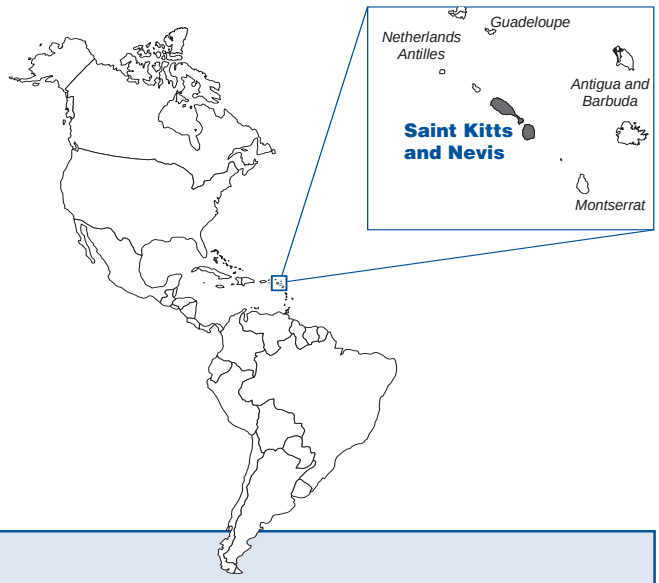
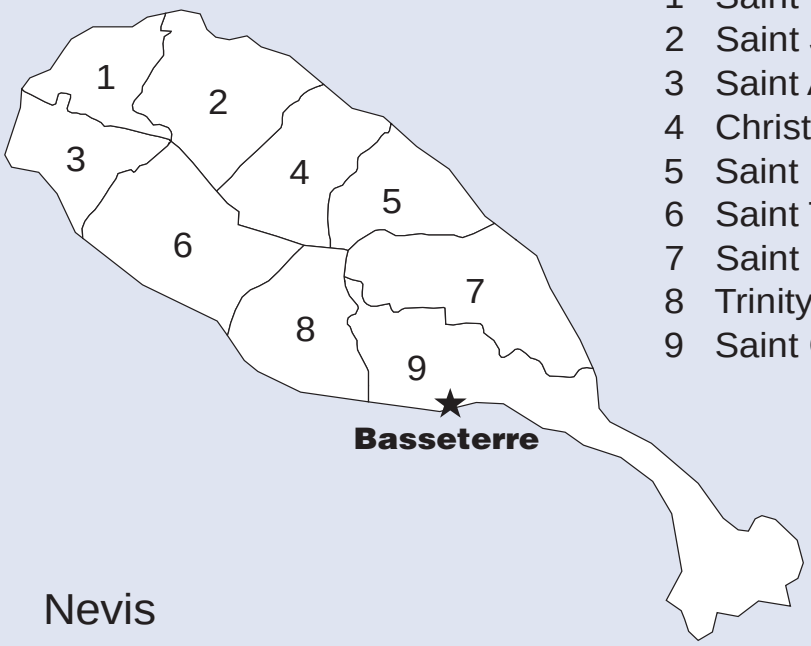
SAINT KITTS AND NEVIS



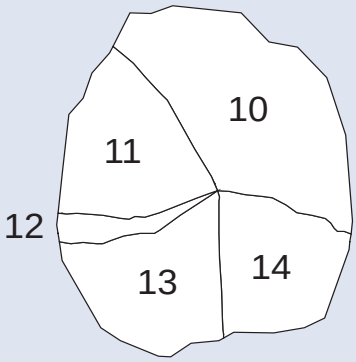
Saint Kitts

1 Saint Paul Capisterre
2 Saint John Capisterre
3 Saint Anne Sandy Point
4 Christ Church Nichola Town
5 Saint Mary Cayon
6 Saint Thomas Middle Island
7 Saint Peter Basseterre
8 Trinity Palmetto Point
9 Saint George Basseterre



Nevis

10 Saint James Windward
11 Saint Thomas Lowland
12 Saint Paul Charlestown
13 Saint John Figtree
14 Saint George Gingerland



0 2.5 5 Miles

The Federation of Saint Kitts and Nevis lies in the northern section of the Eastern Caribbean's Leeward Islands. Saint Kitts and Nevis are of volcanic origin; they are separated by a 3 km channel at their closest point. Saint Kitts measures 176.12 km^2; Nevis, 93.2 km^2.

GENERAL CONTEXT AND HEALTH DETERMINANTS

Saint Kitts and Nevis attained political independence from Great Britain in 1983. The titular Head of State is the Queen of England, whose local representative is the Governor General. The constitution provides for a federal government based in Basseterre, Saint Kitts, which is responsible for foreign affairs, national security, and justice, as well for the oversight of Saint Kitts' domestic affairs. The constitution provides Nevis with full autonomy through the Nevis Island Administration. The heads of the executive branches of government are the Prime Minister at the federal level and the Premier at the local level in Nevis. Legislative powers are vested in the Federal Parliament and Nevis Island Assembly, each of which has specific jurisdictions.

The political relationship between Saint Kitts and Nevis has always been a point of contention since the 19th century during the British colonial rule, when Nevis (and at that time also Anguilla) was annexed to Saint Kitts for administrative purposes. The constitution envisions a process for the eventual secession of Nevis that includes the holding of a referendum. The most recent of these was in 1998, in which the vote for secession was 61%, short of the required two-thirds.

In the administration of health, some responsibilities are federal and others are local. The Federal Ministry of Health, based in Saint Kitts, administers health in Saint Kitts and handles some integrated functions such as public health surveillance, health professional regulation, disease management programs (such as HIV/AIDS), disease prevention programs (such as the Expanded Program on Immunization), and matters involving international dealings.

Health service delivery functions, such as the financial and budgetary management of health institutions, are administered separately. Personnel administration also is separate, but the nomenclature of posts is virtually the same. As a rule, public service arrangements are identical and each island's Ministry of Health operates within the framework of the same General Orders.

Social, Political, and Economic Determinants

Despite the political divide, there is no social distinction between the people of Saint Kitts and those of Nevis, who freely move, live in, and work in both islands. There is inter-island communication, mostly by a 40-minute ferry between the capitals, and, to a much lesser extent, by plane (5-minute flight). The increase in number of ferryboats from two in 2001 to six in 2005 is an indicator of heightened inter-island movement and commercial activity.

Saint Kitts and Nevis has a small, open economy based on services (73% of GDP in 2004), and secondary activities such as manufacturing and construction. GDP performance was mixed in the years under review.

From 2001 to 2003 GDP growth at constant prices showed negative values, while growth was 5.1% and 6.8% in 2004 and 2005 respectively. The decline registered from 2001 to 2003 was attributed to the negative impact on travel and tourism after the 2001 attacks in the United States. According to data from the Ministry of National Security, United States citizens make up 42% of visitors, and total visitor arrivals declined by one-third from 333,361 in 2001 to 246, 364 in 2002, and 246,787 in 2003.

The sugar industry had historically been the major contributor to economic activity (especially in Saint Kitts). It closed down in 2005 after three centuries of operation and several years of financial losses that led to unsustainable debt. Sugar production at the Saint Kitts Sugar Manufacturing Corporation fell 16.1% between 1983–1993 and 1994–2002, and output declined by 24% between 2002 and 2003. The industry's closure left approximately 1,500 people unemployed, which led to an increased demand for government health and social services. The financial burden of medical services for sugar industry workers, hitherto paid for by the former employer, was immediately transferred to the Ministry of Health and the Ministry Responsible for Social and Community Development and Gender Affairs. Former sugar industry workers, including immigrant workers, are entitled to free community clinic and hospital care until they find employment.

Improved GDP performance in 2004 and 2005 reflects robust performance in the tourism sector, with visitor arrivals estimated

at 389,868, a 58% increase over 2003. According to information from the Ministry of Tourism, the number of hotel rooms increased by 14%, from 1,611 in 2003 to 1,825 in 2004.

A survey of living conditions cosponsored by the Caribbean Development Bank and the Government of Saint Kitts and Nevis, which was conducted in 1999–2000, documented an unemployment rate of 5.6% for Saint Kitts and 8.6% for Nevis. The workforce increased 8%, from 21,741 persons in 1999 to 23,361 in 2004. Average wages also increased 28.6% over the same period, from US$ 6,295 to US$ 8,098.

The Saint Kitts and Nevis 2000 Poverty Assessment Survey, sponsored by the Caribbean Development Bank, showed a poverty[1] rate of 30.5% in Saint Kitts and of 32% in Nevis. In Saint Kitts, 56% of the poor were female, 68% were under 25 years, and 57% of the working poor had no secondary education certification. In Nevis, 26% of the poor were female, 58% were under 25 years, and 37% of the working poor had no secondary education certification. Of the population in Saint Kitts, 11% was defined as indigent[2]; in Nevis, 17% of the population was defined as such. Adult education and skills training programs have been developed to improve competitiveness within the new service economy.

According to the 2001 Population and Housing Census, there are 15,680 households in the country, an increase of 23.2% from the previous census in 1991. The average household size in 2001 was three persons, with 79% having installed toilet facilities and 94% having piped water. In Saint Kitts, 20% of the water supply is treated, compared with 90% in Nevis; a project is ongoing to ensure that the entire water supply meets WHO standards.

Every child has access to preschool, primary, secondary, and tertiary education, regardless of income status or national origin. Saint Kitts and Nevis has attained a 98% literacy rate; this achievement is driven by the 1975 Education Act (updated in 2005), which mandates compulsory school attendance from 5 to 16 years. Preschool attendance is actively promoted, and enrollment levels are near 100%. The policy of universal primary and secondary education has resulted in a nearly total transfer rate from primary to secondary school. Enrollment in advanced vocational programs has increased from 60 persons in 2000 to 113 in 2004, consistent with the Government's policy to encourage the acquisition of skills necessary for employment in hospitality, construction, electronic and mechanical technology repair, and handicraft.

There are two Government tertiary institutions, one on each island, which are integrated to provide education and training along academic, technical, and professional streams. Diploma and associate degrees programs are available in various subject areas, including teacher education and nursing. Average enrollment increased from 450 students in 1995–1999 to 575 in 2000–2004, as more persons availed themselves of quality, low-cost university education at home. The Government has expanded the availability of higher education: along with the primary affiliation with the University of the West Indies, other options include credit transfer arrangements with several United States universities and colleges and study arrangements in Cuba, all handled by Government-supported financing arrangements. Low-cost student loans are available through the Development Bank of Saint Kitts and Nevis: in 2004, 284 loans were issued to students, compared to 156 in 2001. Several countries, including the Republic of China (Taiwan), provide postgraduate scholarships. The human resource investment dividend is emphasized by the return of an unprecedented nine medical doctors and two dentists from study and training in Cuba since 2002.

Demographics, Mortality, and Morbidity

According to the 2001 Population Census, there were 46,325 persons living in the country (22,973 males and 23,352 females), a 12% increase from the figure of 40,618 in the 1991 census; 76% of the population resides in Saint Kitts. The estimated population in 2005 was 48,781 with 36,676 persons in Saint Kitts and 12,105 persons in Nevis. The country's population is relatively young, with persons younger than 20 years old representing 38.6% of the total population, and persons younger than 25 years old representing approximately 50% of the total population (see Figure 1). Life expectancy at birth in 2003 was 70 years (69 for males, 72 for females). The crude birth rate dropped from 17.3 live births per 1,000 population in 2001 to 13.7 in 2005 and the number of births ranged from 803 in 2001 to 654 in 2004. Average total fertility declined from 2.6 children per woman in 1996–2000 to 2.4 in 2001–2005.

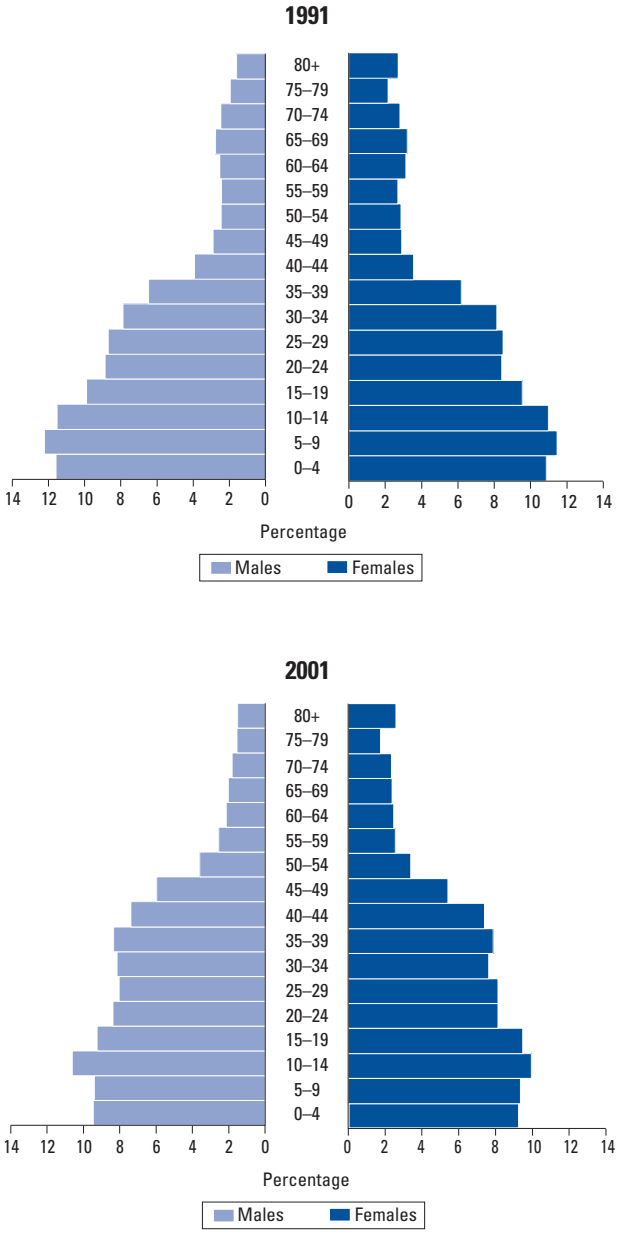
Compared to the population distribution in the 1991 census, the population distribution in 2001 shows a relative increase in the proportion of persons aged 35 to 50 years, an age group that makes up a substantial segment of the workforce (see Figure 1). There was migration into Saint Kitts and Nevis from Guyana, the Dominican Republic, and, to a lesser extent, Jamaica attracted by job expansion in the service and construction sectors. Increased job opportunities also encouraged nationals to stay in Saint Kitts and Nevis.

The country's epidemiologic profile is dominated by chronic noncommunicable diseases, with diabetes, hypertension, heart disease, and malignant neoplasms increasingly challenging the organization and financing of services. Drug abuse and injuries also are significant morbidities, especially among adolescents and young adults. Dengue fever is the only endemic disease reported with outbreaks occurring every three to four years. The major morbidities in children are acute viral upper respiratory infections and viral gastroenteritis.

[1]Poverty is defined as a monthly income below that needed to meet the cost of food and other basic needs, or US$ 104 for Saint Kitts and US$ 122 for Nevis.

[2]Indigence is defined as earning less than US$ 64 per month in Saint Kitts and less than US$ 75 per month in Nevis.

FIGURE 1. Population structure, by age and sex, Saint Kitts and Nevis, 1991 and 2001.



During 2001–2005, crude death rates (Table 1) fluctuated between 7 and 9 deaths per 1,000 population. Infant deaths ranged from 17 in 2002 to 9 in 2005, and infant mortality rates in 2001–2005 averaged approximately 16 per 1,000 live births. Neonatal mortality ranged from 6 deaths in 2001 to 15 deaths in 2002; there were 9 deaths in 2005. Late fetal deaths ranged from 6 in 2002 to 15 in 2001; there were 11 in 2005. When compared to 1996–2000 figures, the infant mortality rate has declined from an average of 20.3 to 16.2 per 1,000 live births. Table 1 shows crude mortality rate figures and a breakdown of deaths and mortality rates by age group for 2001–2005. When compared to 1996–2000 figures, the infant mortality rate has declined from an average of 20.3 per 1,000 live births to 16.2.

Table 2 shows the leading causes of death in Saint Kitts and Nevis, as well as their rank order. In 2002–2004, the list was headed by diseases of the circulatory system (cerebrovascular diseases and ischemic heart disease).

The ten leading causes of death in 2002–2004, based on estimated deaths defined by cause, were cerebrovascular diseases (13.2%), ischemic heart disease (11.3%), septicemia (7.1%), influenza and pneumonia (7.0%), cardiac arrest (5.7%), diseases of the urinary system (4.2%), certain conditions originating out of the perinatal period (3.3%), heart failure and complications and ill-defined heart disease (3.1%), malignant neoplasm of prostate (2.4%), and pulmonary heart disease and diseases of pulmonary circulation (2.0%). Both in 1996–1997 and in each year in 2002–2004, cerebrovascular disease ranked either first or second. Diabetes ranked second in 1996–1997, but did not make the top ten disease categories in either 2003 or 2004, and ranked tenth in 2002.

HEALTH OF POPULATION GROUPS

Children under 5 Years Old

The average number of live births in 2001–2005 was 736, a decline of 14% from the 855 figure in 1996–2000. From 2001 to 2005, the number of live births declined by 17%, from 803 to 668 infants. An average of 12 deaths per year occurred in infants under 1 year old, mainly due to conditions originating in the perinatal period, chief among them being respiratory distress syndrome due to immature lungs of premature infants of less than 32 weeks gestation. The incidence of low birthweight (under 2,500 g) remained constant at 10%.

According to information from the 2005 Community Health Report, the immunization schedule includes BCG, polio, DPT, Hib, and hepatitis B, and coverage is virtually 100%.

Growth and development are monitored in community clinics and by private sector pediatricians. Although breast-feeding is actively promoted, exclusive breast-feeding of infants for the first four months of life is hindered by mothers' usually returning to work by the third post-partum month.

Children 1–4 Years Old

In 2001–2005, there were 16 deaths, or 0.9% of total deaths, in this age group, primarily due to complications of congenital anomalies. Acute viral respiratory and viral gastrointestinal infections were the main causes of illness, with 167 and 123 reported cases, respectively; there were no deaths due to these two

TABLE 1. Total deaths, crude mortality rate, and deaths and mortality rates, by age group, Saint Kitts and Nevis, 2001–2005.

	Years				
Mortality category	2001	2002	2003	2004	2005
Total deaths	375	341	348	395	333
Crude mortality rate (per 1,000 population)	7.6	7.6	8.0	8.6	6.8
Infant deaths	10	17	13	11	9
Infant mortality rate (per 1,000 live births)	12.5	22.4	17.6	17.3	13.5
Neonatal deaths	6	15	11	10	9
Neonatal mortality rate (per 1,000 live births)	7.5	18.5	14.9	15.3	12.0
Maternal deaths	0	0	2	0	0
Late fetal deaths	15	6	15	12	11
Late fetal death rate (per 1,000 live births)	18.7	7.9	20.3	18	16.2
Deaths in 1–4-year-olds	7	5	2	1	1
Deaths in 5–9-year-olds	3	3	0	0	2
Deaths in 10–14-year-olds	2	1	2	2	2
Deaths in 15–19-year-olds	2	4	6	8	1
Deaths in 20–59-year-olds	78	71	70	81	75
Deaths in 60–79-year-olds	132	113	136	142	101
Deaths in persons older than 80 years	141	127	119	150	142

Source: Health Information Unit, Ministry of Health.

TABLE 2. Rank, number of deaths, percentage, and cumulative percentage of leading causes of death, Saint Kitts and Nevis, 2002–2004.

	2002–2004			
Cause	Rank	Number	Percentage	Cumulative percentage
Cerebrovascular diseases	1	135	13.2	13.2
Ischemic heart disease	2	116	11.3	24.5
Septicemia	3	73	7.1	31.6
Influenza and pneumonia	4	72	7.0	38.6
Cardiac arrest	5	58	5.7	44.2
Diseases of the urinary system	6	43	4.2	48.4
Certain conditions originating in the perinatal period	7	34	3.3	51.7
Heart failure and complications and ill-defined heart disease	8	32	3.1	54.8
Malignant neoplasm of prostate	9	25	2.4	57.3
Pulmonary heart disease and diseases of pulmonary circulation	10	21	2.0	59.3

conditions. Nutritional status is measured using height and weight criteria, as established in the Caribbean Food and Nutrition Institute growth chart. According to 2005 data from the Ministry of Health's Nutrition Unit, combined mild, moderate, and severe undernutrition levels remained low, at 2.6%, while the prevalence of obesity remained relatively constant—11% in 2000 and 11.3% in 2005. Fewer than 1% of community clinic clients presented hemoglobin levels under 10 g/dl. Measles, mumps, and rubella are included in the immunization schedule; coverage was 100%.

Children 5–9 Years Old

Children of this group represented 9.4% of the 2001 population. The main causes of morbidity in this age group were acute respiratory infections and gastroenteritis. There were eight deaths in this age group from 2001 to 2005, or 0.4% of the total number of deaths in this time period.

Adolescents 10–14 and 15–19 Years Old

The Adolescent Health Survey conducted in 1998–1999 studied major health challenges such as drug use, physical violence, and sexual violence. These issues were still considered matters of concern in 2005. The study surveyed 341 high school students, equally distributed by sex. Of students surveyed, 4% admitted using cocaine, tobacco, marijuana, heroin, or cigarettes; 46% used alcoholic beverages "once or a few times." Use was confined mainly to 16–19-year-olds, who generally did not regard marijuana and alcohol as drugs. Police data showed that approxi-

mately 5%–10% of crimes were committed by juveniles. Gang membership is a growing problem, and the Ministry of National Security has established a "Youth at Risk" program to engage young men and women who may benefit from behavioral-change and skill-development services.

The prevalence of obesity among adolescents is of serious concern. In 2005, a study on adolescent obesity conducted by the Ministry of Health in conjunction with the Caribbean Food and Nutrition Institute found a prevalence rate of 19% among 13–15-year-olds. Daily consumption of fruit was 15% and daily consumption of vegetables, 26%; nutrition knowledge was rated as "very poor." However, most (82%) of the study participants had engaged in physical activity in the week prior to the survey.

Teen motherhood rates also are of great concern; they averaged 18.3% in 1996–2000 and 19.1% in 2001–2005. In the same period, 13 infants were born to girls 10–14 years old.

Adolescents 10–14 and 15–19 years old accounted for 10.3% and 9.4% of the population, respectively. There were nine deaths among 10–14-year-olds and 21 among 15–19-year-olds; 17 of the latter were males. These age groups recorded 0.5% and 1.2% of total deaths, respectively, mostly due to injuries.

Adults and Older Adults

Adults 20–59 years old accounted for 51.4% of the population in 2005, up from 43% in the 1991 census. Persons aged 60–79 years old and persons older than 80 years old represented 8.2% and 2.1% of the 2005 population, respectively, compared to 10.5% and 2.2% in 1991. Chronic noncommunicable diseases were the major causes of illness, with women having higher rates of diabetes and hypertension; female rates were 1.5 times greater than male rates.

In 2001–2005, 20.9% of deaths occurred among persons 20–59 years old, while the age groups 60–79 and older than 80 years accounted for 34.8% and 37.9%, respectively. Between 2002 and 2004, cerebrovascular diseases were the leading cause of death, with a rate of 94.6 per 100,000 population, followed by ischemic heart disease (81.5) and septicemia (51.1). There were two maternal deaths in 2003.

The Family

Data from the 2004 and 2005 Maternity Ward Birth Registers showed marriage rates of 20% in Saint Kitts and 35% in Nevis. According to a 1998 study conducted by the Pan American Health Organization, single women head approximately 50% of households. All family members have access to primary and secondary level health services. Free community clinic services include maternal and child health, dental health, mental health, health maintenance for persons with chronic diseases, care and treatment of acute illness and injuries, and HIV-related volunteer counseling and testing. Seniors also have free access to public sector health services. Home care and material assistance are provided through outreach programs. Social Security also provides financial assistance to the aged.

Expectant mothers receive care from nurse-midwives and obstetricians, including at high-risk obstetric clinics provided in the community clinics. Almost all deliveries occur in hospital, where early neonatal care is rendered by pediatricians and trained nurses. Hospitals have special care units where sick neonates receive high dependency care, including limited assisted ventilation.

Workers

Occupational health is limited to advocacy and inspections provided by the Labor Department. A robust program of activities is the remit of the Environmental Health Department, but program execution is hindered by the absence of trained personnel. Every worker is required by law to contribute to the Social Security Scheme, which provides injury benefits to members, contingent upon submission of medical certification of illness or injury. Health care for former sugar-industry workers from the Dominican Republic is integrated with that of local workers. New immigrants have the same access to health care as locals. Between 2001 and 2004, the average number of claims for injuries was 459 and the average annual amount paid was US$ 125,000. In the previous four-year period, the average number of claims was 483 and the average annual amount paid was US$ 90,000. Women comprised slightly less than 50% of the workforce in 2004 (48% in 1999) and earned US$ 770 less than did men in 2004. Social Security maternity grants decreased from 582 in 2001 to 449 in 2004, consistent with the declining birth rate.

Persons with Disabilities

Disabled persons receive financial and other material assistance from a variety of sources including service sector organizations, the Social Security Scheme, and the Social Assistance Units (welfare) of the governments. Public sector health services are provided at no charge.

HEALTH CONDITIONS AND PROBLEMS

Communicable Diseases

Vector-borne Diseases

In 2001–2005, there were two reported cases of **malaria**, both imported. There were 144 cases of **dengue fever** reported between 2001 and 2004, with 115 occurring during the 2001 outbreak, and 29 between 2002 and 2004; there were no cases reported in 2005. All reports are followed up by the Community Health Department, using teams of doctors, nurses, and environmental health officers. Mosquito surveillance is actively carried

out by vector control officers. The Breteau index dropped from 9 in 2004 to 4 in 2005; heightened surveillance was made possible by increased staff.

Vaccine-preventable Diseases

During 2001–2005, vaccination coverage of administered antigens varied between 95% and 100%. Hib vaccine was introduced in the national immunization schedule in 2000 as a component of the pentavalent vaccine—DPT/HepB/Hib. The immunization schedule includes BCG, polio, DPT, Hib, hepatitis B, and MMR. The vaccination coverage of administered antigens in 2005 is as follows: BCG,100%; MMR,100%; third dose of OPV, 100%; and DPT/HepB/Hib, 100%.

The last case of **polio** was in 1969. There were no reported cases of **measles**, **rubella**, **congenital rubella syndrome**, **diphtheria**, **pertussis**, **tetanus**, or **neonatal tetanus**.

Intestinal Infectious Diseases

In 2001–2005, there were 613 cases of gastroenteritis in children under 5 years old and 1,038 in persons 5 years old and older. Clinical and laboratory data suggested a viral cause. There were 45 reported cases of **giardiasis**.

There were no reported cases of **helminthiasis**.

HIV/AIDS and Other Sexually Transmitted Infections

From 1984 to the end of 2004, there were 261 HIV-positive tests reported. The number of annual tests has increased, from fewer than 1,000 in 1988 to 2,836 in 2004. The number of reported HIV-positive cases varied from 9 in 1991 to 34 in 1996; 73 cases were recorded in 2001–2005. The male to female ratio of persons testing positive for HIV has reversed, from 1.5:1 in 1998 to 1:1.6 in 2005. The most affected age group continued to be persons 25 to 44 years old, especially among females. HIV infection among males tended to cluster in the 15-to-24 years old and 45 and older age groups. The age and gender distributions stimulated advocacy interventions targeting youth, especially young women and girls. Highly active antiretroviral therapy (HAART) medications were started in 2005. There were 14 AIDS deaths in 2001–2005, compared to 16 in 1996–2000.

Chronic Communicable Diseases

In 2005 there was one case of **tuberculosis** (not linked to HIV), which was being managed by the Directly Observed Treatment, Short-Course (DOTS) regime.

NONCOMMUNICABLE DISEASES

Diabetes, hypertension, cerebrovascular diseases, and heart diseases accounted for the majority of adult hospital admissions according to data from the main referral center. Diseases of the circulatory system were the leading cause of death with a rate of 315.5 per 100,000 population.

Saint Kitts and Nevis has experienced an epidemiologic profile shift from diseases of nutritional deficiency and poor sanitation prevalent prior to the 1980s, to noncommunicable conditions attributed to lifestyle (nutrition, behavior) choices. The Government considers health promotion to the a key component in the fight against chronic noncommunicable diseases. The Government's initiatives in this regard are discussed in detail in the subsection on "Health Promotion" within the section on Response of the Health Sector.

Metabolic and Nutritional Diseases

In 2000, a chronic disease survey conducted by the University of Newcastle in conjunction with the Ministry of Health reported overweight prevalence rates of 60% in men and 70% in women, and that 54% of adults had at least one chronic illness.

Among adolescents 13–15 years old, 19% were overweight, with a female-to-male ratio of 1.4 to 1. There was a cumulative total of 2,390 registered diabetics and hypertensives attending community clinics, representing approximately 8% of the population 20 years old and older.

Malignant Neoplasms

Malignant neoplasms ranked as the fourth highest cause of death, with a rate of 111.4 per 100,000 population. Of a total of 213 deaths between 2001 and 2005, prostate cancer accounted for the highest number in men (47 out of 119), while in women, the highest number was due to cancer of the breast (20 out of 94). Men are encouraged to undergo regular physical exams and any physician recommended tests and procedures to detect malignant neoplasms. Women are also encouraged to have periodic breast examinations; ultrasonography and biopsy services are available. Cervical cancer screening also is widely available in the community clinics at no charge, as well as from private-sector gynecologists. In collaboration with a private non-profit U.S.-based organization, colorectal screening (colonoscopy) services are provided twice yearly at minimal charge, with low-income persons receiving financial assistance where necessary. The noncommunicable disease component of the National Health Plan envisions a cancer registry and disease specific management protocols.

OTHER HEALTH PROBLEMS OR ISSUES

Violence and Other External Causes

Injuries were the third leading cause of death, with a rate of 118 per 100,000 population. In 2001–2005, the number of cases of assault (without gunshot wounds) and wounding tripled, compared to the previous five-year period. Of the 73 deaths in 2002–2004, 82% occurred in males, and assault accounted for 30%. This trend occurred at a time when drug-related, violent gang activity involving adolescents and young men had increased. Of all deaths, 20% were due to motor vehicle accidents;

there was minimal change in the average number of motor vehicle accidents, injuries, and deaths compared to 1996–2000. A review of external causes of death at Joseph N. France Hospital emergency room showed that injuries due to accidents ranged from 215 in 2004 to 318 in 2005. Assaults and wounding ranged from 310 in 2001 to 518 in 2005. Gunshot wounds ranged from 6 in 2001 to 36 in 2004. Assaults and wounding were up tenfold in 2005, compared with those in 1998–2000, and accidents in general had almost doubled by 2005 when compared to 1998.

Mental Health

The country promotes the community approach to mental health, although the effort has been curtailed due to a shortage of trained personnel in psychiatry, psychology, and occupational therapy. The number of registered patients has not increased from the 1996–2000 average of 224 persons. In 2004 and 2005, an average of 212 persons received service, with approximately equal numbers of males and females. The most common conditions were schizophrenia, depression, and substance abuse.

Asthma

Since 2002, asthma has replaced gastroenteritis as the most frequent admitting diagnosis in children. A clinic is conducted where children and their caretakers receive disease management education and supplies such as spacers and peak flow meters. Bronchodilators and corticosteroids are readily available in the government pharmacies. Hospital admissions confirm the need for an expanded response including the development of management guidelines.

Oral Health

Preventive and treatment services are provided by two public sector clinics (one on each island). Children are the principal focus for preventive work. A sealant program sponsored by the private sector was started in 2005. Outreach efforts are ongoing to promote dental health among adults.

RESPONSE OF THE HEALTH SECTOR

Health Policies and Plans

It is a matter of public policy that all residents have equitable access to quality health care. To this end, the governments of the two islands are committed to ensuring a sustainable package of services designed to meet prevailing health care needs. Services not available locally may be accessed on neighboring islands, either through publicly financed arrangements or through personal funding, including insurance plans. A public health insurance plan is under consideration, but at this writing, there is no public health insurance on either island.

The 2006–2011 National Health Plan began to be developed in the period under review. This multisectoral effort represents a logical, goal-driven approach to meeting specific health sector priorities, including health systems development, human resource development, environmental health, mental health and substance abuse, HIV/AIDS/STIs, chronic noncommunicable diseases/food and nutrition/physical activity, and family health services. These priority areas closely approximate those enunciated in the Caribbean Cooperation in Health, Phase III, a regional approach to addressing common health challenges.

Saint Kitts and Nevis' investment in population health and social development programs has been largely responsible for the country's attainment of many of the UN Millennium Development Goals. For example, the provision of financial aid, skills training, assistance to displaced workers from the sugar industry, and a vibrant school meals program works to eradicate extreme poverty and hunger (goal 1). The country has already attained universal education (goal 2). In terms of the promotion of gender equality and women's empowerment (goal 3) Saint Kitts and Nevis' constitution protects against discrimination based on gender—60% of Permanent Secretary posts, the most senior administrative officer in the Ministry of Health, are occupied by women. The emphasis on free obstetric care in community clinics targets child mortality reduction (MDG 4).

Notwithstanding the gains, there is continuing investment of resources towards quality improvement in immunization, nutrition, maternal and child health, housing, potable water access, environmental sanitation, infrastructure development, and human resource training.

Chronic, incurable, and expensive medical conditions drive Saint Kitts and Nevis' engagement with regional partners and health institutions in re-orienting services around health promotion strategies and collaborative approaches to solving common problems. Through frameworks such as the Caribbean Cooperation in Health (CCH) and the Pan Caribbean Partnership Against HIV/AIDS (PANCAP), Saint Kitts and Nevis strives to address the pressing challenges of diabetes, hypertension, heart disease, malignant neoplasms, drug abuse, HIV/AIDS, and violence.

Among salient health-related legislation in the country are the 1938 Medical Act, the 1946 Quarantine Act, the 1969 Public Health Act, the 1951 Accidents and Occupational Disease Notification Ordinance, the 1956 Mental Health (Lunacy) Act, the 1956 Nurses Registration Act, the 1976 Immunization Act, the 1986 Drug (Prevention and Misuse) Act and the Solid Waste Management Act, the 1989 Litter Abatement Act, the 2000 Pharmacy Bill, and the 2002 Institutions-based Health Services Management Bill.

Public health sector operations are divided into three program areas, which are designed to meet priority areas and deliver essential public health functions. The Ministry of Health, as the administrative health authority, is responsible for policy formulation, finance and budget, regulation of professionals and facilities, human resource management, and health information. The Community Service program provides public health services, including environmental health, mental health, oral health, family health, health maintenance, and health promotion and ad-

vocacy. The component dealing with managing health institutions provides primary, secondary, and limited tertiary medical services, as well as care of senior citizens.

Saint Kitts and Nevis' health sector operates under the following strategies: leadership, health promotion, equitable universal access to health, human resource development, and disease management.

Organization of the Health System

The health system of Saint Kitts and Nevis is organized so as to effectively and efficiently respond to meet the health needs of the entire population.

The Ministry of Health administers the public health sector and is accountable for the delivery of quality public and individual health services. Both islands have parallel organizational structures, with each island's Minister leading final policy determination. Permanent Secretaries, as heads of administration, are responsible for matters related to finance, budget, personnel, and procurement. The two Ministers regularly confer with one another to harmonize policies.

The delivery of essential public health functions is integrated and incorporates the federal-based direction of health status monitoring, surveillance, research and information, health promotion, disease prevention, management of chronic diseases, and the regulation of health professionals. There are 17 community clinics, 11 in Saint Kitts and 6 in Nevis. The strategic location of these clinics is such that each household is within three miles of a clinic.

Institutions in Saint Kitts include the country's main referral center, the 150-bed Joseph N. France General Hospital, and two former cottage hospitals that are currently being recast as 24-hour urgent care centers with limited inpatient capacity. The Cardin Home accommodates approximately 100 senior citizens. In Nevis, Alexandra Hospital has 50 beds, to which the 36-bed Flamboyant Home for senior citizens is attached. In recent years, four (two on each island) private senior citizen facilities have been established. There are no private hospitals.

There is no single public-payment mechanism for health services. Public sector health and medical services are either highly subsidized or free to users, and so are universally accessible. Personal and group medical plans are readily available from several private sector vendors; 30% of the workforce is estimated to be covered.

Public Health Services

The National AIDS Program manages the response to HIV/AIDS, with oversight from the National Advisory Council on HIV/AIDS. Activities include prevention of mother-to-child transmission; voluntary counseling and testing, provision of free antiretroviral medications, coordination of clinical care, free distribution of condoms, outreach services for affected persons, plus research, and monitoring and evaluation.

The threat that an avian influenza could spread to humans has been acknowledged. Saint Kitts and Nevis has issued a draft response plan to this effect, following PAHO's template. The main action lines include the strengthening of animal health and human health surveillance systems, capacity building to meet the anticipated surge in demand, and the procurement of medication and vaccine (when available). Public sensitization has commenced with respect to reporting dead birds, and the dissemination of food safety information is ongoing.

Environmental health receives priority consideration. Capacity building activities in human resources are ongoing to fulfill all of the mandates of food safety, vector control, water quality surveillance, sanitation, occupational health, port health, and solid waste collection and disposal.

Individual Care Services

Currently, mental health and substance abuse are managed as a component of family health services, with links to psychiatric wards in hospitals. It is acknowledged that mental health services need to expand in the area of community mental health education, treatment, and support. The community-based approach is the operant strategy, with targeted services designed to promote inclusiveness of mental health patients in society. Efforts are ongoing to recruit and retain professionals in psychiatry, child and adolescent psychology, and occupational therapy.

Health Promotion

The Health Promotion Unit coordinates the response to diabetes, hypertension, cancer, and asthma, utilizing the defining strategies that underpin health promotion. Several studies have underscored the work to de done in reducing the burden from overconsumption of foods high in calories and from lack of physical activity. The Unit coordinates the response to chronic noncommunicable diseases through advocacy, education, and health status monitoring focused on dietary lifestyle change, increased physical activity, and evidence-based case management. An expected outcome is a decline in hospital admissions commensurate with improved community care.

In 2005, protocols for diabetes monitoring were formally disseminated to practitioners; each case record is expected to contain a standard set of data including blood pressure readings; serum levels of lipids and glycosylated hemoglobin; and the findings of cardiac, foot, and eye examinations. Community clinic attendees have free access to anti-coagulants, anti-hypertensive drugs, and blood sugar and lipid lowering medications.

Hospital admissions for diabetes ranged from 131 in 2003 to 109 in 2005, while new clinic enrollments for diabetes ranged from 107 in 2002 to 60 in 2005. Hospital admissions of patients

Fighting Diabetes and Hypertension; Containing Hospital Costs

Diabetes and hypertensive diseases were among the country's leading causes of death between 2002 and 2004 and topped the list of leading causes for hospitalization. The Ministry of Health's Health Promotion Unit coordinates activities to address chronic noncommunicable diseases, including advocacy, education, and health status monitoring that focuses on dietary lifestyle changes.

for symptoms of hypertension ranged from 180 in 2002 to 95 in 2005, while new clinic enrollments for symptoms of hypertension ranged from 170 in 2003 to 126 in 2005.

The Health Promotion Unit also has increased its efforts to combat the high prevalence of obesity or overweight. Activities included use of the national print and electronic media to disseminate nutrition information. Brochures also are readily available in community clinics and schools. Nutrition information billboards are posted in strategic locations around the islands.

Government agencies responsible for adolescent health and gender affairs conduct programs designed to empower and protect adolescents through psychosocial support services in crisis situations, pregnancy prevention, family planning, and the promotion of condom use. Teen mothers are actively encouraged to complete their secondary education and beyond. An emergency contraception policy is being developed.

In 2004, the first patient satisfaction survey was conducted in Saint Kitts' health centers. More than 90% of respondents reported a favorable assessment of the quality of care. Respondents also expressed satisfaction with interpersonal care, information and education, and provider attitudes. The main areas of dissatisfaction related to physical comfort in some centers and regularity of staff availability. These findings have been used to improve the care environment and motivate the staff to achieve higher quality of care standards.

Human Resources

The health sector maintains favorable provider-to-population ratios, except for a few gaps in some specialized skills, particularly in mental health and nursing; health care is readily accessible. Overall, the number of medical doctors per 10,000 population increased from 11 in 2001 to 13 in 2005. On the other hand, the number of nurses decreased from 49 to 32 per 10,000 in the same period; this decrease was a result of retirement and, to a lesser extent, migration. The situation is more acute in public health nursing, where the number of trained nurses entering employment is less than the number retiring. Given that the strengthening of community-based services is a central strategy in health promotion and disease burden reduction, the public health training of nurses and doctors continues to be emphasized. Priority attention is paid to attracting committed persons into the nursing profession; those with aptitude but who lack the qualifying academic standards for entry into the registered nurse program are trained as nurse attendants and nurse assistants and encouraged to upgrade their qualifications over time.

Health Supplies

All supplies are imported. Medications for the public sector are obtained through the Organization of Eastern Caribbean States Pharmaceutical Procurement Service, a subregional collaboration among the smaller English-speaking Caribbean islands. A similar mechanism for medical equipment is under consideration. Administrative supplies are sourced from the government's central purchasing unit.

Essential drugs are readily available at minimal cost within the public sector pharmacies. Antiretroviral medications are provided free through assistance from an international partner in the fight against HIV/AIDS.

Health Sector Expenditures and Financing

The Government is the leading provider of health care financing. In 2001–2005, the federal government's recurrent health expenditures averaged 8% of total recurrent expenditures. On each island, 60% of the health ministry budget is devoted to operational expenses of hospitals and other institutions. Cost recovery efforts are in place for hospital services, although there are significant fee-exempt service categories such as those targeting schoolchildren and senior citizens. Hospital service fees are nominal, and community-clinic services are free of charge. Given this, expenditure exceeds revenue by a factor of 9 to 1 in health institutions; community health services are totally subsidized by the Government.

Technical Cooperation and External Financing

Saint Kitts and Nevis is a committed partner in regional integration processes. Policies, plans, and programs are consistent with the agreed collaborative frameworks, such as those of the

Caribbean Cooperation in Health, Phases I, II, and III, and the Pan Caribbean Partnership Against HIV/AIDS. Through these arrangements, priority areas are identified and ranked, governance structures are developed, and resources are mobilized for implementing population health programs and other activities, including research, monitoring, and evaluation. Various regional institutions provide technical cooperation in different areas. Among the highlights: the Caribbean Food and Nutrition Institute provides cooperation in monitoring nutrition status and in the conduct of overweight prevalence studies; the Caribbean Epidemiology Center provides assistance in HIV seroprevalence studies; the Caribbean Environmental Health Institute has focused on assessing landfill operations; the Caribbean Health Research Council has provided assistance in producing guidelines on management of diabetes, hypertension, asthma, and HIV monitoring and evaluation; and the Pan American Health Organization participated in the development of the National Health Plan and the mental health policy, in providing training in emergency care and management of mass casualties and in emerging diseases preparedness.

Five priority areas in the National AIDS Program are supported by technical assistance from regional health institutions such as the Pan American Health Organization, the Caribbean Food and Nutrition Institute (CFNI), the Caribbean Epidemiology Center (CAREC), the Caribbean Health Research Council (CHRC), the Caribbean Environmental Health Institute (CEHI), and the Caribbean Regional Drug Testing Laboratory (CRDTL). The program is funded by the central government and various external donors.

In addition, several countries provide financing to complement Government funding of the public health sector. Chief among them is Taiwan (Republic of China), whose grant contributions meet selected capital equipment needs. In addition, the National HIV/AIDS Program benefits from a World Bank loan, and grant support from the Global Fund, UNAIDS, and the United Kingdom's Department of International Development.