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Abstracts and Reports

FACTS AND FIGURES ON HEALTH IN THE AMERICAS: A REVIEW OF MAJOR TRENDS[1]

It is highly desirable, from time to time, to review important long-term trends in the health conditions of our Region. The account that follows provides a brief general overview of such trends as they have evolved over the last 20 years.

Introduction

Health statistics provide a fundamental key for analyzing health situations and determining ways these situations are likely to evolve. It therefore seems appropriate, on the occasion of PAHO's 75th Anniversary, to provide a brief statistical review of current health trends in the Americas. This review, it should be noted, is oriented to the present. No effort has been made to scan PAHO's early years, partly because statistics for those times are not available, and partly because even if available they would contribute relatively little to PAHO's main task of dealing with current and future trends. Because of space limitations, the present review is necessarily restricted to some of the main variables considered essential for charting health problems and progress in the Americas. These variables include population size and distribution, life expectancy, childhood morbidity and mortality, nutritional status, health manpower levels, hospital resources, and water supply services. All of these variables have obvious relevance for public health and health planning in the Americas, since knowledge of them profoundly influences our understanding of current health problems and future needs.

[1]Report prepared by the Health Statistics Office, Division of Health Services, PAHO.

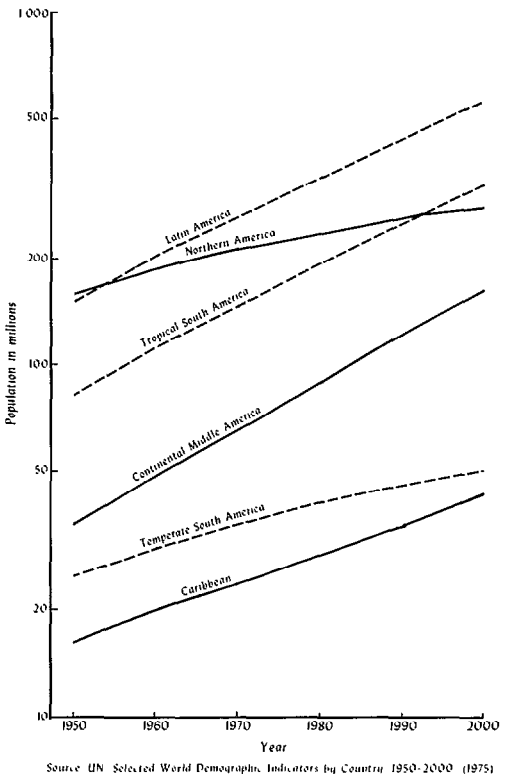
Population

General

Latin America's total estimated population in 1975 was 324 million people; however, that population is expected to nearly double over the last quarter of this century, growing to some 620 million by the year 2000 (see Figure 1). In contrast, the recent population growth of Northern America (an area including Bermuda, Saint Pierre and Miquelon, Canada, and the United States) has been relatively slow. That is, in 1970-1975 the average annual rates of population growth were 2.7 per cent in Latin America but only 0.9 per cent in Northern America. Because of this wide disparity, it is expected that Latin America's population, about equal to Northern America's in 1950, will be over twice as large as Northern America's by the year 2000.

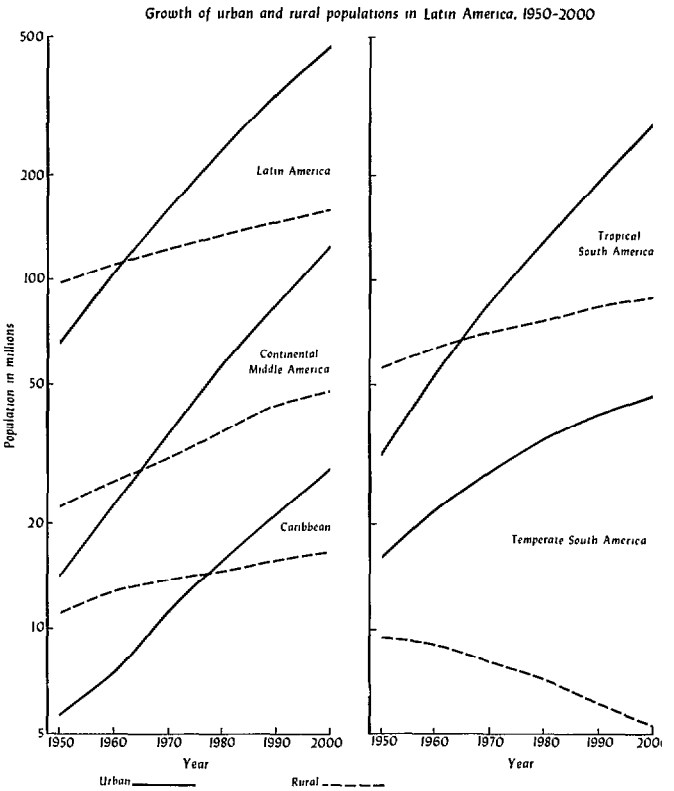
Figure 1 also shows population trends in the four subregions of Latin America during 1950-2000. These subregions, as defined by the United Nations, are as follows: the Caribbean Islands; Continental Middle America (the countries of Central America, Mexico, and Panama); Tropical South America (Bolivia, Brazil, Colombia, Ecuador, Guyana, Paraguay, Peru, Surinam, Venezuela, and French Guiana); and Temperate South America (Argentina, Chile, and Uruguay).

Figure 1. Population growth in Northern and Latin America, 1950-1975, and projected growth, 1975-2000.



Source: UN Selected World Demographic Indicators by Country 1950-2000 (1975)

Figure 2. Growth of urban and rural populations in Latin America, 1950-1975, and projected growth, 1975-2000.



As can be seen, the four subregions vary widely with respect to population growth. Those with the fastest-growing populations are Continental Middle America and Tropical South America, whose respective populations grew at average annual rates of 3.2 and 2.9 per cent over the years 1970-1975. The subregion with the lowest rate of growth is Temperate South America, whose population increased at an average annual rate of 1.4 per cent in that period.

Urban-Rural Patterns

Health problems and opportunities to provide health services are often related to a population's urban-rural distribution. Although definitions of "urban" and "rural" populations vary widely from country to country, and although United Nations estimates are generally based on these definitions, the available U.N. figures (for the period 1950-2000) do give a rough indication of the urban-rural proportions involved. Based on these proportions, urban and rural population estimates have been made for the regions of Latin America; these estimates are presented in Figure 2.

The results clearly show that Latin America's urban population has been growing much faster than its rural population. Consequently, the Latin American population, which had been predominantly rural prior to the mid-1960's, has since become predominantly urban. In 1960 the estimated proportion of urban dwellers in

Latin America was 48.5 per cent; in 1975 it was 60.4 per cent; and for the year 2000 it is projected at 75 per cent.

Life Expectancy

Since life expectancy is calculated from age-specific mortality rates, the accuracy of the calculation depends on reliable mortality data, by age, for the population covered. Unfortunately, underregistration of deaths is still a problem in many countries of the Americas, and information on the population's age distribution often lacks the reliability desired.

Working within these limitations, Table 1 provides data on life expectancy at birth for 18 countries at three periods of time—around the 1950 census year, around the 1960 census year, and around 1973. Figure 3 combines these countries into five groups according to their levels of life expectancy at birth in 1960.

Between 1950 and 1960 life expectancy in many countries showed substantial gains. Of the 13 Latin American countries with data around these two years, 9 achieved an increase of 5 years or more, and 2 showed increases of 10 years or more. The gains between 1960 and 1973 were not as marked as those between 1950 and 1960. Only 6 of the 16 Latin American countries with data showed an increase of 5 or more years, and 2 countries showed a decline. However, improvements in death registration could account for part of the difference between the two periods.

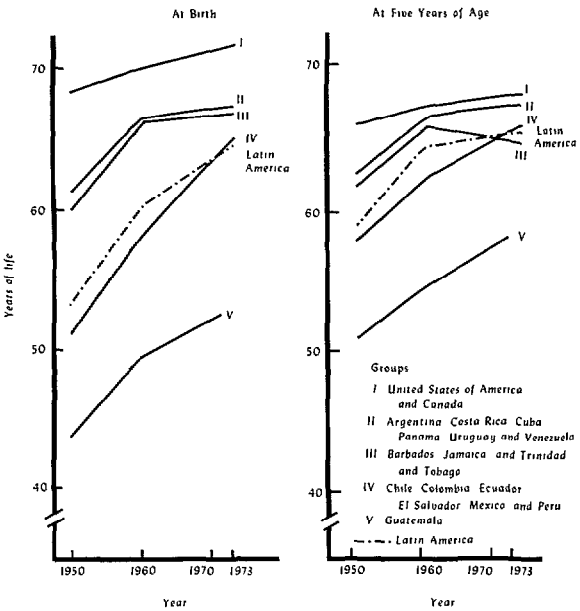
Trends for the five groups of countries in Figure 3 were as follows: Group I, consisting of Canada and the United States—where life expectancy at birth had already reached 70 years in 1960—showed an increase of 1.7 years over the 13 years between 1960 and 1973. Group II, which includes the Latin American countries with life expectancies above 65 years in 1960, showed an increase of 0.6 years (from 66.7 to 67.3) over the same period. A similar trend was observed for the English-speaking

Table 1. Life expectancy at birth by country, around 1950, 1960, and 1973.

Country	Around 1950		Around 1960		Around 1973	
	Period	Life expectancy in years	Period	Life expectancy in years	Period	Life expectancy in years
Argentina	1946-48	60.6	1959-61	65.5	1970	65.7
Barbados	..	...	1960	66.9	1973	69.1
Canada	1950-52	68.6	1960-62	71.4	1973	73.1
Chile	1951-53	54.0	1959-61	57.2	1973	64.6
Colombia	1950-52	52.2	1964	60.2	1972	65.2
Costa Rica	1949-51	56.5	1963	65.3	1973	71.0
Cuba	...	.	1961	69.7	1972	71.2
Ecuador	...	...	1962	56.6	1972	59.6
El Salvador	1949-51	51.4	1960-62	59.4	1973	64.7
Guatemala	1949-51	43.6	1964	49.4	1971	52.4
Jamaica	1952-54	59.1	1961	68.3	1971	66.7
Mexico	1949-51	48.8	1959-61	58.9	1973	64.9
Panama	1950	62.2	1959-61	65.8	1973	70.2
Peru	1949-51	57.4	1960-61	59.8	1972	68.0
Trinidad and Tobago	1945-47	54.1	1959-61	64.2	1972	67.1
United States	1949-51	68.3	1959-61	70.1	1973	71.6
Uruguay	1949-51	68.8	1963	68.7	1973	68.9
Venezuela	1950-51	58.0	1960-62	66.1	1973	65.8

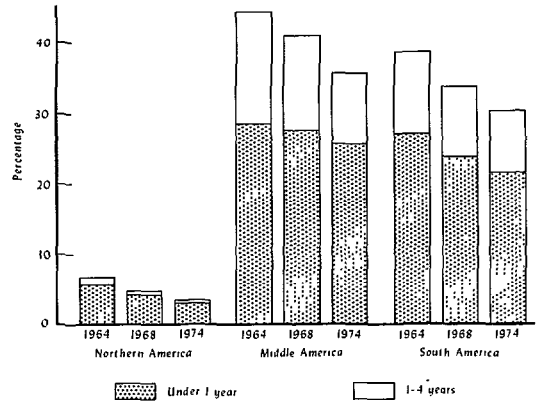
Source: Estimates prepared by Pan American Health Organization.

Figure 3. Life expectancy at birth and at five years of age in five groups of countries, and in Latin America as a whole, around 1950, 1960, and 1973.



Source Estimates prepared by the Pan American Health Organization

Figure 4. Percentages of deaths occurring at less than five years of age in three regions of the Americas in 1964, 1968, and 1974.



Caribbean countries of Group III (Barbados, Jamaica, and Trinidad and Tobago), where life expectancy rose 1 year—from 66.1 to 67.1. In contrast, the Group IV countries (Latin American countries with life expectancies between 55 and 65 years in 1969—namely, Chile, Colombia, Ecuador, El Salvador, Mexico, and Peru) showed an average increase of 6.8 years, from 58.2 to 65.0, over the 13-year period. The one Group V country, Guatemala, which had the lowest life expectancy of the sixteen Latin American countries considered, showed an increase of 3.9 years, from 48.5 to 52.4.

Child Mortality

Early childhood mortality clearly remains the critical health problem of Latin America. A study initiated by the Pan American Health Organization in collaboration with 10 member countries[2] has emphasized the need to obtain more complete natality and mortality statistics for the purpose of analyzing the problem and identifying high-risk groups.

Figure 4 shows the percentage of total deaths experienced by children under five years of age in three regions of the Americas[3] during the years 1964, 1968, and 1974. In Northern America this group accounted for about 3 per cent of all deaths in 1974. In contrast, deaths among children under five accounted for over a third of all deaths in Middle America that year, and for some three-tenths of all deaths in South America. Overall, early childhood mortality was about 10 times greater in Latin America than it was in Northern America.

As can be seen, substantial declines were registered in all three regions from 1964 to 1974, the percentage of early childhood

[2] R. Puffer and C. Serrano, *Patterns of Mortality in Childhood,* PAHO Scientific Publication No. 262, Pan American Health Organization, Washington, 1973.

[3] The three regions are Northern America (including Bermuda, Saint Pierre and Miquelon, Canada, and the United States), Middle America (Mexico, Panama, and the countries and territories of Central America and the Caribbean), and South America (encompassing both Temperate and Tropical South America).

mortality dropping from 44 to 36 per cent of the total in Middle America, from 38 to 30 per cent of the total in South America, and from 6.6 to 3.3 per cent of the total in Northern America.

Within this 0 to 5 age group, reported infant mortality (see Figure 5) has remained relatively high in most countries of Latin America. Furthermore, since registration of infant deaths is incomplete in many countries, actual death rates are likely to have exceeded those shown.

Figure 5 shows infant mortality trends in the three previously cited regions from 1960 to 1972.[4] The data indicate that infant mortality in Northern America declined by 30 per cent, from around 26 per 1,000 live births in 1960 to 18 in 1972. Middle America showed a 20 per cent decline, from 70 deaths per 1,000 live births in 1960 to around 56 in 1972; and South America showed a 26 per cent decline, from 85 deaths per 1,000 live births in 1960 to 63 in 1971.

Even greater reductions in mortality were observed for children 1 to 4 years of age (see Figure 6). Deaths in this group declined about 27 per cent in Northern America, from 1.1 per 1,000 population in 1960 to 0.8 in 1972. Middle America showed a 33 per cent decline, from 12.2 deaths per 1,000 population in 1960 to 8.2 in 1972; and South America registered an impressive 45 per cent drop, from 11.8 deaths per 1,000 population in 1960 to 6.5 in 1971.

It is essential that health plans for the future continue giving priority to child health. The Hemisphere has made progress during the past decade; but excessive mortality, much of it preventable by such measures as adequate vaccination programs, continues to persist. In this regard, mortality from diarrheal diseases can be reduced by improved environmental sanitation, and the death toll from various infectious and respiratory diseases in Latin America can be lowered by reducing the prevalence of malnutrition.

Mortality from Selected Communicable Diseases

Figures 7 through 11 show trends in mortality from three childhood diseases preventable by immunization—measles, acute

[4]There is insufficient basis for determining Middle and South American rates after 1971-1972, because data are not yet available for several countries.

Figure 5. Deaths in infancy (the first year of life) in three regions of the Americas, 1960-1972.

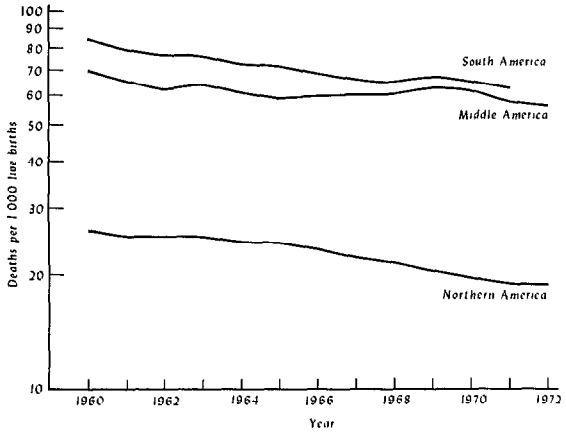
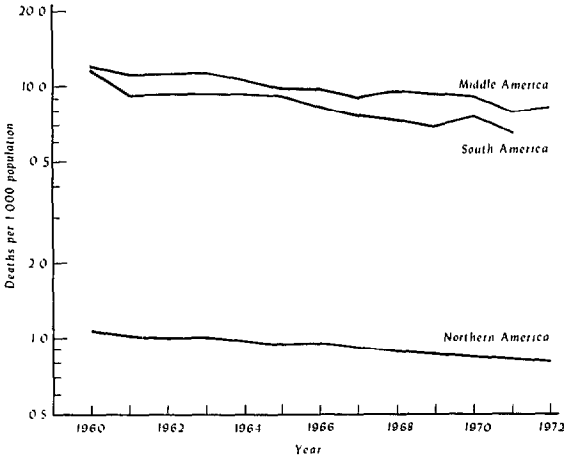


Figure 6. Deaths in the 1-4 year age group in three regions of the Americas, 1960-1972.



poliomyelitis, and whooping cough—and from tuberculosis and diarrheal diseases for the three regions of the Americas during 1965-1974.

For the two Latin American regions, these trends are based on available data which are substantially incomplete. That is, the data for South America exclude Argentina, Bolivia, Brazil, Guyana, Suriname, and French Guiana, thus representing only 35-36 per cent of the regional population. The data for Middle America represent a relatively larger share of the population—on the order of 83-84 per cent.

Poliomyelitis

The number of deaths from poliomyelitis in the Hemisphere is relatively small. As can be seen from Figure 7, the mortality rates for this disease continued to decline in all three regions of the Americas during the last 10-year period, but the drop has been more rapid in Northern America than in the Latin American regions. In 1972-1974 the annual average rates of poliomyelitis mortality for Middle America and South America were 0.33 per 100,000 population and 0.35 per 100,000 population respectively—many times higher than the annual rates for Northern America.

Measles

Mortality from measles generally declined in all three regions. As Figure 8 shows, measles death rates in the two Latin American regions tended to remain more or less constant between 1967 and 1972; nevertheless, considerable overall declines were generally observed for the 10 years as a whole. In Middle America, average annual measles mortality was 18.0 deaths per 100,000 population in 1965-1967 and 12.6 in 1972-1974, the latter figure representing a 30 per cent reduction. In South America the rate decreased by 22 per cent, from 14.1 in 1965-1967 to 11.0 in 1972-1974. An even sharper reduction in measles mortality was observed in Northern America, where the average annual rate decreased from 0.12 per 100,000 population in 1965-1967 to 0.01 in 1972-1974.

Figure 7. Deaths from acute poliomyelitis per 100,000 population in three regions of the Americas, 1965-1974.

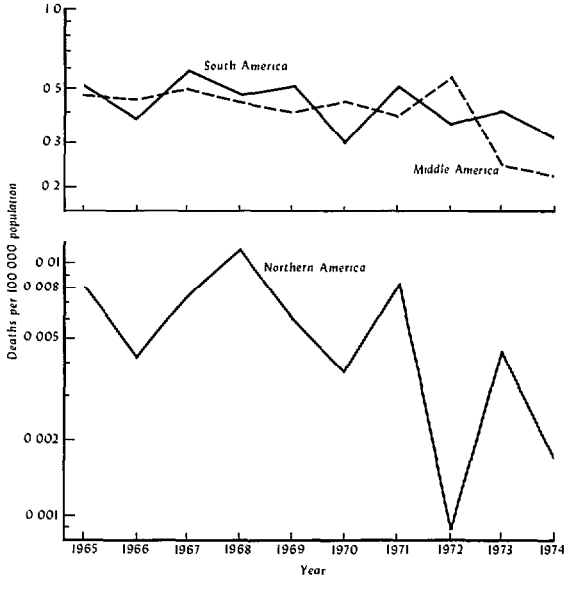
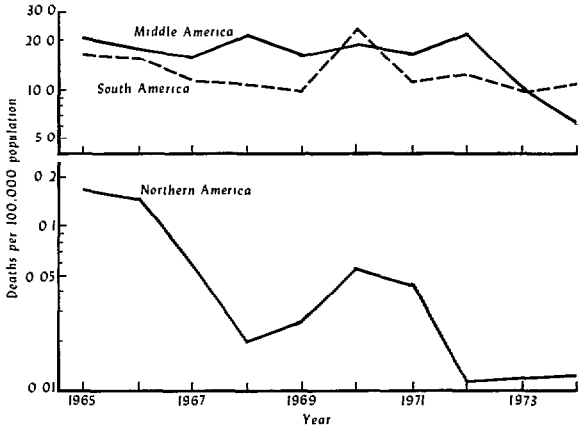


Figure 8. Deaths from measles per 100,000 population in three regions of the Americas, 1965-1974.



The high rates of measles mortality existing in Latin America, especially among undernourished children, are of deep concern to health workers. To attack this cause of excessive childhood mortality, preventive vaccination efforts should be intensified.

Whooping Cough

Despite the existence of an effective immunizing agent against whooping cough, this disease is still causing thousands of deaths each year in Latin America. In 1974, for example, nearly 10,000 such deaths were registered in Latin American countries for which data are available—a group accounting for 53 per cent of the area's total population. By comparison, that same year there were only 16 deaths from whooping cough in Northern America. As can be seen in Figure 9, besides being much lower than whooping cough mortality in Middle and South America, whooping cough mortality in Northern America declined much more rapidly in the 1965-1974 period.

Overall, annual average mortality from whooping cough in Middle America decreased 37 per cent during these years, falling from 11.9 per 100,000 inhabitants in 1965-1967 to 7.5 in 1972-1974, while in South America it dropped 47 per cent, from 13.4 per 100,000 to 7.1.

Tuberculosis

As shown in Figure 10, mortality from tuberculosis continued to decline during 1965-1974 in all three regions of the Americas—by 38 per cent in the two regions of Latin America and by 60 per cent in Northern America. For the decade 1971-1980, the Ten-Year Health Plan for the Americas has established the goal of reducing tuberculosis mortality by 50 to 65 per cent.

Despite the substantial declines observed, relatively high levels of tuberculosis mortality persist in Middle and South America; the respective 1974 rates were 12.4 and 17.3 deaths per 100,000 inhabitants, as compared

Figure 9. Deaths from whooping cough per 100,000 population in three regions of the Americas, 1965-1974.

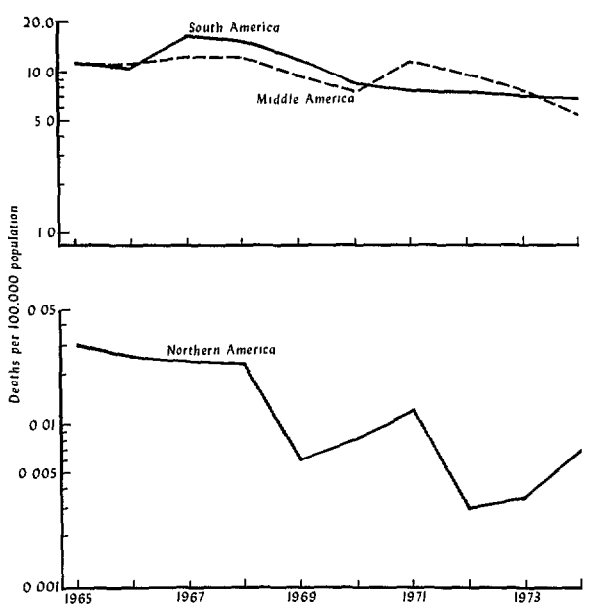
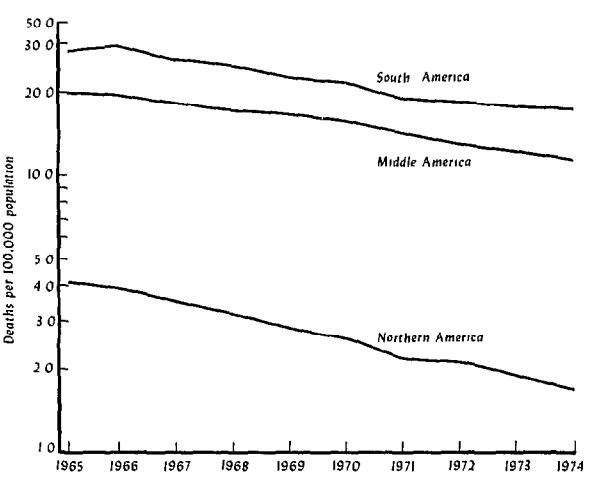


Figure 10. Deaths from tuberculosis per 100,000 population in three regions of the Americas, 1965-1974.



to 1.6 per 100,000 population, as America. High rates of tuberculosis morbidity (see p. 162) and mortality bear a demonstrable relation to childhood tuberculosis infections, which can be reduced by vaccinating children with BCG. Accordingly, in order to realize the goal set by the Ten-Year Health Plan—and in conjunction with other tuberculosis control measures—it is proposed that 80 per cent of all children under 15 years of age in the Americas be vaccinated with BCG.

Enteric and Other Diarrheal Diseases

High levels of enteric and diarrheal disease mortality[5] continue to be reported in Latin America (see Figure 11). In 1974 the rates were 81.3 deaths per 100,000 population in Middle America and 56.8 in South America, as compared to 1.1 in Northern America.

Notable progress in reducing these rates has been observed in recent years—the rate for Middle America dropping 26 per cent between 1968 and 1974, and that for South America declining by 19 per cent over this same seven-year period. Despite the reductions, however, the high mortality from enteric and other diarrheal diseases in Latin America indicates a need for strong environmental health programs, as well as for programs to improve the nutritional status of young children.

Morbidity from Selected Communicable Diseases

Poliomyelitis

Poliomyelitis morbidity has declined precipitously in Northern America, but declines in South and Middle America have been relatively slight (see Figure 12). Reflecting the downward trend, the annual incidence for Northern America was 0.28 cases per 100,000 population in 1963, as compared to 0.004 cases in 1975.

Moderate declines did also occur in Middle and South America, especially after

[5]Categories 008 and 009 in the *International Classification of Diseases* (Eighth Revision) of the World Health Organization.

Figure 11. Deaths from enteritis and other diarrheal diseases per 100,000 population in three regions of the Americas, 1968-1974.

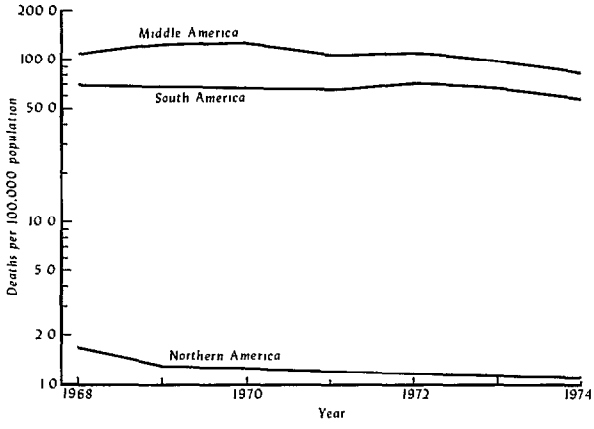
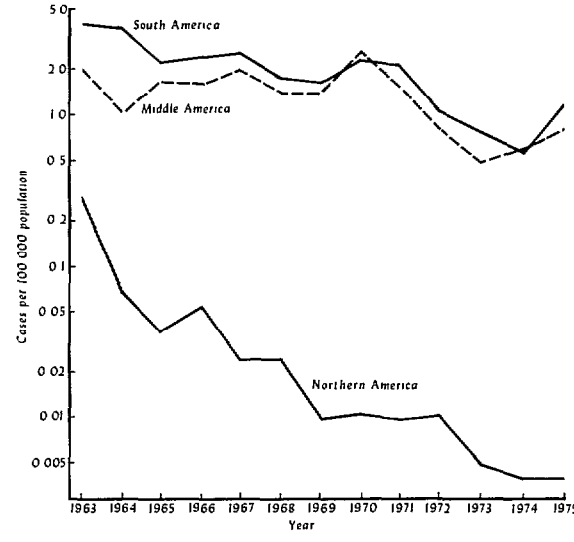


Figure 12. Reported cases of poliomyelitis per 100,000 population in three regions of the Americas, 1963-1975.

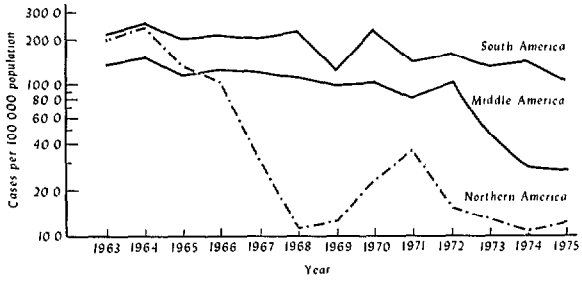


1970—when the annual poliomyelitis incidence in both regions was on the order of 3 cases per 100,000. However, after reaching lows of 0.5 cases per 100,000 (Middle America, 1973) and 0.6 (South America, 1974) morbidity rose again, the 1975 levels being 0.8 cases per 100,000 in Middle America and 1.2 in South America.

Measles

In 1963 measles morbidity was over 200 cases per 100,000 population in both Northern and South America, and over 136 in Middle America (see Figure 13). However, between 1963 and 1968 the incidence declined sharply in Northern America, going from 204.3 cases per 100,000 in 1963 to 11.1 cases per 100,000 in 1968. Following a later rise in 1969-1971 it declined again, returning to about 11 cases per 100,000 in 1974-1975. In contrast, the declines in South America and Middle America were far more gradual—especially in South America, where the annual incidence always exceeded 100 cases per 100,000, the lowest level being 104.0 cases per 100,000 in 1975.

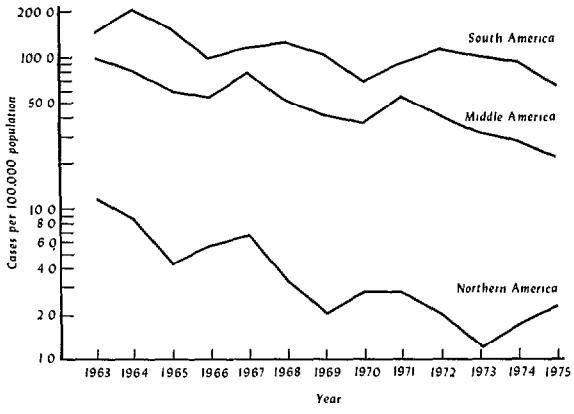
Figure 13. Reported cases of measles per 100,000 population in three regions of the Americas, 1963-1975.



Whooping Cough

Between 1963 and 1975 whooping cough morbidity declined markedly in Northern, Middle, and South America. In both latter regions, however, the annual incidence was so much higher to begin with that neither had reached Northern America's 1963 level by 1975. As indicated in Figure 14, the respective 1963 and 1975 rates were 145.0 and 63.8 cases per 100,000 inhabitants in South America (where the downward trend was least well defined), 98.9 and 21.8 cases per 100,000 in Middle America, and 11.2 and 2.2 cases per 100,000 in Northern America.

Figure 14. Reported cases of whooping cough per 100,000 population in three regions of the Americas, 1963-1975.



Tuberculosis

Reported 1975 tuberculosis morbidity was considerably higher in Middle America than in Northern America, and almost three times higher in South America than in Middle America (see Figure 15). In general, however, all three areas have experienced declining trends since 1960.

The downward trend is most marked in Northern America, despite registration of a slight rise in 1975 (a slight rise also occurred in the Middle American figures for that year). Overall, incidence rates registered for 1975 were 87.4 cases per 100,000 inhabitants in South America, 31.0 per 100,000 in Middle America, and 15.7 per 100,000 in Northern America.

Figure 15. Reported cases of tuberculosis per 100,000 population in three regions of the Americas, 1960-1975.

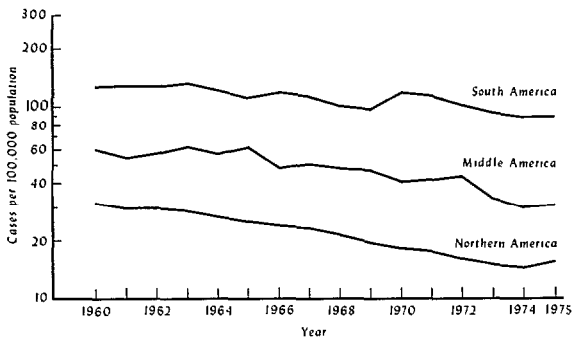
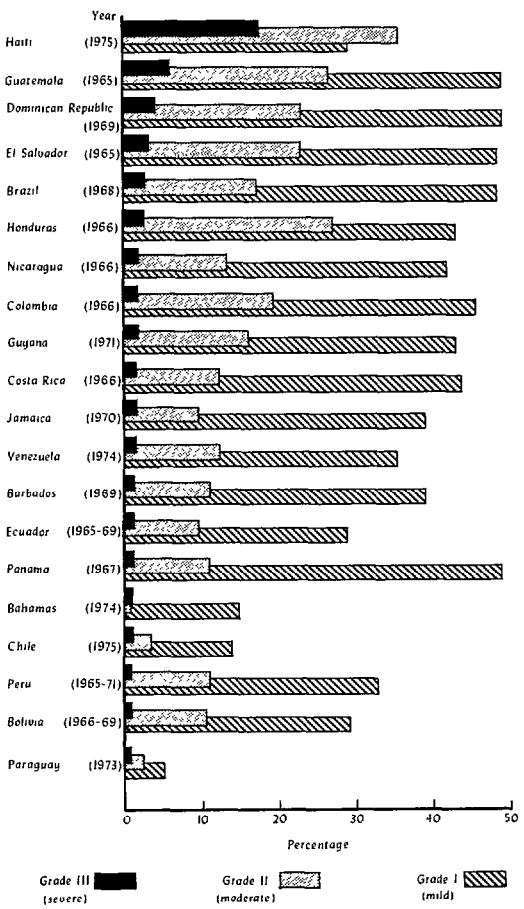


Figure 16. Percentages of children under five years of age with malnutrition in selected Latin American countries, for latest years (in brackets) with available data.



Malnutrition

Nutritional deficiencies in countries of Middle and South America cause excessive morbidity and mortality in children under five years of age. This is especially so where the impact of malnutrition is combined with that of communicable disease—though it is possible for nutritional deficiencies alone to produce serious problems, as in the case of protein deficiency causing mental and physical impairments and even death in extreme cases.

Figure 16 shows the percentages of children under five experiencing various degrees of malnutrition, according to the Gómez Classification, in 20 Middle and South American countries for which data were available. These data indicate that the prevalence of serious malnutrition (grades II and III) ranges from 1.5 per cent in the Bahamas to 53.0 per cent in Haiti. The proportion of children under five with severe (grade III) or moderate (grade II) malnutrition was reported to exceed 25 per cent in 5 countries (the Dominican Republic, El Salvador, Guatemala, Haiti, and Honduras) and to fall below 10 per cent in only 3 countries (the Bahamas, Chile, and Paraguay).

The Ten-Year Health Plan for the Americas sets definite goals for reducing the prevalence of serious malnutrition among children under five in the Region. Specifically, it calls for a 30 per cent reduction in the prevalence of second-degree malnutrition and an 85 per cent reduction in the prevalence of third-degree malnutrition by 1980. Such reductions would greatly reduce childhood mortality and would contribute strongly to improving the health and well-being of the regional population.

Health Manpower

Delivery of health services naturally depends directly upon a variety of health

professionals, technicians, and auxiliaries. The charts in Figure 17 deal with three types of health personnel whose services are essential for primary care—namely, physicians, nurses, and nursing auxiliaries.

Physicians

Around 1975 there were 16.6 physicians per 10,000 population in Northern America, 8.0 in South America, and 5.3 in Middle America. As the Figure indicates, from 1964 to 1975 the physician ratio rose slightly in all three regions, with the most notable increase (from 6.0 to 8.0) occurring in South America. The ratio also rose sharply in Middle America between 1968 and 1972; but this was followed by a decline, from 6.1 in 1972 to 5.3 in 1975. Though the reasons for these Middle and South American variations are not clear, they could be due partly to changes in the definition of "physicians who are active" and changes in reporting activities.

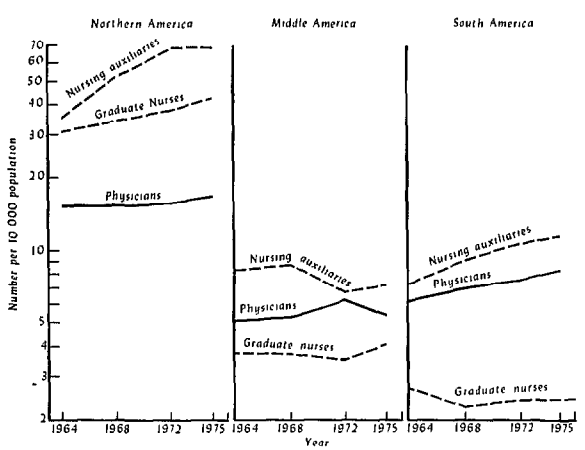
Nursing Personnel

Regarding nursing personnel ratios, there is a wider disparity between Northern America on the one hand and Middle and South America on the other than exists in the case of physicians. In 1975 Northern America had a ratio of 42.0 graduate nurses per 10,000 population—over 14 times the combined Middle and South American ratio of 2.9; and, in a like manner, Northern America's nursing auxiliary ratio (65.2 per 10,000 population) was 6.7 times greater than the combined Middle and South American ratio of 9.7.

Regarding recent trends, since 1964 Northern America has experienced a rapid rise in the ratios of graduate nurses and nursing auxiliaries. South America saw steady and substantial growth of its nursing auxiliary ratio (from 7.2 per 10,000 in 1964 to 11.1 in 1975), but the ratio of graduate nurses declined from 2.6 to 2.3 in that period. In Middle America the ratio of graduate nurses rose slightly (from 3.7 per 10,000 in 1964 to 4.0 in 1975), while the ratio of nursing auxiliaries declined from 8.2 to 6.9.

Another important observation is that both Middle and South America had more physicians than graduate nurses throughout these years. The ratio of graduate nurses to physicians was lowest in South America, where it continued to decline during the 1964-1975 period. The ratio of total nursing personnel to physicians remained more or less constant in South America over these years but declined somewhat in Middle America. In general, the data point to a clear need for vastly expanded programs in Middle and South America to train graduate nurses and nursing auxiliaries for these regions.

Figure 17. The number of physicians, graduate nurses, and nursing auxiliaries per 10,000 population in three regions of the Americas, 1964-1975.



Hospital Resources

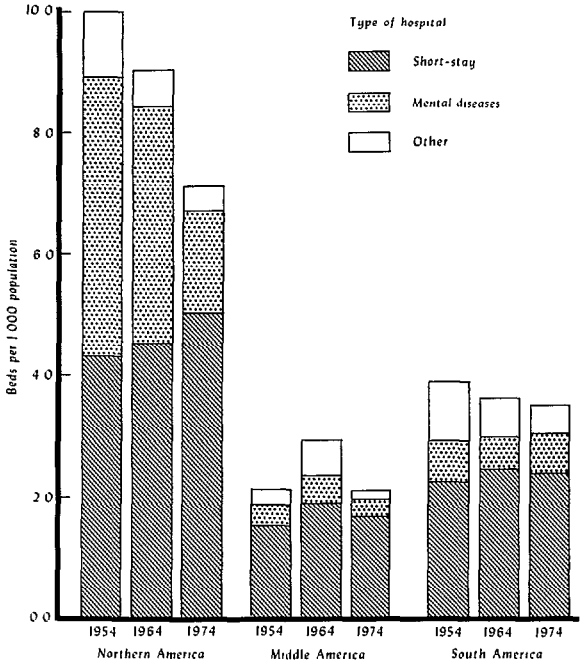
As of 1974 the average number of hospital beds per 1,000 population was around 3.0 in Latin America, 7.1 in Northern America. Within Latin America, the bed ratio was considerably smaller in Middle America (around 2.1 beds per 1,000

population) than it was in South America (3.5 per 1,000).

Figure 18 shows trends in hospital bed ratios for the three regions of the Americas during 1954-1974. As is apparent, the considerable increase in the number of hospitals and hospital beds over the past two decades has not kept pace with population growth. In Latin America as a whole, the hospital bed ratio went from 3.3 per 1,000 around 1964 to 3.0 around 1974, the sharpest decrease (2.9 to 2.1) being observed in Middle America. During the previous decade (1954-1964) South America's hospital bed ratio had dropped about 8 per cent, but in 1964-1974 it changed little. Northern America's hospital bed ratio decreased in both ten-year periods—by 10 per cent in 1954-1964 and by 21 per cent in 1964-1974.

It should be noted, however, that the considerable decrease in the Northern American bed ratio resulted primarily from a sharp drop in the number of mental hospital beds—especially during 1964-1974, when the mental hospital bed ratio fell by over 50 per cent. The number of beds in tuberculosis hospitals also dropped sharply over the 20-year period. Both of these changes—in tuberculosis and mental hospitals—probably stemmed from changes in modes of therapy and the availability of ambulatory services. Provision of psychiatric inpatient units at an increasing number of short-stay hospitals, as well as a sharp decline in the incidence of tuberculosis (see p. 162) also contributed to these downward trends.

Figure 18. The number of hospital beds per 1,000 population in three regions of the Americas around 1954, 1964, and 1974.



While the Northern American ratio of all hospital beds to population decreased, the ratio of short-stay hospital beds to population increased over both ten-year periods—by about 5 per cent in 1954-1964 and about 11 per cent in 1964-1974. In Latin America, on the other hand, the general decline in the hospital bed ratio in 1964-1974 arose from a deterioration of the bed ratios at short-stay hospitals and other hospitals that was not fully balanced by a rise in the bed ratio for mental hospitals.

This rise in the mental hospital bed ratio, however, resulted primarily from developments in Brazil. As Figure 18 indicates, the ratio of mental disease hospital beds in Middle America declined in 1964-1974, making the overall increase entirely attributable to South America. This latter rise, in turn, resulted from a 92 per cent rise in the number of mental hospital beds in Brazil. If Brazil were excluded, the ratio of these beds in South America would have continued to decline—to 0.44 per 1,000 population around 1974—as it did in Middle America.

It is important to note that the ratio of short-stay hospital beds in Latin America, besides being less than half the Northern American ratio, declined over the past decade, while the Northern American ratio was on the rise. Thus the gap in this respect between the Northern and Latin American regions appears to have widened.

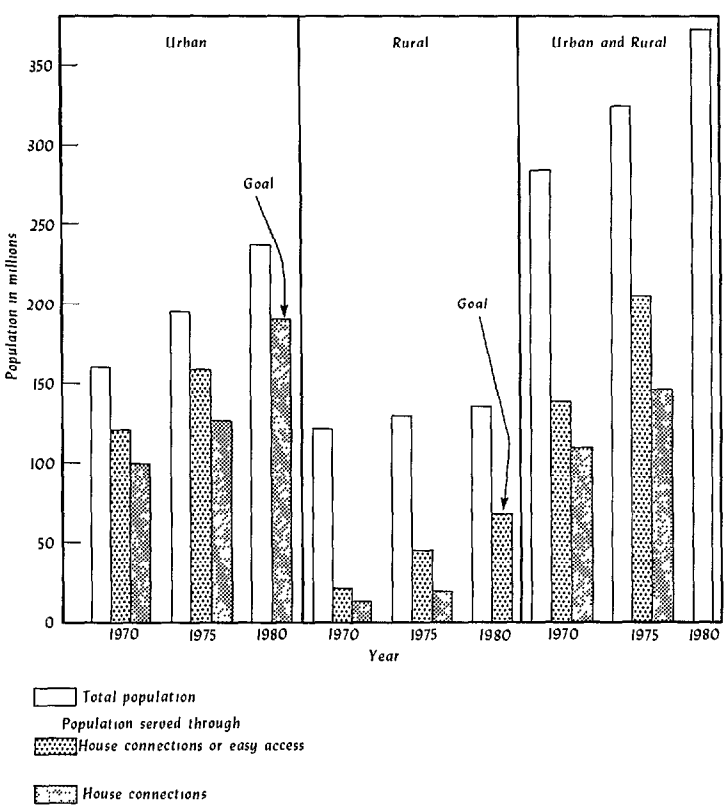
Water Supply

Water supply services in Latin America have continued to make considerable progress. Between 1970 and 1975 the proportion of the Latin American population receiving water supply services rose from 48 to 63 per cent. The change in the proportion of the population provided with easy access to water services—by means of community standpipes, etc.—was especially notable. As Figure 19 indicates, this proportion rose from 10 per cent of the population in 1970 to 18 per cent in 1975, while the proportion provided with house connections rose from 38 to 45 per cent.

Urban and Rural Services

Available data on the urban-rural distribution of people served by water supply systems in Latin America are often incomplete and sometimes inconsistent from one year to the next. Possible reasons for this inconsistency include variations in the definitions of "urban" and "rural" and differences among the localities included in these categories in some countries. In an effort to help resolve part of this difficulty with respect to the 1970 and 1975 data presented here, estimates of the urban and rural populations served were calculated by applying the observed proportions of these

Figure 19. Urban and rural populations served by water supply systems in Latin America in 1970 and 1975, with projected populations and goals for 1980.



populations (i.e., proportions based on available data for the countries reporting) to the total urban and rural population figures published by the United Nations.

On the basis of these estimates, Figure 19 shows progress achieved between 1970 and 1975 in terms of the goals set for 1980 in the Ten-Year Health Plan for the Americas. According to these data, water supply services in rural Latin America have been making substantial progress. The estimated number of rural dwellers served through house connections or easy access more than doubled over the five-year period, increasing from 21.2 million in 1970 to 45.4 million in 1975. If this trend continues, it seems likely that the goal of providing potable water to at least 50 per cent of the rural population (an estimated 67 million people) by 1980 will be reached. It should be remembered, however, that the sharp increase between 1970 and 1975 may be partly due to apparent changes in the definition of rural population with water services in some countries—particularly in Brazil, where the reported number of rural dwellers served by water systems rose from 2 million (4 per cent) in 1970 to almost 20 million (53 per cent) in 1975.

The chances of reaching the goal set for Latin America's urban population are not so good. As shown in Figure 19, the estimated number of urban dwellers served through house connections was nearly 100 million in 1970 versus 126 million in 1975. At this rate of increase, by 1980 some 160 million urban dwellers are likely to be served through house connections; this would result in roughly 67 per cent coverage of the projected 1980 urban population, a share well below the Ten-Year Health Plan's goal of 80 per cent coverage.

National Variations

Within this general framework, there are apt to be wide variations between countries—in both the proportions of urban and rural dwellers served and the rates at which these proportions are changing. Available data for 24 countries indicate that percentages of rural dwellers served through house connections or easy access in 1975 ranged from less than 1 per cent to 100 per cent, and that the percentages of urban dwellers served through house connections ranged from 20 to 98 per cent.

Between 1970 and 1975 the proportion of rural dwellers served rose by 10 or more percentage points in 9 countries and fell below the 1970 level in 6 others. If the trend observed over this five-year period continues, the goal of extending the coverage of water supply services to at least 50 per cent of the rural population by 1980 is likely to be reached in 9 countries.

In this same period (1970-1975), the proportion of urban dwellers served by house connections rose by 10 or more percentage points in 6 countries and fell below the 1970 level in 10 others. If this trend continues, 9 countries are likely to reach the goal of 80 per cent coverage by 1980; but it should also be noted that this goal had already been reached by 6 of those countries in 1975.

PAHO PROPOSALS FOR INTERNATIONAL AIR TRAVEL SURVEILLANCE

Introduction

The need for improved health surveillance of air travellers was stressed by PAHO's Directing Council (Resolution 31) at its XXIV Meeting in 1976. To help meet that need, a small group of experts were brought together. Their aim was to discuss the subject in terms of Resolution 31 and to develop general guidelines for consideration by PAHO's Member Countries. The group met at PAHO Head-