INTRODUCTION

The Commonwealth of the Bahamas is an archipelagic nation of approximately 700 islands and 2,400 cays and rocks, with a land mass of 13,878 km$^2$ spread across 259,000 km$^2$ of ocean (1). It is located off the southeast coast of Florida and the northeast coast of Cuba. The main islands are Grand Bahama and New Providence, where the capital, Nassau, is located. Tourism and financial services are the industries that contribute the most to the national economy.

The Commonwealth of the Bahamas gained its independence from the United Kingdom in 1973. The Bahamas is governed by a parliamentary democracy based on the Westminster model, with a Governor General who represents the monarchy; a bicameral legislature that includes an elected parliament; and an independent judiciary. The Government is led by a Prime Minister. Local governance of the islands other
than New Providence is provided by elected district councils (1).

The Government of the Bahamas supports many health-related initiatives, both regionally and internationally. These have included the Framework Convention on Tobacco Control (FCTC), Caribbean Cooperation in Health (CCH), the Caribbean Community (CARICOM) Council for Human and Social Development (COHSOD), and the Regional Initiative for the Elimination of Mother-to-Child Transmission of HIV and Congenital Syphilis in Latin America and the Caribbean.

The per capita gross domestic product (GDP) in the Bahamas is one of the highest in the Americas. The exchange rate with the United States dollar (US$) has remained constant at 1:1 since 1972. In 2009, the per capita GDP was US$ 20,311.80 (2). The two largest sectors of the GDP are tourism (50%) and financial services (15%). Between 2004 and 2008 the country experienced a steady increase in average household income, from US$ 39,626 to US$ 43,459 (3). While income has increased, the distribution of wealth has remained disparate, with a Gini coefficient, calculated by the Department of Statistics of the Bahamas, of 44% in 2009. The 2001 Bahamas Survey of Living Conditions indicated a poverty rate of 9.3% that year (1). Also in 2001, 5.1% of households were below the annual poverty line1 of US$ 2,863 per person.

Between 2006 and 2008, the national unemployment rate rose only slightly, from 7.6% in 2006, to 7.9% in 2007, and to 8.7% in 2008. The global economic crisis helped push the unemployment rate to 14.2% in 2009, however (4).

Although unemployment is almost equal in men and women, its distribution varies among other population groups in the Bahamas. In 2009, the highest rates of unemployment (32%) were experienced by adults under 25 years of age.

In 2009, 64% of the employed labor force worked in the private sector, compared to 62% in 2001. In 2009, 12% of the employed workforce was non-Bahamian.

Preliminary projections from the 2010 population and housing count estimated a total population of 353,658, a 16.48% increase over the 2000 population. There was a resultant increase in the population density per square mile, from 56.7 in 2000 to 66.9 in 2010. The population distribution changed little over that period, with the exception of Exuma and the Cays, where the population more than doubled, from 3,571 to 7,314 persons (5). Most of the country’s population (85%) resides in the most urbanized islands, New Providence and Grand Bahama. Figure 1 shows the population structure for the Bahamas in 1990 and in 2010 (6).

Life expectancy increased substantially between 1980 and 2008, growing from 64.3 to 71.0 years for males and from 72.1 to 76.7 years for females. This has resulted in an aging population, where only 25.1% of the population was under the age of 15 years in 2008, down from 28.4% in 2003. The estimated age-dependency ratio fell from 52.9 in 2000 to 45.3 in 2010 (3).

HEALTH DETERMINANTS AND INEQUALITIES

The adult literacy rate in 2005 was 95.8% (males 95.0% and females 96.7%). Education accounted for 18% of public expenditures (4.8% of the GDP) during the 2006/2007 school year. School attendance is compulsory for children between 5 and 16 years. Government-run primary and secondary education is free and universal through the country. During the 2006/2007 school year, the overall enrollment rate stood at 97.2%. There were 76,255 students (49% female and 51% male) enrolled (50,395 in public schools and 25,860 in private institutions) (7).

In 2010, 15% of the country’s population resided in rural areas, that is, outside the urban centers of New Providence and Grand Bahama. The rural communities ranged in size from as many as some 17,000 residents to as few as 70. Males accounted for 51% of the rural population.

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1 This poverty line represents the minimum amount of money necessary to purchase an adequate diet, with allowances for nonfood needs.
The vast majority (83%) of Bahamians in the lowest (poorest) economic quintile resided in the two more densely populated areas of New Providence and Grand Bahama. (Total expenditures quintiles are used as a proxy for income.) According to the 2004 Household Expenditure Survey, the poorest Bahamians reported fewer illnesses (7%) than did the nation as a whole (12%). Yet, those persons in the lowest economic quintile also were disproportionately affected by both intentional and unintentional injuries. Of survey respondents who had suffered an injury due to a gunshot, 70% were in the lowest economic quintile. Similarly, the rate of unintentional injuries (vehicular accidents) was twice as great for that group as for the nation as a whole (8). The poorest population was also more likely to cite cost (3%) and insufficient time (8%) as barriers to seeking medical care, as compared to Bahamians overall (1% and 1.4%, respectively), and they also reported greater rates of receiving public welfare assistance for outpatient services (29%) as compared to the national average (13%). Estimates from the 2011 Labor Force and Household Survey (with a sample size of 190,075 persons, including 27,505 rural residents) indicated that the rural communities of the Bahamas had a lower average unemployment rate than did the country as a whole, 9.0% versus 14.2% (9). In addition, rural residents had greater participation rates in several social protection programs, as well as fewer illnesses in the four weeks prior to the 2006 Household Expenditure Survey (8). That said, rural residents had a longer average length of stay at the country’s main referral center, Princess Margaret Hospital, located in Nassau, in the island of New Providence. The average length of stay for rural Bahamians was 10 to 15 days, compared to 6 days for Bahamians overall. Rural residents also accounted for 15.5% of hospital discharges in 2007 (10) from the Princess Margaret Hospital. The three leading causes of discharge diagnoses were diseases of the circulatory system (15.5% of discharges); infectious and parasitic disease (13.3%); and injuries, poisoning, and certain other consequences of external causes (9.5%).

On average, economically disadvantaged Bahamians endured a greater disease burden than did other Bahamians. And, when those poorer individuals presented with the same condition, they had a longer average length of stay (11).

In 2006, approximately 2.9% of the population reported having a physical or mental disability. Among individuals who had a self-reported disability, 19.7% of the disabilities were related to sight, hearing, or speech; 37.3% to limbs; 24.6% to mental disabilities; and 18.3% to multiple disabilities. A total of 24.2% of individuals with disabilities reported having the disability from birth, compared to 19.6% developing it as an elder (65 or older).
Disabled individuals were more likely to cite cost (8.2%) as a barrier to accessing medical care than were Bahamians overall (1.0%). Disabled persons also had greater rates of public assistance for both outpatient services (29.0%) and inpatient services (22.9%) compared to national rates (13.0% and 11.2%, respectively). Disabled Bahamians were disproportionately burdened by illness, with a rate of 25.1%, more than twice as high as the national average of 11.6%. Disabled individuals were also more likely to report unintended injuries (at school or workplace) than those without disabilities (8).

THE ENVIRONMENT AND HUMAN SECURITY

Access to Clean Water and Sanitation

In 2009, 93.6% of the population had access to a water supply through household connections and other acceptable piped means. The remaining population not served by piped systems (6.4%) relied on wells, rainwater tanks, and other private supplies.

Most residential dwellings (81%) had flush toilets that were attached to a cesspit or septic tank, and another 13% were linked to a public sewerage system. Of the remaining residences, 4.5% used pit latrines, and 1.1% reported having no toilet facilities attached to their dwelling unit (4).

Solid Waste

The Department of Environmental Health Services is charged with solid waste disposal. Mainly, solid waste disposal is handled through several landfills, although some rural communities rely on open dumps. In 2010, the average generation of mixed waste was 2,000 tons per day, with higher rates recorded in New Providence than in the Family Islands. These higher rates are believed to be a result of the country’s dependence on imports, limited recycling capacity, and the high volume of tourism-related waste (12).

Road Safety

The Government of the Bahamas is addressing road safety through major road improvement initiatives, with financial assistance coming from the Inter-American Development Bank (13).

Climate Change

As a small island developing state, the Bahamas is particularly vulnerable to the effects of climate change. A 2007 World Bank study predicts that an anticipated 1-m rise in sea levels potentially could affect as much as 11% of the Bahamas’ land mass (14). Additionally, rising water temperatures will harm coral reefs that are home to hundreds of species of fish and other aquatic life. Tropical cyclones are expected to increase as a result of climate change, both in terms of number and in intensity.

Food Safety

Food safety monitoring is undertaken through meat inspections at the abattoir, sampling and testing of imported canned goods at ports of entry, and inspections of food establishments. The Health Services Act (2006) requires that anyone dealing with the production, storage, transportation, or care of food items be certified. In 2004, the Ministry of Health assumed full responsibility for training and certifying food handlers, and food safety training is now available countrywide. In 2009, 21,670 persons were trained in food handling techniques.

Health Conditions and Trends

Health Problems of Specific Population Groups

Maternal and Reproductive Health

In 2010, women of childbearing years in the 15–49 age group accounted for 55.1% of the female population.
and 28% of the total population. Between 2002 and 2008, the total fertility rate remained fairly consistent, at 2.0 children per woman.

Antenatal service coverage was high: between 2006 and 2008, some 86% of pregnant women had four or more visits prior to term. In 2008, more than 94% of pregnant women received documented antenatal care, and the average number of visits per mother was 6.5. There were four maternal deaths in 2007 and three in 2008.

**Children (under 5 years old)**

Between 2006 and 2008 there were a total of 16,630 live births. According to the Perinatal Information System, the prevalence of low birthweight (under 2,500 grams) remained fairly consistent, ranging from 10.9% in 2005 to 11.6% in 2008. The country has improved significantly in providing access to antiretroviral therapy for pregnant women, with figures rising from 64% of HIV-positive women on antiretroviral therapy in 2000 to 80% in 2008. The rate of vertical transmission in mothers on treatment fell to zero. However, the transmission rate for mothers not on antiretroviral therapy increased from one infant (10.7%) in 2007 to five (55.6%) in 2008. Among reasons given for women not receiving antiretroviral therapy were that some were transient immigrants who had sought antenatal care later in their pregnancy, some had had no antenatal care available, and some had refused therapy.

The infant mortality rate was 17.9 per 1,000 live births in 2008. Between 1990 and 2009, there has been a steady decline in the child mortality rate, from 24.6 per 1,000 live births at the beginning of the period to 12.4 in 2009. That said, additional improvements, such as strengthening of the referral system, enhancing the clinical and cultural competencies of providers, and promoting health and wellness education, will be needed if the Bahamas is to attain the Millennium Development Goals related to infant and child mortality. (Figure 2 shows the trend in infant mortality in the Bahamas.) The stillbirth rate ranged from 10.4 per 1,000 live births to 19.1 between 2002 and 2008. In 1998–2008, respiratory disorders specific to the perinatal period were a leading cause of infant mortality. Injuries remained the leading cause of mortality among preschoolers aged 1–4 years old between 2006 and 2008, although the rate declined from approximately 3.8 per 10,000 population to 1.2. Since 2000, AIDS-related death rates in this population have been near zero.

The Bahamas immunization rates approached or exceeded 95% for six vaccine schedules between 2006 and 2010 (Table 1). In 2006, the School Health Program was expanded to include the hepatitis B vaccine.

**Children (5–14 years old)**

Children 5–14 years old recorded the lowest mortality rate (33.5 per 100,000 population) of all population groups in the Bahamas. In 2007, there were 20 deaths among this age group. The leading cause of death was external causes such as injuries (nine cases), of which five were attributable to road traffic injuries and two to drowning.

Between 2004 and 2007, the leading discharge diagnoses from all hospitals demonstrated that...
significant causes of morbidity among children in this age group were injuries (ranging from 15.2% to 22.3%), followed by acute and chronic respiratory conditions. Also noteworthy in this age group was the rise in discharges attributable to chronic disorders such as diabetes and hypertension. In 2008, the public school health services reported a total of 290 children with elevated blood pressure and 38 children with hyperglycemia (3). The Drug Prevalence Survey of Secondary Schools (2008) found that children 5–14 years old began to use alcohol and marijuana early in their lives (average age of onset, 11 years) and that the prevalence of use was 28.9% and 4.7%, respectively (16).

Adolescents and Young Adults (15–24 years old)

Injuries dominated the morbidity and mortality profiles in this age group. In 2007, there were 43 injury-related deaths (39 males and 4 females). Homicides accounted for 39.4% of all defined deaths in this age group (49.0% of male deaths and 12.0% of female deaths).

Between 2004 and 2007, pregnancy-related diagnoses accounted for a significant proportion of hospital discharges for this age group (43.5%–75.6%). Excluding the pregnancies, two of every five remaining discharges were related to injuries. Mental and behavioral disorders (primarily due to alcohol and drug abuse) followed in importance.

TABLE 1. Immunization coverage rates (percentage), by vaccine, the Bahamas, 2005–2010.

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<tr>
<th>Vaccine</th>
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<td>Antenatal tetanus toxoid</td>
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Source: Commonwealth of the Bahamas, Ministry of Health, Department of Statistics and Health Information & Research.

Adults (25–44 and 45–64 years old)

In 2007, there were 330 deaths registered among persons 25–44 years old. There were significant differences in the mortality profile of men and women. In 2007, for example, the age-specific mortality rate for females in this age group was 215.3 per 100,000 population. Among men in this age group, the rate was 414.1 per 100,000 population, accounting for 61% of the total defined deaths in that year. The five leading causes of death among men in this category were HIV/AIDS (22%), assaults (21%), land transport accidents (11%), cirrhosis and other chronic diseases of the liver (3%), and accidental drowning (3%). Among women 24–44 years old, the five leading causes of death were HIV/AIDS (25%), malignant neoplasm of the breast (10%), hypertensive diseases (4%), pulmonary heart disease (4%), and diseases of the musculoskeletal system (4%). Together, these five causes accounted for 47.0% of all deaths in females.

Morbidity data based on hospital discharge diagnoses for 2004–2007 showed that the primary causes of inpatient morbidity in adults 24–44 years of age were obstetric complications of pregnancy, childbirth, and the puerperium, as well as injuries and mental health disorders associated with psychoactive substance abuse (3).

In 2007, chronic conditions dominated the mortality and morbidity profiles of persons 45–64 years old. In that year, 510 deaths (796.9 per 100,000 population) were registered in this group. The age-specific mortality rate in men (1,059.2 per 100,000 population) was almost twice that of women (599.5 per 100,000 population). In males, five leading causes of death accounted for 40% of the defined deaths in that year: HIV/AIDS, with 32 deaths (10.0%); hypertensive diseases, with 27 deaths (8.4%); ischemic heart disease, with 27 deaths (8.4%); cerebrovascular disease, with 23 deaths (7.2%); and diabetes mellitus, with 19 deaths (5.9%).

$\text{TABLE 1. Immunization coverage rates (percentage), by vaccine, the Bahamas, 2005–2010.}$

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Source: Commonwealth of the Bahamas, Ministry of Health, Department of Statistics and Health Information & Research.
The five leading causes of death for females represented 46.5% of the defined deaths during the same period. These conditions were malignant neoplasm of the breast, with 23 deaths (12.2%); HIV/AIDS, with 18 deaths (9.6%); hypertensive diseases, with 14 deaths (7.5%); cerebrovascular disease, with 12 deaths (6.4%); and cirrhosis and other chronic diseases of the liver, with 10 deaths (5.3%).

**The Elderly (65 years old and older)**

In 2007, the most common causes of mortality among persons 65 years old and older were hypertension (12%), ischemic heart disease (11%), cerebrovascular diseases (stroke, myocardial infarction) (10%), diabetes mellitus (8%), and malignant neoplasm of the prostate (5%).

In 2007, the leading inpatient discharges in adults 65 years of age and older were hypertensive diseases, diabetes mellitus, cerebrovascular disease, ischemic heart disease, prostate cancer, urinary tract infections, acute respiratory infections, and malignancies of other areas.

**The Family**

The health and wellness of the family remains a major policy agenda in the Bahamas. The government also monitors the economic stability of families annually. Between 24 and 30 October 2011, the average household income for households headed by women was US$ 31,109, lower than that of households headed by men (US$ 43,147). In 2006, more women reported illnesses (13.1%) than did men (9.8%). Yet women also experienced lower rates of unintended injuries (e.g., motor vehicle accidents, workplace injuries, gunshots), and they were less likely to cite cost as barrier to accessing health care.

**Ethnic or Racial Groups**

Documented Haitian immigrants represented 7.3% of the population of the Bahamas in 2000, according to the Department of Statistics. Nonetheless, it is a widely held belief that Haitians (documented and undocumented) may account for as much as 20% of the Bahamian population. Haitian nationals reside primarily on the islands of New Providence, Grand Bahama, Abaco, and Eleuthera. In 2009, Haitian nationals experienced an unemployment rate of 28.6% compared with 14.2% nationwide.

In 2007, Haitian nationals accounted for 1.2% of the Princess Margaret Hospital discharges. The leading cause of discharge diagnoses was complications of pregnancy, childbirth, and puerperium, accounting for 58.9%. Haitian nationals had a greater disease burden and also a longer average length of hospital stay than was true for the Bahamas as a whole.

**Mortality**

In 2008, heart diseases were the leading cause of mortality, with an overall rate of 130.9 per 100,000 population (men, 137.7, and women, 124.5). The rate of mortality due to malignant neoplasms increased from 92.6 per 100,000 population in 2002 to 104.9 in 2008. The mortality rate due to external causes of injuries increased from 45.5 per 100,000 population in 2002 to 62.1 in 2008. Further, males experienced greater rate increases than their female counterparts (58.0 to 103.2 and 15.8 to 23.1, respectively).

Nine causes—hypertension, HIV/AIDS, cerebrovascular disease, ischemic heart disease, diabetes, motor vehicle injuries, homicides, and breast cancer in women and prostate cancer in men—accounted for approximately half of the nation’s mortality between 2004 and 2008. Chronic, noncommunicable diseases dominated the country’s morbidity and mortality profile. The reduction in deaths due to AIDS from 49.8 per 100,000 population in 2004 to 34.6 in 2008 is noteworthy.

Table 2 shows the 10 leading causes of death, for all ages and both sexes, between 2006 and 2009.

**Morbidity**

**Communicable Diseases**

**Vector-borne Diseases**

Vector-borne diseases represent a health and an economic threat to the Bahamas. Dengue, malaria,
and yellow fever are not endemic to the country. The responsibility for vector control is shared between the Ministry of Health and the Department of Environmental Health Services. During the review period, vector control programs focused primarily on eradication and control of *Aedes aegypti* and anopheles mosquitoes. The vector control strategies employed included aquatic weed control, aerosol pesticide, larvacing, education, and training and other social marketing initiatives.

Despite active vector control programs, in 2006, 19 imported cases of malaria were reported in the island of Exuma due to *Plasmodium falciparum*, but with no associated mortality. In 2008, there was a single case of dengue fever reported (3).

**Vaccine-preventable Diseases**

There were no confirmed cases of polio, diphtheria, measles, or neonatal tetanus during the review period, but a single case of *H. influenzae* meningitis was reported in 2006. This prevention success is credited to a coverage rate greater than 95%, which is the result of targeted immunization campaigns and the continuous training of all health care providers (3).

**HIV/AIDS and Other Sexually-transmitted Infections**

In the Bahamas, HIV seroprevalence surveys are conducted by the Ministry of Health among some population subgroups, such as pregnant women attending prenatal clinics, persons attending clinics for treatment of sexually-transmitted infections (STIs), blood donors, and prison inmates. In addition, provider-initiated testing is carried out to ensure that HIV is more systematically diagnosed within health care facilities so that early treatment, care, and support can be given. In 2007, the HIV prevalence among blood donors was 0.4%; among persons attending STI clinics, the prevalence was 3.9%, down from 5.3% in 2006. Since 1997, there has been a general decline in the incidence of AIDS. Concomitantly, there has been a decrease in differences between men and women, tending to a more even distribution of AIDS cases between the sexes (male to female ratio of 1.7 in 1998, down to 1.4 in 2007) (3).

**Tuberculosis**

Between 2006 and 2008, the annual number of new cases of tuberculosis (TB) ranged from 64 to 49. There were 17 deaths in 2006 but only 7 in 2008. Of the reported TB cases, 67% of the cases were Bahamian. Males were more likely to have contracted TB than were females during the reporting period (3). TB/HIV co-infection rates were 50% in 2006, 27% in 2007, and 35% in 2008. The HIV prevalence in the TB population was at least 10 times higher than in the general population (3).

**Emerging Diseases**

The Bahamas has used emerging-disease situations, such as the H1N1 influenza pandemic of 2009 and the introduction of cholera into the Caribbean...
region in 2010, to strengthen its surveillance and response system.

**Intestinal Diseases**

In the Bahamas, food-borne diseases and gastroenteritis have continued to pose challenges. In 2007, the incidence of reported food-borne diseases was 464 per 100,000 population. That same year, the number of gastroenteritis cases was, respectively, 179 and 1,252 per 100,000 population. In 2006, there were 10 reported cases of salmonellosis, but only 4 in 2008. Ciguatera poisoning is also an important health concern due to the high consumption of reef fish (e.g., barracuda) that are potentially toxic. There were 139 ciguatera poisonings in 2007 and 70 in 2008.

**Chronic, Noncommunicable Diseases**

The country’s morbidity profile has been dominated by chronic noncommunicable diseases in recent years.

**Cardiovascular Diseases**

Cardiovascular disease has been the leading cause of death for both men and women in the Bahamas, with a rate of 130.9 per 100,000 population in 2008. This condition also accounted for 993 admissions to the Princess Margaret Hospital in 2007, second only to injuries and poisonings. As noted previously, ischemic heart disease has become one of the leading causes of mortality in those 45 and older.

**Malignant Neoplasms**

The occurrence of malignant neoplasms has been increasing in the country. It has been one of the five most frequent causes of death, accounting for 105 deaths per 100,000 population in 2008 (106.2 for men and 103.7 for women). Among cancers reported in the Princess Margaret Hospital Cancer Registry, breast and prostate cancer accounted for 45% and 43% of reported cancers, respectively, followed by cancer of the colon and rectum (10% in females and 12% in males) in 2008.

**Diabetes**

Diabetes remains one of the most frequent causes of morbidity and mortality. In 2006, the prevalence of self-reported diabetes was 7.0%, as compared to 9.2% when clinical correlation is obtained. Diabetes accounted for 411 admissions to the Princess Margaret Hospital in 2007.

**Chronic Respiratory Diseases**

Chronic respiratory diseases, such as asthma, have been reported by 6.2% of individuals, according to the Chronic Noncommunicable Disease Survey conducted in 2007. The prevalence was higher in males (6.5%) than in females (5.8%). Males aged 20–24 reported the highest prevalence (13.4%). An additional 2.0% of respondents reported chronic respiratory diseases other than asthma and lung cancer.

**Hypertension**

During 2007, hypertension was the leading cause of mortality in females (10%) and the fifth in males (7%). It remains the most cited diagnosis for new clients at the public health centers. Between 2004 and 2008, there was a 37% increase in the number of new clients citing hypertension as reason for visits.

**Nutritional Diseases**

Micronutrient deficiency and undernutrition are not widely prevalent in the country. The 2007 Chronic Noncommunicable Disease Survey found overweight and obesity to be significant risk factors in the population. The overall prevalence of overweight and obesity was 71% (20). School health screenings revealed that the percentage of overweight children increased with every cohort, resulting in an increasing number of overweight children entering school and more children becoming overweight as time passed (from 10.6% when they entered sixth grade in 2004 to 13.0% as they entered tenth grade).
**Accidents and Violence**

Violent crimes continued to be a matter of public health concern in the Bahamas. In 2006, the country recorded 61 homicides (18.5 per 100,000 population). In 2009 (year for the most recent available statistics), the figure had climbed to 85 (24.8 per 100,000 population) (21).

The numbers of rapes and attempted rapes have fluctuated markedly in recent years. The number of rape cases was 95 in 2006, climbing to 170 in 2007. In 2010, the rate of rapes was 25.34 per 100,000 population and of attempted rapes, 53.16 per 100,000 population. In the same year, the homicide rate for women was 8.2 per 100,000 population (22).

The rate of motor vehicle accidents was 13.9 per 100,000 population in 2008, a small decline from the 14.7 per 100,000 population rate seen in 2007. Suicides are infrequent, with rates ranging from 0.6 to 1.5 per 100,000 population between 2005 and 2008 (19).

**Disasters**

The 2006–2010 period was relatively inactive for hurricane and tropical storm damage in the Bahamas, with the country only experiencing one tropical storm (Tropical Storm Bonnie, southeastern Bahamas, in 2010) and three hurricanes (Category 1 Hurricane Hanna, southeastern Bahamas, 2008; Category 4 Hurricane Ike, southeastern Bahamas, 2008; and Category 1 Hurricane Noel, Andros and New Providence, 2007). Despite the relative inactivity over the reporting period, the Bahamas generally reports the greatest frequency of storm events in the Caribbean, with a national average of one hurricane brush or hit every 3 years and a major hurricane every 12 years (23).

**Mental Disorders**

In the Bahamas, there are mental health services for substance abuse as well as psychiatric disorders. These services are delivered through the two government hospitals: Rand Memorial Hospital (located in Grand Bahama) and the Sandilands Rehabilitation Centre (located in Nassau). The Sandilands Rehabilitation Centre offers outpatient services through its Community Counseling and Assessment Centre. For inpatient care, the Sandilands Rehabilitation Centre has 367 available beds, with an average occupancy rate of 89% and an average length of stay of 95.3 days (3).

In 2009, the discharge information from the Sandilands Rehabilitation Centre and the Rand Memorial Hospital showed a rate of 414.3 discharges per 100,000 population. The most common discharge diagnoses were schizophrenia and disorders due to psychoactive substance abuse. Males were three times more likely to be hospitalized for mental health conditions than were females (3).

**Other Health Problems**

**Oral Health**

The Department of Public Health provides oral health services through a limited number of community health clinics, the Sandilands Rehabilitation Centre, Her Majesty’s Prison, school health programs, and on some of the Family Islands. These oral health efforts focus on preventive and restorative care. Prevalence data for first-graders have indicated an improvement in the proportion of children who were caries-free, with it being 51.0% in 2002/2003 and 56.2% in 2005/2006 (3).

**Ocular Health**

Bahamians have benefited from a joint ocular health program between the Government of the Bahamas and the Republic of Cuba.

**Risk and Protection Factors**

**Smoking**

The Chronic Noncommunicable Disease Survey of 2005 identified several risk factors for the development of chronic diseases in the Bahamas. The survey found that 7.1% of the respondents smoked tobacco at the time of the survey and that an additional 4.5% were...
former smokers. Males were more likely to smoke tobacco than were females. Those employed as craft and trades workers had the greatest proportion of smokers, 17.6% (20). In 2008, the Drug Prevalence Survey of Secondary Schools found that 1.6% of students reported using tobacco within 30 days prior to the survey, and that the average age at first use was around 13 years (16).

Alcoholism

In terms of alcohol use, 10.8% of those surveyed indicated that they currently drank alcohol daily (15.5% of men and 4.7% of women) (19). In addition, in 2008 the Drug Prevalence Survey of Secondary Schools found that 28.9% of respondents drank alcohol and that the average age at first use was approximately 11 years old (16).

Illegal Drugs

While information regarding illegal drugs has been limited, 4.7% of secondary school students reported using marijuana in 2008 (16).

Physical Activity

The 2005 Chronic Noncommunicable Disease Survey indicated that 62.5% of respondents participated in some moderate or intense level of physical activity on most days. Males had higher participation levels than did females, 75.3% and 51.4%, respectively. Residents of the Family Islands had the highest prevalence of activity, at 67.1% (20).

HEALTH POLICIES, THE HEALTH SYSTEM, AND SOCIAL PROTECTION

The Health System’s Stewardship Role

The Ministry of Health is responsible for health policy and planning; regulation and monitoring; public health services financing; development and implementation of national public health programs; and the provision of community health services. The Minister is the head of the Ministry of Health and is also a member of the Prime Minister’s Cabinet. The Minister is responsible for the various government institutions and regulatory bodies dealing with health.

Health Policies

The Department of Public Health within the Ministry of Health is responsible for surveillance, development, implementation, and coordination of national health programs, and for the provision of primary care services. The Public Hospitals Authority of the Bahamas (PHA) was created in 1998, through Act No. 32, to take charge of the management and development of the three government hospitals—Princess Margaret Hospital, Sandilands Rehabilitation Centre, and Rand Memorial Hospital. It is governed by a board accountable to the Minister of Health; a managing director functions as chief operation officer and reports to the board. As part of its responsibility, the PHA has been empowered to purchase, lease, acquire, hold, and dispose of land or property, as well as manage employment status. The Ministry of Health also has charged the PHA with the planning and management of shared services, including the National Emergency Medical Services (EMS), the Bahamas National Drug Agency (BNDA), and the centralized Materials Management Directorate, which is responsible for the bulk procurement of disposable medical surgical supplies. Finally, the Ministry of Health has delegated responsibility for the management of the community clinics on Grand Bahama to the PHA.

The Health System’s Performance

The government-sponsored health system is responsible for providing the bulk of health services to the population of the Bahamas, accounting for 87% of all inpatient beds and discharges (3). According to the Household Expenditure Survey of 2006, an estimated 36.2% of the population reported having private health insurance, 67.7% of whom...
participated in private group plans. The mean monthly cost of insurance was US$ 160.00 per person. Slightly more than half of respondents (56%) indicated they did not seek external assistance for outpatient medical expenses. External assistance is typically provided by governmental aid, family members, employers, and other private donors. Of those who did, women were more likely to use outside assistance while males were more likely to rely on help from their families. Of the persons in the lowest economic quintile, 50% did not rely on external assistance for outpatient medical expenses (19).

**Health Legislation**

Between 2004 and 2008, several pieces of legislation or regulations were brought up for amendment or revision, with the intention to facilitate delivery of quality health care services, including: the 1975 Medical Act, the 1990 Dental Act, the 1971 Nurses and Midwives Act, the Health Services Act, the 2010 Health Rules, and the Health Services Act Public Health Emergency Rules. In addition, some pharmacy rules were passed in 2010, such as the pharmacy registration and licensing, pharmacy import-export, and prescription regulations.

**Health Expenditures and Financing**

Health care is financed by general government health expenditures, private health insurance, and out-of-pocket payments at both public and private facilities. Government health expenditures are mainly financed through general taxation.

In 2009, total health expenditure was 7.2% of GDP, equivalent to US$ 1,558 per capita. In 2008, private health expenditures made up 52.3% of the total health expenditure, with general government health expenditures accounting for the rest (24). Government expenditures in health amounted to 12.6% of general government expenditures, 3.4% of GDP, and US$ 771 per capita.

Although the Bahamian society has faced a turbulent financial period in recent years, public and private expenditure on health has steadily increased.

**The Health Services**

The Bahamas’ health system is mainly composed of a public (government) sector and a private, for-profit sector, with a not-for-profit sector playing a minor role. The most important public health institutions are the Ministry of Health, the Department of Public Health (DPH), and the Public Hospitals Authority (PHA). The DPH is responsible for the delivery of primary health care services throughout the Bahamas, except in Grand Bahama. The PHA oversees the three government hospitals, the National Emergency Medical Services, the Bahamas National Drug Agency, and the Materials Management Directorate; it also is charged with providing community health services in Grand Bahama.

The country’s health sector is highly centralized, predominantly curative and disease-based, and extremely fragmented. As a result, primary and preventive health care services are delivered in clinics under the responsibility of the Department of Public Health, while tertiary care is provided by the hospitals under the Public Hospitals Authority.

Public health care delivery is carried out by a network of health facilities that includes 3 hospitals (Princess Margaret Hospital, Rand Memorial Hospital, and Sandilands Rehabilitation Centre) and 95 primary care clinics for the provision of primary, secondary, and tertiary care. In 2010, the total public and private hospital bed capacity was 1,054, representing 30 hospital beds per 10,000 population.

The primary provider of private inpatient services is Doctors Hospital, which is staffed and outfitted for the delivery of primary, secondary, and tertiary care; it is located in Nassau. Also located in Nassau is the Lyford Cay Hospital, which is a 12-bed facility that includes a 3-bed coronary care unit and a 4-bed telemetry unit. This hospital also provides the following medical specialties: cardiology, internal medicine, family medicine, plastic surgery, gynecology, and some diagnostic services (e.g., stress echocardiography). The country also has 291 private, for-profit walk-in clinics.
The main public-sector laboratories are located at Princess Margaret Hospital on New Providence and at Rand Memorial Hospital in Grand Bahama. They provide services in clinical chemistry, microbiology, immunology, blood banking, surgical pathology, cytology, and hematology. Laboratory specimens from the Family Islands are transported to the Princess Margaret Hospital or Rand laboratories for testing.

The Ministry of Health holds responsibility for the regulation and control of pharmaceutical services. The Bahamas National Drug Agency is responsible for the registration of pharmaceutical distributors and the drugs these companies supply. There is no registration system for individual pharmaceutical drugs. The national drug formulary consists of approximately 1,051 pharmaceutical products.

The Bahamas National Prescription Drug Plan that was launched in 2010 has two overarching objectives: preventive strategies to combat chronic diseases (through funding of well-organized and managed health promotion and wellness programs) and enhancement of prescription drug access while reducing cost; the plan includes private and public pharmacies and negotiates drug prices. Eleven chronic conditions are covered under the plan, including arthritis, asthma, cancer (breast and prostate), diabetes, major depression, glaucoma, hypercholesterolemia, hypertension, ischemic heart disease, and psychosis. The formulary includes 160 approved drugs and medical supplies. The first of the two implementation phases was completed in 2010. The initiative currently covers persons older than 65 who are retired and receive a pension, the disabled, and children under 18 years old and full-time students younger than 25.

Reflecting the Bahamas’ highly centralized health system, high-technology units and equipment are concentrated on New Providence, at both public and private facilities. There are two intensive care units on New Providence and one on Grand Bahama. The neonatal intensive care unit is located on New Providence, at Princess Margaret Hospital, and it services all hospitals and delivery centers. Telemedicine was introduced into the government health system in 2007 to facilitate the management of patients in the Family Islands.

**Knowledge, Technology, Information, and Human Resource Management**

Telephone subscriptions increased from a rate of 47.9 per 100 inhabitants in 2000 to 142.7 in 2009, with access to cellular service possibly accounting for this substantial rise. Progress in access to Internet services has been much slower, with only 33.9 per 100 inhabitants reporting Internet use in 2009 (2).

**Health Personnel Training**

Local tertiary educational institutions that participate in the training of health care providers include the College of the Bahamas (located in Nassau), which offers B.S. degrees in nursing and in pharmacy, and the University of the West Indies School of Medicine (St. Augustine campus, Trinidad), where fourth- and fifth-year medical students are trained. The average number of medical students seeking training between 2007 and 2009 was 45.

**Public Health Workforce**

Between 2004 and 2008, human resources for health increased across all health disciplines (3). In 2010, there were 1,056 physicians registered by the Bahamas Medical Council, but only 875 were licensed to practice. There were 520 practicing physicians employed in the public sector: 443 in hospitals that are part of the Public Hospitals Authority network; 67 in Department of Public Health clinics; and 10 in administrative positions at the Ministry of Health, Department of Public Health, and Public Hospitals Authority corporate offices. According to the Bahamas Medical Council Medical Registry estimates, 310 physicians were working in the private sector, the majority of them on New Providence. Additionally, there were 1,370 practicing nurses, including administrators, employed by the Public Hospitals Authority and the Department of Public Health. Of those, 1,037 were employed by the Public Hospitals Authority,
including 604 working at the Princess Margaret Hospital. There were also 201 allied health professionals, such as rehabilitation professionals, pharmacists, radiographers, and medical technologists, employed in public-sector institutions, along with 7 assistants (Table 3).

HEALTH AND INTERNATIONAL COOPERATION

Many agencies and countries have provided technical cooperation and direct financing for health projects in the Bahamas. These entities include PAHO/WHO, UNAIDS, the Inter-American Development Bank, the Organization of American States, the United Nations Development Program, the Joint United Nations Program on HIV/AIDS, the European Commission Humanitarian Aid Office, the Clinton Foundation, the Government of Cuba, the United States President’s Emergency Plan for AIDS Relief (PEPFAR), the Aga Khan Foundation, and the Government of the United States through its embassy in the Bahamas.

Support from the Caribbean subregion has come from CARICOM, the Pan Caribbean Partnership against HIV/AIDS (PANCAP), and the Caribbean Disaster Emergency Management Agency (CDEMA).

SYNTHESIS AND PROSPECTS

Health is a priority in the Bahamas, as indicated by the Government’s high budgetary allocation. The country has dedicated substantial resources to address the social determinants of health, while ensuring high-quality health care that is accessible to all its residents. Other major health developments during the review period have included the launching of the Bahamas National Prescription Drug Plan and the drafting of the National Health Services Strategic Plan in 2010 (1).

Despite the health system’s successes, many challenges remain. These include the surge of both unintentional and intentional injuries (particularly homicides), increases in chronic disease prevalence as a result of poor lifestyle choices, a limited capacity of the health sector to address a burgeoning immigrant population, and the fragmentation of the health services. Considered together, these trends pose challenges to the health system’s sustainability. Nevertheless, the Government’s investment in the national health agenda and its maintenance of the national social protection schemes focus on achieving the best possible health, health care, and health sector productivity.

REFERENCES


### TABLE 3. Public health care workers, by category and number, the Bahamas, 2010.

<table>
<thead>
<tr>
<th>Profession</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physicians</td>
<td>520</td>
</tr>
<tr>
<td>Nurses</td>
<td>1,037</td>
</tr>
<tr>
<td>Medical technicians</td>
<td>12</td>
</tr>
<tr>
<td>Medical technologists</td>
<td>38</td>
</tr>
<tr>
<td>Lab managers/supervisors</td>
<td>16</td>
</tr>
<tr>
<td>Pharmacists</td>
<td>39</td>
</tr>
<tr>
<td>Pharmacy technicians</td>
<td>24</td>
</tr>
<tr>
<td>Radiographers</td>
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</tr>
<tr>
<td>Occupational therapists</td>
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</tr>
<tr>
<td>Physiotherapists</td>
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</tr>
<tr>
<td>Recreational therapists</td>
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</tr>
<tr>
<td>Respiratory therapists</td>
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<tr>
<td>Early intervention specialists</td>
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<tr>
<td>Total</td>
<td>1,758</td>
</tr>
</tbody>
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Source: Compiled by the Ministry of Health, the Bahamas, 2010.