
FRENCH GUIANA, GUADELOUPE, AND MARTINIQUE

GENERAL SITUATION AND TRENDS

Socioeconomic, Political, and Demographic Overview

The French Departments of French Guiana, Guadeloupe, and Martinique, have been integral parts of France since 1946. Although located in the Region of the Americas, they enjoy special protection measures and receive European structural funds designed to assist developing European regions.

The population of the Departments remained stable between the 1960s and 1980s. There were pronounced migrations to France in this period owing to the shortage of labor, which offset a vigorous but waning birth rate. Since the mid-1980s and the beginning of the employment crisis in France, repatriation movements have started with the return of adults or young retirees.

The 1990 census showed an average annual population growth of 1.1% in Martinique, 2.1% in Guadeloupe, and 5.8% in French Guiana for the 1982–1990 period. This growth continues, and in 1996 the population density was 248/km² in Guadeloupe, 353/km² in Martinique, and 2/km² in French Guiana. Population estimates in 1996 were 422,090 inhabitants in Guadeloupe, 383,340 in Martinique, and 151,780 in French Guiana. The population of French Guiana is the youngest, with 36% under 15 years of age, compared with Guadeloupe and Martinique where this age group represents 26.5% and 24% of the population, respectively. In 1994, life expectancy in French Guiana was 78.2 years for women and 71.2 years for men; in Guadeloupe it was 80.2 years for women and 72.7 for men; and in Martinique it was 82.4 years for women and 79.5 for men.

A portion of this population growth is due to immigration from neighboring developing countries. In French Guiana, one-third of the population is foreign; in Saint-Martin (Guadeloupe), the special free-port status and growth in tourism have virtually quadrupled the population in eight years, with a foreign population of about 50%.

Since 1986 fiscal incentives have boosted the building, public works, and hotel sectors. Unemployment rates in Guadeloupe were 27% in 1986, 26.1% in 1993, 26.1% in 1995, and 29.3% in 1996; in Martinique the unemployment rates for these four years were 31%, 25%, 26.1% and 27.2%; in French Guiana the rates were 22%, 24.1%, 23% and 22.4% for the same period.

Registered unemployed and underemployed persons account for half of the active population of the Antilles (Guadeloupe and Martinique), and 44% in French Guiana. On the basis of the 1990 census, a survey conducted by the National Institute of Statistics and Economic Studies (INSEE) defined the high-risk population as households occupying makeshift accommodation without water in or near their dwellings and those with an unemployed head of family. An estimated 22% were considered to be high risk in Guadeloupe, 18% in Martinique, and 30% in French Guiana. Table 1 presents socioeconomic indicators for the three Departments.

Morbidity and Mortality Profile

Among the specific health problems affecting the three French Departments are a high prevalence of sexually transmitted viral infections and an endemic level of dengue with epidemic outbreaks. Among noncommunicable diseases, there is a high prevalence of sickle cell anemia and a high frequency of diabetes and hypertension and their complications (particularly chronic kidney failure). With the exception of cervical and prostate cancers there is a low incidence of malignant tumors. Traffic accidents contribute enormously to years of potential life lost (YPLL).

In 1995, there were 5,383 deaths in French Guiana, Guadeloupe, and Martinique. The most recent information on causes of death is from 1993, since analysis is conducted by the National Institute of Health and Medical Research in Paris. This analysis is independent of the INSEE collection of data from the registry of births, marriages, and deaths.

TABLE 1
Socioeconomic indicators for French Guiana, Guadeloupe, and Martinique, 1982 and 1990.

	French Guiana		Guadeloupe		Martinique	
	1982	1990	1982	1990	1982	1990
Households with running drinking water	69.1%	84.4%	70.1%	89.8%	78.8%	94.3%
Households with electricity	80.4%	87.8%	77.2%	89.4%	72.3%	90.3%
Households with sewage disposal ¹	34.3%	44.3%	24.5%	36.3%	22.5%	38.0%
Proportion of overpopulated dwellings ²	24.6%	24.0%	26.7%	17.1%	26.2%	14.8%
Average number of persons/household	3.3	3.4	3.7	3.4	3.8	3.3
Urban population	...	64.3%	...	91.4%	...	84.6%
Literacy rate	72%	...	82%	...	85%	...

¹These figures do not include dwellings equipped with individual septic tanks.

²Dwellings having fewer rooms than the number of occupants.

Source: National Institute of Statistics and Economic Studies (INSEE), 1982 and 1990 reports.

Infectious and parasitic diseases are, in the YPLL classification, the second most common cause of death in French Guiana among both sexes. In the Antilles, they are the fourth cause and account for only 6% to 7% of YPLL. In Guadeloupe, AIDS accounts for 6.5% of deaths in infants under 28 days old. Guadeloupe is the Department most seriously affected by problems during the perinatal period. In all Departments, the most frequent causes of death in the perinatal period are anoxia and other respiratory diseases.

Injury and poisoning (particularly road traffic accidents) are the primary cause of death among men, contributing to over one-third of YPLL among the male population in the three Departments. Among women, these causes occupy first place in French Guiana and are the third most common cause of death in Guadeloupe and Martinique.

While cardiovascular disorders are the largest contributor to mortality in the Departments, their importance should be viewed in light of the late age at which death occurs. These disorders occupy second place in YPLL in the Antilles, and third place in French Guiana.

In the Antilles, malignant tumors are the principal cause of death among women in terms of YPLL and the fourth most common cause in French Guiana. Cancers are the fifth leading cause of death among men in French Guiana (accounting for 4% of YPLL), and occupy second place in Martinique (18%) and third place in Guadeloupe (13%).

RESPONSE OF THE HEALTH SYSTEM

National Health Plans and Policies

The Secretariat of State for Health forms part of the French Ministry of Labor and Social Affairs. A number of other Ministries are also involved in health activities, including the

Ministries of Home Affairs (drug abuse programs), Environment, Agriculture (food safety), Youth and Sport (health activities), and National Education (school health).

A 1992 law provides that all persons residing in France and in French Departments have the right to financial assistance for medical treatment costs in case of need. Access to medical attention for the poor is organized by the Department in which they live. The Department pays either the entire cost or the "ticket modérateur," which is a portion ranging from 0% to 65% depending on the nature of the illness, the care provided, or the type of medication. The costs of care to the homeless are paid by the State.

Health insurance is provided by the social security system, a State-sponsored mechanism financed with compulsory contributions from salaries. The patient pays the entire cost of treatment directly to the treatment provider and is reimbursed by the health insurance. The amount reimbursed is calculated on the basis of rates negotiated between care providers and social security. A growing proportion of the population voluntarily takes out additional insurance to finance non-reimbursable portions. To prevent the patient from having to pay in advance, direct payment by insurers is widely used in the Departments, especially in hospitals and pharmacies. In such cases, the care provider is paid directly by health insurance and the patient pays only the "ticket modérateur."

Organization of the Health Sector

Institutional Organization

The State has responsibility for general public health, including community-wide disease prevention, sanitation surveillance, border health control, and the control of major dis-

eases and drug and alcohol addiction. The State oversees training of health personnel, helps define their conditions of work, monitors observance of quality-control regulations and health safety in treatment centers, and regulates pharmaceutical products. Moreover, it supervises the adequacy of treatment and preventive arrangements and regulates the volume of treatment provided. The central Government oversees the functioning of public hospitals, appoints their directors, establishes their budgets, and organizes their staff recruitment. Finally, the State supervises social welfare, its financing, the rules for population coverage, and financial responsibility for treatment.

A prefect directs the State's decentralized services that come under the authority of each of the Ministers concerned, particularly in matters of health. At the local level, a prefect has jurisdiction over the Departmental Bureau of Health and Social Affairs in each Department, and an Interregional Bureau of Social Security, which is common to the three Departments and headquartered in Martinique.

Under the 1983 decentralization law, certain State medical and social responsibilities were transferred to the Presidents of the General Councils in each Department. These include: maternal and child welfare, immunization, tuberculosis control, sexually transmitted diseases (excluding AIDS), cancer, leprosy, child social welfare, and part of the assistance to the elderly and to disabled adults. The mayors may have certain responsibilities for sanitation and immunization, and chair the boards of directors of public health establishments.

Residents of the French Departments enjoy unrestricted access to a wide range of primary and secondary medical services. In 1991, the University Hospitals and Regional Cancer Control Centers in France provided 61,000 hospital days to 4,500 patients from the French Departments, which represent an estimated 11% of hospital activity in Guadeloupe, 3% in Martinique, and 15% in French Guiana. More than 25% of those days were for treatment of cancer patients, followed by patients suffering from cardiovascular disorders and genitourinary diseases. The social security system reimburses hospital expenses, but pays airfares for only a small proportion of patients requiring medical treatment not available in the Departments.

Public and private hospitals provide full hospitalization, ambulatory treatment, and outpatient consultations. Inpatient care is divided into short-term treatment (acute conditions), follow-up (convalescence, readaptation, and functional rehabilitation), and long-term care (designed essentially for the elderly). Private practitioners provide most ambulatory or home care, although patients may also avail themselves of outpatient services at hospitals or treatment centers.

The public and private sectors differ in some regards. Teaching and research are part of the specific missions of the public hospitals. They are obliged to accept all patients and

employ only salaried staff. Physicians in private hospitals charge fees.

Since 1985, public establishments have been financed primarily through a grant made by the State on an annual basis and paid by the health insurance scheme. Private establishments are funded through lump-sum payments and daily rates fixed by the regional health insurance offices. Their funding is thus proportionate to their activity, which is not the case for public hospitals.

Organization of Health Regulatory Activities

Environmental Protection. Environmental control is the responsibility of the State services at the departmental level. Drinking and bathing water quality (sea water and water in swimming pools) and wastewater treatment are subject to regular inspections.

Food Security. Food-poisoning surveys are conducted jointly by the Departmental Bureau of Health and Social Affairs and the veterinary department (Ministry of Agriculture.) The Departmental Bureau of Competition, Consumption, and Fraud Eradication (Ministry of Finance) effects quality control of food products and food conservation.

Health Technology. Equipment is monitored on a national scale. Only equipment approved at the national level may be installed in health establishments, based on a health map that defines ratios of bed capacity and major equipment to the number of inhabitants.

Health Services and Resources

Organization of Health Services for Care of the Population

Health Promotion. The French Center for Health Education devises campaigns on a number of health and hygiene topics, which are taken up by the Departments. In addition, the National Medical Insurance Scheme institutes prevention and screening campaigns (e.g., cancer of the uterus and breast). The Departmental Bureau of Health and Social Affairs may launch campaigns using locally produced materials that are better suited to the inhabitants of the Departments.

Programs for Disease Prevention and Control. Residents of the French Departments have access to regular examinations during their school years and in the workplace. Maternal and child welfare services are available to pregnant women and young children. It is obligatory for the Depart-

mental Bureau of Health and Social Affairs to report certain infectious or communicable diseases.

Organization and Operation of Personal Health Care Services

Service Networks. "Town-hospital" networks, which make it possible to improve coordination between hospital doctors and private practitioners, have been established for poisonings and hepatitis C. In addition to these networks centers for HIV information and care have been set up in each region.

Ancillary Diagnostic Services and Blood Banks. Blood transfusion units operate nationally under the French Blood Agency. Regionally, a physician monitors proper blood-transfusion practices.

The Antilles and French Guiana have 50 medical biology laboratories in the private sector and 18 in the public sector. There are 22 private and 8 public laboratories in Guadeloupe, 3 private and 2 public in French Guiana, and 25 private and 8 public in Martinique. The prefect can authorize the operation of private laboratories taking local conditions, personnel qualifications, and available equipment into account. The public laboratories pertain to the hospitals.

Specialized Services. Psychiatry in France is organized in geographically defined sectors. Each adult psychiatry sector covers a population of approximately 70,000; there is one child psychiatry unit to three adult units.

There are two administrative units for the disabled: the Departmental Special Education Commission reviews all applications for placement of the disabled under 20 years of age, as well as requests from their families for financial assistance. For those over 20 years of age, it is the task of the Technical Guidance and Vocational Reclassification Commission in each French Department to classify disabled workers and provide vocational orientation, as well as to assess the allocation of financial assistance and direct them to a specialized institution.

Since 1984, the French prison population has received medical coverage equivalent to that of the general population.

Inputs for Health

Drugs and Immunobiologicals. There are 308 pharmacies in the Antilles and French Guiana (140 in Guadeloupe, 139 in Martinique, and 29 in French Guiana) and 7 wholesale distributors (2 in Guadeloupe, 2 in Martinique, and 3 in French Guiana). All pharmaceutical products, including vaccines, are imported from France. Usually, drugs are avail-

able by doctors' prescription and the patient is reimbursed by a health insurance agency. A system of direct payment by insurers relieves the patient from having to advance the cost. The authorities set the price of reimbursable drugs. Generic drugs have yet to find a significant niche in the French drug market. The price for drugs in the Departments is adjusted to offset transportation costs. In the last 20 years there has been a sharp increase (approximately eightfold) in expenditures for medications by households in the French Departments.

Quality control for pharmaceuticals is based on the use of health surveillance systems, warning systems, application of manuals of good practice, continuing education of pharmacists (soon to be compulsory), and pharmacy inspections in each region. Drug advertising is controlled for the public and for physicians. Information campaigns on drugs and their correct use are periodically organized by the authorities.

Medical Equipment. Major medical equipment requires authorization of the minister or the prefect of the region. Certain equipment is shared by all three Departments. For example, an MRI scanner is located in Martinique and a lithotripter in Guadeloupe.

Human Resources

Training. Doctors are trained in the medical schools attached to the university hospitals. A tertiary cycle of medical studies exists with a training capacity of 5 specialists and approximately 100 general practitioners per year in the Departments. This takes place through an agreement between the University of Bordeaux II and the Antilles-French Guiana Training and Research Unit, which is attached to the University of Antilles-French Guiana.

The Fort-de-France and Pointe-à-Pitre teaching hospitals serve as supervised practical training facilities for medical students. A school in Martinique, attached to the Fort-de-France university hospital, trains 14 midwives a year; a school for operating room nurses at the Lamentin Hospital in Martinique trains 10 nurses a year; and there are two schools for ambulance staff, one in Martinique and the other in Guadeloupe. There is also a school of nursing in each of the Departments, training a total of 61 nurses per year. Other health professionals are trained in France.

Continuing medical education is provided for salaried doctors in the health establishments where they are employed, and has been compulsory for private doctors since 1996. This training is managed by Regional Councils for Continuing Education and the National Council for Continuing Education.

Health Personnel. As of January 1997, the ratio of private doctors in the Departments was 66 general practitioners and 40 specialists per 100,000 population. Private doctors are paid for each consultation, while other health professionals may be salaried or may practice privately and be paid for each consultation.

Health Research and Technology

The National Institute of Health and Medical Research has a unit in Guadeloupe devoted to hemoglobinopathy. The Institute has Research Guidance Committees in each Department.

External Technical and Financial Cooperation

To ensure access to care for the destitute, Physicians of the World, a nongovernmental organization, provides free medical consultations. Likewise, the AIDES Association, in partnership with State authorities, is involved in the fight against AIDS.

Specific projects are assisted through the Inter-ministerial Fund for the Caribbean. The Fund, which receives approximately 10 million francs (US\$ 1.8 million) annually, is administered by an inter-ministerial delegation responsible to the prefect of Guadeloupe, and is designed to support bilateral cooperation projects involving at least one Department and a neighboring foreign country. One-sixth of the Fund is devoted to health. Health facilities, particularly the Fort-de-France and Pointe-à-Pitre teaching hospitals, negotiate cooperative activities with neighboring countries in the areas of training, telemedicine, and on-site visits by health practitioners to administer treatment.

FRENCH GUIANA

French Guiana occupies 90,000 km² on the northeast coast of South America, bordered by Suriname on the west and Brazil on the east and south. Dense equatorial forest covers 90% of the territory. The main modes of access to the interior are waterways, and most communities are accessible only by motorboat. A few isolated communities have authorized landing strips.

In 1994, the fertility rate was 110.5 births per 1,000 women of childbearing age. Between 1982 and 1992 it increased by 4% among mothers 10–14 years old, and by 14% among mothers 15–19 years old. The birth rate was 29.2 resident births per 1,000 in 1995, the mortality rate was 3.9 deaths per 1,000 inhabitants, and the infant mortality rate (average for 1991–1993) was 15.3 per 1,000 live births.

SPECIFIC HEALTH PROBLEMS

Analysis by Population Group

Health of Children and Teenagers

The perinatal mortality rate in French Guiana has remained at around 30 per 1,000 live births for the past 10 years. In 1995, neonatal infections, congenital malformations, and toxemia of pregnancy were the main causes of death during the perinatal period. The infant mortality rate was reduced three-fold in 20 years, falling from 50 per 1,000 in the 1970s, to an average of 15 per 1,000 in recent years. The three main causes of hospitalization in the 1992–1993 period were premature births and low birthweight (48%), infectious diseases (17%), and acute respiratory infections (6%).

The Departmental Maternal and Infant Protection Unit has a system for permanent recording of information for the perinatal period in all public and private maternity clinics, and in the departmental health centers. It consists of records of pregnancy results and fact sheets on the causes of perinatal deaths, as recommended by WHO.

The ratio of stillbirths to newborns weighing 500 g and 1,000 g was 22.6 per 1,000 and 16.7 per 1,000, respectively, in 1995. Early neonatal mortality was 9.8 per 1,000 for births at 500 g and 8.6 per 1,000 for those at 1,000 g. The premature birth rate has been stable at 12% since 1993. The proportion of newborns with a birthweight of less than 2,500 g is 11%.

In 1995, 67.3% of women sought fewer than the seven consultations provided by law during pregnancy, 53.3% sought fewer than six consultations, and 19.7% sought three consultations or fewer. The situation among minors is alarming: 79% sought fewer than seven prenatal consultations.

Between 1981 and 1983 deaths among 1–4-year-olds were due mainly to external causes and trauma (67 per 100,000) and diseases of the central nervous system (40 per 100,000). In the 1988–1990 period the leading causes were infectious diseases (37 per 100,000), external causes and trauma (30 per 100,000), and respiratory diseases (18 per 100,000). The main causes of hospitalization in this age group are infectious diseases (18%), cranial trauma (13%), and chronic illnesses of the upper respiratory tract (11%).

Among children in the 5–14-year age group, the three main causes of death in the 1988–1990 period were: external causes and trauma (12 per 10,000), infectious diseases (6 per 100,000), and circulatory diseases (4 per 100,000). The main reasons for hospitalization for children between the ages of 5 and 9 were broken limbs (14%), cranial trauma (12%), and appendicitis (12%). Among 10–14-year-olds appendicitis was the main cause (18%), followed by broken limbs (14%), and normal delivery (12%).

Early pregnancies, drug abuse, and AIDS and other STDs appeared to be the main health problems among adolescents. In the past decade, approximately 8% of mothers have been under age 18. In 1992, one-third of this group showed signs of pathology during pregnancy. Of the AIDS-affected population, 11.3% are under 20 years old.

Health of Adults

Between 1988 and 1990 the main causes of death among women in the 15–34-year age group were suicide (20%), road traffic accidents (10%), and AIDS (10%); for women ages 35–64 the main causes were malignant tumors (30%) and cerebrovascular diseases (16%). Among men ages 15–34 the main causes were traffic accidents (20%), AIDS (10%), suicide (8%), and homicide (6.3%); for men 35–64 years old malignant tumors predominated (11%), followed by AIDS (10%), cerebrovascular diseases (9%), and road traffic accidents (9%).

Health of the Elderly

Between 1988 and 1990, the most frequent causes of death among those over age 65 were cerebrovascular diseases (10% in men, 23% in women), respiratory diseases (7%), infectious diseases (7%), and malignant tumors of the digestive system (7%). The most common chronic illnesses in this age group are severe hypertension (19% in men and 36% in women), diabetes (15% in both sexes), and tumors (15% in men and 9% in women).

Analysis by Type of Disease or Health Impairment

Communicable Diseases

Vector-Borne Diseases. The incidence of malaria in French Guiana is high: 5,892 biologically confirmed cases were registered in 1995. The three types most frequently encountered were *Plasmodium falciparum*, *P. vivax*, and *P. malariae*. The two areas of malaria transmission in French Guiana are the two large border rivers (Maroni and Oyapock) where transmission is permanent, and the coastal zone, with sporadic and limited transmission. Since the malaria-infected areas are very distinct, it is difficult to define the global evolutionary trend.

Beginning in 1994, there was an outbreak of the disease in the Upper Maroni (Maripasoula) region. Migratory movements, mainly from Brazil and Suriname, connected with gold mining along the rivers have contributed to this rise in malaria transmission.

In 1992, a study revealed a 68% *in vivo* failure rate of chloroquine malaria treatment (62% *in vitro*), with 24% resistance to quinine. These findings were confirmed by *in vitro* chemosensitivity conducted at the Pasteur Institute (1993–1996), which also indicated resistance to halofantrine.

The dengue vector in French Guiana is *Aedes aegypti* and the 1, 2, and 4 virus types circulate in an endemic-epidemic mode. An epidemic wave caused by the dengue-2 serotype was observed from July 1991 to October 1992. During that period 40 cases of dengue hemorrhagic fever were registered, including six deaths. In December 1995, this serotype reappeared mainly in Cayenne. There has been a new outbreak of the disease since the last quarter of 1996 with distribution of dengue-1 in Kourou and dengue-2 in Cayenne.

Cholera and Other Intestinal Diseases. Together with malaria, diarrhea is the principal reason for consultation and observation in the departmental health centers. Typhoid breaks out in small epidemics, mainly in the communities in the Maroni region.

The first case of cholera was reported in French Guiana in 1991. Between December 1991 and November 1994, 22 cases of cholera were reported, 55% of which originated in rural areas. No case of cholera has been reported in French Guiana since November 1994.

AIDS. Since the beginning of the epidemic, 588 cases of AIDS have been reported in French Guiana. Women account for 38.4% of all cases; 30–39-year-olds are the most affected age group (38.8%), followed by the 40–49-year age group (17.7%), and the 20–29-year age group (15.6%). Transmission in 79.2% of cases is heterosexual. While mother-to-fetus transmission is a striking aspect, representing 58 cases (9.9% of all cases), transmission in a drug-abuse context is very low (2%). Of the cases reported, 57.8% died as of 31 December 1996.

“Tritherapy” or multi-drug treatment of AIDS began in August 1996, and patients have access to viral-load measurement. In 1997 French Guiana embarked on a “strategic programming” process to address this high-priority disease.

Tuberculosis and Leprosy. In 1995, 69 cases of tuberculosis were registered. The predominance of the disease among males in 1994 (male-to-female ratio of 2.2:1) appears to have tapered off (male-to-female ratio of 1.16:1 in 1995). Two-thirds of tuberculosis cases are found among immigrants from Brazil, Haiti, and Suriname. The tuberculosis/HIV co-infection rate was 19% in 1995. Poverty and marginality, which have been exacerbated since 1993 in French Guiana, are factors that probably encourage transmission of tuberculosis.

In French Guiana, 15 to 20 new cases of leprosy are detected each year. The paucibacillary forms predominate

(nearly 80%). Since 1986, the incidence of leprosy has dropped by half and ranges from 0.08 to 0.15 per 1,000. Prevalence has shown a steady decrease, from 3.2 per 1,000 in 1985 to 1.1 per 1,000 in 1995.

Noncommunicable Diseases and Other Health-Related Problems

Nutritional Diseases. Protein-energy malnutrition mainly affects the black population of the Maroni region, particularly in babies being weaned. There are 15 to 20 hospitalizations per year for severe infant malnutrition (kwashiorkor, marasmus, and mixed forms) at the Saint Laurent Hospital in Maroni. Infant protein-energy malnutrition in the black population is linked to a number of factors, mainly reduced interest in breast-feeding and belief systems regarding infant feeding.

Malignant Tumors. Cancers are the leading cause of death in the 35–64-year age group. In men, the cancers mainly affect the digestive system, the prostate, and the respiratory system. In women, the most frequent are tumors of the digestive system (37%) and cancer of the uterus (20%).

Behavioral Disorders. French Guiana has conducted few studies on its inhabitants suffering from mental disorders. Hospital data, however, indicate a general increase in activity in recent years, especially in child and juvenile psychiatry. The data reveal a high percentage of forcibly hospitalized patients (30.6% in 1993, while the national average was 21%); a lack of suitable structures for stabilized illnesses or handicaps, resulting in hospitalizations not justified in terms of psychiatry; and the onerous burden of health coverage for drug addicts. In 1993, drug addicts accounted for 22.6% of hospitalizations and 73% of forcible hospitalizations. Fifty percent of hospitalized drug addicts have an associated severe psychiatric disorder.

According to a recent study on drug addicts treated at the care establishments, 7% used crack cocaine, 59% are between the ages of 20 and 34, and 66% are out of work (compared with 14% of addicts with stable jobs).

There is a dearth of information on alcohol-related morbidity, but 3% of all deaths appeared to be alcohol-related.

RESPONSE OF THE HEALTH SYSTEM

Health Services and Resources

Organization of Services for Care of the Population

Water Supply, Sewerage Systems, and Solid Waste Disposal. The drinking water made available to 85% of the pop-

ulation, which is concentrated on the coast, is generally of high quality. The communities in the interior have water of mediocre, if not extremely poor quality; their treatment centers are either inadequate or have facility maintenance problems. The most serious problems affecting water quality are bacteriological parameters, the presence of aluminum, by-products of chlorination, and the occasional presence of mercury.

Sewage facilities for domestic wastewater are not very effective in French Guiana. It is estimated that only 30% of the wastewater produced is treated. French Guiana has no organized treatment or recycling facility for domestic wastes. Landfills are the only means of waste disposal, and there are only two controlled landfills, both located in the urban area of Cayenne. In addition there are some 20 crude communal landfills and more than 100 random dumping grounds. Most of the landfills are installed without prior impact studies, often on unsuitable sites.

Control of Vector-Borne Diseases. Malaria control is the province of the Departmental Disinfection Bureau and comprises vector control by spraying homes (walls), impregnating mosquito nets with long-lasting insecticides, attacking the parasite pool with active detection techniques, and treatment of parasite vectors. The surveillance system is based on compulsory notification of cases of local and imported malaria and on active and passive detection. The Disinfection Bureau and Pasteur Institute of French Guiana also conduct entomological surveillance. The Pasteur Institute is responsible for entomological studies on malaria vectors and their sensitivity to antibiotic products.

Since the Second Consensus Conference on Malaria (Cayenne, October 1995), recommendations for treating malaria in French Guiana exclude chloroquine as a first medication and concentrate on the use of quinine in association with doxycycline, halofantrine, or mefloquine.

The Pasteur Institute is the National Reference Center for surveillance of dengue and yellow fever and is responsible for identifying viral strains. The current surveillance system is based on the positive seroreactions requested by doctors. The Disinfection Bureau's vector control relies on different activities such as: control of larval deposits by periodic visits to homes; visits and treatment of close contacts of positive seroreaction cases; and larva control and imogicide among the close contacts of seropositive patients. Imogicide activities are stepped up when there is a resurgence of dengue cases. Health education campaigns are organized through the media, the national education department, and associations to encourage public participation in the elimination of larval deposits.

Immunization. Given its geographical situation and the risks of infection with yellow fever virus, immunization in

French Guiana is compulsory from the age of 12 months, with a booster shot every 10 years. All of the Department's health centers have been equipped to perform this immunization since 1995. Compulsory vaccination is performed free of charge in the health and prevention centers. Besides the compulsory vaccinations (BCG, DTP, polio, and yellow fever), the General Council covers measles, mumps, and rubella immunization, and provides immunization against hepatitis B for groups with high risk of infection.

Mental Health Programs. The regional psychiatry plan, decreed in 1996, defines goals for the next five years. Priorities were the creation of new sector divisions (three for adult psychiatry, and one for child-youth psychiatry); extension of access to care, particularly for the inhabitants of isolated communities; and measures to cover psychiatric emergencies and dangerous patients.

Organization and Operation of Personal Health Care Services

The coastal area of French Guiana has three urban centers—Cayenne, Kourou, and Saint Laurent du Maroni—home to nearly 80% of the population. The coast enjoys developed health facilities (three hospitals and three private clinics), a network of private doctors, and prevention facilities administered by the General Council. The population of the interior is distributed mainly along the two border rivers and in the outback. In the remote rural areas where there are no private doctors or hospitals, there is a network of public health clinics administered by the General Council. Access to treatment, including medicines, is entirely free in these facilities.

There are two public hospitals, one is in Cayenne (with 526 beds, 80 of which are devoted to psychiatric patients), the other is in Saint Laurent du Maroni (104 beds). There is a nonprofit private clinic in Kourou (65 beds), and three nonprofit clinics in Cayenne (with 81, 45, and 36 beds). There are no cardiac surgery, neurosurgery, or serious burn facilities in French Guiana, making medical evacuation to the Antilles or France a necessity. There are 9 medical health centers and, in the remote areas, 17 satellite health centers staffed by health workers. The health centers provide nursing care and medical consultations and maintain beds for patients needing observation. The territory has been divided into 12 health zones, which more or less follow the administrative borders. Doctors usually travel in canoes along difficult routes (up to six hours in a canoe within a single health zone). Health teams may transfer a patient to the coastal hospitals. Canoe, airplane, helicopter, or ambulance are the modes of evacuation, depending on the center's location and the degree of urgency. Evacuations are done for consulta-

tions or specialist examinations, planned hospitalization, and medical emergencies.

Since 1993, the social security service has shared in the operation costs of the departmental health centers, prorated on the estimated percentage of insured persons residing in a community.

GUADELOUPE

Guadeloupe is an archipelago of eight inhabited islands; the two largest, separated by a sound, are Basse-Terre and Grande-Terre. The other islands include Les Saintes and Marie Galante to the south, Désirade to the east, and the French section of Saint Martin and Saint Barthélemy some 230 km to the north.

SPECIFIC HEALTH PROBLEMS

Analysis by Population Group

Health of Children

Child health in Guadeloupe has improved considerably in the 1992–1996 period. This improvement is most marked in regard to infant mortality. Perinatal mortality has dropped to an average rate of 10.1 per 1,000 live births over the 1994–1996 period, but the stillbirth rate remains high (7.4 per 1,000). The number of infant deaths between 7 and 28 days has stayed the same (1.9 per 1,000) in this period. Infant mortality has dropped from 10.4 per 1,000 in 1992 to 7.9 per 1,000 in 1995. The main causes of infant mortality are conditions arising in the perinatal period (50%), congenital anomalies (16%), and infectious and parasitic diseases (12.5%).

Child mortality in the 1–4-year age group during the 1987–1992 period was due to accidental causes in 42% of cases. This percentage is essentially the same for both sexes. Other causes of death were infections (12.6%) and malformations (12.3%).

At 3 years of age, 77% of children were enrolled in kindergarten and underwent health examinations. During the 1994–1995 school year, 1.4% of the children examined had language problems requiring specialized treatment. Out of every 1,000 children, 8 suffer from confirmed hearing impairment and 18 from confirmed sight impairment (7 had confirmed strabismus).

Half of deaths in the 5–14-year age group are caused by accidents: 47% among girls, and 52% among boys. Tumors are the next most common cause of mortality in this age group (11.5%), followed by diseases of the nervous system (9.3%).

Health of Teenagers and Young Adults

Teenagers and young adults (ages 15 to 24) represent 16% of the population in Guadeloupe. This group has a 48% unemployment rate. In the 15–19-year age group, 86% are registered in schools. A study of deaths for the 1987–1990 period shows that 2.7% occur in this age group. With an annual average of 62 deaths, the mortality rate for this group is 0.7 per 1,000 (1.2 per 1,000 among men and 0.3 per 1,000 among women).

Traffic accidents cause 1 in 3 deaths in this age group. They are followed in descending order by: ill-defined and other accidents and their late effects (28%), tumors (7.3%), and diseases of the circulatory system and disorders of the nervous system and the respiratory tract. Teenagers are most affected by accidents involving two-wheeled vehicles with, respectively, 37% of deaths and 47% of serious injuries on average per year. The 15–24-year age group also accounts for a high proportion of automobile accident victims (21% of deaths and 26% of seriously injured).

A study conducted in 1993–1994 at the University Hospital in Pointe-à-Pitre revealed 71 admissions for attempted suicide among teenagers aged 15–19 years. The risk factors identified included a previous history of psychological problems (42%), frequent failure at school (50%), a high incidence of broken families (76% were children of divorced couples), and a history of attempted suicide by close relatives (7.5%). Past incest or rape were other risk factors frequently reported. Repeated suicide attempts are widespread (30% of cases), with recurrences within an average of 4.5 months.

Illnesses fully covered by the health insurance scheme during the 1989–1991 period accounted for 4% of all hospital admissions in this age group. The main cause of admissions was mental disorders (46% of cases), followed by congenital and valvular heart disease (7.6%), hemoglobinopathy (7.5%), and diabetes and progressive scoliosis (6.2%).

In 1992, 5.4% of pregnancies occurred in girls under 18 years of age. However, between 1982 and 1992 the fertility rate dropped from 45 to 29 per 1,000 in the 15–19-year age group and from 149 to 98 per 1,000 for the 19–24-year age group.

Health of Adults

The principal medical causes of deaths among adults between ages 15 and 60 for the 1987–1990 period were cardiovascular disorders (33%), tumors (19%), trauma (12%), ill-defined causes (7%), diseases of the digestive system (6%), and diseases of the respiratory system (5%). The order of causes differs for the 15–34-year-old age group: accidental causes, road traffic and other accidents are the first two causes of death, followed by suicides and HIV infection.

Eight hundred deaths occurred before the age of 65 in the 1987–1990 period. The main causes of these premature deaths are accidents, diseases of the circulatory system, and tumors. About one-half of these deaths were avoidable: 228 by a change in high-risk behavior, and 196 with better screening and/or proper attention by the health system.

The hospital morbidity survey conducted in 1992–1993 in the short-term facilities shows hypertension, diabetes, and alcoholism to be the diseases most frequently associated with hospitalization.

Health of the Elderly

At the time of the 1990 census, inhabitants age 60 and older represented 11.7% of the total population; in 1995, this sector of the population was 12.3%. Virtually everyone age 60 and over lives at home, due to the protection provided by the traditional lifestyle and the existence of a state home care policy. Cardiovascular disorders are the main cause of mortality (43%), followed by tumors (20%) and ill-defined morbid conditions (9%). Diabetes and hypertension account for 56% of coverage for chronic illnesses, followed by cancer, cerebrovascular accidents, and progressive chronic arteriopathy.

Reproductive Health

The fertility rate in Guadeloupe fell by 27% between 1984 and 1994. Rates for women in the 15–19- and 20–24-year age groups dropped by one-third, and in the 25–29-year age group by one-quarter. The fertility rate has remained constant among women 30 and older.

Data from family planning and education centers show that 75% of the clients used oral contraceptives, 8% an intra-uterine device (IUD), and 17% other methods. The perinatal mortality survey conducted in 1984–1985 suggests an abortion rate of 26% among the female population of childbearing age. In 1994, the abortion rate was 30 per 100 conceptions. The maternal mortality rate was 51.4 per 100,000 live births for the 1987–1990 period.

Family Health

The most salient characteristic of the Guadeloupan family is the role played by single-parent families (one-third of all families); in 86% of cases a woman is the head of household. One-third of children under age 17 are brought up in single-parent families. Special measures seek to encourage child care while parents are at work (help in opening day-care centers

and financial assistance for parents using registered care providers); to provide needy families with financial assistance for their children's basic needs; and to enable children to attend school at an early age.

Health of the Disabled

In 1992, a random sample from the Departmental Commission for Special Education records shows that moderate and slight mental retardation were the most common disabilities (a rate of 5.1 and 4.8 per 1,000, respectively), followed by peripheral motor disabilities (1.3 per 1,000), extensive motor disabilities (1.2 per 1,000), and multiple disabilities (1.2 per 1,000).

Analysis by Type of Disease or Health Impairment

Communicable Diseases

Vector-Borne Diseases. There are 4–5 imported cases of malaria in Guadeloupe every year. There were serious outbreaks of dengue fever in the second half of 1992 and 1994. Dengue-2 virus was isolated in 1994. Seven cases of dengue hemorrhagic fever were recorded in 1995, three of them fatal. Seropositivity is more than 30% during epidemic outbreaks.

The only form of schistosomiasis encountered is *Shistosoma mansoni* (intestinal bilharziasis). The main transmission sites were eradicated through a biological campaign against the mollusk vector (*Planorbis*).

Vaccine-Preventable Diseases. No cases of poliomyelitis or diphtheria were recorded in recent years. The measles surveillance network set up in 1992 did not report any cases confirmed by serology between 1992 and October 1996, when an epidemic broke out. By the end of March 1997, 85 cases had been confirmed by serology, 79% in schoolchildren between 10 and 19 years of age. There were no cases in children under 1 year old. Of the confirmed cases, 17% had been vaccinated.

No cases of neonatal tetanus have been discovered in the 1992–1996 period. Two deaths from tetanus occurred in 1994: one was an 80-year old woman and the other an unvaccinated female foreigner.

Influenza syndromes as a whole were monitored by the network of sentinel doctors, and influenza surveillance with a nasopharynx search for the virus was instituted in March 1996. This confirmed the existence of an epidemic early in October 1996, and the presence of the H3N2 strain of the type-a virus was established.

Blood donation samples taken in 1989 showed a 2.9% prevalence of hepatitis B. These encouraging results were ob-

tained through rigorous donor selection procedures established to increase the security of blood transfusion products. Positive hepatitis C tests from blood donation samples fell from 21.8% in 1990 to 0.9% in 1993 and to 0.07% in 1996.

Cholera and Other Intestinal Diseases. There were no cases of cholera in Guadeloupe, and diarrheal diseases are no longer a public health problem, owing to the high quality of the water system and to food-product controls.

Acute Respiratory Infections. The rate for acute respiratory infections is 0.5 per 1,000 among children under age 5. A 1993 study conducted on schoolchildren aged 6–12 years showed a 13.6% prevalence of asthma in the Basse-Terre region.

Rabies and Other Zoonoses. No case of rabies has ever been discovered in Guadeloupe. Leptospirosis is endemic in Guadeloupe, with 5–6 cases occurring per year. Nineteen cases, including two deaths, were reported in 1996.

AIDS and Other STDs. As of 31 December 1996, a total of 731 cases of AIDS had been reported in Guadeloupe. The proportion of affected women is high. Transmission is heterosexual in 63% of cases, and the mother-to-fetus infection rate is 3%. The 20–39-year age group accounts for 53% of the cases, and 59% of total cases have died. In 1994, an HIV seroprevalence rate of 2% was found among 1,469 persons tested at screening centers.

A survey conducted in 1996 at the family planning centers and the anti-venereal facility showed a 14.3% prevalence rate for *Chlamydia trachomatis* in the under-25 age group.

Tuberculosis and Leprosy. In 1990 and 1991 a tuberculosis outbreak resulted in 18.3 and 16.2 cases per 100,000 population, respectively. This was followed by a decline in the global incidence of tuberculosis, stabilizing at an average rate of 10.8 per 100,000 inhabitants between 1994 and 1996. This reduction in incidence is visible mainly among women. No cases were detected among children under age 15. The BCG immunization rate is 90% among 1-year-olds. The two groups most affected are those over age 65 and 24–44-year-olds (28 and 16 per 100,000, respectively). One-quarter of new cases of tuberculosis occur among the foreign population. Half the cases are contagious and show the presence of Koch's bacillus on direct examination. The tuberculosis/HIV co-infection rate is 27%. The study of antibiotic resistance conducted by the Mycobacteria Center of the Pasteur Institute revealed one case of multidrug resistance.

The leprosy incidence rate (7 new cases in 1995 and 10 in 1996) remains low. In the last two years, 14 of the 17 cases oc-

curred among males. All new cases have been found among persons over the age of 15. The bacillogenic forms predominate (9 in 17 cases). In 1995, there were some 700 cases in the active files, 20% of whom were in treatment and 80% under post-treatment surveillance.

Noncommunicable Diseases and Other Health-Related Problems

Diabetes. Given the estimated 6.6% prevalence of diabetes and the many complications associated with this disease, in 1996 a five-year action plan was developed to address this health problem in Guadeloupe.

Cardiovascular Diseases. An average of 740 deaths resulted from cardiovascular diseases each year during the 1987–1992 period, making it the leading cause of death (33% of all deaths). Cardiovascular disorders cause one death in five in those under age 65. Cerebrovascular disorders cause an average of 320 deaths per year, accounting for 43% of deaths from cardiovascular diseases.

Hypertension is the condition most often requiring hospitalization. Cerebrovascular accidents account for 9% of admissions for circulatory diseases. In 40% of these cases, hospitalization exceeds 10 days. Cardiovascular disorders constitute 41% of all illnesses for which the patient receives full coverage by the health insurance system.

Malignant Tumors. Cancer is the second most common cause of mortality. Prostate cancer in men, cancer of the cervix in women, and stomach cancer in both sexes are quite frequent. Hospital admissions for cancer account for 5% of all hospitalizations.

Accidents and Violence. Road traffic accidents pose a priority public health problem in Guadeloupe. Annually, an average of 98 people die and 568 sustain serious injuries (requiring more than six days in hospital). Sixty-three percent of deaths from road traffic accidents are in the 15–44-year age group. Pedestrians and drivers of two-wheeled vehicles account for 22% and 33% of traffic deaths, respectively. The 15–44-year age group accounts for 69% of those seriously injured.

In 1993, there were 1,565 victims of accidents at work; 10% were serious or fatal.

The main victims of domestic accidents are children under age 5. The principal causes are poisoning by household products, falls, and burns. In 1996, there were 423 reports of child abuse. In 87% of the cases reported to the judicial authorities, removal of the victim was immediate because of extreme violence and/or sexual abuse.

Alcohol, Tobacco, and Drug Use. An annual average of 150 deaths were attributed to alcohol-related problems between 1987 and 1990. The male-to-female ratio of alcoholism is 8:2. Chronic alcoholism is the fourth most frequent cause of premature death (under age of 65), and the third most common pathology associated with hospitalization. Of alcohol-related pathologies, alcoholic psychosis accounts for about 45 deaths a year. The annual average deaths from cancer of the upper digestive tract and cirrhosis of the liver are 55 and 50, respectively.

An average of 150 tobacco-related deaths were recorded during the 1987–1990 period. Of the victims, 60% were men and 40% women, although breakdown varies according to the pathology group. Cancer of the trachea, bronchus, and lungs is increasing, especially in women.

There has been a transition from dependence on marijuana to dependence on crack cocaine in Guadeloupe. There has been an increase in the number of drug addicts treated by the health and social services and in the number questioned about drug use and trafficking. The population using drugs is young (62% were under age 30 and 47% under age 25 in 1994), mainly male (92%), and often falls into the inactive population group (two-thirds of cases). In 1994, the two most commonly used substances were marijuana (64%) and crack cocaine (26%).

Natural Disasters. Guadeloupe is situated in a high-risk zone for natural disasters such as hurricanes, volcanic eruptions, and earthquakes. Hurricanes pose a yearly threat. In 1989, Hurricane Hugo caused considerable damage, as did Hurricanes Luis and Marilyn in 1995.

RESPONSE OF THE HEALTH SYSTEM

Health Services and Resources

Organization and Operation of Personal Health Care Services

The Guadeloupe health system is organized around 25 health establishments; 10 are in the public sector (one regional university hospital center, five hospitals, one psychiatric hospital, two local hospitals, and one long-term care hospital) and 15 are private, for-profit clinics on Basse-Terre and Grande-Terre. As of January 1996, the capacity for short-term medical, surgical, and gynecological/obstetric care was 1,146 beds in public and 900 beds in private facilities. There were 417 beds in public hospitals and 21 in private clinics for psychiatric admissions, with 214 public and 209 private beds available for follow-up and rehabilitation.

Certain specialized care is provided on the two main islands, including: emergency admission and treatment, resus-

citation, neonatal care and resuscitation, treatment of chronic kidney failure (322 patients were on dialysis and 7 kidney transplants were performed in 1996), and gynecological/obstetric medical treatment.

MARTINIQUE

Martinique is the northernmost of the Windward Islands; Dominica is its closest neighbor on the north, and Saint Lucia is its neighbor to the south. The island covers an area of 1,130 km² and is mountainous, with Mont Pelée, a dormant volcano rising to 1,400 m, its most prominent physical feature. The administrative and commercial capital is Fort-de-France.

SPECIFIC HEALTH PROBLEMS

Analysis by Population Group

Health of Children

The infant mortality rate in Martinique was halved in 10 years to 5.8 deaths per 1,000 live births in 1995. Perinatal mortality stood at 11.4 per 1,000 total births in 1996. The premature birth rate was 8% in 1996. The proportion of newborns under 2,500 g was 9.4% and those under 1,500 g was 1.3%. In 1995, 699 infants (12% of all births) were hospitalized in the neonatal wards, of whom 2.6% died during the neonatal period. The main causes of death were extreme prematurity and infections.

An average of 60 deaths per year occurred among children between the ages of 1 and 4 (2.8% of all deaths) in the 1987–1990 period. The deaths were attributed to external trauma, ill-defined illnesses, diseases of the nervous system, diseases of the respiratory system, and tumors.

A 1997 survey on immunization coverage in 1-year-olds showed 83% coverage with BCG, 97% with three DTP and polio doses, and 78% with hepatitis B vaccine, which was introduced into the immunization program in 1994.

School attendance is obligatory beginning at 6 years of age. However, one-fourth of 2-year-olds attend school, and nearly all children attend from age 3 onward.

On average, there were 35 recorded deaths each year for the 1987–1990 period among 5–14-year-olds (1.6% of all deaths). More than half were due to external trauma, and tumors. Hospital admissions for this age group were for three main causes: respiratory diseases (24%), diseases of the digestive system (18%), and trauma and poisoning (9%). There was an increase of allergic diseases, including asthma. Some 400 to 500 cases of chickenpox are reported each year, principally among primary school-age children.

Health of Adolescents and Adults

There is almost 100% school enrollment among 15–19-year-olds, and 42% for the 20–24-year age group. Unemployment was highest among 20–24-year-olds, with 52% in 1996.

In the 1987–1990 period an average of 45 deaths occurred each year among 15–24-year-olds, with a male-to-female ratio of 3:1. Road accidents and other violent forms of death predominate among men (69% of deaths in this age group); tumors account for 8% of deaths. Among women in this age group, the external causes of trauma, primarily suicides, predominate (46% of deaths).

Deaths before age 65 account for 29% of all deaths, with a higher prevalence among men (35%) than women (21%). External causes of trauma (accidents, suicide, and violence), tumors, diseases of the circulatory system, and alcohol-related disease account for 75% of these deaths. The preponderance of tumors and disorders of the circulatory system is higher among women than men, while the converse is true for trauma and alcoholism. Nearly half of these deaths appear to be avoidable. In men, they could be avoided by altering high-risk behaviors, while more effective coverage by the health care system would lower the rate for women.

The 1992–1993 hospital morbidity survey showed that for women between the ages of 15 and 64 more than one-third of the hospital stays were related to maternity. This was followed by genitourinary diseases (11%) and digestive ailments (9%). Among men of the same ages, 21% of hospital admissions followed trauma or poisoning, whereas 14% were due to diseases of the circulatory system. Diseases for which social security covers hospitalization for patients between age 15 and 34 include mental disorders (37%), diabetes (9%), sickle cell anemia (8%), and cardiac failure (8%). Diabetes, severe hypertension, and mental disorders are the main conditions requiring hospitalization in the 35–64-year age group.

Health of the Elderly

In 1996, 15% of Martinique's population was 60 or over. The main causes of death for those age 60 and older are cerebrovascular diseases, prostate cancer, and cardiac failure in men, and cerebrovascular diseases, cardiac failure, and diabetes in women. Cancer, hypertension, and diabetes are the most commonly observed pathologies. Hospital admissions increase sharply with age, and adults over age 65 represent 23% of all short-term hospital stays.

The elderly population is still well integrated into the family in Martinique. In the 75–85-year age group, 37% still live at home. The population aged 75 and over live in urban and peripheral urban areas, 28% of them in the capital.

Efforts to reduce unhealthy housing have provided this population group with improved basic sanitation conditions. Only 16% of those age 60 and over have no indoor toilets, and 6% have no source of potable water. Two-thirds own their own homes and 2% live in institutions or as boarders with families.

Reproductive Health

The number of women of childbearing age was estimated at 104,200 in 1996 (52% of the female population). The fertility rate was 1.8 children per woman in 1994, compared with 2.1 in 1990. The birth rate in 1995 was 14.4 per 1,000. Deliveries by girls under age 15 are unusual (1 delivery in 1,000). Deliveries by girls under age 18 account for some 2% of births.

Contraception is accessible to all women either through the private medical system, the Maternal and Child Welfare Service, or family-planning centers. During 1996, the Martiniquan Association for Family Information and Guidance, a private family-planning center, was consulted by 11,312 women, 95% of whom were seeking contraceptives. The pill is prescribed for 78% of women; IUDs are used by 18% of women.

Seven prenatal visits for pregnant women are fully covered by the health care system. The proportion of women rarely or poorly monitored (under four visits) ranges between 7% and 8.5%. In 1996, virtually all births took place in either a hospital or clinic, and 0.3% at home. The public hospitals attend to 68% of deliveries, while 32% take place in private clinics. The cesarean-section rate is 14% in the public sector and 16% in the private. The proportion of multiple pregnancies is stable, at 1.3% in 1996. The maternal mortality rate was 54 deaths per 100,000 births for the 1987–1993 period.

Abortions, which have been legal up to the 10th week of pregnancy since 1982, approximate 2,000 a year. In 1994, 23 abortions per 100 conceptions were recorded. A study of the 1992 statistical records shows that most abortions occur among women between 20 and 30 years of age, with minors representing 5%. These women are most often single (72%) and 62% are students or gainfully employed. Two-thirds had had previous pregnancies and one-fifth had undergone a prior abortion. Abortion is not officially practiced in the private sector, but it does occur owing to the long waiting lists in the public sector. An estimated 20% of abortion requests are not granted.

Health of the Family

The 1990 population census showed that household size in Martinique had decreased sharply, with 14% of households with 6 people or more compared with 30% in the 1974 cen-

sus. In addition, various generations cohabit less often than in the past. In 1990, nearly 4 out of 5 households had a very simple structure: people living alone (21%), adults alone with children (16%), and couples with children (32%) or without children (10%). Also, 39% of children were in single-parent homes. This situation is linked to tradition (women bring up their children alone) and to a more recent development (the breakup of couples). Moreover, 77% of children under age 7 come from homes where both parents (or the single parent) practice a profession.

Health of the Disabled

The disability prevalence rate among children age 10–19 years is 12.6 per 1,000. The most frequently observed impairments are intellectual (36%) and other psychological deficiencies (21%). There are approximately 100 children acutely affected and suffering from multiple handicaps. Over half of these children have been placed in specialized institutions or receive institutional monitoring. The number of disabled adults (over age 20) is estimated at 15,000. Over 5,000 receive a disabled adult allowance. Fewer than 3% live in specialized institutions.

A 1994 survey revealed that visual impairment affected an estimated 5% of the disabled population between 20 and 60 years old.

Analysis by Type of Disease or Health Impairment

Communicable Diseases

Vector-Borne Diseases. In Martinique malaria is entirely imported and its annual incidence is low. No cases of yellow fever have been recorded. In 1995 and 1996 yellow fever immunizations were given to 3,164 and 3,951 persons, respectively, by the Departmental Hygiene Laboratory.

Dengue epidemics occur annually. The annual incidence of dengue-2 and -4 was approximately 2 cases per 10,000 inhabitants in 1993, increasing to 14 per 10,000 in 1995 owing to pronounced hurricane activity. There were 9 cases per 10,000 inhabitants in 1996. These cases were all confirmed by serology. The upsurge of cases takes place in August–September, peaking in December–January. In 1995, three cases of dengue hemorrhagic fever were recorded, with one death. In 1996, 14 cases were reported, but there were no deaths.

Vaccine-Preventable Diseases. No cases of poliomyelitis, diphtheria, or whooping cough have been reported to the health authorities for more than 10 years. Recorded cases of measles mainly affected children with an average age of 9. In

1995, 8 laboratory-confirmed cases were reported, and 13 in 1996. The immunization coverage survey conducted by the departmental authorities in January 1997 showed it to be 90% for the Department as a whole. There have been no cases of neonatal tetanus since the end of the 1970s. However, cases of tetanus do occur among the elderly (11 per year), owing to their loss of vaccine immunity. Since 1990, the measles, mumps, and rubella triple vaccine was applied in systematic immunization campaigns. Influenza syndromes have been reported to the Departmental Bureau of Health and Social Affairs by the sentinel doctor network since 1995. In 1996, 10,064 cases were reported.

In February 1992 a decree mandated testing for HBsAg during the sixth month of pregnancy. A seroprevalence survey conducted in Martinique on a sample of 492 women who gave birth in 1993 revealed a prevalence of 0.6% for HBsAg. A second survey conducted by the Maternal and Child Welfare from August 1992 to June 1993 on 1,000 pregnant women showed a prevalence of 1.13%. Hepatitis C affects an estimated 3,000 persons in Martinique. As of March 1996, 44 patients had been admitted to the chronic hepatitis C unit.

Cholera and Other Intestinal Diseases. There have been no reported cases of cholera in Martinique.

Salmonella is the most common etiological agent of food poisoning (68.1% of sources for which a causal agent was identified). The number of cases of *Salmonella typhi* is steadily decreasing, confirming the disappearance of major epidemics of typhoid and paratyphoid fevers long considered to be the most important communicable disease in Martinique. An average of 14 cases are reported per month, most (30 cases) occur in the month of August.

Between August 1995 and July 1996, 14 cases of ciguatera were admitted to hospital and an additional 32 cases were reported but not admitted. The annual incidence rate is 1.2 cases per 10,000 inhabitants. With high incidence throughout the year, viral gastroenteritis epidemics are the prime cause of diarrhea in Martinique. There has been a 90% reduction in cases of hookworm and 80% in cases of threadworm in the last six years owing to a higher level of hygiene, preventive activities, and Departmental Bureau of Health and Social Affairs screening. High-risk population groups (military recruits and farm workers) are systematically screened, but because of their risk status, screening results cannot be applied to the population at large. Polyparasitism (hookworm and threadworm or *Schistosoma mansoni*) were detected in 5% of the cases.

Tuberculosis and Leprosy. The incidence of tuberculosis fell from 66 cases in 1982 to 33 in 1995. A retrospective study of all 178 tuberculosis cases from 1990 to 1995 shows a drop in the average age of patients, from 57.5 years of age in 1991 to 48.4 year of age in 1995, probably due to HIV co-infection.

The most frequent form of the disease is pulmonary (82%). Out of 169 cases documented, 6% have suffered a relapse. Most cases (92%) are found in Martiniquans. While the number of tuberculosis sufferers infected with HIV has been falling since 1993, HIV-positive individuals are at 900 times greater risk for contracting tuberculosis. The extra-pulmonary forms of the disease are encountered particularly in HIV co-infection.

Out of 195 cases of leprosy followed by health institutions, in the active population, 92% were seen during 1996. Of the 458 patients under observation without treatment, 79.2% were examined in 1996.

AIDS. The AIDS epidemic in Martinique poses a priority public health problem. As of 1 January 1997, 402 cases of AIDS had been reported; 26% in women and 74% in men. Since the onset of the epidemic, 262 people have died of AIDS. HIV seropositivity is not subject to any notification, and only known AIDS cases are reported.

There were 44 new AIDS cases reported in 1992, 43 in 1993, 49 in 1994, 38 in 1995 and 35 in 1996. The epidemic has stabilized and is probably on the decline. Heterosexual infection is 82% among women and 60% among men, or 64% for both sexes combined. This predominance is not due to underrepresentation of other transmission groups, but is caused by the increase in heterosexual transmission. A survey conducted in 1994 on sexual behavior in the Antilles and French Guiana revealed the significance of constant multiple partners in the French Departments. No socioprofessional class or age group has escaped the AIDS epidemic in Martinique.

Because of exceedingly strict regulation regarding blood-transfusion, the virus is no longer transmitted by that route. Improved coverage of seropositive pregnant women has reduced transmission of the virus from mother to child to approximately 10%; there are currently 14 infected children.

Martinique has a departmental AIDS control scheme. Funds allocated for AIDS control amount to 6 million francs for prevention, and 20 million francs for treatment. The treatment provided in Martinique is progressive. Tritherapy began in June 1996, and some 250 patients receive bi- or tritherapy. There are approximately 400 persons monitored for seropositivity at all stages, and the viral load of patients is now routinely measured.

Noncommunicable Diseases and Other Health-Related Problems

Nutritional Diseases and Diseases of Metabolism. No diseases linked to nutritional deficiencies have been recorded for over 10 years. However, a higher socioeconomic level has brought about changes in eating behaviors, with the ensuing

excess-linked diseases (obesity, diabetes, and high cholesterol). An average of 85 deaths from diabetes are recorded each year (4% of all deaths). Diabetes accounts for 22% of hospitalizations that are fully covered by the social security system.

Cardiovascular Diseases. Cardiovascular disorders are the leading cause of mortality in Martinique. An average of 740 deaths, 30% of all deaths, were recorded each year in the 1990–1992 period. The impact of cardiovascular disorders on premature deaths (i.e., deaths between the ages of 1 and 64) is the same for both sexes, representing 21% of premature deaths.

The Social Security Code provides for coverage of 30 “long-term” diseases, or those requiring protracted or expensive treatment. Cardiovascular disorders, primarily acute hypertension and cerebrovascular accidents, account for 40% of long-term admissions each year. Cardiovascular disorders also account for 8% of all short-term admissions, placing them in fourth place among reasons for hospitalization. Hypertension is estimated to occur in 20% of the general population.

Malignant Tumors. Every year some 500 deaths from malignant tumors are recorded; tumors are responsible for one-quarter of deaths among men and one-fifth of deaths among women. Standardized cancer mortality rates dropped by 10% in the 1980s. All cancer cases have been recorded in Martinique since 1981. Cancer incidence in Martinique is lower than that found in other regions and countries of the world.

The prostate cancer rate among men is high and on the increase. Ear, nose, and throat cancers are particularly widespread, while the incidence of broncho-pulmonary cancers is low. Among women, the incidence of cancer of the cervix is very high and breast cancer somewhat low. The incidence of cancer of the esophagus and stomach is high for both sexes, while there are few colon and rectal cancer cases. The cancer registry shows that between 1981 and 1990 there were 153 cases of oral cancer among men and 30 among women.

Accidents and Violence. There was an annual average of 51 road accident deaths between 1991 and 1994. Mortality rates have leveled off since 1992 but the number of serious injuries is increasing. Of all road accident deaths in 1994, 34% were drivers of two-wheeled vehicles, 48% were driving cars, and 19% were pedestrians. Serious road accident victims involving two-wheeled vehicles are more common among teenagers and young adults. The under 15-year age group comprises the most victims among pedestrians.

In 1993 there were 2,722 work accidents. Eight deaths occurred (six involving travel), and 112 accidents had late effects.

An average of 40 suicides per year were recorded in the 1987–1990 period (1.9% of deaths). The suicide rates are higher among men over 65. The suicide mortality rate increased among men, but dropped slightly among women

since the 1982–1984 period. There was an annual average of seven homicides in the 1987–1990 period.

Substance Abuse. During 1990–1992, an average of 131 alcohol-related deaths were recorded each year, accounting for 6% of all deaths. Alcohol-related deaths account for 9.2% of all male deaths compared with 2.2% of all female deaths. The 45–64-year age group is the most affected.

During the 1990–1993 period, an annual average of 147 deaths attributable to tobacco were recorded (7% of all deaths).

Marijuana has long been the most widely consumed illicit drug in Martinique. Crack cocaine entered the scene in the early 1980s and is currently widely used, alone or in conjunction with marijuana. In November 1995, the health and social services treated 198 drug addicts. Illegal drug activity doubled between 1992 and 1995.

Behavioral Disorders. Mental disorders are a major public health problem. Psychiatric treatment of adults in Martinique is concentrated in a single hospital. A study of diagnoses of hospitalized patients reveals a considerable proportion of schizophrenia and other psychoses. There are 470 beds for psychiatric hospitalization.

The child and juvenile psychiatry units provide a network of community services in Martinique. A day clinic with 15 places for autistic and similarly affected children under 11 years of age has been in operation since 1993.

Oral Health. A survey of children aged 6–10 years shows that 30% suffer from tooth decay. This is most often encountered in families living in a vulnerable social situation. There is no fluorine in the water in Martinique and supplementation by fluoridated salt or fluorine pills is necessary.

Sickle Cell Anemia. Sickle cell anemia is the most common genetic disease in the Antilles. The detection coverage rate in Martinique is 99%. Two studies have shown that 10% of the population bore some sickle cell trait, 0.17% of the subjects being SS and 0.24% SC. One union in 65 poses a risk, and 15 to 20 children will be born annually with a phenotype that triggers a major sickle cell syndrome. In addition, 600 children (i.e., nearly 10%) will be born with the sickle cell trait.

RESPONSE OF THE HEALTH SYSTEM

Health Services and Resources

Organization of Services for Care of the Population

Health and the Environment. Water for consumption is subject to intensive controls and is of high quality. Some 23

parameters are regularly checked and warning procedures are in place in the event that contaminants exceed certain levels. The pesticides used in agriculture must conform to national standards. Pesticides have not been found in the drinking water supply. Industrial medicine covers poisoning prevention; in the last 10 years cases of poisoning have fallen by 90%, standing at present at five cases per year.

Organization of public services regarding health and environmental issues involves six State units, as well as local communities. Special groups are encouraged to study specific environmental problems.

Atmospheric pollution in Martinique is limited to that caused by automobile emissions in urban centers and along major highways. Burning of sugar cane fields or rum production produce very low levels of pollution, and there is virtually no industrial air pollution. New cars are required to be equipped with catalytic exhaust systems. An increasing number of automobiles use unleaded gas (approximately 30%).

Organization and Operation of Personal Health Care Services

The regional health organization plan in Martinique includes an "emergency" and "resuscitation" section. It comprises three public hospitals (including one teaching hospital), and three private clinics. The public sector offers 1,831 beds for short-term hospitalization, 114 beds for follow-up and functional rehabilitation, and 101 beds for medium-term care. The private sector provides 100 beds for short-term care, 39 for follow-up and functional rehabilitation, and 61 for medium-term care. Specialties are provided in all categories and offer a full range of treatment.

Ambulatory care provided includes home dialysis, alcohol and cancer control centers, and a multiple-addiction center.

Emergency medical care is given special attention in the regional health organization plan. The current organization is based on a single emergency telephone number, through which calls can be made free of charge.