavorable family dynamics, or is the person sedentary because there is no time to exercise because of issues at work? The individual risk factors are then examined at the socio-economic level. For example, is the patient sedentary because there are no exercise facilities available; is that person eating a poor diet because it is too expensive to eat a healthier one? Once the students establish the risk factors for the development and progression of the disease at each level, they learn how to develop and implement programs to address each one.

Students are taught that, as primary care physicians, they must play a dynamic role in leading their communities towards health, not just be stationary fixtures to come to at times of illness. Learning how to implement community health education programs is an integral part of the training. A variety of doctor-patient interactions are used to carry out disease prevention and health promotion: informal group discussions; formal instruction; one-on-one talks; and visual demonstrations. Students even learn how to teach prostitutes to discreetly put on condoms during oral sex in the event that they encounter a man who refuses to use one. Each student is assigned multiple city blocks where they go door-to-door screening, treating and educating the community with regards to its most prevalent health problems. They also visit food production factories, day care centers and schools where they learn how to evaluate health policies and practices.

As a final project students perform a "Community Health Diagnosis" of their assigned area, where the overall health of a community is determined using demographic, epidemiological and social data. They must also evaluate the effectiveness of the community's current preventive services and treatment plans, and, based on the results, propose changes where needed.

A similar project takes place in the psychiatry rotation, where students are required to diagnose the mental health of a community by taking into account risk factors specific to mental health, such as drug and alcohol use, previous suicide attempts, and family dynamics among others. These examples of community-based education allow students to apply their textbook knowledge to real-life situations, as well as boost the social skills necessary to work within the community setting⁷.

Complementary and alternative medicine

Complementary and Alternative Medicine (CAM), or Natural and Traditional Medicine (MNT) as it is known in Cuba, is first introduced to the students starting in the basic sciences, with its integration into the anatomy, physiology and pharmacology courses. In the clinical years, students take two formal classes in CAM, both integrated into the family practice rotations of the fifth and sixth years. In the first course, students are introduced to the ideological and therapeutic foundations of the various CAM disciplines, as well as each discipline's principal indications and contraindications. Special focus is given to acupuncture, acupressure and herbal medicine. In the second course, students learn practical applications of CAM, focusing on specific acupuncture techniques for the most common diseases encountered in family practice including lower back pain, hypertension, diabetes mellitus, migraines and others. CAM is also integrated into the psychiatry rotation where students are introduced to the basic principles and techniques of yoga, aromatherapy, music and art therapy as psychotherapeutic tools.

The U.S. Students and the Cultural Experience at ELAM

The classes at ELAM usually include only one member of each represented country. ELAM tries to have a mixture of students, fostering cultural exchanges as much as possible. There are a variety of different cultural, academic, political, and sports organizations that the students can participate in; there are monthly cultural tables and yearly cultural performances presented by students of each country. This provides an arena where there is a mixing and

blending of cultures from all over the world. For the US students this is an invaluable experience and especially important to their development as future physicians for the US. Despite increasingly strict immigration laws the US remains a country of immigrants. Every year the Spanish-speaking population in the U.S. continues to grow; however, only a fraction of physicians who care for non-English speakers are fluent in their language.⁸ This communication barrier creates problems in establishing trust in the doctor-patient relationship and often leads to misdiagnosis and ineffective treatment⁹. By studying at ELAM the U.S. students will not just be able to overcome language barriers in terms of servicing this population, but also have the added gift of being able to relate to and understand an array of different Latino cultures. Studying and living with people from just about every country in Latin America has been a classroom of learning experiences in and of itself. Latinos are as varied in their health practices as they are in their language expression and their cultural and religious beliefs. For example, it is normal to use the word “coger” (to take) with a Cuban but offensive for a Chilean. Studying at ELAM, the U.S. students are not just learning medicine, they are learning about the small intricacies that make each culture unique. Learning how to understand and be sensitive to cultural differences will help these students establish strong doctor-patient relationships with the many varied people they will encounter as future physicians in the U.S.

Returning to the States

By August of 2008, about 20 US students will have graduated from the ELAM program. As the number of graduates increases, the question of obtaining residency training in the States has become more of a central concern. While about 90% of medical students within the US match for their first choice for a residency program, slightly over half of foreign medical graduates (FMG) find postgraduate positions in their residency of choice¹⁰. U.S. students who study medicine abroad have an advantage over other FMGs in that they do not have to deal with the difficulties of overcoming

language and cultural barriers. They do, however, have to deal with the stigma associated with why they chose to study abroad and not in the States. In terms of the U.S. students at ELAM, several factors will be most influential in how successful they are in gaining a US residency position. Many U.S. students, after six-plus years of separation from their families, wish to return to their state of origin for residency training. There are currently 25 state licensing boards that maintain a list of foreign medical schools whose graduates will be granted licensure. California is one of the 25 states; several others (such as New Mexico) base their foreign medical school lists on California's list¹¹. However, while California recognizes the University of Havana as a valid medical institution, it currently does not recognize ELAM as a valid medical school, although in Cuba ELAM is considered part of the University of Havana. This obviously presents a problem to the large number of US ELAM students who are originally from California and wish to return there for their residencies. ELAM is currently in the process of applying for recognition by the State of California as a licensed foreign medical school training program; the school's administration expects this process to be completed this year. A second problem lies in the fact that the U.S. ELAM students do not have malpractice insurance. This adversely affects them on two levels. Firstly, they are unable to obtain US clinical experience, often a requirement for many residency programs. Secondly, strong letters of recommendation from U.S. physicians are most often generated by working with those physicians in a clinical setting. Just about every residency program requires at least one letter of recommendation from a U.S. physician if not two or three. The students are thus limited to settling for simple observerships that do not allow them to demonstrate how well they perform in a clinical setting or how well they master basic clinical skills. Another more limited but equally important challenge for the students resides in finding physicians within the U.S. medical community who will be willing to serve as mentors and guide them towards achieving future goals. At present, nine US students have graduated from ELAM. Of these graduates, one is enrolled in an internal medicine

residency at Montefiore Medical Center in the Bronx, New York. Another is trying to get a residency in California and the others are working in US clinics while studying for the US Medical Licensing Exams (USMLE).

Conclusion

Many have asked how the ELAM program will help contribute to reducing the world's health disparities. The answer can be found within the principles of the ELAM educational program, which focuses on recruiting youth among marginalized groups, women, rural communities and indigenous populations. By making medical education available to individuals from these groups, there is greater probability that they will return to serve marginalized communities. In the classrooms and through their interaction with the Cuban public, students learn that health care is a right, not a privilege. The community-oriented focus and extensive training in public health practices promotes partnership between patients and physicians and improves both the quality of care and health outcomes¹². At the same time the emphasis on clinical diagnosis, CAM and disaster medicine will provide these graduates with the skills needed to service communities that have little access to resources. In the specific case of the US students, the dearth of African-American doctors continues to be a major factor in the racial divide in access to health care in the United States. With the continual rise in the Latino population in the U.S., fluency in the Spanish language and an understanding of a variety of Latin American cultures will serve as precious skills to these graduates. While it may be too soon to perceive ELAM's results on a global scale, small localized glimpses have already been seen. In 2003, close to 500 ELAM students volunteered to combat a Dengue epidemic in Honduras while, more recently, some of the Garífuna graduates opened the first-ever clinic in their community¹³. While it is unrealistic to expect that, alone, the ELAM graduates will eliminate the world's health disparities, they will at least be equipped to aid in the growing international movement towards global equality.

References

1. US Census Bureau International Database [database on the Internet] Table 010 Infant Mortality Rates and Deaths and Life Expectancies at Birth, by Sex for the year 2007
2. <http://www.census.gov/>
3. March of Dimes Peristats [database on Internet]. Infant Mortality Rates: US, 2004
4. <http://www.marchofdimes.com/>
5. WHO Media Centre [database on the Internet]. *The Global Shortage of Health Workers and its Impact*. April 2006
6. <http://www.who.int/mediacentre/factsheets/fs302/en/index.html>
7. The Interreligious Foundation for Community Organization [homepage on the Internet]; 1997-2006. Medical School Scholarship Program at the Latin American School of Medical Sciences, Havana, Cuba [cited February 25, 2008].
8. Available from: www.ifconews.org
9. Sullivan M. Cuba: Restrictions on Travel and Remittances. CRS Report for Congress.
10. <http://www.fas.org/sgp/crs/row/RL31139.pdf> updated May 3, 2007
11. Letter to Secretary of State Colin Powell dated June 23, 2004
12. Del Rio A. Community Health Diagnosis as a Curriculum Component: Experience of the Faculty of Health Sciences Walter Fisulu University Eastern Cape South Africa. MEDICC Review vol. VII number 8. Aug – Sept 2005.
13. Medscape Today [homepage on internet] Access to Spanish-Speaking Physicians in California. [cited February 25, 2008]. Available from: http://www.medscape.com/viewarticle/482890_4
14. Barkin S, Balkrishnan R, Manuel J, Hall M. Effect of Language Immersion on Communication with Latino Patients. North Carolina Medical Journal Volume 64 Number 6 Nov – Dec 2003
15. Iserson, Kenneth V. MD, Iserson's Getting into a Medical Residency 7th ed.. Tucson, AZ: Galen Press, LTD, 2006.
16. *ibid.*
17. Del Rio A. Community Health Diagnosis as a Curriculum Component: Experience of the Faculty of Health Sciences Walter Fisulu University Eastern Cape South Africa. MEDICC Review vol. VII number 8. Aug – Sept 2005.
18. Reed G, Frank M. Doctors for the Developing World. MEDICC Review vol. VII number 8. Aug – Sept 2005