

HEALTH DISPARITIES IN LATIN AMERICA AND THE CARIBBEAN: THE ROLE OF SOCIAL AND ECONOMIC DETERMINANTS

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The Latin American and Caribbean (LAC) region demonstrates the greatest disparities in income and in other socioeconomic determinants of health. Although research in many developed countries has provided strong evidence on the extent and strength of the relationships between these determinants and health, relatively little has been established on this relationship in the context of the countries in LAC. Nevertheless, available evidence shows that the distributions of health status and access to health services among different socioeconomic groups follow patterns that place the most vulnerable groups in situations of continuing and often growing disadvantage.

Evidence also shows that such social and economic advantages are more strongly related to health outcomes than are need-based allocations of health services. This is a particular problem in LAC, where disparities in socioeconomic factors have continued to increase since 1980. Although general health has improved in LAC countries, gains in health status have not been made equally among various socioeconomic groups. Overall health improvement does not imply diminishing dis-

parities either between or within countries. Rather, improvements appear to be disproportionately weighted toward those who already have a greater share of social and economic advantages in society, while the health of disadvantaged groups improves less consistently and at much more modest rates.

HEALTH AND THE SOCIAL AND ECONOMIC CONTEXT OF LATIN AMERICA AND THE CARIBBEAN

National health statistics in LAC have shown improvement over the past 35 to 50 years for almost all health indicators, including life expectancy, infant mortality, the incidence of many communicable diseases, and vaccination coverage, to name a few. For example:

- Life expectancy over the last 35 years has followed the worldwide trend for the 20th century, rising from 56.9 to 68.5 years, an increase of almost 12 years.² During this time, specific mortality rates for almost all age groups and in all countries showed significant reductions.³

¹ Division of Health and Human Development, Pan American Health Organization. The authors wish to acknowledge other members of PAHO's Division of Health and Human Development who made significant comments to this paper, including Elsa Gómez, Edward Greene, Cristina Torres, and Raúl Molina.

² There are exceptions in a few countries, specifically in the groups between 20 and 39 years of age for males, due to AIDS and violent deaths.

³ Murray CJL, Chen LC. In search of a contemporary theory for understanding mortality change. *Soc Sci Med* 1993; 35 (2): 143–145.

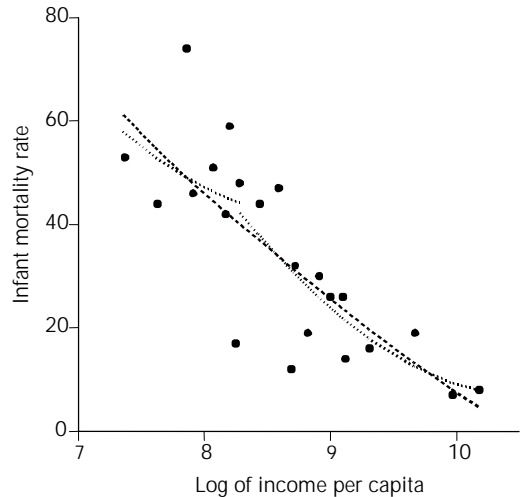
- Although life expectancy in LAC in 1990–1994 (68.5) was still below that of North America (76.2) and Western Europe (80.2), it was above the world average of 64.3 years and above that of Africa (51.8) and Asia (64.5), but below that for eastern Asia (69.7).
- Similarly, the infant mortality rate in LAC has dropped from 125 per 1,000 live births in 1950–1955 to 36 in 1995–2000.⁴

The range of national health levels among countries around the world broadened for most health statistics, however, revealing a growing gap between the extremes of the global social ladder. Improvements in life expectancy in the LAC region are not keeping pace with those of other regions. If we compare LAC countries to East Asian countries, their relative life expectancies at the beginning of the 1960s were 56.9 and 51.4, respectively; currently these values are 68.5 and 69.7. In other words, whereas LAC enjoyed a five-year advantage in life expectancy over East Asia thirty years ago it now lags by 1.2 years.⁵

Improvements in health also have been uneven within LAC and do not correspond to the region's economic development level. Successes in the reduction of infant mortality by countries such as Costa Rica, Cuba, and Chile, which have diverse political and economic circumstances, demonstrate that most LAC countries have not yet tapped their potential to improve population health.⁶

The level of population health, particularly over long periods of time, tends to be associated with a level of economic growth and overall availability of resources, as is evident when a health indicator such as the infant mortality rate is correlated with per capita income (see Figure 1). Countries and social groups that have higher incomes usually have better health conditions and better overall living con-

FIGURE 1. Correlation between the infant mortality rate and the per capita income (PPP), selected countries in the Americas, 1996.



Source: Pan American Health Organization/Division of Health and Human Development and United Nations Development Program/*Human Development Report, 1997*

ditions since they have more economic and technological resources to fulfill basic needs. The political context also is an important determinant of health. With few exceptions, those countries in the world that developed institutions of democratic governance and strong civil societies usually have established long-term social policies that tend towards a broader distribution of income and social benefits. Interestingly, the countries that applied social policies providing their populations with better access to education, basic health services, nutrition, and basic sanitation have achieved low mortality rates compared to countries of equal or even better economic performance, but where large disparities of income and resources persist.⁷

These epidemiological transitions have occurred within a context of rapidly changing economic and social conditions. In LAC during the 1990s, the macroeconomic adjustment policies adopted at the beginning of the decade generally have led to economic growth

⁴ United Nations. *World population prospects, 1998 revision*. New York, NY: UN; 1998.

⁵ United Nations. *World population prospects, 1996 revision*. New York, NY: UN; 1996.

⁶ Pan American Health Organization. *Health statistics from the Americas, 1992 edition*. Washington, DC: PAHO; 1992.

⁷ Wilkinson RG. *Unhealthy societies: the afflictions of inequality*. London: Routledge; 1996.

recovery, increased exports, substantially higher levels of direct foreign investment, and an increase in total public expenditure since the crisis of the early 1980s.

Although social sector spending has now exceeded the pre-crisis spending levels as a percent of GDP, the Economic Commission for Latin America and the Caribbean (ECLAC) points out some sobering facts: spending levels vary significantly between countries, with some countries spending at levels significantly below pre-crisis levels; a “very large” percentage of the increase in social funding is spent on social security (specifically on pension benefits, which is the least progressive item in distributional terms); and spending on human capital, such as education and health care, has increased less than figures would indicate.⁸

Overall economic growth also has not led to decreases in income disparities between families:

- The Region of the Americas has been identified as having the most unequal distribution of income in the world; the Gini coefficient for Latin America is estimated at 0.49, compared to 0.44 for Africa, 0.32 for East Asia, and 0.31 for Southeast Asia, with Brazil, Guatemala, and Honduras leading the way as the most skewed in terms of income concentration among the better off.
- In some countries in LAC the wealthiest 10% of the population receives 84 times the income received by the poorest 10%.⁹
- A World Bank study of 102 developing countries in the world found that the poverty levels in 15 of the 17 LAC countries studied were four times that of other countries with similar income levels.¹⁰

⁸ Ocampo JA. Income distribution, poverty and social expenditure in Latin America. Paper prepared for the first Conference of the Americas convened by the Organization of American States. Washington, DC: 6 March 1998. Found at <http://www.eclac.cl/english/Coverpage/oeaningles.htm>.

⁹ Interamerican Development Bank. *Economic and social progress in Latin America, 1998–1999 report: Facing up to inequality in Latin America*. Washington, DC: IADB; 1999.

¹⁰ World Bank in Kliksberg B. *Inequality in Latin America: A key issue*. Washington, DC: INDES IADB; 1998.

Further, the poor are falling further behind regarding income distribution, as the wealthiest sector of the population captures most of the benefits of economic growth:

- Between 1980 and 1989, the Gini coefficient rose for almost every country in Latin America, with Costa Rica as the only generally agreed-upon exception to growing income inequalities.¹¹
- In 1995, the purchasing power parity of the richest 1% (with \$66,363 per capita per year) and the poorest 1% (with \$159 per capita per year) of the Latin American population reached 417, higher than at any time in recorded history, and likely has worsened since then.¹²
- In Brazil, which has the highest income disparity in the world, the proportion of the total national income of the poorest half of the population decreased between 1960 and 1990 from 18% to 12%, while the income of the richest 20% of the population increased from 54% to 65% of total national income.¹³

While the proportion of income captured by the wealthy grows, a large proportion of the population continues to be trapped in poverty:

- Poverty rates in LAC are not improving: the poverty rate in 1980 was 35%, topping 40% for the 1990–1994 period, before falling to 35% in 1997.
- With the population’s demographic growth, the number of people living in poverty in LAC has increased over the last two decades, reaching roughly 200 million within Latin America in 1997.¹⁴

¹¹ Kliksberg B. *Inequality in Latin America: A key issue*. Washington, DC: INDES IADB; 1998.

¹² Londoño and Szeley, in Kliksberg B. *Inequality in Latin America: A key issue*. Washington, DC: INDES IADB; 1998.

¹³ Kliksberg B. *Inequality in Latin America: A key issue*. Washington, DC: INDES IADB; 1998.

¹⁴ Economic Commission for Latin America and the Caribbean. *Panorama social de America Latina*. Santiago, Chile: ECLAC; 1998.

- The rate of extreme poverty was the same in 1997 as in 1980, around 15%, which translates to more than 100 million people.¹⁵
- If income distribution in LAC had not worsened since 1980, the increase in poverty between 1983 and 1995 would have been half of what it was.¹⁶

Although current poverty rates are comparable to those of twenty years ago, the geographic distribution of poverty has changed considerably:

- Rapid urbanization of the population has increased the proportion of urban dwellers who are poor from 25% in 1980 to 34% in 1994; the urban poor now comprise the larger portion of the desperately poor in the Region.
- More than half of the population in extreme poverty now lives in cities, whereas only one-third of the people living in extreme poverty lived in urban areas in 1990.
- The percentage of the rural population living in poverty has changed very little, hovering between 53% and 56% from 1980 to 1994.¹⁷
- Some countries have suffered even more severe poverty increases. For instance, the poverty rate in Trinidad and Tobago increased from 3.5% of the households in 1980 to almost 15% in 1990, and it is estimated that the poverty rate has exceeded 20% in the mid-1990s.

The urbanization of poverty in LAC is strongly linked to persistent structural unemployment and the marginal nature of most new economic activities:

- Even in a country such as Chile, with a relatively modern economic structure, more

than half of new employment in the decade has taken place in the informal sector of the economy, which has a negative impact on social protection, stability, and long-term development.¹⁸

- The ILO estimated that, during the 1990s, eight of every ten new jobs in LAC have been in poor-quality occupations within the informal sector.¹⁹

SOURCES OF DATA/LITERATURE FOR THE ANALYSIS OF DETERMINANTS OF DISPARITIES IN HEALTH IN THE REGION

Research conducted in the United States, Canada, and Western Europe over the past two decades has given increasing importance to the study and understanding of the relations between living conditions and health, focusing on disparities. A bibliographic database on this topic, prepared by PAHO's Division of Health and Human Development,²⁰ includes more than four thousand entries, with most of the empirical information based on situations in developed countries. The concern with this area has now reached what could be called the mainstream public health literature in the United States and Europe, and public health oriented institutions are calling to broaden the parameters of the health policy debate to include economic and social issues.

The body of knowledge dealing with levels of socioeconomic disparities and their effect on health is significantly smaller for those areas of the world whose socioeconomic conditions are lower than those in the developed

¹⁵ Inter-American Development Bank. *Economic and social progress in Latin America. 1998-1999 report: Facing up to inequality in Latin America*. Washington, DC: IADB; 1999.

¹⁶ Birdsall N, Londoño L. Asset inequality matters: An assessment of the World Bank's approach to poverty reduction. *American Economist Review* 1997; 5.

¹⁷ Economic Commission for Latin America and the Caribbean. *Panorama social de America Latina*. Santiago, Chile: ECLAC; 1998.

¹⁸ World Bank. *Labor and economic reforms in Latin America and the Caribbean*. Washington, DC: World Bank; 1995.

¹⁹ International Labour Organization. *Labour overview, 1997*. Lima, Regional Office for Latin America and the Caribbean; 1997.

²⁰ Wing SB, Richardson D. *Material living conditions and health in the United States, Canada and Western Europe: Review of recent literature and bibliography*. Washington, DC: Pan American Health Organization; 1999. (Research in public health technical papers #9).

countries, particularly LAC. PAHO also has completed a similar bibliographical review to document the body of literature on socioeconomic disparities in health that has been produced within LAC, and found only 304 documents, many of which are unpublished.²¹

In addition to the paucity of information, the literature was found to have other limitations, such as:

- Much of the literature addresses philosophical and theoretical considerations rather than empirical information that can provide evidence for action;
- Studies address narrow age groups, and there is an absence of studies relating to adult health in particular;
- Results are often unreliable due to flaws in data quality, design, or analysis; and
- Very few studies have been conducted at the local level with primary data collection.

Despite the limited number of studies focusing specifically on the Region, it is clear that the disparities in health outcomes and access to care between various socioeconomic groups and geographic populations in LAC have remained large in the past few decades, even tending to increase in many cases. Disparities in health status and access/utilization of health services between better- and worse-off groups according to socioeconomic criteria manifest themselves by almost any criterion of classification used.

There is most evidence for the socioeconomic category of income, and several studies have documented the differences between the poor and non-poor in health outcomes and access to health services.

Although these studies' findings may appear intuitive, documenting these findings through empirical observation not only strengthens the case for socioeconomic dis-

parities in health, but also provides more complete information for the analysis of these health issues. One of the difficulties of interpreting these studies is that individuals in vulnerable populations are often vulnerable on several counts. The categorical associations presented below are not controlled for other socioeconomic factors; they are simply correlations, without explicit evidence for causality.

The socioeconomic categories, as well as the health indicators, were chosen as study topics primarily because sufficient empirical information exists for the described population to establish the correlation. In addition to primary data collection, many studies use data from Living Standards Measurement Surveys (LSMS) and Demographic Health Surveys (DHS), which have proven to be valuable, if incomplete, information sources. An example of this approach is the recently completed IHEP-EquiLAC Initiative, carried out by PAHO (Division of Health and Human Development) in collaboration with UNDP, IADB and the World Bank, some of the findings of which are mentioned below,²² along with other results from both published and unpublished literature.

HEALTH INEQUALITIES AMONG COUNTRIES

Although health indicators have generally improved in every country, significant disparities persist between countries. Further, improvements in national health indicators have occurred to different degrees among LAC countries. Declining infant mortality rates are one of the most heralded successes of health improvements for the region over the last few decades. But if we take a closer look at the distribution of benefits, we find a pattern of improvement that translates into increasing gaps

²¹ Almeida Filho N. Inequalities in health based on living conditions: Analysis of scientific output in Latin America and the Caribbean and annotated bibliography. Washington, DC: Pan American Health Organization; 1999. (Research in public health #19).

²² Economic Commission for Latin America and the Caribbean. *Panorama Social de América Latina*. Santiago, Chile: ECLAC; 1998.

between the countries with higher and lower rates.

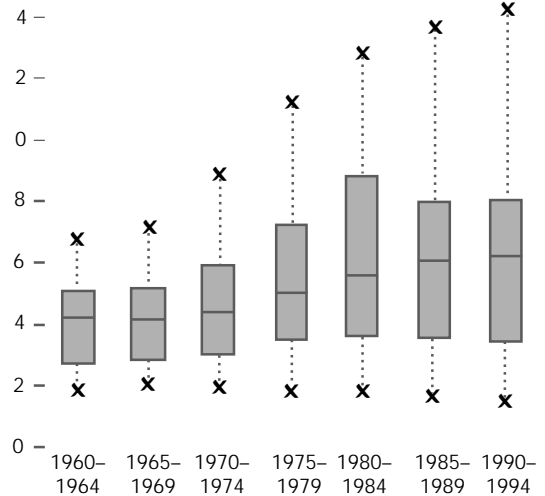
Specifically, infant mortality rates (IMR) declined more in absolute terms in countries with high initial rates, such as Bolivia and Haiti. But relative to the lowest IMR for the Region of the Americas, reductions were greater in countries with lower initial rates. There are only four countries in the Americas where the IMR fell by a factor of four or more between 1960–1964 and 1990–1994:

- Chile fell from 109 to 14, almost an eight-fold reduction;
- Cuba fell from 59 to 10, almost a sixfold reduction;
- Costa Rica fell from 81 to 14, almost an eight-fold reduction;
- Canada fell from 27 to 6, a 4.5-fold reduction.

Most of the countries with intermediate rates in the 1960–1964 period had reductions between 2.5 and 3.5 times in this 35-year period. During 1960–1964, ten countries had IMRs above 100. By the 1990–1994 period, three countries still claimed this dubious distinction, and the remaining six, excluding Chile, had reduced their rates only by factors of 2.5 or less. Although their initially high rate presented the potential for dramatic improvements similar to those seen in Canada, Chile, Cuba, and Costa Rica, these countries were not able to capitalize on this opportunity. The behavior of ratios between the infant mortality rates in each country and the minimum in the Americas during these periods is shown in Figure 2.

During 1960–1964, the IMR for the country with the highest rate was seven times higher than that for the country with the lowest rate in the Americas. But by 1990–1994, that ratio had risen to 14. The median value of these country ratios rose from 4 to 6 in the same period. The lower quartile rose from 2.5 to 3.3 and the upper quartile, from 4.8 to 8.0, so that the inter-quartile range increases from 2.3 to 4.7, more than doubling. The trend of the increasing inter-quartile range seems to have

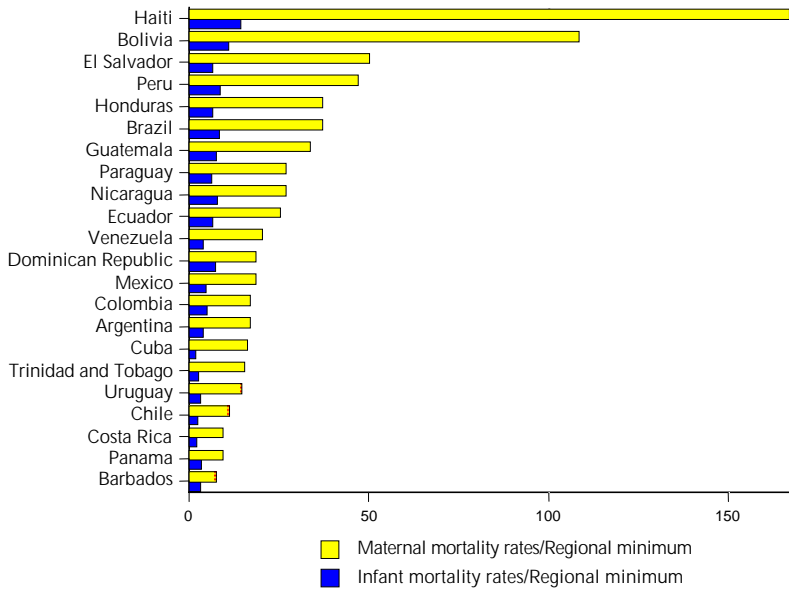
FIGURE 2. Ratio between the value of infant mortality rate in each country and the minimum achieved in the Americas, 1960–1994.



slowed in the last two periods, and for some countries the ratios are beginning to decrease. But the median value continues to increase, and it is too early to predict if the improvements among the inter-quartile countries will continue, stabilize, or worsen.

The health disparities among countries in LAC become even more pronounced when comparing the ratio of national (estimated) maternal mortality rates with the minimum rate in the Region. While the IMR ratio between the countries with the highest and lowest rates is currently close to 14 in the Region, the ratios for maternal mortality are over 100 in two countries and over 20 in more than half of them. These enormous differences in maternal mortality possibly have much to do with inaccessibility to health care of acceptable quality. It is important to stress that a large proportion of infant deaths relates to environmentally related conditions—diarrheal disease, acute respiratory infections, malnutrition—whereas maternal mortality is almost wholly attributable to a lack of—or poor quality—prenatal, delivery, and puerperal care (see Figure 3).

FIGURE 3. Ratio of the maternal mortality rate and the minimum achieved in the Region, compared with the ratio of the infant mortality rates and the minimum in the Region, selected countries in the Americas, circa 1994.



HEALTH INEQUALITIES WITHIN COUNTRIES

A general pattern of socioeconomic disparities in health among countries can be seen clearly within countries. The few studies of the relationships between socioeconomic conditions and health in LAC consistently find large health differentials between the upper and lower levels of well-being, be it measured by income, education level, spatial distributions, ethnicity, gender, access to health services, or national origin.

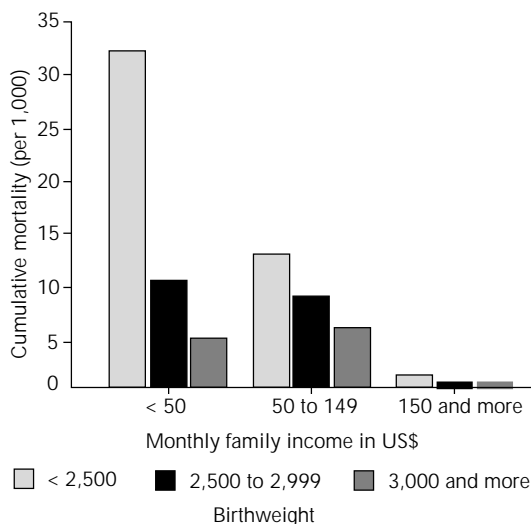
Income, Household Expenditure, or Other Material Living Conditions

Income is a useful socioeconomic category in the sense that it tends to be associated with a variety of other determinants, either for sociocultural reasons or for simple economics, depending on the particular population and social context studied. A few studies at the

country level, within regions of countries, and at the local level have addressed disparities in health outcomes and access to care among populations with varied incomes. The health measures used range from the extreme of infant and childhood (ages 1–4 years) mortality, to low birthweight, stunting, and general childhood diseases.

Between 1982 and 1987, mortality between ages one and four was measured in southern Brazil for children in three economic categories: family incomes under US\$ 50 per month (very low income), family incomes between US\$ 50 and US\$ 149 per month (low income), and family incomes above US\$ 150 per month (see Figure 4). For very low income families the mortality rate for low birthweight children is almost six times higher than for children who were born weighing 3,000 g or more, but is practically the same when the family income is US\$ 150 or more. And among all children born with normal birthweight (over 2,500 g), the mortality rate is five times higher in very

FIGURE 4. Cumulative mortality in children 1–4 years of age, by income level and birthweight, Pelotas, Brazil, 1982–1987.



low income families when compared to families with incomes of US\$ 150 and more.²³

In a 1992 study in Barquisimeto, a medium-sized city in Venezuela, each of the 900 *barrios* (communities) was classified in terms of living conditions according to the accessibility of sanitation, adult literacy rate, and general condition of the dwellings. When comparing the 10% of the barrios with the worst living conditions with the 10% with the best living conditions, the incidence of low birthweight was almost twice as high for those with worse living conditions (almost 14% compared to 7%). The incidence of very low birthweight (under 1,500 g) was three times as high for those living in the worst conditions.²⁴

Country studies of time trends indicate that relative levels of health disparities between socioeconomic groups are not changing. In a southern city in Brazil, children of two cohorts—born in 1982 and in 1993—presented

similar levels of disparities, in relative terms, between the lowest and highest income groups for almost all health indicators. Between 1982 and 1993, infant mortality for children of families with monthly incomes of one minimum wage or less decreased from 80 to 33 per 1,000 live births, while the rate in the highest income group of ten minimum wages or more dropped from 13 to 5 per 1,000 live births. Notwithstanding the overall improvement in IMR for all socioeconomic groups, the rate ratio between the low and high income brackets actually remained at the same level of 2.6 in that period of time.²⁵

The prevalence of stunting in children younger than age 5 in Brazil in 1989 was roughly 30 times higher in families with per capita monthly incomes under US\$ 20, when compared to families with per capita monthly incomes of US\$ 160 or more, ranging from 28.9% to 0.9%. Another study in 1996 showed that households with no durable goods had a prevalence rate of 22.6%, compared to 4.4% for households with five or more durable goods. Similar results were also found in a cohort in southern Brazil, where the prevalence rate of stunting in households with only one durable good was 26%, compared to 7% for those with four or more such goods.²⁶

The IMR in Peru for the poorest quintile is close to five times higher than that for the upper quintile. This ratio is close to seven for the mortality rate from 1 to 4 years of age. The prevalence of childhood diseases in Peru in 1996 according to the bottom and top quintiles of household assets varied between 25% and 15% for acute respiratory infections and between 22% and 13% for diarrhea (see Figure 5).²⁷

²³ Victora C, Barros F, Hutley S, Teixeira AM, Vaughn JP. Early childhood mortality in a Brazilian cohort: The roles of birthweight and socioeconomic status. *Intern J Epidemiol* 1992; 21: 423–432.

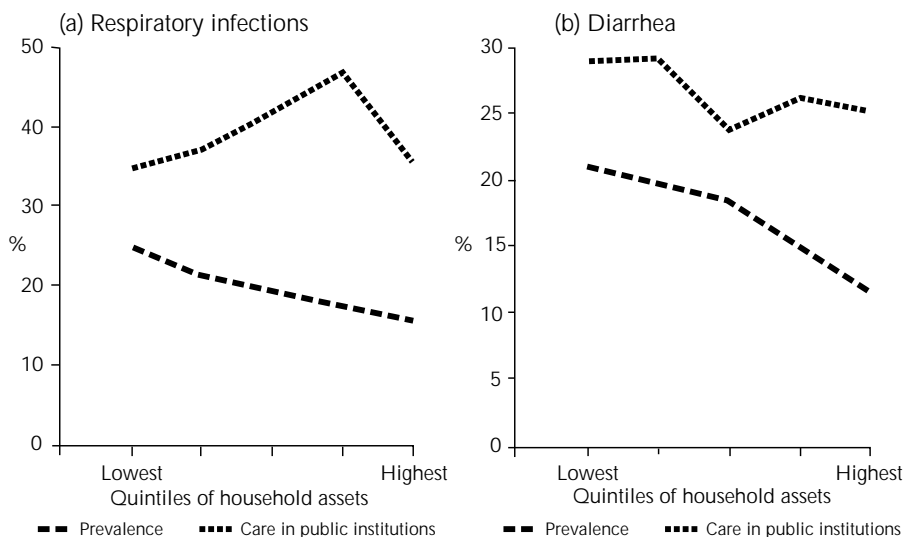
²⁴ Montilva C. Universidad Central Occidental de Venezuela. (Personal communication).

²⁵ Victora C. Reducing health inequalities: Can health interventions make an impact? Paper presented at the Ninth Annual Public Health Forum. London: London School of Hygiene and Tropical Medicine; 1999.

²⁶ Olinto MTA, Victora CG, Barros FC and Tomasi E. Determinantes da desnutrição infantil em uma população de Baixa Renda: Um modelo de análise hierarquizado. *Cad Saúde Pública* 1993; 9 (Supl. 1): 14–27.

²⁷ World Bank. *Fact sheets on health, nutrition, population and poverty in Peru: Poverty thematic group*. Washington, DC: World Bank; 1999.

FIGURE 5. Prevalence of acute respiratory infections and diarrhea in children under 5 years of age, and treatment in public health institutions, Peru, 1996.

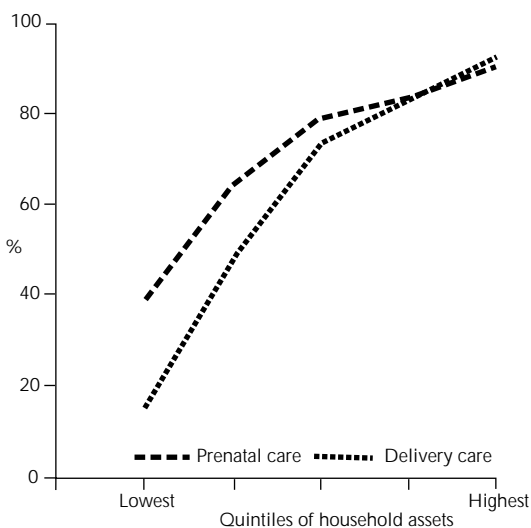


Source: Demographic and Health Survey, Peru, 1996.

In addition to a greater burden of disease, the poor also have less access to health services when they need care. Among those who were sick in the above study in Peru, proportionately more from the better-off quintiles sought care in public care facilities. Further, percentages of pregnant women who received prenatal care from trained personnel differed between the first and fifth quintiles of household assets, rising from 40% to 95%, while the figures for deliveries attended by trained personnel rose even more dramatically, from 15% to 96% (see Figure 6).²⁸

Similar results were seen in Mexico in 1990–1996. The percentage of deliveries in hospitals increased from 8% in the municipalities in the lowest decile of average household income to 93% in the municipalities in the high-

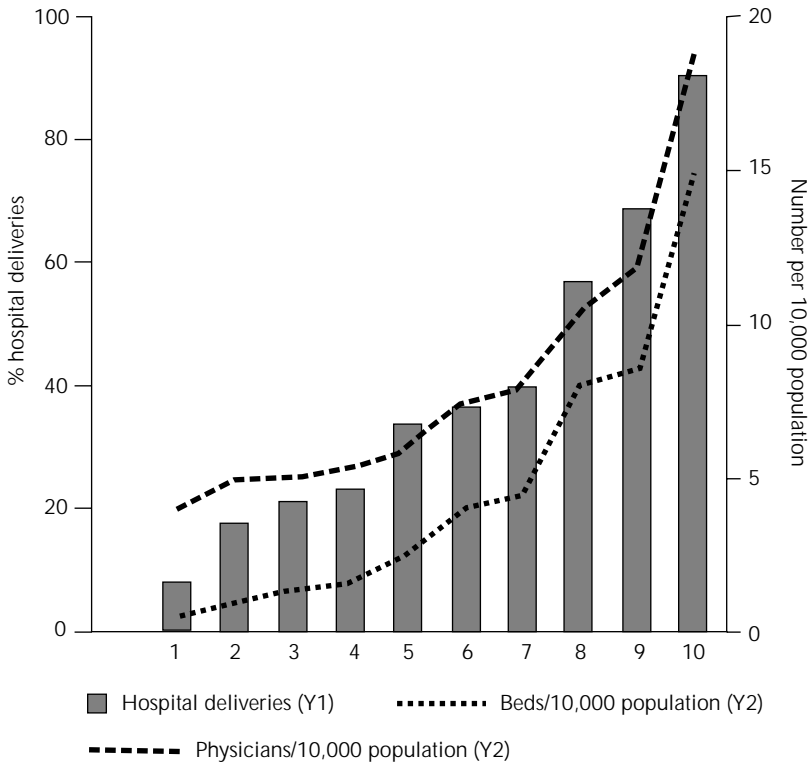
FIGURE 6. Percentage of pregnant women who received prenatal care and delivery by trained personnel, Peru, 1996.



Source: Demographic and Health Survey, Peru, 1996.

²⁸ World Bank. *Fact sheets on health, nutrition, population and poverty in Peru: Poverty thematic group*. Washington, DC: World Bank; 1999.

FIGURE 7. Distribution of health resources according to per capita income in municipalities, Mexico, 1990–1996.



Source: Lozano R, Zurita B, Franco F, Ramírez T, Torres JL, Hernández P. Health inequality in Mexico: Study by socioeconomic strata at the country and household level. Preprint. Chapter of a book on the Global Health Equity Initiative to be published by the Rockefeller Foundation in 2000.

est decile of incomes. The number of hospital beds per 10,000 population varied from around 2 in the municipalities in the lowest decile of per capita income to 15 in the highest decile, and the percentage of deliveries in hospitals goes from less than 10% to over 90% in those same groups (see Figure 7).²⁹

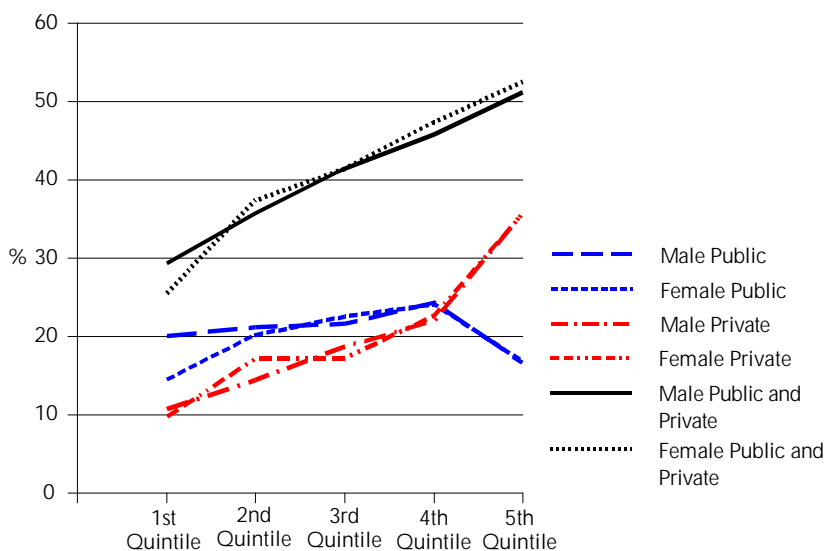
A recent study of the city of Rosario, Argentina indicated that poor women in greater need of services are not necessarily the ones who receive benefits, even when interventions are inexpensive and cost-effective. Women at-

tended in public hospitals delivered babies with a mean neonatal weight of almost 200 g less than those delivering in the private clinics (3,168 grams and 3,350 g, respectively), and the still birth rate was 11.1 per 1,000 live births compared to 3.8 per 1,000. Yet, women delivering in public hospitals, most of whom had lower income levels, received iron and folic acid supplementation during the pregnancy in only 5.6% of cases, compared to 44.0% of cases for those delivering in private clinics. The percentages for other vitamin and mineral supplements were 0.3% and 24.8%, respectively, and for antibiotics, 4.8% and 15.7%, respectively.³⁰

²⁹ Lozano R, Zurita B, Franco F, Ramírez T, Torres JL, Hernández P. Health inequality in Mexico: Study by socioeconomic strata at the country and household level. Preprint. Chapter of a book on the Global Health Equity Initiative to be published by the Rockefeller Foundation in 2000.

³⁰ Belizán JM, Farnot U, Carroll G, Al-Mazrou Y. Antenatal care in developing countries. *Paediatric and Perinatal Epidemiology* 1998; 12 (Suppl. 2) 1–3.

FIGURE 8. Median of the percentage of persons who sought health care among those who reported having some disease in the four weeks preceding the survey, by sex and by quintiles of per capita household consumption, according to the use of public and private services, selected countries in Latin America.



Source: Living Standards Measurement Surveys for Bolivia, Colombia, Ecuador, Nicaragua, and Venezuela, 1994–1996.

Little has been documented in terms of disparities in expenditure on health care in Latin American and Caribbean countries. An analysis of five countries, based on results of the LSMS surveys, indicates a gradient in the utilization of health care for persons with a *self-perceived need for care*, with higher utilization rates as family consumption increases. Although all groups present a similar rate of utilization of public services (around 20%), the lower income groups, as would be expected, have lower rates of utilization of private services (close to 10% in the lowest quintile) when compared to the higher groups (over 35% in the highest quintile) (see Figure 8).³¹

For those households where a health problem was declared to exist in the period previous to the survey, the average household health care expenditure in Nicaragua in 1993 represented almost 40% of total income for the

lowest quintile of income but less than 1% in the highest income quintile.³² In the Dominican Republic, the poorest quintile paid 20% of their average household income on health care in 1996 while the highest quintile of income paid less than 10%.³³

Level of Formal Education

In the area of formal education, there have been improvements in population coverage since 1985, but these advances have been smaller than in other regions of the world: by 1995, only two-thirds of the school-age population of Latin America and the Caribbean had completed the fourth year of basic education.

³¹ Herrera J, Rivas W, Gadea A, Romero N, Bolaños L, Cáceres M, Campos F, Zamora JR. Cuentas nacionales en salud: Estudio de fuentes de financiamiento y gastos en salud 1995–1996. OPS/OMS, USAID, 1999.

³³ Rathe M. Cuentas nacionales de salud: Un análisis del financiamiento del sistema de salud de la República Dominicana. Santo Domingo, República Dominicana; 1998.

³¹ Living Standards Measurement Studies for Bolivia, Ecuador, Colombia, Nicaragua, Venezuela, 1994–1996. See: <http://www.worldbank.org/html/prdph/lsm/lsmshome.html>

Southeast Asia, which had similar formal educational levels in 1985, has now surpassed LAC in the proportion of its population enrolled in primary and secondary education.³⁴ This finding may bode ill for improving health, given the proven correlation between family health and the formal education level of men and women. In response to the low development of formal education and its effect on opportunities and well being, the recent "Social Development Report" by the Inter-American Development Bank stressed the importance of increasing the access of poor children to formal education as the main intervention for poverty reduction and reducing inequalities in the Region.³⁵

Specific studies have borne out these concerns. A national study in Brazil in 1996 showed that rates of stunting in children under 5 years old correspond strongly to the family's level of formal education. Rates range from 19.3% when the head of household has no formal education to only 3.4% when the family head has 11 or more years, an almost sixfold increase. Intermediate measures of formal education follow a corresponding pattern, with a 13.7% rate of stunting for 1 to 3 years of formal education, 8.0% for 4 to 7 years, and 6.3% for 8 to 10 years, indicating that any continuation of formal education may have a health impact. When the mother's formal educational level is analyzed, similar patterns emerge for both stunting—ranging from 19.9% for 0 to 3 years of formal education to 3.3% for 11 or more years—and for wasting—ranging from 24% for mothers with zero to three years of schooling to 7% when the mother has 6 or more years.³⁶

Studies in Chile found relationships between women's formal education and their

babies' health. Neonatal mortality rates stratified by maternal formal education level in Chile for the 1990–1995 period range from 13.5 per 1,000 live births for those with no formal education to 6 per 1,000 for those with 13 or more years. Post-neonatal mortality rates decline from 24.5 per 1,000 live births to 2.6 for the same categories, indicating a tenfold difference when the mother is illiterate as compared to mothers with 13 or more years of schooling (see Figure 9).³⁷

A dramatic example that demonstrates the need to determine how benefits are being captured by socioeconomic groups is illustrated by the rise in life expectancy among Chilean women between the mid 1980s and the mid 1990s. Women in Chile gained almost two years in their life expectancy at age 20, but women with 13 years of formal education or more enjoyed almost all the benefits, gaining almost ten years in a ten-year period, while gains in the groups with lesser formal education levels were negligible (see Figure 10).³⁸

Spatial Distributions

Studies show that health varies according to spatial distributions within countries, which have been measured between geographic regions, between urban and rural populations, and between wealthier and poorer communities. Data from the Demographic and Health Surveys (DHS) show, for example, how different the rates of stunting for children below 5 years of age are between urban and rural areas of various countries. In some cases, the percentage of children under the standard in rural areas is two-and-a-half times higher than in urban areas (Table 1).

In Peru and Guatemala, the prevalence of stunting in rural areas exceeds 50% of all chil-

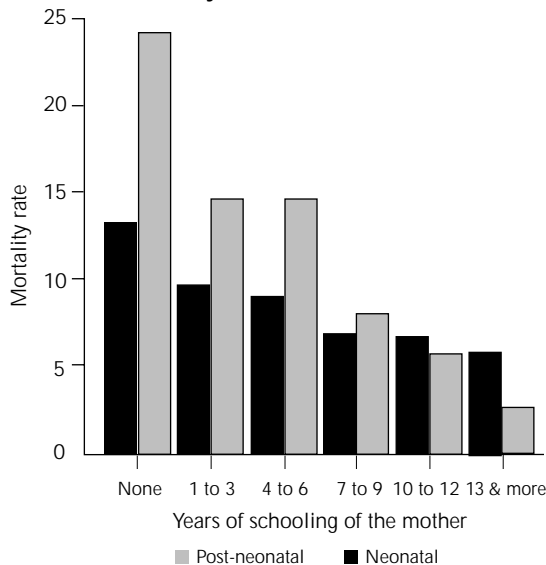
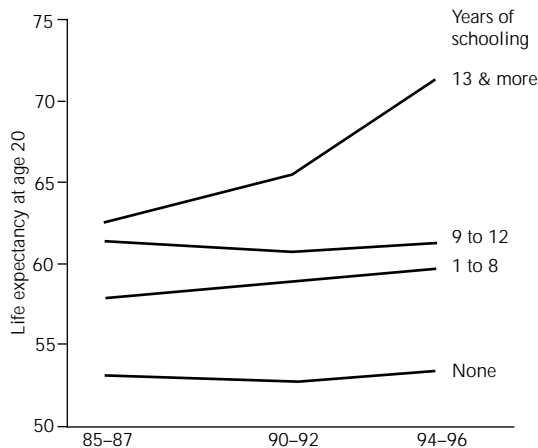
³⁴ World Bank. *World Development Report 1998*. Washington, DC: World Bank; 1998.

³⁵ Inter-American Development Bank. *Economic and social progress in Latin America, 1998–1999 report: Facing up to inequality in Latin America*. Washington, DC: IADB; 1999.

³⁶ Epidemiological Studies in Health and Nutrition, University of São Paulo. *Melhoria em indicadores de saúde associados à pobreza no Brasil do anos 90*. University of São Paulo: School of Public Health. (Internal report).

³⁷ Hollstein RD, Vega JM, Carvajal YB. Socioeconomic level and infant mortality in Chile in the period 1985–1995. *Rev Med Chile* 1998; 126:333–340.

³⁸ Vega J, Holstein RD, Delgado I, Marshall G, Yach D. Social inequalities and health in an intermediate-development nation: Education and adult mortality in Chile, 1980–1996. Preprint. Chapter of a book on the Global Health Equity Initiative to be published by the Rockefeller Foundation in 2000.

FIGURE 9. Neonatal and post-neonatal mortality, Chile, 1990–1995.**FIGURE 10. Life expectancy at age 20 according to years of schooling, females, Chile, 1985–1987 to 1994–1996.**

Source: Vega J, Hollstein RD, Delgado I, Marshall G, Yach D. Social inequities and health in an intermediate-development nation: Education and adult mortality in Chile, 1980–1996. Preprint. Chapter of a book on the Global Health Equity Initiative to be published by the Rockefeller Foundation in 2000.

dren below age 5.³⁹ In the city of Buenos Aires, Argentina, the IMR in 1995 was close to 13 per 1,000 live births, but some of the country's provinces have rates that exceed 30 per 1,000 live births.⁴⁰ In Chile, the years of potential life lost below age 65 in the *comunas* (counties) with better living conditions is close to 72 years per 1,000 population, but reaches almost 157 per 1,000 population in those with the worst living conditions.⁴¹ In Mexico, the years of potential life lost below age 70 ranges from 10 to 181 per 1,000 population in municipalities with the lowest and highest values according to a deprivation index.⁴²

³⁹ Macro International. Demographic and Health Surveys. Calverton, Maryland; 1996.

⁴⁰ Pan American Health Organization. *Health in the Americas, 1998 edition*. Washington, DC; PAHO; 1998.

⁴¹ Concha M, Aguilera X, Guerrero A, Salas J, Child V. *Metodologías de apoyo a la priorización local de problemas de salud*. Santiago, Chile: Ministerio de Salud; 1997.

⁴² Lozano R, Zurita B, Franco F, Ramírez T, Torres JL, Hernández P. Health inequality in Mexico: Study by socioeconomic strata at the country and household level. Preprint. Chapter of a book on the Global Health Equity Initiative to be published by the Rockefeller Foundation in 2000.

Infant mortality in Brazil fell 40% between 1977–1985 and 1987–1995, but the gaps between the worse-off areas, with high rates, and the ones with lowest rates have increased. Table 2 presents the rates estimated from data of Demographic and Health Surveys of 1986 and 1996 by the five great geographical regions for rural and urban areas of Brazil. The mortality rates fell in all areas, but the rate ratios of the worst part (north-east-rural) and the whole country increased from 1.7 to 2.0. Stunting below age five fell in Northeastern

TABLE 1. Percentage of stunting in children under 5 years of age, by urban or rural area, selected countries in Latin America and the Caribbean, early to mid 1990s.

Country and year	Urban (%)	Rural (%)
Dominican Republic, 1996	7.3	15.2
Brazil, 1996	7.8	19.0
Colombia, 1995	12.5	19.1
Paraguay, 1990	11.7	26.9
Haiti, 1995	20.4	35.1
Bolivia, 1994	20.9	36.6
Peru, 1992	25.9	53.4
Guatemala, 1995	35.3	56.6

TABLE 2. Trends in infant mortality rates, by geographical region and urban/rural strata, Brazil, 1977–1985 and 1987–1995.

Stratum/region	1977–1985	1987–1995	Annual change (%)
Urban	68.8	41.2	– 4.0
North	(51.1)	(42.1)	– 1.7
Northeast	120.4	62.8	– 4.8
South-Central	47.0	33.0	– 3.0
Rural ^a	100.9	60.8	– 4.0
Northeast	135.2	84.4	– 3.7
South-Central	(61.2)	28.8	– 5.3
Brazil ^b	79.6	46.1	– 4.2

Source: Pan American Health Organization, Division of Health and Human Development (DHS), 1986, 1996.

^aRates based on less than 1,000.

^bDoes not include the rural areas of the Northern region.

Brazil from 47.8% in 1975, to 27.3% in 1989, and to 17.9% in 1996. In the South-Central region the prevalence declined from 23.9% to 8.6% to 5.6% in the same years. In 21 years, the prevalence fell almost fourfold in the better-off regions but only 2.7-fold in the worst one. The rate ratios were 2.0 in 1975, and over 5 in 1996.⁴³

Ethnicity

Two ethnic groups in LAC are generally recognized as particularly vulnerable populations—the indigenous population and the population of African descent. Studies by the Inter-American Development Bank point out that there are approximately 150 million persons of African descent in Latin America. Of all the poor in Latin America, 40% are of African descent.⁴⁴ Preliminary health data from Colombia's Pacific coast and evidence elsewhere suggest that Black communities suffer poor health disproportionately.⁴⁵ Racial categories for populations in the Americas correlate with other socioeconomic indicators, such as income, education, and geography.

⁴³ Epidemiological Studies in Health and Nutrition, University of São Paulo. *Melhoria em indicadores de saúde associados à pobreza no Brasil dos anos 90*. University of São Paulo: School of Public Health. (Internal report).

⁴⁴ These data do not include the Dominican Republic and Cuba.

⁴⁵ Cowater International Inc., Inter-American Development Bank. *Poverty alleviation for communities of African ancestry*. Washington, DC; 1996.

Since the 1990s, some countries in the Region have made significant efforts to collect and analyze statistics based on race and ethnicity. Belize, Bolivia, Brazil, Ecuador, Chile, Guatemala, El Salvador, Mexico, Nicaragua, Paraguay, and Peru already include the variable of ethnicity in their national statistics. In other cases, the stratification of data by geographic location (urban vs. rural vs. hinterland or by ethnically homogeneous small areas) is a proxy method for identifying significant disparities in the health situation between ethnic groups.

It also is necessary to recognize the differences in concepts and application of race and ethnicity in North America, Latin America, and the Caribbean and to see them as the social constructs that they are. Historical and cultural factors account for the fact that race underscores a phenotype that differentiates human beings by skin color, whereas ethnic groups display cultural characteristics beyond skin color. In any case, the countries' historical and cultural development, as well as the level of relative empowerment of different ethnic groups, will determine the categories of analysis which need to be studied and monitored in every particular case.

The results of the relatively few studies of socioeconomic conditions of Latin America's indigenous populations are instructive.⁴⁶ They

⁴⁶ World Bank, Technical Division, Latin American and Caribbean Division. *Indigenous people and poverty in Latin America: An empirical analysis*. Washington, DC: World Bank; 1993.

confirm that the level of poverty among indigenous people in LAC is very high.

- In Bolivia over two-thirds of the bilingual indigenous population and almost three-fourths of the non-bilingual population are poor.
- In Guatemala, the majority of the indigenous population does not have access to such public services as water, sanitation, and electricity, and approximately half of the indigenous households have no access to safe water and basic sanitary services compared with 5% of the non-indigenous population.
- In Bolivia formal education levels of the indigenous population are three years less, on average, than the non-indigenous population.
- In Mexico poverty is highly correlated to municipalities with indigenous populations.
- Recent poverty studies in LAC communities with African ancestry identified similar trends. Poverty in these communities ranges from as low as 2% in the populations of Bolivia and Costa Rica to as high as 40% to 50% in Brazil and Colombia.⁴⁷

As expected, patterns of health outcomes according to race or ethnicity follow these patterns of socioeconomic conditions. The few studies on the topic that have been published confirm large disparities between the health of indigenous groups and national statistics:

- For indigenous groups in the Region, infant mortality is 3.5 times higher in Panama, life expectancy is 29 years lower for men and 27 years lower for women in Honduras, child mortality is more than 2.5 times higher in Mexico, and maternal mortality is 83% higher in Guatemala.⁴⁸
- A 1993/1994 survey in Colombia of 11,522 Native Americans living in indigenous com-

munities located in three geographically and culturally distinct communities—the Caribbean, the Amazon Basin, and the Andes—found that health indicators among those populations were significantly worse than for most Colombians. Life expectancy at birth for indigenous populations in 1993 was 57.8 years for women and 55.4 years for men, compared to national averages of 67 and 65 years. The infant mortality rate for these populations in 1990 was 63.3 per 1,000 live births, compared to the national average of 32.⁴⁹

- Again, these populations tend to have disproportionately low levels of access to care. In Bolivia, indigenous people report more than twice the number of illnesses and injuries and are off from work twice the number of days. However, they receive less medical help or care and have access to less preventive care such as vaccination for yellow fever than the Mestizo population, which composes the majority of the national population.
- Government efforts in Guatemala have expanded the coverage of immunization programs in rural areas, but the data shows that percentage of children without access to any form of immunization, or restricted access to health services, information, and health promotion is still higher among indigenous and rural communities (see Figures 11, 12, and 13).⁵⁰
- A 1990 study in Brazil addresses infant mortality in relation to both race and maternal formal education, and shows that for illiterate mothers IMRs were close to 120 per

Garífunas. Honduras: Guaymuras; 1993. Instituto Nacional Indigenista. La salud de los pueblos indígenas en México. México, DF: Secretaría de Salud; 1993. Health of indigenous peoples. *Rev Panam Salud Publica*.

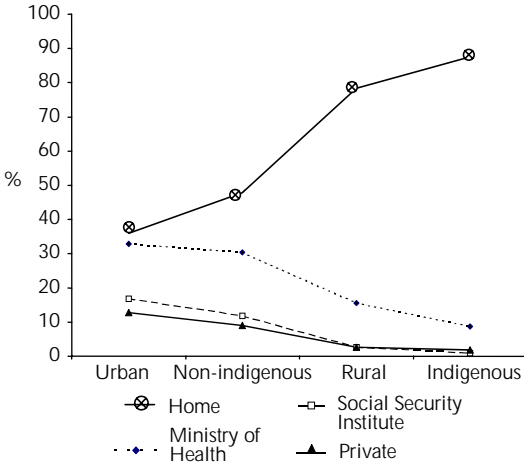
⁴⁹ Piñeros-Petersen M, Ruiz-Salguero M. Aspectos demográficos en comunidades indígenas de tres regiones de Colombia. *Salud Publica Mex* 1998; Jul–Aug; 40(4):324–329. United Nations. *World population prospects, 1998 revision*. New York, NY: UN; 1998. Pan American Health Organization. *Health statistics from the Americas, 1998 edition*. Washington, DC: PAHO; 1998.

⁵⁰ Pan American Health Organization, Health and Human Development, Public Policy and Health Program. Health systems inequalities and poverty in Latin America and the Caribbean: Trends and policy implications. Washington, DC: PAHO. (EquiLac/IHEP draft document); 1999.

⁴⁷ Cowate A International Inc., Inter-American Development Bank. Poverty alleviation for communities of African ancestry. Washington, DC; 1996.

⁴⁸ Amaris A, Flores C, Mojica J. Mortalidad infantil en Panamá: Un análisis de sus tendencias derivadas del censo 1990. Panamá; 1992. Rivas R. Pueblos indígenas y

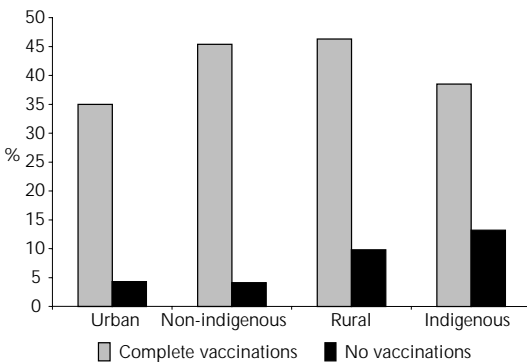
FIGURE 11. Gaps in delivery care: place of birthing by ethnic group and area of residence, Guatemala, 1995.



Source: INE (1996a).

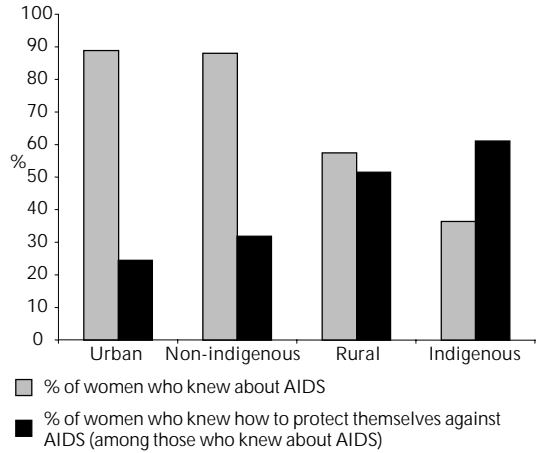
1,000 for blacks, 110 for mulattos and dark-skinned, and 95 for whites. For mothers with eight or more years of formal education, the rates were much lower, respectively 82, 70, and 57 per 1,000 live births, but these rates presented even greater relative disparities according to race than they did to formal education (see Figure 14). Black women needed between four and seven years of formal education before they could achieve the IMRs of illiterate white women,

FIGURE 12. Gaps in immunization: percentage of children with complete immunization and with no immunization, by area of residence and ethnicity, Guatemala, 1995.



Source: INE (1996a).

FIGURE 13. Percentage of women of child-bearing age who knew about AIDS and percentage of those who knew about protection methods, Guatemala, 1995.



Source: INE (1996a).

demonstrating the strength of the effect of ethnically based discrimination in health.⁵¹

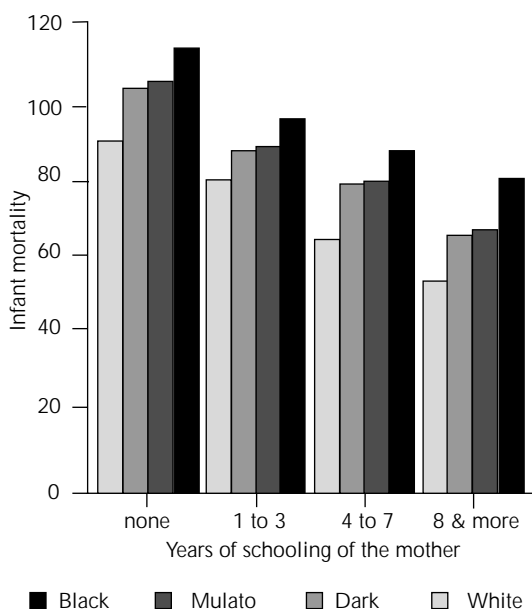
Gender

In addition to the differences in health needs that are biologically derived and specific to each sex, there are gender inequalities in health outcomes, access to care, utilization and financing of services that are socially produced. These gender inequalities constitute a reflection of the differences in women's and men's social roles, and of their relative positioning in terms of access to resources and power over health determinants.

An illustrative example of the interaction of gender and socioeconomic inequities is contained in Table 3 and in Figures 15 and 16, which show the probability of dying between 15 to 59 years of age for poor and non-poor males and females in 13 countries of the Region.⁵² The generally recognized fact that

⁵¹ Pinto da Cunha E. Raça: Aspecto esquecido da inequidade em saúde no Brasil. In Barata R et al.: *Equidade e saúde: Contribuições da epidemiologia*. Rio de Janeiro, Brazil: Abrasco/Fio Cruz; 1997.

⁵² World Health Organization. *The World Health Report, 1999*. Geneva: WHO; 2000.

FIGURE 14. Infant mortality by mother's education and race, Brazil, 1990.

mortality rates are higher among males at any age is clearly depicted by the higher male/female risk ratio of premature death—which varies from 1.6 to 4.0 among the non-poor. Among the poor, however, this ratio is considerably reduced and even reversed in some countries. In other words, poverty does not appear to be an equal opportunity dispenser of premature death among men and women.

Hostile conditions in the social environment and lack of appropriate health services seem to disproportionately affect women's opportunities for health and health care, curtailing—or in some rare instances, eliminating—the long-standing biological advantage of female survival.

The fact that women live longer does not mean that they need less health care. On the contrary, women's need for health services is greater than that of men, due primarily to the female reproductive function. Women also tend to exhibit higher rates of morbidity throughout their lives and because of their greater longevity they additionally bear a heavier burden of chronic disease. In fact, in every country and at every socioeconomic level, women consistently report a higher incidence of health problems. Even though women tend to utilize health services more often than men, if utilization is measured in relation to expressed need for care, women actually are less likely to utilize health services than men, particularly among the poor (see Figure 8).

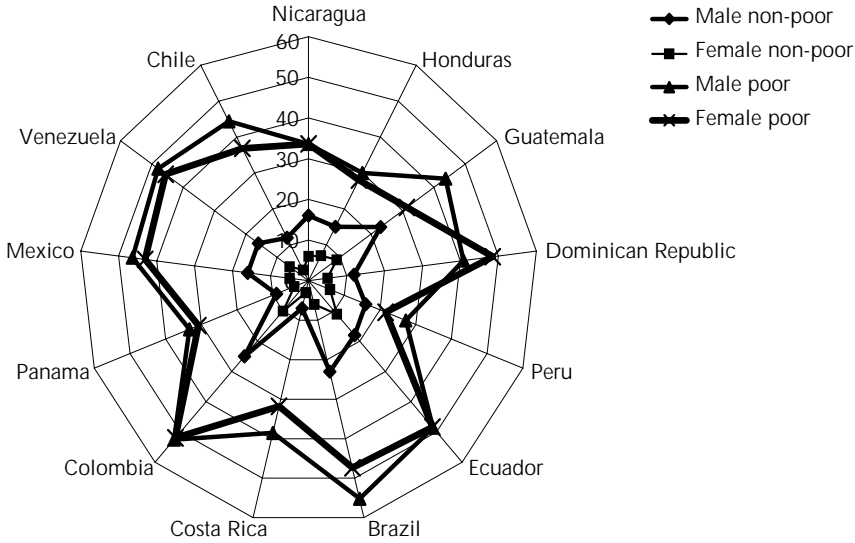
LSMS data from Peru corroborates the overall higher frequency with which women report health problems (disease and accidents) and utilize health services (see Table 4 and Figure 17). Indeed, women report 15% more health problems than men. However, when it comes to receiving health care, their use of

TABLE 3. Probability of dying (per 100) between 15 to 59 years of age, by income and sex, 13 Latin American and Caribbean countries.

Country	Male poor	Female poor	Male non-poor	Female non-poor	Poor male/female ratio	Non-poor male/female ratio
Brazil	55.2	47.4	23	6	1.2	3.8
Chile	44.4	36.9	12	3	1.2	4.0
Colombia	52.5	52	25	10	1.0	2.5
Costa Rica	38.5	31.8	7	3	1.2	2.3
Dominican Republic	40.8	48.5	12	5	0.8	2.4
Ecuador	48.6	48.4	18	11	1.0	1.6
Guatemala	43.7	31.4	23	9	1.4	2.6
Honduras	30	28	15	7	1.1	2.1
Mexico	46.4	43	16	5	1.1	3.2
Nicaragua	33.6	33.6	16	6	1	2.7
Panama	33.3	30.8	9	4	1.1	2.3
Peru	27.2	21.6	16	6	1.3	2.7
Venezuela	48	45.6	16	6	1.1	2.7

Source: World Health Organization. *The World Health Report*, 1999. Geneva: WHO; 2000.

FIGURE 15. Probability of premature mortality (per 100), 15–59 years of age, by sex and level of poverty, 13 Latin American and Caribbean countries, 1994.



health services is only 2% higher than that of men. Furthermore, the tendency toward higher utilization of female services completely vanishes in the lowest income quintile where, paradoxically, the gender gap in health-need is widest. Thus, despite the oft-

noted higher utilization of services by women, this pattern is still far from approaching the equity principle of securing access to services according to need.

Finally, because of their greater need for health care and the features of current financial systems, women have higher out-of-pocket expenses, both in absolute terms as well as in relation to their income or their to-

FIGURE 16. Poor/non-poor ratio in the probability of dying (per 100) between 15 and 59 years of age, by sex, 13 Latin American and Caribbean countries.

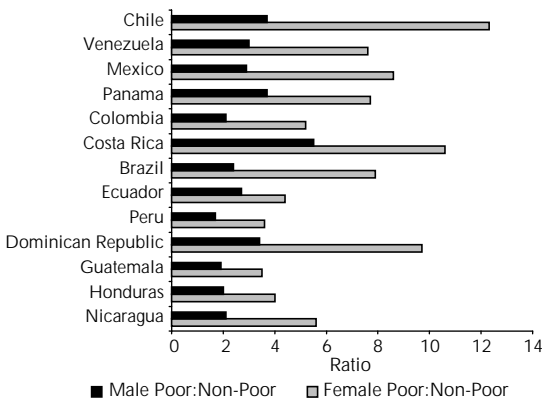
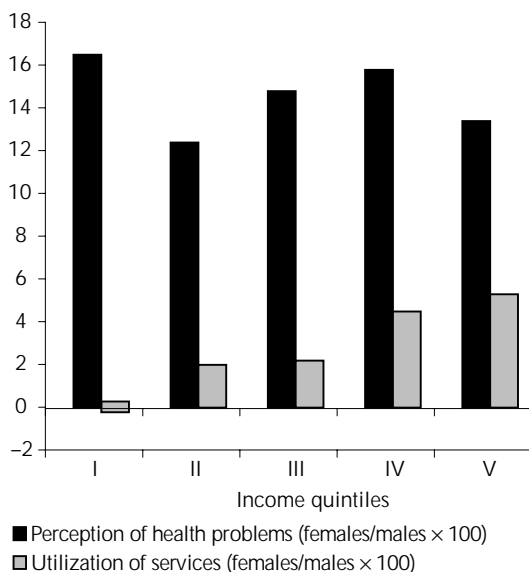


TABLE 4. Percent difference between females and males in perception of health problems and utilization of health services, by income quintiles, Peru, 1997.

Income quintiles	Perception of health problems (females/males × 100)	Utilization of services (females/males × 100)
Total	14.7	2.2
I (Low)	16.5	-0.5
II	12.4	2
III	14.8	2.2
IV	15.8	4.5
V (High)	13.4	5.3

Source: Living Standards Measurement Study (LSMS) survey, Peru, 1997.

FIGURE 17. Peru: percent difference between females and males in perception of health problems and utilization of health services, by income quintiles, 1997.



Source: Living Standards Measurement Study, Peru 1997.

tal household expenditures. This higher expenditure has implications not only for women's health but also for their financial well-being. Survey data recently reviewed in PAHO's Division of Health and Human Development for four countries show that women's out-of-pocket expenditures for health care ranged between 15% to over 40% higher than men's (see Table 5). This disparity in expenditure is compounded by the fact that throughout the Region women's income remains below that of men. For example, in 16 countries of the Americas, women's earnings in urban areas continue to range from under 60% to less than 80% of men's average income.⁵³ Furthermore, to the extent that health care and social security financing are dependent on employment status, gender disparities in access to services will continue to exist due to women's disadvantaged position

⁵³ Economic Commission for Latin America and the Caribbean. *Panorama social de America Latina*. Santiago, Chile: ECLAC; 1998.

in the labor market. This disadvantage derives from the social centrality of reproduction in women's lives which keeps more than 50% of females outside the paid labor market, concentrates those who are employed in occupations that are poorly remunerated or fall outside the coverage of social benefits—such as part-time or informal-sector jobs—and introduces discontinuity in their work histories.

Physical and Financial Access to Health Services

A series of case studies on health system inequalities was undertaken within the framework of a joint PAHO/UNDP/World Bank Project on Investment in Health, Equity, and Poverty in Latin America and the Caribbean (EquiLac/IHEP). The countries under investigation—Brazil, Ecuador, Guatemala, Jamaica, Mexico, and Peru—account for more than two-thirds of the population, Gross Domestic Product (GDP), and overall national health expenditure of the 45 countries and territories in Latin America and the Caribbean. Among the fundamental issues addressed were (a) the extent to which differences in organization, delivery, and financing of national health care systems are relevant in explaining health systems inequalities, and (b) the response of different national systems to the needs of the poor.⁵⁴

The population of the countries ranges from 3 million in the case of Jamaica to 94 million in Mexico and 163 million in Brazil. Differences in per capita income in these countries, expressed in US\$ adjusted for purchasing power parity (PPP), range from close to US\$ 4,000 in Guatemala to around US\$ 6,300 in Brazil and US\$ 7,600 in Mexico. Brazil and Guatemala are the countries with the greatest degree of income inequality; the Gini coefficient for these two countries is around 0.60,

⁵⁴ Pan American Health Organization, Health and Human Development, Public Policy and Health Program. Health systems inequalities and poverty in Latin America and the Caribbean: Trends and policy implications. Washington, DC: PAHO. (EquiLac/IHEP draft document); 1999.

TABLE 5. Out-of-pocket expenditures for health, by gender, selected Latin American and Caribbean countries.

Country	Health spending (current US\$)		Health expenditures as a percent of total household spending	
	Data	Percent difference	Data	Percent difference
Brazil				
Females	\$239.51	40.0	2.1	40.0
Males	\$171.08		1.5	
Paraguay				
Females	\$381.95	27.4	4.5	28.6
Males	\$299.77		3.5	
Peru				
Females	\$100.31	41.5	2.0	42.9
Males	\$70.91		1.4	
Dominican Republic				
Females	\$162.52	14.9	8.5	14.9
Males	\$141.48		7.4	

Source: Living Standards Measurement Study surveys for Brazil, Paraguay, and Peru; Demographic and Health Surveys for the Dominican Republic.

while the ratio of the share of income going to the top and bottom quintiles of the income distribution is 47 in Brazil and 32 in Guatemala. Jamaica has the lowest level of income inequality, with a Gini coefficient of 41 and an income share ratio of top to bottom quintiles of 8. The population living below a consumption-based poverty line—defined as those whose income is below the cost of a market basket of commodities providing a minimum intake or consumption of calories and proteins—ranges from more than 50% in Ecuador, Peru, and Guatemala to 34% in Jamaica, 17% in Brazil, and 10% in Mexico. In Jamaica, 34% of the population has an income below the poverty line (see Table 6).

The national health systems of these countries range from predominantly public, as is

the case of Jamaica and Mexico, to a wide variety of mixed systems, as are the cases of Brazil, Ecuador, and Peru. In all countries, private expenditures, including direct out-of-pocket expenditures and voluntary contributions to privately managed prepaid health plans and health insurance schemes, are the largest component of national health care expenditures, ranging from 66% in Brazil to around 50% in Ecuador, Jamaica, and Peru. For developed countries excluding the US, the public-private mix is around 70/30. There are even wider variations in out-of-pocket expenditure. It is 40% in Brazil, while in Ecuador and Peru, where only 20% of the population is covered by national health insurance, direct out-of-pocket sources is the main component of financing national health expenditure, a

TABLE 6. Selected indicators for countries participating in the EquiLAC and IHEP projects.

Country	Population (millions)	Per capita income PPP (US\$)	Gini coefficient	Ratio 20/20	Population below PL-C ^a (%)
Brazil	165.2	6,340	60	32	27.2
Ecuador	12.2	4,730	47	20	54.7
Guatemala ^a	11.6	3,820	50	31	75.2
Jamaica	2.5	3,450	41	8	34.2
Mexico	95.8	7,660	50	14	38.6
Peru	24.7	4,410	45	12	49.0

Source: World Bank, SID-CG, PAHO Health Status Indicators, 1999.

^aPL-C: Poverty line, consumption-based.

TABLE 7. Distribution of Ministry of Health subsidy, by income quintiles, urban and rural areas, and type of establishment, Peru, 1997.

Quintile	Percentages				Cumulative percentages			
	URBAN		RURAL		URBAN		RURAL	
	Hospitals	Health centers/ posts MINSA	Hospitals	Health centers/ posts MINSA	Hospitals	Health centers/ posts MINSA	Hospitals	Health centers/ posts MINSA
1 (Low)	18.1	24.3	6.0	17.8	18.1	24.3	6.0	17.8
2	20.5	22.5	10.4	16.6	38.6	46.8	16.5	34.4
3	19.7	21.5	19.2	25.1	58.3	68.4	35.7	59.5
4	21.1	21.0	31.9	17.5	79.5	89.3	67.6	76.9
5 (High)	20.5	10.7	32.4	23.1	100.0	100.0	100.0	100.0

situation which is evidently discriminatory and greatly affects the ability of the poor and disadvantaged in the Region to obtain needed health care.

One example of the disparities that exist in the use of public resources is contained in Table 7, which presents the distribution of the subsidies provided by the Ministry of Health of Peru, according to income quintiles, for urban and rural areas and by type of establishment. The results show that with the exception of Health Centers and Posts, for which the subsidies are more concentrated in the lower quintiles (poorest households), the distribution is uniform at best (i.e., approximately the same for all income groups) as in the case of urban hospitals, or very skewed in favor of the rich as in the case of rural hospitals. Within rural hospitals, almost two-thirds of the resources are used by households in the two upper income quintiles.

The same data from Peru are also presented in several concentration curves (see Figure 18). For the curves corresponding to urban hospitals and to rural health centers/posts, the distribution is almost equal. The urban health centers/posts present a progressive distribution. Rural hospitals, on the other hand, evince an extremely regressive distribution, favoring the rich.

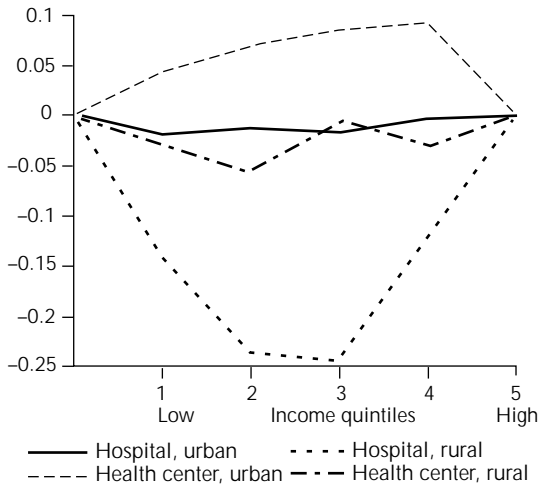
Using a methodology for measuring inequalities in health status and in the delivery of health care that was originally developed

for a project in ten European Union countries,⁵⁵ the study concluded that, despite the diversity of socioeconomic conditions and a variety of organizational, financing, and delivery systems, some common patterns emerged:

- Whereas the differences in perceived health status as measured by self-reported symptoms of illness or accident and self-assessed health between the various income groups are relatively small, differences in health status as measured by the incidence and prevalence of diseases and mortality are quite large. The low income groups are more exposed to environmental risks, are more frequently sick, live shorter lives, and report more days of lost work due to illness and disability.
- The size of the gap between health needs and utilization of health services is inversely correlated to the level of income. The lower the level of income, the larger the gap between health needs and utilization of health services.
- Distribution of private consumption expenditures compounds the socioeconomic differences associated with income/expenditure distribution.
- The larger the share of government expenditure as a percentage of national health care

⁵⁵ Van Doorslaer E, Wagstaff A, Rutter F (eds). *Equity in the finance and delivery of health care*. New York, NY: Oxford University Press; 1993.

FIGURE 18. Concentration curves for the distribution of the Ministry of Health subsidies by type of establishment (hospital or health center, and urban or rural area) and by income quintiles, Peru, 1997 (Living Standards Measurement Study survey data).



Source: EquiLAC project report, PAHO, Health in Human Development, 1999.

expenditure, the lower the differences in health care service utilization and the differences between overall consumption expenditures between high and low income groups.

- The distributive impact of government expenditures in health care services is limited by the relatively low utilization of health care services by the poor.

Based on the results from the case studies, the report made the following observations and suggestions related to the development of policy.

- The lack of significant differences in the perception of symptoms of illness or accidents among income groups suggests that the service availability may not be a major constraint on access for the poor, but rather that differing thresholds of self-perceived health and disease and other cultural, economic, and social barriers may be of more

importance in explaining disparities in health service utilization.

- Increasing availability of health care services may not result in an increase in the utilization of these services even if the services are provided free of charge or for a nominal fee. It is necessary to increase awareness among the lower income groups and the uneducated about their real need for health care, and to encourage and assist the poor to make fuller use of health care facilities for preventive purposes.
- Greater emphasis should be placed on evaluating the determinants of health status of different socioeconomic groups so as to provide a better understanding of the relevant types of health policies and health care services required to break the cycle of poverty. Improving equity in access to supply driven interventions (mainly preventative and health promotion activities, as well as health information) may improve overall population health more than demand driven services, which are more aligned to providing individual satisfaction of a perceived need.
- The development of more sensitive and specific measurements of health status, health service access and utilization, and health needs are required in order to better explore the determinants and interactions between health disparities and access to health services among the particular population subgroups. Also, there is a need to link traditional epidemiological methods and data sources (vital registries, disease surveillance, health service production statistics) with emerging sources of reliable useful data on living conditions, health status, and health service utilization, such as periodic national household surveys for monitoring of demographic, social, and economic trends (LSMS, DHS, MECOVI⁵⁶). PAHO,

⁵⁶ MECOVI: "Mejoramiento de Encuestas de Condiciones de Vida" is a UNDP, IADB, WB, ECLAC, and PAHO initiative to improve design and utilization of household surveys for use by a broader range of economic and social sector monitoring and planning purposes, including health.

through the Division of Health and Human Development's Public Policy and Health Program, is to become the fourth member institution of the MECOVI Project, which is working to improve the health component of the instruments used in the surveys, and the use of the data to study inequalities in health status, access, utilization and financing of health care. As part of this effort, a database of existing surveys is now available online with information on almost 100 surveys used in the past 15 years that have a health module, including all countries in Latin America and several in the Caribbean.

Health, National Origin, and Migration

The relationship between health and internal and international migration has been recognized for many years. The effects of migration can be observed both in the place of origin as well as at the destination, and affect health status, access to health care, and demand for health services. In general, migrant populations have worse health status and less access to health services than non-migrants. Taking this into consideration, the World Health Organization (WHO) and the International Organization for Migration (IOM) signed a Memorandum of Understanding in Geneva in October of 1999 to strengthen collaboration between the two organizations to "better meet the health needs of migrants and other displaced persons." Specific goals include to reduce the mortality, morbidity, and disability among migrants; to provide them with better health services; and to campaign for effective international health policies and support infrastructure for migrants.

International migration has increased considerably, and it is expected that this trend will continue. The most recent worldwide estimates of the number of international migrants (UNFPA) indicated that there were 120 million international migrants in 1990, accounting for about 2% of the world's population. At that time, the Region's countries that experienced significant effects from international

immigration were the United States, Canada, Belize, Costa Rica, Argentina, Venezuela, Antigua and Barbuda, Bahamas, Barbados, and Saint Kitts and Nevis: the immigrants represent more than 5% of the total population in those countries.

From the perspective of the receiving countries and the immigration policies, IOM has defined six different types of international migrants: "permanent settlers," "documented labor migrants" (including both "temporary contract workers" and "temporary professional transients"), "undocumented migrants," "asylum seekers," "recognized refugees," and "*de facto* refugees" or "externally displaced persons." The respective health needs of these groups as well as the effect of their health status on the health services of the recipient countries is different for every type of migrant. This issue is being addressed in a study that Division of Health and Human Development's Public Policy and Health Program and PAHO's Country Office in Costa Rica are developing in that country at the request of the national authorities and USAID.⁵⁷

COMMENTS AND DISCUSSION

Most countries in the Americas are currently undergoing health sector reforms. Often, these processes occur as part of broader State reforms intended to facilitate the integration of regional economies into the global market. Considering the enormous disparities in the socioeconomic status of the populations in this Region's countries, if these reforms are to succeed, they must take these inequalities into account. In terms of health, the reforms' main objective has to be coupled with general policies that diminish the gaps between the extremes of the socioeconomic spectrum and promote greater access to basic health care.

⁵⁷ Pan American Health Organization, Division of Health and Human Development, Public Policy and Health Program. Project document: Spatial mobility, processes of integration and health in Central America. Washington, DC: PAHO; 1999. (Mim. September 1999).

The Pan American Health Organization is promoting several studies and projects in this area, including a multicenter study in five countries, using data from LSMS and DHS surveys and from national censuses, to increase available knowledge about the inequalities in health and their relationships with many of their determinants. These studies emphasize the need for results that can be used to address policy issues and to design and evaluate interventions both within and outside of the health sector and to address these disparities in a meaningful way. The specific areas of actions required will vary from country to country, but the multiple causes of ill-health call for the following four levels of policy action: strengthening individuals, strengthening communities, improving access to basic services and facilities, and encouraging macro-economic and cultural changes. Acting on these levels requires a strategic approach that takes into account the interrelationships across sectors and policy levels.⁵⁸

Research provides crucial support to an equity-oriented policy agenda by providing data and analyses that address gaps in knowledge. In so doing, it helps to identify policy options and strategies, including those that would help redress power imbalances in the decision making process. The empowerment of the weak, the disadvantaged, and the marginalized requires increasing their access to information. In the words of Julio Frenk:

*If the evidence is clear and recommendations are vigorous, those who have the power to decide may be stimulated into action. At the very least, sound policy analysis places limits on the discretion of decision makers, who have to consider the costs of ignoring the available data.*⁵⁹

Given the strength of available evidence, it can be safely concluded that in LAC, as has been demonstrated in North America and Eu-

rope, the main social determinants of health are those related to differential power relations and opportunities, mainly evidenced by differences due to race or ethnicity, gender, and social class (as measured by income level, material living conditions, educational attainment, or occupation). A growing body of research has begun to develop alternative approaches to studying the health effects of these features, and these new inquiries are seeking to address the many limitations of the predominant epidemiological methods.⁶⁰ This work can be characterized by three basic assumptions about the nature of health and disease in human societies:

- Societal divisions based on race, gender, and class are the expression of social relations, not intrinsic facts of biology. Consequently, social factors, not genetics, primarily explain why people's membership in the groups defined by these social relations can predict their overall health status.
- The fact that population patterns of health and disease parallel societal divisions based on race, gender, and class implies that these relations somehow shape the health of groups on both sides of these social relations; disparate social and economic situations somehow become "incorporated" into biological pathways that affect health and survival.
- The responsible mechanisms exist at both the social and biological level, and both levels must be studied to understand what creates population patterns of health and disease.

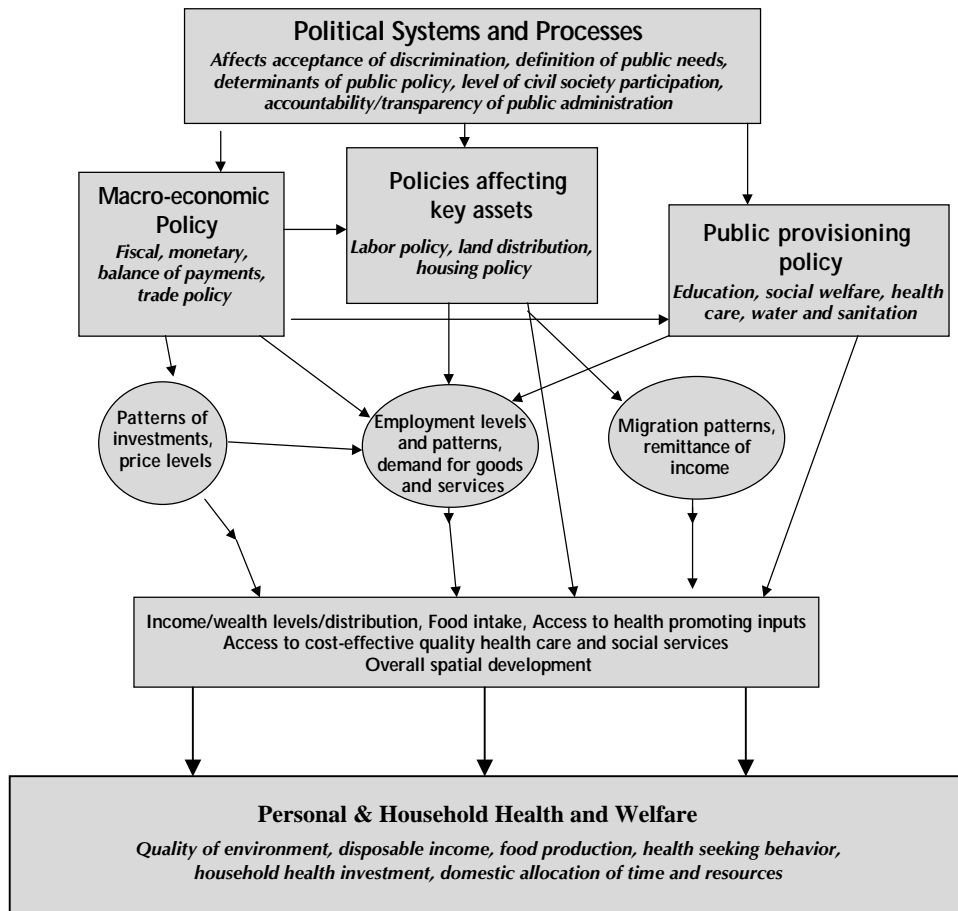
Although the results of these studies point to large, persistent, and often increasing disparities in the Region, much more methodological and empirical research must be done to better study how and why socioeconomic factors are related to health status, access to

⁵⁸ Gilson L. In defence and pursuit of equity. *Soc Sci Med* 1998; 47: 1891-1896.

⁵⁹ Frenk, J. in Gilson L. In defence and pursuit of equity. *Soc Sci Med* 1998; 47: 1891-1896.

⁶⁰ Krieger N, Rowley DL, Herman AA, Avery B, Phillips MT. Racism, sexism and social class: Implications for studies of health, disease and well-being. *Amer J Prevent Med* 1993; 5 (suppl.).

FIGURE 19. Policy factors and mechanisms influencing personal and household health and welfare.



Source: Rockefeller Foundation, Global Health Equity Initiative Report. New York.

care, and utilization of health care services. In Figure 19, a conceptual framework for the identification and analysis of the interrelations between the macro-determinants of health equity is presented. These include the political system and processes (governance as well as level of social and political participation), macroeconomic policy, labor, agrarian and housing policies, as well as policies related to public provisioning of social goods, all of which must be considered to assess the effectiveness of potential interventions to improve health and welfare levels of the population

subgroups presenting avoidable and unfair health disparities.⁶¹

Many of the democratic governments that are now the norm in LAC are confronting difficulties in satisfying accumulated and unmet demands among their citizens, a situation that in time could compromise governance and stability in the region. Political crises as well as the external economic uncertainty that characterizes the global economy may worsen lev-

⁶¹ Rockefeller Foundation. Global Health Equity Initiative Report. New York, NY: Rockefeller Foundation. In press.

els of social exclusion in Latin America and the Caribbean. There is strong evidence that a major portion of health problems in LAC will not be resolved without transforming our societies into more equitable ones in terms of opportunities for human development of the majority of the population. The prevailing model of economic growth without distribution has led to the growing recognition that the agenda of economic reform of the 1990s must be complemented by a comprehensive package of social and human development initiatives, so that growing health disparities in Latin America and the Caribbean can be successfully addressed.

Based on the conclusions of a recent inter-agency and interregional consultation for the development of future directions in research and policy analysis on health equity,⁶² as well as the contributions of Gilson⁶³ and others, and especially the work that PAHO has been carrying out in the region, the following strategic areas are worthy of consideration as the basis for an agenda to achieve greater equity and fairness in the health of the people of the Americas. These points would also serve as the main areas for the development of technical cooperation activities in health geared towards supporting regional and country level initiatives.

1. **Measurement:** not only to continue the development of instruments and methods for measuring inter-group differences, but also to develop tools to help program managers set targets for reaching the poor and disadvantaged and measure progress towards those targets.
2. **Modification of health services:** it is not sufficient to increase access to existing services; we must also modify services to make them more relevant for the health problems of the poor and marginalized.

⁶² Rockefeller Foundation, World Bank. Health equity consultation summary: Current activities and future directions in health equity. Crystal City, Virginia; 1999.

⁶³ Gilson L. In defence and pursuit of equity. *Soc Sci Med* 1998; 47: 1891–1896.

3. **Broader determinants of health change:** it is necessary to expand current concern with equity in health care access to other social determinants of health, such as maternal education, water, sanitation, food security, housing and employment, in order to identify effective approaches to improving health.
4. **Advocacy for health equity:** the application of sophisticated statistical techniques for the measurement of intra-country health disparities by socioeconomic class will not have much impact if effective means are not found to introduce this information into the political process to produce programs and policies more relevant for the health of the poor. This includes widening the scope of interaction to include civil society organizations that will assume equity monitoring and “health-watch” roles to influence public policies.
5. **Identification of effective approaches:** Many local policy makers concerned with health equity have already developed effective approaches that need to be recognized and disseminated by international cooperation agencies, a need that would be filled by a systematic search for natural experiments worthy of assessment and suitable for sharing and replicating.

Some of the main conclusions and consequent questions that PAHO’s future work may have to address in order to fully develop an effective equity focus for its technical cooperation are highlighted below.

Health care plays a limited role in achieving health status gains and redressing health disparities.

- What are the health systems’ “manageable interests” in reducing health disparities?
- Which health interventions have the highest impact on reducing disparities, and for which groups?
- How can “cost-effectiveness” as a criterion for selecting health interventions be complemented by “health equity-inducing potential”? (For example, the provision of water

and sanitation is not highly cost-effective as measured by DALYs per dollar, but it has a large impact on reducing disparities in health outcomes by greatly improving health of the poor.)

- What health promotion and preventative services (supply driven) are most beneficial to which group?
- How much should be spent on health care, given available resources in each country?

Broader interventions are required to promote health and reduce health disparities.

- What are the health system's "areas of influence" through which it can better exercise advocacy for equity-inducing policies?
- Which groups benefit or lose most, and from which interventions (categorizing by income, ethnicity, sex, education, occupation, place of residence, national origin)?
- How can the "health equity impact" of public policies and interventions be estimated and assessed as part of the policy analysis process?
- What economic policies best promote health development and equity in health?

The analytical approaches used in policy development should reflect these values and better inform policy making and resource allocation.

- How could social weights be incorporated into DALY's and other measurements of burden of disease to reflect social equity values?
- How can the "equity inducing potential" of specific health and other interventions be measured?
- How can existing sources of data, both within and outside the health sector, be better utilized for determining unfair health disparities?
- How can "multi-level" and "multi-source" methods be developed for combining data from different sources for identifying and monitoring health inequities?
- Should the measurement of health dispari-

ties illustrate aggregate differences or differences across individuals? What are the policy implications of each approach?⁶⁴

- What different measurement tools and indicators for health disparities need to be developed and utilized for local level program monitoring? For advocacy purposes? For resource allocation decisions? For target setting and trend analysis? For health impact assessment and evaluation?

Information dissemination is a key input in the work for equity in health, both for advocacy at the top as well as for empowerment below.

- What simple and direct methods and measures can be developed and utilized for quantifying, reporting, and monitoring trends in health disparities?
- How can equity-related information on access to health, both at the local, as well as at the national and global levels, be increased for civil society groups in general and for poor and marginalized groups in particular?
- How can effective participation by civil society and stakeholders in monitoring and advocating for health equity be stimulated?
- How can health equity become a primary national health objective, with clear measurable health goals, both for health related outcomes as well as for determinants?

Health system research must develop broad-based evaluation strategies that allow for the analysis of the equity impact of public policies, including health sector reform.

- How can we develop more effective methods to assess and monitor the impact of financing methods, including user fees, cost recovery and prepayment schemes, decentralization, internal markets, and other reform measures, on different populations?

⁶⁴ For an alternative viewpoint on the issue of measurement of health disparities across aggregate groups or individuals, see Murray CJL, Gakidou EE, Frenk J. Health inequalities and social group differences: What should we measure? *Bull WHO* 1999; 77 (7): 537-543.

- How can we better identify the impact of non-physical and non-financial barriers on access to health services, such as quality of care (ineffectual poor quality services), gender, cultural factors, national origin, and others?
- How can we better determine objective need, in contrast to perceived need, in order to assess equity in terms of health service utilization?
- What are the health services that require an active “supply” strategy vs. those that are more likely to be spontaneously demanded? How does this difference affect utilization and health outcomes?

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