
HAITI

OVERVIEW

Hispaniola, the second largest island in the Caribbean, is shared by two countries: Haiti and the Dominican Republic. Haiti occupies the western third of the island, with a land area of 27,700 km². It is divided into nine departments and one coordination; in all, the country has 41 districts, 133 municipalities, and 561 sections within the municipalities.

Haiti declared independence in 1804, thus becoming the first black nation in the world and the first independent country in Latin America. Its recent history, however, has been marked by political and social violence. As it approaches 200 years of independence, poverty and social exclusion remain unchanged for most of the Haitian population. After the fall of the dictatorship of Jean-Claude Duvalier in 1986, the country had five different presidents until elections held in 1990 brought Father Jean Bertrand Aristide into office. In 1991 there was a military takeover, and the international community imposed an economic embargo that lasted until 1994, when constitutional order was restored and the armed forces were dissolved. A new democratic government took office for the term 1995–2001, but the period was marked by political conflicts that left the country without a prime minister from 1997 until 1999 and caused State reform processes to stagnate. During 2000, elections were held for municipal officials, new deputies and senators in the Congress of the Republic, and, finally, the presidency—all of them accompanied by a climate of extreme violence and social tension between the opposing political forces.

From the economic point of view, the 1990s saw a worsening of poverty for the Haitian population, especially during the embargo (1992–1994), when the recession turned into an economic depression and the country suffered an estimated 25% loss in economic activity. Other factors that contributed to the economic crisis were political problems, the termination of foreign aid, and a 5.4% drop in exports between 1998 and 1999. In 1999–2000 the growth in the GDP was 1.23%, down from 2.34% in 1998–1999 and 3.13% in 1997–1998 (Figure 1). The fall was due mainly to a progressive decline in the contribution of the agricultural sector,

which saw a negative growth of –1.3%. Between the beginning of the 1990s and the end of that decade, the contribution of the agricultural sector to the GDP dropped from 35.4% to 29%, and that of the manufacturing sector fell from 15.5% to 8.9%. Only construction and the public sector increased during the period.

Inflation was estimated at 15% in 1999–2000, and during the same period the price of foods increased 10.4%, compared with a rise of only 3.8% in the previous biennium. The exchange rate in October 1999 was 17.5 Haitian gourdes per US dollar, and by August 2000 it had risen to 22 gourdes.

Employed workers represent 46% of the total economically active population (males, 50.4%; females, 42.2%). The majority work in the informal (51.4%) and agricultural (44.5%) sectors, and a small proportion in the public sector (1.3%). In 1997, 56.2% of the children 6–11 years old were enrolled in school. Literacy in the population over 10 years of age was 61.5% in 1999–2000, with differences by sex and place of residence (Table 1).

A survey conducted in 1999–2000 found that 67% of the population was living in poverty and 31.4% of the households had more than seven members. A similar survey conducted in 1986–1987 found that 65% of the households were living in poverty and 12.3% of them had more than seven members. In 1999–2000, 46% of the families had only one room to sleep in. The principal cities in the departments are connected to the capital by a system of highways, most of which are in poor condition. Two mobile telephone companies are improving communications in the main cities, especially Port-au-Prince.

TABLE 1. Literacy rates among the population aged 10 years and older, by sex and area of residence, Haiti, 1999–2000.

Population group	Metropolitan zone	Remaining urban area	Rural	Total
Males	92.0%	81.0%	55.1%	66.6%
Females	68.8%	79.6%	43.7%	56.7%
Total	85.1%	80.3%	49.5%	61.5%

The official languages are Haitian Creole, which is spoken by all the people, and French, which is used to a large extent in the cities, especially by those who have completed elementary school (those with a command of French represent an estimated 10% of the population).

The estimated annual population growth rate during 1995–2000 was 2.1%. The population in 2000, based on the census of 1982, was estimated at 7,958,964, for a density of 282 inhabitants per km². Sixty-four percent of the people live in the countryside, 21% in the metropolitan area of Port-au-Prince, and 15% in other urban areas. The population pyramid in Haiti is broad at the base and narrows gradually, especially after age 20 (Figure 2); 40% of the population is under 15 years old, and only 5% is over 65. There are more women (51.9%) than men, particularly in urban areas, a situation that is explained by migratory patterns: women tend to migrate more from rural areas to the cities, while men tend to go abroad. These population movements make for different population pyramids in the urban and rural areas. For example, in the metropolitan area of Port-au-Prince there is a bulge corresponding to the age group of 20–24 years, with a larger number of women, whereas in rural areas the pyramid narrows between the ages of 10 and 24.

The population dynamic has been characterized as one of progressive urbanization, reflected in the following trends: growth of the major cities such as the Port-au-Prince metropolitan area (annual growth rate for the Department of the West: 3%); emigration of thousands of Haitians to countries abroad, especially the United States of America (Florida and New York), Canada, and neighboring islands (net migration for 1995–2000: –2.6%); and a shifting of population toward the Dominican Republic, along the border shared by the two countries, to work at minor jobs or in the sugar cane fields, usually as temporary laborers. A sizable percentage of professionals and qualified technicians contribute to this Haitian diaspora, which represents a source of income for the country: the monthly remittances sent to families in Haiti account for 8.3% of household income. It is estimated that 1.5 million Haitians live abroad.

The crude birth rate was 33 per 1,000 population, and the general fertility rate was 4.4 children per woman. The average age of the population was 19 years for both sexes, and the dependency ratio was 77.9 during the period. Live expectancy at birth was 54.4 years for the general population (52.8 for men and 56 for women). However, there are estimates for 2000 that show a decline in life expectancy of as much as 5 years for both sexes as a result of the AIDS epidemic.

Mortality

Since 1997, both the Ministry of Public Health and PAHO have been promoting the certification of deaths. This effort, which has been concentrated in the main public hospitals of the country, resulted in the registration of 5,505 deaths in the first year. In 1998 the number increased to 6,541, and in 1999 a total of 7,997 death certificates were issued. This last figure is believed to represent only 10% of all deaths, but even so, the information gained is valuable for developing a mortality profile, despite the fact that almost half the certificates (47.9%) have ill-defined diagnoses.

An analysis of the deaths by broad groups of causes shows that communicable diseases headed the list, representing 19.5% of all certified deaths and 37.5% of those with a specifically defined diagnosis, thanks to the large registration of diarrheas and infectious gastroenteritis (Table 2). The second most important group was diseases of the circulatory system: cerebrovascular accidents, arterial hypertension, and cardiovascular problems, with a higher number of registered cases in women, represented 8.3% of all deaths. External causes ranked third (4.3%), and neoplasms were in fourth place (2.7%), the most frequent being tumors of the digestive organs.

In terms of specific causes of death, AIDS ranked first, with 413 certified deaths (5.2% of the total), followed by diarrheas and infectious gastroenteritis (5%), with 398 deaths, with 180 of the deaths from diarrhea (45%) occurring in the group aged 15–49 years. Cerebrovascular accidents were in third place, with 278 deaths (3.5%), followed by pneumonias (180 deaths), other car-

TABLE 2. Mortality, by broad groups of causes and sex, Haiti, 1999.

Broad group of causes	ICD-10 code	Females		Males		Unknown		Total	
		No.	%	No.	%	No.	%	No.	%
Communicable diseases	A00–B99, G00–G03, J00–J22	732	18.5	821	20.6	7	15.2	1,560	19.5
Malignant neoplasms	C00–C48	119	3.0	95	2.4	—	—	214	2.7
Diseases of the circulatory system	I00–I99	371	9.4	293	7.4	—	—	664	8.3
Certain conditions originating in the perinatal period	P00–P96	137	3.5	119	3.0	8	17.4	264	3.3
External causes	V01–Y89	109	2.7	237	5.9	1	2.2	347	4.3
All other diseases		642	16.2	464	11.6	9	19.6	1,115	13.9
Ill-defined causes	R00–R99	1,855	46.8	1,957	49.1	21	45.7	3,833	47.9
Total certified deaths	A00–Z99	3,965	100	3,986	100	46	100	7,997	100

diopathies (163), tuberculosis (162), and causes related to maternity. Of the 10 leading causes of death in women, the first three coincide with the general pattern, but maternal causes come fourth, with 157 deaths. Diabetes (85 deaths) and arterial hypertension (68) occupy seventh and ninth place, respectively, while in men the latter two are replaced by external causes and assaults.

HEALTH PROBLEMS

By Population Group

Children (0–4 years)

Infant mortality increased from 73.8 per 1,000 live births in 1996 to 80.3 per 1,000 in 2000. This indicator is calculated from the results of a representative national survey based on a stratified sample of 9,831 households. The rising rate is associated with increased poverty, deficiencies in the health system, and the impact of the AIDS epidemic, both because of the number of children infected by their mothers and because of the number of orphans left abandoned and vulnerable. According to the same survey, neonatal mortality increased during the same period from 31.2 to 32.2 per 1,000 live births, and postneonatal mortality rose from 42.8 to 48.1 per 1,000.

Acute diarrheal disease is the number-one health problem in children: 25.7% of those under 5 years old and 43.4% of those under 1 year had had episodes of diarrhea in the two weeks prior to the survey, but only 40.7% of those under 5 and 45.3% of those under 1 year received oral rehydration therapy.

In 1999 there were 1,215 deaths in children under 5 years old, representing 15% of all registered deaths. The leading causes were the same as in 1997 and 1998: intestinal infectious diseases headed the list at 12.1% of the total, followed by infections of the perinatal period (10.2%), malnutrition (9.1%), and acute respiratory infections (6.9%). AIDS was among the 10 leading causes of death in this age group, reflecting the importance of vertical HIV transmission in Haiti. HIV/AIDS accounted for 3.6% of all registered deaths, with no difference between males and females.

Schoolchildren (5–9 years)

In Haiti the school-age population is considered to be the group ranging from 6 to 24 years of age, since more than 80% of the pupils are older than their grade because of constant delays, mainly for economic reasons. In 2000 the population between 5 and 9 years of age was estimated at 1,053,610, or 13% of the total, while the group aged 6–24 years represented 44%. Because of poverty conditions and the fact that 89% of the schools are private, 17.1% of the school-age population was not enrolled in school and 12.5% had never been enrolled. Of this last group, 41.9% were under the age of 10, and 54% were girls.

It is estimated that the AIDS epidemic has left 7.4% of the children and adolescents under 15 years old without a father, mother, or both, and, if all causes of death are included, the proportion rises to 13.2%. At the same time, an estimated 20% of the group under 15 years old are in a state of vulnerability—living in poverty, undernourished, with limited access to education, residing in foster homes where they do domestic work, or else in the street. And that does not include the ones who are HIV-positive or disabled. It has been calculated that some 250,000 children and adolescents are sent to live with families other than their own, in a situation referred to as *restavek*, where they perform domestic jobs for which they receive no compensation—81% of them in rural areas, 75% of them girls, and most of them between 7 and 14 years old. Only 55% attend night school. Four out of five report that they have been subjected to physical violence, and they are also exposed to sexual and psychological abuse. Street children are another vulnerable group: Quisqueya University estimated in April 2000 that their number ranged between 6,500 to 7,800.

As the result of an epidemic of measles and an outbreak of polio associated with circulating vaccine-derived poliovirus, priority has been given to vaccinating the population under 15 years of age both in school and at home, the latter based on a house-to-house campaign. No other health sector actions are aimed at this population group, despite various attempts by the Ministry of Health over the last 10 years through the school health service, which has yet to organize a model for the delivery of health care.

In the group aged 5–14 years, infectious and parasitic diseases accounted for 24% of the registered deaths, and typhoid, HIV/AIDS, tuberculosis, and malaria all ranked among the 10 leading specific causes of mortality, with no major differences between the sexes. However, external causes represented 10% of all causes of death, with 26 cases of traumatic injuries, 17 of them inflicted on women (65%), and 9 deaths from transport accidents, 8 of them in boys.

Adolescents (10–14 and 15–19 years)

Adolescence is defined as ages 10 through 19, while youth goes up to age 24. Haiti has a young demographic structure, with 60% of the population under 24 years old. In 1999 the median age was 20 years.

According to the death certificates for 1999, adolescents and youth accounted for 8% of the deaths in the country. HIV/AIDS was the leading cause of death in this age group, accounting for 5.8% of all certified deaths, a higher level than it had been in 1997 and 1998. Among the 10 leading specific causes of death in this population group were assault and homicide, tuberculosis, typhoid, and causes related to maternity. In 1999 there were 157 maternal deaths, 35 of which (22%) were reported in the group aged 10–24 years. The State has no specific health services for adolescents and youth, and health personnel have received no specialized training in this area.

The fertility rate in girls aged 15–19 increased from 76 per 1,000 to 80 per 1,000 between 1996 and 2000, and in women 20–24 years old it rose from 178 to 187 per 1,000. In contrast, the fertility rate in women aged 25–29 declined from 233 to 204 per 1,000. For all age groups the rate is higher in rural areas. Among girls aged 15–19 years, 0.3% had had an abortion, while in the 20–24 age group the proportion was 1.2%, and 0.7% had had two abortions.

The average age at which men had their first sexual relationship was 18.5 years, and for women the age was 19 years. In a 1992 survey conducted in Cité Soleil (the poorest, most marginalized area of Port-au-Prince), 8.3% of the young people reported having had their first sexual encounter between the age of 7 and 11. Of the girls 15–19 years old living in consensual unions, 16% were using some method of family planning, and the percentage increased to 32% in women aged 20–24.

The prevalence of sexually transmitted infections in adolescent males 15–19 years old was 9.9%. In the group aged 15–24 the prevalence of HIV infection was estimated at 3.8%; that of syphilis, 6.7%; and hepatitis B, 3.2%. Surveys show a high level of knowledge about the prevention of AIDS, and condoms are cited as the best method for preventing infection, but even so, their use continues to be very limited. In one survey, 18% of the females and 33% of the males stated that they had used a condom in their last sexual encounter. Condom use varies with level of schooling; youth who had completed high school had a tendency to use condoms more frequently (17% of the women, and 30% of the men) compared with those who had only primary education. Among those who had had no schooling at all, condoms were used by only 1% of women and 2% of men.

Violence and sexual abuse are very frequent in this population group: 29% of the girls say that they did not consent to their first sexual relationship, 37% of the cases of violence reported by women are sexual abuse, and 70% of adolescent girls and women have been exposed to violence in some form. Of those affected by violence, 37% cited assault or sexual abuse, 15% were under 15 years old, and 3% were under the age of 10. At the same time, 62% of the women between 15 and 29 years old were unemployed, and 6.6% were heads of household.

Data from 1999 indicate that 61% of all registered alcoholics and drug addicts were between 10 and 25 years old. In the group aged 10–24 years the leading cause of mortality was AIDS, representing 10% of all registered deaths with specifically defined causes, followed by intestinal infections (9.6%), causes related to maternity (8.8%), external causes (8.8%), and finally typhoid, the fifth-ranking cause of death in this age group.

Adults (20–59 years)

The age group of those 20–59 represents 40% of the total population. It encompasses both the population of reproductive age and the national workforce. The fertility rate declined from 6.0 children per woman of childbearing age in 1977 to 4.8 in 1994,

and the estimated rate for 2000 was 4.7 children per woman, with variations by place of residence (5.8 in rural areas and 3.2 in the Port-au-Prince metropolitan area). In 2000, 99% of the women had information about at least one modern family planning method, most notably the pill, injections, and the condom, and 71% knew about at least one traditional method. Of all women with a regular partner, 22% were using a modern method (50% of them used injections) and 5.8% were using a traditional method. These percentages were higher than they had been in 1994 (13% and 4.4%, respectively).

AIDS is the leading cause of death for the population 15–49 years of age, accounting for 11.2% of all registered deaths and 21.6% of deaths with specifically defined diagnoses. Intestinal infections come second, and maternal causes rank third. Ill-defined causes represent 48% of all deaths in this age group.

The maternal mortality rate in 2000 was 523 per 100,000 live births, a 15% increase relative to 1995, when it was 457 per 100,000. Causes related to maternity are the second most important cause of death in women 15–49 years old (the first being AIDS), and they represent 17.7% of all registered deaths with specifically defined diagnoses. Among maternal causes, problems relating to arterial hypertension and eclampsia are the most frequent, followed by complications of labor such as hemorrhage. Seventy-eight percent of pregnant women had prenatal checkups with a health professional (physician, nurse, or nursing auxiliary). This figure was a 15% increase over 1995, when 67.7% had prenatal monitoring. Delivery care by a health professional or trained midwife also increased, from 46.3% in 1994 to 59.8% in 2000.

The Elderly (60 years and older)

The over-60 population represents 5.9% of the total (5.5% of all males and 6.3% of all females). There is no definite social security policy for this population group, despite efforts of the State, which agreed to grant a retirement pension through the Ministry of Finance to employees who had completed 25 years of service and were at least 50 years old. The National Office of Old Age Security, created in 1965, brings together 1,323 affiliates in the private sector. In addition to its headquarters, this agency has 10 offices, located in the Port-au-Prince metropolitan area and in six cities of the interior. In 1999–2000 it insured 64,853 individuals, or 0.8% of the total population. It paid out 166 pensions in 1997–2000; 80% of the beneficiaries were men, and the average benefit paid was under G1,000 a month (US\$ 45). However, because of the high level of unemployment, most older adults are not eligible for this pension benefit.

There are no health programs for older adults. According to Haitian tradition and culture, the elderly stay in the home and are cared for by their families. However, this situation is beginning to change, and private nursing homes for seniors are starting to appear, although because of their cost they are accessible to only a minority of the population. Nine municipal governments offer a

small amount of financial assistance for nursing homes for the poorest persons.

In 1999 the causes of death were mainly noncommunicable diseases. Diseases of the circulatory system accounted for 39% of the deaths with a valid diagnosis. Cerebrovascular accidents, arterial hypertension, and cardiopathies accounted for a larger proportion of deaths in women (55%). According to the registered deaths, diabetes had a male-female ratio of 2:1. Malignant neoplasms of the digestive organs, along with tuberculosis and HIV/AIDS, were among the 10 leading specific causes of death in the adult population.

Family Health

Constant displacement and migration abroad are causing the family structure to break down in both urban and rural areas. In the large cities a single dwelling may be occupied by several families as a result of migration or of children being orphaned. In urban areas, 48% of single-parent families are headed by women, compared with 33% in rural areas. There are no programs geared to family health.

Workers' Health

There is no reliable information available on the health situation of workers, the majority of whom are in the informal sector, nor is there a health program that takes occupational risks into account. The employment rate is 46%, and the informal sector (composed mainly of women) and the agricultural sector together make up 96% of the working class. No services are provided for the informal sector, nor do these workers have any social security benefits, except in the case of sexual workers, disadvantaged children, and the disabled. The law provides three months of maternity leave for employed women, but almost the entire working class is beyond the reach of health and protection services, save for routine health services. Government workers have a poorly organized insurance system, while the health of employees in the private sector comes under the responsibility of the Office of Medical Insurance and Maternity, an autonomous centralized entity with a hospital that offers basic services plus some specialized services such as traumatology. In addition to medical care, an indemnity is paid to beneficiaries in the event of temporary incapacity or permanent disability; in 1999–2000 it was paid to 559 persons, 90% of them men. The number of enrollees fell to 43,698 in 1999–2000, versus 50,935 in the preceding period.

The Disabled

In 1998 the Ministry of Health estimated that 525,000 Haitians (7% of the total population) had some form of disability, and half of them were under 15 years of age. The most frequent disability was blindness; it was estimated that 1% of the population was blind and that between 75,000 and 200,000 had vision problems because of traumatic injuries, glaucoma, cataracts, infection of the cornea, and diabetic retinopathy.

Border Populations

Little information is available about the health situation of the people who live on the border and cross over into the Dominican Republic for shorter or longer periods, most of them to work in the sugar cane fields. Nor are there concrete figures on the number of Haitians living in the neighboring country, which could range from 250,000 to 1 million. According to a socioeconomic survey conducted in the communities of sugar cane workers in the Dominican Republic, 27.5% of the mothers stated that they were of Haitian or Dominican-Haitian origin. Also, 76% of the women and 46% of the men born in Haiti had had no schooling, compared to 24% of the Dominican women and to 21% of the Dominican men. The survey also found that there was less knowledge about and less use of methods to avoid HIV infection among the Haitian population, and that 20% of the children under 5 years old with Haitian mothers were suffering from moderate or severe malnutrition.

By Type of Health Problem

Natural Disasters

Haiti is susceptible to hurricanes because of its geographic location, and it is particularly vulnerable to their damage because of environmental degradation and the precarious state of homes, which are often built on unstable terrain near steep embankments or swamps. At the same time, because of the severe deforestation that has taken place throughout the island, even normal rains can cause floods in Port-au-Prince and other urban areas. In September 1998, Hurricane Georges claimed 230 lives, caused damage or injury to 344,000 persons, battered 13,000 homes, killed 40,000 head of cattle, and destroyed about 100 km of roads, for a total estimated loss of US\$ 161 million. In November 2000 torrential rains caused major damage in the Department of the North: 14 deaths, 300 homes destroyed, extensive losses of sugar cane and corn crops and of livestock, and the displacement of more than 23,000 persons. Haiti is also at high risk for earthquakes, since it has eight tectonic faults, two of them major: one located in the extreme north and the other crossing the country from east to west.

In November 2000 the government adopted a National Plan for Disaster Management and Preparedness, which had been developed with the assistance of agencies in the United Nations system.

Vector-borne Diseases

In Haiti *Plasmodium falciparum* malaria is endemic, with it sometimes becoming epidemic, and with the highest levels of transmission in rural areas and during the rainy seasons, from March to May and October to November. In 1999 there were 59 deaths from malaria (with 90% underregistration), and a total of 973 cases were reported to the Ministry of Health. However, this

figure does not reflect the real number; there is no epidemiological surveillance system for malaria, and the reported cases were from only four departments. According to entomological studies conducted 15 years ago, there are five species of *Anopheles* in Haiti, and the principal malaria vector is *Anopheles albimanus*, which is widespread throughout the country and becoming progressively more resistant to DDT. A joint five-year project is being undertaken with the Dominican Republic to eliminate malaria from the island.

As for dengue, there is no structured program aimed at prevention and control of the disease. At the same time, epidemiological data are insufficient to estimate the magnitude of this problem in Haiti. In 1999 two cases of dengue were reported to the sentinel epidemiological surveillance system, but neither of them was confirmed because there is no public health reference laboratory. In 2000 the network of Cuban physicians participating in that country's technical cooperation program reported a total of 59 clinical cases of dengue. The *Aedes aegypti* vector is present throughout Haiti, especially in urban areas, where accumulations of garbage provide propitious breeding sites, especially during the rainy seasons. There have been no known cases of hemorrhagic dengue.

Lymphatic filariasis is widespread in urban areas, especially in the Department of the North on the Gulf of Gônave, where it is a major public health problem. The entire country is at risk for transmission of this disease, since the vector, *Culex quinquefasciatus*, tends to breed in urban areas and along coastal areas sheltered from the wind. In cities such as Léogâne, Arcahaie, and Limbé the rate of microfilaria carriers exceeds 20%, and preliminary surveys conducted since 1999 to detect presence of the infection indicate that municipalities in the Department of the North and the Department of the Center have positive rates of over 30%.

Diseases Preventable by Immunization

No cases of measles were reported between 1994 and 2000. During the first quarter of 1995 the Ministry of Health conducted a vaccination campaign against this disease that achieved 95% coverage of children between 9 months and 10 years of age. However, vaccination efforts were not continued during 1995–1999, and as a result, by 2000 about 1 million children under 5 years of age were susceptible. This situation set the stage for the outbreak of an epidemic on 8 March 2000 in the city of Gonaïves, in the Department of the Artibonite. During that year there were a total of 990 confirmed cases, most of them in the metropolitan area of Port-au-Prince. The viral genotype identified was the same one that was circulating in the Dominican Republic and other countries of the Americas. To combat the epidemic, the Ministry of Health immediately launched a door-to-door vaccination campaign in Gonaïves, and within two weeks the children under 10 years old in the main cities of the Department of the Artibonite had been vaccinated. However, de-

spite the effort to contain the epidemic, cases were confirmed in various municipalities throughout the country, and a national campaign was undertaken to vaccinate all children between the ages of 6 months and 14 years (3 million in the entire country). By the end of 2000, measles vaccination coverage had reached 75% (Figure 3), with a range of 50% to 100% in the country's 133 municipalities.

The last case of poliomyelitis in Haiti was confirmed in 1989, and the disease was declared eradicated from all the countries of the Americas in September 1994. However, vaccination coverage was not satisfactory and it was not possible to establish surveillance of this disease because the number of cases of acute flaccid paralysis was insufficient. In 2000 a case of acute flaccid paralysis was reported in a 2-year-old girl living in Danse à l'Ombre, Department of the Northwest. Virologic studies identified a poliovirus derived from the Sabin type 1 vaccine that had become modified by successive mutations through transmission between unvaccinated children over a period of probably one and a half to two years. The virus that was isolated differed from the Sabin type 1 virus in 24 of its nucleotides. Seven more cases occurred in 2001, the last one in July. To bring this epidemic under control, two house-to-house polio vaccination campaigns were conducted in 2001 (May–June and September–November). Coverage in the first campaign was 100%, and extensive monitoring of the house-to-house exercise confirmed high rates of coverage in all the departments.

Diphtheria cases are confirmed based on their clinical and epidemiological characteristics. Eight cases of diphtheria were reported in 1999, seven of them in the Department of the West. Neonatal tetanus continues to be a public health problem: 38 cases were confirmed in 1999, and 60 were reported in 2000. However, it is thought that the true number of cases is much greater, given the deficiencies in the epidemiological surveillance system, in which fewer than 10% of the health services in the country participate.

Intestinal Infectious Diseases

Diarrhea and gastroenteritis are the second leading cause of death in the general population, especially children. Typhoid was also among the 20 most frequent causes of general mortality in 1999; although it is not subject to surveillance, it accounted for 67 registered deaths that year. There have been outbreaks in closed communities, where the case-fatality rate is high.

Chronic Communicable Diseases

Tuberculosis is the sixth most important cause of death in the country, and it continues to be endemic. In 1998 the estimated prevalence was 123 per 100,000 population, and in 1999 a total of 9,124 cases, including all forms of the disease, were reported, for a prevalence of 114 per 100,000 population. In 1998–1999 the rate of cases diagnosed on the basis of positive sputum smear was 84 per 100,000 population, and 6,750 new cases were re-

ported. The health services network involved in the directly observed treatment, short course (DOTS) strategy is incipient: as of the year 2000 there were 200 health establishments (one-third of the total) participating in the national network engaged in combating this disease. The mobility of the population and difficult access to health services are factors that hamper follow-up of patients and lead to dropping out of therapy or to treatment failure. The AIDS epidemic has aggravated the tuberculosis situation, since TB is one of the infections most frequently found in persons with HIV. So far, there is insufficient information on the extent of this association.

Although the true prevalence of leprosy is unknown, it can be said that the disease is certainly still endemic in Haiti. The fight against this disease has been led mainly by agencies in the non-profit private sector such as the Famme Pereo Institute, located in Port-au-Prince, and the Cardinal Leger Institute, in the Department of the Artibonite. Of the cases registered by these agencies in 1996 and 1997, 81% were paucibacillary (or tuberculous). These centers still receive some reports of cases of deformation as a result of leprosy.

Acute Respiratory Infections

Surveys of morbidity and mortality conducted at the national level in 1987 and in 1994–1995 showed that about 20% of the children under 5 years of age had experienced cough and rapid breathing in the two weeks before they were interviewed, and the percentage was even higher in younger children. Only one-fifth of these children are taken to the health services, with notable differences depending on the level of schooling of the mother and place of residence (rural or urban). According to the death certificates recorded in 1999, there were 209 deaths attributable to acute respiratory infections, 97 of them in children under 5 years old.

Zoonoses

During 1995–2000 there were 22 reported cases of human rabies and 44 cases of laboratory-confirmed canine rabies. Most of these cases were from the Port-au-Prince metropolitan area. Rabies is a public health problem of the utmost importance. At present, many reported foci are not investigated because of deficiencies in the epidemiological surveillance system. Prevention measures such as canine vaccination have been stepped up. In the year 2000 alone, nearly 30,000 dogs and cats throughout the country were vaccinated. In 2000 approval was given to a technical cooperation project to be carried out jointly with the Dominican Republic for prevention campaigns in cities along the border shared by these two countries.

Carbuncle is endemic in the departments of the North, Southeast, and the Artibonite. These three departments have active foci, and the Ministry of Agriculture is conducting vaccination there, although the activity is sporadic and there is little community participation. Data on morbidity and case fatality rates are unavailable.

HIV/AIDS and Sexually Transmitted Infections

HIV/AIDS is the most important of all the sexually transmitted infections that occur in Haiti, with 4.5% of the population infected. The virus affects both men and women of reproductive age, causes death at a young age, and leaves vulnerable populations behind, such as orphaned children. Among certified deaths, HIV/AIDS infection was the leading cause in 1999, with 413 deaths, or 10% of all registered deaths with a specific diagnosis. In women of reproductive age, AIDS was responsible for 20.5% of all registered deaths. It is estimated that every year there are some 13,000 pregnant women who are HIV-positive, and that 30% of their children (3,900) will be born with the infection. A project on the prevention of mother-to-child transmission is still in the incipient stage and is currently being carried out on a pilot basis in three health institutions.

Prevention efforts are still inadequate, in part because the Ministry of Health has not been able to standardize and organize the interventions of the different players involved: the public and private sector, nongovernmental organizations, and international agencies. Since 1991 the Ministry of Health has not carried out epidemiological surveillance for AIDS in the health services, which would provide information on the progress of the epidemic and the characteristics of the affected population. Surveillance has been based solely on cross-sectional studies conducted every four years that measure seroprevalence in pregnant women and on other studies recommended by PAHO/WHO for estimating prevalence in the general population. Three sentinel studies have been conducted in pregnant women, yielding prevalence rates of 6.2% in 1993, 5.9% in 1996, and 4.5% in 2000. However, this slight decline does not necessarily mean that the risk has diminished, since the percentage of positive responders increased between 1996 and 2000 among women under 20 years old. Indeed, it is possible that the lower prevalence is due to the high number of deaths from AIDS.

Migration to urban areas and other countries of the Caribbean, especially the Dominican Republic, has favored HIV transmission. In terms of human rights, there is no legislation to protect persons with HIV/AIDS, women who are victims of rape, or young girls who are forced to have sexual relations. Persons with HIV/AIDS are victims of discrimination, rejected by society and their own families, abandoned, and often only accepted by charitable institutions, where they eventually die. There is no possibility of access to triple-drug therapy.

The sentinel survey of pregnant women also screens for cases of syphilis and hepatitis B. The latest study, conducted in 2000, showed positivity rates of 5.6% for syphilis and 3.8% for hepatitis B. The surveys also showed that seropositivity for HIV increased from 2.1% to 13%. Blood transfusion centers are another source of information. Between October 1999 and September 2000 the screening of 3,948 prospective donors showed that 1.4% were positive for HIV, 3.6% for hepatitis B, 0.1% for hepatitis C, and 0.8% for syphilis. The population examined has previously

responded to a survey to determine risk behaviors. The use of the syndromic approach to the diagnosis and treatment of sexually transmitted infections is not yet sufficiently developed in the health services.

Nutritional and Metabolic Diseases

In 1995 a nutrition survey was conducted in all the departments of the country, and since then a reference document has been prepared assessing the nutritional status of children under 5 years old. According to the survey, overall malnutrition was 67.3%, with the highest level in the Department of the Center (75%) and the lowest in the Department of the Northeast (52%). Chronic malnutrition affected 65.5% of the population, with extremes of 72% in the Department of the Center and 52% in the Department of the Northeast, while acute malnutrition was 34%, with variations ranging from 48% in the Department of Grand'Anse and 25% in the Department of the West. In the certified deaths that were studied, malnutrition ranked eighth among the causes of general mortality, with 145 deaths, 76% of them in children under the age of 5 years. It is not possible to obtain exact information on nutritional anemia in preschool children, but the prevalence is believed to be high because of the endemicity of malaria, helminthiasis, and other predisposing factors as well as widespread poverty.

Vitamin A deficiency is also a public health problem, and the State provides supplements of this vitamin through the health system. According to studies on vitamin A conducted by UNICEF in 1977 in the departments of the Northeast and Northwest, the prevalence of conjunctival xerosis was 9.7 per 1,000 and corneal ulcers, 2.5 per 1,000. A 1997 study of household and maternal determinants of vitamin A and iron status conducted in 226 Haitian preschoolers aged 24–60 months showed that stunting (low height-for-age) was severe in 31% of the sample and moderate in 23%, while 36% had low weight for age, and wasting (low weight-for-height) was found in 4%. At the same time, 92% had a deficiency, or were at risk for a deficiency, of vitamin A. The mean plasma vitamin A concentration for all the children was 12.5 µg/dL, while boys had significantly lower plasma retinol values (11.7 µg/dL, SD 4.9) than girls (13.2 µg/dL, SD 4.9), and 20% of the study population was iron-deficient, with serum ferritin levels of less than 12 ng/mL. Numerous foci of iodine deficiency have been found in the country, and cases of cretinism were reported in the Department of the Center.

A nutrition survey conducted in 1995 showed that only 1% of newborns received early breastfeeding, between 15% and 36% of the children were exclusively breast-fed, and 96.3% were breast-fed at some time. There were no differences in terms of sex, but the percentage was higher in rural areas (97.8%) than in the cities (94.9%). In 2000 the prevalence of exclusive breastfeeding for 0–5 months increased to 49%, and nonexclusive breastfeeding rose to 99%. Moreover, 25.9% of the babies were breast-fed for 23 months. At the same time, however, exclusive breastfeeding

of infants 0–3 months old was only 3.3%, and 34% of those 0–5 months old also received powder-based infant formula.

Diseases of the Circulatory System

According to the certified deaths that were studied, cerebrovascular diseases are the third leading specific cause of death, other cardiopathies are in fifth place, diabetes ranks tenth, and arterial hypertension is in eleventh place. It is interesting to note that there are more registered deaths among females than among males, and this pattern is consistent in the different age groups. Race-related factors, excessive salt intake, and overweight are risk factors for cardiovascular disease in the younger age groups.

Malignant Neoplasms

Malignant neoplasms were not among the 20 leading specific causes of mortality in Haiti in 1999, since they corresponded to only 2.5% of all registered deaths with a certified diagnosis. There were a total of 196 cases of malignant neoplasms, 111 in females and 85 in males. Malignant tumors of the digestive tract headed the list (66 cases), followed by malignant neoplasms of the male genital organs (33 cases). However, this information is not conclusive because of the sizable underregistration of deaths and also because the National Health System does not have efficient means for performing histopathological diagnosis.

Accidents and Violence

Accidents and violence contribute significantly to morbidity and mortality in Haiti, especially among the economically active population and among adolescents and youth. In 1999 transport accidents stood in twelfth place among the causes of general mortality, with 98 deaths, and assault with a firearm was in sixteenth place, with 70 deaths, 56 of the victims being men.

Oral Health

No information on the subject of oral health is available at the national level. Surveys conducted in small localities have found a 37% prevalence of caries in 12-year-old schoolchildren. A 1996 study conducted in Jérémie revealed that 50% to 79% of the adults had at least one missing tooth, while only 1% of the group aged 17–59 years had teeth with fillings.

Emerging and Re-emerging Diseases

In 1998 there were 61 cases of meningococcal meningitis and in 1999 there were 56, with a case-fatality rate ranging from 20% to 30%. The epidemic in 1994–1997 led to strengthening of the epidemiological surveillance system, despite its limitations, and made it possible to identify outbreaks in more than 27 of the country's municipalities and take steps to control them. In all, 667 cases occurred, with a case-fatality rate of 31%. Half these cases were reported by the National University Hospital of Haiti (HUEH) in Port-au-Prince. The age group most affected was children and adolescents 5–14 years old, and the strains

identified corresponded to *Neisseria meningitidis* serogroups B and C.

RESPONSE OF THE HEALTH SYSTEM

National Health Policies and Plans

In 1998 the Ministry of Health published its national health policy, which recognizes health as a fundamental human right of all Haitians, without discrimination, and emphasizes health's direct relationship to human development under the principles of equity, solidarity, and social justice. The document refers to the difficulties the Ministry has had to face, with inadequate human and financial resources to meet its objectives for serving a nation immersed in poverty and with great health needs.

The National Health Policy calls, in the first place, for strengthening the Ministry's steering role in the planning, execution, and evaluation of health programs. The Municipal Health Units (UCSs) are decentralized administrative units responsible for carrying out a series of health activities of assured quality with the participation of the community. Although traditional medicine, which in Haiti has magical and religious connotations, is recognized and is widely practiced, it does not receive direct support from the health sector.

Health Sector Reform Strategies and Programs

Following the Declaration of Alma-Ata in 1978, the government adopted the primary health care strategy, which has served as the basis for national health programs such as immunization, diarrheal control, and the promotion of breastfeeding; nutrition; maternal and child health; tuberculosis control; and malaria control. The program to combat AIDS was added more recently. These are vertical programs, and their activities are executed by the health services with the participation of the community, bearing in mind the principles of quality, effectiveness, and financial sustainability. Primary health care is currently the overriding strategy in the national policy. It is provided in the form of a minimum package of services that includes health care for children, adolescents, and women; emergency medical and surgical care; communicable disease control; public health education; environmental health; water supply; and the supply of essential drugs. However, this minimum package of services has not yet been institutionalized in the health services, and in the meantime the national programs have limitations that prevent them from offering full coverage throughout the country.

The second most important strategy is reorganization of the health system, which includes functional decentralization of the Ministry based on the UCSs. To implement the decentralization process, commitments have been defined at the central and departmental levels, and the latter has been given the administrative authority to manage financial resources as well as responsi-

bility in the planning, follow-up, and evaluation of health programs through the UCSs. However, the decentralization process is still incipient, and no concrete steps have been taken to initiate or give sustainability to the UCS initiative on a national basis. Other important lines of strategy in the national health policy are: development of an efficient financial system, strengthening of community participation, creation of opportunities for intersectoral coordination, coordination and articulation of the various actors in the health system, development of a human resources policy, research focused on problem-solving, and health legislation to safeguard the interests of the people.

The Health System

The health system includes the following: a) the public sector, consisting of the Ministry of Public Health and Population and the Ministry of Social Affairs; b) the private for-profit sector, encompassing all the health professionals who work in private practice, either independently or in clinics; c) the mixed nonprofit sector, including Ministry of Health personnel working in institutions that are in the hands of the private sector, typically nongovernmental organizations (NGOs) or religious organizations; d) the private nonprofit sector, consisting of NGOs, foundations, and associations; and finally, e) the traditional health system.

The central organization of the Ministry of Health, headed by the minister and the director general, consists of a number of central bureaus (for example, Public Hygiene, Family and Child Health, External Cooperation) that execute the health programs. The exceptions are the AIDS and tuberculosis programs, which are directly under the Office of the Director General. In addition, there are 10 health directorates, one for each of the nine departments and the Nippes Coordination, which are headed by a departmental health director and staffed by professionals who manage the national programs. Under the health directorates come the UCSs (which usually bring together several health services), whose number and location are dictated by the size of the population under their jurisdiction and whether they are in an urban or a rural area.

Because of the country's political problems in recent years, little progress has been made in health legislation. The most recent organic law is dated 1983–1984, but since then new structures have been created, even though they have not had any juridical basis, which are consistent with the resolutions the country has supported in international meetings on health and development. The new parliament is expected to approve the Law on Health and the Law on Drugs, among others, and to establish a Health Commission to support these processes.

All health system institutions are overseen and coordinated by the Ministry of Health, in its regulatory and normative role. However, the Ministry has been unable to assume this leadership role because its structures have received no support in recent years, especially during the embargo. Resources from interna-

tional cooperation agencies have been directed more toward the nonprofit private sector, with the result that some of these institutions have greater capacity than the public sector. The Ministry of Social Affairs is theoretically responsible for the health of workers in the formal private sector, and for this purpose it has various decentralized agencies, the most important of which are the National Office of Old Age Security; the Office of Insurance for Workplace Accidents, Sickness, and Maternity; and the Institute of Social Welfare and Research. Private for-profit activity is concentrated in the Port-au-Prince metropolitan area, where most health professionals practice. Private institutions, including clinics, laboratories, and pharmacies, operate without any significant restrictions and without participating in the health programs or surveillance systems.

The health services reach 60% of the population. They are distributed as follows: public sector, 35.7%; mixed public-private sector, 31.8%; and private sector, 32.5%. There are 371 health posts; 217 health centers, some of which have beds; and 49 hospitals, located mainly in the department capitals. Some of the hospitals are specialized, including the National University Hospital of Haiti, which is the national reference hospital, although its operations are hampered by financial limitations. The bed ratio in national institutions is 86 per 100,000 population, with extremes ranging from 37 per 100,000 in the Department of the Southeast to 127 per 100,000 in the Department of the West. Even though there are health posts in the municipalities, their number is insufficient to take care of the population's needs.

It is estimated that 40% of the population have no access to health services and rely on traditional medicine. Most of these people reside in rural areas, where 13% of the inhabitants live more than 15 km from the nearest health post; 25% are at least that distance from the nearest health center; and 45%, from the nearest hospital.

Organization of Health Regulatory Actions

The formulation of strategies and the execution of activities aimed at guaranteeing minimum services are hampered by an inadequate legal framework that has not been kept up to date and by deficiencies in the institutional framework. The absence of basic laws and the failure to comply with the outdated ones that do exist is creating an anarchic situation in which the State is unable to regulate, supervise, or inspect the quality of the services and supplies that are offered.

The nation's laws governing the safety and efficacy of drugs were enacted in 1948 and 1955. In 1997, within the framework of the first World Bank project, the Ministry of Health drafted a law on this subject with technical assistance from PAHO/WHO, but as of the end of 2000 it still had not been approved because of political problems. The Bureau of Drug and Chemical Substance Control (Ministry of Health), created in 1997, is responsible for the regulation of these products, but it does not have either the

means or the capacity to carry out its mandate, and the situation is aggravated all the more by the lack of competent human resources. In June 1999 the Ministry of Health created the Bureau of Health Service Organization, and the Essential Drug Service now comes under this agency.

Environmental Quality

Because of the poverty in rural areas, peasants are obliged to cut down trees to build makeshift dwellings and, even more important, to cook their food. Indeed, 71% of the energy consumed in the country comes from wood and charcoal, with the result that only 3% of the land area is covered by natural forests. Smoke fills the air inside the cramped dwellings, giving rise to respiratory problems, especially among children. About 10% of the homes of the population that earns less than G1,000 a month (US\$ 45) are built on unsafe terrain such as embankments or swamps and have an average area of 9.5 m² for a family of six to eight persons. In the slums of Port-au-Prince the population density can be as high as 1,800 per hectare. Because of the unequal distribution of income (4% of the population holds 66% of the national wealth and 10% of the population has almost nothing), the poor are forced to turn to nature in order to survive. The use of inappropriate agricultural practices on steep terrain accelerates soil erosion, then tropical rains wash the soil out to the ocean, clogging urban sewers with mud on the way. The surface water is contaminated with organic waste because of the ineffective management of excreta and household refuse. As a result of excessive exploitation of the phreatic layer in the Cul-de-Sac plain (Port-au-Prince), both for irrigation purposes and for drinking water, a saltwater front is gradually invading the subterranean freshwater.

Organization of Public Health Care Services

Health Promotion

Two developments are of note in the area of health promotion: creation of the Health Communication and Education Unit, and official adoption of the National Health Promotion Charter. From the organizational standpoint, communication activities are integrated into various Ministry of Health programs, and these programs collaborate with the health media. There is an association of journalists working in this field, as well as a Haitian press federation, both of which have socially conscious aims.

The healthy municipalities initiative got under way at the end of 1998, and by 2000 eight municipal governments had joined in this endeavor. The first national network was established in collaboration with the Ministry of Health.

Disease Prevention and Control Programs

High priority is given to AIDS and tuberculosis control, and these programs receive support from the financial institutions

that work in the health area. In addition, networks have been developed in which NGOs and public and private health services cooperate in carrying out prevention strategies and activities. Under the tuberculosis program, 200 health services are participating in the DOTS strategy and have set up their own monitoring and reporting system. However, this network is not yet sufficiently developed to ensure national coverage. In turn, the AIDS prevention and control program cooperates with NGOs in such undertakings as five-year plans, sentinel serological surveillance, and the prevention of perinatal transmission. In terms of the country's participation in the Expanded Program on Immunization, lack of organization and failure to assess coverage led to the accumulation of a large susceptible population, resulting in an epidemic of measles and an outbreak of polio associated with circulating vaccine-derived poliovirus. Vaccination coverage is shown in Figure 3. The Program on Vector-borne Disease Prevention does not have information on the status of dengue or malaria. A survey of lymphatic filariasis conducted in all the municipalities of the country showed that it is possible to obtain enough basic information to carry out control or elimination activities.

A program for the feeding of schoolchildren and the control of parasitoses was initiated in 2000 with the participation of the French Technical Cooperation Trust Fund, the World Food Program, PAHO/WHO, and the Ministries of Education and of Health.

Health Analysis, Epidemiological Surveillance, and Public Health Laboratory Systems

The health sector has no established health information system that would generate a culture of use and analysis of information for decision-making. The sentinel surveillance system has been limited to the monitoring of nine diseases in 50 health facilities. Until the end of 1999 a local NGO was responsible for this system. Starting in 2000, the Ministry of Health's epidemiology service assumed the task of maintaining it and extending it to the other public health establishments in the country. However, lack of human resources and funds for the purpose has prevented this mission from being accomplished.

With support from PAHO/WHO, epidemiologists from the central and departmental levels came together at a meeting in November 2000 and prepared a Strategic Plan for Epidemiological Development based on six strategic lines of action: 1) ongoing training of epidemiologists through national programs and international courses (the 10 epidemiologists in the sector were trained more than eight years ago), 2) development of a national-level Epidemiological Surveillance System under the responsibility and management of the departments and with the participation of all health institutions, 3) creation of a public health laboratory network and a national reference laboratory, 4) analysis and systematic dissemination of information on the health situation at both the national and departmental level, 5) integration of epidemiological surveillance activities into health programs, and 6) regional integration for the exchange and

analysis of information and subsequent intervention, especially in cooperation with the Dominican Republic.

Potable Water and Excreta Disposal Services

Access to water that is adequate for human consumption is one of the main problems in Haiti, both in rural areas and in the cities. The proliferation of clandestinely built dwellings and installations has made it necessary to limit the availability of piped water to only a few hours a day, and in some cases to cut it off entirely, forcing hundreds of thousands of women and children to go with containers in search of water. The Metropolitan Autonomous Station for Potable Water (CAMEP) is the State enterprise responsible for the distribution of potable water. Its daily output averages between 100,000 and 130,000 m³, compared with an estimated need of 250,000 m³. At the same time, vendors also sell water from trucks, making it a costly resource to which the poor have no access.

In 1999 the potable water supply system reached 47% of the population in the Port-au-Prince metropolitan area, 46% in secondary cities, and 48% in rural areas. Of the country's total population, 34.3% get their water from rivers or natural sources (especially in rural areas), 20.7% use public fountains or taps, 19.4% purchase water in buckets, 11.8% have access to wells, 8.7% have piped water inside the home, 2.7% collect rainwater, 0.3% purchase it from water trucks, and 2.1% have other sources.

Between 1995 and 1999 coverage with excreta disposal systems increased from 43% to 44% in urban areas and from 16% to 18% in rural areas. Household sewage is disposed of using individual sanitation systems such as household latrines, septic tanks, and gutters, when these alternatives are available. Forty-seven percent of the refuse from the capital and 44% from secondary cities is dumped at uncontrolled sites. There is no control over the disposal of hospital waste.

Food Safety

The Ministry of Agriculture has a food control laboratory, but it mainly processes samples for monitoring purposes and plays a minor role in the regulation of imported food. The same is true with regard to food and beverages produced nationally, which are sometimes prepared using traditional methods. It is impossible to exercise any control over the sale of prepared food, most of which is sold in the streets and prepared under unsanitary conditions.

Food Aid Programs

It is estimated that 159,000 tons of food aid were received by Haiti in 1994. In the 1990s, 68% of the food aid came from the United States of America, 9% from the European Union, 7% from Japan, 6% from Canada, 6% from the World Food Program, and 4% from France. Canadian cooperation increased considerably starting in 1997. The principal NGOs that have carried out food aid programs in Haiti are CARE, CARITAS, and Catholic Relief Services, which work in coordination with local nongovernmental organizations and sometimes with the public sector.

Organization of Individual Health Care Services

In the area of mental health, the university-level Mars and Kline Psychiatric Center and the Défilé de Beudet Center are government institutions that operate in the Port-au-Prince metropolitan area. Outside the capital there is no public institution that provides mental health care, but there are a growing number of small private centers. Mental health is not considered a national priority.

Blood banks have been under the management of the Haitian Red Cross since 1986. Although it is not sufficient, financial support is received from several institutions to cover the cost of providing safe blood to public and private health services. The Red Cross has six transfusion centers in the departmental capitals, one of which is at the National University Hospital of Haiti. There are also transfusion centers in private institutions, but they are not part of the national network because the supervision of blood safety cannot be guaranteed. The transfusion centers screen for HIV, syphilis, and hepatitis B and C.

Health Supplies

There are three pharmaceutical laboratories that have been officially designated to produce drugs for national use, and their combined output covers between 30% and 40% of the market in Haiti. As of March 1998 there were 58 entities in the country engaged in importing pharmaceutical products and 5 devoted to distribution. Drugs are dispensed at numerous sites; in addition to official points of sale such as pharmacies (265 of them as of 1998), there is an unauthorized circuit in which drugs are freely sold on the streets, in markets, and at places of business throughout the country.

The public sector has an essential drug program, together with a decentralized logistic system operating in all parts of the country, which guarantees the availability of drugs and supplies in public, mixed, or private nonprofit institutions. The PAHO Essential Drug Program (PROMESS) purchases generic products on the international market and handles their distribution to public health institutions. In 2000 the drugs and supplies distributed to the priority programs were vaccines (US\$ 3.2 million), contraceptives (US\$ 1.1 million), and drugs for the treatment of tuberculosis (US\$ 0.3 million). Of this volume, 58% went to decentralized institutions located outside the Port-au-Prince metropolitan area. The State's total expenditure on drugs and supplies represented 3% of the public health budget in 1996–1997, or 1.6 Haitian gourdes (US\$ 0.10) per capita. The value of drugs and supplies distributed by PROMESS in 1997 came to US\$ 5.7 million (US\$ 0.80 per capita), and in 2000 this figure was US\$ 6.8 million (US\$ 1.00 per capita).

The National Association of Importers and Distributors of Pharmaceutical Products estimated the total value of the private market for pharmaceutical products at between US\$ 25 million and US\$ 30 million in 1999. This amount would correspond to a per capita expenditure of US\$ 3.90, which would mean that 80% of the country's expenditure on drugs is made by the private sector.

With the problems involved in regulating the sector, it is impossible to know the precise volume of pharmaceutical products available on the market. In the public sector there is no national list of essential drugs, nor is there a national formulary that establishes amounts and specifications for the drugs, supplies, and equipment used in public health institutions. To some extent, the basic markets for health technology, drugs, and other supplies are beyond the Ministry of Health's control.

Human Resources

Human resources in the health area are insufficient and unequally distributed in the country. In 1998 the number of physicians was estimated at 2.4 per 10,000 population, and in 1996 the number of nurses was 1 per 10,000 and of auxiliaries, 3.1 per 10,000. In 1998 there were sizable differences in the distribution by departments. In the Department of the West the number of physicians was 5.8 per 10,000 population, whereas in the Department of the Center this figure was only 0.2 and in the Department of the Southeast it was 0.3. The number of nurses ranged from 1.77 per 10,000 population in the Department of the North to 0.2 in the Department of the Center, and auxiliaries ranged from 4.7 in the Department of the South to 1.5 in the Department of the Southeast. Despite the country's needs, lack of funds has prevented the Ministry of Health from creating new positions for physicians and nurses. This situation, along with financial considerations, has prompted many new professionals to go into private practice or to emigrate to other countries.

In 1999 the government signed a bilateral cooperation agreement with Cuba, under which a network of 500 Cuban health professionals have been working in 62% of the municipalities of the country, both in the hospitals and in the primary care health services. This collaboration with Cuba will continue for five years, until the return of a first group of 120 young Haitians now studying medicine in Cuba under another provision of the agreement. These new health professionals will work for the State in their respective places of origin for a minimum of 10 years.

In the past, only the public sector was involved in the training of health personnel, through its School of Medicine and Pharmacy, School of Dentistry, School of Medical Technology, and four national nursing schools, located in Port-au-Prince, Cap-Haïtien, Cayes, and Jérémie. More recently there has been a proliferation of private schools, which has raised the problem of recognition of the diplomas by the State. Of the four private medical schools, only one is officially recognized. Several schools for nurses and nursing auxiliaries are operating without authorization, and others have not been registered. In 1998 there were nine recognized nursing schools, and nine additional ones were being evaluated. In 2000 a school for nurse-midwives was reopened, and it has already produced 45 graduates.

The National University's School of Medicine and Pharmacy graduates about 90 physicians and 35 pharmacists a year. In order for these graduates to obtain a license to practice in Haiti,

the State requires them to devote a year to social service in a public health institution. In the case of graduates of medical schools outside Haiti, a special committee of representatives from the School of Medicine and Ministry of Health reviews the individual's file and conducts such examinations as may be deemed necessary prior to approval of the candidate, after which he or she must then devote a year to social service.

For the most part, oversight of training of health personnel and of professional practice is ineffective. The lack of a national examination or other official certification is a serious obstacle to standardizing competency in the various health professions. In cooperation with PAHO, the Ministry of Health has begun a review of the current situation and is formulating a national curriculum for nursing studies.

In view of the heterogeneous nature of the health system, the integration of training activities could only be achieved as a long-term objective. Since 1998, with assistance from France, the Center for Public Health Administration Training and Information has been training a dozen public sector hospital administrators and directors each year, and the Haitian Foundation for Diabetes and Cardiovascular Diseases has been offering health workers basic training modules on the timely diagnosis and treatment of diabetes and arterial hypertension.

Health Research and Technology

The Epidemiology and Research Service under the Ministry of Health is responsible for planning and carrying out research contributing to the fulfillment of policies and programs in the area of disease prevention and control. However, financial limitations and lack of personnel trained in the execution and analysis of research have kept the service from carrying out its mandate. Several institutions are conducting research, but their studies are outside the scope of any national committee and are not approved or overseen by the Ministry.

Health Sector Expenditure and Financing

Public funds spent on health represent only 0.8% to 1% of the GDP, even though the State allocates approximately 10.5% of its budget to this area. The Ministry of Health's allocation increased from US\$ 6 million in 1991 to US\$ 57 million in 1999. However,

in real terms the amount is actually less, taking into account inflation and depreciation of the gourde vis-à-vis the US dollar. Since 1996 the allocations have remained unchanged because that year's budget was the last one to be approved by the Parliament. As a result, most of the monies have been spent on salaries, which in 1996–1997 took up 78% of the total Ministry of Health budget. The investment budget depends largely on foreign aid, which during the same period covered 69% of all health expenditures. Overall execution of the investment budget was 49%, with 60% at the central level and 38% in the departments. This gap can be attributed to excessive centralization, cumbersome procedures for requesting funds, and lack of a new national budget since 1996. As a result, activities have slowed down or even halted, and morale is low. With a view to overcoming these hurdles, operational spending was decentralized in 1998 in all the departments except the Department of the West.

External Technical Cooperation and Financing

Nine specialized agencies of the United Nations system have offices in Haiti, and six of these work in the health sector. In addition, there is cooperation with the IDB and the European Union and, bilaterally, with USAID, CIDA, and the governments of France, the Netherlands, and Japan. There is also a representative of the United Nations Secretary General, who mainly handles political matters in close collaboration with the coordinator of the International Civilian Support Mission in Haiti.

The Ministry of Health's Bureau of Planning and External Cooperation coordinates the activities carried out with bilateral, multilateral, and private cooperation agencies in the health field. The United Nations agencies have been especially involved in the following areas: health sector reform, reproductive health, children's health, family planning, vaccination, nutrition, potable water and sanitation, health services development, sexually transmitted infections and AIDS, gender issues in health, and essential drugs.

When Haiti joined CARICOM, regional integration was strengthened. However, there are still not many collaborative activities with the Dominican Republic, with the one so far being a technical cooperation project on the prevention and control of canine rabies that has included field activities, joint meetings, and visits by technicians to both countries.

FIGURE 1. Gross domestic product, annual growth (%), Haiti, 1991–2000.

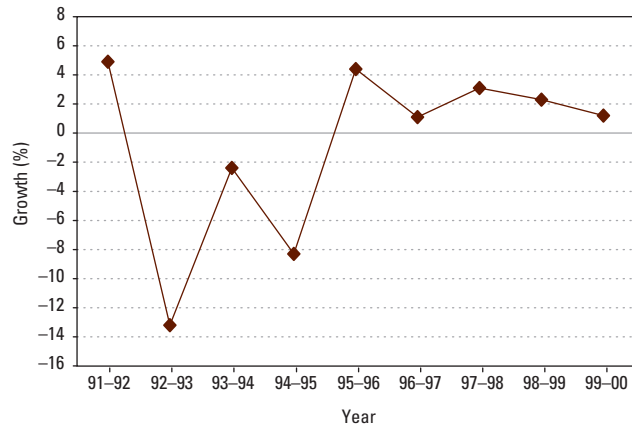


FIGURE 3. Vaccination coverage among the population under 1 year of age, by vaccine, Haiti, 2000.

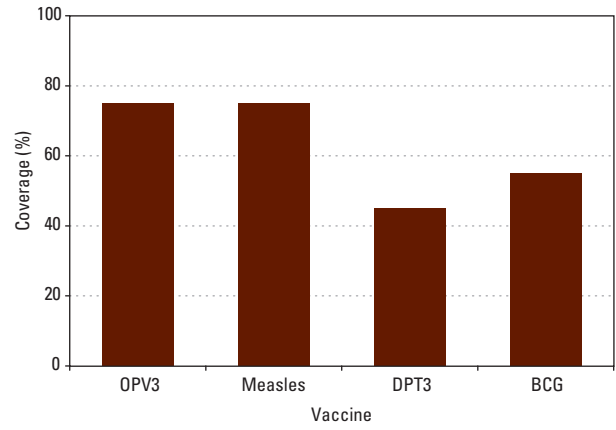


FIGURE 2. Population structure, by age and sex, Haiti, 2000.

