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### COMPREHENSIVE HEALTH OF ADOLESCENTS

Among the relevant agreements that form the basis for the present document are the declaration of policies on children and adolescents signed by the Heads of State during the World Summit for Children, and the resolutions of the Governing Bodies of the World Health Organization and the Pan American Health Organization relating to the formulation of policies, plans, and programs for the comprehensive health of adolescents and young people at the global, Regional, and national levels.

This document summarizes the demographic, educational, and legal situation of people in this age group. It includes an analysis of the health-disease process and the nature of comprehensive care, including a discussion of the specific problems of adolescents in terms of growth and development, reproductive health, and risk-prone behaviors and their consequences.

On the basis of the political antecedents and taking into account the situational framework, a Regional Plan of Action is proposed to the Executive Committee, with a view to intensifying technical cooperation to support the creation or reformulation of national comprehensive health programs for this important population group. The Executive Committee is requested to analyze the situation of adolescent health and the proposed response by PAHO contained in the Plan of Activities in section III, so that recommendations may be made to the Executive Board regarding the action to be taken.

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## COMPREHENSIVE HEALTH OF ADOLESCENTS

### I. POLITICAL FRAMEWORK AND ANTECEDENTS IN THE REGION

#### 1. World Summit for Children

The world's Heads of State have committed themselves, in the World Declaration on the Survival, Protection, and Development of Children<sup>1</sup>, to foster the optimal growth and development of children by supporting the efforts of parents to nurture and care for children, from the earliest stages of childhood through adolescence, and by working for programs to enable children to grow to adulthood within a supportive and nurturing cultural and social context, and giving special protection to the working child and working for the abolition of illegal child labor. In addition, they agreed to do their best to ensure that children are not drawn into becoming victims of the scourge of illicit drugs. The same Declaration draws attention to the fact that 500,000 of the world's young mothers die each year, a tragedy which could be avoided if greater attention were given to the health, nutrition, and education of women. The document also emphasizes the importance of the cultural setting of the community and the family, as well as the environment, for the growth and development of children (up through adolescence).

Among the goals proposed the following deserve special attention:

- Improved protection of children in especially difficult circumstances;
- Special attention to the health and nutrition of the female child and to pregnant and lactating women; and
- Access by all couples to information and services to prevent pregnancies that are too early, too closely spaced, too late, or too many.

#### 2. World Health Organization

Over the last 20 years the World Health Organization has repeatedly acknowledged the signal importance of the health and well-being of adolescents and young people and has called for the assignment of high priority to programs directed toward the development and rehabilitation of children and to prevention of the diseases that affect

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<sup>1</sup> United Nations, World Declaration on the Survival, Protection, and Development of Children, World Summit for Children (September 1990).

them. Numerous resolutions approved by the World Health Assembly have addressed the subject, with special mention of the problems related to the sexually transmitted diseases, reproductive behavior, smoking, and the abuse of alcohol and other psychoactive substances (see references 1-10). The last of these resolutions (WHA42.41) recognizes the comprehensive nature of health and health care for young people (see Annex II).

The final report of the Technical Discussions on the Health of Youth, held in May 1989 in conjunction with the Forty-second World Health Assembly (11,12) recommended that WHO collaborate with the Member States in strengthening national institutions to undertake research aimed at improving knowledge about the situation of youth, that governments have a declared health policy that clearly spells out plans of action and the manner in which they are to be implemented, that governments support the involvement of young people, and that WHO continue and strengthen its collaboration with the agencies and institutions concerned.

### 3. Pan American Health Organization

The Governing Bodies of the Pan American Health Organization have addressed the problem on a number of occasions, among them at the meetings of the Directing Council in 1984, 1988, and 1991 and the XXIII Pan American Sanitary Conference in 1990. The XXXV Meeting of the Directing Council analyzed the status of maternal and child health and family planning programs (13, 14), reviewed progress to date in execution of the strategies recommended by the Pan American Sanitary Conference (15), and took note of the commitment assumed by the Presidents and Heads of State of the Americas in the Declaration of the World Summit for Children (16). Resolution XVI of the XXXV Meeting of the Directing Council (October 1991) requested the Director (17) to include the subject comprehensive health of adolescents and youth on the agenda of the Directing Council for 1992.

In recent years PAHO has given greater importance to cooperation activities relating to the health of adolescents and young people, as seen in the publications that have contributed to the support of initiatives in this area in the countries (19-24).

## II. EXPERIENCES IN THE COUNTRIES OF THE REGION

Activities relating to health care for young people have taken on growing importance in the Region during the last 15 years. Recently greater emphasis has been

placed on the psychosocial approach, as problems associated with reproductive health, violence, and the consumption of psychoactive substances have become increasingly common.

The efforts that have been undertaken, however, have not made a notable impact, given their limited coverage, their focus on the solution of specific problems, and, especially, the lack of specific policies that would ensure the permanence, coherence, and comprehensiveness of these actions.

## 1. Epidemiological Analysis of the Health of Adolescents and Youth: Facts and Trends

### 1.1 Demographic Aspects

Of the approximately 196 million adolescents and young people (10-24 years) in the Region of the Americas, 137 million, or 69%, live in Latin America and the Caribbean. By the end of the present century, this figure will reach 172 million (25) (Tables 1 and 2).

As a result of the phenomenon of demographic transition, the countries of the Region have seen increases in the population of adolescents and young people in terms of both the proportion and absolute numbers. This growth translates into increased demands on the educational, health, labor, and other systems.

The accelerated rate of urbanization in the countries of the Region--which meant that, in 1990, 72% of their total population was living in urban areas--is especially marked in the population of adolescents and young people. It is estimated that by the year 2,000 about 80% of this population will be living in urban areas, compared with a figure of 75% for the total population (26).

This rapid urbanization in the Region has been seen mainly in the marginal sectors, where the population lives in precarious socioeconomic conditions. The fact that people are crowding into cities in large numbers is helping to create a psychosocial environment that is plagued by violence and juvenile delinquency.

### 1.2 Education

All the countries of the Region have shown notable improvement in the educational level of adolescents and young people and a sizable decline in illiteracy (27-31) (Table 3).

Despite the overall progress, however, there are still marked disparities in the Region (29), with illiteracy rates lower than 5% in some countries and higher than 40% in others. In those where it is most prevalent, it has been shown that women have fewer years of schooling and that the rates of illiteracy are three times higher in rural areas than in the cities.

### 1.3 Legal Aspects

The term "adolescent" is not sanctioned for use in legal texts, preference being given to such expressions as "minor," "underage person," and "juvenile."

"Legal majority"--that is, the age at which a person becomes legally "competent"--is determined arbitrarily (32). In most cases it is 21 years, with a trend for it to be lowered to 18.

From the health perspective, in many cases such legal provisions constitute a barrier that limits a young person's options and his or her access to services. This is particularly true, *inter alia*, for medical care and fertility regulation methods.

### 1.4 Employment

The problems of unemployment and underemployment stemming from the Latin American economic crisis have had an especially acute effect on the weaker socioeconomic groups and young people, women, and minority ethnic groups have been particularly hard hit.

It is estimated that there are some 10 million working children in Latin America, and many of them are in illegal situations, underpaid, without the benefits of social security, and engaged in high-risk activities that are hazardous for their health (26). Table 4 shows the trends in participation by adolescents and young people in economic activity over a 15-year period (1970-1985), in which a reduction can be seen in the group aged 10-14.

In some countries children and adolescents begin to work before they have the full biological, psychological, or legal capacity to do so. In addition, many of these children and young people are also exposed to fatigue by virtue of the fact that at the same time they are trying to work and at the same time go to school and keep up their scholastic performance, which they rarely manage to do, the result often being that they drop out and end up cutting off their chances to get better jobs in the future (27, 31, 32).

### 1.5 Socioeconomic Conditions

According to the Economic Commission for Latin America and the Caribbean (ECLAC), the proportion of the population living in poverty in these countries ranges from 19% to 85%. This is reflected in the per capita expenditure, which is as low as US\$10 per year in some countries (Table 5).

The adverse economic situation has had an enormous impact on adolescents and young people in Latin America, and it has translated into reduced qualitative and quantitative availability of food; inadequate health services in terms of quantity, quality and opportunity; inadequate educational systems; limited access, or none at all, to recreational and sports activities; insufficient training, or no training, for the development of working skills; and underemployment and unemployment.

### 2. The Health-Disease Process and the Nature of Care

The sources of information for analysis of the health-disease process among adolescents and young people in the Region are the same as those that are available for other age groups, with the same strengths and weaknesses. Several international agencies publish relevant information on a periodic basis, but its usefulness depends on the quality and recency of the data generated in the countries.

The health needs of adolescents and young people have not yet been fully evaluated. This circumstance results both from the nature of the information available and the shortage of professionals trained to detect their problems.

The health of adolescents and young people, more than any other age group, requires a multisectoral and cross-disciplinary approach, both for diagnosis and for treatment and prevention. Statistics on literacy and schooling, school dropout rates, sports and recreation, working conditions, and the health protection of underage workers, etc., in themselves are indicators of health, some of them with the advantage that they represent "positive" approximations to the measurement of health.

### 3. General Morbidity and Mortality

General mortality in the group aged 10-24 years is low (26), as shown in Figure 1. This fact probably explains why such a low priority is assigned to health care for this group.

The information available on several of the countries in Latin America indicates that between 1979 and 1988 age-adjusted mortality in adolescents 10-19 declined from 1.09 to 0.74 per 1,000, as shown in Figure 2 (27).

Table 6 gives mortality figures circa 1985 for adolescents aged 10-14 years in selected countries, and it can be seen that the rates ranged between 138 and 18.9 per 100,000 population. The sex differences confirm that the risk is greater for males, especially in the group aged 15-24 (Tables 7 and 8).

The leading causes of death in adolescents in all the countries of the Region are accidents, poisonings, and violence, followed by malignant tumors (mostly leukemia and lymphoma). Mortality from problems associated with reproductive function is also high among women in this age group.

Accidents and violence are responsible for large numbers of potential years of life lost and consequently for a negative economic impact, which is ample justification for the implementation of prevention programs in this area. Moreover, the high death rates among adolescents related to the reproductive process point to the need to establish adequate programs for pregnancy monitoring and assistance during delivery and the puerperium while at the same time taking steps to prevent unwanted pregnancies through sex education, family planning, and programs for the control of sexually transmitted diseases.

The information available on morbidity comes from sporadic surveys and data provided by outpatient clinics, hospital records, and emergency services. Its usefulness is relative, since the records suffer from the weaknesses already indicated, and the information covers only a fraction of the population that received care.

There have not been many morbidity surveys in the countries of the Region. In one of them (34) it was found that adolescents experience 0.96 episodes of acute disease/person/year, of which 0.26 receive assistance through the health care system, versus an average of 5 episodes/person/year in the total population, half of which receive care.

When the care is given by specially trained personnel, it is possible to see the specific nature of the health problems of adolescents, both biological and psychosocial: normal variations in the process of growth and development, acne, orthopedic disorders, sensory problems, menstrual disorders, and conditions related to reproductive health, anxiety, substance abuse, etc. (33-35).

#### 4. Specific Problems

##### 4.1 Problems Related to Growth, Development, and Nutrition

Nutritional problems in adolescents and young people are only partially understood from the limited research that has been done in this area.



#### 4.2. Problems Associated with Specific Deficiencies

Iron-deficiency anemia is a significant problem in the countries of the Region (Table 9). Disorders due to iodine deficiency, including goiter, continue to be a problem, especially in the Andean countries (Table 10).

Although problems relating to oral health include other pathologies, dental caries are by far the most important in terms of frequency and early occurrence. The prevalence of caries approaches 50% in children under 5 and is around 90% at age 15. Dental caries, in addition to having an impact on physical health, have repercussions for the mental health of adolescents and young people because of their negative effect on appearance during a period in life when body image is very important.

#### 4.3 Reproductive Health

##### Trends in the Fertility of Adolescents

Specific fertility in the group aged 15-19 ranged, during the period 1985-1990, from 61 to 133 per 1,000. In general, fertility rates in adolescents tend to be higher in countries where fertility is already high (5.5 or higher) than in those where it is low (lower than 3). Between 1950-55 and 1985-90 the rate declined in most of the countries by between 10% and 52%. However, the decline in specific fertility at later ages means that the proportion of pregnancies and deliveries in minors under 20 years of age is increasing (25).

##### Births among Teenagers

Although fertility in adolescents has shown a tendency to decline, the absolute number of births among teenagers is increasing because of the larger population in that age bracket (25).

In the countries of the Region as a whole, 14.5% of all births are to mothers under 20, and in five countries the rate is over 18%.

##### Determinants of Fertility in Adolescence

The earlier occurrence of menarche that is being observed in the Region is accompanied by certain attitudes and behavior toward the opposite sex, and these things in combination may lead to the initiation of sexual activity at a younger age. There are major contradictions in this area: on the one hand, biological characteristics are permitting earlier reproduction, but on the other, society is delaying the age at which the individual is regarded as an adult with full rights and responsibilities.

In Latin America the average age of marriage is 20.5 years. The legal minimum age is 12 years in five countries and 14 in nine others. There is not always a correlation between legal age and reality. In any case, among the factors bearing on marriage, access to intermediate and higher education, employment, and place of residence are more important than legal age. According to a recent survey on demography and health conducted in eight Latin American countries, approximately half the women had been married or had initiated a sexual relationship before the age of 20 and one-third before the age of 17.

### Pregnancy Trends in Teenage Women

In the Region there is extensive literature documenting the negative impact of early pregnancy. In general, a child born to a teenage mother faces greater risks than a child born to a mother over 20 (38-43), and this translates into higher rates of low birthweight, greater perinatal morbidity, and later, increased risk of negligence and abuse.

In psychosocial terms, teenage pregnancy affects the woman's life plans, since it tends to interrupt or bring to an end her schooling, reduces her career expectations, and makes for an uncertain future (44-48).

### Abortion and Maternal Mortality

The highest maternal mortality among adolescents and young women is found in a country of the Region where there are 17.8 deaths for every 100,000 women aged 15-24. The same country also has the highest mortality from abortion, at 4.8 per 100,000 women aged 15-24.

In general, 30% of the mortality from abortion in Latin America occurs in women under the age of 24.

### Contraception

Contraceptive use among adolescents is lower than among women of all ages. Even among teenage women who are married the rates are as low as 9% in Guatemala, although levels are higher in other countries, such as Brazil (50%) and Colombia (30%). The figures are lower in rural areas (49).

## 4.4 Sexually Transmitted Diseases

Very little is known about the incidence of sexually transmitted diseases among adolescents in the Region, although partial studies suggest that the rates are probably quite high (50, 51).

AIDS cases among adolescents represent 4% of all reported cases in all countries except Honduras, where the figure is 8.3%, and the United States, where it is 9.8%

According to a report from WHO, at least half the persons who are infected with the virus are under 25 years of age. This makes AIDS a problem of major importance in the young population, especially if it is considered that the figures on reported cases give an incomplete idea of the magnitude of the problem since they do not indicate the total number of persons infected.

#### 4.5 Accidents and Other External Causes

Information from various sources in the Region shows a worrisome increase in the complex problem of violence and the consequent negative impact on quality of life, loss of life among adolescents and the young adult population, and high socioeconomic cost. Health problems associated with violence are the principal cause for recourse to assistance in these age groups.

In addition to accidents, homicides, and suicides, violent deaths among adolescents and young people also stem from armed internal and international conflicts, sometimes with a very high toll.

Death rates from external causes, namely accidents and violent acts, are high in most of the countries. In general, mortality from these causes has declined in recent years in the group aged 10-14, but it remains high and is tending to increase, albeit with wide variations in the Region, in those aged 15-24.

Accidents are among the five leading causes of death in the general population of the Americas (52), ranking first in the group aged 15-24 (Table 11). Estimates by the World Health Organization (25) indicate that for every adolescent who dies in a traffic accident, 10 to 15 survivors in the same age bracket are left with serious sequelae, and from 30 to 40 present less severe injuries but still require medical or psychological care or rehabilitation--figures that parallel the findings in North America (53).

Accident proneness, the attribute whereby some persons tend to suffer an excessive number of accidents in comparison with their peers (54), is observed very often at this stage of life. An analysis of motor vehicle accidents shows that this category accounts for somewhat more than 20% of the deaths from external causes in this group (Figure 3).

Homicide, the most explicit expression of violence, is the second leading cause of death in adolescents and young people in half the countries of the Region and ranks between third and fifth place in the other half (Table 12). Homicide is particularly important as a cause of death in the male population aged 15-24, and there is one country in which the rate in this group is as high as 144 per 100,000.

Suicide is also an important cause of death in the Region, with overall rates that range between 22.6 and 0.2 deaths per 100,000 population. In 19 countries of the Region suicide ranks among the first five causes of death in the group aged 15-44. Currently it tends to occur in the lower age ranges, and it already ranks among the five leading causes of death in children aged 5-14 in five countries of the Region.

#### 4.6 Substance Use

The use of psychoactive substances in the Region among adolescents and young people has become extremely widespread. Although there is less substance use in the countries of Latin America, this problem is on the increase, especially in certain groups such as young people from broken homes, school dropouts, the unemployed, those belonging to the poorer strata and the marginalized population, and those who present certain pathologies (55).

It is estimated that from 10% to 30% of all adolescents have used illegal substances, the frequency of use depending on availability and their capacity to pay for it (25).

The frequency of smoking and alcohol consumption is high among young people and is tending to increase.

##### Alcohol

Consumption of alcoholic beverages in the world has increased in recent decades (56), particularly among young people. In Chile (57) it was found that more than 12% of the students in the capital city of Santiago drank to excess. In Mexico (58) a survey revealed that among a population of 12-17 year-olds interviewed 17.3% consumed alcohol at least once a month, 5.9% did so one to three times a month, and 4.4% did so at least once a week. In all, 5.2% of the population aged 18-29 met the criteria for alcohol dependency.

##### Tobacco

Consumption of tobacco in Latin America and the developing world, in contrast with the steady decline in most of the developed countries, is on the increase, especially among young women.

A National Survey on Addiction carried out in Mexico in 1988 (59) showed that 42.4% of all smokers were between the ages of 18 and 29; 6.6% were between 12 and 17; 52.1% had started the habit before age 17; and only 5.5% had begun after age 30.

## Drugs

The abuse of psychoactive substances by the young population of the Region has increased considerably, and in some countries it is a major public health problem, with prevalences as high as 80% in the under-25 age group.

It has been found that tobacco use, as well as alcohol consumption, are linked to the use of chemical substances in general by the parents of the young people studied (61).

There are clear signs of increasing use of certain substances, especially marijuana, cocaine, tranquilizers, and stimulants of the central nervous system.

### 5. Suggested Responses

In order to respond to this problem, it is necessary to develop policies, plans, and programs within a conceptual framework that will make it possible to understand the close relationship between comprehensive health, the quality of life that comes from well-being, and emotional and social development. There are imposing challenges that must be met. These include:

- a) Reducing unequal opportunities for children, adolescents, and young people and their families;
- b) Increasing the levels of health promotion and protection through the prevention chain; and
- c) Strengthening capacity to meet the biological and psychosocial needs of this age group.

The attainment of the following four basic goals may be the key to meeting these challenges:

- a) Increasing the capacity for self-care;
- b) Promoting mutual aid;
- c) Achieving healthy microenvironments; and
- d) Promoting healthy lifestyles and behaviors.

The foregoing will require consolidation of the following strategies:

- Strengthening of social and group participation;
- Strengthening of the social sectors (health, education, labor, legislation, social promotion, recreation, and others);
- Intersectoral coordination of policies, plans, and programs; and
- Application of integrative and participatory approaches such as: a risk-based approach that involves the control of risk factors and the promotion of protective factors, family- and community-based approaches, an ecological approach (microenvironments), and emphasis on actions at the local and primary care level.

For approximately the last three years the Organization has been working toward the development of a proposed Plan of Action for the quadrennium 1992-1995, which is based in part on a strategic project supported by the W.K. Kellogg Foundation and will generally follow the Conceptual Framework presented in Annex I. Below is a summary of this Plan of Action.

### III. PLAN OF ACTION FOR THE COMPREHENSIVE HEALTH OF ADOLESCENTS

**General Purpose:**

To contribute to the development of national and Regional initiatives aimed at ensuring comprehensive health care for adolescents in the countries of the Region.

#### A. OBJECTIVES

The project described below constitutes an important axis of the international cooperation with the countries in the comprehensive health area of comprehensive health of the adolescent.

**General Objectives:**

- 1) To develop support mechanisms with a view to optimizing the participation and performance of the national, subregional, and Regional networks of comprehensive health care programs for adolescents and to implementing

alternative methodologies of participation, especially by adolescents, in order to promote and strengthen comprehensive health care at the local level.

- 2) To develop ways of adapting the health services to provide comprehensive health care for adolescents.
- 3) To design and implement a plan for human resource development in order to facilitate the teaching and delivery of comprehensive health care for adolescents.

## B. STRATEGIES

The proposed project itself is a strategic mechanism for strengthening, accelerating, and ordering the gradual process of adolescent health development in the Region. It, in turn, will be carried out within the following strategic framework:

1. From a process standpoint, based on the principles of primary health care (PHC):
  - a) Give emphasis to basic and primary prevention through the promotion of protective measures, the control of risk factors, and the reduction of morbidity and mortality.
  - b) Apply the following comprehensive approaches:
    - Risk approach;
    - Community-based planning and promotion of community and intersectoral participation;
    - Family approach for prevention and restorative intervention; and
    - Interdisciplinary and intersectoral teamwork.
  - c) Encourage the involvement of youth organizations and adolescents and young people in the various stages of programming.
  - d) Apply a contextual approach to the interpretation of the origin and relative importance of determining factors, lifestyles and health-related behaviors, and levels of health and development in adolescents, taking into account the:
    - Political and economic context (macro);
    - Cultural context and changes therein (intermediate);

- Local context (micro):

- . Family;
- . Schools;
- . Workplace;
- . Recreation areas;
- . Place of residence;
- . Other.

2. From the operational standpoint, there will be five main strategies:

- a) Utilization of local, regional, and national resources through scientific societies; technical-scientific institutions; subregional agreements; leaders in maternal, child, and adolescent health; local programs and projects such as the Kellogg and UNFPA projects for the development of activities in the areas of scientific dissemination, training, and methodological evaluation and demonstration. The technical, technological, and logistical resources available at the Regional (PAHO) and global (WHO) levels will be utilized.
- b) Activation and strengthening of networks of leaders of community-based projects, programs, and institutions within and between selected countries.
- c) Utilization of a subregional focus for the selection of countries and for certain activities, taking advantage of the geographical proximity of countries and their relative similarity in terms of needs, resources, culture, etc. The objective is to optimize resources and promote a possible exchange of cooperation and experiences. From the subregional level activities may be extended to the national and local levels through the formation of multipliers (cascade effect).
- d) Selection of six countries for the formation of a network to coordinate the development actions, supported by centers located in another network comprising another five countries of the Region. The first network of focal countries will include Argentina, Bolivia, Guatemala, Paraguay, the Dominican Republic, and an English-speaking Caribbean country to be selected. The second network will incorporate centers in Brazil, Chile, Colombia, Costa Rica, and an English-speaking Caribbean country to be selected.



As is evident, the two networks group together countries located in various subregions of Latin America and the Caribbean. This is important because development activities such as training, dissemination of information, observation visits, and others may be expanded to include participation by neighboring countries.

In all the countries involved a special effort will be made at the central, regional, and local levels to initiate activities in the area of comprehensive health care for adolescents. There are also resources at the local and regional level (in the case of the State of São Paulo, Brazil), as well as at the national level (Costa Rica), with valuable experience that may prove useful to other areas within the same country and to other countries. It should also be emphasized that there is expected to be interaction within each network and between them. At the least, the following types of activities can be carried out:

- Activities in every focal country with support from the reference centers.
  - Activities involving the entire focal network and the network of support or reference centers.
- e) Identification in the focal countries of centers for the care of adolescents that exercise leadership in the national context. Examples of such central points might be a university that is linked to the health services and the community or another recognized national, regional, or local entity such as a health commission or committee for adolescent health within a pediatrics society. The plan of action in each focal country should benefit an expanding network of centers and programs which will gradually become an important resource for national initiatives or programs for the comprehensive health of adolescents.

As is evident from the foregoing discussion, an attempt has been made to represent the various subregions: Central America and the Caribbean, the Andean countries, Brazil, and the Southern Cone. This approach will make it easier to concomitantly and successively expand the results, both to other countries and within the same country, and to carry out development activities on the subregional and Regional levels as part of the regular international cooperation activities of the Pan American Health Organization. At the same time, it is hoped that the activities carried out in the countries selected will help to strengthen the local health programs being promoted by PAHO as a basic strategy for application of the philosophy of primary health care while also strengthening the community-based adolescent health projects that are being sponsored by the Kellogg Foundation in Latin America and the Caribbean.

## C. PLAN OF ACTIVITIES

In order to facilitate implementation of the Plan of Action, four basic components have been included:

1. Strengthening of the Regional network of institutions that work with adolescents;
2. Development of ways of adapting the health services to provide comprehensive health care for adolescents;
3. Design and implementation of a plan for human resource development to facilitate the teaching and delivery of comprehensive health care for adolescents;
4. Development of operating capacity for execution of the project.

The first three components correspond to the three General Objectives set forth above. The last is aimed at strengthening PAHO's structural and functional capacity to implement the project. It should be emphasized that the four components cannot be considered separately since they are complementary parts of a whole.

Listed below are the activities to be carried out under the foregoing components:

### Component 1:

Strengthening of the two networks of countries involved in the project.

#### Activities:

- 1.1 Promotion and dissemination of publications, standards, and programs related to comprehensive health care for adolescents.
- 1.2 Strengthening and support for three information centers at the country level.
- 1.3 Organization of three traveling seminars for leaders of local and national projects.

### Component 2:

Development of ways of adapting health services to provide comprehensive health care for adolescents.

Activities:

- 2.1. Development of instruments for the evaluation of services at the primary, secondary, and tertiary levels of care.
- 2.2. Development of normative guidelines for programming.
- 2.3. Support for national processes of standardization of comprehensive health care for adolescents.
- 2.4. Development of a model clinical history for adolescents, including the instrument, instructions for completing it, computerized management of the information, and the analysis thereof.
- 2.5. Development of an instrument for the identification of dysfunctional families.

Component 3:

Design and implementation of a plan for human resource development to facilitate the teaching and delivery of comprehensive health care for adolescents.

Activities:

- 3.1. Training of trainers for teaching and service personnel (seven three-week courses).
- 3.2. Promotion of intersectoral action in the area of comprehensive health care for adolescents in the countries (seven multisectoral seminars).
- 3.3. Development of participatory techniques for working with adolescents.
- 3.4. Development of a training module on adolescent health care for workers at the primary level.

Component 4:

The aim of this component is to promote coordination between local projects in the countries that comprise each network and between the two networks, as well as coordination of local projects with the regional and central levels within each country in order to strengthen the impact of initiatives at the local and intermediate levels, with a view to supporting the national initiatives for adolescent health.

In addition to the HPM Program's basic activities of technical cooperation with the countries of the Region, the Program--through the adolescent health unit and the maternal

and child health unit--will undertake to carry out the following activities in the area of comprehensive health of adolescents:

- a) Mobilization of resources from PAHO and other agencies, especially UNFPA, UNICEF, WHO, and various NGOs (Carnegie Corporation, Pew, IYF). Mobilization of scientific societies in the countries, subregions, and Region as strategic instruments or mechanisms for the implementation of new initiatives and for the strengthening of the corresponding programming at the country, subregional, and Regional level.
- b) Distribution of scientific and educational material to institutions in the countries will also be emphasized.
- c) Direct technical assistance to the countries--especially for the formulation of plans and programs through PAHO/WHO resources and short-term consultants--will continue to be provided to the extent possible. In addition, an effort will continue to be made to mobilize the technical resources available in the countries to support other countries.
- d) Support for health services research, including the operational, epidemiological, and evaluation aspects will also be continued.
- e) Gradual incorporation of topics relating to adolescent health into the curricula for the international and national courses on maternal and child health and management sponsored by the Program.

It should be underscored that PAHO, through the Program for Health Promotion, is developing plans and programs aimed at discouraging high-risk behaviors in the general population, including adolescents and young people (smoking, psychoactive substance use and alcohol consumption, mental health problems, and accidents).

## ANNEX I

### CONCEPTUAL FRAMEWORK

#### 1. Health, Well-being, Quality of Life, and Development

The health and well-being of adolescents and young people are essential ingredients for the development of their countries. Recognition of the role played by psychosocial components in the maintenance and restoration of health, the promotion of well-being, and the prevention of disease are most important and probably most critical in this age group.

Well-being and quality of life are contingent on the safeguarding of human rights, which include the right to education, housing, nutrition, and good physical and mental health, as well as the right to employment, to recreation, and to participation. Social well-being cannot be achieved if young people are not guaranteed access to services and given the opportunity for comprehensive development (1).

It should be underscored that it is the responsibility of health programs and services to provide an adequate response to the basic health needs of adolescents, involving them as partners in their own health care.

However, it should also be pointed out that, notwithstanding the magnitude of the problems facing adolescents and the sociopolitical importance of this group, only a few countries in the Region do not have policies, plans, or programs for the comprehensive care of adolescents and young people.

The image that the adult world has of adolescents and young people is based on stereotypes that emphasize the energy, egotism, and conflictive nature of youth while underscoring the problems that affect a portion of this age group, among them delinquency, drug use, and teenage pregnancy. This image makes it difficult to create an auspicious climate for the promotion and implementation of policies, laws, and programs aimed at meeting the needs of adolescents, including their health needs.

The modernization of developing countries, in addition to its positive aspects, produces side effects, notable among them the "crisis of the family," (2) which affects adolescents and young people in a particular way. The correlation between family dysfunction, on the one hand, and emotional symptoms and behaviors that impair adolescent health, on the other, has been widely documented (3.4).

## 2. Comprehensive Health

### 2.1 Bio-psycho-social Comprehensiveness

Despite reiterated affirmations that humans are biopsychosocial beings, in practice, health programs tend to concentrate their efforts in the biological sphere. This bias, which is present in the health care provided to all population groups, has a definite effect on the health and well-being of adolescents and young people.

The processes of growth, development, maturation, differentiation, and adaptation are nourished by the contributions that the microenvironments of family, school, and other institutions (churches, peer groups, recreational centers, sports activities, etc.) offer children and adolescents. A central task of such institutions with regard to the process of socialization is to transmit to new generations the social standards or values that are sanctioned by the human group to which they belong. Adolescence marks the beginning of the consolidation of spiritual development, which is guided by the system of criteria and beliefs on the basis of which people perceive, evaluate, and cope with situations that produce psychological conflicts or that have ethical implications. It is also conditioned by the growing capacity to evaluate human nature in its various dimensions, as well as nature in general and the different manifestations of beauty (1). As with other expressions of the process of growth and development, this aspect follows a sequence of stages, after which the young adult will be in a position to solve the problems he/she encounters (3). The implications of development for the spiritual and mental health and social equilibrium of the adolescent are evident. Consequently, they should be taken into account by programs that provide comprehensive health care, which must necessarily take place in a continuum that encompasses all the stages of development.

Despite the importance of the foregoing considerations, these factors and attributes are being neglected at the family and social level, and development is being repressed in children, adolescents, and young people as a result of the behavior of adults as individuals, families, and society (1).

### 2.2 Comprehensiveness of the Health Care Delivery System

The various levels of complexity and coverage of health care delivery systems should be adequately integrated in order to streamline the system and facilitate access by young people who seek services.

Experience with adolescents has shown that their first point of contact with the system is very often the hospital emergency room. However, it is important to understand that the system should extend to and be present in the various ecological niches in which adolescents are found.

The success of the system will depend to a large extent on the characteristics of its personnel, who should be trained to care for adolescents and young people, both in terms of their physical problems and their psychosocial needs. The most effective means of expanding coverage, detecting needs, and strengthening the success and quality of the service is to involve the adolescent himself as an agent of health promotion and restoration.

### 2.3 The Prevention Chain

The incorporation of a comprehensive approach in the chain of activities through which health care takes place makes it possible to assign to prevention the importance that it deserves, articulating it with the various levels of service delivery. In this way, while actions aimed at restoring health are not neglected, at the same time there is an opportunity to carry out actions that will help to improve the quality of life.

Basic prevention (health promotion) implies the strengthening of protective factors in order to avoid or control risks, as well as the capacity for and exercise of self-care and mutual aid (1).

Through the strengthening of protective factors during adolescence and early adulthood, health status and well-being in later stages of life can be improved. The fact that risk factors are not necessarily associated with impairment to health during the stage of life in which protective factors are most effective heightens the importance of health promotion for the prevention of disease and provides an incentive for young people to make the best use of it.

Interventions in this area that specifically target young people may focus on the entire population, certain groups, or individuals. They have far-reaching importance both in terms of their effectiveness in preventing disease and in positive terms, in the sense that they help to improve the quality of life. The achievement of basic prevention requires not only health promotion interventions but, in particular, the encouragement of a sense of responsibility and commitment on the part of individuals, families, and groups to the adoption of healthy lifestyles and behaviors that emphasize self-care and mutual aid. It also requires that service delivery systems allow broad participation by adolescents and young people, both in the design and operation of health services and in social engineering projects that concern them.

Primary prevention, by preventing the appearance or effect of contributing factors and/or specific causal agents, has a decisive impact on public health. Examples of this include vaccination campaigns to prevent certain diseases, sex education to prevent the problems associated with early initiation of sexual activity, and legal provisions that make it compulsory to wear safety belts in order to reduce the injuries caused by traffic

accidents or those that raise the age at which a person may drive a motor vehicle or drink alcoholic beverages.

The effective and timely management of assistance systems, especially in the case of accidents or traumas, as well as the participation of community support networks in the management of psychosocial problems, are examples of secondary prevention. Intersectoral linkage is effective in secondary prevention. Thus, work with the schools facilitates early detection of health problems, especially those that effect a student's performance, such as sensory defects, cognitive and attention deficit problems, emotional imbalances, and others.

Tertiary prevention, which involves intervention to mitigate residual effects or sequelae and prevent chronicity, is the final recourse when other forms of prevention have been insufficient or ineffective. The reintegration into society of adolescents or young people who have abused alcohol or drugs; physical rehabilitation for individuals who have been injured in accidents; and psychological, social, labor, and other types of rehabilitation are additional examples of tertiary prevention measures that are frequently applied in the adolescent population.

#### 2.4 Integrating Approaches

The participatory approach implies the involvement of adolescents and young people in the diagnosis, design, execution, and evaluation of programs. Participation by young people is crucial for the determination of their perceived needs and ideals in terms of health and well-being. Their involvement, individually and as a group, makes it possible to expand resources and reach the most unprotected members of this age group, who are not likely to seek out health care on their own or respond to the invitation of an adult. The introduction by community and institutional networks of effective communication and promotion techniques that expand the scope of programs can have a great impact on promotion and prevention activities and on progress toward the achievement of comprehensive health care for adolescents and young people.

The anticipatory approach utilizes the possibility of programming health actions in anticipation of the sequence of events that occurs as part of the process of growth and development. In this way it is possible to plan early intervention--with the participation of adolescents and young people, their families, the schools and other community agencies--prior to the occurrence of these events.

The risk approach in health care for young people and adolescents takes into account the vulnerability that characterizes this group by virtue of its stage in life. It considers the weaknesses or strengths associated with the biopsychosocial changes that occur at this stage and the influence of elements in the physical and human environment.



This includes the microenvironments of the family, school, and peer group, as well as the cultural characteristics and the political, social, and economic macrostructure.

Psychosocial research is contributing a growing body of information about risk-prone behaviors and the moments at which they are initiated, making it possible not only to formulate the best intervention strategy but also to plan the best time to implement it, ideally prior to the initiation of such behaviors.

The intersectoral approach, like the comprehensive approach, recognizes the multidimensionality of health and its intimate relationship to individual, group, and social well-being and development.

It is essential that there be intersectoral linkage at the local or community level, as well as with governmental or nongovernmental organizations and with youth groups. Effective articulation of these entities allows optimal use of resources. The education sector, as well as organizations that promote the constructive use of free time, especially through sports and recreational activities, and community and solidarity movements are among the most obvious areas with which the health sector should strengthen its ties in order to improve the health and well-being of young people and adolescents.

The environment, both physical and psychosocial, plays a singular role in the health, development, and well-being of adolescents. This environment may sometimes be characterized by a lack of opportunities for education and job training, lack of employment opportunities, lack of personal safety, and the presence of unsatisfactory family relations, all of which are factors that adversely affect the health and well-being of young people. They may grow up in a social environment in which they are incited to take risks such as smoking, drinking, using psychoactive substances, or engaging in promiscuous sexual activity, or in which they are exposed to violent situations.

On the other hand, the environment can provide opportunities for healthy social, emotional, intellectual, physical, sexual, and spiritual development. It can help to strengthen the adolescent's self-confidence and contribute to development of the capacity to cope with adverse situations and resist negative peer pressure.

### 3. Current and Future Impact and Importance

The consideration of adolescents and young people as a "target group" establishes a focus on a stage in the life cycle, in contrast to programs that focus on specific problems.

From a biological perspective, the period of adolescence and youth is crucial to health during adulthood, influencing the appearance and course of diseases and disabilities. In this stage attitudes, beliefs, and lifestyles are embraced that will in turn

determine health status, well-being, and social adjustment--in other words, the quality of life--in later periods. It can thus be affirmed that growth and development are lifelong processes that are not limited to specific stages of the life cycle. However, it is important to emphasize the consequence of the choices made during adolescence since the selection of healthy options during this stage will have a positive impact on the quality of life, both in the present and the future.

There have been innumerable studies of the chronic noncommunicable diseases that occur most frequently in adults and the elderly in which it has been demonstrated that the risk factors for these diseases were already present in the affected individuals several decades before onset of the disease. Basic and primary prevention can have their maximum impact when they are initiated in the early stages of life, i.e., during infancy, adolescence, and youth.

Adolescence and youth constitute the period in life when, based on the classic indicators of health and disease, people are most healthy. This age group has the lowest death rates and the lowest frequency of perceived episodes of disease. It is a stage in which there is relatively little demand for curative services in comparison with other periods of life. This circumstance should in theory facilitate the reorientation of health services, making it possible to place due emphasis on health promotion and the prevention of disease.

## ANNEX II

### RESOLUTIONS OF THE GOVERNING BODIES

#### World Health Organization:

Resolution WHA 42.41, adopted in 1989, urges the Member States:

- To give appropriate priority to the health needs of adolescents and youth;
- To provide the resources and facilities necessary to assess critically the health situation and needs of adolescents and youth, and to identify major factors that may influence their current and future health, including policies and programs in health and other sectors;
- To develop socially and culturally acceptable programs and services to meet the health and development needs of all adolescents and youth, ensuring the involvement of families, the public at large, health and other relevant sectors, and young people themselves;
- To identify, and provide support to meet, the health and development requirements of those groups of young people who are particularly vulnerable, disadvantaged, or have special needs, such as those within minority subcultures, the disabled, or the marginalized; such action should not be taken in isolation but, to the extent possible, as an integral part of programs benefiting other young people;
- To train workers from the health and other sectors to appreciate the developmental basis of the health of youth... and to have the necessary communication skills for dealing with them;
- To collaborate closely with nongovernmental organizations, particularly youth organizations, in the development, implementation, and evaluation of programs to meet the needs of youth and to involve them in the national strategies for health for all;
- To draw the attention of those working in the health and other sectors, and the general public, to the actions required to meet the health needs of youth and to the important contribution of young people to health for all through different forums, the media, and events such as national conferences and national youth days;

Resolution WHA 42.41 also requests the Director-General:

- To support Member States in developing and implementing national multisectoral policies and programs promoting the health of youth, in defining the health needs of young people and strengthening research, training, and services to meet those needs;
- To develop further and adapt methodologies and innovative approaches in the promotion of the health of youth, and to develop indicators for the evaluation of the health of youth and the experiences of the countries, agencies, and organizations in meeting the health needs of young people.
- To take the necessary steps to strengthen WHO's programs at all levels dealing with adolescents and youth, including networks of collaborating institutions and centers for adolescent health, training in such areas as counseling and communication skills, and research.
- To mobilize additional financial and human resources in order to strengthen WHO's capacity to respond, on request, to the health needs of Member States in this area;
- To extend WHO's collaboration within the United Nations system, and with bilateral and nongovernmental organizations, to meet the health needs of young people and to facilitate their participation in the health-for-all movement;
- To report to future Health Assemblies on the progress made regarding the health of youth.

Pan American Health Organization:

Resolution CD30.R8 of the Directing Council, adopted in September-October 1984, urges the Member Governments to pay particular concern to the problem of adolescent pregnancy and promote the teaching of family life education to the young.

Resolution CD33.R13 of the Directing Council, adopted in September 1988, urges the Member Governments to initiate intersectoral and sectoral actions directed toward the community, teachers, and parents, with a view to helping adolescents develop healthy lifestyles and avoid risk-associated behaviors that lead to drug addiction, accidents, sexually transmitted diseases, and unwanted pregnancies.

Resolution CD35.R16 of the Directing Council, adopted in September 1991, requests the Director to include on the agenda of the next meeting of the Directing Council the topic of "Comprehensive Health of Adolescents."

## ANNEX III

## TABLES AND FIGURES

TABLE 1  
MIDYEAR POPULATION ESTIMATES (THOUSANDS)  
BY SEX AND AGE GROUP, 1990\*

| COUNTRY            | TOTAL   | AGE GROUPS |        |        |        |        |        |         |        |        |
|--------------------|---------|------------|--------|--------|--------|--------|--------|---------|--------|--------|
|                    |         | BOTH SEXES |        |        | MALES  |        |        | FEMALES |        |        |
|                    |         | 10-14      | 15-19  | 20-24  | 10-14  | 15-19  | 20-24  | 10-14   | 15-19  | 20-24  |
| Argentina          | 32.322  | 3.216      | 2.768  | 2 435  | 1.632  | 1.403  | 1.232  | 1.584   | 1.365  | 1.203  |
| Barbados           | 255     | 21         | 24     | 24     | 11     | 12     | 12     | 10      | 12     | 12     |
| Bolivia            | 7171    | 894        | 767    | 638    | 445    | 384    | 321    | 448     | 383    | 322    |
| Brasil             | 150 368 | 16.280     | 14 847 | 13.823 | 8.161  | 7 427  | 6.927  | 8.119   | 7.420  | 6.896  |
| Colombia           | 32.978  | 3 833      | 3.442  | 3.486  | 1.945  | 1.737  | 1 744  | 1.888   | 1.705  | 1.742  |
| Costa Rica         | 3 015   | 331        | 284    | 292    | 169    | 145    | 149    | 162     | 139    | 143    |
| Cuba               | 10.609  | 749        | 1.107  | 1.159  | 383    | 565    | 592    | 366     | 542    | 567    |
| Chile              | 13.174  | 1.197      | 1 234  | 1.236  | 608    | 625    | 624    | 589     | 609    | 612    |
| Dominican Republic | 7 170   | 819        | 770    | 731    | 416    | 391    | 372    | 403     | 379    | 359    |
| Ecuador            | 10 588  | 1 274      | 1 151  | 1.029  | 646    | 583    | 520    | 628     | 568    | 509    |
| El Salvador        | 5 251   | 731        | 622    | 484    | 371    | 310    | 235    | 360     | 312    | 249    |
| Guatemala          | 9 198   | 1.190      | 985    | 805    | 605    | 500    | 407    | 585     | 485    | 398    |
| Guyana             | 796     | 82         | 92     | 90     | 41     | 46     | 45     | 41      | 46     | 45     |
| Haiti              | 6 512   | 762        | 694    | 597    | 383    | 348    | 297    | 379     | 346    | 300    |
| Honduras           | 5.138   | 650        | 589    | 481    | 330    | 299    | 243    | 320     | 290    | 238    |
| Jamaica            | 2 455   | 271        | 282    | 272    | 139    | 144    | 136    | 132     | 138    | 136    |
| Mexico             | 88 598  | 10 358     | 10 740 | 9 145  | 5 266  | 5.439  | 4.608  | 5.092   | 5.301  | 4 537  |
| Nicaragua          | 3 871   | 495        | 422    | 353    | 251    | 214    | 177    | 244     | 208    | 176    |
| Panama             | 2 418   | 268        | 265    | 243    | 137    | 135    | 122    | 131     | 130    | 121    |
| Paraguay           | 4 277   | 493        | 439    | 398    | 251    | 224    | 203    | 242     | 215    | 195    |
| Peru               | 21 551  | 2.575      | 2.346  | 2.089  | 1.308  | 1191   | 1.059  | 1 267   | 1 155  | 1 030  |
| Suriname           | 421     | 40         | 47     | 48     | 20     | 24     | 24     | 20      | 23     | 24     |
| Trinidad y Tabago  | 1 282   | 126        | 119    | 116    | 64     | 60     | 58     | 62      | 59     | 58     |
| Uruguay            | 3 094   | 279        | 260    | 227    | 142    | 133    | 114    | 137     | 127    | 113    |
| Venezuela          | 19 735  | 2 269      | 2.003  | 1.868  | 1.155  | 1.018  | 947    | 1.114   | 985    | 921    |
| Total              | 442.247 | 49.203     | 46 299 | 42.069 | 24.879 | 23 357 | 21.168 | 24.323  | 22 940 | 20.906 |

Source CELADE America Latina Proyecciones de Población 1950-2025 Año XXIII No. 45, Chile, January 1990  
Comisión Económica para América Latina y El Caribe, Anuario Estadístico de América Latina y El Caribe 1990

\* The figures correspond to the recommended projection, which implies adoption of an average fertility hypothesis

**TABLE 2**  
**MIDYEAR TOTAL POPULATION PROJECTIONS (THOUSANDS)\***

| COUNTRY                 | 1990    | 1995    | 2000    | 2005    | COUNTRY                      | 1990    | 1995    | 2000    | 2005    |
|-------------------------|---------|---------|---------|---------|------------------------------|---------|---------|---------|---------|
| Antigua y Barbuda       | 76      | 76      | 77      | 79      | Guayana                      | 796     | 829     | 891     | 948     |
| Antillas y Neerlandesas | 188     | 188     | 195     | 203     | Haití                        | 6.513   | 7.215   | 8.003   | 8.876   |
| Argentina               | 32.322  | 34.264  | 36.238  | 38.235  | Honduras                     | 5.138   | 5.968   | 6.846   | 7.748   |
| Bahamas                 | 253     | 260     | 275     | 295     | Jamaica                      | 2.456   | 2.603   | 2.735   | 2.873   |
| Barbados                | 265     | 259     | 265     | 272     | México                       | 88.598  | 97.967  | 107.233 | 116.302 |
| Belice                  | 187     | 187     | 209     | 230     | Nicaragua                    | 3.871   | 4.539   | 5.261   | 6.029   |
| Bolivia                 | 7.171   | 8 074   | 9.038   | 10.055  | Panamá                       | 2 418   | 2.659   | 2.893   | 3.116   |
| Brasil                  | 150.368 | 165.083 | 179 487 | 193.603 | Paraguay                     | 4.277   | 4.893   | 5.538   | 6.215   |
| Colombia                | 32.978  | 36.182  | 39.397  | 42.556  | Perú                         | 21.550  | 23.854  | 26.276  | 28.702  |
| Costa Rica              | 3 015   | 3.374   | 3.711   | 4.041   | Rep. Dominicana              | 7.170   | 7.915   | 8.621   | 9.282   |
| Cuba                    | 10 608  | 11.091  | 11.504  | 11.848  | Saint Kits y Nevis           | 44      | 44      | 44      | 44      |
| Chile                   | 13.173  | 14.237  | 15 272  | 16 246  | Santa Lucía                  | 150     | 150     | 164     | 177     |
| Dominica                | 82      | 82      | 85      | 87      | San Vicente y Las Grenadinas | 116     | 116     | 122     | 128     |
| Ecuador                 | 10.587  | 11.434  | 13.319  | 14 712  | Suriname                     | 422     | 460     | 497     | 530     |
| El Salvador             | 5.252   | 5.943   | 6.739   | 7.600   | Trinidad y Tabago            | 1.281   | 1.376   | 1.484   | 1.588   |
| Granada                 | 85      | 85      | 83      | 83      | Uruguay                      | 3.094   | 3.186   | 3.274   | 3.365   |
| Guadalupe               | 343     | 343     | 354     | 365     | Venezuela                    | 19.735  | 22.213  | 24.715  | 27.321  |
| Guatemala               | 9.197   | 10.621  | 12.222  | 13.971  | Total                        | 443.779 | 487.770 | 533.067 | 577.725 |

Source: CELADE. América Latina: Proyecciones de Población 1950-2025 Año XXIII No. 45, Chile, January 1990.  
Comisión Económica para América Latina y El Caribe, Anuario Estadístico de América Latina y El Caribe. 1990 edition.

\* The figures correspond to the recommended projection, which implies adoption of an average fertility hypothesis.

TABLE 3  
ILLITERACY  
PERCENTAGE OF THE POPULATION AGED 15 OR MORE

| COUNTRY               | CIRCA   |            |            |         |
|-----------------------|---------|------------|------------|---------|
|                       | 1960    | 1970       | 1980       | 1990 a) |
| Antillas Neerlandesas | 11.3    | .          |            | .       |
| Argentina             | 8.6     | 7.4        | 6.1        | 4.7     |
| Bahamas               | 10.3 a) | 8.8 a)     | .          | ..      |
| Barbados              | 1.8     | 0.7 a) b)  | 0.5 a) b)  | .       |
| Belice                | 13.4 b) | 8.8 a)     | .          | .       |
| Bolivia               | 61.2    | 36.8       | 18.9 c)    | 22.5    |
| Brasil                | 39.7    | 33.8       | 25.5       | 18.9    |
| Colombia              | 27.1    | 19.2       | 12.2 d)    | 13.3    |
| Costa Rica            | 15.6    | 11.6       | 7.4        | 7.2     |
| Cuba                  |         |            | 2.2 c)     | 6.0     |
| Chile                 | 16.4    | 11.0       | 8.9        | 6.6     |
| Dominica              |         | 5.9 a) e)  |            | .       |
| Dominican Republic    | 35.5    | 33.0       | 31.4 f) g) | 16.7    |
| Ecuador               | 32.5    | 25.8       | 16.5       | 14.2    |
| El Salvador           | 51.0    | 42.9       | 32.7 a)    | 27.0    |
| Granada               |         | 2.2 a) b)  |            |         |
| Guatemala             | 62.2    | 54.0       | 44.2       | 44.9    |
| Guyana                | 12.9    | 8.4 a) b)  |            | 3.6     |
| Haiti                 | 85.5    | 78.7       | 62.5       | 47.0    |
| Honduras              | 55.0    | 43.1       |            | 26.9    |
| Jamaica               | 18.1    | 3.9 a) b)  |            | 1.6     |
| Mexico                | 34.5    | 25.8       | 16.0       | 12.7    |
| Nicaragua             | 50.4    | 42.5       | .          |         |
| Panama                | 23.2    | 18.7       | 12.9       | 11.9    |
| Paraguay              | 25.5    | 19.9 b)    | 12.3       | 9.9     |
| Peru                  | 38.9    | 27.5       | 18.1       | 14.9    |
| Santa Lucia           |         | 18.3 a) b) |            |         |
| Suriname              |         |            | 35.0       | 5.1     |
| Trinidad y Tabago     | 6.6     | 7.8        | 5.1        |         |
| Uruguay               | 9.5     | 6.1        | 5.0        | 3.8     |
| Venezuela             | 37.3    | 23.5       | 15.3       | 11.9    |

Source: Comisión Económica para América Latina y El Caribe. Anuario Estadístico de América Latina y El Caribe, edición 1990

- a UNESCO estimate
- b Persons without schooling have been considered illiterate
- c Figure from 1988
- d Refers to the population aged 10 or more
- e Persons without schooling have been considered illiterate
- f Excludes the indigenous population living in the jungle
- g Refers to the population aged 5 or more

TABLE 4  
PARTICIPATION IN ECONOMIC ACTIVITY BY AGE GROUP, 1970-1985  
(AGE-SPECIFIC RATE<sup>a</sup> FOR BOTH SEXES)

| COUNTRY            | 1 9 7 0 |         |         | 1 9 8 5 |         |         |
|--------------------|---------|---------|---------|---------|---------|---------|
|                    | 10 - 14 | 15 - 19 | 20 - 24 | 10 - 14 | 15 - 19 | 20 - 24 |
| Argentina          | 8.9     | 47.2    | 65.7    | 3.4     | 38.7    | 65.1    |
| Barbados           | 4.6     | 45.6    | 74.5    | 2.2     | 45.9    | 85.6    |
| Bolivia            | 14.1    | 42.7    | 56.7    | 9.3     | 35.4    | 54.8    |
| Brasil             | 12.8    | 42.5    | 57.1    | 10.0    | 46.2    | 65.3    |
| Colombia           | 15.1    | 40.8    | 55.8    | 4.2     | 28.1    | 57.1    |
| Costa Rica         | 11.3    | 45.2    | 58.9    | 6.0     | 38.7    | 61.1    |
| Cuba               | 0.7     | 34.2    | 56.0    | 0.1     | 24.2    | 65.1    |
| Chile              | 2.8     | 30.9    | 57.8    | 1.4     | 21.6    | 59.5    |
| Dominican Republic | 18.7    | 37.9    | 55.8    | 4.5     | 33.1    | 53.6    |
| Ecuador            | 16.7    | 42.6    | 54.5    | 6.2     | 32.1    | 51.1    |
| El Salvador        | 18.7    | 48.3    | 63.0    | 9.1     | 44.1    | 69.3    |
| Guatemala          | 17.0    | 44.8    | 53.7    | 10.1    | 39.1    | 52.6    |
| Guyana             | 2.0     | 43.6    | 65.3    | 1.4     | 42.0    | 66.4    |
| Haiti              | 41.9    | 65.4    | 82.1    | 25.0    | 47.0    | 73.2    |
| Honduras           | 17.3    | 45.7    | 55.3    | 13.1    | 43.0    | 56.9    |
| Jamaica            | 0.6     | 54.5    | 83.5    | 0.4     | 44.3    | 88.6    |
| Mexico             | 6.2     | 35.2    | 53.6    | 5.0     | 40.1    | 60.9    |
| Nicaragua          | 13.3    | 38.1    | 55.3    | 12.7    | 38.8    | 59.4    |
| Panama             | 8.7     | 46.1    | 67.4    | 4.4     | 31.0    | 63.5    |
| Paraguay           | 12.0    | 51.5    | 61.7    | 9.7     | 45.4    | 60.3    |
| Peru               | 4.6     | 30.8    | 54.2    | 3.2     | 26.8    | 53.2    |
| Suriname           | 0.7     | 28.4    | 59.8    | 0.4     | 21.9    | 58.2    |
| Trinidad y Tabago  | 1.3     | 38.0    | 65.9    | 0.6     | 33.9    | 68.3    |
| Uruguay            | 7.0     | 46.4    | 66.1    | 2.7     | 41.0    | 66.8    |
| Venezuela          | 6.6     | 35.6    | 55.7    | 2.5     | 29.7    | 58.8    |

Source: Comisión Económica para América Latina y El Caribe. Anuario Estadístico de América Latina y El Caribe, 1990 edition.

<sup>a</sup> Percentage of the economically active participation in a given age group over the total population of the same sex in that same age group



TABLE 5  
CENTRAL GOVERNMENT EXPENDITURE (IN \$US) ON HEALTH, PER PERSON, IN  
LATIN AMERICA AND THE CARIBBEAN, 1970-1980

| COUNTRY/YEAR       | 1970   | 1975   | 1980   | 1985   | 1986   | 1987   | 1988   |
|--------------------|--------|--------|--------|--------|--------|--------|--------|
| Argentina          | 10.36  | 13.73  | 17.55  | 13.89  | 18.62  | 22.91  | ..     |
| Bahamas            | ...    | ...    | 242.59 | 311.35 | 322.73 | 333.82 | 351.24 |
| Barbados           | 110.36 | 149.34 | 245.13 | 207.59 | 224.32 | 230.58 | ..     |
| Bolivia            | 6.80   | 8.94   | 16.83  | 3.40   | ...    | ...    | ...    |
| Brasil             | 18.89  | 24.63  | 32.34  | 6.51   | 9.51   | ..     | ...    |
| Colombia           | ...    | 9.96   | 11.75  | ...    | ..     | ..     | ...    |
| Costa Rica         | 7.22   | 21.37  | 36.01  | 7.64   | 7.14   | 6.75   | ...    |
| Chile              | 43.94  | 45.10  | 49.01  | 57.66  | 54.85  | ..     | ...    |
| Dominican Republic | ..     | 23.40  | 33.23  | 7.71   | 8.58   | ...    | ..     |
| Ecuador            | 4.14   | 10.94  | 28.58  | 27.26  | 27.01  | ...    | ..     |
| El Salvador        | 10.75  | 13.76  | 17.22  | 15.22  | ..     | .      | ..     |
| Guatemala          | ..     | 10.25  | 25.60  | 10.79  | 11.04  | ...    | ...    |
| Guyana             | 25.86  | 27.08  | 44.46  | 29.17  | 25.27  | 21.45  | .      |
| Haiti              | 2.41   | 3.48   | 3.13   | 3.30   | ...    | ...    | ...    |
| Honduras           | 11.24  | 10.32  | 13.37  | 17.22  | 22.96  | 19.29  | ..     |
| Jamaica            | 50.59  | 61.98  | 61.50  | 36.39  | ...    | ...    | .      |
| Mexico             | 42.69  | 56.47  | 62.66  | 41.31  | 28.80  | 31.42  | ..     |
| Nicaragua*         | 8.00   | 18.96  | 50.20  | 94.13  | ..     | ..     | ...    |
| Panama             | 37.97  | 42.85  | 40.41  | 43.43  | .      | .      | ...    |
| Paraguay           | 3.42   | 3.37   | 5.75   | 11.95  | 6.79   | 6.24   | ...    |
| Peru               | 14.61  | 16.23  | 18.38  | 13.44  | ..     | ..     | ...    |
| Suriname           | ..     | 86.09  | 16.26  | ...    | ...    | .      | ...    |
| Trinidad y Tabago  | ...    | 68.01  | 116.63 | 196.04 | 194.10 | 178.24 | .      |
| Uruguay            | .      | 23.75  | 34.22  | 23.95  | ...    | ..     | ..     |
| Venezuela          | 53.52  | 56.13  | 48.63  | 44.10  | 48.61  | ...    | ...    |

Source Based on data from the Inter-American Development Bank  
Comisión Económica para América Latina y El Caribe Anuario Estadístico de América Latina y El Caribe, 1990

\* Estimates from 1980 onward probably reflect exchange rates

**TABLE 6**  
**MORTALITY IN PERSONS AGED 10 - 14 IN SELECTED COUNTRIES**  
**CIRCA 1985**

| COUNTRY                      | YEAR | NO    | RATE a) |
|------------------------------|------|-------|---------|
| Antigua y Barbuda            |      | ..    | ...     |
| Argentina                    | 1985 | 1.112 | 40.4    |
| Bahamas                      | 1985 | 13    | 51.1    |
| Barbados                     | 1984 | 7     | 27.1    |
| Belice                       | 1984 | 6     | 32.9    |
| Brasil                       | 1986 | 7.839 | 51.4    |
| Canada                       | 1986 | 403   | 22.5    |
| Colombia                     | 1984 | 1.747 | 55.2    |
| Costa Rica                   | 1986 | 113   | 39.6    |
| Cuba                         | 1987 | 485   | 45.2    |
| Chile                        | 1986 | 461   | 36.8    |
| Dominica                     | 1985 | 1     | 10.6    |
| Dominican Republic           | 1985 | 311   | 36.4    |
| Ecuador                      | 1986 | 802   | 67.3    |
| El Salvador                  | 1984 | 372   | 63.5    |
| Guadalupe                    | 1981 | 13    | 31.3    |
| Guatemala                    | 1984 | 984   | 100.3   |
| Guayana Francesa             | 1984 | 3     | 33.3    |
| Guyana                       | 1984 | 72    | 67.9    |
| Honduras                     | 1981 | 344   | 69.2    |
| Jamaica                      | 1984 | 115   | 42.0    |
| Martinica                    | 1985 | 8     | 26.8    |
| Mexico                       | 1983 | 5.674 | 56.6    |
| Nicaragua                    |      |       |         |
| Panama                       | 1987 | 104   | 37.3    |
| Paraguay (information area)  | 1986 | 145   | 53.1    |
| Peru                         | 1986 | 1.334 | 59.3    |
| Puerto Rico                  | 1986 | 91    | 27.2    |
| San Kitts y Nevis            | 1985 | 1     | 18.9    |
| San Vicente y las Granadinas | 1986 | 8     | 57.7    |
| Suriname                     | 1985 | 28    | 58.3    |
| Trinidad y Tabago            | 1983 | 61    | 51.9    |
| United States                | 1986 | 4.706 | 28.4    |
| Uruguay                      | 1986 | 94    | 35.3    |
| Venezuela                    | 1983 | 964   | 50.7    |

Source: PAHO, Technical Information System

a) Per 100 000 population in the age group

**TABLE 7**  
**AGE-SPECIFIC AND SEX-SPECIFIC DEATH RATES IN THE COUNTRIES**  
**OF THE AMERICAS, RATES PER 1000 POPULATION AGED 15-24,**  
**LATEST DATA AVAILABLE**

| COUNTRY                         | YEAR | POPULATION AGED 15-24 |       |         |
|---------------------------------|------|-----------------------|-------|---------|
|                                 |      | BOTH SEXES            | MALES | FEMALES |
| Antillas Neerlandesas (Curazao) | 1981 | 0.8                   | 0.9   | 0.6     |
| Argentina                       | 1986 | 0.9                   | 1.2   | 0.6     |
| Bahamas                         | 1987 | 1.4                   | 2.0   | 0.6     |
| Barbados                        | 1988 | 0.6                   | 0.8   | 0.5     |
| Belice                          | 1986 | 0.8                   | 0.9   | 0.7     |
| Brasil (Area de información)    | 1986 | 1.4                   | 2.0   | 0.7     |
| Canada                          | 1988 | 0.7                   | 1.1   | 0.4     |
| Colombia                        | 1984 | 1.5                   | 2.1   | 0.8     |
| Costa Rica                      | 1988 | 0.6                   | 0.9   | 0.4     |
| Cuba                            | 1988 | 1.1                   | 1.3   | 0.9     |
| Chile                           | 1987 | 0.8                   | 1.2   | 0.5     |
| Domínica                        | 1985 | 0.5                   | 0.6   | 0.3     |
| Dominican Republic              | 1985 | 0.9                   | 1.0   | 0.7     |
| Ecuador                         | 1987 | 1.3                   | 1.5   | 1.0     |
| El Salvador                     | 1984 | 3.2                   | 5.1   | 1.2     |
| Guadalupe                       | 1981 | 1.1                   | 1.5   | 0.7     |
| Guatemala                       | 1984 | 2.1                   | 2.5   | 0.7     |
| Guyana Francesa                 | 1984 | 1.1                   | 1.5   | 0.7     |
| Guyana                          | 1984 | 1.2                   | 1.4   | 0.9     |
| Honduras                        | 1981 | 1.5                   | 1.8   | 1.1     |
| Islas Caimán                    | 1983 | ...                   | ...   | ...     |
| Islas Malvinas                  | 1983 | ...                   | 9.6   | ..      |
| Islas Turcas y Caicos           | 1987 | 4.9                   | ...   | ...     |
| Islas Virgenes (EUA)            | 1980 | 1.1                   | 1.5   | 0.7     |
| Islas Virgenes (RU)             | 1982 | 0.8                   | 0.7   | ..      |
| Jamaica                         | 1984 | 0.6                   | 1.0   | 0.4     |
| Martinica                       | 1985 | 0.7                   | 1.0   | 0.3     |
| México                          | 1986 | 1.3                   | 1.3   | 0.7     |
| Panamá                          | 1987 | 0.9                   | 1.7   | 0.5     |
| Paraguay (information area)     | 1986 | 1.1                   | 4.2   | 0.9     |
| Perú                            | 1983 | 1.0                   | 1.2   | 0.9     |
| Puerto Rico                     | 1987 | 0.8                   | 1.3   | 0.4     |
| San Kitts y Nevis               | 1985 | 0.7                   | 1.2   | 0.7     |
| San Vicente y Las Granadinas    | 1986 | 0.5                   | 0.7   | 0.3     |
| Santa Lucía                     | 1988 | 0.8                   | 1.1   | 0.5     |
| Suriname                        | 1985 | 1.1                   | 1.4   | 0.8     |
| Trinidad y Tabago               | 1986 | 1.0                   | 1.3   | 0.8     |
| United States                   | 1987 | 1.0                   | 1.5   | 0.5     |
| Uruguay                         | 1987 | 0.7                   | 1.0   | 0.5     |
| Venezuela                       | 1987 | 1.1                   | 1.6   | 0.6     |

Source: Health Conditions in the Americas, Washington, D.C., (PAHO Scientific Publication 524) Pan American Health Organization, 1990

**TABLE 8**  
**RATIO BETWEEN SEX-SPECIFIC DEATH RATES,**  
**MALES AND FEMALES AGED 15-24**  
**IN SELECTED COUNTRIES, MOST RECENT DATA AVAILABLE**  
**EN PAÍSES SELECCIONADOS, AÑO MÁS RECIENTE**

| COUNTRY (YEAR)            |      |
|---------------------------|------|
| Argentina (1985)          | 2.04 |
| Canada (1986)             | 2.92 |
| Colombia (1981)           | .    |
| Costa Rica (1988)         | 2.32 |
| Cuba (1987)               | 1.33 |
| Chile (1987)              | 2.37 |
| Dominican Republic (1985) | 1.48 |
| Ecuador (1987)            | 1.63 |
| El Salvador (1984)        | 4.16 |
| Guatemala (1984)          | 1.52 |
| Honduras (1981)           | 1.62 |
| Mexico (1986)             | 2.55 |
| Panamá (1987)             | 2.72 |
| Paraguay (1986)           | 1.25 |
| Perú (1983)               | 1.26 |
| Trinidad y Tabago (1983)  | 2.45 |
| Unites States (1987)      | 2.82 |
| Uruguay (1986)            | 2.13 |
| Venezuela (1983)          | 2.84 |

Source PAHO, Technical Information System

**TABLE 9**  
**PREVALENCE OF ANEMIA (BASED ON LEVEL OF HEMOGLOBIN**  
**IN SCHOOL-AGE CHILDREN), BY COUNTRY (CUT-OFF POINT: HB = 12G/DL)**

| COUNTRY               | YEAR | %      |
|-----------------------|------|--------|
| Antigua & Barbuda     | 1981 | 17.9   |
| Bahamas               | 1983 | 0.8 a) |
| Barbados              | 1981 | 25.4   |
| Dominica              | 1981 | 40.0   |
| Grenada               | 1986 | 37.0   |
| Guyana                | 1982 | 57.0   |
| Jamaica               | 1969 | 4.8    |
| Islas Caiman          | 1979 | 29.7   |
| Islas Turcas y Caicos | 1985 | 59.7   |
| Montserrat            | 1986 | 45.5   |
| St Kitts y Nevis      | 1975 | 22.2   |
| Santa Lucia           | 1974 | 36.4   |

**TABLE 10**  
**PREVALENCE OF ENDEMIC GOITER IN SEVERAL COUNTRIES OF LATIN AMERICAN**

| COUNTRY   | YEAR | POPULATION                          | REPRESENTATIVIT                    | SAMPLE SIZE      | CLASSIFICATION   | PREVALENC (%) |
|-----------|------|-------------------------------------|------------------------------------|------------------|------------------|---------------|
| Bolivia   | 1981 | School-age children                 | National                           | 38 500           | WHO, adapt       | 60.8          |
| Ecuador   | 1983 | School-age children                 | Mountain regions                   | -                | WHO              | 36.5          |
| Nicaragua | 1981 | General                             | National                           | 6 252            | Pérez y Scamshaw | 20.0          |
| Paraguay  | 1986 | School-age children                 | five localities                    | 2 049            | —                | 59.8          |
| Peru      | 1986 | School-age children                 | Mountain regions<br>Jungle regions | 35 125<br>35 125 | WHO<br>WHO       | 34.0<br>19.0  |
| Uruguay   | 1980 | School-age children                 | Departmental                       | 1,254            | Pérez y Scamshaw | 2.0           |
| Venezuela | 1981 | School-age children and adolescents | National                           | 14 709           | WHO, modified    | 21.4          |

Source: Expanded Program for the Control of Iodine-Deficiency Disorders in Latin America Document HPN/89.2, Washington, D C , Pan American Health Organization, 1989

a) 1 b = 10g/dl/  
 Fuentes: CFNI, INCAP, y fuentes nacionales varias

**TABLE 11**  
**RANKING OF VIOLENCE AMONG THE FIVE LEADING CAUSES OF DEATH,**  
**ADOLESCENTS AND YOUNG PEOPLE, 15-24,**  
**COUNTRIES WITH MORE THAN ONE MILLION INHABITANTS, CIRCA 1986**

| COUNTRY            | YEAR    | 15 - 24 Years of Age  |         |         |   |       |         |                      |       |         |
|--------------------|---------|---|---------|---------|---|-------|---------|----------------------|-------|---------|
|                    |         | Accidents (E800-E949) and undetermined injuries whether accidentally or purposely inflicted (E980-E989) |         |         | Homicide, legal intervention, and operations of war ((E960-E978, E990-E999) |       |         | Suicides (E950-E959) |       |         |
|                    |         | Total   | Hombres | Mujeres | Total   | Males | Females | Total                | Males | Females |
| Argentina          | 1985    | 1   | 1       | 1       | 2   | 2     | .       | 5                    | 5     | 5       |
| Brasil             | 1986    | 1   | 1       | 1       | 2   | 2     | 5       | 5                    | 5     | .       |
| Canada             | 1986    | 1   | 1       | 1       | 4   | 4     | 4       | 2                    | 2     | 2       |
| Colombia           | 1981 a) | 2   | 2       | 2       | 1   | 1     | 5       |                      | 5     | .       |
| Costa Rica         | 1986    | 1   | 1       | 1       | 3   | 4     | 3       | 4                    | 3     | 4       |
| Cuba               | 1986 b) | 1   | 1       | 1       |   |       |         |                      |       |         |
| Chile              | 1986    | 1   | 1       | 1       | 4   | 4     |         | 3                    | 3     | 4       |
| Dominican Republic | 1985    | 1   | 1       | 2       | 3   | 2     |         |                      | 5     |         |
| Ecuador            | 1986    | 1   | 1       | 1       | 2   | 2     |         |                      |       | .       |
| El Salvador        | 1984    | 1   | 1       | 2       | 2   | 2     | 5       | 3                    | 3     | 1       |
| Guatemala          | 1984    | 1   | 1       | 2       |   | .     |         | ..                   |       | .       |
| Honduras           | 1981    | 1   | 1       | 1       |   |       |         |                      |       |         |
| Mexico             | 1983    | 1   | 1       | 1       | 2   | 2     | 5       | .                    | 5     |         |
| Panama             | 1986    | 1   | 1       | 1       | 2   | 2     |         | 4                    | 3     | 4       |
| Paraguay           | 1986    | 1   | 1       | 2       | 2   | 2     |         | 5                    | 4     | 5       |
| Peru               | 1983    | 1   | 1       | 1       |   | 4     | .       | .                    |       |         |
| Puerto Rico        | 1986    | 1   | 1       | 1       | 2   | 2     | 2       | 5                    | 4     |         |
| Trinidad y Tabago  | 1983    | 1   | 1       | 2       | 3   | 3     |         | 2                    | 2     | 1       |
| United States      | 1986    | 1   | 1       | 1       | 2   | 2     | 2       | 3                    | 3     | 3       |
| Uruguay            | 1986    | 1   | 1       | 1       | 5   |       | 4       | 2                    | 2     | 2       |
| Venezuela          | 1983    | 1   | 1       | 1       | 2   | 2     | .       | 4                    | 3     | 5       |

Source Health Conditions in the Americas, PAHO Scientific Publication 524 Washington, D C , Pan American Health Organization

- a) Includes groups aged 15-44
- b) Includes all accidents and violent acts

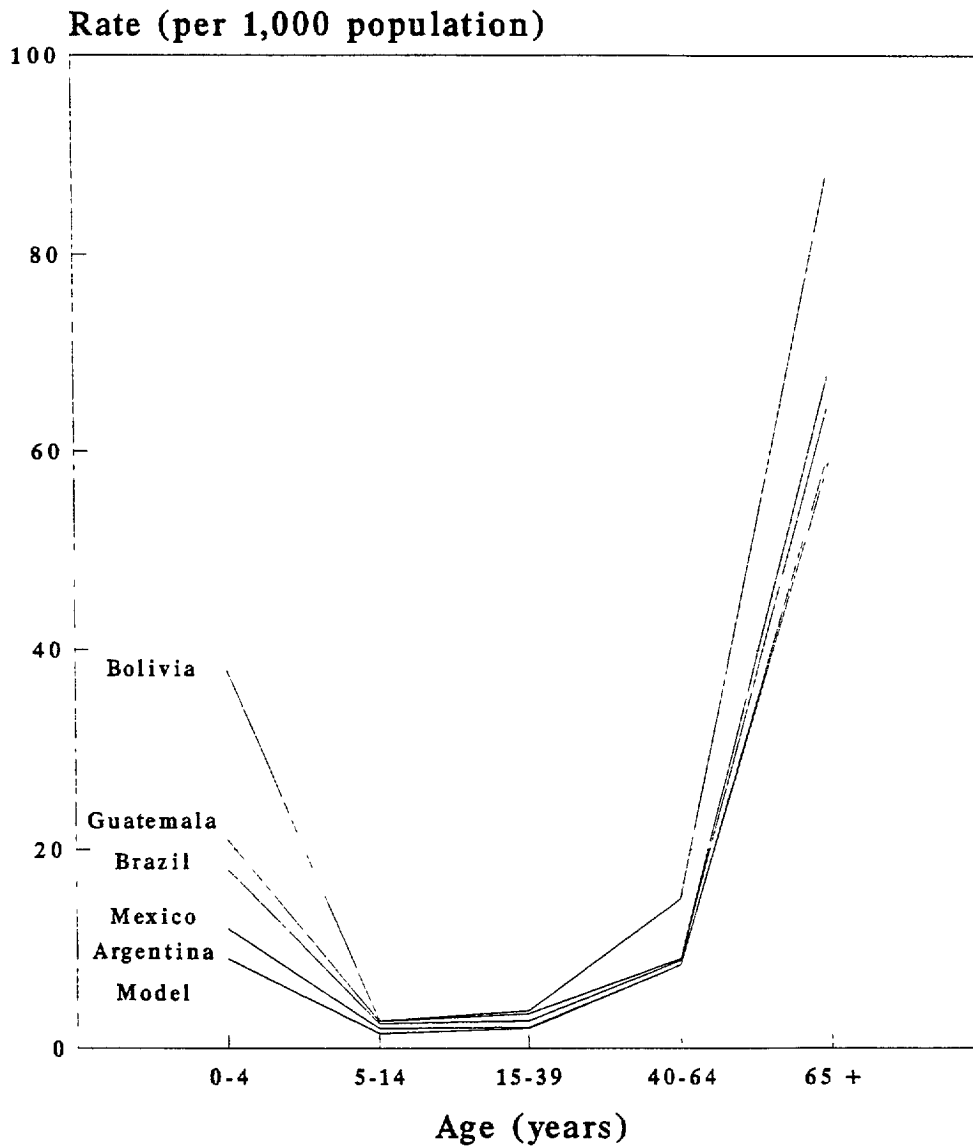
**TABLE 12**  
**MORTALITY FROM ACCIDENTS AND VIOLENCE IN ADOLESCENTS**  
**AGED 10-14 YEARS BY CAUSE, BRAZIL, 1985**

| CAUSES (ICD-9)                                   | 10-14 |         |
|--|-------|---------|
|  | No.   | Rate a) |
| Accidents and violence (E-800 - E999)            | 3.258 | 21.8    |
| Motor Vehicle accidents (E810-E819)              | 1.161 | 7.8     |
| Other accidents                                  | 1.433 | 9.6     |
| Accidental submersion (E-910)                    | 759a  | 5.1     |
| Accidents caused by fire and flames (E890-E899)  | 49    | 0.3     |
| Accidental falls (E880-E888)                     | 49    | 0.3     |
| Accidental poisoning (E850-E869)                 | 5     | 0.0     |
| Inhalation and ingestion of food (E911)          | 3     | 0.0     |
| Inhalation and ingestion of other objects (E912) | 9     | 0.1     |
| Accidental mechanical suffocation (E913)         | 45    | 0.3     |
| Other accidents (Rest of E800-E949)              | 514   | 3.4     |
| Suicides (E950-E959)                             | 73    | 0.5     |
| Homicides (E960-E969)                            | 217   | 1.5     |
| Other violent causes (E970-E999)                 | 374   | 2.5     |

Source: Ministry of Health. Mortality Data for Brazil, 1985. Brasilia, 1988.

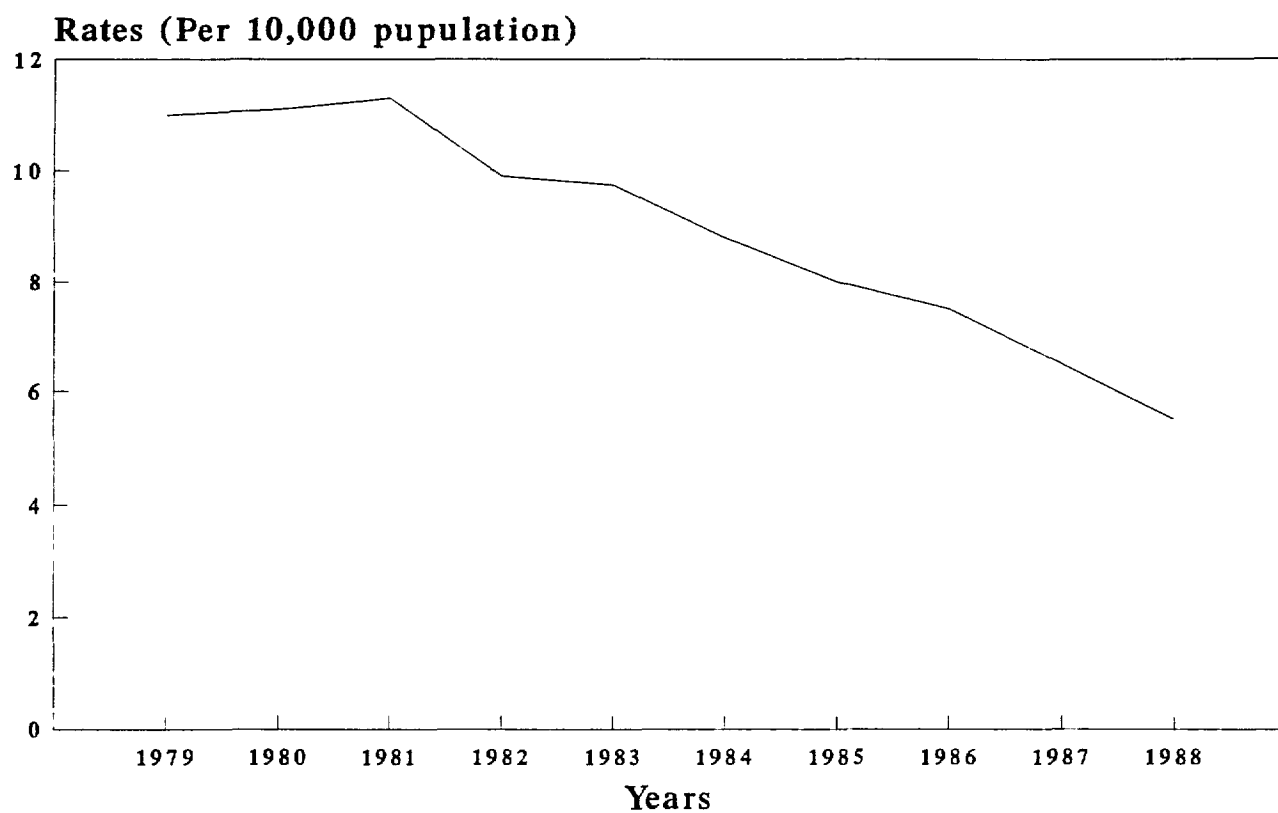
a) Per 100 000 population in each age group

**FIGURE 1**  
**AGE-SPECIFIC MORTALITY**  
**IN SELECTED COUNTRIES OF LATIN AMERICA**  
**1985 - 1990**



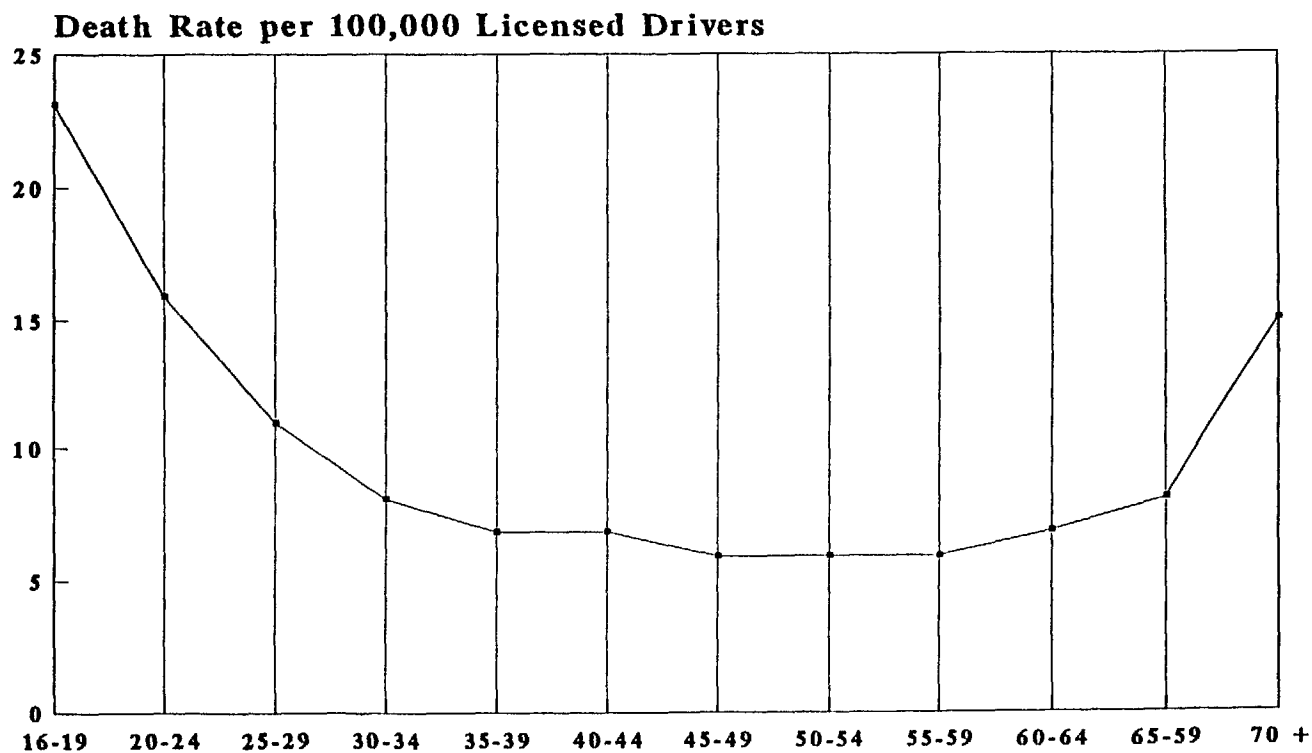


**FIGURE 2**  
**AGE-ADJUSTED MORTALITY,**  
**ADOLESCENTS AGED 10-19,**  
**LATIN AMERICA, 1979-1988**



SOURCE: Maddaleno M. Adolescents in Latin America: Are They Healthy? 1990

**FIGURE 3  
PASSENGER CAR DRIVER DEATH RATE  
BY AGE, 1989**



**SOURCE: HARVARD INJURY CONTROL CENTER  
INJURY UPDATE  
VOL. 1 No. 3, WINTER 1992**

ANNEX IV

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