

---

# VENEZUELA

## GENERAL SITUATION AND TRENDS

### Socioeconomic, Political, and Demographic Overview

The Republic of Venezuela has a land area of 916,445 km<sup>2</sup>. It is comprised of 22 states, a Federal District, and federal dependencies (a group of islands in the Caribbean Sea). The states and the Federal District are divided into 330 *municipios*, which are the basic autonomous political units within the national system. The *municipios*, in turn, are divided into parishes and capital *municipios*. In December 1995 the third election by direct and secret ballot was held for governors, mayors, aldermen of the municipal councils, and members of the parish boards. Representatives of the state legislative assemblies were also elected, and the democratic process and political and administrative decentralization moved ahead.

In the 1993–1996 period, the country experienced uneven economic growth. GDP grew in 1993 (0.4%) and 1995 (2.2%) and fell in 1994 (–2.8%) and 1996 (–1.6%). Inflation was 38.1% in 1993, and in 1996 reached its highest level ever, 103.2%. Per capita GDP was US\$ 2,862 in 1993, \$2,370.70 in 1994, \$3,470.20 in 1995, and \$2,804 in 1996. In 1996, the Government launched a fiscal, monetary, and foreign exchange plan of action to lower inflation, balance the budget, restructure and strengthen the financial system, establish a new social security model, transfer resources to the most vulnerable sectors, and transform the structure of the economy and of the framework of legal institutions.

The estimated population in 1996 was 21,377,426, and the population density was 23.84 persons per km<sup>2</sup>. The Federal District has the highest population density, with 1,181.20 inhabitants per km<sup>2</sup>. The states with more than 200 inhabitants per km<sup>2</sup> are located along the coast (Carabobo, Miranda, Aragua, and Nueva Esparta). The border states (Apure, Amazonas, Bolívar, and Delta Amacuro) have population densities of less than five inhabitants per km<sup>2</sup>. In

1996, 85.4% of the country's inhabitants lived in urban areas; of this urban population, 72% resided in cities of more than 50,000 inhabitants.

The indigenous census of 1992 found 38 indigenous ethnic groups, who together constituted 1.5% of the country's population. Of the 38 groups, 28 resided in the border states of Zulia, Amazonas, and Bolívar. Some 34% of the indigenous population belonged to the Wayuu group, 12.9% to the Warao, and 10.5% to the Pemón.

The total population growth rate was 2.3% in 1992, 2.1% in 1993 and 1994, and 2.0% in 1995. The birth rate declined gradually from 27.4 per 1,000 population in 1992 to 23.8 per 1,000 in 1995. The total fertility rate fell from 3.3 children per 1,000 women in 1992 to 2.9 in 1995. Women between the ages of 20 and 29 have the highest fertility rate. Migration has varied somewhat. In 1992 there was a negative balance of –11,752. The figure grew in 1994 to –90,670, but there was a positive balance in 1995 (6,961).

The Venezuelan population is young: 12.6% are under 4 years of age; 23.6% are from 5 to 14 years, and 55.5% are under 25. Only 4.1% of the population is 65 or older, but this group is growing faster than the general population. Life expectancy at birth in 1995 was 72.2 years (69.3 for men and 75.1 for women).

Poverty estimates that have been elaborated by the Household Survey of the Central Office of Statistics and Information (OCEI) indicate that as of 30 June 1994, 27.3% of the Venezuelan population had unmet basic needs and 21.6% lived in extreme poverty. The states with the most people living in extreme poverty were Apure, Delta Amacuro, Amazonas, and Portuguesa.

The annual cost of the adjusted basic food basket was US\$ 157 in 1993, \$153 in 1994, \$195 in 1995, and \$156 in 1996. With the 1996 minimum wage, civil servants could buy 63% of this basket, private sector workers, 95.4%; and rural workers, 57%. The unemployed made up 7.1% of the population in 1992, 10.2% in 1995, and 12.4% in 1996.

In 1995 the illiteracy rate was 7.2% (6.5% for men and 8.0% for women). Among persons between 10 and 24 years of age, illiteracy among males was 3.5%, and the rate for females was half that. Illiteracy in the indigenous population over 10 years of age was 41%.

### Morbidity and Mortality Profile

The crude mortality rate has varied little in recent years. It was 4.4 per 1,000 population in 1992 and 4.2 per 1,000 population in 1995. There are no studies on underreporting, but the Latin American Demographic Center estimates it at 13.2%. That would make the actual mortality rate 5.4 per 1,000 population for the period 1990–1995.

In 1995, according to mortality rates for five major groups of causes, diseases of the circulatory system ranked first (142.1 per 100,000 population), followed by accidents and other external causes (69.9), tumors (60.9), communicable diseases (46.1), and certain conditions originating in the perinatal period (25.8). In comparison with 1989, cardiovascular diseases remained in first place, with a 7.0% increase. External causes moved to second place, with a 43.8% increase, edging tumors, which experienced a 0.3% reduction, to third place. Communicable diseases were in fourth place and had a 17.5% reduction. Certain conditions originating in the perinatal period remained in fifth place, despite a 32.9% reduction. Ill-defined symptoms and conditions represented 1.49% of the total deaths recorded in 1995, similar to the 1992 percentage (1.63%).

In 1995, deaths from external causes were five times more frequent in males (115.2 per 100,000 population) than in females. Accidents led external causes (74%), followed by homicides (19%) and suicides (7%). In 1992, 13 men died as a result of homicide for every woman, a number that rose to 16 men for each woman in 1995.

Mortality rates by age group in 1995 are similar to those for 1989. The infant mortality rate remained at 23.1 per 1,000 live births. If an underreporting of 13.2% for deaths and 4% for births is factored in, the rate comes to 27.4 per 1,000 live births.

An analysis of mortality by years of potential life lost (YPLL) for 1995 gives first place to certain conditions originating in the perinatal period and second place to enteritis and other diarrheal diseases, which represented 8.2% of the total YPLL. Traffic accidents ranked third and tumors fourth. Excluding deaths in children under 1 year, traffic accidents account for the greatest number of YPLL. The breakdown of YPLL by sex shows traffic accidents and homicides in second and third place for men, while cancer is second for women and enteritis and other diarrheal diseases is third for them.

## SPECIFIC HEALTH PROBLEMS

### Analysis by Population Group

#### *Child Health*

The infant mortality rate from 1992 to 1995 was stable, with values around 23.5 per 1,000 live births. There are differences among the states. In 1995, Bolívar, Amazonas, Zulia, and Trujillo had rates of 31.1 to 36.1 per 1,000 live births. In Anzoátegui and Sucre the rates were 7.5 and 10.4 per 1,000, respectively, although these states are believed to have significant underreporting of births and deaths. Some 59% of infant mortality is neonatal mortality, which had a rate of 13.4 per 1,000 live births in 1995.

The leading causes of death in children under 1 year of age are hypoxia, asphyxiation, and other respiratory disorders (31.1%), enteritis and other diarrheal diseases (17.9%), and birth defects (11.7%).

No national data are available on low birthweight, but reports from the Concepción Palacios Maternity Hospital, the largest maternity hospital in the country and the referral center for the highest-risk cases, indicate that the percentage of children with a birthweight under 2,500 g fell from 16.0 to 12.1 between 1990 and 1994.

Between 1992 and 1995 the mortality rate in the 1–4 age group remained stable, with figures of close to 1.2 per 1,000 population of that age. In this group, enteritis and other diarrheal diseases ranked second behind accidents as a cause of death.

#### *Health of Primary-School Children and Adolescents*

In 1994, the leading causes of death in primary-school children were accidents (32%), followed by malignant tumors (14.8%) and birth defects (12.0%). In that same year, the most frequent causes of death in the group from 10 to 14 years were also accidents and malignant neoplasms. Among those 15 to 19 years old, homicide was the second leading cause of death. Analysis of mortality by sex shows that the leading cause of death in males was homicide, and in females, accidents.

#### *Health of Adults*

The total fertility rate has been declining gradually. The highest rate was recorded in the 20–24 age group, followed by the 25–29 age group. However, the states of Barinas, Monagas, Apure, Cojedes, Guárico, Sucre, Portuguesa, and Yaracuy showed comparatively high fertility rates among adolescents.

Studies conducted in the country found that illiterate women who live in rural areas have an average of 8 children, while women with university educations average 2.1. According to figures furnished by the Ministry of Health and Social Welfare, 95.3% of all deliveries in 1994 were attended by physicians.

Mortality from complications related to pregnancy in the group aged 15 to 49 constituted 6.8% of the deaths in the 1993–1995 period, with rates of 6.2 per 10,000 live births in 1993, 6.9 in 1994, and 6.5 in 1995. Over this period, the leading causes of death were hypertension complicating pregnancy, childbirth, and puerperium (28.5%); prepartum hemorrhage, abruptio placentae, and placenta previa (14.2%); and unspecified abortion (13.6%).

### *Health of the Elderly*

According to OCEI data, in 1990 the population aged 65 and older totaled 717,774, representing 3.7% of the population. In 1994 the percentage of persons in this age group was 4.0%, and in 1995, 4.8%.

In 1990, 26.5% of older adults said they were employed; 41.3% practiced some trade or profession in the home; 68% of this population helped their families through various activities. Some 73.5% were economically dependent on others. Households with older adults, and in particular those headed by older adults, had lower per capita incomes. The lack of up-to-date information for recent years makes it impossible to assess changes in income due to inflation.

In 1994, the leading causes of mortality among those 65 and older were heart disease (42.5%), cancer (18.6%), cerebrovascular disease (15.5%), and diabetes mellitus (6.7%). There is a higher mortality rate among older men than among older women. The National Institute of Geriatrics and Gerontology indicated that in 1996 the four leading causes of morbidity, by reason for medical consultation, were hypertension (7.3%), arthritis (6.4%), influenza (3.3%), and diabetes mellitus (2.1%).

### *Workers' Health*

According to OCEI data, in 1994, 7,903,400 people (5,390,600 men and 2,512,800 women) were economically active, and the unemployment rate was 8.6%. The percentage of women over 15 years of age in the labor force has grown since the 1960s, but in recent years, growth has been most pronounced in the group aged 25 to 44.

A series of regulations limit the length of the workday for minors. By law, children under 14 may not work. Those between the ages of 14 and 16 need special authorization, may not perform night work or piecework, and may not work

more than six and a half hours per day. According to the School of Social Management of the Ministry of the Family, there is an increase in working minors. Between 1981 and 1991 the percentage of people from 15 to 19 years of age in the labor market rose from 7.7 to 12.8, and the percentage of people from 10 to 14 years of age rose from 0.8 to 1.2. There is an increase in working minors.

### *Health of the Disabled*

The Program for Care of the Disabled of the Ministry of Health and Social Welfare estimates that 10% of the population has some type of disability. It is believed that this percentage is increasing due to the aging of the population, accidents of all types, and degenerative diseases.

The National Health System includes a system of Physical Medicine and Rehabilitation Services that serves an estimated 2% of the disabled population. To date, it has focused on diagnostic and therapeutic activities. Statistical record-keeping problems have been noted, and an information system has been put in place to better understand the actual conditions of this segment of the population.

### *Health of the Indigenous Population, Border Populations, and Other Special Groups*

Venezuela has a richly diverse and complex Amerindian culture even though indigenous persons account for just 1.5% of the country's total population. Indigenous groups are widespread in a number of the border states. In Zulia, Páez *municipio* has an indigenous population of 88.9%, and Mara, 32%. In Delta Amacuro, Antonio Díaz *municipio* has an indigenous population of 82.9%, and Pedernales, 40.5%. In Amazonas, with the exception of Atures, all the *municipios* have indigenous populations. The rest of the indigenous groups are located in the states of Monagas and Anzoátegui, on the coast.

Critical regional and indigenous population problems include the migration from rural and jungle regions to urban areas; illegal mining, which is destroying the ecosystem; economic strangulation; aggressive evangelization; harassment; physical assaults; and health problems. The health problems that have been studied include gastroenteritis and dysentery, malaria, hepatitis B, and onchocerciasis, all of which are serious endemic diseases affecting the indigenous populations in Amazonas. To deal with these problems, health care programs have been launched in Amazonas and Zulia. Malaria is endemic throughout most of the states of Amazonas and Bolívar and constitutes the number-one recorded cause of death (40.1%) among the Yanomamis of Amazonas.

Studies conducted by the Simón Bolívar Amazon Center for Tropical Disease Research and Control on hepatitis B in the Yanomamis of Amazonas (in the communities of Parima and Mavaca) show that some 58.3% to 84.0% of the population is infected at some time during their lives. Hepatitis B is the third leading recorded cause of death after malaria and malnutrition.

In the Mavaca area, gastroenteritis, amoebic dysenteries, and helminthiasis constitute the leading cause for medical consultations and the fourth leading cause of recorded deaths. The situation is worse in the areas that do not have medical care.

Onchocerciasis is found in the Orinoco River basin and extends toward Bolívar State and Brazil. The level of endemicity ranges from 4% to 76%, and it is hyperendemic in the High Orinoco. The most seriously affected ethnic group is the Yanomami. Studies show a strong correlation between altitude and endemicity due to the increase in the variety of vector species and bite rate at higher altitudes.

Medical services in Amazonas State (1 hospital with 65 beds, 7 rural outpatient dispensaries, and 40 dispensaries without physicians) offer little coverage for such an extensive territory (177,617 km<sup>2</sup> with a density of 0.53 inhabitants per km<sup>2</sup>); in addition, access to services is difficult for some communities. Independently of these centers, activities are carried out within the framework of the programs for Dermatological Health (control of onchocerciasis and leishmaniasis), for Malariology (control of malaria and parasitic disease), for the Yellow Fever and Plague Division of the Ministry of Health and Social Welfare, the Institute of Biomedicine, and the Research Center of the Central University of Venezuela.

In Zulia State, the hepatitis B control program continued during 1992–1995. Vaccination of 56 indigenous communities moved forward, with the administration of 7,141 doses to 3,500 people of the Yucpa and Baré groups.

In 1992, the rate of new tuberculosis cases in Zulia State was 27.7 per 100,000 population in the nonindigenous population and 167.9 in the indigenous population. In the 1–4 age group the rate was 11.5 per 100,000 population in the nonindigenous population and 116.6 in the indigenous population. The figures emphasize the high transmission rate of the disease among the indigenous groups, a situation worsened by a high percentage of patients (18%) who fail to complete treatment.

The National Border Council is responsible for policies related to the indigenous population. Under draft legislation on Indigenous Communities, Peoples, and Cultures, the Council proposed implementation of a system of bilingual intercultural education and a plan to grant land to indigenous communities, as well as the inclusion and management of resources for the sustainable development of these communities in regional plans, projects, and programs.

## Analysis by Type of Disease or Health Impairment

### Communicable Diseases

**Vector-Borne Diseases.** The transmission area for malaria covers 23% of the land area of the country with an elevation of less than 600 m, and has 713,394 inhabitants at risk. The area where malaria has been eradicated or is in the maintenance phase covers 460,397 km<sup>2</sup> (76.8% of the original area), affecting 16,914,622 inhabitants. The regions in the attack phase include the states of Apure, Barinas, Táchira, and Zulia, where the principal vector is *Aedes nuñeztovari*, whose behavior is exophilic, as well as the states of Apure, Bolívar, and Amazonas, which are inhabited by indigenous groups and mine and timber workers and where the principal vector is *A. darlingi*. The case detection system takes an average of 198,000 blood samples annually. Of all infections, 91% were by *Plasmodium vivax*, 8.4% by *P. falciparum*, 0.2% by *P. malariae*, and 0.4% were mixed. In the first six months of 1997, there were 14,610 cases of malaria, an increase of 19.1% over the same period in 1996.

Some three million inhabitants are at risk from Chagas' disease. Between September and December 1995, in the 20,902 dwellings checked, the triatomine infection rate was 3.1%, and the *Trypanosoma cruzi* infection rate was 15.8%. Between January and August 1996, the rate of infestation found in 18,747 dwellings examined was 0.8%, and the rate of infection by *T. cruzi* was 13.6%. From September to December 1995, the rate of human seropositivity was 6.2% and in 1996, 4.3%. Estimates put the total number of infected people at 800,000.

There were no cases of yellow fever between 1992 and 1997. Between 1994 and 1996 vaccination coverage increased by 350%. In 1996, 1,470,742 doses were administered in the Federal District and the states of Apure, Barinas, Cojedes, Delta Amacuro, Táchira, Portuguesa, Guanare, and Mérida.

In the 1990–1996 period, no cases of human plague were recorded, and the only existing focus at present, located in Aragua State, is inactive.

In 1989 and 1990 there was an upswing in the number of dengue cases, and since then the disease has been endemic. In the five years between 1991 and 1995 this disease, in both its classical and hemorrhagic forms, was on the rise. The most cases occurred in 1995, the 32,280 cases were more than double the number in 1994. Some 5,380 (16.6%) were hemorrhagic, with 43 deaths, and 25 cases were laboratory-confirmed. The case-fatality rate was 0.13%. Serotype 4 predominated, which was a departure from previous years, when the predominant serotypes were 1 and 2. Serotype 3 was not identified in the samples that were processed. In 1996, some 9,180 cases of dengue were reported; 18% were of the hemorrhagic type, with 13 deaths. The States with the

highest morbidity were Barinas, Amazonas, Aragua, Mérida, and Lara.

In recent years, schistosomiasis transmission has been limited to isolated foci, and prevalence remained below 2%. Between 1990 and 1996, 2,731 cases were confirmed through serological testing.

There are three large endemic foci of onchocerciasis: the northeastern region, which includes the states of Sucre, Anzoátegui, and Monagas, where 61% of the country's cases were recorded; the north-central region, encompassing the states of Aragua, Carabobo, part of Guárico, Yaracuy, Cojedes, and the Federal District, with 39% of the cases; and the southern region, which includes the southern part of the states of Amazonas and Bolívar and affects mainly the Yanomami, Piaroa, and Makiritare peoples. It is estimated that in 1995 there were at least 70,000 active cases of onchocerciasis.

**Vaccine-Preventable Diseases.** The last confirmed case of poliomyelitis was recorded on 21 March 1989, and the last compatible case was in 1993. In 1995, 104 cases of acute flaccid paralysis were reported, but none were confirmed. This represents a reduction of 5.45% over 1994, when 110 cases were reported, all of which were ruled out.

The last case of diphtheria was reported in Zulia State in 1992.

The Measles Elimination Plan, which was launched in 1994 with a National Vaccination Campaign for children from 9 months to 14 years of age and achieved a 98% coverage, substantially decreased the number of confirmed cases. In 1995 the reduction was 96%; 652 cases were recorded, with 1 death, and 172 were confirmed. In 1996, 65 of 681 suspected cases were confirmed.

In the past three years, the number of cases of and deaths from whooping cough decreased. In 1994, there were 808 cases and 21 deaths; in 1995, 510 cases and 25 deaths; and in 1996, 384 cases and 7 deaths.

The intervention strategy to reduce neonatal tetanus, especially in the parishes with substandard living conditions, resulted in a decrease from 37 cases in 1991 to 17 cases and 7 deaths in 1995. The states of Apure and Zulia reported cases every year between 1989 and 1994.

With vaccinations, the dropout rates between the first and third doses of the polio and triple (DTP) vaccines are generally above 20%.

**Cholera.** In June 1996, cholera reappeared in the country. The first cases occurred among the indigenous Wayuus in Zulia State. The epidemic spread, primarily affecting the inhabitants of the areas with the worst living conditions in the states of Delta Amacuro, Mérida, Aragua, Monagas, and Miranda, and in the Federal District. As of 12 July 1997, 1,972

cases had been reported, with 50 deaths (a case-fatality rate of 2.5%).

**Chronic Communicable Diseases.** The annual risk of infection with tuberculosis is estimated at between 0.2% and 0.4%, and new reported cases of pulmonary tuberculosis have increased by 14% since 1993. The number of cases in children under 15 has not increased. In the 5–24 age group, the increase is in the bacteriologically unconfirmed pulmonary forms. An increase in diagnoses of new bacteriologically confirmed cases was noted in the 25–44 age group. In 1995, 3,056 cases were recorded, and 2,765 were treated. After treatment, 75% of the patients had negative smears. In 1996 there were 3,195 new pulmonary cases and 726 extrapulmonary cases, with 212 relapses. The Tuberculosis Control Program systematically utilizes bacilloscopy to diagnose tuberculosis in patients with respiratory symptoms. Short-term conventional chemotherapy (less than nine months) is administered to all patients with positive sputum. The recording and reporting system recommended by WHO is utilized, and the results for the treatment of new cases are assessed.

Some 3,954 cases of leprosy were recorded in 1995. Of these, more than 65% were expected to be discharged between 1996 and 1997. In 1996, 564 new cases were reported, an increase of 12.3% over the 504 new cases detected in 1995. This is considered a positive development, since it contributes to the reduction of hidden morbidity, calculated at 500 cases. It was expected that the elimination phase would be declared in 1997, in keeping with the goal proposed by WHO of a prevalence of less than one case per 10,000 population.

**Acute Respiratory Infections.** These diseases are the fifth leading cause of death in children under 1 year and the third in the 1–4 age group. The mortality rate in these age groups was stable between 1989 and 1995. The states with the highest risk of death from this cause in the population under 5 are Delta Amacuro, Zulia, and Trujillo. It is estimated that there are from seven to nine episodes per child annually in urban areas and two to four in rural areas. Acute respiratory infections are the reason for 40% of the outpatient consultations and 40% of the pediatric hospitalizations.

**Rabies.** In 1994 no cases of human rabies were reported. In 1995 an epidemic began in Zulia State, and five cases were reported. In 1996 there were four reported cases, all from canine bites.

**AIDS and Other STDs.** The number of newly reported AIDS cases was 966 in 1993; 1,003 in 1994, 746 in 1995, and 226 in 1996, for a cumulative total of 2,941. The annual incidence rate per 1,000,000 inhabitants was 46.2 in 1993, 46.9 in 1994, and 34.1 in 1995. The incidence rate for men was 4.6

per 1,000,000. In 1993, 7.9 in 1994, and 18.4 in 1995, and for women, it was 0.8 in 1993, 1.1 in 1994, and 20.0 in 1995. The male/female ratio for reported cases of AIDS was 6.0 in 1993, 7.1 in 1994, and 9.2 in 1995. Persons 20 to 49 years old have the highest risk. The highest number of cases was reported in the Federal District, including the Sucre *municipio* in Miranda State; next, descending in order of frequency, were the states of Nueva Esparta, Aragua, Mérida, and Bolívar.

According to figures provided by the Ministry of Health and Social Welfare, in the three years from 1993 through 1995, the gonorrhea rate was 72.8 per 100,000. In 1996 the rate fell to 54.1 per 100,000. The syphilis rate in the 1993–1995 period was 40 per 100,000 and declined in 1996 to 24.1 per 100,000. It is believed that the decline in 1996 was due to underreporting.

**Emerging and Re-emerging Diseases.** Morbidity from meningitis in the 1990–1995 period was erratic. It increased from 6.7 per 100,000 population in 1990 to 10.5 in 1993; in 1994 it declined; and in 1995 it was 11.4 per 100,000 population. An improvement in case reporting has been noted. The states with the highest risk were Mérida, Monagas, and Lara, with average rates of 24.4, 22.0, and 20.8 per 100,000, respectively. In 1995 and 1996, almost 80% of the cases occurred in children under 15. In this group those at greatest risk are children under 5, particularly children under 1 year of age. In 1995 a rate of 3.4 per 100,000 live newborns was recorded. The two circulating serotypes are B and C, representing 18.5% and 37.0%, respectively, of the serotypes identified in 1995.

In August 1995 the first equine encephalitis epidemic in 20 years began, with an incidence higher than that reported in previous outbreaks. Some 12,317 cases were registered, with 24 deaths and a case-fatality rate of just 0.2%. The states of Zulia, Lara, Falcón, Yaracuy, Carabobo, and Trujillo were affected. Zulia had 90.8% of the cases and 62.5% of the deaths, and the Wayuu population was the most seriously affected. The first case observed in horses was reported at the end of April (week 14 of the year) in Yaracuy State. In week 20 the presence of the disease in horses was confirmed in Falcón State, and in week 24, the first human cases were confirmed. Of the recorded cases, 59% were found among individuals between 5 and 24 years of age. At the time of the epidemic, vaccination coverage in horses was very low.

In 1994, 4 cases of Venezuelan hemorrhagic fever were reported; in 1995, there were 8, and in 1996, there were 40 cases and 12 deaths. The 1996 case-fatality rate of 30% was higher than in previous years. In 1996 there was considerable agricultural activity in the affected areas. Most severely impacted was the group aged 15 to 45; they had 70% of the cases in 1996. Preliminary research findings on potential reservoirs point to the rodent *Zygodontomys brevicauda*.

The incidence of the cutaneous form of leishmaniasis has remained stable over the past three years, with a national incidence rate above 1 per 10,000 population. In 1996, 1,409 cases were reported, with an estimated total of 2,234. It is thought that for each reported case there are one or more unrecorded cases. The states with the highest rates were Trujillo, Mérida, Lara, Táchira, Sucre, and Anzoátegui. Up through October of 1996, 33 cases of visceral leishmaniasis (kala-azar) were recorded. Almost half the cases in the country were recorded in Anzoátegui State, followed by Nueva Esparta.

#### *Noncommunicable Diseases and Other Health-Related Problems*

**Nutritional Diseases and Diseases of Metabolism.** The Food and Nutrition Surveillance System (FNSS), which operates in the medical facilities of the Ministry of Health and Social Welfare, is in charge of collecting information on nutrition throughout the country. The diagnostic criterion for “general malnutrition” utilized in the FNSS is weight—2 standard deviations below the reference mean (U.S. National Center for Health Statistics) for the chronological age (weight-for-age). In the population under 15, the proportion of low weight-for-age children declined from 16.2% in 1990 to 11.6% in 1995. Differences among states are found, with the highest percentages found in Portuguesa (20.8%), Delta Amacuro (16.6%), Apure (15.6%), Miranda (14.2%), and Cojedes (13.5%). The percentages of children under 2 with low weight declined, from 16.8% in 1990 to 11.9% in 1995. It also went down for children between the ages of 2 and 6; for this group, the percentage was 29.9% in 1990, 23.7% in 1995, and 20.9% in the first quarter of 1996. In Barinas a rate of 34.56% was recorded; in Apure, 32.73%; in Delta Amacuro, 29.73%; in Amazonas, 26.46%; and in Cojedes, 25.78%. These data should be viewed with caution, since they take into account only the children seen at the health services of the Ministry of Health and Social Welfare.

Death from nutritional deficiencies in children under 15 increased from the 1991–1992 period to 1993; most affected were children under 1 year of age. The states with the highest mortality rates from nutritional deficiencies were Delta Amacuro (20.6 per 100,000 population), Amazonas (17.4 per 100,000 population), and Monagas (8.3 per 100,000 population). All three states have high percentages of unmet basic needs.

In 1994 the prevalence of overweight (defined as weight-for-height above the 90th percentile) reported by the FNSS was higher than in 1988 for all age groups. In children from 2 to 6 years of age, the prevalence increased from 9.0% in 1988 to 11.3% in 1994, and in those from 7 to 14 years of age, from 10.5% to 14%. An analysis of living conditions by the Na-

tional Foundation for Study of the Growth and Development of the Venezuelan Population showed an increase in overweight 1-year-old children in the high-income strata from 10.7% in 1991 to 17.3% in 1994.

According to OCEI data, consumption of food high in vitamin A declined in the 1990–1993 period. In 1995 in Nirgua, in Yaracuy State, a survey of food consumption conducted by the National Nutrition Institute revealed that 25.7% of the population studied ( $n = 165$ ) aged from 6 months to 6 years suffered from vitamin A deficiency, especially in the 1–3 age group. The rural population was the most seriously affected.

In 1992, according to National Foundation studies, the prevalence of iron deficiency, determined by ferritin serum levels in schoolchildren aged 7, 11, and 15 ( $n = 653$ ) in low-income groups (IV and V), using the Graffar-Méndez method, averaged 36%, with variations of between 30.2% and 47.1% in the different age groups and sexes. In 1993, the government made it mandatory to fortify corn flour (50 mg/kg) and wheat flour (20 mg/kg) with iron (ferrous fumarate). A comparative study of the prevalence of anemia and iron deficiency in Caracas schoolchildren aged 7, 11, and 15 living in critical and extreme poverty showed that one year after fortification of the flours, the prevalence of both iron deficiency (20.4%) and anemia (9.3%) was half the 1992 levels of 42.9% for iron deficiency and 19.0% for anemia. Per capita iron consumption among strata IV children rose from 14.3 mg per day in 1989 to 18 mg per day in 1994. It also improved among strata V children, going from 13 to 16.9 mg per day over that same five-year period.

Iodine deficiency disorders constitute a public health problem, and the Venezuelan Andean region is considered an endemic area for goiter. Through the National Program for Control and Elimination of Iodine Deficiency, the National Nutrition Institute studied these disorders in the Andean region—in Mérida in 1993, in Trujillo in 1994, and in Táchira in 1995—based on a sample of 14,074 schoolchildren between 7 and 14 years of age. The Institute found a 63.5% prevalence of goiter (grade Ia goiter, 40.1%; grade Ib goiter, 20.7%; and grade II goiter, 2.7%). The prevalence of goiter was 62.4% in urban areas and 65.4% in rural areas.

An evaluation of urinary excretion of iodine in 9,592 schoolchildren in 59 urban and 94 rural localities of the three Andean states showed a median urinary iodine excretion of below 10  $\mu\text{g}/\text{dl}$  in 43.6% of the rural localities and in 13.5% of the urban localities. This indicates that the risk exposure remains high in rural areas. In 1966, salt iodization was made mandatory. The National Nutrition Institute, through the FNSS and the Division of Food Research, conducts surveillance by collecting samples monthly in the three Andean states and in Zulia State, where the majority of salt producers are found. Sample collection is semiannual in the rest of the country.

The results of salt iodization for the 1993–1996 period varied. In 1993, 67% of samples were adequately iodized; in 1995, 85%; and in 1996, 64%. This is related to competition from the clandestine mills and problems in surveillance and control encountered by the health authorities.

In 1996, the National Nutrition Institute, through the Nutrition Unit of Mérida State, conducted a field study on knowledge, attitudes, and practices related to breast-feeding in the Tovar *municipio* of that state. The results showed that exclusive breast-feeding up through the fourth month was more widely practiced in urban areas (16.7%) than in rural areas (7.7%), while continuous breast-feeding for one year was more prevalent in rural areas (40.3%) than in urban areas (27.1%). It is worth noting that the percentage of mothers who did not work outside the home was 80% in rural areas and 62.4% in urban areas.

Diabetes mellitus is one of the 10 leading causes of death. According to Ministry of Health and Social Welfare morbidity data, its prevalence is estimated at 1% to 6%. It especially affects the 45–65 age group and females, and has a significant economic impact due to the high cost of medical care and loss of productivity. A prevention and control program has been implemented in 33 health services in 18 states and in the Federal District.

**Cardiovascular Diseases.** These are the leading cause of death. Notable among this group are ischemic heart disease and hypertension. Even with underreporting, morbidity from cardiovascular diseases is significant. According to information provided by the Ministry of Health and Social Welfare, the prevalence of hypertension in adults is 20% to 30%. A high prevalence of risk factors is noted in the population, including smoking, hypertriglyceridemia, diabetes mellitus, obesity, sedentary lifestyles, and alcoholism.

**Malignant Neoplasms.** Malignant neoplasms constitute one of the leading causes of mortality. In 1995 they ranked second, after heart disease. For both men and women, stomach cancer declined up through 1995. Lung cancer is rising steadily, with the trend becoming more pronounced in recent years and more marked in men than women. Prostate cancer is also increasing. Cervical cancer had been decreasing until 1985, when the trend reversed. Breast cancer has also been on the rise in recent years.

**Accidents and Violence.** Since 1996, Venezuela has had a surveillance system in metropolitan Caracas for fatal and nonfatal injuries resulting from violence. The Central University of Venezuela and the General Division of Forensic Medicine of the Judicial Police's Technical Corps work together on this system, with support from the National Science and Technology Research Council. Since 1997, a quarterly newsletter

with data on deaths from violent causes in metropolitan Caracas has been published. Up through June 1997, homicides were the most frequent cause of violent death (69.8%), followed by accidents (23.6%) and suicides (6.5%). Homicides are on the rise, and the persons at highest risk are males from 10 to 49 years of age. The Federal District is the most affected area.

**Smoking.** Smoking was treated as a program area in the Division of Chronic Noncommunicable Diseases until 1995, when it became a program under the Ministry of Health and Social Welfare. Smoking control activities are interinstitutional and interprogrammatic, and are aimed at prevention among secondary school students. Protection for nonsmokers is sought through strategies to increase smoke-free spaces, mainly in the work environment. Smokers are helped through consciousness raising and training by health professionals, who offer individual assistance and also develop group strategies. Cigarette consumption has been on the decline since 1983, when all radio and television advertising was banned and a vigorous public education campaign was carried out. Annual per capita consumption has dropped from 1,950 in 1990–1992 to 900 in 1994–1996.

**Oral Health.** The National Directorate of Oral Health of the Ministry of Health and Social Welfare, utilizing the DMFT (decayed, missing, filled teeth) Index has noted the high prevalence of this health problem. In the 7–14 age group, 8 out of every 10 children have dental damage, and in the over-35 group, the figure is 9 out of every 10. An analysis conducted in December 1995 by the Directorate revealed that this situation had not changed.

The Salt Fluoridation Program was established in 1993. It was expanded in 1994 and 1995 with resolutions that established standards, techniques, and procedures to carry out the program and to repackage and market edible salt. The National Fluorine Commission is comprised of representatives from business, government, trade associations, and research institutes. In 1994 the country's five most important salt mines began fluoridating salt for human consumption, ensuring 85% national coverage.

**Natural Disasters and Industrial Accidents.** Earthquakes are the greatest natural hazard in Venezuela, since approximately three-quarters of the nation's territory is in seismic areas. On 9 July 1997, an earthquake of medium intensity rocked the eastern part of the country and, to a lesser extent, the central region. Its greatest impact was felt in the areas of Cariaco, Casanay, and Cumaná in the Sucre State. There were a total of 67 dead and 511 injured, and damage to infrastructure was estimated at US\$ 25 million. The national authorities in the Ministries of Health and So-

cial Welfare and of Internal Relations, through Civil Defense, carried out the Humanitarian Supply Management (SUMA) System for disasters. Storms have also caused considerable damage, but with very few human deaths. Industrial accidents are on the rise, largely because of growth in the petroleum and petrochemical industries. In the 1981–1995 period, more than 15 major accidents occurred. Legal tools and technology have been developed with a view to reducing these numbers.

## RESPONSE OF THE HEALTH SYSTEM

### National Health Plans and Policies

The institutional basis, objectives, and guidelines for Venezuela's health policies are contained in the Ninth National Plan, a national economic and social development plan from which the priorities for the Executive Branch's five-year work plan are derived.

The principal elements of the health policy are:

- to reaffirm the right to health and equity and to combat inequalities and social inequities with regard to health, disease, death, and access to goods and services
- to improve the efficiency and effectiveness of the health services system and to give outpatient-services units the authority to make decisions
- to assign special priority to activities for health promotion and damage and risk prevention, thus strengthening primary care and the outpatient network
- to reaffirm the role of the State in developing health services and to democratize the health structure, with broad societal participation
- to ensure the guidance role for the Ministry of Health and Social Welfare in determining policies; managing, coordinating, and regulating the health sector; and establishing appropriate regulations.

The Ministry of Health and Social Welfare shares operational coordination and the fulfillment of medical care, social welfare, and environmental sanitation programs with 23 federal entities, as well as mayors' offices, *municipios*, and civil society, in order to jointly implement conceptual management and financing models based on individual and collective needs in the field of health.

### Health Sector Reform

The 1993–1996 period was marked by a State reform process that moved ahead in decentralizing the different na-

tional sectors, especially the health sector. What drove the reform was the commitment of all of society, the promotion of health education, and social organization for active participation in the movement toward change. It is hoped that the reform will generate new management models capable of ensuring access to the health services. Its principal strategies are the restructuring and decentralization of activities. Restructuring involves restoring one of the basic attributes of the Ministry of Health and Social Welfare, that is, its guidance role in the management of the health sector. Decentralization, on the other hand, includes three essential elements: environmental health, coverage in the health care subsystems, and the organized municipalization process. The intent is for the guiding actions of the State to reach society through a system organized into mayoralties and *municipios*, conceived as links between the State and the community.

Decentralization is a sociopolitical process that seeks to link State actions with individuals, sharing management responsibilities with civil organizations under new legal arrangements. The Ministry of Health and Social Welfare becomes an agency responsible for generating policies, standards, and techniques and ceases to perform operational functions, which are now transferred to the state or municipal level or to society itself. Some of the difficulties associated with decentralization have to do with instability in ministerial management, operational conflicts (macro- and microcorporate), resistance to change, financial constraints, lack of trained staff, and the long time required to implement decentralization.

The restructuring of the Ministry of Health and Social Welfare is being carried out on three levels: managerial, strategic, and tactical. It exercises the guidance role and is responsible for insurance, subsidiary action, cooperation, management, financing, and regulation. The goal is thus to simplify functions, levels of management, upper management, and cooperation for health.

In order to restructure it is necessary to reorganize the outpatient network, strengthen organized community participation, train health personnel, improve health programs, and develop financing models with an adequate public budget. It is expected that 10% of the national budget will be allocated to health, which, together with the contributions from other sources, will make it possible to create a collective fund for the benefit of population segments that do not have the ability to pay or access to financial intermediaries.

A Restructuring Committee has been created, presided over by the Minister of Health and comprised of a Director General and sectoral directors general, in charge of managing and monitoring the reorganization of the Ministry of Health and Social Welfare.

The sources of financing for the sector are:

- the central government, through budgetary transfers from sector agencies and from the constitutional allocation of funds to the state governments, insurance companies, and private groups
- national resources from the National Health Fund; these funds will not be a permanent payment but will go to the states based on population, socioepidemiological and geographical situation, and level of poverty and rurality
- the state governments, through agreements and contracts with the municipal governments and health service centers and with financing modalities such as the Social Development Research Fund and the National Health Fund or State Health Funds, which pool resources from different sources and redistribute them on the basis of established criteria

The Comprehensive Health Service Plan, intended to provide health care for citizens, will be financed with national and state contributions to the system. Other services not included in the Comprehensive Plan will have a fee-for-services system and will be paid for by private or group insurance, direct user payments, or public funds when the decision is made to exempt beneficiaries from payment.

The centers providing hospital services will be autonomous establishments that will receive public funds based on the volume and quality of services provided and will be responsible to the individual organizations of every state.

## Organization of the Health Sector

### *Institutional Organization*

The health sector is made up of the public, private, and mixed (social security) sectors. Its most important institutions are the Ministry of Health and Social Welfare, the Venezuelan Social Security Institute, the Social Welfare Institute of the Ministry of Education, the Institute of Social Welfare of the Armed Forces, the Government of the Federal District, and the Municipal Council of Sucre, Miranda State. The private sector has grown without any planning or control, and many of its services are inefficient and costly, which increases inequity in health care.

The health facilities network provides different levels of care and is distributed throughout the entire country, but the care model and the financing and human resources policies do not guarantee accessibility, effectiveness, and quality of medical services. In general, the outpatient centers are short on supplies and proper equipment and lack health professionals. Even well-equipped hospitals and outpatient centers may not have made organizational changes. The labor situation, with its poor collective bargaining conditions, low pay,

and inadequate incentives, has an adverse impact on the performance of professionals. That led to a medical strike in December 1996 that paralyzed emergency services in all the public hospitals of the country.

In March 1997 the Draft Legislation for the Comprehensive Social Security System was prepared, covering everything from medical care and the use of free time to pensions for retired persons. The project is guided by such principles as management unity, solidarity as a social obligation, the efficiency and effectiveness of the service, the participation of public and private societal players, universal protection for the inhabitants of the Republic, and financing to guarantee the delivery of services.

The Ministry of Health and Social Welfare is charged with health research and surveillance, as well as the promotion, provision, and operation of health services. Since 1996 it has been performing these functions in a dispersed manner in 10 states. In the remaining 13 federal entities, the provision and operation of the services has been transferred to the state governments.

#### *Organization of Health Regulatory Activities*

**Drugs.** One of the health problems confronting the country is access to drugs. Some experts believe this crisis has been accentuated by the lack of development and enforcement of a pharmacological policy backed by legislation to ensure its execution. Congress is currently studying a provisional draft of a Drug Law that governs drug production, registration, control, supply, and prices.

Drug regulations are based on legislation such as the Pharmacy Practices Law and its Regulations (1937–1993), the Organic Law of the National Health System (1987), the regulations of the decree creating the National Institute of Hygiene (1993), the standards of the Pharmaceutical Products Review Board, and the Standards for Good Manufacturing Practices of the Pharmaceutical Industry.

At present, the country has a modern registration system, mechanisms for inspecting pharmaceutical establishments, official quality control laboratories, a National Drug Control Center, a Drug Review Commission, and advisory groups that ensure the marketing of effective, safe, high-quality drugs. The operations of this system are carried out by the Ministry of Health and Social Welfare, the National Institute of Hygiene, and the states, based on the standards contained in the aforementioned laws and regulations.

**Medical Supplies.** With regard to paramedical products (diagnostic kits, equipment, and materials used to prevent, diagnose, and treat disease, excluding drugs), the sanitary control system has an office in charge of the registration and

control of imports and the establishments that distribute them. Quality control of these products is performed in various institutions, including universities, health institutes, and private laboratories accredited for that purpose. Since January 1977, all products entering the country have had to be registered in advance.

**Environmental Quality.** The Ministry of the Environment and Renewable Natural Resources, together with the Ministry of Health and Social Welfare, have programs that address the quality of the environment. There are 125 drinking water treatment plants that guarantee the level of water treatment in urban areas. In the rural areas, water supply is still inadequate, and, in some cases, there are no plants to treat the water that is supplied. A sectoral analysis of drinking water and sanitation carried out in 1997 found that 80% of urban communities have drinking water service through direct connections. The remaining 20%, located in lower-income areas, receive drinking water by means of tank trucks or public spigots.

There are programs to monitor and evaluate the air in metropolitan and industrial areas, with 14 national sampling stations. The country participates in the Program for Global Information on the Environment.

The National Government has developed programs to reduce the lead content of the gasolines used in the automotive sector. In addition, programs to use natural gas have been developed, mainly in the public sector.

Soil contamination from the inappropriate use of pesticides and the presence of solid and liquid wastes has been studied, and there are standards and regulations to correct or prevent it, in addition to the Criminal Law of the Environment (1992).

The country has a significant housing shortage. The principal cities have chaotic makeshift settlements, with the impoverished segment of the population occupying high-risk areas with inadequate services. The National Government promotes housing development policies (Housing Policy Law) and has formalized projects to grant parcels of land with services in order to alleviate this problem.

**Health Technology Assessment.** The Ministry of Health and Social Welfare regulates the technology in the services according to guidelines that take into account the complexity of the establishments and their geographical and population coverage. In the private sector, state-of-the-art technology has been applied in the most highly developed geographical, population, and social centers. Equipment maintenance problems are becoming worse due to disorganized services, poor supervision and control, inadequate technical information, and the lack of training for personnel.

There is a scientific and technical infrastructure in the country's research centers for technology development. Ex-

amples of this are the progress in bioengineering made at Simón Bolívar University, the quality of the manufacturing of drugs and biologicals, the plans to link developments in science and technology with community participation that are being promoted by the National Board of Science and Technology and the activities of regional foundations such as ASCARDIO, which in 10 years has created a technical support service for the production of equipment to meet needs in Lara State. The need to identify areas for work in technology is recognized, incorporating players from civil society.

## Health Services and Resources

### *Organization of Services for Care of the Population*

**Health Promotion.** The Ministry of Health and Social Welfare is promoting the implementation of a new model that makes it possible to increase the autonomy and managerial capacity of the *municipios* in order to meet the most urgent needs of the population. Along these lines, the Healthy *Municipios* Strategy was adopted as one of the activities for health promotion. Begun in January 1994, the Strategy contained a proposal to promote health, foster sustainable development, improve the environment, and increase solidarity and equity in health. The process promotes health at the *municipio* and parish levels and encourages citizen participation and an intersectoral approach under the leadership of the mayoralties. As of June 1997, 15 activities were implemented in 14 federal entities; including 13 community projects. Of the community projects, 35% involved basic sanitation; 32%, social problems; 10%, program development; 8%, community organization; 6%, problems concerning morbidity and mortality; 4%, training; and 3%, information systems.

The specific programs dealing with family health are:

- Family grants program. This program provides an allowance of US\$ 10 a month per student on a bimonthly basis to low-income families with a maximum of three children. Its goal is to protect the income of the family groups that are most vulnerable socioeconomically. In 1996 the program covered 3.05 million children.

- School snack program. The goal is to protect the nutritional health of children between the ages of 2 and 14, both in and out of institutions, by providing from 15% to 20% of their protein and energy needs. In 1996 the program covered 1,206,194 children.

- School food program. This attempts to improve the nutritional health of institutionalized children in preschool or grades one through six or in special education programs in government and private educational establishments. It guarantees them a daily balanced meal containing no less than

30% of their total nutritional requirements. In 1996, the program served 729,291 children.

- Maternal and child food program. The objective is to help decrease the mortality and morbidity rates for pregnant women, nursing infants, and children from 6 months to 6 years of age, by providing them with nutritional supplements. In 1996 the program covered 500,000 households.

- Multi-home program. This program provides comprehensive care for poor children under the age of 6 who are not registered in school. In 1996 the program served 350,000 children.

### **Programs and Health Care Policies for the Over-60 Population.**

Since 1978, the National Institute of Geriatrics and Gerontology, by law, has been responsible for the policies on health care for people aged 60 and over. The Institute has 29 geriatric units throughout the country—2 of them psychiatric—and offers services to 3,500 elderly people. It provides residential care with medical, social, rehabilitation, and nutrition services. In addition, it offers outpatient consultations for preventive, curative, and odontological care, in 11 metropolitan areas and in 6 states in the interior of the country. There are 4 day-care centers with a capacity for 50 elderly people. They offer all services, without separating the elderly person from his or her family circle. In metropolitan Caracas, a count taken by the National Institute of Geriatrics and Gerontology found 62 private geriatric units sheltering 2,500 elderly people.

**Disease Prevention and Control.** The General Sectoral Bureau of Malariology and Environmental Health is responsible for programs to eradicate malaria and to control Chagas' disease, ancylostomiasis and other intestinal parasitic diseases, schistosomiasis, other vector-borne diseases, and *Aedes aegypti*.

The Institute of Biomedicine is the organization within the Ministry of Health and Social Welfare responsible for programs to control leprosy, leishmaniasis, onchocerciasis, and other dermatoses. In Amazonas State, responsibility for these programs belongs to the Simón Bolívar Amazon Center for Tropical Disease Research and Control.

The objective of the Endemic Disease Control Project of the Government of Venezuela and the World Bank is to reduce the incidence of communicable diseases by strengthening the institutional capacity of the implementing units.

The Technical Directorate of Programs coordinates activities to prevent and control tuberculosis, cardiovascular diseases, diabetes mellitus, mental disorders, and AIDS and other sexually transmitted diseases.

**Epidemiological Surveillance Systems and Public Health Laboratories.** Suspected cases of diseases subject to

surveillance are reported weekly to the regional or state epidemiology service by telephone or telegram. In the event of an epidemic, reporting is done daily. Every week the states send the epidemiological information to the Epidemiology Department headquarters, where the data are processed and analyzed, and where a weekly bulletin, *ALERTA*, is published for distribution throughout the country. The epidemiological information on suspected cases is also included in the monthly reporting system. Using technology developed in the Ministry of Health and Social Welfare in November 1996 the National Epidemiological Information System began operations, permitting electronic data transmission from the state level to the national level.

The virology laboratory of the Rafael Rangel National Hygiene Institute operates as a national reference center. It performs virological and serological diagnosis of infectious diseases and also manufactures biologicals (vaccines and serums).

Each laboratory in the network is equipped with an ELISA-test reader and a washer. Five laboratories are in operation, in the states of Aragua, Barinas, Falcón, Lara, and Zulia. The Aragua laboratory serves the states of Guárico, Apure, Carabobo, and Cojedes.

**Drinking Water and Sanitation Services.** Official figures show that drinking water supplied by direct connection reaches 80% of the people in urban areas and 65% of those in rural areas. Regarding sewer sanitation, service coverage of 69% is reported in urban areas, with the remaining 31% using septic tanks or latrines. The percentage of wastewater treated does not exceed 5% of the amount distributed.

**Solid Waste Disposal, including Hospital Waste.** The Municipal Waste Collection and Disposal Service has been decentralized. The mayoralties are responsible for this service, and many of them have opened the business to private operators. The major metropolitan areas receive adequate collection and transportation service. Deficiencies are noted at the final disposal sites, which are usually dumps and not sanitary landfills. The State, through the Venezuela Social Investment Fund, the Decentralization Fund, and the Municipal Development Foundation, is spending funds to improve the final disposal sites for municipal waste.

Decree 2,218 (Standards for the Classification and Management of Waste in Health Facilities) governs hospital waste. This regulation is being implemented around the country and its enforcement is considered of the utmost importance, since not all health facilities have incinerators to dispose of waste properly.

**Prevention and Control of Air Pollution.** There are pollution prevention programs backed by specific guidelines and

regulations. Decree 2,215 establishes standards to control the use of substances that damage the ozone layer. There are projects to control industrial pollution, and other petroleum and petrochemical industry projects. One project, the Corporate Project of the Venezuelan Corporation of Guayana, made possible the installation of a network of air quality monitoring stations for Ciudad Guayana. The Project for the Elimination of Lead in Gasolines is also under way, with a timetable for its adaptation by industry. Lead levels in the atmosphere in the metropolitan areas under surveillance are below those called for internationally, except in the El Silencio area of Caracas, where the established limits were exceeded in 1993, 1994, and 1995.

#### *Organization and Operation of Personal Health Care Services*

**Health Care Network.** In 1995, the network of public establishments consisted of 583 hospitals and 4,027 outpatient centers (662 in the urban areas and 3,365 in the rural areas). The private sector had 344 hospitals. The average number of beds was 2.4 per 1,000 population. The public sector hospitals are type I, II, III, and IV, based on a scale of increasing complexity. Type III and IV hospitals also carry out university and postgraduate training.

Private health services are concentrated in the large population centers and serve higher-income persons. There is a trend toward emergency care, in both the hospitals and outpatient centers. There are more emergency surgeries than elective ones, and preventive consultations are infrequent. One explanation for this behavior is that elective interventions and preventive consultations have been affected by the actions of the various trade and union groups.

In recent years the physical infrastructure of the health network has deteriorated. This is seen not only in the poor physical condition of the facilities, but also in the lack of basic services, such as water and electricity, which is associated with the low rate of investment in the construction of public patient care facilities and with the lack of a maintenance policy.

**Blood Banks.** These facilities conduct tests to detect AIDS, hepatitis B and C, *Trypanosoma cruzi*, and syphilis. The serological reagents used to screen for these diseases are evaluated at the National Institute of Hygiene before their distribution to the blood banks.

In 1994, full coverage for these diseases, except for hepatitis C (31.6%), was provided to 202,247 donors. The results showed a 6.8% prevalence for hepatitis B, 1.3% for *T. cruzi*, 1.1% for syphilis, 0.9% for hepatitis C, and 2% for HIV. In 1995, the highest prevalence found from the screening of 202,515 donors was again for hepatitis B, with 5.9%. For

syphilis, the figure was 1.1%; for hepatitis C, 0.8% (screening coverage was 57%); for *T. cruzi*, 0.8%; and for HIV, 0.4%.

**Specialized Rehabilitation Services.** The National Rehabilitation Program estimates the coverage of care for the disabled at between 1% and 2%. The social welfare benefits are limited to the population covered by the social security system; the rest of the disabled depend on nongovernmental organizations and some official entities. In order to increase the care available, community-based rehabilitation activities have been launched, specifically in outpatient centers.

### *Inputs for Health*

**Drugs.** During 1996 and the first half of 1997, 50% of the drugs that were marketed in the country were produced domestically. That amount was 45% less than in 1990. This can be attributed to the globalization of the pharmaceutical industry and to the country's economic and financial crisis. Domestic production of pharmaceutical products and preparations is broad, and the vast majority of the essential drugs are made in the country.

Drug imports are limited to the products that have been registered in the country, except for "orphan drugs" used to treat rare disorders. Narcotics and psychotropics are subject to strict control, and their imports must be reported lot by lot.

The Pharmaceutical Products Review Board establishes guidelines that regulate the production and marketing of drugs. Advertising must follow ethical and health criteria so as to contribute to the rational use of drugs, must be compatible with national health policy, and must follow national regulations. There are different criteria for marketing depending on whether the product requires a doctor's prescription or may be sold over the counter in pharmacies.

Marketing is carried out through the laboratory/drug-store/pharmacy chain. Pharmacies dispense the products to patients. There are other marketing modalities for certain types of products, such as anti-cancer drugs or hormones. Patients receive these drugs through nonprofit foundations or institutions, for example, the Antineoplastic Drug Bank or the Endocrine Drugs Support Unit. This procedure has increased the availability of drugs for all levels of the population. The value of the Venezuelan drug market is US\$ 518,628,000. Of that, \$487,043,550 (93.91%) is in the private sector and \$31,584,450 (6.09%) is in the public sector.

Since 1986, the producing laboratories have been subject to inspection for good manufacturing practices. The 62 producing laboratories are evaluated at least once every two years. Quality control is conducted at the government and private levels. For the government, the National Institute of Hygiene conducts surveillance through periodic planned inspections,

inspections resulting from complaints, and the checking of the first production lots. At the private levels, every manufacturing laboratory conducts surveillance, since each is required to have a quality control department in its production facilities.

**Immunobiologicals.** The legal base for immunobiologicals is the same as the one governing the registration and control of drugs. Domestic production is carried out by the National Institute of Hygiene, an agency that produces a portion of the vaccines utilized in the Expanded Program on Immunization of the Ministry of Health and Social Welfare. The immunobiologicals produced there are the DTP vaccine (diphtheria, tetanus, pertussis), the tetanus toxoid, and the human and canine rabies vaccine. There is a production plant and a project under way to produce blood derivatives on an industrial scale. The Institute of Biotechnology of the School of Pharmacy of the Central University of Venezuela produces polyvalent anti-venom immune serum for the treatment of snake bite and serum for the treatment of scorpion stings in quantities sufficient to meet Venezuela's needs.

Leaving out some exceptions, the importing laboratory handles importing and marketing using the same ethical and technical guidelines that govern drugs. Distribution is done directly to private entities or to the Ministry of Health and Social Welfare, which utilizes these products for its immunization programs. For certain types of products (for example, blood derivatives) the importing laboratory distributes directly to the public. Quality control is conducted at the National Institute of Hygiene by means of the Office for National Control of Biologicals.

Staff at the headquarters of the Ministry of Health and Social Welfare or the National Control of Biologicals inspect for good manufacturing practices. Venezuela participates in the Regional Network of Laboratories for Quality Control of Biologicals sponsored by the PAHO Special Program on Vaccines and Immunization and the Regional System for Vaccines.

**Reagents.** Until July 1997, there was no sanitary control of reagents. A proposal is being drafted to regulate their importation, marketing, and use. Domestic production is virtually nil, with the exception of a minimal amount produced in the Physics Center of the Venezuelan Institute for Scientific Research. These substances are controlled by the Ministry of Energy and Mines.

### *Human Resources*

Some 14,676 professional nurses, 53,818 physicians, 8,571 pharmacists, and 13,000 dentists are registered in the General Sectoral Bureau for Sanitary Control of the Ministry of Health

and Social Welfare. There are 31,629 nurse's aides who work for the Ministry of Health and Social Welfare.

In the health sciences, there are 12 medical schools, 7 dentistry schools, and 3 pharmacy colleges, as well as 7 nursing schools with degree programs. All are public institutions, except for two dentistry schools (Santa María University and Nor Oriental Gran Mariscal de Ayacucho University), and one pharmacy school (Santa María University).

Health sector reform changed the concept of training, viewing it as part of the work process and geared toward changing the health situation. Training is conducted in work teams and not individually, and is supported by a process that is reflexive, problem-based, democratic, and participatory.

Financing for training comes from the Ministry of Health and Social Welfare, with approximately US\$ 4.5 million from the regular funds of the Ministry itself, and funds from the Social Development Project (financed by the World Bank) and Project Health (carried out jointly by the World Bank and the Inter-American Development Bank).

The Ministry of Health and Social Welfare continues to be the principal employer of the different categories of health professionals. In 1997 implementation of the Plan for the Restructuring and Transformation of Labor began in this Ministry. Within the country, the agencies empowered under the law to license, control, and regulate professional practice in the medical specialties are the associations of physicians and the Venezuelan Medical Federation. The associations of physicians are professional public corporations with legal recognition, their own assets, and all the rights and functions provided by law.

The Law on the Practice of Medicine states that there should be an association of physicians in the Federal District and in each state of the Republic, with headquarters in the respective capital. The Venezuelan Medical Federation is comprised of the medical associations of the Republic; it has professional, commercial, and union characteristics. Like the College of Physicians, it has legal recognition and its own assets, and its headquarters is located in Caracas.

### *Expenditures and Sectoral Financing*

Public funding resources for the health sector, including contributions to social security, amounted to US\$ 1,253,055,403.18 in 1993 and \$1,206,713,320.46 in 1996.

Health expenditures represented 10.4% of total expenditures in 1993, 9.6% in 1994, and 9.4% in 1995 and 1996. During that same period, health expenditures as a percentage of gross domestic product decreased from 2.09% in 1993 to 1.92% in 1996. Per capita health expenditures were US\$ 59.90 in 1993, \$58.60 in 1994, \$69.42 in 1995, and \$54.10 in 1996. The Ministry of Health and Social Welfare and the Venezuelan

Social Security Institute account for 76% of public spending on health, a percentage that climbs to 93% when the state governments are included.

The distribution of the Ministry of Health and Social Welfare budget to the decentralized states and entities reveals differences. The states with the highest indices of extreme poverty are Apure, Delta Amacuro, Portuguesa, Amazonas, Barinas, Guárico, and Zulia. The states with the lowest population density—an indicator of rurality—are Amazonas, Delta Amacuro, Barinas, Portuguesa, Guárico, and Cojedes. The states characterized by both rurality and extreme poverty are Amazonas, Delta Amacuro, Portuguesa, Barinas, and Guárico. However, the budgetary allocation does not give preference to these states.

Systematized official information about private health sector financing and expenditures is not available. As a result, private health expenditures must be inferred from households' expenditures for final consumption of goods and services. The expenditures for health and education were US\$ 1,308,721,887 in 1993 and \$1,350,026,991 in 1994. This represented 9.4% and 10.1% of final consumption of services in 1993 and 1994, respectively. The consumer price index rose 66% between 1993 and 1994, and 55.1% between 1994 and 1995.

The financial resources allocated to the science and technology sector increased from US\$ 313,090,071.31 in 1993 to \$362,107,428.57 in 1995. These numbers represent 0.52% of the GDP for 1993 and 0.47% for 1995. The budget allocation for research, experimentation, and services in science and technology for institutions attached to public agencies or receiving contributions from the State rose from 11.9% in 1993 to 54% in 1995.

The financing granted by the central government through the National Science and Technology Council to promote research and technological innovation, by administrative region, decreased from US\$ 1,617,195.5 in 1992 to \$627,428.6 in 1995. In 1995, the central region received 40% of that financing, followed by Zulia with 21%, the Capital with 19%, the northeastern region with 12%, and the Andes with 9%.

### *External Technical and Financial Cooperation*

The economic, political, and social crisis became acute in the early 1980s, resulting in the need to request financial cooperation to support the reform of the different national sectors. The IDB provided approximately 90% of the total funding.

The Official Development Assistance funds, understood as the net disbursements of subsidies and loans granted to the country by the Development Assistance Committee, with the basic objective of promoting economic development and

well-being, decreased from US\$ 81 million in 1990 to \$49 million in 1993 and \$31 million in 1994. Cooperation provided by the European Economic Community in 1991 and 1992 was part of this component. Official assistance totaled approximately \$22.8 million. The "health and population" component received \$668,366 as a donation, which was 3% of the total assistance, distributed among 15 projects.

**IDB.** The Ministry of Health and Social Welfare is implementing the Project for Modernizing and Strengthening the Health Sector, at a cost of US\$ 300 million (of which the IDB contributes 50%). The objective of the project is to improve the coverage, efficiency, and quality of the health service networks through more appropriate and efficient spending in the sector, and to develop and strengthen the institutions responsible for coordinating the delivery of public health services. Financing from the Andean Development Corporation was also received in two subcomponents, the Program for Promotion and Prevention in Health and the Program for Strengthening and Modernizing the Ministry of Health and Social Welfare.

The Social Investment Fund of Venezuela and the Ministry of the Family are carrying out the Local Social Investment Program, involving US\$ 140 million, of which the IDB con-

tributes 60%. The objective of the program is to target resources toward social infrastructure works that improve social services for low-income groups.

**The World Bank.** The Ministry of Health and Social Welfare is carrying out the Health Sector Reform Program, for a total of US\$ 108 million, 50% of which is financed by the World Bank. The project supports the design, implementation, and development of the comprehensive health system reform process and the policies that govern it.

The Ministry of the Family is responsible for the Social Development Program, which is part of the strategy to support decision-making to steer social sector expenditures toward targeted, efficient programs. The World Bank contributes 28%, and the total cost of the project is US\$ 355 million.

The Foundation for Community Development and Municipal Promotion conducts the Program for Neighborhood Urban Improvement, totaling US\$ 85 million, 47% of which is contributed by the World Bank. The stated goal is to improve the standard of living of neighborhood residents, to train the *municipios* so that they can plan, administer, and efficiently carry out investment projects, and to strengthen the Foundation in its capacity to provide technical assistance to the *municipios*.