

## CHAPTER SEVEN

### CONTINUING MEDICAL EDUCATION & EXCHANGE OF SCIENTIFIC INFORMATION

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### ***Lack of Access to the U.S. Medical & Scientific Community***

Cuba's universal health care delivery system and its concentration in various fields of research has grown over the last 15 years, involving over 57,900 physicians by 1995, as compared to a mere 3,000 in the early 1960s. In addition Cuba now has some 9,000 dentists. In the 1995-96 academic year, 15,600 medical students were enrolled throughout the island. Residency training is currently offered in 53 specialties, and scientific societies are active in 50 fields of medicine.

Access to the United States medical and scientific community for Cuban health professionals is vital for two reasons. First, the United States generates more medical and scientific information than any other country in the world, largely derived from its status as world leader in medical education and research endeavors.

The vast majority of the world's clinical and research publications are published in the United States: Many of the most important professional journals, magazines, textbooks, and significant medical and scientific reports are now available on-line. In addition, all the major indices of recent articles, whether in print or as computer data bases, come out of the United States, along with bibliographic information from virtually all international sources. Access to this body of literature is considered fundamental for the continuing education and updating of researchers, physicians and other health care professionals in Cuba and elsewhere.

Moreover, Cuban medical education was modeled on the U.S. medical education model and to this day maintains close theoretical and scientific identification with this heritage. Dr. Juan José Ceballos, Director of the National Center for Continuing Medical Education (CENAPEM), referred to this phenomenon and its relevance: 'Our school of medicine is similar to the U.S. medical education system because it is an excellent one. This was the case before 1959, and it is the case now. Although we have worked to develop a different kind of health care delivery model, we never veered away from U.S. precepts for the teaching of medical sciences. Our residency system is the same, for example; U.S. textbooks are commonly used in our classes. We borrowed some experience in fields such as epidemiology and prevention from the former socialist countries, but we never looked to them for our fundamental approach.'<sup>1</sup>

During visits to the Victoria de Girón Medical School campus in Havana, research and library facilities, specialized medical institutes, and teaching hospitals, the team found a dearth of scientific information, textbooks and on-line services. And references to this paucity of literature constituted a universal lament by professionals in over one hundred of our interviews.

The team found that the U.S. embargo has constituted a serious and sometimes impenetrable barrier for the free flow of ideas and scientific information to Cuban medical researchers and clinicians and for exchange with their colleagues in the United States. Undoubtedly, the economic limitations of the last five years, coupled with the stiffer restrictions posed by the CDA of 1992, have made the embargo a still more formidable obstacle to acquiring knowledge of U.S. and worldwide medical advances whose ultimate beneficiaries would be Cuban patients as well as medical professionals.

### ***The U.S. Embargo Restricts the Flow of Medical Information***

Until 1988, the U.S. embargo banned export to Cuba of books, journals and other informational materials originating in the United States. For the first time that year, an amendment to the Foreign Trade Act (introduced by Rep. Howard Berman, Democrat of California) exempted such materials, enabling U.S. entities or persons to export them to Cuba or Cuban nationals and to receive payment free of blocking. The amendment also authorized importation into the United

States of Cuban informational materials, expanding on the 1974 liberalization of this permission.<sup>9</sup> Under the original language, electronic materials (such as news wire feeds and computer information) could not be exported.

In 1994, Congress adopted the **Free** Trade in Ideas Act, removing these remaining limitations for Cuba and all other countries. The legislation stipulates that the President can no longer regulate or prohibit "The importation from any country, or the exportation to any country, whether commercial or otherwise, regardless of format or medium of transmission, of any information or informational materials, *including but not limited* to publications, films, posters, phonograph records, photographs, microfilms, microfiche, tapes, compact discs, CD ROMs, artworks and news wire feeds." Thus, U.S. persons as a matter of statutory right may send any information or informational materials to Cuba or Cuban nationals, including technical information if it is not restricted for national security (as distinct from foreign policy) reasons.<sup>3</sup>

Despite that legislation, the free flow of information and scientific exchange are limited by embargo regulations which, in practical terms, restrict the application of the Free Trade in Ideas Act. These include the following restrictions:

- The elimination of all banking relations between the United States and Cuba, making it impossible for Cuban nationals to "put their check in the mail" for subscriptions and other literature. The embargo also prohibits third-country banks from maintaining United States dollar-denominated accounts for Cuba or Cuban nationals (from which payments might be made to U.S. publishers, etc.) and the use of U.S. currency or U.S. dollar-denominated accounts in transactions between third-country nationals and Cuban nationals<sup>4</sup>
- The virtual ban on export to Cuba of computer hardware, limiting options to support software programs, Internet connections and on-line services.
- The elimination of direct mail service between Cuba and the United States and, until 1994, serious obstacles to telephone and telex communications. Thus, all journals and other literature must pass through at least one other country en route from the United States to Cuba, with consequent delays and higher postage.
- Shipping restrictions: No maritime shipping is permitted between the United States and Cuba under the embargo, with the exception of specially licensed humanitarian goods. In addition, until 1975, foreign aid was withheld to any country which permitted its ships to dock in Cuba, and a blacklist was kept of such vessels. This provision was eliminated by the State Department in 1975, and Congress ended the blacklist in 1977. However, barriers to shipping went up once more with the Cuban Democracy of 1992, which forbids access to U.S. ports for a period of six months to any ship which has docked in Cuba. Thus, bulk shipments of textbooks, for example, most often must come to Cuba by more expensive air routes.
- Restrictions that constitute a travel ban for all but a handful of U.S. citizens wishing to go to Cuba. These center on prohibiting U.S. nationals from paying for travel-related services in Cuba, including meals, hotels and airline tickets on Cuban carriers. The ban was lifted during the Carter presidency, from 1977 to 1982, but reinstated during the Reagan years. One exception to the restrictions has always been U.S. visitors to Cuba who are fully hosted by the Cuban government: in that case, however, they are prevented by law from spending any money in Cuba.
- Limitations on research travel to Cuba. From time to time during the embargo's tenure, a small loophole in the travel ban has been opened for certain U.S. professional researchers, provided they fall within U.S. government guidelines (which themselves have undergone periodic changes) and provided they do not spend more than \$100 a day on the island. In any

case, these persons are not automatically allowed to travel to Cuba but must apply for an individual license from the U.S. Treasury Department.

- In 1994, under general amendments issued to "limit the ability of the Cuban government to accumulate foreign exchange," the eligibility criteria for such licenses were further narrowed, allowing persons to apply "only if they are full-time professionals who travel to do research in their professional areas, their research is specifically related to Cuba and will constitute a full work schedule 'in Cuba, and there is a substantial likelihood of public dissemination of the product of their research.'" <sup>5</sup>
- Limitations on travel to Cuba for medical conferences. Until October, 1995, U.S. professionals wishing to travel to Cuba to attend conferences in their field might only be eligible to do so if the agenda of the meeting was directly related to Cuban **developments in the** field. (In other words, they might apply for a travel license to attend a meeting of the Cuban Pediatrics Society, but not for one of the International Society of Pediatrics held in Cuba.) In practical terms, this meant that parallel "national" programs had to be designed for U.S. participants in international medical conferences and conventions in Cuba. In 1995, Resident Clinton amended this restriction, allowing a professional to apply for a travel license to attend an international meeting in Cuba, provided that the person had an established interest in the subject of the meeting and that it was "organized by an international institution or association that regularly sponsors meetings or conferences in other countries." <sup>6</sup> As with all licensed travel, there is a \$100-a-day limit on expenditures.
- Prohibition on providing a service in Cuba. Interpretation of this regulation has historically meant a ban on providing lectures on professional topics for Cuban colleagues, even if the U.S. person was in Cuba by virtue of a U.S. Treasury Department license. In October of 1995, President Clinton opened the envelope just slightly by authorizing consideration of licenses on a case-by-case basis for individuals to teach at Cuban academic institutions, if the applicant is "regularly employed in a teaching capacity at a college or university located in the United States and provided the activities are related to a college or university academic program." In other words, a license might be issued for a medical school professor, regularly employed as such in the United States, to offer a series of lectures at a Cuban medical school. But lectures by a medical researcher or clinician not employed in a teaching capacity in the United States, or lectures at a hospital or research center, would not be permitted.<sup>7</sup>
- Restrictions on Cuban professionals' travel to the United States. Aside from the difficulties of obtaining a U.S. visa, the embargo prohibits Cuban nationals from making payments to any U.S. entity once in the United States, or from receiving or spending a travel stipend provided by a sponsoring U.S. organization. This has created a cumbersome and even embarrassing situation for Cuban professionals and their hosts, and an often prohibitively costly one for the latter, since the only type of travel permitted is fully hosted by a U.S. institution, in which no transfer of money to the Cuban national takes place. In October of 1995, President Clinton amended these provisions to make eligible for licensing "transactions related to the sponsorship of a Cuban scholar to teach or engage in other scholarly activity at a college or university located in the United States." However, no change is made in the case of a Cuban medical doctor or other medical specialist wishing to attend a conference, meeting or course in the United States.
- Elimination of direct air travel between the United States and Cuba. For decades after the embargo was imposed, no direct air service existed between the two countries. U.S. government provisions opened up the possibility of charter flights from Miami in the 1980s. However, these have been running only off-and-on since then, largely subject to the ups and downs of U.S.-Cuba relations. In the August, 1994, presidential amendments the travel regulations, persons going to Cuba who were fully hosted by the Cuban government were

prohibited from traveling on board these direct charter flights; end Treasury Department officials began inspecting passenger lists and individual documents on each flight to Cuba, interviewing and in some cases searching passengers before they boarded. In March, 1996 all direct charter service was cut off, by order of President Clinton.

### **Medical Education**

There are currently 28 medical schools and four dental schools in Cuba, plus numerous facilities for health technicians. The School of Public Health, closed a decade ago, is also about to be reorganized and reopened. Through the 1980s, medical students were sold a basic set of textbooks at subsidized prices—a set of some 20 texts would add up to about 200 pesos, or \$200 at the official exchange rate. Specialized texts were readily available at university bookstores, also at subsidized prices. So the average graduate ended up with 40-50 textbooks on their home bookshelf for ready reference.

However, due to the economic contraction of the nineties, fewer funds went for textbook purchases. Students are now loaned deteriorating and out-of-date texts, which must nevertheless be returned at the end of the year for the next class; and there are currently not even enough of these to go around, with students doubling up on a single book.

This situation was complicated with the decision of the Spanish firm Editorial Interamericana, S.A to stop sales to Cuba after the company became a subsidiary of the U.S. publisher McGraw Hill in 1990. McGraw Hill then advised Interamericana that because of its new U.S. association, its personnel could not attend an international book fair in Havana, nor could it make any future sales to Cuba. This is another case where embargo legislation has constituted a chill factor, discouraging companies from exporting to Cuba for fear of prosecution, since in actual fact such sales of medical texts were exempted from U.S. sanctions by virtue of the Berman Amendment of 1988, later ratified with the Free Trade in Ideas Act of 1994. Furthermore, U.S. law permits employees of third-country subsidiaries to travel to Cuba under Treasury Department regulations.<sup>8</sup>

However, the result was devastating: In oncology alone, from the quantities of 73 titles needed, only 19 titles were available by 1992.<sup>9</sup>

Enlisting a U.S. publisher as a new supplier would be ideal under normal circumstances, since prices and shipping costs would suggest the wisdom of such a move, not to mention quality of texts and speed of delivery. But this is no easy task under the embargo: First, it is reasonable to assume that other publishers might balk, as did McGraw Hill; second, if a supplier were found, the operation would have to be carried out in cash, because of banking restrictions outlined above, a logistical problem to say the least; and finally, getting the textbooks to Cuba could present both a formidable challenge and expense, since shipments would necessarily have to be routed through a third country. So, while the Free Trade in Ideas Act is on the books, it has yet to offer a practical option for Cuban textbook importers.

Dr. Ceballos went on to say that some textbooks are being bought in Latin America, but often those available are translations of U.S. texts, which put them about five years behind the latest English language edition. Thus, they prefer to buy English language textbooks—yet these are usually of U.S. origin and consequently more expensive through a third country.<sup>10</sup>

Teaching aids, microscopes, laboratory equipment, computers and photocopiers—all are scarce at Cuban **medical** schools, many in need of repair, primarily due to shortages of hard currency. As with many other products, access to the close and natural U.S. market could provide some relief were it not for the embargo. Instead, most of these items are bought in Europe or Japan at much

greater cost. "Calling this a simple problem of economic constraints isn't accurate," asserts Dr. Mayda Arza, Professor of Medicine and staff of the Medical Education Division of the Ministry of Public Health. "If I need to buy bulk supplies-paper, equipment, what have you-if I can buy them next door, it's not the same as going to The other side of town." She informed us that virtually all the paper for the medical schools is now being imported from China.<sup>11</sup>

Maintenance presents further problems, compounded when U.S. parts are involved. Dr. Ceballos reported that several spectrophotometers in the medical school labs are in need of repair. These were originally bought from the British company Perkins-Elmer. Replacement parts, however, contain U.S. components, available (if at all) through third parties at inflated prices. "Everything would be so much simpler, more expedient, less expensive if we had access to the U.S. market," asserted Dr. Ceballos. " He recalled the ferries from Florida, which once brought goods on a day's notice. "But now," he mused, "it's as if the two countries were worlds apart." <sup>12</sup>

### ***Scientific Information, Literature and Research***

As a result of the scarcity of textbooks, medical students rely ever more on classroom lectures for fundamentals and, in turn, on the ability of their professors to keep abreast of current medical developments, according to Dr. Arza.<sup>13</sup> However, professors and residents alike are having greater difficulties accessing medical literature, whether in the form of books, journals or on-line services.

One factor is economic: The numbers of subscriptions have been cut, even to key national institutes, because the funds are not there. Thus, the National Oncology and Radiology Institute had 43 subscriptions to foreign medical journals in 1988, but only nine by 1992.<sup>14</sup> However, as we have seen in other chapters (such as the Pharmaceutical Industry), subscriptions to vital U.S. publications can run as much as 50-100% more through European distributors, which-because of embargo banking and mail regulations-are the only way to guarantee consistent arrival, albeit delayed.

Library acquisitions are currently relying on limited purchases and donations from colleagues abroad, or from Cuban physicians returning from trips. However, embargo obstacles come into play when the donations are from U.S. doctors or institutions: Dr. Ceballos and Dr. Jeramias Hernández Ojito, Director of the National Center for Medical Sciences Information, reported delays of several months in the arrival of such publications. They assert that even World Health Organization and Pan American Health Organization journals mailed from the United States have arrived as much as one year later.<sup>15</sup>

As a result, we found that the library of Havana's medical sciences campus is poorly stocked, with holdings severely depleted over the past five years. Our research indicates that medical textbooks are in stock up to 1991, although many are in deteriorating condition, and journals are in stock only until 1990-91 as well. We observed recent donations on the shelves: five current textbooks (*Gray's Anatomy*, 1994; *Ganong's Physiology*, 1994; another physiology text, 1995; a biochemistry text, 1996; and an immunology text, 1996). U.S. journals donated were limited to four 1995 issues of the *American Journal of Genetics*.<sup>16</sup>

Hospital libraries are also woefully lacking in literature. Most have little or no journals or magazines beyond 1991. And, although the Ministry of Public Health central library in Havana is a little better off, librarians there consider their material quite outdated.

Even the most basic bibliographic references are difficult, if not impossible, to obtain from the United States. The Dutch distributor SWETS indicated to Cuban research libraries that it could not

sell them the U.S.-published listing of new titles in the sciences, Current Contents, since a request by the publisher for information on the customer had revealed end-use was for Cuba.<sup>17</sup>

Receiving medical literature from the United States which is furnished on computer disk or CD-ROM is almost impossible, according to medical education authorities and research institutes in Havana. They cite the case of the *Sciences* Citation Index, which several Cuban institutions attempted to purchase (for \$17,000) from the Institute for Scientific Information (ISI) in Philadelphia, PA, through SWETS. However, ISI informed SWETS that such a publication—a one-of-a-kind listing of abstracts and bibliographic references—is not available to Cuba on **CD-ROM** because of the U.S. embargo. (See chapter on Vaccines and Biotechnology for further details.) Although, as we have seen, current U.S. embargo regulations would in fact permit such an export to Cuba, this appears to be yet another case where confusion and temerity lead to refusal. In fact, in the course of this study, we were confronted by a similar negative: DHL offices in Washington, D.C., informed us that they could not send a computer disc of medical information to writers in Cuba, due to embargo prohibitions. Instead, we had to mail hard copy, at a significantly higher cost.

Computer access for bibliographic consultations is a necessary but not very effective tool for Cuban medical **personnel**, first because of the limited **number** of computers functioning on the island, most of those older models. (It should be noted that U.S.-made computers, even for medical use, cannot generally be donated or sold to Cuba; this fact significantly hampers plans to extend computer networks such as Infomed beyond the hospitals it now serves to local polyclinics in the near future.)<sup>18</sup>

Medical science institutions have access to Medline—and with Internet capabilities in Cuba, this will be more extensive. However, when the article needed is by a U.S. **author**, and a request is made for a hard copy reprint, Dr. Arza reports that only 20-40% of these reprints actually end up in Cuba, with arrival three to four months later. "I don't know where the snag is," she reports. "But the lack of normal mail services certainly must have a hearing since we don't have this same **difficulty** with other countries."<sup>19</sup>

Sometimes this situation brings with it peculiar twists and added frustrations: Dr. Maria Antonieta Bobes, a neurobiologist at the Cuban Neuroscience Center, published an article in the U.S. journal *Biological Psychiatry*, but when she attempted to obtain a number of reprints, she found there was no way she could pay for them, with no financial mechanisms between the two countries.<sup>20</sup> Hers is not the only example of this phenomenon: Several Cuban scientists interviewed had published in U.S. journals and encounter similar obstacles to obtaining copies of the journal itself, as well as reprints for their personal use.

Even greater difficulties are encountered by physicians in the provinces. We visited a number of facilities in Pinar del Río, where we were told that access to scientific information is practically nil. Although *Infomed* provides linkage to the central library in Havana, the system is rudimentary, plagued with problems ranging from old technology to equipment failures and lack of paper for printing out literature if and when they can access it from Havana. At the "Abel Santamaria" Provincial Hospital in Pinar del Río, we met with a number of specialists and administrative staff, who without exception decried the absence of current medical information, reporting that they have no reliable, systematic way to assure delivery.<sup>21</sup>

Cuban clinicians state that this problem is seriously hampering their efforts to keep abreast of developments in their field and provide continuity for upcoming generations of physicians. For example, Dr. Ceballos reports that a team of top pediatric specialists organized to write a new basic text for Cuban medical schools is hampered by problems in accessing sufficient up-to-date information from any source. As a result, the textbook project has been put on the shelf.

Most clinicians and researchers report that, in the absence of systematic consultation with the literature in their field, they attempt to make maximum use of scientific interchange whenever possible—through conventions and conferences, visits from foreign colleagues to Cuba, and visits of Cubans abroad. However, as we have seen, all these activities are complicated by the embargo when they concern visits to and from the United States—closing the door to Cuban medical science.

### Exchange, Study and Participation in Events in the USA

The U.S. travel ban and the complex eligibility requirements for U.S. professionals wishing to apply for licensed travel impedes any natural flow of clinicians or medical researchers to the island. Add to this the fact that travel plans are difficult to pin down, since license requests sometimes take as much as two months for the U.S. Treasury Department to act on. In addition, the prospect of infringing on U.S. law by even an inadvertent violation of the regulations, with penalties up to \$50,990, does not provide a climate which encourages scientific visits to the island.

The result is that, while interest may exist, travel by U.S. medical specialists to Cuba is limited:

- Dr. Mitchell Valdés Sosa, Director of the Cuban Neuroscience Center, told us that on numerous occasions U.S. scientists scheduled to come to conferences or events have canceled at the last minute, expressing either fear or confusion as to the legality of their trip. He particularly spoke about the difficulties his center has had inviting specialists to teach courses or seminars to young scientists. (Under U.S. law, this could be interpreted as a violation of the ban on providing a service to Cuba, as outlined in the beginning of this chapter.)<sup>22</sup>
- Dr. Jorge Perez, Director of the Havana AIDS Sanatorium, likewise reported that U.S. participation at several important AIDS events held in Cuba has been well below the actual interest expressed, due to legal concerns.<sup>23</sup>
- Project Orbis, a non-governmental, non-profit organization of ophthalmologists, which operates internationally out of an aircraft serving as a hospital and university faculty, had difficulty coming to Cuba although it had visited more than 60 countries, performing operations and providing seminars and courses for local physicians. After an initial denial of a U.S. Treasury Department license in 1991, Project Orbis finally was able to go to Cuba on the condition that it spend only moneys raised through offices outside the USA.
- Due to decades of difficulties in communications between the two countries, it is virtually impossible for any Cuban institution or organization to effectively advertise in the United States to promote attendance at national and international professional meetings held in Cuba. (Note that complex regulations govern attendance at such conferences, so without specific orientation, it cannot be assumed that physicians would simply sign up.)
- There are also examples of U.S. institutions and individuals which have invited Cuban medical specialists and researchers to the United States to participate in an event, course, seminar or meeting—with all expenses paid, as U.S. embargo legislation stipulates. However, it has been the experience of Cuban medical professionals that these invitations by no means assure a U.S. visa. In fact, their visa applications are quite often left without a response, denied or granted late. (See also chapter on Vaccines and Biotechnology.) Dr. Jorge Peres informed us that the AIDS Sanatorium sought visas in 1999, 1990, 1991, 1992 and 1993 for a Cuban scientist, sponsored by WHO, to attend an Emory University course in Atlanta, in conjunction with the CDC. These visa applications were backed by prominent scientific figures in the U.S., but were never approved.

- The Center for Genetic Engineering and Biotechnology maintains a list of its scientists who have been denied visas to attend international congresses, courses and other events in the U.S. (See chapter on Vaccines and Biotechnology.)
- Dr. Charles Magrans of the national Nephrology Institute said a number of physicians from the Institute received invitations to a Latin-American Nephrology Congress in Puerto Rico. However, they were not permitted to attend, since the hosts did not include an "all expenses paid" clause in their letter. In this case, even with the funds in hand, the specialists were prevented from attending due to embargo restrictions on the transfer of cash between Cuban and U.S. nationals.
- The Director of the Institute of Hematology, Dr. Jod Manuel Bayesteros Santovenia, related that in 1993, Dr. Gisela Martínez was invited by the Albert Einstein College of Medicine in NY for three months. Despite efforts by the College, the visa was denied that year. In 1994, a visa was finally granted, but the Treasury Department prohibited payment of her stipend. Dr. Santovenia, who is also President of the National Society of Hematology, told of his own experience in 1994, when he requested a U.S. visa to attend the Annual Meeting of Blood Banks in San Diego, CA. He states he received the visa when the four-day event was into its third day.<sup>24</sup>
- Dr. Hernández Cañero, Director of the National Cardiology Institute, told us that in his experience his medical staff have only received U.S. visas when they are invited through an international organization like WHO or PAHO, and then not always. He reported that they periodically receive invitations from the American Heart Association for events for which the admission or registration fees are waived, but again unless all expenses are covered by the hosts, the Cubans are barred from attendance by the U.S. embargo. Dr. Hernández and several specialists from the Institute were denied visas to the 1986 World Cardiology Congress held in Washington D.C. and have repeatedly been denied visas to a variety of events since.<sup>25</sup> Dr. Eduardo Rivas, a rehabilitation specialist from the same Cardiology Institute, was able to obtain a visa to attend a 1995 meeting of the American Heart Association: His trip and all expenses were covered by the Interamerican Heart Foundation.<sup>26</sup>
- However, even under the sponsorship of an international organization or a prestigious U.S. medical institution, travel by Cuban specialists is not always possible, because visas are denied. Thus, in 1992, Dr. Cristina Mateo de Acosta and Dr. Ana María Vázquez were invited for training by the Sloan Kettering Memorial Cancer Center of NY and the Molecular Biology Institute at UCLA, both under the auspices of a PAHO program. However, on April 8 Dr. Miguel Márquez, PAHO representative in Cuba, received a note from PAHO in Washington advising him that "lamentably, the position of the U.S. government has not changed, and continues the same after many years. Thus, we do not see the possibility of carrying out such a training program."<sup>27</sup>

Long-term study for Cubans in the United States is one of the most difficult travel options. According to Dr. Rolando Camacho, Director of the National Oncology Institute, the U.S. National Cancer Institute is the world's major financial backer or provider of scholarships for study in the field. Cubans, however, are not ordinarily eligible for these scholarships, due to the embargo.<sup>23</sup>

Dr. Arza says this situation is true in almost all cases. She notes, however, that with the political conditions inherent in the CDA of 1992, which refer to people-to-people contacts, invitations have come to Cubans stipulating that a scholarship is available, but only for a particular medical student, leaving the Cuban medical schools with no say in the matter. "This is clearly politics," she remarks, "since such a personal invitation is natural when it comes to a well-known figure in medicine or science, but when it carries a name tag for a medical student, this is something else again."<sup>29</sup>

Finally, the U.S. embargo, visa limitations and related financial restrictions reduce the effectiveness of Cuban scientists' international participation and even leadership. At the National Endocrinology Institute in Havana, the Sub-Director for Research, Dr. Oscar Díaz Díaz reported that, although his institute is a WHO-designated Center for Comprehensive Attention to Diabetics, the only way specialists have been able to participate in U.S.-based events is if WHO itself steps in, never in direct relation to the host institution. Even so, he relates, there are cases of visa denials.<sup>30</sup>

Six members of the Cuban Nephrology Institute are members of the International Nephrology Society, which has its headquarters in the United States. To pay dues, they have had to find someone traveling to the USA and willing to pass along the funds, since there are no banking relations between the two countries.<sup>31</sup>

Cubans elected to posts in regional institutions based in the United States or meeting in the USA face serious problems with maintaining an active role. A case in point: denial of a U.S. visa to former Minister of Health, Dr. Julio Teja, who was thus prevented from attending the 120th Assembly of the American Public Health Association (APHA), of which he was then Vice Resident, a post to which he was re-elected at the same meeting.=

### **Information on U.S. Medical Equipment and Drugs**

Finally, the information barriers presented by the embargo keep technical information from reaching Cuba- information essential to the functioning of medical equipment and to the proper use of medications.

For example, the "Hermanos Ameijeiras" Hospital in Havana acquired a linear accelerator from Siemens of Germany for the treatment of cancer patients. (This hospital is a regional reference center designated by PAHO.) However, from 1991 to 1993, the United States consistently denied permission to Cuban specialist Carlos **Sandín** to receive special training on the operation and maintenance of this unit in California.<sup>33</sup>

When equipment donations are received in Cuba, these units may come without the necessary operation and maintenance guides, and when this is a case of U.S. items, this is particularly problematic, postponing use. This was the case of some 25 U.S.-manufactured Preemicare Model 105-IV neonatal respirators donated to Cuba through a third country. Since Cuban technicians had no manuals, nor could they readily travel to the United States for training on the equipment, a student who had learned to use the units in the United States came to Cuba expressly to train technicians in their operation. But many of the Cubans' more complex questions were left unanswered, and National Electromedicine Center engineers contend "there were too many gaps." <sup>34</sup>

Cuba also purchased nearly 1,000 U.S.-produced Bird respirators through intermediaries. The operational training for this equipment was done by an ex-employee of Bird who came to Cuba. At another point a Cuban engineer went to a third country to receive a course from a person who in turn had been trained (as is standard practice) at the Bird factories in the United States. Alexis Cedeño of the National Electromedicine Center estimates that about 40% of the information needed was lost in this process.<sup>35</sup>

This situation is complicated by the fact that U.S. pharmaceutical and medical supply firms have not been able to regularly participate in trade fairs and delegations to Cuba, and thus Cuban technicians and physicians are not familiar with their products. For example, the Ohmeda corporation, which sells respirators and related equipment, was invited to an annual trade fair in Havana, **but on** advice of counsel decided not to participate, due to fears of reprisals under the U.S.

embargo. Donna Boehme, in-house counsel, told us that she had specifically advised against taking an action with regard to Cuba which might incur any risk of U.S. government reaction. 'Ohmeda plays by the rules,' she said.<sup>36</sup>

### **Conclusions**

By virtue of the U.S. embargo, Cuban physicians and researchers are decidedly kept outside the loop when it comes to scientific information generated in the United States. And the policy erects an insurmountable barrier to systematic scientific exchange with U.S. colleagues and study and training opportunities helpful to Cuban specialists end ultimately to the patients in their care.

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**NOTES**

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- 1 Interview with Dr. Juan José Ceballos, Director of the Center for Continuing Medical Education, CENAPEM, Havana, January 24,1996
- 2 Michael Krinsky and David Golove, United States **Economic** Measures Against Cuba Aletheia Press, Northampton MA, 1993.
- 3 'Overview of the United States Embargo Against Cuba," memorandum from Michael Krinsky, of Rabinowitz, Boudin, Standard, Krinsky and Lieberman, P.C., New York, Feb. 8, 1995, pp. 3-4.
- 4 Krinsky and Golove, pp. 86-91.
- 5 'Cuban Assets Control Regulations; Restrictions on Remittances and Travel Transactions," Office of Foreign Assets Control, Dept. of the Treasury, August 30,1994.
- 6 "Cuban Assets Control Regulations; News Organizations; Travel Transactions; Intellectual Property Office of Foreign Assets Control, Dept. of the Treasury, Oct. 13,1995.
- 7 Ibid.
- 8 Krinsky and Golove, p. 102.
- 9 Interview with Ramón Díaz Vallina, Vice Minister for Economics, Ministry of Public Health, Havana, March 14,1996.
- 10 Interview with Dr. J. Ceballos, Havana, January 24,1995.
- 11 Interview with Dr. Mayda Arza. Professor of Medicine and staff of the Medical Education Division, Ministry of Public Health, Havana, July 10, 1996.
- 12 Interview with Dr. J. Ceballos, Jan. 24, 1996.
- 13 Interview with Dr. M. Arza, July 10,1996.
- 14 "Consecuencias adversas del bloqueo...", Ministry of Public Health, Havana May, 1993, p. 12.
- 15 Interviews with Dr. J. Ceballos and Dr. Jeremías Hernández Ojito, Director of the National Center for Medical Sciences Information, Havana, January 24, 1996.
- 16 Visit to the library at the "Victoria de Girón" Higher Institute of Basic Sciences, where medical students spend their first two years, on July 10,1996.
- 17 Interview with Gilberto Sotolongo, Finlay Institute, Havana, Nov. 17, 1996
- 18 The U.S. organization Pastors for Peace, which regularly defies the embargo with donations to Cuban institutions, attempted to bring several hundred computers **to Cuba** for **Infomed early in** 1996. These were confiscated by U.S. Customs officials on the basis that the donation of the equipment was prohibited under U.S. embargo law. After several months of civil disobedience, the computers were finally released to the Methodist Church in the USA, **but** had not been authorized to for export to Cuba by July, 1996.
- 19 Interview with Dr. M. Arza, July 10,1996.
- 20 Interview with Dr. Maria Antonieta Bobes, Director of the Cognitive Neurosciences Department, Cuban Neuroscience Center, Havana, February 28, 1996.
- 21 Visit to the "Abel Santamaria" Provincial Hospital, Pinar del Rio, November 28, 1995.
- 22 Interview with Dr. Mitchell Valdés Sosa. Director, Cuban Neuroscience Center, Havana, February 28,1996.
- 23 Interview with Dr. Jorge Perez. Havana, November 3,1995.
- 24 Interview with Dr. Jose Manuel Bayesteros Santovenia, Havana, October 26, 1995.
- 25 Interview with Dr. Hernández Cañero, Havana, October 27,1995
- 26 Interview with Dr. Eduardo Rivas, Cardiology Institute, Havana, November 22,1995.
- 27 'Consecuencias adversas...", p. 13.
- 28 Interview with Dr. Rolando Camacho, Havana, DATE
- 29 Interview with Dr. M. Arza, July 10,1996.
- 30 Interview with Dr. Oscar Díaz Díaz, Sub Director for Research, National Endocrinology Institute, Havana, October 19,1995.
- 31 Interview with Dr. Charles Magrans, Nephrology Institute, Havana, October 19,1995
- 32 "Consecuencias adversas...", p. 13.
- 33 Ibid.

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- 34 Interview with Alexis Cedeño, National Electromedicine Center, Havana, December 8, 1995.  
35 Ibid.  
36 Interview by Wallie Mason with Donna Boehme. DATE.