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MIGRATION OF LATIN AMERICAN PHYSICIANS
TO THE UNITED STATES

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MIGRATION OF LATIN AMERICAN PHYSICIANS TO THE UNITED STATES

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SUMMARY

Immigration to the United States was uncommon before 1950 but in recent years the rate has progressively increased. In 1965 about 200 Cubans and 300 other Latin American physicians immigrated to the United States. If Cuba is excluded the 1965 rate of immigration represents about 5% of the annual output of other schools in Latin America. If Cuba is included these losses represent about 8% of the annual production of all Latin American medical schools.

The number of U. S. licenses per year issued through examination is a crude measure of the rate of immigration. In 1964 the number for Latin America was 600. Of these licensees, 255 were from Cuba, 92 from Mexico, 83 from Argentina, 46 from the Dominican Republic, 44 from Colombia and 29 from Peru. Of 3773 graduates of Latin American medical schools in the United States who are not interns or residents, about 1300 are from Cuba, 933 from Mexico (about one-third of these are U. S. citizens), 399 from Argentina, 294 from the Dominican Republic, 211 from Colombia, 186 from Peru and 101 from Brazil. Eighty-two per cent of the physicians in the United States who are Latin American graduates come from the nine schools listed in Table C in the Appendix.

Most of those who have immigrated entered the United States as interns or residents. There are now about 2200 interns and residents in the United States who are graduates of Latin American schools.

The causes of immigration are summarized in Figure 3.

The magnitude of immigration losses represent a major problem for a few countries including Cuba, the Dominican Republic and Haiti. The losses of other countries such as Mexico and Brazil are quantitatively less significant but some of the most promising young academicians from these nations have immigrated to the United States. If the rates of immigration continue to increase, these losses will pose a major problem for several Latin American countries.

MIGRATION OF LATIN AMERICAN PHYSICIANS TO THE UNITED STATES

Recent publications by Dedijer⁽¹⁾⁽²⁾, Kidd⁽³⁾, and West⁽⁴⁾⁽⁵⁾ have reported the results of studies on the migrations of scientists and physicians and have appraised some of the causes and effects of these movements. It has become evident that the migration of highly-educated persons from less developed to more advanced nations can have a profoundly deleterious effect on the capacities for scientific, economic and social development of these emerging countries. It is also clear that the rate and character of these migrations are determined by a variety of considerations, and that the factors principally responsible for emigration vary substantially from country to country.

Studies on the international migrations of physicians⁽²⁾ indicated that the major recipient country was the United States and that about one-third of the immigrant physicians were natives of Latin American countries. These studies showed that the losses of manpower from some Latin American countries were quite substantial. Under the sponsorship of PAHO* a more detailed study was, therefore, undertaken of the migration of Latin American physicians to the United States.

HISTORY

The large-scale migration of physicians from Latin America to the United States is a very recent development. Our analysis of data for early 1966 provided by the American Medical Association revealed that there were 3773 graduates of Latin American schools in the United States (excluding interns and residents). Of these, only 283 graduated before 1940. Moreover, about half of these 283 were Cubans who migrated in recent years. The rate of migration began to rise sharply about 1950 and has increased progressively. About 1961 there was a slowing of the rate of increase but the upward trend has continued. Figure 1 shows for the years 1957-65 the number of physicians from Mexico, Cuba and South

*The views expressed are those of the authors and not necessarily those of PAHO.

America who were admitted to the United States as "immigrants." It should be noted however, that a substantial portion of those who enter the United States with immigrant visas do not stay permanently in the United States, as will be explained below. Figure 2 shows the number of U. S. medical licenses issued (by examination) to graduates of schools in Mexico, Argentina, Colombia, and Peru for the years 1960 through 1964. These data suggest rates of migration which are somewhat higher than actually occurred (for reasons which will also be explained below) but they do reflect the recent trends fairly well. Excluding Cuban graduates, 215 U. S. licenses were issued in 1960 by examination to graduates of Latin American schools. By 1964 this number had increased to 345.

In the last several years about 1500 Cubans have migrated to the United States. Analysis of AMA data in early 1966 revealed that there were 1728 Cuban graduates in the United States. Because the migration from Cuba represents a rather special, and to some degree unique, situation, we plan to analyze it separately. The present report deals mainly with migrations from other Latin American countries.

MAGNITUDE OF MIGRATION

In appraising these data it is useful to consider that there are about 113 medical schools in Latin America and the number of graduates annually is about 6700. There are approximately 294,000 physicians in the United States, of which about 40,000 are interns and residents.

Table A in the Appendix shows by country for 1964 the number of U. S. licenses obtained through examination by graduates of Latin American medical schools. Six hundred licenses were issued to Latin American graduates in 1964.

Analysis of AMA data for early 1966 revealed that there were 5971 physicians in the United States who were graduates of Latin American schools (roughly 2% of all U. S. physicians). This number (5971) is equivalent to one year's output

U.S. IMMIGRANT VISAS TO GRADUATES OF LATIN MEDICAL SCHOOLS (1957-1965)

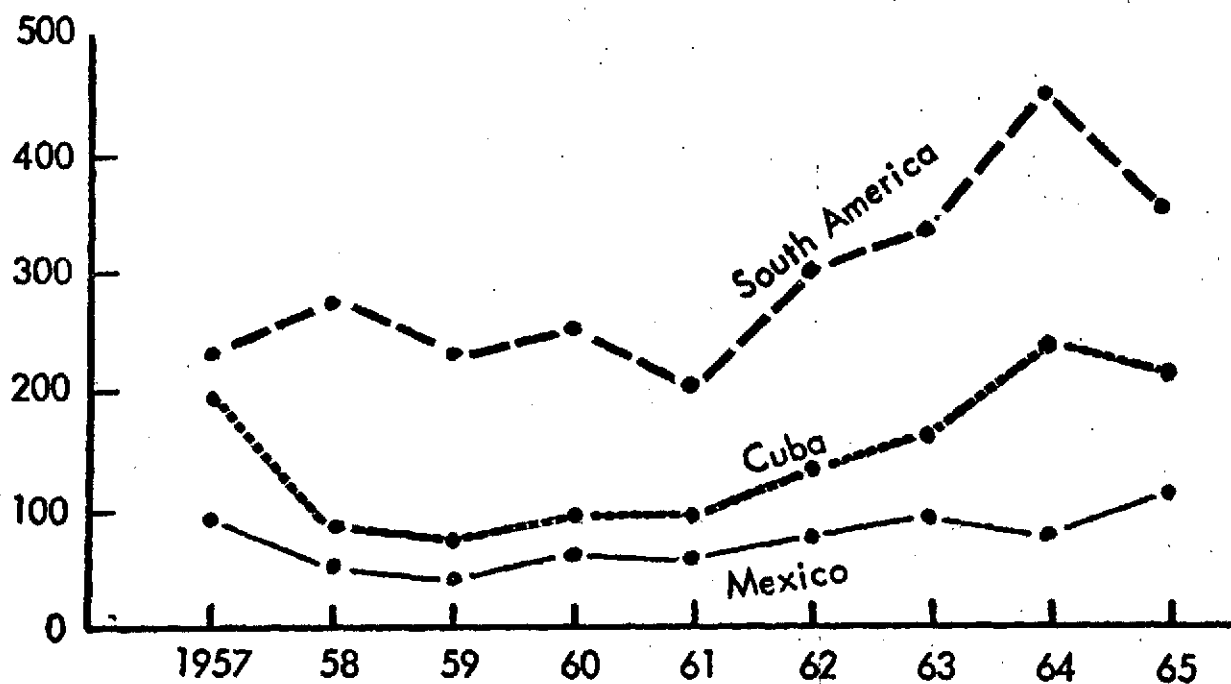


FIGURE 1

U.S. LICENCES TO LATIN MEDICAL GRADUATES

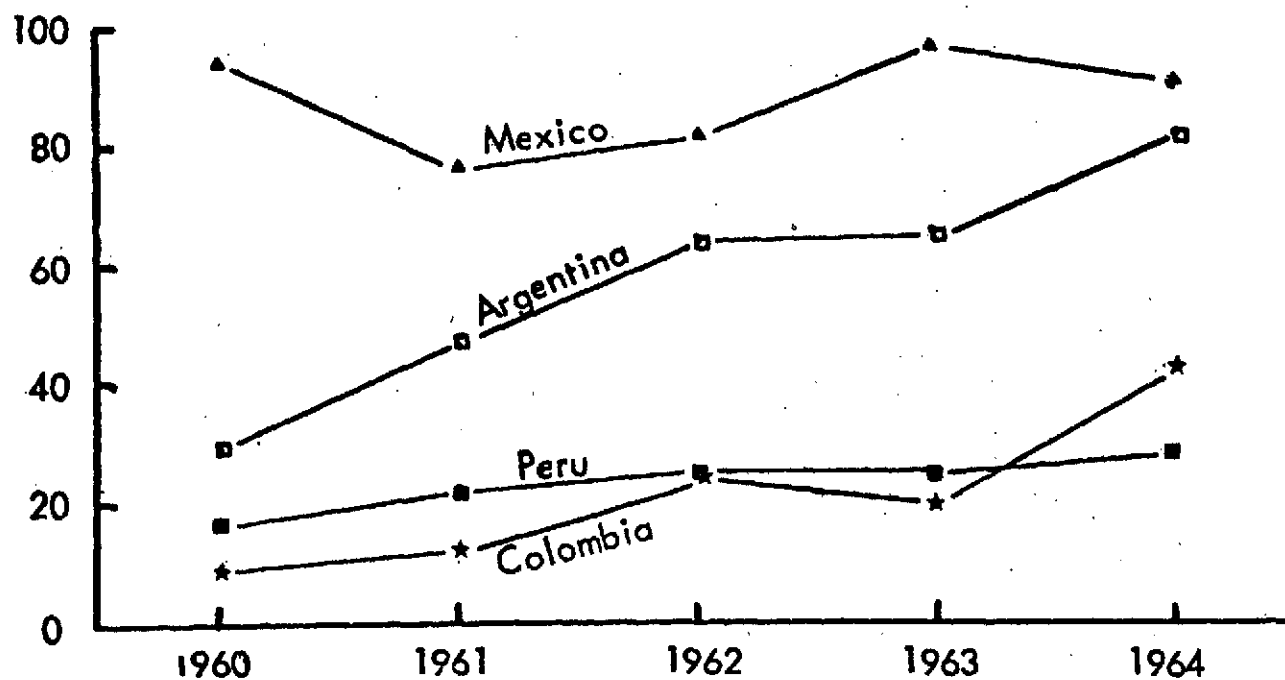


FIGURE 2

of all Latin American schools. Of the 5971, about 2200 were interns and residents and roughly 350 were research trainees. Roughly 900 of the 5971 are natives of the United States so the number of physicians in the United States who are natives of Latin American countries is a little more than 5000.

Precise data are not available on the number of Latin American physicians who are immigrating per year. However, information from several sources suggests that in very recent years the annual rate is about 525 of which about 225 are Cubans. Thus the annual rate of immigration of non-Cubans is roughly 300 (250-350). This number (300) represents roughly 5% of the annual production of all Latin American schools. If Cubans are included, this figure approaches 8%.

Difficulties in determining immigration rates. Attempts to establish rates of immigration* must take into account several complicating considerations.

1. The number of immigrant visas issued is substantially higher than the number of immigrants. Based on sample surveys, we have evidence that as many as half of the physicians in the United States from some countries are post-graduate trainees with immigrant visas who do not plan definitely to immigrate. Immigrant visas sometimes offer fringe benefits such as making it possible to bring an automobile when returning from the United States. Also an immigrant visa may make it possible to defer indefinitely the decision to return or stay. In contrast, trainees with visitor visas must leave the United States for at least two years immediately after the training is completed. Occasionally waivers of this obligation are granted but the vast majority of such requests are denied and more than 90% of Latin American physicians who come to the United States with visitor visas return to their own countries. For statistical purposes, the U. S. Immigration and Naturalization Service includes in their counts of "immigrants" both those with immigrant visas and those with permanent resident visas. Five years of residence in the United States is required before U. S. citizenship can be obtained.

*Immigration will be defined as permanent change of residence without regard to status of citizenship.

2. Thus, those with immigrant visas may return to their native countries and occasionally those who enter with visitor visas remain in the United States permanently. Even those who obtain U. S. citizenship may eventually return, and some of those who never become U. S. citizens are, nevertheless, immigrants in the sense that they are permanent residents of the United States. It is, therefore, not possible to identify with certainty in advance who will be a permanent resident of the United States and who will return. The immigration rate for 1966 cannot be determined with precision for many years. Accurate and final determination of immigration rates can be made only in retrospect.

3. Counts of the number of U. S. licenses issued to Latin American graduates are about 50% higher than the number of individuals who obtain licenses because many persons obtain licenses in more than one state. Also, the available data for individual countries (as shown in Table A of the Appendix) indicate only the number licensed by examination. A great majority are licensed by examination, but a lesser portion, perhaps 10%, are licensed without an examination by the State Licensure Boards. Although many of the states have reciprocity agreements there are no country-wide licenses. Licenses must be obtained from the Board of the state in which the physician practices.

4. A substantial number of Latin American graduates in the United States do work, such as research, which does not require licensure to practice medicine. Data on the number who do not have licenses are incomplete. The counts given above showing 5971 graduates of Latin American schools include both licensed and unlicensed physicians. The AMA census system identifies virtually all licensed physicians, interns and residents, and probably more than 80% of the unlicensed physicians who are graduates of Latin American schools.

5. A small portion, roughly 10%-15%, of the graduates of Latin American schools who are in the United States, are natives of the United States. About half of these U. S. natives who attended medical school in Latin America

are graduates of the National University at Mexico City and many of these Mexico City graduates come from Puerto Rico and return there after graduation. Also it should be kept in mind that not all of the Latin Americans in the United States are natives of the country in which they attended medical school. However, more than 95% are natives of the country where they obtained their medical degrees.

Current rate of immigration. In 1965, 757 physicians who were natives of Latin American countries were admitted to the United States as "immigrants." Many of these persons were postgraduate trainees who had not decided definitely to immigrate even though they held immigrant visas. Table B in the Appendix gives by country the number admitted as "immigrants" for the year ending June 30, 1965. Of the 757, 201 were Cubans and 556 were non-Cubans. Since many of these 556 will return to their native countries, the actual annual immigration rate for non-Cubans is not as high as these data suggest. As indicated above, the annual rate of immigration from Latin America is roughly 300 per year (excluding Cubans).

CHARACTERISTICS

Country and school of immigrants. Table C in the Appendix gives the number of Latin American graduates who are in the United States by school of graduation. Data for interns and residents are not included in this table but information has been previously published showing the number of interns and residents in the United States by country of origin⁽⁴⁾. In general, there is a parallelism between the number of U. S. trained interns and residents and the number of physicians from that country who have immigrated. A very few schools are the source of a great majority of these physicians. We examined the school of origin of 3773 Latin American graduates in the United States who were not interns or residents. These data are summarized in Table 1. It may be noted that 83% of all Latin American physicians in the United States are graduates of just nine schools. A more detailed breakdown by school and country appears in Table C of the Appendix.

TABLE 1
LATIN AMERICAN MEDICAL SCHOOLS HAVING LARGEST NUMBER OF
GRADUATES IN USA*
(Does not include interns or residents)

<u>School</u>	<u>Number</u>	<u>%</u>	<u>Cumulative %</u>
Total	3773	100%	100%
University of Havana, Cuba	1300**	34.9	34.9
National University, Mexico City	623	16.3	51.2
University of Santo Domingo, D. R.	294	7.7	58.9
University of Buenos Aires, Arg.	286	7.5	66.4
San Marcos University, Lima, Peru	186	4.8	71.2
Univ. of Nuevo Leon, Monterrey, Mex.	185	4.8	76.0
National University, Bogota, Col.	113	2.9	78.9
National School of Medicine, Haiti	76	2.0	80.9
University of Cordoba, Arg.	65	1.7	82.6
Fifty-eight other schools	645	16.9	100
Forty-six other schools	0	0	0

* Data from AMA Census of early 1966

** Estimate

Seventy-one of the 113 Latin American schools have graduates in the United States.

The data are more meaningful when evaluated in the light of the populations and the rates of production of physicians of these countries. Figure 3 shows for selected countries the number of physicians per million population entering the United States with immigrant visas in the year ending June 30, 1965. Figure 4 shows the ratio of "potential immigrants" as an approximate percentage of the annual number of graduates in that country. As pointed out above, a substantial portion of those who obtain immigrant visas will not immigrate. This latter percentage varies from country to country but less than 60% of those from some countries with immigrant visas will immigrate. Nevertheless, these figures make it possible to crudely estimate for each country the extent to which immigration represents a drain or potential drain on manpower.

Location within the United States. These graduates of Latin American schools are widely disseminated throughout the United States. There are, however, tendencies for the graduates of some schools to congregate in certain states. There are more Latin American graduates in New York than in any other state. Yet, only 296 (12%) of a total of 2471 (non-Cubans who are not interns or residents) are living in New York. Of 294 graduates of the University of Santo Domingo, 67 are in New York and 79 are in Puerto Rico. Altogether, 259 graduates of Latin American schools are in Puerto Rico. Most of these (152) are graduates of the National University of Mexico. Twenty-one (28%) of the 76 graduates of the Haiti medical school reside in Illinois. Eighty-four (45%) of the 185 graduates of the University of Nuevo Leon (Monterrey, Mexico) reside in Texas. Other than these concentrations, there are no striking congregations of Latin American graduates within the United States.

POTENTIAL PHYSICIAN IMMIGRANTS TO U.S.A. PER MILLION POPULATION

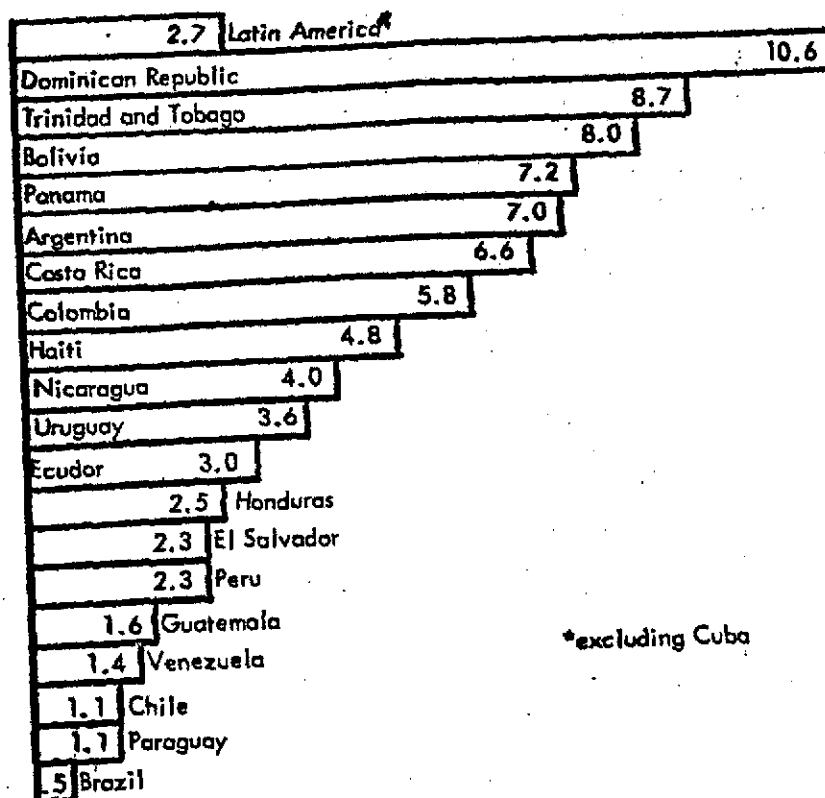


FIGURE 3

POTENTIAL IMMIGRATION TO U.S.A. AS PERCENT OF ANNUAL OUTPUT OF PHYSICIANS

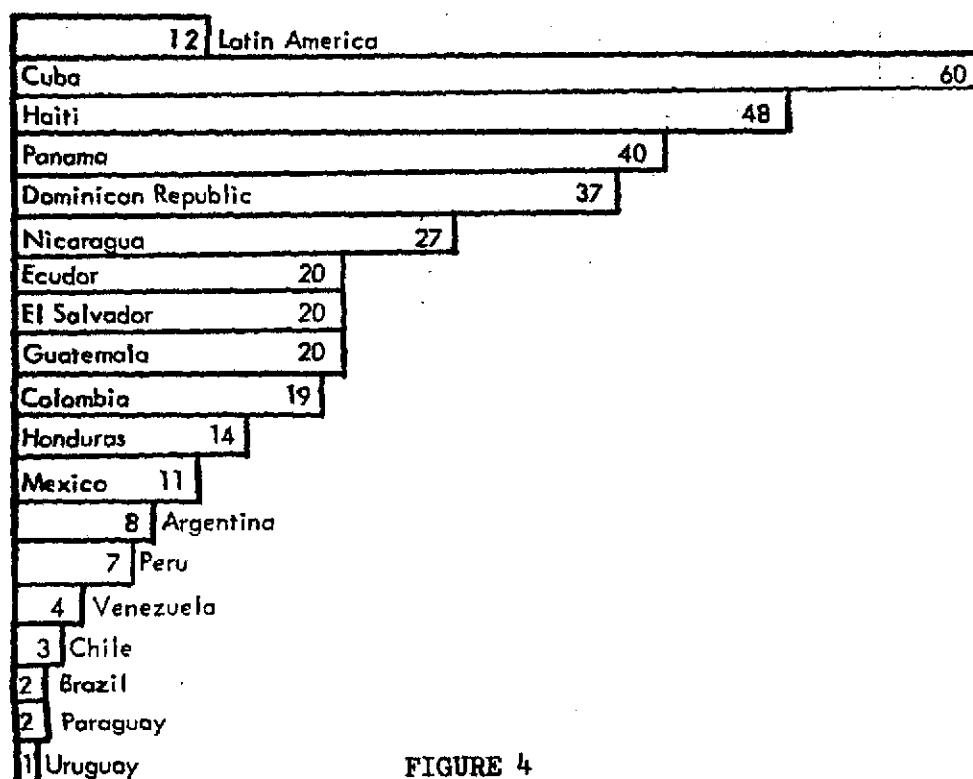


FIGURE 4

Status of citizenship. Data on the citizenship of Latin American graduates in the United States are incomplete. We made a sample survey of some information provided by AMA which suggested that roughly half of the natives of Latin America in the United States are naturalized U. S. citizens (interns and residents excluded). Most of those who graduated before 1950 have changed citizenship and most of those who graduated after 1955 have not become U. S. citizens.

Professional activities and specialties. The general nature of professional work of Latin American graduates in the United States is known for 2471 non-Cubans who are not interns and residents. Our analyses of 1966 data supplied by the AMA showed that 806 of the 2471 (33%) are full-time specialists in private practice, 481 (20%) are general practitioners in private practice, 724 (30%) are employed as hospital staff, 104 (4%) are paid by medical schools as full-time faculty members, 137 others (5%) are primarily in research work but do not receive a majority of their income from a medical school, 21 (1%) are in administrative work, 72 (3%) are in laboratory medicine (67 of these are pathologists not in private practice), 44 (2%) are in preventive medicine, 75 (3%) are not in practice, and 5 are retired.

This distribution of activities is similar to that of physicians of the same age-group who are graduates of U. S. schools. The proportion of pathologists and "hospital staff" is, however, somewhat higher among Latin American graduates.

We also analyzed data on the specialties of the Latin American graduates and found that generally, the proportion in the various specialties was similar to that for physicians who are domestic graduates. Among the 2471, 574 were generalists. The most popular specialties were General surgery, 254; Internal Medicine, 230; Psychiatry, 219; Pathology, 172; and Pediatrics, 161. Anesthesiology was a common specialty; 121 or 5% were anesthesiologists. In contrast, less than 1% of all U. S. physicians are anesthesiologists.

The distribution of professional activities varied significantly among the different schools and countries. Ten per cent of all Latin American graduates

were in full-time academic work (research workers or medical school faculty) but this percentage was much higher for the graduates of the University of Buenos Aires (22%), the University of Cordoba, Argentina (22%), and for the graduates of Brazilian schools (24%). (The Brazilian graduates were grouped together because there were only a small number from each of 14 schools (total of 98 of which 24 were in full-time academic work). In contrast, only 6% of the graduates of the National University of Mexico were in full-time academic work. Seven per cent of the Santo Domingo graduates were not doing medical work while only 2% of the graduates of other schools were employed in non-medical fields.

A census in the academic year 1961-62 counted 43 Latin American students in U. S. and Canadian Schools of Public Health.⁽⁶⁾ Data concerning how many of these were physicians are not available and no information is available on their visa status.

Research trainees. There are roughly 350 Latin American physicians in the United States who are engaged primarily in research training. Information concerning foreign medical research trainees in the United States has been recently published⁽⁵⁾. Table D in the Appendix gives the number of research trainees by country, who were supported in 1964 by the National Institutes of Health through training grants to U. S. institutions. Most of these 206 trainees, but not all, were physicians. Through this mechanism alone, NIH supported 50 research trainees from Argentina, 32 from Cuba, 25 from Mexico, 18 from Brazil and 13 from Chile, Colombia and Peru. Table D gives the visa status of those trainees who are not U. S. citizens. About half held immigrant visas. Table D also shows that NIH supported, in this manner, 55 additional trainees who were U. S. citizens born in Latin America,

Table E in the Appendix shows by country the number of Latin American trainees supported by the NIH International Fellowship Program in the years 1958-65. During this period, 124 Latin Americans have received NIH postdoctoral fellowships for

study in the United States. Nineteen of these fellowships were awarded to Latin Americans in 1965.

Table F in the Appendix gives data gathered in 1962 on 99 research trainees who were supported by NIH through training grants to U. S. institutions between 1955 and 1960. These trainees were all born in Latin America. Twenty-five were U. S. citizens when they began their research training and 74 were citizens of other countries. Follow-up data gathered two to seven years after the beginning of the U. S. research training are presented in Table F. Of 67 who were not U. S. citizens when research training began, 22 or 33% were still in the United States, while 42 (63%) had returned to their native countries in Latin America. Three (4%) had left the United States but were not in their native countries. However, two of the three had returned to Latin America. Other information was available on the group of 22 who were still in the United States. This information suggested that as many as half of these might later return to Latin America. These and other data suggest that roughly 25% of the Latin American medical research trainees who are not U. S. citizens when they begin training have been immigrating in recent years while a majority have returned to Latin America.

Information was available on 49 of these research trainees who had returned to Latin America. Seventy-five per cent were engaged to some extent in teaching, and 70% were doing research. Those who were engaged in research spent an average of about 40% of their time in research and those in teaching were devoting an average of 21% of their time to teaching. Altogether about 65% were devoting a majority of their time to academic pursuits and 85% were doing some academic work.

A sample survey in 1962 of research projects supported by NIH grants (these are different from the training grants mentioned above) identified 37 citizens of Latin American countries. Since this sample included about 10% of the

biomedical research workers in the United States in 1962, there were probably about 300-400 Latin American biomedical research workers in the United States. Probably about 250 of these were physicians and some of the physicians were research trainees. In the same survey, which included roughly 10% of U. S. biomedical research workers, there were also 9 U. S. citizens born in Latin America. Since 1962 there has been an increase in the number of research workers in the United States who are natives of Latin America.

Scientists and teachers. We have recently analyzed data supplied in early 1966 by the AMA on 2471 Latin American physicians in the United States. This group of 2471 includes almost all graduates of Latin American schools who are not Cubans, interns or residents. In this group, 241 or 10% held academic positions as research workers or medical school faculty. There were others, such as full-time members of hospital staffs who also performed academic work, but we undertook to analyze the status of the 241 who described themselves as primarily research workers or full-time faculty.

We sent questionnaires to 75 of the Latin American graduates who were in full-time academic work. This questionnaire is the last item in the Appendix. Five of the questionnaires were returned because the address we had was not correct. Probably about 65 actually reached the intended recipient and 49 of these were completed and returned, (about 75%). One of these Latin American graduates was a native of the United States and was excluded, leaving a group of 48 whose replies were analyzed. This sample of 48 represented 25% of the group of 241 full-time academic workers described above.

All of these academicians had graduated prior to 1961. Four had graduated in 1960, 21 between 1955 and 1959, 13 between 1950 and 1954, 7 between 1940 and 1949, and 3 prior to 1940. All of those who were U. S. citizens had graduated before 1956. Seventeen were U. S. citizens and 31 were citizens of other countries. Only 5 of these 31 graduated before 1954.

Visa status was learned for 28 of the 31 who were not U. S. citizens. Sixteen

had immigrant visas, 8 had permanent resident visas and 4 had visitor visas. Of the 31 who were not U. S. citizens, 10 had licenses to practice in the state of residence, 3 had temporary licenses, and 15 were unlicensed. The licensure status of two is unknown. In the group of 18 U. S. citizens, 13 had licenses and 5 did not.

In 43 instances, we were able to learn the primary purpose of their first visit to the United States. Eighteen came initially for internships, 13 as residents, 11 as research trainees and one as a faculty member.

Twelve of the 14 U. S. citizens who answered the question indicated that they definitely planned to remain permanently in the United States. One indicated that he definitely planned to return, and one indicated that he probably would return. The answers of those who were not U. S. citizens were quite different. Five of the 37 said they definitely planned to return, 7 more said they probably would return, and 14 indicated that they might return although this was not likely. Only five of 37 had definitely decided to stay permanently in the United States.

Forty-seven of the 48 academicians were married. Twenty married U. S. natives, 18 married natives of their own country and 9 of the wives were natives of other countries. In six of these nine instances the husband had left his native country (such as Paraguay) to attend medical school in another country (such as Argentina) and eventually married a woman from that country. It appears that in some cases the decision to immigrate preceded marriage to a U. S. native. It seems likely that in some of the twenty instances the marriage played a role in the decision to immigrate. The information we have suggests that among the 48 academicians there were perhaps 10 or 15 cases in which marriage to a U. S. citizen was an important factor in the decision to immigrate.

Interns and residents. In 1963 there were 1631 interns and residents in the United States who were graduates of Latin American schools⁽⁴⁾. Our analysis of AMA data for early 1966 suggests that there are now about 2200. In 1963 there were 334 from Cuba, 256 from Mexico, 248 from Argentina, 235 from Colombia, 120 from Peru, 105 from the Dominican Republic and 37 from Central America (including

Panama). Since the average duration of stay is about three years⁽⁵⁾ for those who return, it appears that about 700 Latin American graduates now enter the United States annually to begin internship^s or residencies. Roughly 100 of these are U. S. citizens and in recent years about 120 have been Cubans. Thus the number of non-Cuban Latin Americans who enter annually for internships or residencies is roughly 480. If present trends continue, about two-thirds of these will return to their own countries and roughly one-third will stay permanently in the United States. In addition, some of those who return may be expected to immigrate to the United States at a later time. Most Latin American physicians who have immigrated to the United States, about 80%, have been interns or residents in U. S. hospitals. Data from a variety of sources suggest that roughly half of those Latin Americans who have gone to the United States as interns or residents in recent years have immigrated or will immigrate to the United States. Some of those who have entered the United States as postgraduate trainees have planned from the beginning to immigrate, but a large majority do not make this decision until later.

Biographical data were examined on a 10% sample of the foreign graduates who received their first U. S. license in 1962 (U. S. natives excluded). Twenty-seven of these were Latin Americans, 11 from Cuba and 16 from other countries. All of the 16 had either internships or residencies in the United States. Fourteen of the 16 had had internships in the United States. These 16 licensees had graduated between 1940 and 1960. The average number of years between graduation and entry to the United States was three years. The average duration between graduation and U. S. licensure was 8 years.

Latin Americans in U. S. medical schools. Data gathered by the AMA indicate that in the academic year of 1961-62 there were 71 Latin American students in U. S. medical schools. There were 25 from Central America, 34 from South America and 27 from "North America" (Mexico and the Caribbean?). This suggests that about

15-20 Latin Americans graduate from U. S. medical schools annually. Neither the visa status nor the subsequent movements of this group are known.

CAUSES OF IMMIGRATION

The factors which influence the rate of immigration are summarized in Figure 5. The forces which tend to increase or decrease immigration have been evaluated in several ways. Many physicians throughout Latin America who did not immigrate were interviewed. This group included those who had and had not received post-graduate training in the United States. A large number of immigrants and potential immigrants in the United States were consulted. A questionnaire designed specifically to evaluate these factors was completed by 75 Latin American citizens who are residents of the United States. This questionnaire appears as the last item in the Appendix. The results of other studies on interns, residents and research trainees have been reported elsewhere⁽⁴⁾⁽⁵⁾.

The reasons for immigrating or for not immigrating to the United States vary from country to country and within countries among individuals. The decision to leave or remain in the native country is usually influenced by several factors but often a single factor will be quite decisive. For example, marriage to a citizen of the United States may greatly influence a decision to immigrate, while the offer of a specific job at home may be decisive in the repatriation of a Latin American.

The factors shown in Figure 5 are listed in their approximate order of importance. This estimate of "importance" is based on a consideration of how frequently the factor applies and the degree to which it is likely to be highly influential in determining whether a physician will leave or remain in his native country. For example, personal political persecution is not often the cause of immigration but when this factor applies it may be decisive. On the other hand, The requirement to pass the examination of the Education Council for Foreign

FACTORS INFLUENCING IMMIGRATION OF LATIN AMERICAN PHYSICIANS TO USA

ENCOURAGE IMMIGRATION	INHIBIT IMMIGRATION
Lack of professional opportunity	Lack of fluency in English
Very low income	Adequate local career opportunities
Poor resources and facilities	Adequate salary (does not have to equal USA salaries)
Poor professional environment	Equipment, resources, facilities
Professional politics	Good professional environment
Political instability, limitation of personal or professional freedom	Advancement based on professional merit
Lack of immigration quotas	Medical education of poor quality
Professional opportunities in USA	Patriotism, loyalty to local society and country, pioneer spirit
Marriage to US native	Political stability and freedom
Liberal State (US) licensure laws	Social and family ties
Good medical schools	Licensing requirements in USA
Postgraduate training in the USA	Good postgraduate training opportunities in Latin America
High quality	Requirement to leave USA for those with visitor visas
Long duration	ECFMG examination
High salaries	
Training irrelevant to medical priorities in Latin America	
Fluency in English	

FIGURE 5

Medical Graduates applies to most potential immigrants since all who wish to take internships or residencies in the United States must pass it. Thus the ECFMG examination limits to some extent the number of potential immigrants but it is not of great importance in inhibiting immigration. This is because most Latin American physicians who have the fluency in English and the professional competency to obtain licenses and pursue careers in the United States can pass the ECFMG examination. Those who cannot pass this examination usually would not wish to immigrate and they usually lack the kind of qualifications necessary to pursue careers in the United States. On the other hand, the lack of adequate career opportunities locally very frequently promotes immigration and in a majority of cases this is a primary consideration.

Although fluency in English, good undergraduate medical education in Latin America and postgraduate training opportunities in the United States all have a potentiality for increasing the rate of immigration, none of these factors in themselves cause immigration.

If one were to take the position that immigration is undesirable one can examine Figure 5 to see which of the nineteen listed factors are susceptible to change. It is apparent that modification of some of these determinants would be unwarranted even though such changes would tend to control the rate of immigration. For example, maintaining a poor medical education system would reduce the number of potential immigrants but this is obviously undesirable. There remain, however, a variety of factors which are susceptible to modification. For example, the immigration rate would be reduced by improvements in postgraduate training programs & career opportunities in Latin America, and by encouraging postgraduate training in the United States only when the training is relevant to the circumstances which exist in Latin America.

There are three kinds of political factors which have promoted emigration. One of these, not frequent, was personal political persecution. A second political

difficulty, more general in character, was the kind which results in a lessening of professional freedom and/or stability. These latter difficulties of the medical profession are part of the broader problems of the Latin American people, an evaluation of which is beyond the scope of this discussion. However, there is a third kind of "political" difficulty which the medical profession could have more influence in mitigating. Many emigrants and potential emigrants charge that professional advancement is not based on merit or accomplishment. They say they would be willing to live and serve in Latin America at levels of income substantially below those they could earn in the United States provided that prospects for professional advancement were more related to professional merit and less related to political, social or economic influence.

Almost without exception, potential immigrants are drawn to their native countries by a genuine loyalty and patriotism. In most cases immigration occurs only if other contrary forces of considerable importance outweigh this desire to work in their native countries. Most potential immigrants are willing to work in their own countries under economic, social and professional conditions which are in many respects inferior to those in the United States. Most of the immigrants we interviewed would like to have stayed in their own countries. Immigration seldom occurred except when repatriation required very considerable personal or professional sacrifices.

Although postgraduate training in the United States is a major factor in increasing the rate of immigration there is a great deal of evidence that such experiences are not necessarily associated with a high risk of emigration. Appraisal of the programs of the Kellogg and Rockefeller Foundations, the International Fellowship Program of NIH, and the training programs of PAHO, ICA and AID indicates that under certain conditions U.S. training is associated with a very low rate of "defection." Some common characteristics of these programs include: well-planned, well-timed training experiences for well-selected trainees.

The training is specifically conceived to fit the career prospects of the trainee, and support is often contingent on reasonable evidence that circumstances will permit the application of such training. Often provision has been made for providing support of the initial phase of the career of the returnee. These successful programs are not characterized by rigidity of policies, rather the most characteristic feature is simply sensible advance planning in arranging the training experience.

EFFECTS

From a purely quantitative aspect, these immigration losses of Latin America while highly significant, are not catastrophic in magnitude as far as the region as a whole is concerned. On the other hand, the data in Figures 3 and 4 and in Table A of the Appendix show that the rates of immigration are quite uneven from country to country. The losses and potential losses of Haiti, the Dominican Republic, Bolivia, Colombia, and the Central American countries are quite substantial in relation to the capacities of these countries to produce physicians. Argentina is losing many physicians but this number is relatively modest in proportion to the rate of production of physicians in Argentina. In proportion to its population and rate of production of physicians, the losses of Brazil are quantitatively insignificant.

The gain realized by the United States is substantial. Even ignoring the Cuban migration, it would take three academic medical centers of average size to produce this many physicians (300 per year). To say nothing of the cost of building three teaching medical centers, it would cost more than 15 million dollars annually to operate them. The dollar value of this manpower approximately equals the cost of all U. S. medical assistance to Latin America.

One of the most important questions concerning this migration is the extent to which potential leadership is being lost. Even though the manpower drain is quantitatively modest, it could have a profound effect on the development of

some of these nations if the losses included a large fraction of those young physicians with outstanding potential. It has not been possible to apply any precise methods or criteria in attempting to compare the capacities of those who migrate and those who do not. Moreover, generalizations for Latin America are subject to exceptions because the nature of the migrations vary from country to country. Therefore, conclusions with respect to this matter need be cautious and tentative. With those reservations the following judgements are offered.

In general the migrants originate from the stronger Latin American medical schools. Most of the recent immigrants are in clinical practice in the United States either privately or as members of hospital staffs. The capacities and potentialities of this group seem to be roughly comparable to those of their classmates who did not migrate. The group of migrants who enter clinical practice seems to contain those with average native ability, above average ability, and some with ability which is below average. Eleven immigrant practitioners from seven schools in five Latin American countries were asked to indicate whether those who migrated to the United States were, in general, average in ability, decidedly below average or decidedly above average (see question 16 of the questionnaire in the Appendix). All of the eleven respondents characterized the ability of migrants in their graduating class as average.

We found no evidence that the migration of potential practitioners contained an unusual number of outstanding graduates. On the other hand, there is some evidence that there is in the group of migrants and potential migrants a substantial number who are interested in academic careers. We found in this subgroup an impressively large number of exceptionally talented persons. The academicians in the United States who were Latin American graduates believe that Latin America is losing some of its best physicians through immigration to the United States. Forty responded to question number 16 in the questionnaire. In comparing immigrants to their other classmates, only one of forty thought that,

in general, immigrants were below average. Sixteen characterized immigrants as average but 23 thought they were definitely above average. Here is a rather typical comment made in response to our questionnaire by an Assistant Professor at a U. S. medical school who is a native of Latin America. "This 'brain drain' from Latin American countries is certainly very obvious in the areas of those individuals who are interested in basic research and academic medicine. I know a goodly number of these individuals who were superbly trained in many areas of medicine and returned back to their native countries to find themselves beset with almost impossible difficulties."

We have no data which would permit a determination of the percentage of potential academic leaders who are immigrating to the United States. It has been noted above that, excluding Cuba, about 5% of the recent Latin American graduates have been immigrating to the United States. Indirect evidence suggest that a much higher percentage of those physicians who are potential scientists and teachers are being lost through immigration, perhaps 25%.

Finally, it should be noted that there are in the United States a large number of young Latin American scientists, teachers, and potential scientists and teachers who have not made a definite decision concerning their country of permanent residence. There are probably as many as 100 highly-trained physicians who would return to Latin America to pursue academic careers if suitable opportunities were available. Most of these persons would not require ideal working conditions or large salaries, but they would require a certain minimum of academic stability and opportunity. Probably about fifty Latin American physicians who are academicians or research trainees are immigrating to the United States each year. This is the most important aspect of the migration problem. Fortunately, it is a difficulty which could be mitigated, at least to some extent.

APPENDIX

TABLE A
GRADUATES OF LATIN AMERICAN MEDICAL SCHOOLS
LICENSED BY EXAMINATION IN THE USA, 1960-64*

COUNTRY	1960	1961	1962	1963	1964
<u>GRAND TOTAL</u>	<u>292</u>	<u>301</u>	<u>407</u>	<u>498</u>	<u>600</u>
Total excluding Cuba	<u>215</u>	<u>222</u>	<u>261</u>	<u>298</u>	<u>345</u>
<u>Argentina</u>	<u>28</u>	<u>46</u>	<u>64</u>	<u>67</u>	<u>83</u>
1. Universidad Nacional de Tucumán, Facultad de Medicina, Tucuman	3	0	0	1	0
2. Universidad Nacional de Buenos Aires	21	32	43	54	61
3. Universidad Nacional de Córdoba	4	7	9	9	12
4. Universidad Nacional del Litoral, Rosario	0	3	8	2	9
5. Universidad Nacional de La Plata Escuela de Ciencias Médicas	0	4	4	1	1
6. 4 other schools	0	0	0	0	0
<u>Bolivia</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>8</u>	<u>6</u>
1. Universidad Mayor de San Andrés, La Paz	2	1	0	2	1
2. Universidad Mayor de San Francisco Xavier, Sucre	1	1	1	2	2
3. Universidad de San Simón Facultad de Medicina, Cochabamba	1	1	1	4	3
<u>Brazil</u>	<u>7</u>	<u>9</u>	<u>10</u>	<u>10</u>	<u>13</u>
1. Universidade de Recife, Pernambuco	0	0	0	0	1
2. Faculdade de Medicina, Cirurgia e Pharmacia, Bahia	0	0	0	0	2
3. Faculdade Fluminense de Medicina, Niteroi, Rio de Janeiro	0	0	3	2	2
4. Escola Paulista de Medicina, São Paulo	0	0	0	1	0
5. Universidade do Brazil, Rio de Janeiro	3	2	1	6	5
6. Universidade de São Paulo	1	0	2	1	0
7. Universidade do Paraná, Curitiba	1	1	1	0	1
8. Faculdade de Medicina de Ribeirão Preto	0	1	0	0	2
9. Faculdade de Medicina e Cirurgia do Pará, Pará	2	0	0	0	0
10. Universidade do Brazil, Faculty de Med. Cirurgia e Pharmacia, Rio de Janeiro	0	1	1	0	0
11. Faculdade de Ciencias Medicas. Rio de Janeiro	0	1	0	0	0
12. Universidade de Minas Gerais, Faculdade de Medicina, Minas Gerais	0	3	2	0	0
13. 18 other schools	0	0	0	0	0
<u>Chile</u>	<u>5</u>	<u>3</u>	<u>5</u>	<u>10</u>	<u>5</u>
1. Universidad de Chile, Santiago	4	3	5	9	5
2. Universidad Católica de Chile, Santiago	1	0	0	1	0
3. 2 other schools	0	0	0	0	0
<u>Costa Rica</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
1. Facultad de Medicina Universidad de Costa Rica (new school)	0	0	0	0	0

* The data show the number of licenses which is more than the number of individuals because some individuals are licensed in more than one state. The number of individuals is roughly 50% as great as the number of licenses.

<u>COUNTRY</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>
<u>Colombia</u>	<u>8</u>	<u>13</u>	<u>26</u>	<u>23</u>	<u>44</u>
1. Universidad Nacional, Bogotá	4	8	19	17	22
2. Universidad de Antioquia, Medellín	1	3	2	3	5
3. Universidad de Cartagena Facultad de Medicina, Cartagena	1	0	2	3	8
4. University Javeriana, Bogota	2	2	3	0	7
5. Universidad del Valle, Cali	0	0	0	0	2
6. 2 other schools	0	0	0	0	0
<u>Cuba</u>	<u>77</u>	<u>79</u>	<u>146</u>	<u>200</u>	<u>255</u>
1. Universidad de La Habana	77	79	146	200	255
2. 1 other school	0	0	0	0	0
<u>Dominican Republic</u>	<u>31</u>	<u>33</u>	<u>24</u>	<u>28</u>	<u>46</u>
1. Universidad de Santo Domingo	31	33	24	28	46
<u>Ecuador</u>	<u>5</u>	<u>4</u>	<u>11</u>	<u>7</u>	<u>4</u>
1. Universidad Central, Quito	5	4	8	5	2
2. Universidad de Guayaquil Facultad de Medicina, Guayaquil	0	0	2	2	2
3. Universidad de Cuenca Facultad de Medicina, Cuenca	0	0	1	0	0
<u>El Salvador</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>2</u>
1. Universidad de El Salvador, San Salvador	0	1	1	1	2
<u>Guatemala</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>2</u>
1. Universidad Nacional de Guatemala	2	0	0	0	2
<u>Haiti</u>	<u>10</u>	<u>6</u>	<u>4</u>	<u>9</u>	<u>12</u>
1. Ecole Nationale de Medecine, Port-au-Prince	10	6	4	9	12
<u>Honduras</u>	<u>2</u>	<u>0</u>	<u>2</u>	<u>3</u>	<u>0</u>
1. Universidad Central de la República de Honduras Facultad de Medicina, Cirugía y Farmacia, Tegucigalpa	2	0	2	3	0
<u>Jamaica</u>					
1. No information	0	0	0	0	0
<u>Mexico</u>	<u>94</u>	<u>78</u>	<u>83</u>	<u>98</u>	<u>92</u>
1. Universidad Michoacana de San Nicolás de Hildago Michoacan	0	0	0	3	0
2. Universidad Nacional Autónoma, Mexico City	48	48	58	53	48
3. Escuela de Medicina de Nuevo Leon	41	21	14	28	26
4. Universidad de Guadalajara	1	5	4	5	7
5. Universidad Autónoma de San Luis Potosí	1	1	2	3	0
6. Universidad Autónoma Facultad de Medicina, Guadalajara	0	0	0	3	7
7. Universidad de Tamaulipas Escuela de Medicina, Tamaulipas	0	0	0	1	1
8. National Homeopathic Medical School, Mexico City	0	0	0	0	1
9. Univ. Nacional del Sureste, Fac. de Med., Yucatán	0	1	1	1	1
10. Universidad Libre, México	0	1	0	1	0

Graduates of Latin American Medical Schools
Licensed by Examination in the USA, 1960-64:

Page 3

COUNTRY

1960 1961 1962 1963 1964

Mexico (continued)

11. University de Puebla	0	1	4	0	1
12. Escuela Médico Militar, Mexico City	3	0	0	0	0
13. 9 other schools	0	0	0	0	0

Nicaragua

1. Universidad de Nicaragua, Granada (defunct)	<u>1</u>	<u>2</u>	<u>1</u>	<u>3</u>	<u>5</u>
2. Universidad de Oriente y Medicina, Granada (defunct)	1	2	1	2	4
3. Central University of Nicaragua, León	0	0	0	1	1
	0	0	0	0	0

Panama

1. Facultad de Medicina, Universidad de Panama	0	0	0	0	0
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Paraguay

1. National University of Paraguay	<u>2</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>2</u>
	2	2	1	2	2

Peru

1. Universidad Mayor de San Marcos, Lima	<u>16</u>	<u>21</u>	<u>26</u>	<u>26</u>	<u>29</u>
2. Facultad de Medicina de San Fernando	16	21	26	26	29
3. 3 other schools	0	0	0	0	0

} Combined

Uruguay

1. Facultad de Medicina de la Universidad de la República, Montevideo	0	0	0	0	0
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Venezuela

1. Universidad Central de Venezuela, Caracas	<u>0</u>	<u>1</u>	<u>1</u>	<u>3</u>	<u>0</u>
2. 5 other schools	0	1	1	3	0
	0	0	0	0	0

TABLE B

LATIN AMERICAN PHYSICIANS ADMITTED TO USA AS IMMIGRANTS IN 1965

<u>Country</u>	<u>Number</u>
Latin America	757
Latin America excluding Cuba	556
Mexico	110
Caribbean	260
Cuba	201
Dominican Republic	32
Haiti	20
Trinidad & Tabago	7
Central America	39
Costa Rica	8
El Salvador	6
Guatemala	6
Honduras	5
Nicaragua	6
Panama	8
South America	348
British Guiana	2
Argentina	140
Bolivia	28
Brazil	37
Chile	8
Colombia	82
Ecuador	13
Paraguay	2
Peru	25
Uruguay	1
Venezuela	10

TABLE C
LATIN AMERICAN MEDICAL GRADUATES IN USA
SCHOOL AND COUNTRY OF ORIGIN
(Does not include interns or residents)

<u>Country and School</u>	<u>Number</u>
Total for Latin America	3773
Argentina	399
University of Buenos Aires	286
University of Córdoba	65
University of La Plata	13
University of Rosario	31
University of Tucumán	4
Bolivia	34
San Andrés University, La Paz	12
San Francisco Xavier University, Sucre	4
San Simón University, Cochabamba	18
Brazil	101
School of Medicine, Surgery and Pharmacy, Bahia	6
University of Porto Alegre, Rio Grande do Sul	3
University of Brazil, Rio de Janeiro	33
São Paulo University	13
Pará School of Medicine and Surgery	3
University of Minas Gerais, Minas Gerais	7
Recife University, Pernambuco	7
Paraná University, Curitiba	6
Faculty of Medical Science, Rio de Janeiro	4
Ceará University, Fortaleza, Ceará	1
Ribeirão Preto School of Medicine	5
Paulista School of Medicine, São Paulo	5
Faculdade Fluminense de Medicina, Niterói, Rio de Janeiro	3
Three other Brazilian schools	5
Chile	48
Chile University, Santiago	48
Colombia	211
National University, Bogotá	113
Cartagena University, Cartagena	26
Antioquia University, Medellín	22
Catholic University, Bogotá	39
Faculty of Medicine, Cali	9
Caldas University, Manizales	1
Cauca University, Popayán	1

<u>Country and School</u>	<u>Number</u>
Cuba	1300*
Havana University	1300*
Dominican Republic	294
Santo Domingo University	294
Ecuador	65
Central University, Quito	49
Cuenca University, Cuenca	1
Guayaquil University, Guayaquil	15
El Salvador.	22
University of El Salvador, San Salvador	22
Guatemala	13
University of Guatemala	13
Haiti	76
School of Medicine and Pharmacy, Port-au-Prince	76
Honduras	12
University of Honduras	12
Mexico	933
National University, Mexico City	623
Nuevo León University, Monterrey	185
Guadalajara University, Guadalajara	46
School of Medicine, San Luis Potosí	11
Military School of Medicine, Mexico City	6
Faculty of Medicine, Mérida	11
Faculty of Medicine, Morelia	1
School of Homeopathy (Escuela Libre)	5
School of Homeopathy, Puebla	2
School of Medicine, Oaxaca	1
Autónoma University, Guadalajara	21
School of Homeopathy, National Polytechnical Institute, Mexico City	10
Puebla University, Puebla	8
Tampaulipas University, Tampico	2
Veracruz University, Veracruz	1

*Estimated

<u>Country and School</u>	<u>Number</u>
Nicaragua	29
University of Nicaragua, León and Granada	25
Southeastern University, Granada	1
Central University, León	3
Panama	4
National University, Panamá	4
Paraguay	14
National University of Asunción, Asunción	14
Peru	186
San Marcos University	186
Uruguay	7
University of the Republic, Montevideo	7
Venezuela	22
Central University of Venezuela, Caracas	14
University of the Andes, Merida	2
University of Zulia, Maracaibo	6
West Indies	3
University of the West Indies, Jamaica	3
Forty-six other schools	0

TABLE D

BIOMEDICAL RESEARCH TRAINEES* FROM LATIN AMERICA SUPPORTED BY NIH
TRAINING GRANTS TO US INSTITUTIONS IN 1964

Country	Citizens of Latin American Countries				US Citizens Born in Latin America
	Total	Immigrant Visa	Non-Immi. Visa	Visa Status Unknown	
Grand total for Latin America	206	102	86	18	55
Argentina	50	30	17	3	3
Bolivia	2	1	1	0	0
Brazil	18	12	6	0	2
British Guiana	0	0	0	0	1
Chile	13	3	9	1	3
Columbia	13	5	7	1	2
Cuba	32	27	2	3	10
Dominican Republic	0	0	0	0	5
Ecuador	3	3	0	0	0
El Salvador	1	0	0	1	0
Guatemala	12	0	6	6	1
Haiti	3	2	1	0	0
Honduras	0	0	0	0	2
Jamaica	4	0	4	0	0
Mexico	25	6	17	2	10
Nicaragua	3	1	2	0	1
Panama	5	2	3	0	3
Paraguay	2	2	0	0	0
Peru	13	6	6	1	4
Trinidad	0	0	0	0	6
Uruguay	2	2	0	0	0
Venezuela	5	0	5	0	2

*About 80% are physicians. About half of Latin American biomedical research trainees in the US are supported by this mechanism.

TABLE E
NIH INTERNATIONAL POSTDOCTORAL FELLOWSHIPS TO LATIN AMERICANS
1958-1965

<u>COUNTRY</u>	<u>YEAR</u>								<u>TOTAL</u>
	<u>58</u>	<u>59</u>	<u>60</u>	<u>61</u>	<u>62</u>	<u>63</u>	<u>64</u>	<u>65</u>	
<u>Latin America</u>	<u>0</u>	<u>16</u>	<u>11</u>	<u>13</u>	<u>17</u>	<u>29</u>	<u>19</u>	<u>19</u>	<u>124</u>
Argentina	0	2	2	1	1	4	3	1	14
Bolivia	0	0	0	0	0	0	1	0	1
Brazil	0	3	2	3	3	7	3	0	21
Chile	0	3	1	0	2	4	4	5	19
Colombia	0	1	1	1	3	2	2	2	12
Costa Rica	0	0	0	0	2	0	0	1	3
El Salvador	0	1	0	0	0	0	1	0	2
Mexico	0	2	3	3	1	3	1	3	16
Peru	0	2	1	2	2	6	2	4	19
Uruguay	0	2	1	3	0	2	1	2	11
Venezuela	0	0	0	0	2	1	1	1	5
West Indies	0	0	0	0	1	0	0	0	1

TABLE F

FOLLOW-UP AND CITIZENSHIP OF FORMER NIH RESEARCH TRAINEES FROM LATIN AMERICA
(Status in 1962 of those who started research training between 1955-1960)

<u>Country of Birth</u>	<u>No.</u>	<u>Returned to Country of Birth</u>	<u>Still in U.S.</u>	<u>In Third Country</u>	<u>Location Unknown</u>
TOTALS	99				
U. S. citizens	25	1	21	1	2
Citizens of Latin American countries	74	42	22	3	7
Argentina					
U.S. citizen at start of training in U.S.	2	0	2	0	0
Citizen of Argentina	21	13	8	0	0
Brazil					
U.S. citizen at start of training in U.S.	1	0	1	0	0
Citizen of Brazil	6	5	1	0	0
Chile					
U.S. citizen at start of training in U.S.	3	1	1	0	1
Citizen of Chile	2	1	1	0	0
Colombia					
U.S. citizen at start of training in U.S.	1	0	0	1 (Brazil)	0
Citizen of Colombia	9	0	3	0	6
Cuba					
U.S. citizen at start of training in U.S.	7	0	7	0	0
Citizen of Cuba	1	0	1	0	0
Mexico					
U.S. citizen at start of training in U.S.	7	0	6	0	1
Citizen of Mexico	15	11	3	0	1
Peru					
U.S. citizen at start of training in U.S.	0	0	0	0	0
Citizen of Peru	5	5	0	0	0
Venezuela					
U.S. citizen at start of training in U.S.	0	0	0	0	0
Citizen of Venezuela	4	4	0	0	0
Eight other countries					
U.S. citizen at start of training in U.S.	4	0	4	0	0
Citizen of Latin American Country	11	3	5	3 (Colombia) (Canada) (Chile)	0