
ECUADOR

GENERAL SITUATION AND TRENDS

Socioeconomic, Political, and Demographic Overview

Despite a severe economic and political crisis, during the 1990s Ecuador succeeded in strengthening its democratic constitutional regime and assuming its identity as a multicultural, multiethnic, and multilingual society. The administration that took office in August 1992 undertook to restore the macroeconomic equilibrium and modernize the State. For this purpose it created the National Modernization Council under the Office of the President, which negotiated the first privatizations of public agencies and presented proposals for decentralization, reducing the size of the State apparatus, and reforming social security.

During 1992–1995 inflation fell from 54.6% to 22.9%, monetary reserves increased from US\$ 1,300 million to \$1,600 million, and the fiscal deficit declined from 7% to 3% of gross domestic product (GDP). Seasonal migrations from the countryside to the towns and from the towns to the large cities swelled the ranks of the informal work sector, which represented 60% of the urban economically active population (EAP) in 1994. Net unemployment went from 3.6% in 1990 to 6.9% in 1995. Between 1991 and 1994 underemployment remained at approximately 48.0%. In July 1996 a worker's total income, as established by the National Wage Council, amounted to US\$ 154, including a minimum living wage of \$27 and additional compensation mandated by law (in 1990 the corresponding amounts were \$130 and \$65, but purchasing power was greater).

The lack of political support in Congress, coupled with increasing resistance on the part of the public, put a halt to the plan for privatization. In November 1995 a plebiscite rejected the constitutional reforms proposed by the President, following which the administration attempted to ameliorate some of the effects. The Ministries of Health, Education, Housing, and Labor went through a financial crisis when social spending was cut from 7.8% of GDP in 1992 to 5.18%.

A new administration took office in August 1996, and there were high hopes that it would promote social programs with broad popular outreach and immediate effect. However, the leadership style and the announcement of an economic plan based on convertibility of the currency, along with aggressive privatization, fiscal austerity, and severe adjustment measures, sparked the mobilization of civilian society against them. The President was replaced by an interim government elected by Congress to serve until August 1998, which was legitimized by plebiscite in 1997. The aims of this government were to combat corruption, strengthen national unity, reduce unemployment (estimated at 10% in 1997), stabilize the economy, lay the foundation for economic and social development, and prepare for political transition to an elected government for the 1998–2002 term.

In 1997, Ecuador's population was estimated at 11,936,858, of which 55.4% lived in urban areas. The population growth rate was 2.1% in the last intercensal period (1982–1990), and the annual rate for 1995–2000 is estimated at 1.9%. In 1995 the population under 15 years of age represented 36.4% of the total, as opposed to 38.9% in 1990. In the year 2000 this age group will represent 33.8% of the total population. In 1995, 49.8% of the population lived in coastal regions, 44.8% in the mountains, 4.6% in the Amazon region, 0.1% on the islands, and 0.7% in areas without geopolitical boundaries.

The national birth rate, corrected for delayed birth registrations (50% of the total) was 23.7 per 1,000 inhabitants in 1995, representing a decline of 7.8% with respect to 1990 (24.7 per 1,000). According to the Demographic and Maternal and Child Health Survey (ENDEMAIN-94), total fertility decreased from 4.0 children per woman in 1985–1990 to 3.6 in 1989–1994 (4.6 in rural areas and 2.9 in urban areas). The decline is explained in large part by the increased years of schooling for women, their growing participation in the work force, migration from the countryside to the cities, and family planning programs. The indigenous population, on the other hand, continues to have high fertility rates, as observed in

mountain provinces such as Bolívar, where the rate is 5.12 children per woman, and on the Pacific coast in districts such as Esmeraldas, with a rate of 4.66 children per woman.

Eight percent of the men and 12% of the women are illiterate; 30% of indigenous-language speakers are illiterate, compared with 10% of Spanish-speaking individuals. Only 53% of the indigenous population attends primary school, 15% is in secondary school, and fewer than 1% is enrolled in institutions of higher learning.

It is estimated that 63% of the total population was affected by some degree of poverty in 1995, compared with 54% in 1990; 40.3% of the total population has at least one unmet basic need, ranging from 60.8% in rural areas to 27.0% in urban areas. Forty percent of the total population is poor and 15% is indigent. The provinces that are poorest and have the highest percentage of households with unmet basic needs also have the lowest indexes of urbanization and, paradoxically, the lowest registered death rates. This can be explained by underregistration, which has not yet been quantified at the provincial level.

Based on data from the 1990 Population Census, it is estimated the indigenous population at that time stood at 910,146 (9.4% of the total) and was concentrated in the rural areas of the Ecuadorian Amazon region and the mountains. The exact locations of the various ethnic groups have not yet been mapped. Statistical data from 1994 indicate that the most numerous group is the Quichua, who live mainly in the mountains (66,964) and the Amazon area (72,528). Other ethnic groups in the Amazon area are the Shuaras (36,634), the Aschuaras (4,000), the Huaoranis (1,200), the Cofanes (627), and the Siona-Secoya (600). Along the coast there are 5,000 Chachis, 1,000 Tsachelas, and 27,648 Quichuas. No figures are available for the Ecuadorian population of African origin, which is concentrated along the coast and in two mountain provinces.

In the rural mountain and Amazon areas, it is estimated that 76% of the children live in poverty, a figure that reaches 80% for indigenous children and adolescents. In coastal areas, among the rural Ecuadorian population of African origin, 70% of those under 18 years of age are living in poverty. In these areas, as well as along the borders with Colombia and Peru, the situation is aggravated by migration of adult men to the cities or to other countries in search of work. Pichincha and Chimborazo have most of the emigrants from the other provinces (29.5% apiece). It is estimated that a million Ecuadorians are living abroad, mainly in the United States of America.

Life expectancy at birth in 1990–1995 was 68.8 years for the general population (66.4 years for men and 71.4 years for women); for 1995–2000 the estimate is 69.9 years (67.3 for men and 72.5 for women). The increase reflects the work that has been done in health education and health promotion, which has benefited children in particular.

Mortality

The figures on general mortality differ depending on how this indicator is measured. The accepted rate for 1995 is 5.17 per 1,000 inhabitants, which allows for underregistration of 16.4%. The estimate of underregistration, based on tables from the Latin American Demography Center (CELADE), is too high (30.3% for males and 33.4% for females) because when the tables were prepared they did not take into account the probable effect of actions undertaken on behalf of children. The percentage of deaths with medical cause-of-death certification was 84.5%, an increase of 3.3 percentage points relative to 1992. Deaths due to signs, symptoms, and ill-defined conditions accounted for 13.4% of the deaths in 1995, compared with 14.3% in 1990.

The highest mortality rates for both sexes and for all age groups were due to diseases of the circulatory system, followed by external causes in men and communicable diseases in women. The latter cause group was the one that declined the most between 1990 and 1995 in both sexes and in all age groups (from 97.0 to 79.2 per 100,000 inhabitants in men and from 84.8 to 68.4 per 100,000 in women). In that same period, the most notable drop in deaths from communicable diseases was in infants under 1 year old, with gains on the order of 400 lives per 100,000. Mortality rates from malignant tumors remained stable in men (59 per 100,000) and increased in women, from 67.3 to 71.2 per 100,000, and were highest in the population over 60 years of age. Mortality from diseases of the circulatory system declined somewhat more in women than in men, particularly among older adults. Death rates from conditions originating in the perinatal period dropped more for females than for males (110 and 72 fewer deaths per 100,000 live births, respectively). During the same time period, mortality from external causes increased slightly for males (from 99.5 to 103.8) and decreased slightly for females (from 29.1 to 26.1), underlining that there are gender-specific differences.

Between 1990 and 1995 the leading causes of death in the general population remained the same, but their rank changed: cerebrovascular diseases dropped from first to second place as the rate fell from 25.6 to 23.1 per 100,000 inhabitants; pneumonia, on the other hand, rose from third place to first, with a rate of 27.2 per 100,000; intestinal infectious diseases moved from second to ninth place and the rate dropped to half; traffic accidents remained in fourth place, with a decline in the rate from 19.4 to 15.8 per 100,000; and malignant tumors of the stomach remained in seventh place, showing a slight increase from 11.7 to 12.7 per 100,000. Deaths due to homicide and injuries purposely inflicted by other persons went from ninth to sixth place, with a 50% increase, and were responsible for 55,443 years of potential life lost (YPLL), 50,200 of them in men. A total of 1,191,882 YPLL are esti-

mated to have been caused by deaths occurring before the age of 70—713,785 of these in men.

SPECIFIC HEALTH PROBLEMS

Analysis by Population Group

Health of Children

ENDEMAIN-94 estimated infant mortality for the country as a whole at 44 per 1,000 live births, with large differences among the provinces: in Chimborazo, where the population is predominantly rural and indigenous, the estimated rate was 100 per 1,000 live births, whereas in Pichincha and Guayas, where the two largest cities (Quito and Guayaquil) are located, the estimated rates were 32 and 33 per 1,000, respectively. As in 1990, the leading cause of death in the infant population was hypoxia, asphyxia, and other respiratory disorders; diarrheal diseases moved from second to fourth place and the rate dropped to less than one-third—an improvement attributable to the use of oral rehydration; pneumonia remained in third place.

Acute respiratory infections were responsible for 37% of the deaths in infants from 1 week to 11 months of age and for 32% of deaths in children from 1 to 4 years old; they accounted for 28% and 24% of hospital discharges, respectively. Congenital anomalies went from eighth to sixth place, although in 1995 the mortality rate from this cause had dropped to half.

Of the 8,234 registered deaths in children under 5 years of age in 1995, 2,622 were in infants less than 1 month old; 1,916 of these were newborns under 1 week old. A total of 2,926 fetal deaths were reported. If it is assumed that the rate of underreporting of infant deaths remained stable, then there was an appreciable decline in infant mortality as well as in the group under 5 years old between 1990 and 1995. Mortality rates per 1,000 registered live births, adjusted for late registration of newborns, were 30.3 for children under 5 years of age, 20.4 for infants, 7.0 for early neonatal, 2.6 for late-born neonates, 10.7 in the postneonatal period, 17.9 for those in perinatal stage I, and 20.5 for those in perinatal stage II.

In children under 5 years of age, acute respiratory infections and acute diarrheal diseases were the principal causes of morbidity. Of the children surveyed, 19% had had diarrhea during the two weeks prior to ENDEMAIN-94, and 59% had suffered from an acute respiratory infection. In 1994 and 1995, among children less than 5 years old these infections, together with diarrheal and vaccine-preventable diseases, malnutrition and anemias, meningitis, malaria, and septicemia, accounted for between 60% and 70% of all hospitalizations and between 70% and 80% of outpatient consultations in the Ministry of Public Health.

In the group 5 to 9 years of age the sharpest decline in deaths was under the heading of infectious diseases, especially diarrheal diseases and respiratory infections. In 1995, accidents were the leading cause of death for both sexes. Violent causes, including accidents, were responsible for 285 deaths and affected males disproportionately (male/female ratio, 1.7:1). Nevertheless, certain types of non-fatal aggression, such as sexual abuse, affected mostly girls 5 years of age and older.

The group aged 5 to 9 tends to fall between programs for children, which are typically geared to those under 5 years of age, and programs for adolescents. As a result, little information is available on causes of illness and reasons for outpatient consultations for this age group. Data on hospital discharges, the only available information, show a preponderance of injuries resulting from violence and accidents; there is also an increase in chronic diseases compared to 1990.

Health of Adolescents

In 1990 the age group 10-to-19 years old represented 23.4% of the population. Early entry into the work force, migration, and lack of cultural acceptance, among other factors, provoked conflicts for adolescents, which were expressed in problems relating to their reproductive and mental health and their possibilities for growth and development. Of all the deaths in 1995, 4.2% were among adolescents. In both the 10-to-14 age group and those aged 15 to 19 the leading cause of death for both sexes was accidents and violence, with 971 reported deaths, which represents a rate of 37.6 per 100,000 population. Males were predominant (716 males and 255 females; 2.8:1 ratio).

In adolescent females, the main external causes of death in 1995 were: suicide, 76 deaths (66 in the group aged 15 to 19) and traffic accidents, 48 deaths (30 in the 15-to-19 age group). There were 23 maternal deaths, representing a maternal mortality rate for this group of 76.8 per 100,000 live births—lower than the rate for 1990. For adolescent males, the leading causes of death were accidents, especially traffic accidents, with 191 deaths (126 in those over 15 years of age), homicides, 143 deaths (134 in the over-15 group); and suicide, 50 deaths (44 in those over 15).

According to a 1995 survey, prevalence of the use of illicit drugs was 3.2% in the group aged 12 to 19, and prevalence of the use of alcohol and tobacco was considerably higher. Partial surveys conducted in the 1990s, which corroborated the national data gathered at the end of the 1980s, showed that tobacco use in adolescents was 14.9%, with no difference by sex. In 1995 it was estimated that, at the national level, 48.5% of all adolescents 11 to 13 years of age had consumed some type of alcoholic beverage; the figure increased to 73.9% in

the population aged 14 to 16 and to 87.1% among 17-year-olds, with no significant differences according to sex. Ten percent of all adolescents had been intoxicated before they were 10 years old.

Health of Adults

The leading causes of death in adults from 20 to 59 years of age are cardiovascular and cerebrovascular diseases, malignant tumors, and accidents and violence. In 1995 the leading cause for men aged 20 to 44 was accidents and violence, with 3,046 deaths, or 52.3% of the total (5,828) from all causes in this age group. Deaths from violence have homicides (936) and traffic accidents (653) as the most important causes. Other causes, in descending order, were cardiovascular and cerebrovascular diseases (535 deaths, or 9.2% of the total), malignant tumors (257, or 4.4%), and tuberculosis (252, or 4.3%). For women in the 20-to-44 age range the leading cause also was accidents and violence, with 486 deaths, or 18.1% of the total, followed by malignant neoplasms (425, or 15.8%), cardiovascular and cerebrovascular diseases (398, or 14.8%), tuberculosis (154, or 5.7%), and maternal causes (145, or 5.4%).

In 1995 a total of 170 maternal deaths were registered. The national rate adjusted for late registrations was 62.7 per 100,000 registered live births, a number that reflects significant underregistration. The average for the 1991–1995 period was 110.1 per 100,000 live births, with significant regional differences: in three provinces the rate exceeded 200 per 100,000, whereas in two provinces it was around 75 per 100,000. ENDEMAIN-94 estimated maternal mortality at 159 per 100,000 live births for the 1988–1994 period, and PAHO/WHO set the number at 120 per 100,000 in 1995. National organizations committed to reducing maternal mortality have adopted what they consider to be the realistic figure of 150 per 100,000. Maternal mortality, in addition to being related to poverty, is associated with shortcomings in the health services. In 1995 the proportion of professionally attended deliveries nationwide was 66.5%, but with substantial differences between the cities (84.3%) and the rural areas (41.9%). The differences are even more marked if Guayaquil (94.2%) or Quito (89.5%) is compared with the rural mountain areas (38.8%). Gynecological and obstetric morbidity has been reported to the National Epidemiological Surveillance System since 1994. While overall deliveries remained at a steady level (106,726 attended in 1996), cesarean sections, at 36,285, increased 33%, and abortions, at 12,310, were up 14%.

The leading cause of death in men from 45 to 59 years of age was accidents and violence (849 deaths, or 23.2% of the total), followed by cardiovascular and cerebrovascular diseases (663 deaths, or 18.1%), malignant neoplasms (392, or

10.7%), diabetes mellitus (169, or 4.6%), and tuberculosis (115, or 3.1%). In women of this age group the leading causes, in order, were malignant neoplasms (638 deaths, or 26.2% of the total), cardiovascular and cerebrovascular diseases (551, or 22.7%), diabetes mellitus (158, or 6.5%), and accidents and violence (147, or 6.0%). The most frequent site of malignant neoplasms was the uterine cervix, which accounted for 176 deaths in 1995. Detection programs have been targeted toward this high-risk age group.

Health of the Elderly

In 1995 the two leading causes of death in the group aged 60 and over were cardiovascular and cerebrovascular diseases and malignant neoplasms. In men of this age group the former category accounted for 3,455 deaths, or 27.1% of the total, and malignant neoplasms accounted for 1,848 deaths, or 14.5%; other major causes were accidents and violence (848 deaths, or 6.7%), pneumonia (750, or 5.9%), and diabetes (503, or 3.9%). In women aged 60 and over the proportions were similar: cardiovascular and cerebrovascular diseases headed the list (3,322 deaths, or 27.4% of the total), followed by malignant tumors (2,010, or 16.6%), pneumonia (803, or 6.6%), and diabetes (788, or 6.5%).

In general there are not enough policies, programs, services, or human resources in the field of gerontology. The Ministry of Public Health's services for the 60-and-over population, in addition to being limited, are nonspecific and lack the components of promotion, education, self-care, and rehabilitation. The Ecuadorian Social Security Institute (IESS) has established a program that focuses on mutual support groups and mental health.

Family Health

With a total fertility rate of 3.5 for 1990–1995 and a national average of five members per nuclear family unit, Ecuador's families, especially in the cities, have undergone a major transformation in recent decades, characterized by shrinking size, less community participation, not as much bonding with the extended family, and rising rates of separation and divorce, which have created a high proportion of single-parent families.

The average annual marriage rate for 1990–1995 was 6.3 per 1,000 inhabitants, and the divorce rate was 6.1 per 10,000 inhabitants. In other words, for every 10 new marriages there was one divorce. This figure does not reflect the true situation, however, because consensual unions, which tend to be more stable, are very common, especially in the rural coastal areas; there are also multiple marriages and tacit separations

that, even though no divorce is involved, leave many women as heads of families who live in inadequate economic and social conditions.

Efforts to respond to family problems, although they have been considerable, have often focused on specific aspects such as protecting abused children and women or responding to urgent health needs of poor individuals and families. The work of the National Child and Family Institute is one of the most notable examples. Some private institutions, including nongovernmental organizations, are working in this field, especially in the areas of mental health, legal aid, health care, and social work in homes with high levels of family violence. In 1993 the child abuse prevention network (REDPANM) and the committees of women to deal with family violence carried out important work. Since 1993 there has been a law on violence against women and families. Some religious orders, such as the Salesian priests, have long-term programs for aiding and rescuing street children.

Workers' Health

In 1992, of the total EAP, only 1,101,131 (30%) were covered by occupational hazard insurance through their affiliation with the IESS. No attempt is being made to investigate or report the leading causes of disease and death in this group. Data available for 1990 show that over the previous 10 years the annual incidence of accident-related deaths among workers belonging to the IESS declined from 226 to 162, whereas in the unaffiliated population the number increased from 226 to 430. The leading work-related diseases were occupational deafness, pesticide and other chemical poisoning, diseases of the bronchi and lungs, dermatoses, cancer, disturbances of the locomotor system, infections and contagious diseases, and eye diseases. Since 1994, work-related accidents have been reported to the National Epidemiological Surveillance System. Between 1994 and 1996, approximately 5,000 cases were reported each year.

According to a study conducted by the International Labor Organization (ILO) and UNICEF, in 1990 some 800,000 children and youth between the ages of 8 and 18, or 30% of the total minor population of 2.5 million, were working, and this proportion increased to 38.7% in 1996. More minors (310,000) were working in rural areas than in cities, and under worse conditions. Only 23% of the minors who worked attended school. Ecuador participates in the international effort for flexible employment conditions, which calls for open contract arrangements, a reduction of benefits, the end of collective contract bargaining in the public sector, the rotation of workers, and the option of paying for overtime on an hourly basis. As a result, greater risks to the health of the working population can be foreseen.

Health of the Disabled

In Ecuador, 13.2% of the population suffers from some form of disability. Given the link between disability and poor living conditions, low income, and difficult access to health services, the incidence of disabilities is greater in marginal urban areas and in rural areas. There is no systematized national register of disabilities, but prevalence surveys provide at least a basic understanding of the situation. It is estimated that 48.9% of all Ecuadorians have some form of impairment and 2.4% are handicapped. The proportion of disabilities is slightly higher in men than in women (13.5% versus 12.9%), and it is greater in cities than in rural areas (13.5% versus 12.4%). Handicaps are clearly more prevalent in urban areas (2.8% versus 1.6%), because of the severe injuries caused by accidents and violence.

In children under 5 years old the predominant impairments have to do with psychological development (35.9%), followed by those that are language-related and psychosocial (20.3%) and those that are musculoskeletal (16.2%).

Health of Indigenous People and Other Minorities

Chief among the leading causes of death and disease in the indigenous population are those related to poverty: acute respiratory infections, acute diarrheal diseases, and malnutrition. Hypoxia and complications of delivery and the puerperium are the leading causes of infant and maternal death, respectively. The rate of infant mortality is higher in the indigenous populations than in the rest of the population; whereas the national rate in 1994 was 22 per 1,000 registered live births, in the Colimbuela and Cumbas communities it was 83.3 and 66.7, respectively. Infant mortality is related to malnutrition, diseases caused by lack of food safety, inadequate maternal and child care, unsanitary surroundings, and insufficient coverage by the health services. In 1995, for every 1,000 births there were 70 deaths before the age of 1 year, and for every 100,000 births, 198 mothers died. In the mountain regions where the population is largely indigenous, 85% of all deliveries were not attended medically. Chronic malnutrition in children under 5 years of age reached 69% in some of these areas, compared with the national figure of 49.4%.

Among black children in Esmeraldas, malnutrition is estimated at between 60% and 70%. The health situation of populations living near the borders with Colombia and Peru is critical, especially among those living in the eastern region. Chronic childhood malnutrition is 65%, and infant mortality rates exceed 50 per 1,000 reported live births. The most common diseases are parasitoses, intestinal infections, diarrhea, and anemia.

The predominantly rural location of indigenous groups is directly related to their difficult access to resources and services. The already low health service coverage in rural areas reaches its most critical levels in the Amazon region, where health professionals visit indigenous communities along the river banks once every three months at best. Some indigenous communities, such as the Awa Coiquier, the Chachi, and the Tsachila, have no access to basic health services. The knowledge and practices of indigenous medical care cover their needs to some extent, and one of the goals of their struggle for self-determination is for their informal health agents (midwives, herbalists, shamans, *yachags*, etc.) and the people themselves to gain recognition as human resources capable of monitoring and caring for their health while integrating aspects of Western medical knowledge that will enable them to improve the health and living conditions of their communities.

Analysis by Type of Disease or Health Impairment

Communicable Diseases

Vector-Borne Diseases. In 1996, 12,011 cases of malaria were reported, or one-fourth as many as in 1993. The highest rate was in Esmeraldas (1,175.0 per 100,000 inhabitants). In the Amazon region, the province of Sucumbíos had a rate of 936.9 per 100,000. Since 1993, when *Plasmodium falciparum* infections were responsible for 46% of the cases in the country, the percentage of infections due to this parasite has been on the decline. In 1996 it represented 16% of the cases in the coastal area. The principal vector is *Anopheles albimanus*. In the Amazon region, *Anopheles triamilatus*, *Anopheles punctimacula*, and *Anopheles trinkae* may be involved in the transmission of malaria.

The coastal provinces were also the areas most affected by dengue, with 12,796 cases in 1996, a marked increase since 1992. The highest incidence was in Cañar, with 1,078.0 cases per 100,000 inhabitants, followed by Manabí, with 365.0 per 100,000. In the subtropical mountain areas, only two provinces, Cotopaxi and Loja, reported cases between 1995 and 1996, as opposed to eight provinces in 1990. No cases of dengue were reported in the Amazon region in 1995 and 1996.

In the 1992–1996 period, Chagas' disease was diagnosed in 12 provinces located in the mountains, along the coast, and in the Amazon region. The incidence in Pastaza increased from 2 per 100,000 inhabitants to 3.6 between 1992 and 1995, and in Sucumbíos it went from 4.5 in 1994 to 12.7 in 1995. In the blood banks, 95% of the donations are screened. The principal vectors are *Triatoma dimidiata* and *Rhodnius ecuadoriensis*. The reports received—only 13 cases in 1996—do not re-

flect the true situation, because it is estimated that some 500,000 persons are infected, mainly in Guayas, El Oro, and Manabí.

Cutaneous leishmaniasis is the most prevalent form of the disease. Its incidence increased slightly, to 1,655 cases in 1996, with reports received from 18 of the 21 provinces. In the Amazon region, which had the highest incidence, the rate fell from 143.6 per 100,000 inhabitants in 1992 to 62.8 per 100,000 in 1996, whereas in the mountains it increased from 8.72 to 10.35 per 100,000, and along the coast, from 6.9 to 11.43 per 100,000. The provinces most affected in 1996 were Zamora-Chinchipec, Morona-Santiago, and Bolívar, with rates of 211.2, 109.0, and 86.7 per 100,000 inhabitants, respectively.

Of the 12 provinces that reported 27 cases of onchocerciasis in 1992, only 6 filed reports in 1996, for a total of 10 cases. The main foci were located in Esmeraldas; however, no new cases were reported there in 1995 or 1996. The goal of the program, which is based on the mass distribution of ivermectin, is to eliminate onchocerciasis by the year 2000.

Cases of jungle yellow fever have been reported in the Amazon region in the 1990s. In 1994 and 1995 no cases whatsoever were reported in the country, but in 1996 there were eight in Morona-Santiago. In Sucumbíos, where there was transmission of the jungle form of the disease in 1992, a focus of *Aedes aegypti* was detected in 1996. Of 24 cases of the hemorrhagic syndrome investigated in Morona-Santiago, 2 were seropositive for the oropuche virus; none of the patients had had a recent infection or prior exposure to the dengue or yellow fever virus.

Vaccine-Preventable Diseases. No cases of poliomyelitis have been reported since 1990. Between 1992 and 1996 the number of confirmed cases of measles dropped from 4,356 to 40, and cases of neonatal tetanus went from 71 to 37. In 1996, vaccination coverage of infants under 1 year of age was higher than in any of the preceding five years (BCG, 100%; OPV3, 89%; DTP, 88%; and measles, 79%). During the same period, cumulative coverage with two doses of tetanus toxoid was 54% in women of reproductive age in 49 areas at risk for neonatal tetanus, compared with 20% in 1992. In 1995–1996 some cases of neonatal tetanus were detected in marginal urban areas of Guayaquil among mothers originally from indigenous areas of the province of Chimborazo who had migrated to the city only a few days before delivery.

There were epidemic outbreaks of diphtheria in 1994 (565 cases) and 1995 (145 cases) in the adult population in the provinces of El Oro and Pichincha. In 1996, however, only 22 cases were reported, which indicates that the incidence of this disease is on the decline. In 1966 a total of 136 cases of whooping cough were reported, compared with 320 in 1992.

The earliest year for which information has been available on hepatitis B is 1994, when 443 cases were reported. In 1995

a total of 564 cases were reported, and in 1996 the figure was 569.

Reported cases of rubella have increased considerably since 1994, when the national system for the surveillance of rash and fever diseases began to operate. Cases went from 760 in 1992 to 4,797 in 1995. In 1996 the figure was 1,436, but this apparent drop was actually due to the fact that the disease was categorized under "other rash and fever diseases" in the reporting system of the Measles Elimination Plan. Since the end of 1996 the laboratories at the National Institute of Hygiene in Guayaquil and the National Institute of Health in Bogotá have been processing serum samples with suspected measles in the search for cases of rubella.

Cholera and Other Intestinal Diseases. Cholera has declined sharply since 1991, when the first case was detected and the number reached 46,320. In 1994 the disease was detected in 17 of the country's 21 provinces. In 1996 a total of 1,060 cases were reported in 12 provinces, with 59% of the cases occurring in Imbabura. During 1992–1996 the case fatality rate from cholera remained lower than 1%.

The incidence of diarrheal diseases has remained stable. There were 193,352 cases in 1996. These diseases are one of the leading causes of morbidity, especially in children under 5 years of age. In 1995, of the 1,390 deaths from enteritis and other diarrheal diseases, 33.1% occurred in infants under 1 year old.

A total of 14,887 cases of salmonella were reported in 1996, for a rate of 127.3 per 100,000 inhabitants—almost 50% more than in 1992. The disease was reported in all the provinces except the Galápagos Islands. During 1992–1996 the highest incidence in the coastal provinces ranged from 160 to 325 per 100,000 inhabitants; in the mountain provinces the rate for Bolívar was the highest, at 1,025.9 per 10,000 in 1995.

Food poisoning of all types fell from 8,742 cases in 1995 to 6,992 in 1996. In the latter year, intestinal infectious diseases were the leading reason for the hospitalization of men (16,467 cases) and the third most common reason among women (15,076).

Acute Respiratory Infections. There were 598,558 cases of respiratory infections in 1996, capping a trend that has been rising steeply since 1992, when 138,684 cases were reported. The largest increase occurred between 1993 and 1994, when surveillance began to focus on children under 5 years of age. In Quito, in a 1995 sampling of 195 children who consulted health services with a cough or other respiratory difficulties, 15.9% had pneumonia, 2.6% had serious pneumonia, and the rest had acute respiratory infections without pneumonia. In 45% of those cases antibiotics were administered unnecessarily. Pneumonia was diagnosed in 6,373 hospital-

izations of men and 5,194 of women, for rates of 11.1 and 9.1 per 10,000 inhabitants, respectively.

Rabies and Other Zoonoses. Between 1992 and 1996, the human rabies endemic reached epidemic proportions in 1992–1993 and 1995–1996. Of the 65 cases reported in 1996, 20 were in the province of Pichincha and 13 were in Guayas. The remaining 32 cases were scattered among 11 provinces. Dogs are the principal source of human rabies infection.

Human cysticercosis increased from 111 cases in 1992 to 336 in 1996. Brucellosis went from five to nine cases. The incidence of foot-and-mouth disease remained stable, with an annual average of 100 bovine herds affected by vesicular diseases clinically compatible with foot-and-mouth disease. In 1996 the rate of affected bovines was 0.39 per 1,000; morbidity was 2.95 per 10,000; internal morbidity was 21.8%; and case fatality was 5.3%. A control project is being undertaken jointly by the public and private sectors (Ministry of Agriculture and Federation of Livestock Raisers) with a view to eradicating the disease.

AIDS and Other STDs. In 1996 there were 186 new reported cases of AIDS/HIV infection, and the cumulative total since 1984, when the first case was reported, was 1,279 infected persons; 608 were classified as cases of AIDS, of whom 432 had died. Between 1992 and 1996 the annual incidence of AIDS/HIV infection increased from 0.6 to 1.6 per 100,000 inhabitants. Between 1984 and 1996 three provinces reported 92% of the cases in the country: Guayas, with 69%; Pichincha, with 12%; and Manabí, with 11%. Heterosexual transmission accounted for 37.7% of the infections; homosexual transmission for 29.2%; and bisexual transmission for 19.4%. Most of the 1,279 people infected were between 19 and 39 years of age, and more than 80% of them were men. In 1996, 21 persons were accidentally infected by HIV at a dialysis unit in Guayaquil—the one that serves the most people in the country. The provinces of Imbabura, Sucumbíos, Pastaza, and Morona-Santiago are the only ones that have not reported any cases of HIV infection, nor have any cases of AIDS been found in these provinces or in Bolívar, Cotopaxi, Zamora, and the Galápagos Islands.

Gonorrhea has been on the rise in recent years, with 7,703 cases reported in 1996. That year a total of 1,541 cases of syphilis and 87 cases of congenital syphilis were reported.

Chronic Communicable Diseases. Pulmonary tuberculosis showed a generally rising trend, with 7,938 new cases (67.91 per 100,000 inhabitants) in 1996. Cases were reported in all provinces, including the Galápagos Islands. The highest rates during 1992–1996 were in provinces in the Amazon region, such as Pastaza and Napo, with 302.4 and 291.3 per 100,000 inhabitants, respectively, in 1996. In the mountains

the highest rates were in the provinces of Bolívar (314.24 in 1995), Cotopaxi (280.49 in 1996), and Cañar (138.89 in 1996); Guayas and Esmeraldas had the highest rates on the coast (101.75 and 119.14, respectively, in 1994).

During 1992–1996 the national incidence of tuberculous meningitis remained steady at less than 1 case per 100,000 inhabitants. Six provinces reported cases every year. The highest rate (3.3) was in 1992 in Azuay, a mountain province that had the highest annual rates in the five-year period except for 1996. In 1996 the Amazon region had the highest rate, with 16.2 per 100,000 inhabitants in Pastaza. Also in that region, the province of Zamora reported cases in 1996 for the first time in the decade, with an incidence of 2.19 per 100,000 inhabitants.

There were 151 cases of leprosy reported in 1996. The average rate for the five-year period was 1.16 per 100,000 inhabitants. The only provinces with cases of leprosy in 1996 were Guayas (with the largest number), El Oro, Los Ríos, and Manabí on the coast, and Pichincha in the mountains. Of the new cases, 71% were multibacillary (46.5% of them clinically lepromatous).

Noncommunicable Diseases and Other Health-Related Problems

Cardiovascular Diseases. An important risk factor for cardiovascular and cerebrovascular diseases, which together accounted for 9,262 deaths in 1995 (80.8 per 100,000 inhabitants), is arterial hypertension, which is also associated with other chronic degenerative problems. In 1966 there were 25,850 cases of hypertension reported in outpatient consultations, which reflects a declining trend since 1992. Surveys conducted in various groups over 15 years of age in the past 20 years (none of them representative of the country as a whole) revealed estimated prevalences ranging from 4% in the rural mountain population to 13% in urban areas. Hypertensive disease was responsible for 2,216 deaths in 1995 (19.3 per 100,000).

In 1996 there were 2,035 reported cases of rheumatic fever—2.4 times as many as in 1992. Surveys of the prevalence of streptococcal throat infections in schoolchildren showed rates ranging from 7% to 19%. In 1995 rheumatic fever caused 66 deaths, 37 of these in females and 29 in males.

Ischemic heart disease, which was responsible for 1,330 deaths in 1995 (11.6 per 100,000 inhabitants) and occurred more frequently in men than in women (1.4:1), together with cerebrovascular disease, with 2,645 deaths in 1995 (23.1 per 100,000), has not received any direct response from the public health institutions beyond the care provided in the clinical and surgical services.

Malignant Tumors. Taken as a group, malignant tumors are an important cause of death. In 1995 the most frequent site was the stomach, which accounted for 804 deaths in men (14.0 per 100,000 inhabitants) and 644 in women (11.2 per 100,000). In males, tumors of the prostate were responsible for 333 deaths and lung cancer was responsible for 250. Prostate hyperplasias (4,436 cases) ranked ninth as a reason for hospitalization of men. In women, tumors of the uterine cervix (plus unspecified tumors of the uterus) caused 676 deaths, and breast cancer was responsible for 243.

Nutritional Diseases and Diseases of Metabolism. The only data available on protein-energy malnutrition in children under 5 years of age come from direct measurements taken through the Ministry of Public Health's Food and Nutrition Surveillance System (SISVAN), and they are representative only of the families that use the Ministry's services. They reveal the following rates: in infants under 1 year of age, 10.7% had low weight-for-age—i.e., between –2 and –3 standard deviations (SD)—and 2.5% were below –3 SD; of the children 1 to 4 years old, 21.1% were between –2 and –3 SD and 4.94% were below –3 SD. The mean incidence of low weight-for-age in infants under 1 year of age was 13.26% for the country as a whole and reached a high of 25.60% in the province of Carchi. Eight of the 18 provinces covered by SISVAN were above the median. In very poor provinces such as Chimborazo, the prevalence of low weight-for-age in children 1 to 4 years of age was 40%, compared with a national average of 26%. Six of the 18 provinces covered were above the national average. The system does not break down the information on children with retarded growth between –1 and –2 SD. ENDEMAIN-94 estimated the national incidence of low birthweight at 13.9% with the rate in rural mountain areas at 23.0%; SISVAN has set the figure at 8.9% among children born in the health units.

A 1988 diagnosis of the nutritional and health status of the Ecuadorian population showed that 69% of the children under 1 year of age, 20% to 46% of those under the age of 3, and 10% to 22% of those aged 3 to 5 had iron-deficiency anemia. In 1996 a study based on a representative sampling of schools in poverty-stricken areas indicated that 37% of the schoolchildren had anemia and the prevalence was higher in first graders (45%) than in sixth graders (22%). Iron deficiency is a serious public health problem in the entire country, and it primarily affects infants and toddlers, schoolchildren, and pregnant women.

In 1993 serum retinol deficiency (lower than 20 µg/dl) was reported in 17.7% of the children between 12 and 59 months of age in populations living in poverty, with prevalences ranging from 9.6% to 25.6%. Several studies have confirmed that vitamin A deficiency is a moderately serious problem and is mainly found in certain extremely poor areas.

The system for the surveillance of iodine deficiency reports

that in 1995, 94% of the salt samples collected had iodine levels greater than 20 ppm. In that same year the consumption of iodized salt in the rural population reached a level of 97%, and in 16 of 17 sentinel health posts the median concentration of ioduria was somewhat higher than 10 µg/dl. These figures indicate a mild risk for iodine deficiency disorders in the general population.

According to ENDEMAIN-94, between 1990 and 1994, 95% of all live-born infants were initially breast-fed; 36% of those breast-fed babies began to nurse during the first hour of life and 43.5% began to nurse during the first day. The median duration of exclusive breast-feeding was 2 months in the country as a whole, varying from 3.8 months in the rural mountains to 1 month on the coast.

Obesity (body mass index over 25), dyslipidemia, arterial hypertension, and non-insulin-dependent diabetes mellitus, among other chronic diseases associated with diet and inadequate lifestyle, are on the increase and affect the population at all socioeconomic levels. Coexisting alongside nutritional imbalances and deficiencies, they make for an overlapping epidemiological picture. This situation is also observed in schoolchildren: a 1995 study showed that 19% of the schoolchildren in Quito were obese, and 22% had mixed dyslipidemias. Diabetes began to be reported in outpatient consultations in 1994; 7,044 cases (62.8 per 100,000 inhabitants) were reported that year, and in 1996 there were 7,526 cases (64.3 per 100,000).

Accidents and Violence. Accidents and various forms of violence were responsible for 7,465 deaths in 1995 (65.1 per 100,000 inhabitants), predominating in men at a ratio of 4:1. These deaths represent an estimated 192,148 and 44,805 years of potential life lost (YPLL) in men and women, respectively. Traffic accidents and homicides are mainly responsible for these deaths, especially in the male population. Ground transportation accidents increased from 8,906 in 1994 to 10,743 in 1996. Surveys conducted in various cities in the 1990s, coupled with national police records, show that most victims of transportation accidents are pedestrians and mass transportation riders. These sources also describe the important effects of negligence and alcohol abuse as causes. Accidents in the home, which are also on the rise, totaled 12,239. Outpatient treatments for violence and abuse reported in 1994, 1995, and 1996 were 3,708, 4,025, and 3,265, respectively. Fractures were the second leading reason for hospitalization of males, with 14,136 cases, and the fifth reason for women, with 6,295 cases.

Behavioral Disorders. These disorders are a growing reason for consultations, especially depression, which in 1996 headed the list with 4,521 consultations (38.7 per 100,000 inhabitants), followed by epilepsy and alcoholism. Consulta-

tions for drug dependency are rare. Mental illness was the reason for 5,291 hospitalizations of men in 1995 (9.2 per 10,000 inhabitants). Alcoholism has a prevalence of 7.7% in the population over 15 years of age. Tobacco use is associated with 6.0% of general mortality. At the beginning of the 1990s the estimated prevalence of habitual smokers among adults was 21.6%, with a male/female ratio of 2.4:1; the prevalence among adolescents was 14.9%, without any significant difference between the sexes. It was established in 1995 that in the population aged 12 to 49 the lifetime prevalence of tobacco use was 51.6%, and for the consumption of alcohol in that age group the lifetime prevalence was 76.4%. With respect to the preceding month, however, the prevalence of tobacco use was 28.3% and the consumption of alcohol was 51.2%. In the month preceding the survey, 19.7% of the persons interviewed had consumed alcohol to excess—i.e., they had gotten drunk on more than one occasion. Since 1989 the Interinstitutional Committee Against Tobacco Use has been carrying out coordinated actions, especially educational initiatives, aimed at children and adolescents. Tobacco advertising and the establishment of smoke-free areas are controlled by law, but compliance is undermined by the ineffectiveness of the boards of health.

Prevalence of the use of illegal drugs was 3.2% in youths between the ages of 12 and 19, 6.0% in the population aged 20 to 29, 7.7% among those in the 30-to-39 age group, and 3.3% among persons aged 40 to 49. There is a striking difference between the sexes in the rates of illegal drug use: 10.3% among men versus 0.9% among women, or a ratio of 11.4:1.

Oral Health. According to an epidemiological study conducted in Quito in 1993, the average index of decayed, missing, and filled teeth (DMFT) was highest in the group aged 45 and over (26.5), followed by the groups aged 35 to 44 (20.3), 25 to 34 (14.8), 15 to 24 (8.6), and 6 to 14 (2.1). The presence of missing teeth is highest in the groups over the age of 25. In 1996 an epidemiological study of oral health in public schoolchildren aged 6, 7, 8, 12, and 15 in urban and rural areas showed that at the age of 6 years 87% of the children had caries and at age 12 the rate was 85%. The DMFT index in the group of 6-year-olds was 0.22, and in the 12-year-olds it was 2.95. A reduction observed compared with the indexes for 1988 (DMFT 0.70 and 5.00, respectively).

Natural Disasters. Because of its geographic location on the Pacific ring of fire, Ecuador is exposed to various natural disasters, such as floods, earthquakes, volcanic eruptions, and droughts. The drought that has affected the provinces of Loja and El Oro in the southeast since 1995 has become a national emergency. In this area, otherwise ideal for agriculture, the scarcity of rain and the lowering of the river levels has seriously hurt the local economy and forced many residents to

emigrate. At the same time, the agricultural areas on the coast are flooded every year, and the 1997 floods affected all the coastal provinces. High surf caused major damage in the province of Esmeraldas in the north of this region. By the end of March 1997 the heaviest rainfall in 10 years was recorded, which in the province of Guayas flooded 80% of the territory, caused two deaths, was responsible for countless missing persons, and left some 12,000 people affected by the damage.

RESPONSE OF THE HEALTH SYSTEM

National Health Plans and Policies

In 1992 measures were proposed for modernizing community management and financing in order to improve health coverage and the quality of care. The private sector was encouraged to participate in the administration of public health services, and incentives were offered in the form of mechanisms for recovering costs through special endowments in the hospitals and primary health care services, such as selective charges for services with the concurrence of community health committees. These changes have had only limited implementation.

Decentralization of services by means of health areas, which constitute the basic unit of organization, and local management of health services under the Ministry of Public Health, has been encouraged. The 180 areas in the country include health centers and subcenters and district hospitals, which are the first level of referral in the development of local health systems.

In June 1993 the project Strengthening and Extension of Basic Health Services in Ecuador (FASBASE) was launched in 41 priority areas. This project is based on the primary health care policy that has been promoted by the Ministry of Public Health since 1988. Beginning in 1995 it has included a component for improving emergency services in urban areas. As of mid-1997 work began on developing a new project, Modernization and Development of Integrated Health Services Networks (MODERSA).

Health Sector Reform

The social security reform proposed by the National Modernization Council during 1992–1996 included the reform of medical services. By eliminating the compulsory inscription of formal workers in the public insurance system (IESS), it was possible to set up competition between public and private providers. The National Health Council, presided over by the Ministry of Health, introduced an alternative national proposal involving the participation of all institutions in the public and

private sectors and of civilian society at the central, provincial, and local levels. Basically, it calls for the organization of a national health system in which the Ministry of Health is both leader and regulator, assumes responsibility for public health actions, and implements a health insurance scheme to expand medical care coverage based on the principles of equity and partnership and on decentralized management.

The ongoing reform debate has given rise to numerous initiatives and proposals—for social security, a Social Front, a physicians' union, organizations of women and indigenous people, nongovernmental organizations, etc. Some basic points of consensus have been found for developing a government policy on the subject and for its progressive implementation.

The health reform process did not progress as had been hoped for during the administration that came into office in 1996, since the work of the National Health Council was suspended. In May 1997 a vote was put to the people, and the results committed the Government to convening a constitutional assembly by the end of that year that would give viability to the reform of the State, including the health sector.

Organization of the Health Sector

Institutional Organization

The health sector is composed of various public and private institutions, both nonprofit and for-profit, which are very loosely coordinated by the National Health Council and operate on the basis of agreements and standards regarding the application of technical mechanisms such as the standardized clinical history form and guidelines for maternal and child care developed by the Ministry of Public Health.

The public subsector consists of the Ministry of Public Health, the IESE, the Public Health Service of the Armed Forces and Police, the National Child and Family Institute, and the Ministry of Social Welfare. Private autonomous institutions with a social mandate may also be included—most notably, the Guayaquil Welfare Board, the Guayaquil Child Protection Society, and the Society to Combat Cancer. Altogether, the public subsector attends to the needs of approximately 59% of the population, especially in terms of hospital care. It is estimated that the Ministry of Public Health covers 31% of the population; social security, 18%; the Guayaquil Welfare Board, the Society to Combat Cancer, and other nonprofit private institutions, 10%; the Armed Forces and Police, 1%; and various private for-profit enterprises, 10%; the remaining 30% do not receive any formal medical care.

The Ministry of Public Health is the official State agency responsible for developing policies and public health standards. It is also the largest provider of comprehensive health benefits and has the broadest network of services. Social se-

curity is handled by the IESS, which provides services through individual membership programs for workers in the formal sector, representing 28% of the country's economically active population. Family membership for workers in rural areas comes under Farmers Social Security, which provides social benefits (burial, disability, old age) and primary medical care. The Armed Forces and Police have outpatient services and hospitalization for their members and families and operate as does social security. The Guayaquil Welfare Board and Child Protection Society serve the medium- and low-income population in the coastal region. The Society to Combat Cancer provides specialized diagnostic services and treatment in the country's large cities. The Red Cross responds to emergencies and regulates the blood banks. The Undersecretariat of Environmental Sanitation in the Ministry of Urban Development and Housing and the *municipios* that regulate and carry out sanitation activities are also considered part of the public health sector.

Private for-profit organizations have hospital establishments of varying levels of complexity, physicians' offices, and auxiliary diagnostic and treatment services for the population that is able to pay for them. They include both insurers and private prepaid medical enterprises. A considerable portion of the population—mainly those with limited resources and especially people living in rural areas—use traditional medicine.

Since 1996 the Special Health Committee of the National Congress has been analyzing various health-related bills on issues such as provision of vaccines, and it has been studying proposals on the regulation of private health care and prepaid medical plans, as well as on decentralization and popular participation, which call for participation by the *municipios*, provincial councils, and community health action organizations.

The principal agencies in the sector—namely, the Ministry of Public Health and the IESS—use different decentralization models. The Ministry's model is based on health areas that constitute small service networks with set geographic and population catchments and on a scheme of technical decentralization and deconcentration of certain administrative activities and budgetary planning and execution. The budgetary law in effect since 1994 authorizes the establishment of budgetary entities at the health area level, as long the health area has staff technically competent to do the work required. The health areas carry out their intervention plans to the extent of their decision-making authority based on the concept of primary health care and with a strong component of community participation. Even though the health areas are limited to units under the Ministry of Public Health, the concept is in keeping with the proposal for the organization and development of local health systems. The IESS, for its part, is decentralizing its administrative aspects at the level of large re-

gions. This subsector has a complex structure because its primary objective is to manage various types of insurances and benefits—of which health is only one.

Organization of Health Regulatory Activities

Health Services Delivery. Although the Constitution of the Republic gives the Ministry of Health responsibility for regulation, direction, and control of the entire health sector, in reality each of the institutions in the sector provides its services in accordance with its own policies, objectives, and resources. There are some broad problems that affect all of them, such as insufficient intra- and interinstitutional and intersectoral coordination, inadequate utilization of resources, under-par delivery of services at the different levels of care, and lack of a management information system. The FASBASE project is standardizing the benefits provided at the primary level so that all units can be linked within a comprehensive health services network (MODERSA).

Certification and Practice of the Health Professions. Under the Health Code currently in effect, the Ministry of Public Health's Public Health Control Bureau is the agency responsible for regulating provision of health services in general. It also maintains a registry of occupational titles and controls the practice of university-trained professionals in the health sciences. An amendment to the Health Code currently under study includes a proposal for the codification of all legal aspects related to medical practice.

Control of Medical Technology, Drugs, and Other Supplies. Three somewhat overlapping mechanisms are used to handle the public drug supply: procurement through the National Drug and Medical Supply Center (2% to 6% of the total value); direct imports (10% to 20%), mainly by the IESS, the Society to Combat Cancer, and the Guayaquil Welfare Board; and local purchases (74% to 88%). Lack of definition of the scope and responsibilities of the various entities involved in setting, reviewing, and controlling prices has hampered regulation of the drug market and the health services. No mechanisms are in place to protect the consumer.

The quality control of drugs has improved noticeably in both the private and the public sectors thanks to the application of Good Manufacturing Practices and also to export and production opportunities being offered to third parties under license. Between 1993 and 1997 72% of the plants operating in the country were inspected, and 90% of the staff involved in compliance with this standard have been trained—a prerequisite since 1994 for operation, sanitary registration, and export procedures in keeping with the World Health Organization model.

Ninety-five percent of all health equipment and supplies are imported. There is no system for the registration of these products. In general, the equipment, especially when it involves highly sophisticated technology, is underutilized in both the public and the private sectors.

Environmental Regulation. The Presidential Advisory Commission on the Environment, created in 1993, has promoted the development of basic environmental principles, general environmental policies, and the Ecuadorian Environmental Plan, which identifies the major environmental problems, the most endangered geographic areas, the productive activities that have the greatest impact on the environment, and the factors that restrict environmental management. There are environmental units in several of the Ministries and agencies. In each case their work is geared toward decisions and institutional actions based on a harmonious balance of economic, social, and environmental interests, and they are concerned with standardizing, monitoring, and controlling the use and management of natural resources and the quality of the environment. The National Law on the Environment will constitute the general framework for environmental management.

The Environmental Unit of the National Development Council (CONADE), with support from the Inter-American Development Bank (IDB), executes projects and drafts policies that incorporate environmental strategy in the national development plans. There are two sectoral environmental policies: one on drinking water and basic sanitation, and the other on environmental education for sustainable development. Provisions have been developed that strengthen environmental requirements in connection with the use of hydrocarbons, and these are expressly included in new contracts. The major cities (Quito, Guayaquil, and Cuenca) have introduced vigorous urban environmental policies calling for strengthening their environmental units and laboratories, implementing programs to prevent air pollution (Quito), and issuing and enforcing municipal ordinances to reduce industrial pollution from both fixed and mobile sources. Studies have been carried out on the management of chemical substances, and there is a national plan to promote their rational use. The Consultative Committee on Chemical Substances and the National Toxicology Commission have promoted the development of a draft law on chemicals. The private sector, through the Association of Importers and Formulators of Agricultural Chemicals, participates in the National Program on the Rational Use of Agricultural Chemicals. The Industrial Association, for its part, supports activities that promote the appropriate management of industrial chemicals.

Food Safety. The Ministry of Industry, Commerce, Integration, and Fishing, working through the Ecuadorian In-

stitute of Standards, is the agency responsible for sanitary standardization and quality control of food. The Institute is the focal point for the Codex Alimentarius Commission and carries out its duties in coordination with the Ministries of Health and Agriculture as well as with the other official and private entities involved in the entire food production chain.

Health Services and Resources

Organization of Services for Care of the Population

Of the 205 existing *municipios* in 1997, 7 were taking part in the Healthy *Municipios* Movement: Tena, Riobamba, Portoviejo, Ibarra, Cuenca, Loja, and Quito. The movement's line of action centers around development activities, one of the fundamental axes of which is health. Some of these municipalities, although they are not formally enlisted in the movement, are carrying out activities that deserve special mention. For example, tourism is of interest to the *municipios* of Ibarra and Vilcabamba; the concept of sustainable development guides actions taken by the *municipios* of Tena and Cuenca; and Quito gives consideration to spatial and organizational development in its work in the areas of health and environment, education, communication, transportation, public safety, and social mobilization and participation. Some of the academic centers—such as the Chimborazo Polytechnic School and the University of Loja—have proposed to offer training and workshops that examine health promotion and its relationship to the work of local governments. The Provincial Nucleus for Health Sector Reform in Cuenca is considering a participatory proposal that envisages turning Azuay into a "healthy province."

Disease Prevention and Control Programs. The Ministry of Public Health executes national programs for prevention, control, or eradication of the main public health problems. The initiatives address problems such as tuberculosis, public health dermatology (including leprosy and leishmaniasis), tropical diseases (malaria, Chagas' disease, dengue, and onchocerciasis), rabies, AIDS and other STDs, chronic non-communicable diseases (especially cancer), and cholera; the National Vaccination Program is also included among the initiatives. The strategy of Comprehensive Care for Diseases Prevalent in Childhood (AIEPI), initiated in 1996, is mainly designed to improve the treatment of children with acute respiratory infections and diarrhea and to reduce mortality in high-risk areas. The control of streptococcal infections and prevention of rheumatic fever, included in the programs on epidemiology and control of respiratory diseases in children, were removed from the list covered by AIEPI because of the

low incidence of streptococcal angina in children under 5 years of age.

For the control of diseases not covered by the National Vaccination Program there is a proposal to introduce new vaccines, following a risk assessment and determination of the urgency for intervention in different areas of the country and for different age groups. These are the vaccines against hepatitis B and *Haemophilus influenzae* type B and the trivalent viral vaccine against measles, rubella, and parotitis. The project calls for epidemiological surveillance of the corresponding diseases.

Epidemiological Surveillance and Public Health Laboratory System. Between 1992 and 1995 there was an obvious lack of systematized epidemiological information at the various levels of care under the Ministry of Public Health. Almost all the programs had their own surveillance and information systems, none of which were coordinated with one another. In 1996 the National Epidemiology Bureau, working together with provincial epidemiologists and knowledgeable officials, succeeded in implementing a standard form for compulsory weekly reporting of communicable diseases (EPI-1) as well as a form for the monthly reporting of confirmed cases of those diseases (EPI-2). In 1997 surveillance was standardized, reports were being duly submitted, and other health institutions (IESS, the Police health services) were incorporated in the surveillance system with a view to improving the existing system and promoting epidemiological research.

Hospital reporting is partial and haphazard. The standards for statistics and clinical records are currently being reviewed along with the information system on the resources and services of the Ministry of Health, which, in addition to training health unit staff in these areas and in the management of ICD-10, will increase available knowledge about the general public health situation.

The Surveillance and Epidemiological Control System does not utilize the information from the reference laboratories at the national level. The information stored in the laboratory systems of the National Institute of Hygiene, the Red Cross, and the hospitals is not processed or utilized to its full potential. Analysis of this information at both the national and the provincial level is planned once the National Epidemiological Surveillance System is fully integrated.

Environmental Quality Control. Water resources are increasingly being contaminated by coliforms and sediment produced by the uncontrolled dumping of various effluents into waterways that flow through cities or areas devoted to oil exploration, mining, agroindustry, or agricultural exports. There has been a large increase in air pollution, especially in the major cities such as Quito and Guayaquil; this is due to emissions from automotive vehicles and industries. In Quito,

the level of total suspended particulate matter has exceeded the standard of 60 $\mu\text{g}/\text{m}^3$ since 1979, and the levels have been rising progressively, up to 300 $\mu\text{g}/\text{m}^3$ in 1994, or five times the maximum acceptable limit. Dust sediment has exceeded the limit of 1 ($\mu\text{g}/\text{cm}^2$) per 30 days. Sulfur dioxide has not yet exceeded the accepted limit, but levels are rising. Levels of lead in the air in Guayaquil (in 1990) and Quito (in 1991) were close to the maximum allowable limit of 0.5 $\mu\text{g}/\text{m}^3$. Blood lead levels in a sampling of pregnant women, newborns, schoolchildren, and street vendors in Quito were above the maximum permissible limit of 10 $\mu\text{g}/\text{dl}$.

Because of the rapid growth of the urban population, housing and basic services have not been able to keep up with demand, especially in the large cities (Quito and Guayaquil) and the medium-sized ones (Machala, Esmeraldas, Portoviejo, Ambato, and Loja). The housing deficit is estimated at 500,000 dwellings in the urban sector and 700,000 in rural areas.

A 1993 study of drinking water and basic sanitation led to a new policy for modernizing the sector and to the National Rural Basic Sanitation Plan (SANEBAR), which is expected to provide universal coverage in rural areas by the year 2005.

In an effort to reduce air pollution from automobile emissions, the ECUAIRE network has provided monitoring data for Quito, Guayaquil, Cuenca, and Ambato since 1976. In 1996, with support from the U.S. Environmental Protection Agency and the World Health Organization, the network was evaluated and a program was designed for improving it. In Quito an automated monitoring network was put into operation (US\$ 2,000,000), and it now controls automobile pollution. The National Program for Eliminating Lead in Gasoline, in effect since 1996, covers various environmental sectors. Between 1993 and 1996 the Environmental Advisory Commission developed strategic projects and basic programs for overcoming environmental problems and combating their causes. Citizen organizations monitor and report activities that are damaging to the environment. In addition, the mass media have stepped up their environmental campaign. With the support of the Environmental Advisory Commission, the Ministry of the Environment is implementing an ongoing environmental management process that will contribute to sustainable development. With resources from the World Bank, the Environmental Management Technical Assistance Project is supporting initiatives by the Government, the municipalities, and nongovernmental organizations through the Environmental Technical Assistance and Rehabilitation in Ecuador project, the Amazon Region Environmental Management Plan, Municipal Environmental Management, and Environmental Management in the Guayaquil Gulf Area.

Drinking Water Supply and Sewerage Services. In 1996 water supply services reached 69.7% of the population, and sewerage services reached only 41.7%. The urban populations

had better coverage levels (81.5% and 61.4%, respectively) than people living in rural areas (50.9% and 10.4%). Between 1992 and 1996 programs were implemented to build latrines for 1,841,000 inhabitants, which benefited 9.1% of the urban and 26.3% of the rural population.

Management of Municipal Solid Waste, Including Hospital Waste. In the country as a whole the collection of solid waste corresponds to an average of 51.6% (69.6% in the cities and 7.5% in rural areas) of all the waste actually produced. Much of this waste is deposited in dumps, ravines, and estuaries. In 1995 Guayaquil, the city with the largest population, improved and expanded its waste collection system. The new system for the collection, transport, and final disposal of solid waste in sanitary landfills is supplemented by a different system of management of hospital waste. Quito has implemented a transfer station, improved its dumping sites, and promoted the development of microbusinesses in the community for the collection and transport of waste, thus extending coverage to 85% of the population. Medium-sized cities such as Cuenca, Riobamba, Loja, and Ambato have master plans for solid waste management including hospital waste. Since 1994, when the Interinstitutional Committee on the Management of Hospital Waste was established, at least 2,000 workers responsible for health and cleanup have been briefed and trained. At least 20 public and private hospitals are executing programs for the handling of solid waste, and operating procedures for health establishments throughout the country were issued in January 1997.

Food Safety. The Ministry of Health, through the Bureau of Pharmacy and Sanitation Control, Food Control Division, implements policies on food quality control. At the operational level, the provincial health directorates and the health areas inspect food that has been industrially processed, while the municipalities, through the municipal hygiene directorates, monitor the food sold by street vendors. Microbiological analysis of food is performed in the laboratories of the Ministry of Health's Izquieta Pérez Institute of Hygiene and Tropical Medicine. In 1996 the National Epidemiology Bureau inaugurated the System for the Epidemiological Surveillance of Foodborne Diseases as part of the hemisphere-wide surveillance system for foodborne diseases, carried out and coordinated by PAHO's Pan American Institute for Food Protection and Zoonoses (INPPAZ). The Ecuadorian Consumer's Tribunal (a member of the International Organization of Consumers Unions), plays an important part in the promotion of food quality control and consumer protection; it publishes a bimonthly magazine.

Health Promotion, Food Aid, and Disaster Preparedness. The program under way in Cañar, which promotes dairy

farming development as part of the integrated rural development effort that targets small dairy farmers, now covers 4,000 families. Primary health care and improved basic sanitation in the provinces of Esmeraldas, Manabí, Chimborazo, Azuay, and Cotopaxi—designed to aid pregnant women, nursing infants, and children—reach 76,920 persons. Some 500,000 schoolchildren are currently benefiting from the national program to improve instruction in priority areas. Comprehensive support directed toward women in the marginal urban areas of Quito covers 31,800 families.

In the area of disaster preparedness, moderate progress has been made under a program the Ministry of Public Health has been running for several years. Its activities have consisted mainly of regular drills in hospitals to test contingency plans, coordination among health sector agencies, and introduction of disaster mitigation in public health activities. At the end of 1996, the civil defense promoted new initiatives to improve coordination among the various agencies. Several universities have included the subject of disasters in their curricula. The Ecuadorian Red Cross and other nongovernmental relief organizations have programs on disaster preparedness.

A declining trend in international food aid was seen in 1990–1995: the World Food Program reduced its contribution from US\$ 1,671,176 in 1992 to \$91,596 in 1994, in part because of the country's reduced management capacity. The principal donors have been Canada, the United States of America, and the European Union. In recent years the World Food Program has been the only source of food donated for direct distribution; its cooperation represents 36% of total food aid.

The 1980s saw a mushrooming of nongovernmental health organizations. Their activities focus on community development, women's development, health care, research, and training. In general they perform their work independently and have not yet coordinated it with the Ministry of Health.

The for-profit private sector provides care to the population by charging various fees in different types of establishments, from outpatient services to highly complex, technologically sophisticated hospital and diagnostic and treatment services.

Organization and Operation of Personal Health Care Services

Health Services. In 1995 there were 3,462 health establishments, 2,988 (86.3%) without beds and 474 with beds. Of the former, 51.4% came under the Ministry of Public Health, 32.6% under the IESS and Farmers Social Security; and the remaining 16% under other institutions in the health sector. Of the establishments with beds, 26% belonged to the Ministry of Public Health, 62.7% were in the private sector, and the rest corresponded to other institutions. The total number of health establishments in operation includes general, specialized, and canton hospitals plus private clinics. Those without beds in-

clude health centers and subcenters, health posts, and doctors' clinics. Most of the establishments with beds are located in the cities, whereas 57.1% of those without beds are in the cities and 42.9% are in rural areas.

In terms of hospital beds, as of 1995 the normal number was 18,873. There were 17,804 available beds, distributed as follows: Ministry of Public Health, 7,812 (43.9%); Guayaquil Welfare Board and Child Protection Society, 2,580 (14.5%); IESS, 1,839 (10.3%); Ministry of Defense, 916 (5.1%); Society to Combat Cancer, municipalities, and Police health services, 624 (3.5%); and the private sector, 4,033 (22.6%).

In 1995 the output of hospital-based health services, measured as discharges, was 50.8 per 1,000 inhabitants; bed availability was 1.6 per 1,000 inhabitants, as it had been since 1988; the occupancy rate was 53.1%; and the average length of stay was 5.9 days. The rate of hospital deaths per 1,000 discharges was 18.1, compared with 0.9 deaths per 1,000 in the total population. There were 9,719,664 consultations for morbidity and 3,040,414 for preventive health, a 3.2:1 ratio. The number of emergencies attended was 1,205,207.

The National Medical Emergency Network, which aims to reduce morbidity and mortality due to medical emergencies, has been in operation since 1995. Attention has been given to strengthening public health care services, communications, and transport in Quito, Guayaquil, and Cuenca. A plan is being considered to include services for cerebrovascular emergencies, which by default have devolved on private sector facilities that do not have the capacity to meet the needs of most of the population, especially in terms of quality of care.

Specialized Services. A total of 2,319,824 interventions were reported in dental services, of which 1,231,608 were first-time visits and 1,088,216 were follow-up consultations. This represents 10.7% coverage of the total population and 1.9 consultations per patient. No information is available on the number of patients requiring rehabilitation care. Some efforts have been made at the national level to address the problems of the disabled; however, this segment of the population has limited access to the services and facilities.

Inputs for Health

Drugs. Of 32 drug-producing factories in Quito and Guayaquil, 28% belong to transnational enterprises that manufacture 60% of the products consumed locally and the rest make adaptations of products for local consumption (65%) and for third parties (35%). Between 25% and 30% of Ecuador's drug production is exported to Latin American countries. In the 1990s the drug market saw an average annual growth of 4.5% in terms of quantity and 22% in terms of value. Imports, which are favored by the pricing policy, take

care of 30% to 40% of the market's needs and increase each year at a rate of 10%. The value of the drug market averages US\$ 220 million a year, or some 70 million units sold, of which 61% are brand-name products and 36% are new items. Almost all the products are imported. Generic drugs are used only 3% of the time, despite the fact that there are facilities for registering them. Procurement by the subsector consisting of the IESS, the Armed Forces Public Health Service, the Police health services, and the Ministry of Public Health accounts for 10% to 15% of the market; private institutions (Society to Combat Cancer, Guayaquil Welfare Board, clinics, and hospitals) represent 35% to 40%; and some 3,900 private pharmacies, most of which have no professional direction, make up the rest of the market.

The market for medical supplies is valued at US\$ 30 million, and encompasses an indeterminate number of providers. For many this is a part-time activity, concentrating on sales of reagents for clinical analysis, radiodiagnostic elements, and biomedical materials. Registration procedures for these supplies are not sufficiently stringent and often they are marketed informally. Specialized hospitals purchase them directly, and frequently patients have to bear the resulting costs.

The Government reduced its investment in drugs between 1985 and 1993 from 3.5% to 3.1% of total expenditure by the Ministry of Public Health. Only 21.5% of the population has access to drugs. In urban areas, monthly household expenditures on health increased from 42% of household income in 1991 to 54% in 1995, and half of this amount is for drugs.

A process of quality assurance in regard to infrastructure and methodology has helped to offset a notable reduction in trained staff due to government downsizing. The cutbacks brought on the introduction of prior evaluation and postregistration control, and these standards, on which consensus was reached, have played a decisive role in improving quality assurance in the area of drugs.

Immunobiological Products. Local production of BCG, DTP (diphtheria, tetanus, whooping cough), DT, and tetanus toxoid vaccines by the National Institute of Hygiene and Tropical Medicine takes care of 30% to 40% of the annual demand, and the rest of the biologicals have to be imported to meet the needs of the Immunization Program. The measles and poliomyelitis vaccines, which are not produced in the country, are imported through the PAHO/WHO Revolving Fund, as are diphtheria and tetanus antitoxins. Ecuador has suffered from periodic vaccine shortages due to delays in payment to the Fund; these shortages affected the normal development of vaccination activities in the operating units and ended up alienating users. In 1997 a law was passed that will solve this problem.

In 1995 the National Institute of Hygiene took over the Regional Program on Good Manufacturing Practices and the

Vaccine Quality Control Program. However, the infrastructure needs substantial improvement in areas of production and quality control. This situation is expected to improve with financial support from the Government of Japan.

Reagents. Given the level of technological development, it is not possible to produce laboratory supplies to meet the national demand. Marketing is based on the specific needs of the laboratories, which means that the supply is necessarily limited. At the same time, the few companies that market these supplies do not offer the needed technical advisory services, which means that they are simply vendors of products.

Human Resources

Availability by Type of Resource. In 1995 the number of employees in health institutions by occupational category per 10,000 inhabitants was as follows: physicians, 13.3; nurses, 4.6; dentists, 1.6; midwives, 0.7; nursing aides, 11.8. In considering these rates, the unequal distribution of human resources should be kept in mind—larger concentrations are found in the mountain region. The 15,212 physicians working in health establishments were distributed as follows: 16 per 1,000 inhabitants in the mountains, 11.5 on the coast, and 8.1 in the Amazon region. This pattern is similar in the various specialties. This phenomenon is related to the distribution and location of the universities that provide human resources for the health sector. Also, the concentration of resources is related to the economic development of the provinces: 63.2% of all health personnel are found in the country's most developed provinces—namely, Guayas, Pichincha, and Azuay, with 28.6%, 27.7%, and 6.9%, respectively—65.8% of the physicians, 50.4% of the dentists, 68.5% of the nurses, and 54.9% of the midwives are in these provinces. It also is true that there is a high concentration of human resources (90% of all health personnel) in urban areas. In 1995 there were 1,788 dentists, 5,212 nurses, and 13,511 nursing aides.

Health Personnel Training. Recently the development of health professionals has focused on primary care and family medicine. Between 1994 and 1996 two new private universities joined the educational process by offering curricula leading to a degree in medicine. Emphasis has been placed on graduate-level professional education in the areas of public health, epidemiology, and health management. Most experience in the training of researchers has been in graduate-level university programs, especially in the health sciences, where health administrators have also been trained. The clinical specialties have a research component in their curricula; 50% of the graduate-level programs in the universities have well-structured scientific activities.

Continuing Education for Health Workers. Most of the in-service educational programs are sponsored by the professional unions, which plan various events in the different specialties. Most of them have the support of private companies and the endorsement of the universities. However, there are no records of the number or type of events offered or the number of persons trained. In the official sector, programs are carried out by the institutions based on the development interests of the services. The Ministry of Public Health trains personnel only in the application of technical standards and as part of the regular activities of the FASBASE project. Since 1997, personnel from other areas have been included in the programmed events. An unfavorable factor in the Ministry of Public Health has been the limited support that training has received in general, to the point that the National Training Institute (INAC) disappeared from the organizational structure in 1994. However, an effort has been made in the Ministry—with support from cooperating agencies (PAHO, United Nations Population Fund, U.S. Agency for International Development, CARE, the Embassy of the Kingdom of the Netherlands, nongovernmental organizations, and universities)—to develop a program to improve the quality of health care services that involves formulation and development of teaching materials and tools for management training based on adult education methods. The National University of Loja is working on an innovative continuing education plan that will integrate mainly the educational and health care sectors under the Ministry of Health.

Labor Market for Health Professionals. There is a gap between the supply and the demand for human resources. In the 1980s, of 1,000 aspiring physicians, only 245 graduated, of which 122 were able to secure a residency in a health institution and only 75 finally obtained a position in the sector's labor market. Of 1,000 aspiring dentists enrolled in the first year of dental school, 326 graduated and only 50 were able to find a job. In nursing, of 1,000 students enrolled in the first year, 150 graduated and 141 found jobs. Salaries do not keep up with inflation, which leads to a rapid decline in purchasing power and ultimately to labor disputes based on demands by the various professional groups and other workers in the public health institutions. The dispute beginning in mid-April 1997 lasted for more than 11 weeks.

Research and Technology

The development of science and technology has been weak, as evidenced by the limited number of publications and the few patents granted. The government budget for research is scarcely 0.1% of the gross national product (GNP) and there is no structured national science and technology sys-

tem. Many of the research projects are based on the investigators' personal interests, and most of the studies are carried out in the public sector, mainly in the universities. Activities tend to involve technological adaptation more than the generation of new knowledge. Projects in the areas of biotechnology, health, and nutrition are the most common.

With IDB support, a mixed organization has been established for the development of policies on science and technology. This foundation has a board of directors that consists of representatives of the vice-presidency of the Republic, universities, the Ministry of Education and Culture and the Ministry of Industry, the chambers of commerce, and the scientific community. One of the problems that has been identified in this area is the shortage of human resources committed to research.

Scientific Documentation. Access to scientific documentation has been facilitated by the creation of computer information networks. However, as a result of the economic crisis, the publication of scientific or any other type of literature has declined considerably. The few scientific journals that continue to be published, such as those of the universities, are issued late.

Expenditures and Sectoral Financing

Each of the sector's institutions has its own source of funding, depending on the population it serves. The Ministry of Public Health is financed with government funds derived from general taxes, income from oil exports, special taxes and contributions, and international cooperation. Medical care under the IESS is financed mainly by contributions from employees and employers totaling 3.4% of the payroll. In recent years, given the low funding levels of health benefits, internal transfers have been made from the pension fund. In 1994 the estimated deficit due to sickness and maternity came to US\$ 100 million, which was offset with pension funds. Farmers Social Security is financed with a three-way contribution representing 1% of the payroll, as follows: 0.35% of the value of the payroll of insured urban workers, 0.35% contributed by the employers, and a 0.30% contribution by the government, to which is added a symbolic monthly contribution by heads of households representing 1% of the minimum living wage. In other words, this system is subsidized by the IESS General Program and the State. The Guayaquil Welfare Board receives a contribution from the Government's general fund, which may not exceed 5% of its budget; basically, it is financed by proceeds from the National Lottery, income from investments, and partial recovery of the cost of health and other services. The Society to Combat Cancer has fiscal allotments and receives income from direct

taxes on transactions in the financial system. Private services are financed by direct payments from families, which constitute the major source of health care financing in the country, given the difficulties involved in the funding of public services.

Information on health care spending is not very recent, reliable, or complete, especially as far as the private sector is concerned. The data available indicate that public spending on health as a percentage of total government expenditure fell from 5.5% in 1992 to 4.6% in 1996. In addition to the meager amount, the distribution of these moneys is clearly inequitable and their utilization is inefficient and centralized.

Private spending increased, on the other hand, while government spending was declining, thanks to the fiscal crisis and adjustment programs that greatly reduced allocations to the social sector (from 7.8% of GDP in 1992 to 5.2% in 1996). In the Ministry of Public Health, spending as a percentage of GDP fell from 1.0% in 1985 to 0.75% in 1995. Within the public sector, there is an immense difference between the per capita expenditure for each general IESS beneficiary (US\$ 117 in 1994) and that of the Ministry of Public Health (\$15), as well as that of a beneficiary under the Farmers Social Security (\$17). In general, the IESS expenditures on medical benefits have remained steady, with a slightly rising trend, despite the serious financial crisis it has been going through for the past several years and the increase in demand, especially from its beneficiaries in the rural farming sector. Pursuant to legislation that has been in effect since 1981, steps have begun to be taken to implement a plan for the partial recovery of costs in public hospitals by charging a fee for office visits, diagnostic examinations, and other benefits that previously were offered free.

According to recent household surveys conducted by the National Institute of Statistics and Census (INEC), as of 1995, 54% of private or direct spending went for drugs, compared with 42% in 1991. The next highest category was spending on office visits—22% in 1995 compared with 26% in 1991. Spending on hospitalization in 1995 represented 9%, much lower than it was in 1991 (25%), which may reflect a drop in demand because of the rising costs (both direct and indirect) and the growing trend in self-medication. In addition, 9% went for equipment, including prostheses and other related items, compared with 5% in 1991; the purchase of private insurance represented 6% in 1995 versus 2% in 1991.

According to a survey of living conditions conducted by the Ecuadorian Professional Training Service (SECAP), in the poorest households the average expenditure on health in 1994 represented 17% of total family consumption, whereas in the urban sector it was 12%, and for middle- and upper-income groups the proportion was no higher than 5%. The survey also showed that 3.8% of the families spent more than 30% of their total monetary income on direct payments for health

services. These figures reveal a profoundly inequitable distribution of spending and financing in the health sector.

External Technical and Financial Cooperation

During 1992–1997 several technical and financial cooperation agencies provided key support for the health sector in Ecuador, including the following: PAHO/WHO, the International Bank for Reconstruction and Development (IBRD), the IDB, USAID, Belgian Cooperation, the Netherlands Cooperation Agency, and similar institutions in other European countries.

The World Bank granted loans for development and implementation of the FASBASE project to extend coverage and improve basic services for the most vulnerable urban and rural groups. Of the total amount of US\$ 102 million (including 30% in funds from the national Government), the sum of \$25 million had been executed as of July 1997. The MODERSA project, for the organization of service networks including hospitals, received \$30 million from the World Bank. The Environmental Management Technical Assistance project, in turn, has \$15 million from the World Bank (\$5 million from the national Government).

IDB has contributed nearly US\$ 2 million toward a proposal to restructure the IESS medical care system and modernize the management of its hospital system. The Bank also contributed \$1 million to the National Modernization Council for a project to update the drinking water and sanitation sector. The formulation of policies for science and technology

has been funded in the amount of \$30 million, of which \$23 million comes from an IDB loan and \$7 million from the national Government.

The National Rural Basic Sanitation Plan (SANEBAR) has received support from the Government of Spain in the amount of US\$ 30,000, and the program for cholera prevention, public health education, and latrine-building received \$400,000 from the Government of Sweden. The program for the control of cholera and diarrheal diseases, in turn, benefited by a contribution from the European Union to strengthen laboratories that do clinical analysis and epidemiological surveillance.

USAID has provided approximately US\$ 2 million for projects to improve management capacity in the Ministry of Public Health, information systems, the cost and quality of services, and maternal and child care programs.

Belgian Cooperation contributed US\$ 1 million to support consolidation of the endemic goiter control program with the design and implementation of alternative primary health care models.

The second phase (1997–2000) of the project to assist in formulation of the national drug policy (Ecuador/PAHO/WHO/Netherlands) has benefited from a donation of US\$ 900,000 for the development of drug treatment programs in the southern part of the country. The Netherlands provided \$1.6 million toward the subregional project for the control of violence against women, which was in its second year in 1997.

The “Healthy Spaces” project, initiated in 1997 in four depressed cantons in the province of Loja, has received nearly US\$ 4 million from the Netherlands Cooperation Agency.