

## Our obligation to developing nations

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No one can be more appreciative of the honor of being permitted to serve as your President than I, having learned to know this Association well in the past, as your Secretary, and being well aware of the many members more deserving of this honor. Four more of my predecessors as President have left us in the past year: John Jones, that colorful individual who could say casually when discussing at the Association meeting in Montreal one of the earlier turn-around operations for funnel chest: "In one patient some years ago, I took the whole sternum out and hammered it flat, turned it around, and put it back in reverse position." Frank Berry, whose plan for draft deferment of physicians has in one way or another affected every one of us from the United States. Of Emile Holman, I recall a program committee meeting in St. Louis when the city was snowbound and the airport closed. Characteristic of the dedication and devotion of this great man, Emile, then in his seventies and plagued with a bad back, had sat up all night on the train from Chicago in the only available seat on the day coach to fulfill his obligation and attend as Editor. Ageless Leo Eloesser, who always looked the same and whom no one could forget, who never missed a meeting and always sat down front. Because of his posture and hooded eyes, one could never quite be sure whether or not he was asleep, but his brief comments and participation in discussion disclosed his mental acuity and his interest in all that was going on. We shall miss them.

The presidency of this Association is largely honorific, but to the titular head comes information of many changes that are occurring in our world and our

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countries and the impact some of these will have on our profession during these times of socioeconomic turmoil in the North American countries and of political changeover in the United States. I identify two events that will have more than passing effects in the years to come upon the affairs of this Association.

At our last meeting the Association approved a new venture, that of "accepting a responsible role" in offering services of its members for peer review of programs in thoracic surgery or of the performance of thoracic surgeons. This was a significant departure, although it may not have been the first, from the original limited objective of the Association. As stated in the Constitution, the objective is "to encourage and stimulate investigation and study that will increase the knowledge of intrathoracic physiology, pathology, and therapy, to correlate such knowledge and disseminate it."

I was seriously concerned last year that requests from the litigious society of our times for this type of police action would overwhelm us and wary of the fact that such controversies stem more often from the behavior and manners of individuals than from their cognitive or judgmental abilities. To date, however, only one request has been seriously presented to the Secretary. In addition, during the past year the Society of Thoracic Surgeons also accepted this task, and we may hope that the obligation will not become more onerous. Peer review of this type needs to be done, it should be done by nongovernmental agencies, and if others do not do it, I believe the Association should, but I hope not at the expense of our remaining primarily a scientific and educational society.

The second event was the passage on October 12, 1976, by the U.S. Congress of Public Law 94-484, the Health Professions Educational Assistance Act of

1976. In speaking about this I realize that the specifics apply to the U.S., but I am told that because of similar legislation Canada faces the same general problems. South of the border, we nearly forget there is a border, as the similarities and friendships between our people are so great. You will have to pardon me if I seem to forget sometimes that we actually are two nations.

The Act begins with findings and declarations of policy. These are as follows:

- Availability of high quality health care to all Americans is a national goal
- Availability of quality care depends upon qualified health professions personnel and adequate numbers of physicians in primary care and a *limited number of specialists*
- Many areas of the U.S. are unable to attract adequate personnel
- There is an inadequate number of physicians engaged in primary care
- The federal government shares the responsibility of assuring availability of qualified personnel as a national health resource
- It is appropriate to provide support for education and training of such personnel and in a manner assuring available health personnel for all Americans
- There is no longer an insufficient number of physicians and surgeons and therefore there is no further need to afford preference in admission of alien physicians and surgeons to the U.S.

Two of the nine titles of the Act contain the meat of the matter for us. Title V has to do with grants for health professions schools. In order to receive the federal grants of \$2,000 per student for fiscal year 1977, increasing by \$50 each of the two subsequent years, 35 percent of the filled first year residency positions must be in the primary care specialties, designated as general internal medicine, general pediatrics, and family practice. This turns out to be no catch at all, for 60 percent of the class soon to graduate will enter these specialties at their own election.

The other catch is that in order to receive the grants the law requires that medical schools reserve space for American students, identified by the Secretary of Health, Education and Welfare as students who have completed 2 years in a foreign medical school and passed Part I of the National Board of Medical Examiners examination. The benign interpretation of this provision is that it represents a political accommodation to a particular constituency. If this is so, the provision will be dropped after the 3 year term by which it is now limited. Since the number of possible transfer students probably is small, there will be little impact. A more malignant interpretation is that this provision,

like that concerning internships in primary care, is an earnest of the price medical schools will pay in succumbing to the temptation of federal support, that it is a probe to see whether schools will allow federal regulation of the numbers of residency positions to be offered in various specialties and a test to see whether the schools will allow the Secretary of HEW to assign for transfer to a school after 2 years abroad students who failed earlier in the competition for admission. Several schools have declined the grant because of this requirement. One needs to be only a little more of an alarmist than I to envision extension of such control to determination of not only numbers of physicians in various specialties but also their characteristics of sex, race, origin, and training, an unwarranted intrusion into academia.

In regard to Title VI and foreign medical graduates (FMG), since World War II migration of physicians about the world has been astounding, particularly that to the U.S. and Canada. A few statistics dramatize this influx and enrichment of our countries—but a resulting drain from other countries. Since 1962 over 60,000 FMG's have been admitted to the U.S. as exchange visitors; more than 46,000 have been licensed to practice.

Physicians migrating to the U.S. each year amount to one fourth of the output of all the medical schools of the world outside the U.S. and apart from China, the Soviet Union, and the communist countries of Eastern Europe. Iran, for instance, graduates 700 physicians a year but it also exports 700 physicians, and not always the same graduates. Thailand exports 67 percent of its graduates. In some years, charter planes have stood by in Bangkok at graduation waiting for a load of fresh medical graduates for transport to North America for training and often immigration. This has not been all bad for Thailand. In fact, it seems that the Thai government almost encouraged the practice because trainees abroad are paid well by Thai standards and most send a sizable portion of their earnings back home, improving the balance of trade.

As a result of this influx, one fifth of all physicians in the U.S. are FMG's, as are one third of the house officers and nearly one half of the newly licensed physicians. In 1976, 67 FMG's were first-time candidates for the American Board of Thoracic Surgery (ABTS) examination, 40 percent of the total examined. The failure rate for FMG's of double that of U.S. and Canadian graduates reflects a disadvantaged preparation abroad but reflects as well training received in the U.S. and Canada that has not compensated for that

disadvantage. FMG's who have survived to take the ABTS are a selected and persistent lot, for FMG's fail in an even higher fraction on the prerequisite American Board of Surgery examination. Small wonder that legislation was passed to correct this situation.

Title VI of the Health Manpower Act withdraws the preference given to alien physicians who wish to come to the U.S. to immigrate or as a visitor to train, and it takes further steps to restore the original purpose of the Fulbright-Hayes Mutual Educational and Cultural Exchange Act of 1961. The purpose of this Act was as follows: "The improvement and strengthening of the international relations of the United States by promoting better mutual understanding among the peoples of the world through educational and cultural exchanges." I view Title VI of the Health Manpower Act of 1976 as almost all good. It requires that in order for an alien to come to the U.S. for graduate medical training he must fulfill the following criteria:

1. He must have passed Parts I and II of the NBME examination or its equivalent (visa-qualifying examination).

2. He must be competent in oral and written English.

3. He must have a written agreement of sponsorship from a medical school to provide or assume responsibility for the training.

4. He must be deemed able to adjust to the educational and cultural environment.

5. He must have made a commitment to return to his native country.

6. He must on completion of training, have a position in his country of origin guaranteed by that government that will utilize his acquired skills for the government or in an educational or other appropriate institution.

7. He must be limited to 2 years, with a possible extension of 1 year at the request of his home government.

The Evarts A. Graham Fellowship Committee has been guided by all but the first of these requirements, the examination, in its awards. Since 1951, 28 exceptional surgeons have received this fellowship to obtain thoracic surgical experience not available to them at home. I take some pleasure from the fact that during 4 of the 5 years I was Secretary, the Association was able to sponsor two fellows a year, using the income generated from exhibits. Since then, however, the stipend has had to be more than doubled and a single fellow has been supported annually.

Donald Mulder's review 18 months ago showed that almost all of these men, highly selected at home and

then by the Graham Fellowship Committee, have risen to positions of prominence in their countries and greatly value the fellowship, the training it offered, and the many friendships established in this country. This experience has proved it possible to train an elite group for service in their own country. We must find a means of continuing this fellowship, the biggest obstacle being the visa-qualifying examination, which will be more difficult to pass and more difficult of access than the old Educational Council for Foreign Medical Graduates examination.

Several obligations are implied in Title VI. We must train not for the benefit of this nation but with the expectation that the trainee will serve in his own country. How many of us have done this to the extent recommended by Eiseman and Norton in their article on "Training Foreign Academicians in U.S. Medical School," in which they describe a series of seminars especially for FMG's and their role on returning home?

Although the alien must be deemed capable of adjusting to our educational and cultural environment, on site help is often needed in direct proportion to the backwardness or differentness of his country of origin. His program may need at first to be tailored to the trainee, even to the point of making him a para-resident for a while, as we had to do for many trainees from Vietnam. It is a nearly overwhelming shock to come, for example, from the tropics of Southeast Asia with their noonday break and more serene existence to a busy clinical service conducted by some of the hardest working citizens of our nation. With fewer responsibilities, foreign students can more easily adjust and pick up the frenetic pace dictated by our American work ethic.

We must accomplish what we can in a brief span, because 2 years, with a 1 year extension at the request of the home government, will be the limit. That is about the correct duration for polishing up training. After a longer stay the trainee finds life here too attractive and conditions too difficult to face at home.

Board certification can no longer be a goal, especially in thoracic surgery, with its general surgical prerequisite. Some other type of certificate from the sponsoring school, however, will be of inestimable value on return to a developing nation.

Congress thus has made life more difficult for us and, at the same, time placed obligations upon us.

Applying the final polish to trainees in North America satisfies only part of our obligations to developing countries. There is no substitute for training in-country under the conditions and culture of the less-developed country. Cancer, heart disease, and stroke

may be the big killers in North America, but in the world at large death and disease are predominantly due to malnutrition and infectious disease. Certain factors are common to all of the developing countries. These are slender financial resources, a scarcity of trained manpower at all levels, a largely illiterate and usually rural population, an excessive birth rate in relation to resources, and an entrenched conservative and strongly traditional society with its roots in the soil, subsisting on often primitive farming, under a common epidemiologic pattern of communicable diseases and malnutrition. In contrast to the industrialized nations, these diseases especially affect the young and result in wasteful and tragic morbidity and mortality among children. The tragedy of this waste becomes even more evident when one realizes that 50 percent of the world's population is under 15 years of age and 17 percent under 5 years.

Part of the answer lies in more doctors. The World Health Organization estimates that for proper care approximately one doctor is needed for about 1,000 persons. Variation from this around the world is great, ranging from one to less than 500 persons in the Soviet Union to virtual absence of a physician in some of the remote areas of the world. Nigeria, as an example of a major and relatively rich developing nation, has one physician to every 28,000 persons, only slightly better than the ratio for the entire area of tropical Africa, which is about one to 40,000. In North America, there are major inequities of distribution, with a doctor population ratio of one to 3,000 in the urban area increasing to one to almost half a million in the most rural one. As in other nations, a minority of the population has a majority of the doctors. The rich get richer in health care also, because overserved areas attract more doctors and underserved fewer. At the same time, the rural population grows more rapidly than the urban and the inequity in distribution becomes even more striking. This pattern is repeated throughout the world.

The needs of the world are staggering. Accepting WHO's 1:1,000 ratio, approximately 2.5 million additional physicians are needed to supply the needs on this planet. The world now has somewhat fewer than 1,000 medical schools in a bit over one hundred countries. According to WHO, there should be one medical school for every 2 to 3 million persons. To satisfy this need in the world today would require the construction of from 250 to 750 new schools, depending upon their size.

We can readily see from the immensity of the world's needs for health care and the lack of physicians on the planet that doctors alone do not offer the solution

at the present time and probably will not in the foreseeable or even imaginable future. Better health will be derived from coordination of fertility control, sanitation, better agricultural and food technology, and immunization along with curative medicine and surgery. In international medicine, and also in the North American countries, the strategy is that of a health team led by a physician rather than a physician working as an individual. In fact, plans for the U.S. would show something like 22 health professionals in the health scheme for every physician. A surgeon quickly realizes when working in a developing country his dependence on assistants, operating room nurses and technicians, anesthetists, and radiographic and laboratory technicians—to name only a few. A highly trained surgeon, let's say a cardiac surgeon, finds it difficult and challenging to work without biplane angiograms in a hospital with inadequate facilities for chest films, in a country where money for tubing and prostheses is difficult to justify, where there is no pharmaceutical industry to supply drugs, and where electricity for monitors, pumps, and suction is undependable.

Given the state in the world, the fact of widespread morbidity and mortality, the scarcity of physicians, and the attendant necessity of relying upon medical assistants and auxiliary workers, why a surgeon and what is a surgeon's role in the developing nation? The first answer comes from an earlier presidential address and a definition I like. Julian Johnson enlarged upon Isidore Ravdin's definition of a surgeon as a physician and something more by adding that a thoracic surgeon is a surgeon and something more, a physician to the third power, so to speak. More than others, he is better able to treat disease from top to bottom, from teeth to toes. Surgical treatment has high visibility; it is often a dramatic entree for a health care program and gives more immediate relief from suffering and restoration to a useful role in society. The importance of surgery is evident when one looks at mission hospitals around the world and finds that the first physician on the staff is almost invariably a surgically trained one. Many countries already have herbalists, witchdoctors, even acupuncturists when what the underserved individual wants and often needs is a cutting doctor.

Historically, surgeons have been leaders in improvement and development of health care in developing nations, out of proportion to their numbers. Of the half dozen deans of the medical school in Saigon since 1954, all but one have been surgeons and the single physician held the job for only a very short time. The moving forces in virtually all the medical schools in Southeast Asia were surgeons. This fact probably re-

flects the energy and maybe the aggressiveness that characterize surgeons, but also, and probably more importantly, it reflects the fact that surgical treatment is such an obviously wanting element in backward nations.

Many of the common ailments seen in developing nations present problems or complications that require operative treatment. Some of these have almost disappeared from our hospitals, but empyema, lung abscess, tuberculosis, hydatid disease, and purulent pericarditis are common manifestations of respiratory disease, and typhoid perforations, hernias, and multiple abdominal abscesses are common abdominal problems. Trauma is a major cause of morbidity—fractures, burns, farm trauma, and wounds from weapons and from animals both on the farm and from the bush. In 1964, 1 percent of the population of Vietnam was admitted each year to government hospitals for trauma alone. Citizens of some developing nations seem to be even more effective in wielding automobiles and cycles against each other and themselves than are Americans. Thyroid glands grow to unbelievable size in some areas; I remember once seeing a huge goiter on a dog in the endemic area of Nepal. Carcinoma of the esophagus presents grave challenges, especially in some areas of the Orient. Much disease is neglected and far advanced by the time the surgeon sees it, and it is of the most general sort, necessitating the type of surgery that was disappearing from American wards about the time I began my training 30 years ago.

Some of the human neglect which presents a major problem results from the problems of transportation. We think of ambulances and helicopters, but in developing nations the thought is of human and animal backs. I am reminded of one experience in Nepal when an old fellow with a fractured femur was transported on the back of relatives and porters for 28 days to reach the hospital in Kathmandu. In many places, there are conflicts with the traditional medicine of the country, as exemplified by the street side herbalist in Rangoon or the voodoo practiced in more primitive areas.

More money and effort have been spent in delivering health care in developing areas than in providing education, a patently shortsighted but understandable and justifiable practice. Private foundations of the U.S. overwhelmingly finance delivery of care and furnish equipment, but Care-Medico and Project Hope support training programs as do the Rockefeller, Ford, and many of the other foundations. Some private foundations have been established for this purpose by members of the Association. The International Federation of Surgical Colleges has made surgical training in devel-

oping nations one of its prime concerns. The American College of Surgeons is a member of the Federation, and I hope that our Association will more directly support it. The U.S. government has usually worked through American universities and medical schools, and the American university in turn has developed a counterpart relationship in the foreign country. In this way whole schools have been developed, such as the university and medical school at Cheng Mai in Thailand. My direct involvement was under such an agreement with the medical school at the University of Saigon, and it is from this that much of my thinking and experience stems. Several simple principles about aid and education can be elaborated.

First, the aid must relate to local conditions. If there is no money to run it, there is little to be gained from a modern hospital or indeed for providing air conditioning in the tropics if power is not ample. Well-meaning groups often ignore this obvious fact.

Second, priorities must be clearly established. Open-heart surgery may be a fervent desire of some of the professors, but good basic surgical care and care of appendicitis, pericarditis and empyema, trauma and fractures are far more important. Working in a developing nation, one soon realizes that in our own home setting we spend more than 50 percent of our time and effort on things that make less than 5 percent of the difference in outcome. One is forced to concentrate on basic principles rather than on great sophistication.

Third, the assistance must be genuinely wanted and not unwantingly thrust upon the recipient. Educators and health officials know that prime needs are for sanitation, community medicine, general practitioners, and local clinics, but students, faculty, and patients in developing nations more commonly opt for curative medicine and surgery and shun the psychosocial community medicine emphasized by educators and planners.

Fourth, training must be done in situ under the conditions and with the available resources of the country.

Fifth, there must be some local recognition or certificate in the developing nation for the training to become meaningful. This would be comparable in the developing nation to our Boards of Surgery, College of Surgeons, and so forth, so that the trainees will not have to rely upon a paternal outside nation for recognition.

Sixth, maximum effort must be spent on teaching the teachers so that efforts can be amplified and multiplied.

These efforts, both at home and abroad, are as self-serving as they are selfless, because our future is increasingly intertwined with that of the rest of the world.

Activities which promote the welfare of other countries and understanding between them and us benefit us both in the long run.

Finally, in a letter from a developing nation, another obligation was suggested by Rudi Herrera, one of our few foreign members, written after he received the program for this meeting:

“The demoralizing fact is that while the underdeveloped country is developing, those already developed continue to develop. The speed of progress may be quite different. Then, when does the underdeveloped country catch up to enter the privilege group? I venture to say never.”

With due apologies to Rudi and his efforts, we have a major obligation to stay ahead, to maintain our leadership, and to continue to develop.

To recapitulate, our obligations to developing nations can be listed as follows:

1. To provide surgical training in the U.S. that will be meaningful on return home.
2. To tailor the program to the FMG.
3. To help with training in-country.
4. To work to maintain our position as “developed” nations—which is what all the rest of this meeting is about.