INTRODUCTION

Saint Lucia, one of the islands comprising the Windward Islands, is washed by both the Caribbean Sea and the Atlantic Ocean. The country is located northeast of Saint Vincent and the Grenadines, northwest of Barbados, and south of Martinique. It has a land area of 620 km$^2$ and is divided into 11 parishes. Saint Lucia is very mountainous, the highest point being Mount Gimie, at 950 m above sea level (1). The two Pitons peaks, located between Soufrière and Choiseul on the western side of the island, are the country's most famous landmark. The island boasts two Nobel laureates: Sir Arthur Lewis (Nobel Prize in Economic Sciences, 1979) and Sir Derek Walcott (Nobel Prize in Literature, 1992). Saint Lucia is a parliamentary democracy modeled on the Westminster system. Political power rests with the prime minister and the cabinet, who usually represent the majority party in parliament. Members
of the bicameral parliament are elected for five-year terms (2).

Most Saint Lucians are of pure or mixed African descent. Approximately 70% of the population is Roman Catholic. English is the official language, but a French patois is commonly spoken. According to the 2010 census, the total estimated population in 2010 was 166,526, including 83,600 females (50.2%) and 82,926 males (49.8%) (Figure 1). Of the total population, 165,595 lived in households and 931 in institutions. The census report also showed that the population density was 796 persons per square mile, with 72.0% of the population living in rural communities. The census also revealed that approximately 43,545 people (26% of the population) lived in the rural areas of Castries, the capital, as compared with 26,795 (17%) in 2001, an increase of 9% over the nine-year inter-censal period. Suburban Castries accounted for 11% of the total population in 2010, down from 15% in 2001 (3).

The population of Castries itself has declined from 7.9% of the total in 2001 to 2.5% in 2010 (3), presumably because of the expansion of commercial activity in the metropolitan area, as a result of which people have moved to the suburbs. Whereas between 1991 and 2001 the country’s population grew by 1.2% per year, preliminary estimates for 2010 indicate that between 2001 and 2010 it increased by 5.3%, as the number of live births exceeded the number of deaths. Average life expectancy was 73.2 in 2007 (70.8 years for males and 75.8 for females), as compared with 74 years in 2001 (72.5 for males and 75.5 for females) (3). Figures for international outbound migration indicate that 8,435 people emigrated between 2001 and 2010—3,608 males (42.7%) and 4,827 females (52.3%) (3).

While the crude birth rate remained constant at about 12 live births per 1,000 population for the 2006–2010 period (12.7 in 2006, 12.2 in 2010), the number of births decreased steadily (4) (Table 1). The United Nations database registered a 47% contraceptive prevalence rate among women aged 15–49 years for 2008 (5).

Although Saint Lucia has been impacted by the global economic crisis, its economic position strengthened during the period, thanks in part to a macro public policy entitled “The Road to Recovery: Engineering Growth, Engendering Social Cohesion and Building Resilience to External Shocks,”

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**Figure 1. Population structure, by age and sex,* Saint Lucia, 1990 and 2010.**

Saint Lucia’s population increased 25.7% between 1990 and 2010. In 1990, the country’s population structure showed an irregular pyramid with narrowing and similar values at ages older than 40 years. In 2010, the slope narrows at older ages, showing a decreased representation of age groups under 25 years old. This shift reflects decreases in fertility and mortality during the last two and one-half decades.

*Each age group’s percentage represents its proportion of the total for each sex.

**Source:** United States Census Bureau. International Database, 2009.
adopted in 2010 following Hurricane Tomás (6). Per capita gross domestic product (GDP) increased from US$ 3,070 in 2005 to US$ 6,626 in 2010 (7). GDP at constant prices rose from US$ 496,481,00 in 2005 to US$ 907,296,280 in 2010. Tourism remains the largest contributor to GDP, with hotel revenues accounting for US$ 67.3 million in 2005 and US$ 75 million in 2010. In 2005, agriculture contributed US$ 16.7 million to the GDP while in 2010 that sector contributed US$ 31.5 million (7). The public debt in 2010 was US$ 677.7 million (63.8% of GDP) compared with US$ 555.5 million (64.1% of GDP) in 2005.¹

Health-related achievements during the 2006–2010 period included the establishment of a surveillance program for noncommunicable diseases in 2010, which increased capacity for disease coding and for surveillance of notifiable diseases. In 2010, the Government installed water treatment facilities in the Canaries and Desruisseaux communities, where water supply had been disrupted for a long period. It also commissioned The New Beginning Transit Home, a shelter for abused children that also offers a comprehensive program to families who have experienced child abuse; a new senior citizens home; and a national mental wellness facility. In addition, the country became a party to the United Nations Convention on the Rights of the Child.

**HEALTH DETERMINANTS AND INEQUALITIES**

The Country Poverty Assessment in 2006 concluded that 28.8% of the population was poor² in that year compared with 25.1% in 1995. The proportion of indigent poor,³ however, had decreased from 7.1% in 1995 to 1.6% in 2006. The Gini coefficient was 0.42 in 2006, down from 0.5 in 1995, indicating a slight reduction in financial inequalities in the country. Young adults with children aged 0 to 14 years comprised 39% of those living below the poverty line, while older persons aged 65 and over made up approximately 7%. Poverty in Saint Lucia is considered mainly a rural phenomenon, with rural districts showing poverty prevalence rates in excess of 35% (8).

The preliminary 2010 census results indicated that 92% of young children were attending day care and preschool, and 96.7% of children aged 5–11 were enrolled in primary schools (males, 98.2%, and females, 95.2%). The enrollment ratio at the

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¹ A rebased GDP series for 1990–2006 was used to calculate the debt ratio. Saint Lucia uses the Eastern Caribbean dollar (EC$); EC$ 2.70 = US$ 1.

² The poverty line was estimated at US$ 5.22 per day or US$ 1,904.37 per year.

³ Indigence was estimated at US$ 1.27 per day or US$ 588.02 per year.
secondary level was 95.8% (males, 94.6%, and females, 97.1%). The census also indicated that 4.4% of males and 5.7% of females had pursued university education. Females outperformed males at all levels of educational achievement except at the doctoral level (3).

The estimated labor force in 2010 was 67,704, with males accounting for 55% (37,293) and females for 45% (30,411). In the same year the unemployment rate was 20.6% (24.2% for males and 28.2% for females). Young people aged 15–29 made up 33% of the total unemployed population, as compared with 24.1% in 2001 (3).

According to the Division of Gender Relations within the Ministry of Health, six people died (four males and two females) as a result of domestic violence between 2006 and 2010. Police records indicate that 228 cases of rape, 7 cases of incest, and 327 cases of sex with a minor were reported during the period 2005–2008. Although the authorities have acknowledged that prostitution and human trafficking exist, police records up to 2008 show no evidence of cases (10).

**THE ENVIRONMENT AND HUMAN SECURITY**

**Access to Clean Water and Sanitation**

Saint Lucia’s entire population has access to drinking water of satisfactory quality, 80% through house connections, 8.5% through yard connections, 4.4% through public standpipes, and 7.1% from sources such as trucks and private tanks. The vast majority (92.5%) also has some form of sanitary facility, whether sewer connections (6.6%), septic tanks (62.8%), or pit latrines (23.1%) (3). The other 7.5% of the population uses public facilities. The Food and Water Safety Unit of the Ministry of Health monitors and ensures compliance with the public sanitary and health standards established under the Public Health Act (1975).

**Solid Waste**

There were two sanitary landfills on the island, one in Vieux Fort and the other in Deglos, which receive the waste of 88% of households. The other 12% dispose of waste by composting, dumping, or burning. A total of 83,313 metric tons of waste was disposed of in 2010, with residential/institutional waste accounting for 33%, commercial waste for 20%, green waste for 12%, construction and demolition waste for 8%, soil for 8%, street cleaning for 6%, bulk waste for 5%, ship waste for 3%, and other waste for 5% (11).

**Disasters**

In 2010, the National Emergency Management Organization disseminated a National Emergency Plan in electronic format, which includes a contingency plan for civil unrest. Saint Lucia experiences hurricanes every three to four years. Hurricane Tomás left a swath of destruction as it swept across...

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**BOX 1. Saint Lucia tackles renal failure.**

In response to the need to make health care more available and reduce the mortality associated with end-stage renal failure, in 2010 the Government of Saint Lucia established a hemodialysis center at St. Jude Hospital in Vieux Fort. Two hospitals (Victoria and St. Jude hospitals) will have the capacity to dialyze 48 patients daily, at an approximate annual cost of US$ 1.2 million. The service will be universally available and heavily subsidized (70% of market price) by the Government so that clients pay only US$ 55 per session. In 2007, 85 persons were dialyzed. The majority (49) were between the ages of 41 and 60 years; 30 were males and 19 females. Thirty-three were diabetics and 28 suffered from hypertension. Etiological analysis of 105 cases of stage-4 and stage-5 renal failure in 2007 showed that 98 (93.3%) were due to noncommunicable diseases (9).
the island in 2010 and caused 7 deaths (3 of males, 2 of females, and 2 of persons of unknown sex) and 36 injuries. The hurricane occurred just as the economy was starting to recover from the fallout of the recession in major world markets, thus complicating the recovery process. The total cost of the damage and losses to the various sectors amounted to US$ 336.2 million. The total economic impact represented 43.4% of GDP—nine times the agricultural GDP, three times the tourism GDP, 62% of the value of goods and services exports, 19% of gross domestic investment, and 47% of the public external debt as of 31 October 2010 (12).

**Climate Change**

The issues of climate change, energy security, and sustainable development have been central to Government policies during the period. In 2009 the government installed three photovoltaic units around the island and a small wind turbine in a rural fishing community to generate energy. The country also phased out the importation of goods containing chlorofluorocarbon one year before scheduled. In 2009, the Government began to prepare its second national communication under the United Nations Framework Convention on Climate Change (9).

**Food and Nutritional Security**

Agriculture remained a critical sector of the island’s economy from 2006 to 2010, contributing 4.2% of total GDP in 2009 (9). A 2007 agricultural census revealed that the land devoted to agricultural purposes had decreased from 51,326 acres in 1996 to 30,204 in 2007. Low interest in agriculture, coupled with a lack of access to arable lands, were responsible. The Government is acquiring arable lands and leasing them to those interested in agricultural production. The average age of farmers in 2007 was 55 years, which has led the Government to implement a program aimed at encouraging the hiring of unemployed young people as farm workers. Crop production increased from 63,495 to 80,259 metric tons between 2005 and 2009. As a result, food imports fell from 101,824 metric tons in 2005 to 61,527 metric tons in 2009, although the price of imported food rose from US$ 83.9 million to US$ 107.8 million during the same period. Agricultural exports also increased, accounting for approximately 30% of total exports in 2009 (13).

**Health Conditions and Trends**

**Health Problems of Specific Population Groups**

**Maternal and Reproductive Health**

Maternal and child health services were offered at all health facilities during the period. In 2006, 98% of births were attended in hospitals by trained health personnel, and that percentage increased to 99% in 2007. Between 85% and 87% of births were by normal vaginal delivery, while between 13% and 15% were by cesarean section. Births to adolescents accounted for between 13% and 15% of all births annually. There were 33 stillbirths in 2005 and 50 in 2006, after which the number declined to 41 in 2007, 32 in 2008, and 10 in 2009. Low birthweight infants represented an average of 10% to 10.9% of all infants born during the 2006–2010 period. Only 12% of babies were breastfed exclusively for six months. Three cases of maternal death were reported, one in 2006, which was classified as “obstetric death of unspecified cause,” and two in 2007 attributed to “amniotic fluid embolism” and “unspecified maternal hypertension” (9).

**Infants (under 5 years old)**

In 2010 there were 11,810 children under 5 years old, including 5,831 females (49.3%) and 5,979 males (50.6%). In the same year, vaccination coverage among the under-1 population was 95.8% for the measles/mumps/rubella vaccine, 97.1% for BCG, 96.6% for the poliomyelitis vaccine, and 96.6% for the DPT/hepatitis B and Hib vaccines (9).
children under 5, there were 63 deaths in 2006 (males, 33, and females, 30), 42 in 2007 (males, 25, and females, 17), and 34 in 2008 (males, 26, and females, 8). The three leading causes were respiratory disorders specific to the perinatal period (34 deaths, 24.4%), other conditions originating in the perinatal period (28 deaths, 20.1%), and bacterial sepsis (10 deaths, 7.1%). Three of these deaths were of males in the 1–4 age group, one each from pulmonary heart disease, intestinal infection, and a disease of the nervous system (4).

**Children and Adolescents (5–19 years old)**

There were 43,989 children and adolescents aged 5 to 19 in 2010, with males accounting for 50.6% (22,273) and females for 49.4% (21,716) (3). Children aged 5–9 accounted for 13,150, with 6,678 males (50.8%) and 6,472 females (49.2%). The School Health Program continued to focus mainly on physical assessments, immunization, and screening for health problems. In 2008 there were three deaths in the 5–9 age group: one female died from meningitis, one male from a disorder of the nervous system, and the other (sex unspecified) from an unspecified cause.

The population aged 10–14 comprised 14,918 persons, including 7,479 males (50.1%) and 7,439 females (49.9%), in 2010, while the 15–19 age group comprised 15,921 persons, with males accounting for 51% (8,116) and females for 49% (7,805). In 2009, teen births made up 15.7% of total live births, as compared with 20.0% in 1991, 17.4% in 2006, and 16.1% in 2008. In 2008 there were 18 deaths (16 males and 2 females) in the 10–19 age group; the causes of death were: land transport accidents, 8; drowning, 2; homicide, 2; meningitis, 2; carcinoma in situ, 2; diseases of the nervous system, 2; and 1 from an unspecified cause (4).

**Adults (20–59 years old)**

There were 87,356 persons between the ages of 20 and 59 in 2006 and 90,044 in 2010. Males accounted for 49.4% (44,562), while females comprised 50.6% (45,482) (3). In 2008 there were 246 deaths, 152 of males and 94 of females. The leading causes of deaths among males were accidents (52 deaths), heart diseases (23), and malignant neoplasms (17). Among females the leading causes were malignant neoplasms (24 deaths), heart diseases (18), and diabetes mellitus (10) (4).

**The Elderly (60 years old and older)**

The population of adults 60 years and older comprised 15,690 persons, or 9.4% of the total population (15,690 persons) in 2006, with males accounting for 7,136 (45.4%) and females for 8,554 (54.6%). By 2010 this age group numbered 19,751 (11.9%), of whom 9,105 (46%) were males and 10,646 (54%) females. There were 34 centenarians, 26 of them female and 8 male (3). The National Council of and for Persons with Disabilities, a not-for-profit organization, is the umbrella organization providing support for persons with disabilities. As of 2010, there were six government-subsidized homes offering resident care for older persons (9). Deaths in this age group totaled 657 in 2008—331 males (50.3%) and 326 females (49.7%). Among males the leading causes were malignant neoplasms (81 deaths, 11.2 per 1,000 population), heart diseases (76, 10.5), and cerebrovascular diseases (34, 4.7). Among females the leading causes were heart diseases (95 deaths, 10.9 per 1,000 population), cerebrovascular diseases (58, 6.7), and malignant neoplasms (55, 6.3) (4).

**The Family**

The number of family households increased by 23.9% between 2001 and 2010, rising from 54,005 to 58,891. The number of indigent households decreased from 5.3% in 1995 to 1.2% in 2006, but the total number of poor households increased from 18.7% in 1995 to 21.4% in 2006. Many households across the island attained access to the basic amenities that are no longer regarded as luxuries such as quality running water, electricity, land lines and cell phones, and household appliances (8). The average household size decreased from 4.0 persons in 1991 to 3.3 in 2001 and in 2010 declined
further to 2.8 persons. In 2010, 59.3% of households were headed by males and 40.7% by females.

**Workers**

The Occupational Health and Safety Unit within the Department of Labour is responsible for monitoring, investigating, and enforcing the Occupational Health and Safety Act of 1985 (revised in 2001) and other legislation relating to workers’ health. The National Insurance Corporation deals with claims for work-related accidents. The number of occupational accidents declined from 158 in 2006 to 84 in 2010, of which 29 involved females and 55 males, with the largest number occurring in the 30–39 age group (14).

**Other Groups**

Data collected in the 2010 national census indicated that there were 1,528 persons with disabilities, 688 of whom were male and 840 female. By comparison, the 2001 census found 9,313 persons with disabilities, 43.7% males and 52.7% female (15). Of the population with disabilities in 2010, 31.6% had a sight disability, 12.1% had a hearing disability, and 56.2% had a physical disability (3). The National Council of and for Persons with Disabilities, which receives an annual government subsidy, addresses the needs of the population with disabilities. The Government has improved the provision of special education by establishing centers for that purpose in Vieux Fort and Soufrière, bringing the total number of special education centers to four.

**Mortality**

Mortality rates decreased slightly during the three-year period from 2006 (6.2 per 1,000 population) to 2008 (5.6 per 1,000). During that period the total number of deaths was 3,019, including 1,636 male deaths (54.2%) and 1,383 female deaths (45.8%) (4). In 2007, both the crude death rate and the total number of deaths fell to their lowest values: 952 (555.9 per 100,000 population), including 552 males and 400 females. In 2008, there were 958 deaths (562.4 per 100,000), including 520 males and 438 females; data for 2009 and 2010 were not available. The infant mortality rate was 25.8 per 1,000 live births in 2006, 15.9 in 2007, and 13.9 in 2008. Between 2006 and 2010, the rate remained below the target of 30 per 1,000 set by WHO for the Caribbean. The number of infant deaths ranged from 30 to 55 a year during the period 2006–2008. Table 2 shows the 10 leading causes of all deaths for 2006–2008; these causes accounted for 74.5% of total deaths (4).

Noncommunicable diseases continued to cause the majority of deaths and in 2008 accounted for 71% of all deaths from defined causes. Heart diseases were the number-one cause, accounting for 18.7% of all deaths, with 51.6% of deaths from this cause occurring among males and 48.4% among females. Deaths from malignant neoplasms, the second leading cause of death in 2006–2008, totaled 544. In this period there were 342 male deaths, of which 107 (31.3%) were from prostate cancer, 62 (18.1%) from cancer of the organs of the digestive system, 55 (16.0%) from other, unspecified sites, 43 (12.6%) from cancer of respiratory organs, 18 (5.3%) from colon and rectosigmoid cancer, 17 (5.0%) from neoplasms of lymphoid and other hematopoietic tissue, and 40 (11.7%) from all other specified sites. Among females, there were 202 deaths, of which 34 (16.8%) were from cancer of digestive organs, 32 (15.8%) from breast cancer, 31 (15.3%) from other, unspecified sites, 20 (9.9%) from cervical cancer, 20 (9.9%) from cancer of organs of the genitourinary system, 14 (6.9%) from cancer of organs of the respiratory system, 14 (6.9%) from neoplasms of lymphoid and other hematopoietic tissue, 10 (5%) from colon and rectosigmoid cancer, and 27 (13.4%) from all other specified sites (4).

**Morbidity**

The coding, tabulating, and dissemination of morbidity data from both the hospital and primary care institutions remained a challenge for Saint Lucia during the reporting period. However,
Syndromic surveillance of childhood morbidity showed that gastroenteritis, undifferentiated fever, and respiratory symptoms were the conditions most frequently treated at outpatient departments, accident and emergency units, and health centers in 2009 and 2010. In 2009 there was an unusual increase of 30.6% in the overall number of primary care visits as a result of the outbreak of pandemic influenza A(H1N1) that year. Admission records from two public-sector hospitals showed that non-communicable diseases accounted for approximately 29.4% of admissions annually from 2007 to 2009 (16) (Table 3).

### Communicable Diseases

**Vector-borne Diseases**

The number of cases of leptospirosis increased from 4 in 2009 to 17 in 2010. One male died from the disease in 2010 (4).

**Vaccine-preventable Diseases**

No cases of vaccine-preventable disease were reported during the period 2006–2010.

### Table 2. Ten leading causes of death, Saint Lucia, 2006, 2007, and 2008.

<table>
<thead>
<tr>
<th>Conditions</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart disease</td>
<td>1</td>
<td>178</td>
<td>17.6</td>
</tr>
<tr>
<td>Malignant neoplasms</td>
<td>1</td>
<td>178</td>
<td>17.6</td>
</tr>
<tr>
<td>Cerebrovascular diseases</td>
<td>3</td>
<td>117</td>
<td>11.6</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>4</td>
<td>86</td>
<td>8.5</td>
</tr>
<tr>
<td>Accidents</td>
<td>5</td>
<td>67</td>
<td>6.6</td>
</tr>
<tr>
<td>Acute respiratory infection</td>
<td>6</td>
<td>26</td>
<td>2.6</td>
</tr>
<tr>
<td>Septicemia, except neonatal</td>
<td>7</td>
<td>25</td>
<td>2.5</td>
</tr>
<tr>
<td>Chronic lower respiratory diseases</td>
<td>8</td>
<td>22</td>
<td>2.2</td>
</tr>
<tr>
<td>Homicide</td>
<td>9</td>
<td>12</td>
<td>1.2</td>
</tr>
<tr>
<td>Diseases of the nervous system</td>
<td>9</td>
<td>12</td>
<td>1.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>71.7</td>
<td>77.5</td>
<td>84.7</td>
</tr>
</tbody>
</table>

Source: Epidemiology Unit, Ministry of Health—St. Lucia, 2010.

### Table 3. Hospital admissions, by cause and year, St. Jude and Victoria Hospitals, Saint Lucia, 2007–2009.

<table>
<thead>
<tr>
<th>Cause</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertensive diseases</td>
<td>804</td>
<td>957</td>
<td>1,007</td>
</tr>
<tr>
<td>Other cardiovascular diseases</td>
<td>817</td>
<td>684</td>
<td>907</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>883</td>
<td>585</td>
<td>839</td>
</tr>
<tr>
<td>Malignant neoplasms</td>
<td>260</td>
<td>134</td>
<td>242</td>
</tr>
<tr>
<td>Asthma</td>
<td>211</td>
<td>144</td>
<td>170</td>
</tr>
<tr>
<td>Renal failure</td>
<td>186</td>
<td>227</td>
<td>229</td>
</tr>
<tr>
<td>Sickle cell disorders</td>
<td>150</td>
<td>147</td>
<td>173</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>3,311</td>
<td>2,878</td>
<td>3,567</td>
</tr>
<tr>
<td>Other conditions</td>
<td>8,069</td>
<td>5,289</td>
<td>7,958</td>
</tr>
<tr>
<td><strong>Total admissions</strong></td>
<td>11,380</td>
<td>8,167</td>
<td>11,525</td>
</tr>
</tbody>
</table>

Source: Reference (16).
Zoonoses

No cases of zoonotic disease were reported during the period 2006–2010.

Neglected Diseases and Other Infections Related to Poverty

The incidence of schistosomiasis remained constant, averaging 5–10 cases in the period 2006–2010 (4).

HIV/AIDS and Other Sexually-transmitted Diseases

The Ministry of Health has developed a new strategic plan for 2011–2014, with a renewed emphasis on decreasing the spread of HIV and mitigating the impact of HIV and AIDS on the population by focusing on three vulnerable groups: men who have sex with men, sex workers, and pregnant women (9). Between 2006 and 2010 Saint Lucia recorded 256 new cases of HIV infection—126 in males, 104 in females, and 26 in persons of unknown sex. The age group 25–49 was most affected, with 158 cases (males, 91 and females, 67). According to the country report submitted to the Special Session of the United Nations General Assembly on HIV/AIDS (UNGASS) in 2008, heterosexual transmission accounted for 44% of cases, sexual relations between men for 4%, and mother-to-child transmission for 3%. The mode of transmission was unknown in 50% of cases. There were 29 deaths from AIDS (21 of males and 8 of females) during the period 2006–2010 (4). A survey conducted in 2005–2006 by CAREC in partnership with Family Health International indicated that 21% of males aged 15–24 years and 44% of males aged 25–49 years used condoms consistently with non-marital, non-cohabiting sexual partners. The same study found that 6% of men aged 15–24 years and 7% of men aged 25–49 years had engaged in sexual relations with a sex worker within the previous 12 months. A seroprevalence survey conducted in 2009 among crack cocaine users revealed that about 82% of respondents were having unprotected sex, 28% of them consistently (“always”) and just under half occasionally (“sometimes”) (17).

Tuberculosis

There were 72 confirmed cases of tuberculosis during the period 2006–2010, 40 in males and 32 in females. In 2009 the tuberculosis mortality rate was 2.9 per 100,000 population, the prevalence was 27 per 100,000, and the incidence was 14 per 100,000. There were nine new smear–positive cases (six in males and three in females) of tuberculosis in 2010 (4).

Emerging Diseases

The only emerging disease detected during the period was pandemic influenza A(H1N1), 75 cases of which were confirmed in 2009.

Chronic, Noncommunicable Diseases

An analysis of hospital data for the period 2007–2009 showed that diabetes and hypertension accounted for 27% of all admissions. Of those admissions, hypertension accounted for 50% (2,868 total; males, 1,122; females, 1,746), diabetes for 27% (1,564 total; males, 596; females, 968), and comorbid diabetes and hypertension for 23% (1,275 total; males, 503; females, 772). Prevalence data for 2009 showed a rate of 26% for hypertensive conditions and 8% for diabetes (4).

Accidents and Violence

Accidents were the leading cause of deaths among young adults from 2006 to 2010. There were 2,185 land transport accidents, in which 118 persons lost their lives: 91 males (77.1%), 26 females (22.0%), and 1 person of unknown sex. Two of these deaths occurred in the under-5 age group, 1 in the 5–9 age group, 11 in the 10–19 age group, 30 in the 20–29 age group, 34 in the 30–59 age group, and 6 in the 60+ age group. The age of 34 of the victims was unknown (10). Police records for the period 2005–2007 indicate there were 112 murders. During the period 2005–2008 there were 21 attempted suicides, 3,311 cases of wounding, 39 kidnappings, and 1,929 drug offenses. The
figures were not disaggregated by age and sex, but there were no reported cases of crimes affecting children (10). The preliminary figures from the 2010 census, which included information on both crimes reported to the police and incidents not reported, indicated that during the 12-month period 2009–2010 there were 153 murders, 220 kidnappings, 124 shooting incidents, and 120 alleged cases of rape (3).

Mental Disorders

During the reporting period the Government drafted a Mental Health Policy (2007), produced a Revised Mental Health Strategic Plan 2007/08–2010/11, and a draft Mental Health Act (2008). A Disaster Emergency Plan for Mental Health has been in place since 2000. Approximately 4% of the national health expenditure is allocated to mental health annually. A three-year patient assessment study conducted during the period 2003–2005 at the Golden Hope Hospital, one of two mental health hospitals on the island in 2010, indicated that the majority of the 421 hospitalized patients had a diagnosis of schizophrenia or a related disorder. Best estimates by the team that carried out an assessment of the mental health system using the WHO Assessment Instrument for Mental Health Systems (WHO–AIMS) in 2007 indicated that there were 840 admissions and 826 discharges, with an average length of stay of 55 days per discharge. Forty percent of the discharge diagnoses fell in the diagnostic group “mental and behavioral disorders due to psychoactive substance use”; 33% in “other mental and behavioral disorders”; 16% in “neurotic, stress-related and somatoform disorders”; and about 5.5% each in “mood (affective) disorders” and “schizophrenia and related disorders.”

Almost all patients received one or more psychosocial interventions. On average, patients were hospitalized for three days per discharge (18). The Government commissioned the construction of a new 104-bed mental hospital in 2009. At the time of writing, no validated patient data were available from the new mental hospital. In 2010, the National Mental Health and Wellness Center added 28 new members to its staff, including a new director, with a view to enhancing client care and protection. The addition of these positions represented an increase of US$ 253,678 per year in spending for mental health care in Saint Lucia (4).

Other Health Problems

Ocular Health

During the period 2008–2010 the Blind Welfare Association in conjunction with the Lions Club carried out a variety of activities under the Vision 2020 program to address national eye health needs, with a particular focus on cataract, glaucoma, refractive errors, low vision, and childhood blindness. A total of 10,146 assessments were performed and 37,612 interventions were carried out. The Cuban eye care program continued to provide eye care services to the Saint Lucian population through eye-care clinics. From March 2008 to December 2010 a total of 2,736 clients visited these clinics. The Government of Cuba also provided support for 827 corrective surgeries (9).

Risk and Protection Factors

Data on risk factors are not readily available at present. A survey using the WHO STEPwise approach to chronic disease risk factor surveillance (STEPS) has been scheduled for 2012. Recreational fitness programs for all age groups, including elderly persons, were introduced at 24 health centers during the reporting period. In 2007 Saint Lucia participated in the Global School Health Survey of students 13–15 years of age, measuring alcohol and other drug use and sexual behaviors contributing to health status. The results revealed that 14.7% of students (males, 15.4%, and females, 14.1%) drank alcohol to an extent that it affected their school life; 22% (males, 29.7%, and females, 15.8%) had used drugs one or more times in their lifetime; and 26% (males, 38%, and females, 16.8%) had had sexual intercourse (19).
HEALTH POLICIES, THE HEALTH SYSTEM, AND SOCIAL PROTECTION

Health Policies

The Government of Saint Lucia is committed to ensuring equitable, high-quality health care for all residents. Accordingly, it is working to implement a universal coverage model as a means of providing access to key health promotion, disease prevention, curative, and rehabilitative health interventions that are regarded as fundamental to achieving equity in the delivery and use of health care services (16). PAHO conducted a review of the 1996–2006 sectoral policy of the Ministry of Health in 2007 to ascertain the status of major health policies during the previous decade and to assess the sector’s compliance with health-related international conventions. The review’s conclusions and recommendations highlighted the need for a revised organizational structure to better reflect the functions of the Ministry and to facilitate supervision and coordination, a revitalized primary health care system to relieve the burden on secondary and tertiary services, more aggressive use of health promotion strategies, and a health information system capable of supplying the information needed for evidence-based planning. Initiatives to address those needs were incorporated into the Accelerated Health System Project; the primary objectives were to support implementation of the National Health Strategic Plan 2006–2011 and to ensure that the critical system building blocks, such as the health information system and quality management for the Ministry of Health, were developed and implemented. The National Health Strategic Plan for 2006–2011 was designed to strengthen the organization and management of health and social services; improve and sustain health gains and enhance residents’ well-being; achieve greater equity, cost-effectiveness, and efficiency in the allocation and use of health resources; ensure a cadre of well-trained and motivated staff; develop an effective health information system to support evidence-based planning; implement a quality improvement system; and strengthen health infrastructure to support the health reform process (20).

The Health System’s Performance

The National Insurance Corporation continued to carry out its mandate to ensure that every Saint Lucian enjoys social and financial protection. The Corporation receives contributions from persons aged 16 to 60 who are in the labor force and provides benefits such as insurance coverage for sickness, disability, maternity, and occupational injuries, as well as death benefits. The Corporation pays an annual fee to the Ministry of Health to cover inpatient hospital fees for its members. In 2010 the economically active insured population stood at 49,158, representing 72.6% of the labor force. Male registrants totaled 23,571, 68.8% of the male workforce, while females totaled 25,587, or 84.1% of the female labor force (14).

Health Legislation

The policies and programs of the Ministry of Health are guided by five major legal instruments. The Public Health Act (1975) covers health care services and practices, occupational health and safety, veterinary services, health risk factors, and notification of certain diseases. The Mental Health Act (1957), which urgently needs revision, deals with mental health care services. The Hospital Ordinance (1992) covers charges and fees for hospital services and establishes responsibility for payment. The Nurses and Midwives Act (1993) amending the Registration of Nurses and Midwives Ordinance of 1966 governs nursing services, the Family Nurse Practitioners Act (1993) authorizes family nurse practitioners to prescribe certain drugs, and the Pharmacy Act (2000) regulates registration of pharmacists, labeling of pharmaceuticals, and general pharmacy services (20). The Health Practitioners Act was enacted in 2009 and the Waste Management Act was amended in 2007.
Health expenditures and financing

Health services in Saint Lucia are funded from four principal sources: the Consolidated Fund (part of the government budget), donor contributions, out-of-pocket payments, and private insurance schemes. Government health expenditure increased from US$ 19,949 million in 2005–2006 to US$ 26,681 million in 2010 (21). This growth of approximately 27% reflected significant investment in health care aimed at upgrading physical infrastructure, coupled with increasing demand on the public health system as a result of changes in the demographic and epidemiological profile. The primary health care budget for 2006–2007 accounted for 9.18% (US$ 2.1 million) of the total health budget. In 2009–2010 the primary health care share of the total budget rose to 16.8% (US$ 4,969,456). Secondary services received 42.4% (9).

Research and knowledge management

The first phase of a burden of illness survey was completed in 2008. It focused on foodborne illnesses, especially diarrheal diseases, and sought to determine the causative factors and microorganisms giving rise to such diseases. The findings point to the need for protocols and quality initiatives for the management of persons with foodborne illnesses (22).

The health services

Saint Lucia’s health system comprises primary, secondary, and tertiary levels of care, with services equally divided between the public and private sectors. It is estimated that approximately 80,000 people access primary care services and 9,000 access hospital and secondary inpatient care systems annually (16). The State-run health system is organized administratively into eight geographic regions and was estimated to provide 50% of the primary care and 90% of the secondary care services for the resident population and visitors. Secondary hospital care was provided by Victoria Hospital, a wholly government-funded facility with 160 beds; St. Jude Hospital, a partially government-funded facility with 70 beds; and Tapion Hospital, a privately funded facility with 30 beds. St. Jude Hospital was damaged by a fire in September 2009 and was relocated to a facility with 34 beds (20). The construction of a new 90-bed facility commenced in 2010.

Pharmaceuticals and health technology

Saint Lucia obtains pharmaceuticals through the Organization of Eastern Caribbean States Pharmaceutical Procurement Service (PPS). The Service has a formulary committee that reviews the essential pharmaceuticals list at regular intervals. The private sector operates outside the PPS and there is no national pricing system to control the cost of pharmaceuticals in this sector. The cost of pharmaceuticals procured by the public sector in 2010 was estimated at US$ 2,208,399 (9).

Knowledge, technology, information, and human resource management

In 2010, 86.4% of households had a television in their homes, 75% with cable access, and 38.6% of households owned a computer, but only 26.5% had Internet connections (3).

Scientific production in health

Saint Lucia purchased and implemented a health information system in 2006. The system was modified and piloted at five different sites in 2007. It included several programs: the National Drug Information Network, the Environmental Health Information System, the public health module of the National Health Information System, an electronic health record, and a patient registration system. Expansion of the system was expected to take place in 2011. Nevertheless, there continue to be difficulties sourcing timely and relevant health information. For example, mortality data for 2009 and 2010 were
not collated and morbidity data for both hospitals and health centers were not readily available in a coded and disaggregated format (4).

**Human Resources**

The health sector experienced a shortage of health professionals during the reporting period, particularly nursing and specialist services, both at referral hospitals and community health services. According to the Ministry of Health administrators in 2011, medical specialties such as radiology, pathology, orthopedics, and obstetrics and gynecology were in short supply. The deployment of human resources in the health sector is regulated and managed by the Ministry of the Public Service. Registration of health professionals is overseen by the Medical Council, the Nursing Council, and the Pharmacy Council. In 2010, Saint Lucia completed a baseline assessment of national human resources for health and secured support from the Commonwealth Secretariat for workforce planning and policy development. The assessment concluded that there were inadequate numbers of staff and that redeployment and modification of job descriptions should be undertaken (9). Table 4 shows 2010 figures on health personnel from the database of the Ministry of Health.

The Sir Arthur Lewis Community College is the only local training institution for health professionals. The college graduated 123 nurses and 12 midwives over the period 2006–2010 (23). Other health professionals must seek training at regional and international institutions, with high cost implications. Migration of health personnel is not a concern for Saint Lucia. Only 38, or 0.4%, of international emigrants between 2006 and 2010 were health professionals (3).

**Health and International Cooperation**

Saint Lucia is a member of the Commonwealth of Nations, the Caribbean Community (CARICOM), and the Organization of Eastern Caribbean States (OECS) and has established alliances with other regional and international organizations. Donor support during the reporting period was received from the World Bank through the Hurricane Tomás Emergency Recovery Project for the redesign and construction of a new health facility at Dennery Hospital and health centers at Jacmel, Etangs, Entrepot, and Soufrière. The World Bank also financed disaster mitigation initiatives for the Laborie, Ti Rocher, Castries, and Monchy health

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<tr>
<td>Category of health worker</td>
<td>Number</td>
<td>Density per 10,000 population</td>
<td>Population per worker</td>
</tr>
<tr>
<td>Medical doctors</td>
<td>213</td>
<td>12.9</td>
<td>777.4</td>
</tr>
<tr>
<td>Nurses and midwives</td>
<td>500</td>
<td>30.3</td>
<td>331.2</td>
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<tr>
<td>Allied nursing professionals</td>
<td>97</td>
<td>5.9</td>
<td>1,707.2</td>
</tr>
<tr>
<td>Dentists and allied professionals</td>
<td>22</td>
<td>1.3</td>
<td>7,527.0</td>
</tr>
<tr>
<td>Pharmacists and allied professionals</td>
<td>13</td>
<td>0.8</td>
<td>12,738.0</td>
</tr>
<tr>
<td>Social workers</td>
<td>11</td>
<td>0.7</td>
<td>15,054</td>
</tr>
<tr>
<td>Physiotherapists</td>
<td>6</td>
<td>0.4</td>
<td>27,599</td>
</tr>
<tr>
<td>Technologists</td>
<td>59</td>
<td>3.6</td>
<td>2,806.7</td>
</tr>
<tr>
<td>Nutritionists and allied professionals</td>
<td>6</td>
<td>0.4</td>
<td>27,599</td>
</tr>
<tr>
<td>Environmental health officers and allied professionals</td>
<td>26</td>
<td>1.6</td>
<td>6,369</td>
</tr>
<tr>
<td>Psychiatrists and psychologists</td>
<td>5</td>
<td>0.3</td>
<td>33,118.8</td>
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**Source:** Reference (9).
The Caribbean Development Bank provided a soft loan of US$ 3,312,598 for minor repairs to 15 health centers and support for the development of the National Health Information System (9). PAHO provided continued support through the biennial workplan and budget. The Organization has also provided technical assistance to strengthen various programs of the Ministry of Health, including those on chronic, noncommunicable diseases, environmental health, sexual and reproductive health, and health systems strengthening. UNFPA helped to enhance social protection through technical support for the development of operational documents relating to the commissioning of the new senior citizens home and the transit home for children. The World Bank, UNAIDS, and the United States President’s Emergency Plan for AIDS Relief (PEPFAR) pledged support for HIV/AIDS-related system strengthening, while the Commonwealth Secretariat and PEPFAR provided technical support for human resource assessment, workforce planning, and strategic development. The European Union assisted with the formulation of the National Health Strategic Plan 2006–2011. The Government of Cuba supported training for nurses and doctors and supplied nurses and nephrologists for the dialysis unit at Victoria Hospital.

SYNTHESIS AND PROSPECTS

Saint Lucia has felt the effects of the global economic crisis and has worked hard to overcome them. From 2006 to 2010 GDP almost doubled and per capita income increased. During the period the population also grew, by 5.1%. Persons over the age of 60 now make up 11.9% of the population, which points up the importance of addressing the needs of the elderly in all government development planning policies and programs. Emphasis in health planning must be placed on ensuring the maintenance of good health, the provision of services to remedy health deficits, and cost analysis of all health interventions, including the unmeasured, unpaid health care provided by family members, especially women. A high percentage (35.4%) of the population is under 19 years of age, and the Government must therefore continue to ensure that sufficient resources are allocated for the health and education of children and adolescents.

The government has continued programming aimed at achieving the Millennium Development Goals, and the country is on track to achieve Goals 2 (achieve universal primary education) and 4 (reduce child mortality) by 2015. Progress has been made with respect to the other goals, although much work remains to be done. Poverty was reduced and education became more accessible during the reporting period. Access to water and sanitation also improved, and efforts aimed at achieving food and nutrition security are beginning to yield results.

Much emphasis has been placed on health in this five-year period: health infrastructure is being upgraded, new programs have been initiated, services have become more readily available, immunization coverage remains high, and maternal mortality and infant mortality have been reduced. Problems with data management need to be addressed, and attention must be focused on the country’s most serious health challenge: noncommunicable diseases. Much more emphasis needs to be given to planning and programming to bring about lifestyle changes that will prevent and mitigate the effects of noncommunicable diseases. Health promotion efforts need to be more visible and more comprehensive. Research is vital to ascertain the reasons for the high prevalence of cancer.

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