
SAINT LUCIA

GENERAL SITUATION AND TRENDS

Socioeconomic, Political, and Demographic Overview

Saint Lucia is a mountainous island, spanning 238 m²; the Atlantic Ocean is to its east and the Caribbean Sea to its west. The population is concentrated along the coastal areas and the less mountainous areas to the country's north and south. Hurricane season extends from June to November, posing a continuous threat to Saint Lucia's agriculture and physical infrastructure. The official language is English; Saint Lucian French Creole is spoken and understood by more than 70% of the population, mainly in the rural areas.

Saint Lucia became independent from Great Britain in February 1979. The country has a democratic system of government patterned after the Westminster model. The most recent parliamentary elections were held in 1992 and the next elections are scheduled for 1997. Saint Lucia is a member of the Commonwealth of Nations and the Organization of Eastern Caribbean States (OECS).

Saint Lucia's centrally controlled political structure began to be decentralized in the 1980s, in order to make government services better respond to community needs and to involve community members in decision-making. Overall, implementation has moved slowly, with the decentralization of government and/or public services gaining more ground than those in the areas of financial control and decision-making. In the health sector, the administration and delivery of public health services has been decentralized and has led to greater collaboration between staff of the various health departments. Regional health teams were established but have not remained functional. The country has 10 administrative districts.

Saint Lucia has experienced continuous economic growth, averaging 3.9% for 1992–1995 and 3.2% for 1988–1991. The growth rate was 7.1% in 1992 and 4.1% in 1995. The vulnerability of the country's economy to natural disasters was demonstrated during recent floods and damaging winds. The

economy has depended mainly on agriculture, especially the banana industry. Despite having been plagued with problems such as input shortages, the global liberalization of trade policies resulting in a reduction in the price of bananas on the European market, and tropical storm Debbie that was estimated to have damaged 58% of the banana crop in 1994, the industry recorded a 13.6% increase in production in 1995. This increase contributed to an estimated growth rate of 9.3% in the agricultural sector for that year.

The role of tourism in the economy has increased, mainly due to a 36.9% increase in visitor arrivals between 1991 and 1995. Hotel occupancy rates have averaged 66% between 1991 and 1995. The hotel and restaurant sector has ranked fifth in the sectoral share of GDP for 1991 and 1995, but the percentage contribution of this sector to GDP rose from 9.3% in 1991 to 11.8% in 1995. Other sectors of the economy have grown more modestly. The construction industry, whose performance is heavily determined by public sector projects, experienced its lowest growth in 1995, as major public sector projects reached completion. The manufacturing sector has shown only moderate improvement, because it has had to compete with regional and international low-cost suppliers, face a decreased demand from its major markets, and cope with the state of the domestic economy. In 1994 the sector contracted by 12%, but it rebounded in 1995 to a 14% growth.

The unemployment rate was 15.3% in December 1995 (compared to 16.7% in November 1992): the rate was 12.3% for males and 19.0% for females; it was highest in the age groups 15–19 years old (53.3%) and 20–24 years old (21.2%) and lowest in age groups 25–34 years old (10.7%), 35–44 years old (8.2%), and 45–54 years old (6.2%). The unemployment rates in the 15–19 age group was 63.4% for females, and 46.6% for males. The leading sectors for employment were agriculture (22%), the public sector (14%), wholesale and retail trade (14%), manufacturing (11%), construction (10%), and hotel and restaurants (10%).

Schooling is compulsory for children aged 5–15 years old. The enrollment rate at the 83 primary schools has averaged

99%, roughly evenly distributed among boys and girls. The percentage of students attending secondary schools rose from 27.5% in 1988 to 37.8% in 1992, and 43.8% in 1994. More girls gain acceptance to secondary schools, with the male-to-female enrollment ratio averaging 1:1.13. There are 15 secondary schools. The number of pupils enrolled in secondary schools increased by 20%, from 9,146 to 11,202 between the academic years 1992–1993 and 1995–1996. Enrollment at the Sir Arthur Lewis Community College was 1,176 in the academic year 1994–1995.

The 1990 literacy survey established the literacy rate as 54.1%, the illiteracy rate as 27.2%, and the functional illiterate rate as 18.7%. Most rural students speak French Creole, which puts them at a disadvantage in the formal education system, which uses English exclusively.

In 1995, Saint Lucia's estimated midyear population was 145,213, representing an increase of 6.8% since 1991. The average annual population growth rate was 1.6% during the 1992–1995 period. In 1995 the population density was 270 persons per km², an increase of 7.6% from 1991.

The age and sex structure of the population has changed little since 1991. In 1995, women still constitute a slight majority, at 51.4% of the total population. The population is relatively young, with 45.8% under the age of 20 years old. The birth rate was 27 births per 1,000 population in 1991 and 25 births per 1,000 in 1995. Women of childbearing age (15 to 49 years old) make up 26% of the population. The economically active population (age group 15–64 years old) comprise 59% of the total. The age dependency ratio was 0.69 in 1995. (See Table 1).

It is estimated that 30% of the population lives in urban areas, which has placed increased demands on housing, water, and social services. There is limited data on migration: the 1991 population census estimated that 25% of the population had moved from their place of birth, and that 30% of them resided in the capital city at the time. According to the 1995 poverty assessment survey, 20% of households reported recent migration, and 53% of them had relocated within the country. The United States and other Caribbean countries were the main destination of migrants.

The above-mentioned survey also found that, based on their reported expenditures on food and nonfood items, 18.7% of households and 25.1% of individuals were poor. In addition, 5.3% of households and 7.1% of the population were indigent, in that their expenditures were inadequate to cover their dietary requirements. The study also revealed that in the poorest groups, food accounted for more than half of all household expenditures.

Mortality Profile

In 1995, life expectancy rates for males and females were 67.5 and 73.3 years, respectively.

TABLE 1
Estimated mid-year population by sex and age groups,
Saint Lucia, 1995.

Age group (years)	Number			Percent
	Male	Female	Total	
Total population	70,596	74,617	145,213	100.0
0–4	8,703	8,504	17,207	11.8
5–9	7,983	8,189	16,172	11.1
10–14	8,583	8,632	17,215	11.9
15–19	8,019	7,936	15,955	11.0
20–49	28,516	30,411	58,927	40.6
50–59	3,689	4,107	7,796	5.4
60–64	1,316	1,723	3,039	2.1
65 and over	3,787	5,115	8,902	6.1

Source: Government Statistical Department.

The crude death rate was 6.7 deaths per 1,000 in 1991 and 1995, and averaged 6.8 deaths per 1,000 during 1992–1995; in 1995, the rate was 7.3 per 1,000 for males and 6.0 per 1,000 for females.

The average infant mortality rate was 16.5 deaths per 1,000 live births in 1992–1995. There were 3,839 deaths reported during 1992–1995, an average of 960 deaths per year. Non-communicable diseases are the major cause of death, particularly diseases of the circulatory system (33%), malignant neoplasms (15%), and diabetes mellitus (11%). The major causes of death reported under “diseases of the circulatory system” were acute myocardial infarction, chronic ischemic heart disease, and chronic/unspecified heart failure. The fact that 66 deaths were labelled “cardiac arrest” underscores the problems with the quality and thoroughness of death certificates. The main sites for cancers among males were the prostate (76 deaths), digestive system, excluding stomach (50 deaths); and stomach (49). In women, the most common sites were the breast (42), cervix (37); digestive system, excluding stomach (60), and stomach (26). Communicable diseases (3%) and external causes of death (5%) are not major causes of death.

SPECIFIC HEALTH PROBLEMS

Analysis by Population Group

Health of Children

The major health problems in this group are acute respiratory infections, diarrheal disease, and accidents.

The perinatal mortality rate in 1992–1995 averaged 25 deaths per 1,000 births. In 1995, the infant mortality rate was estimated as 18.5 per 1,000 live births for males and 14.5 per

1,000 for females. Sixty-two percent of infant deaths during 1992–95 were classified under “conditions originating in the perinatal period,” of which prematurity and abnormal fetal growth (48%) and birth asphyxia and respiratory problems (36%) were the major causes. The mortality rate for children under 5 years old was 4.6 per 1,000 population for 1992–1995. Deaths in this age group accounted for 7.9% of all deaths during 1992–1995. Of the 62 deaths in the age group between 1 and 4 years old during 1992–1995, 61.3% were males and the main causes were traffic accidents (5), other accidents (11), infections (10), cancers (4), and pneumonia and influenza (4).

Through cord blood screening for sickle cell anemia that was introduced in 1991, abnormal hemoglobin was detected in 378 specimens tested in 1995, which represented 10.3% of all births for that year. This information is used for early identification of children with the disease, for parent education on the disease and on the prevention and management of crises, and for special immunizations.

There were 27 deaths in the age group 5 to 9 years old during 1992–1995, with the major causes of death being traffic accidents (4), other accidents (5), and anemia (4). Information on the morbidity profile of this age group is not available.

Specific health programs targeted to this population group are limited to immunization and physical assessment upon school entry. There is no organized school health program.

Through a community pediatric program launched in 1993, a pediatrician conducts specialty clinics at selected health centers in each of the eight health regions and trains nursing staff. Physical and developmental screening is performed at birth and at 6 weeks and 8 months of age. A “child health passport”—a home-based record of physical growth, immunizations, and major illnesses—is used to monitor growth in the population under 5 years old, but information on the growth chart is not routinely extracted for reporting and analysis.

Adolescent Health

Health services targeted to adolescent age groups (10–14 and 15–19 years old) do not exist. Immunizations are offered to children at school.

Twenty-seven deaths were reported during 1992–1995 in the age group 10–14 years; 19 males and 8 females. The major causes were traffic accidents (4), other accidents (8), and cancers (5). In the group 15–19 years of age there were 41 deaths during 1992–1995, 25 males and 16 females; the major causes of death were accidents and external causes (15) and cancers (6).

The fertility rate for the age group 15–19 years of age was 104 per 1,000 population in the age group in 1990, and has

remained above 80 per 1,000 during 1992–1995. The 1988 contraceptive prevalence survey indicated that 16% to 17% of girls in this age group were using a family planning method; the most frequently used methods were contraceptive pills (37.0%), condoms (30.1%), and contraceptive injections (21.9%).

In 1991, the National Population Council in collaboration with the Economic Commission for Latin America and the Caribbean published a comprehensive report on the problems of Saint Lucian teenagers in a changing society, which highlighted lack of education and employment as two of the leading problems. Youth leave the formal school system without the appropriate training to prepare them for the job market. The study’s results also have been used to develop strategies at local and regional levels to reduce teenage fertility. A project to prevent adolescent pregnancies aims at modifying behavior and building awareness through communication and education.

Data on drug abuse and sexually transmitted diseases in teenagers is limited. Teenagers accounted for between 1% and 5% of admissions to the drug rehabilitation center between 1993 and 1995. In 1994, a review of clinic records of 143 teenagers who attended an STD clinic revealed that 82% were females. For clients for which information was available (114), the majority reported no drug use (74) and alcohol was the main drug used (39). Condoms were rarely used (5 out of 121 instances of sexual intercourse). Data on prostitution and domestic violence are not available.

Adult Health

During 1992–1995, 864 deaths were reported in this age group (20–59 years old), of which 64.5% were males. Accidents and external causes (195) accounted for 22.6% of all deaths, with the leading causes being traffic accidents (60 deaths), other accidents (60), homicides (41), and suicides (30). Diseases of the cardiovascular and circulatory systems accounted for 20.8% of deaths, with the major causes being cerebrovascular disease (48 deaths), ischemic heart disease (35), and hypertensive disease (23). Other major causes of death were cancers (14.5%), disease of the digestive system (8.7%), and diabetes (7.2%). One maternal death was reported during 1992–1995.

Health services for this age group focus mainly on the needs of adult females. There are no services specially designed for the male population.

Reproductive health care services are available at all health centers and include prenatal, postnatal, family planning, cancer screening, and treatment of medical problems including sexually transmitted diseases. The community health nurse is the main provider of preventive reproductive health services. Specialty clinics in obstetrics/gynecology and sexually trans-

mitted diseases are provided at selected health centers and district hospitals.

An estimated 50% of pregnant women use the public health clinics for prenatal care, and of these, 10%–15% register before 16 weeks. The remaining 50% of pregnant women attend private facilities. As of 1994, pregnant women have been advised to have a routine ultrasound examination at 20–22 weeks gestation. This service is available from either the public or the private sector, but the extent of compliance has not been assessed. Between 95% and 99% of deliveries take place in hospitals. Forty-four percent of women who have delivered go to the public sector for their six-week post-natal examination.

The last contraceptive prevalence survey was conducted in 1988 and showed that 54.8% of fertile, non-pregnant, and in-union women were using a contraceptive method of which the most frequently used were contraceptive pills (39.2%), tubal ligation (16.3%), and contraceptive injections (15.9%). In 1995, the Government took responsibility for purchasing contraceptive supplies through the Eastern Caribbean Drug Service. The Saint Lucia Planned Parenthood Association provides family planning services at a clinic in the capital city, at some work places, and through community-based distribution outlets throughout the island.

Cancer screening is limited to Pap tests and the teaching of breast self examination, both of which are given at all 34 health centers, the clinics run by the Cancer Society and the Saint Lucia Planned Parenthood Association, and at private practitioners' offices.

Health of the Elderly

In 1995, persons 60 years old and older constituted 8.2% of the total population, and women accounted for 57% of this age group.

During 1992–1995, 2,564 deaths were reported in this age group, which represented 66.8% of all deaths. Women accounted for 53% of these deaths, and the most frequent causes were cardiovascular disease (39.8%), cancers (15.4%), and diabetes (10.7%). Of the 1,021 deaths classified as cardiovascular, the major causes were cerebrovascular (40.8%), hypertensive disease (16.5%), and ischemic heart disease (13.9%).

Special health services or programs for the elderly do not exist. There are five homes for the elderly, one operated by the Government, three by religious organizations, and one by a private individual.

Persons over 60 years old who have a yearly income of less than US\$ 2,222 are entitled to free medical care from the public sector.

Family Health

During 1990–1995, an annual average of 42 cases of domestic violence and 100 cases of child abuse were reported to the social services department: 38% of cases were for physical abuse and 35% for sexual abuse.

Victims receive support and counseling from the social services department and the crisis center. The Ministry of Women's Affairs has prepared materials giving victims and care providers information on victims' rights and available support services.

Approximately 85% of births occur outside of marriage. Information is not available on the number of these births that occur within a common-law union; 40% of households are headed by single women.

Workers' Health

The Occupational Health and Safety Unit is part of the Department of Labor, and is responsible for monitoring, investigating, and enforcing legislation regarding workers' health. Available data on workers' health is limited to an analysis of injury and sick benefit claims submitted to the National Insurance Scheme (NIS), which covers about 60% of workers. During 1989–1994, 80% of claims due to employment injury (718) were submitted by males, and 80% occurred in workers 20–49 years old of both sexes. In 40% of cases the type of injury was unknown or unspecified, 33% were superficial injuries, and 13% were open wounds. Sixty percent of the sickness claims (12,972) were by female workers, and 65% and 75% of them were in the age group 20–39 years for males and females, respectively. In 36% of sickness claims, the disease was not known or was categorized as "ill defined conditions" or "other." Other reasons for sickness benefits were injury (14%), respiratory illness (10.9%), and infections (9.5%).

Health of the Disabled

The 1991 population census recorded 9,449 persons with disabilities, which represented 6.9% of the population: 58% of disabilities occurred in females, 43% occurred in persons 65 years old and older, and 46% occurred in persons 15–64 years old. Locomotor disabilities system and sight impairments accounted for 70% of all disabilities (Table 2). The cause of the disability was not recorded.

Hearing is assessed in 8-month-old children and on persons referred to either of the two health centers equipped to conduct assessment. Ear, nose, and throat specialist services

TABLE 2
Type of disability by age group, Saint Lucia, 1991.

Type of disability	0–4 years	5–14 years	15–49 years	50–64 years	65+ years	Total by type of disability	
						Number	%
Locomotor	32	147	950	1,013	2,297	4,439	47.0
Sight	22	235	610	379	1,030	2,276	24.1
Mental	36	224	617	87	121	1,085	11.5
Hearing	18	98	151	63	275	605	6.4
Speech	24	98	205	49	76	452	4.8
Other	6	35	119	126	306	592	6.2
Total by age group	138	837	2,652	1,717	4,105	9,449	100.0
%	1.5	8.8	28.1	18.2	43.4	100.0	100.0

Source: Saint Lucia Statistics Department.

are available, but speech therapists and audiologists usually only offer their services on a short-term or volunteer basis.

A team of health professionals conducts a monthly clinic for children with multiple handicaps. Community health aides are responsible for community-based rehabilitation and for a pilot program for early stimulation of disabled children.

Analysis by Type of Disease

Communicable Diseases

Vector-Borne Diseases. No cases of yellow fever were reported during 1988–1991 or 1992–1995. Yellow fever vaccine is administered only to those who request it or persons who require it for travel.

The number of reported cases of malaria, dengue, and schistosomiasis were 3, 9, and 8 during 1992–1995, compared with 0, 12, and 21, respectively, for 1988–1991. The two cases of malaria reported in 1995 were imported. Although the Ministry of Health's statistical unit did not receive reports of dengue cases in 1993, four cases were identified through the measles surveillance system. Information on dengue serotyping and location of cases of vector-borne diseases was not available.

Vaccine-Preventable Diseases. Immunization coverage rates during 1992–1995 ranged between 95% and 99% for BCG and between 92% and 98% for DPT and OPV. The rates for MMR were 72% in 1992 and 92% to 94% for 1993–1995. In 1994, 96% of school girls aged 11–15 years were immunized against rubella. Hepatitis B vaccine was last offered to health workers in 1989–1990, when 69% of the 120 staff members who participated received three doses.

Saint Lucia recorded its last case of poliomyelitis in 1970 and was certified as being free of the transmission of wild poliovirus in 1994. Neonatal tetanus was last reported in 1985; one case of non-neonatal tetanus was reported in 1993. The number of reported cases of suspected measles in children under 15 years old has decreased steadily from 37 in 1992 to 8 in 1995. In the 1992–1995 period, no cases of measles or rubella were confirmed through the surveillance system, nor were any cases of diphtheria or whooping cough reported. During the same period, 11 cases of infectious hepatitis were reported, down from the 30 cases reported in 1988–1991. Reports of infectious hepatitis were not recorded by type of virus. *Haemophilus influenzae* is not a reportable disease.

Cholera and Other Intestinal Diseases. Cholera has not been reported, but it is being monitored in the subregion with the assistance of the Caribbean Epidemiology Center (CAREC), so that public education and surveillance can be engaged when required.

Routine reporting from the District Medical Officer clinics demonstrated that diarrheal infection epidemics occur every two years, with children under 5 years old accounting for approximately 50% of cases; causative pathogens were not identified. During the reporting period, 3,994 cases were reported, a drop from the 4,536 cases reported for 1988–1991.

Tuberculosis and Leprosy. Eighty-two cases of tuberculosis were reported during 1992–1995, compared to 98 cases reported during 1988–1991; all were respiratory tuberculosis cases. Available information for the 56 cases reported during 1993–1995 indicates that they were equally distributed between males and females and that they occurred in the age groups 40–59 years old (34%), 60 years old and older (30%), and 20–39 years (29%). Five cases have been reported in per-

sons with AIDS. There were 27 deaths caused by tuberculosis for 1992–1995.

During 1992–1995, 34 new cases of leprosy were reported, all of whom were in persons older than 15 years old. In 1995, 24 cases were being treated and 11 were under surveillance.

Acute Respiratory Infections. Reported cases of acute respiratory infections declined between 1988–1991 and 1992–1995. During the latter period, 78 cases of pneumonia in children under 5 years old and 1,731 cases of influenza were reported, compared to 321 and 2,298 cases, respectively, for 1988–1991.

Pneumonia accounted for 44.2% (99) of all deaths due to respiratory disease. Eight deaths were in children under 5 years of age. There were no deaths due to influenza during 1992–1995.

Rabies and Other Zoonoses. Eight cases of leptospirosis were reported during 1992–1995, and no cases were reported in 1988–1991. Information is not available on the age, sex, occupation or location of these cases. One death due to leptospirosis was reported in 1995, in a 45-year-old male from a rural area.

Leptospirosis has been diagnosed clinically and through serosurveys in cows. Cryptosporidiosis has been identified in cows in one area of the island. A survey in 1994 did not reveal any cases of brucellosis or tuberculosis in cows.

Rabies is not present in Saint Lucia. Animals from endemic areas and areas considered to be at risk are barred from entering the country. Imported domestic animals are quarantined in facilities in the United Kingdom for six months before entry.

AIDS and Other Sexually Transmitted Diseases. The first case of HIV infection was diagnosed in 1985 and the first case of pediatric AIDS was reported in 1990. As of December 1995, there were 140 reported cases of HIV infection and a cumulative total of 81 persons diagnosed with AIDS. The cumulative case fatality rate for AIDS was 88.9%. The male:female ratio for HIV infection is 1.2:1, which points to a primarily heterosexual mode of transmission; 52% of cases were in the age group 30–44 years, and 6 were pediatric cases.

A recent analysis of HIV/AIDS surveillance revealed that HIV infection is diagnosed late, since 80% of cases are reported only at the time of diagnosis of AIDS disease; only 20% of cases are reported more than one year before AIDS symptoms are manifested. Data on the clinical manifestations are poor and the burden of HIV infection and AIDS disease on hospital services has not been analyzed. The total number of HIV tests ranged between 4,000 and 5,000 over the last five years, with 33% having been performed by the blood bank, 38% at STD clinics, 20% by medical practitioners in the public and private sector, and 9% as part of seroprevalence surveys.

In 1994, HIV seroprevalence in the prenatal population was estimated at between 0% and 0.6%; the 1995 HIV seroprevalence on cord bloods was estimated at between 0% and 0.5%; and in 1992, PAHO estimated the HIV seroprevalence for Saint Lucia as 0.63%. Based on these data, the seroprevalence rate of HIV infection for the total population was estimated at 0.5%.

Information on sexually transmitted diseases is limited to reports from three STD clinics in the country's north, south, and west, and reports to the epidemiology unit. During 1992–1995, 670 cases of syphilis and 343 cases of gonorrhea were reported to the epidemiology unit, compared to 689 cases of syphilis and 599 cases of gonorrhea reported during 1988–1991.

Noncommunicable Diseases and Other Health-Related Problems

Nutritional Diseases and Diseases of Metabolism.

There are pockets of undernutrition, but the extent of the problem is not known. There were nine cases of undernutrition reported in children under 5 years old in 1992–1995, compared to 23 cases during 1988–1991. Iron deficiency is the only micronutrient deficiency that has been identified, but the extent of the problem, particularly among women and children at-risk groups has not been determined. An analysis of prenatal records in 1990 showed that 20% of pregnant women attending public health clinics had hemoglobin levels of under 10gm/dL.

Problems with the way morbidity data on diabetes mellitus get recorded makes this information unreliable. Diabetes accounted for 8.8% (339) of all deaths during 1992–95; women accounted for 65% and those in persons older than 60 years old, 81%.

Cardiovascular Diseases. During the 1992–1995 period, there were 1,304 deaths due to diseases of the circulatory system, accounting for 33% of all reported deaths and ranking as the main group of causes of death. Within this broad group, cerebrovascular (35.9%), hypertensive disease (14.8%), and ischemic heart disease (13.6%) were the major causes of death. Morbidity data are not currently available.

Malignant Tumors. The country has no cancer registry. An analysis of histopathological diagnoses of 2,714 specimens examined at the two main hospitals in 1995 revealed that 8.2% (222) were malignant neoplasms. The main sites affected were the uterine cervix (20.7%), skin (18.9%), female breast (12.2%), and digestive system (10.4%). The sites in 20.7% were not specified.

Malignant neoplasms accounted for 14% of all deaths during 1992–1995. The three most common sites of cancer in

males were prostate, stomach, and other sites in the digestive system. Breast, uterine cervix, and the gastrointestinal system were the three most common sites in females.

Accidents and Violence. Accidents and violence accounted for 7.7% of all deaths in 1992–1995. The majority of these deaths occurred in the age group 15 to 44 years old, and 81% were in males. The number of deaths reported was 296, and the main causes were traffic accidents (28.7%), homicides (16.2%), drowning (14.5%), and suicides (11.8%).

Legislation requiring the use of seat belts when riding in automobiles and crash helmets when riding motorcycles was passed in Parliament in 1994. The law was enforced after three years, to give car dealers and individuals time to comply with the law and to reap the benefits of a public education campaign.

Behavioral Disorders. Information is not available on smoking patterns or alcohol consumption. The sale of tobacco and alcohol to minors is prohibited by law.

During the 1993–1995 period, 2,217 persons were admitted to the psychiatric hospital. In 1995, there were 761 admissions, of which 75% were males, and 1,872 persons seen at outpatient clinics, of which 61% were males. The predominant diagnosis was schizophrenia (61%), followed by manic-depressive psychoses (20%).

Natural Disasters and Industrial Accidents. An oil spill occurred at the Hess Oil Terminal in 1995 with no major health consequences reported.

Tropical Storm Debbie caused severe floods in September 1994, which led to landslides and damage to the agricultural sector and to the physical infrastructure. Tropical Storm Debbie resulted in three deaths, and total damage was estimated at US \$85 million. The storm's major health threats involved overflowing pit latrines, stagnant water, and interrupted water supplies for prolonged periods. Disease surveillance was strengthened and expanded in the post-disaster period.

RESPONSE OF THE HEALTH SYSTEM

National Health Plans and Policies

The Ministry of Health's main policy mandate is "to maintain and upgrade the present and future stock of human resources." The National Health Policy covers revenue collection, use of appropriate technology, health personnel quality, population growth, vulnerable and at-risk groups, substance abuse, workers' health, and environmental issues. Strategies to address these policies are reflected in the National Ten Year Health Sector Plan, June 1993–July 2003.

The Government will continue to improve the health care system through a primary health care/preventive approach, while also increasing the availability and quality of secondary and tertiary services.

Financial constraints, the rising cost of health care, dwindling external funding, and the public's demand for more sophisticated and expensive health care have led Saint Lucia to review health services management. At the heart of this re-assessment is the question of how to organize the health services so as to promote equity, efficiency, sustainability, accessibility, quality, and consumer satisfaction.

Reforms already have resulted in greater collaboration with the country's private health sector and with other countries. The focus on health care financing has resulted in an upward revision of user fees including procedure fees, and plans to implement a national health insurance to cover a greater percentage of the population and to address the issue of equity. Other reform initiatives have focused on mental health and pharmacy services and management reforms for hospitals, including a redefinition of the role of district hospitals.

Organization of the Health Sector

The Ministry of Health's technical directorate and the country's health professional organizations are responsible for leadership in health.

At the central level, heads of departments manage staff and different health development programs; they are supported by national program managers, who manage specific health programs. At the district level, health teams manage the health care administration and services. It should be noted that there are only two teams functioning.

In the public sector, health care is broadly grouped into personal health care services, human resources, and physical resources. Health promotion and prevention, curative, and rehabilitation services are offered and delivered at the primary, secondary, and tertiary levels.

Primary health care services are decentralized and offered at 34 health centers scattered throughout the island. Secondary and specialized services are concentrated in the country's north and south at the two general hospitals and the psychiatric hospital. Clinics for obstetrics/gynecology, pediatrics, surgery, sexually transmitted diseases, and mental health services also are conducted at selected health centers and district hospitals.

Everyone may seek care at any health facility, but the administration and management of health facilities are based on a catchment population within a defined area surrounding a major town or village.

The private health sector is made up of health professionals, nongovernmental organizations, and traditional healers.

Medical and dental practitioners have always operated in the private sector, and many work in both the public and private sector. Nurses more recently have been employed in the hotel industry and in private home nursing care.

The Ministry of Health is responsible for establishing user fees in the public sector, but it has no jurisdiction over the operations of private health insurance companies. Most companies refund the insured while a few pay the service provider. The main types of health insurance are private health insurance for individuals and groups and coverage by National Insurance Scheme (NIS). The last entity makes a yearly lump-sum contribution to the Ministry of Health, which is allocated to inpatient hospital expenses for employees who contribute to NIS. Most private health insurance is awarded through group employment plans, with employers and employees contributing to the plan. Others purchase individual policies for themselves and their families.

At the end of the 1992–1995 period, discussions were under way for implementing a National Health Insurance Scheme (NHIS). This scheme would cover contributors and their families for inpatient and outpatient hospitalization. Membership will include employed persons, pensioners, and socially dependent persons. The socially dependent are identified based on family income.

The medical and nursing councils are responsible for the registration and monitoring of doctors and nurses; the Medical Board is responsible for the registration of dentists, pharmacists, and optometrists. The practice of public health professionals is guided by the Public Health laws. Currently, practitioners need not submit proof of continued medical education or a certificate of physical fitness to practice in order to re-register. Health facilities are not registered or licensed, and there are no monitoring mechanisms in place.

There is no national drug regulatory authority; CARICOM is working to establish a Regional Advisory Body on Drugs and Therapeutics (RABDAT), which will serve as the regional regulation authority for the registration of drugs. Trade licenses are required for the importation of drugs, reagents and other medical supplies. Legislation exists to govern prescription of controlled drugs, and their use is monitored by the Chief Pharmacist.

The Ministry of Planning has responsibility for physical development and the environment. Land use has been zoned for agricultural, industrial, and human settlements. The Ministry has increasingly requested Environmental Impact Assessments for certain development projects.

The Pesticide Control Board is responsible for the registration and licensing of pesticides. Mechanisms are in place for the surveillance and control of biological and chemical contamination of water; however, chemical safety and the quality of the air, soil, and housing are not routinely moni-

tored, and monitoring and enforcement of these measures are inadequate.

Food safety and quality are covered under the 1980 Public Health Regulation No. 70, and the executing agency is the Environmental Health Department's Food Unit. By law, food establishments and food handlers must be registered and in possession of a license.

Several pieces of legislation are under review, including legislation on workers' health, the Emergency Powers Act, and the Pharmacy Act. The Public Health laws and the Registration of Nurses and Midwives Ordinance also are under review.

Health Services and Resources

Organization of Services for Care of the Population

Health Promotion, Health Settings and Environments, Social Communication. Health promotion and education within the Ministry of Health come under the Bureau of Health Education; other Ministry departments, other ministries, and nongovernmental organizations also undertake health promotion activities. Popular theater is increasingly being relied upon for health promotion and education purposes, and Creole is being more widely used to disseminate health news to the public through the media. During 1993–1996, 197 male and 515 female peer counselors received training to provide support and information to youth in the areas of family life, values, human sexuality, and fertility.

Programs of Disease Prevention and Control. Preventive services are provided free of charge, except for yellow fever vaccine, vaccines required for college entry, and contraceptive supplies. Pregnant women are screened for anemia, hemoglobinopathies, and syphilis; iron is routinely administered. Cord blood screening is performed. Immunization is routinely offered to children under 15 years old and pregnant women.

Regarding cancer screening, programs are in place for cervical and breast cancer, and prostatic specific antigen is now available for screening for prostate cancer.

Programs also are in place for the prevention and control of schistosomiasis; foodborne diseases; leprosy; AIDS and HIV; and dengue, including *Aedes aegypti* control. Health education, the reduction of risk factors and early detection, form a major component of disease prevention and control.

Oral Health. Dental services, including dental examinations, prophylaxis, dental sealants, fillings, scaling/root planing, and extractions, are provided at seven dental clinics spread throughout the island. X-ray services are available at three clinics, and one clinic provides treatment exclusively for children; root canal therapy is available only to children. A total of

12,049 patients were treated by the Ministry of Health's dental services in 1995.

In 1994, the school dental program expanded its coverage from 7- to 8-year-old children to include preschoolers and children attending day care centers. Seventy percent of these children participated and were offered fillings, extractions and sealants, cleanings, and fluoride treatment.

Oral fluoride treatment for children was discontinued in 1994 because of inadequate funding and erratic supplies. A 1994 study of all water treatment plants showed that most fluoride levels ranged from 0–0.2mg/dL. A water fluoridation program is not feasible at this time, because water treatment facilities are too few and not sufficiently well maintained.

Epidemiological Surveillance Systems and Public Health Laboratories. Surveillance systems are in place for communicable diseases of international, regional, and national interest. Active surveillance is under way for dengue, diarrheal diseases, poliomyelitis, HIV/AIDS/STD, and measles; the measles surveillance system was put in place in 1991, and surveillance for acute flaccid paralysis began in 1992. Information has been traditionally extracted from reports from District Medical Officer clinic registers.

Throughout 1993–1995, health workers were trained in the diagnosis and surveillance of dengue fever, measles, and poliomyelitis, and mechanisms have been put in place to facilitate the transport of laboratory specimens to the main hospital and to CAREC. The country does not have a public health laboratory. The Ezra Long laboratory at the main general hospital has facilities for the investigation of bacterial, parasitic and certain viral infections. The laboratory investigation of other viral diseases such as dengue, measles, poliovirus, and leptospirosis is conducted at CAREC.

Drinking Water Services and Sewerage. The Water and Sewerage Authority is responsible for monitoring and managing the municipal water supply, and it operates 37 raw water intakes that supply water to 31 water treatment facilities. Tropical Storm Debbie extensively damaged water treatment and storage facilities. The 1991 census indicated that 75% of households were connected to the municipal water supply. The Roseau dam was completed in 1996.

The improper disposal of chemicals by the agriculture and manufacturing sectors and the unrestricted access to raw water sources threatens water quality.

A 1995/1996 study conducted by the Ministry of Health on Saint Lucia's existing piped water supply found that approximately 46% of the population is served by water treatment facilities that lack the basic process of chemical sedimentation.

The 1991 census showed that the pit latrine is the main type of sewerage disposal (49%), with septic tanks being used

by 29% of households, and 6% of households being linked to the sewerage system. Eleven percent of households concentrated in rural towns and villages had no excreta disposal facilities. The Government operates about 50 public toilet facilities throughout the island.

Solid Waste Management Services. Solid waste management falls under the combined responsibility of the Ministry of Planning, the Environmental Health Branch of the Ministry of Health, the Castries City Council, and the village councils. Approximately 60% of collection under the responsibility of the Castries City Council is contracted out privately.

Solid waste is not properly stored prior to collection, and is often disposed of inappropriately. Solid waste disposal is handled through open dumps, which are inadequate and not properly maintained. Waste generated by public health care institutions is incinerated on the premises; no assessment has been conducted on the adequacy of this practice nor on the way waste generated in the private health sector is disposed of.

A 1992 study examining solid waste management practices and available resources issued recommendations for managing the country's various types of solid waste. As a result, in 1996 a Solid Waste Management Authority was established under the Solid Waste Management Authority Act, and a Saint Lucian component of an OECS solid waste management project was developed; the latter is funded by the Global Environment Trust Fund, the World Bank, the Caribbean Development Bank, and the Government of Saint Lucia.

Air Pollution Prevention and Control. The Ministry of Planning is responsible for the monitoring and control of air quality. The Government is signatory to several international conventions dealing with air quality and has started intersectoral discussions on ways to reduce substances that deplete ozone. In 1994, all Ministry of Health buildings were officially declared as smoke-free areas, and this policy was extended to all government buildings in 1995. There are standards for air quality available, but no air quality policy has been issued.

Food Protection and Control. The Food Unit of the Environmental Health Department is responsible for handling all aspects of food protection, control, and safety, including the inspection of commercial premises involved in food preparation, inspection of meats and other foods, training and registration of food handlers, and the investigation of foodborne illnesses.

Organization and Operation of Personal Health Care Services

Ambulatory Services, Hospitals, and Emergency Services. Medical and pharmaceutical services are available at

least once a week at the 34 health centers throughout the island. Inpatient, outpatient, and accident and emergency services are available at the two general hospitals. The two district hospitals offer primary health care services and limited secondary care and emergency services. Patients move from the public to the private sector and between different levels of care to seek medical attention. The referral system within and from the primary health care system is well developed. The referral system from the secondary and tertiary levels to the community level needs to be strengthened, in order to improve the follow-up of clients by community health staff.

Auxiliary Services for Diagnosis and Blood Banks. Laboratory, colposcopy, and diagnostic radiology services are available in the public and private sector. The National Blood Transfusion Service is based at the main hospital. Donors are screened initially by a questionnaire, and then tested for HIV, HTLV-1, HBsAg, and VDRL.

Specialized Services. Specialized services are available in obstetrics and gynecology, colposcopy, radiology, ophthalmology, ear nose and throat, facio-maxillary surgery, psychiatry, and renal dialysis. Physical rehabilitation services are provided by the physiotherapy departments. Turning Point, an alcohol and drug rehabilitation center, offers inpatient and outpatient care to persons suffering from alcohol and drug abuse.

Inputs for Health

Saint Lucia does not produce drugs, immunobiologicals, reagents, and equipment.

Drugs. Saint Lucia procures some of its drugs and pharmaceuticals through the Eastern Caribbean Drug Service (ECDS). The National Drug Formulary Committee selects drugs and pharmaceuticals for procurement and awards contracts to approved suppliers. In 1994, the committee published the 4th edition of the "Regional Formulary and Therapeutics Manual." A comprehensive quality assurance program exists in collaboration with the Caribbean Drug Testing Laboratory.

Drugs, pharmaceuticals, or other medical supplies that do not qualify for pooled procurement are acquired from known agents or manufacturers by the medical supplies department and individual heads of departments; no formal mechanisms are in place for quality control.

Immunobiologicals. All vaccines used in the public sector are procured through PAHO's Revolving Fund, which awards contracts to suppliers and monitors vaccine quality.

The Ministry of Health provides vaccines to the private sector at a minimal cost.

Hepatitis B and *Haemophilus influenza* B vaccines, and hyperimmune sera used in hospitals are purchased from local or overseas drug agents without any mechanisms for quality control.

Reagents and other supplies used in the public sector are procured from different suppliers by the medical supplies department and individual heads of departments.

Equipment. Biomedical equipment is procured by various persons. The many different brands that are acquired pose problems for the maintenance and the purchasing of spare parts.

Human Resources

Availability by Type of Resource. The number of personnel employed by the public sector increased during the reporting period: in 1995, there were 71 medical doctors, 7 dentists, 401 nurses, 15 pharmacists, 5 health educators, and 280 environmental health staff in all categories working at the Ministry of Health and in Saint Jude Hospital, a semi-private hospital serving the population living in the south of the island. Staff employed in the laboratory and radiology services also increased, but no numbers are available. These increases have resulted from an expansion in the type of service offered, increased workload, and the availability of appropriately trained health professionals.

Education of Health Personnel. The Sir Arthur Lewis Community College is the only local institution that trains health professionals. The college began training of general nurses and midwives in 1988, and in 1994 conducted a Community Nutrition Diploma Course for Field Nutrition Officers. Community health aides are trained by the Community Nursing Department. Training for other categories of health professionals has to be pursued at regional and international institutions, and it is severely constrained by lack of financial resources.

In-service training for all categories of health professionals is regularly organized by the Ministry of Health, the National Drug Formulary Committee, and the Saint Lucia Medical and Dental Association. In addition, short courses on reproductive health and adolescent health have been conducted through the University of the West Indies' distance teaching system.

Labor Markets for Health Personnel. Most health personnel are employed in the public sector. Traditionally, medical and dental practitioners and pharmacists represented most health workers employed in the private sector, but a

growing number of private facilities has begun to offer diagnostic services and optical care. There are few opportunities for employment of health professionals in the nongovernmental organizations.

Research and Technology

The Ministry of Health has increased the use of new technologies in several areas. The Environmental Health Department has introduced the use of ultraviolet lights, mist blowers, sensitizer strips, and thermometers in its vector control and food quality and control programs, as well as the use of ventilated improved latrines. Ultrasound and colposcopic services are available in the public and private sector, a computed tomography services in the private sector.

The country has no regulatory policies that address health research and technology, nor are there formal structures to assess and evaluate the impact of health research and technology. Health technology use has not been assessed.

During 1992–1995, the Eastern Caribbean Drug Service conducted a study on rational drug use in hypertension and diabetes. Of concern was the use of sulphonylureas in persons over 60 years, the low use of glucophage, and the prescribing of Bezide 5mg when 2.5mg has been shown to be as effective. Health care providers were informed of the results through drug utilization seminars.

Expenditures and Sectoral Financing

Information on public health expenditure is available for health institutions and specific programs. Information is not available, however, on private health expenditure or on the resources of institutions, corporations, and community and nongovernmental organizations.

The health sector is the second highest recipient of total government resources. The approved health budget averaged 12.5% of total government expenditure over the 1993–1995 period. For the fiscal years 1991/1992 to 1994/1995, recurrent public health expenditure averaged 1.6% of the total government budget for preventative health programs, 5.4% for hospitals (excluding Saint Jude Hospital), and 3.9% for drugs and medical supplies (excluding vaccines). The Government pays for the salaries, wages, and gratuities of the staff at Saint Jude Hospital. The execution of major capital works has relied heavily on international aid.

The major source of funding for government recurrent expenditure comes from income tax, other taxes, and user fees. Because Government revenues from all sources are placed in a consolidated fund, revenue from user fees does not directly benefit the department or Ministry that collected the fees. Saint Jude Hospital is an exception, in that it keeps its user-fee revenue for its expenditures.

Recurrent health expenditure is financed from allocations from the consolidated fund, plus the National Insurance Scheme's annual contribution to the fund to cover inpatient hospital expenses for its members. Prior to fiscal year 1993/1994, only one-third of the approved US\$ 1.1 million was received from the National Insurance Scheme (NIS). In fiscal year 1993/1994 the Scheme paid part of the funds owed to the Government, accounting for 70% of the health budget for that year. The NIS contribution accounted for 49% of the total health revenue for the fiscal year 1994/1995.

In 1992, user fees for the public sector were reviewed upward, and as a result, the contribution of user fees to total health revenue increased from 29.5% in 1989/1990 to 49% in 1992/1993.

External Technical and Financial Cooperation

Saint Lucia's health sector receives technical and financial assistance from several agencies. The health sector also benefits indirectly from assistance to other ministries and agencies.

The Pan American Health Organization, the Caribbean Epidemiology Center (CAREC), the United States Agency for International Development, the United Nations Children Fund, the Peace Corps, and the French Government have provided technical assistance and funding for training activities; special programs such as immunization, breastfeeding, and cervical cancer control; and hospital furnishings and equipment. The health sector also receives assistance from CARICOM and the University of the West Indies. During the 1993–1996 period, financial support for capital projects has been received from the following donors: US\$ 140,000 from the Basic Needs Trust Fund for the Gros Islet Polyclinic; US\$ 11.3 million from the European Union for Victoria Hospital's phase II project; US\$ 1.06 million from the Government of France for Victoria Hospital's phase I project; and US\$ 1.96 million from the Caribbean Development Bank, US\$ 2.45 million from the Global Environmental Trust Fund, and US\$ 4.56 million from the World Bank all destined for the solid waste management project.