INTRODUCTION

The Turks and Caicos Islands is an archipelago of 40 islands and cays in the North Atlantic, located immediately southeast of the Bahamas, 145 km north of Hispaniola, and between coordinates 21° 80’ and 21° 28’ N and 71° 08’ and 72° 27’ W. The Turks and Caicos Islands consists of two island groups: the Turks Islands, which are located to the east of the Turks Island Passage, and the Caicos Islands to the west of the passage. The Turks group includes Grand Turk (on which Cockburn Town, the seat of Government, is located), Salt Cay, and various smaller cays. The Caicos group includes South Caicos, East Caicos, Middle Caicos, North Caicos, Providenciales, West Caicos, Pine Cay, and Parrot Cay. The total land mass of the territory is 430 km², exclusive of the large, shallow Caicos Bank, which lies to the south of the Caicos Islands group, and the Mouchoir Bank, which lies east southeast of the
Turks Island group and the Mouchoir Passage. The islands are low-lying and relatively dry, with a tropical temperature that averages between 70°F and 90°F.

The Governor represents the Queen of England and until 2009 presided over the Executive Council, which consisted mainly of a unicameral Legislative Council of Ministers, a Deputy Governor, and an Attorney General. The Premier (political/elected), appointed by the Governor, was the head of government. This was part of a Ministerial System of Government with democratically elected representatives, according to Westminster principles and consisting of elected and nominated members who sat on the Legislative Council.

Government ministries were directed by a Minister (political) and a Permanent Secretary (administrative). However, in 2009 the Constitution was temporarily suspended and replaced by direct rule from the United Kingdom. A United Kingdom-administered caretaker/interim administration headed by the Governor was put in place to implement various reforms and achieve specific milestones. This is a prerequisite for general elections to be held in order to return the territory to a governmental structure with the Premier as the Head. During this interim period, Permanent Secretaries continued to perform administrative functions in the various ministries. Other quasi-governmental institutions, often managed through an executive management team led by a general manager or director, remain in existence but also have been undergoing reform after 2009.

The delivery of health services in the Turks and Caicos Islands is the responsibility of the Ministry of Health, which was also responsible for Education, Youth and Sports until 2006 when the Ministry of Health was realigned and became responsible for human services, becoming the Ministry of Health and Human Services. Health care is delivered through a nexus of public health clinics strategically located throughout the six main inhabited islands; two hospitals on Grand Turk and Providenciales operated by the Government of the Turks and Caicos Islands (which in 2010 were replaced by two new, state-of-the-art facilities operated as a public-private partnership between the Government of the Turks and Caicos Islands and Interhealth Canada, Ltd. (ICL), a global health care management firm); and private, fee-for-service clinics on Providenciales. Additionally, in 2009 the Government of the Turks and Caicos Islands implemented a National Health Insurance Programme to provide access to health care for all registrants. Contributions are a one-size-fits-all percentage of income for employees; special rates for employers, self-employed persons, and small businesses; and concessions/waivers for indigents, dependents, and other special populations. Nominal copayments are made at each point-of-service, which includes private pharmacies.

The Turks and Caicos Islands’ economy is based mainly on tourism, offshore financial services, and fishing (1). The gross domestic product (GDP) increased 11.6% from US$ 21,742 in 2006 to US$ 24,273 per capita in 2008 before falling by 7.7% to US$ 22,412. Meanwhile, the territory’s negative balance of trade increased from US$ 480 million in 2006 to US$ 566.5 million in 2008. Both factors reflect a slight deterioration in the economic situation of the Turks and Caicos Islands partially due to the global recession which has affected tourism and trade (1).

Unemployment decreased from 31.1% in 2006 to 26.1% in 2008 (2). The demand for labor in the construction and service industry was met by an influx of non-nationals into the labor force, so that by 2008, 73.7% of the 21,493 employed persons were non-nationals, and most of the employed are in the private sector. The public sector employed 13.3% of the working population in 2008.

HEALTH DETERMINANTS AND INEQUALITIES

Population growth slowed from an average of 13% per annum during 2000–2005 to less than 5% per annum in 2006–2010 (from 33,202 in 2006 to 34,435 in 2010), even showing a negative growth of approximately 2.7% per annum in 2008–2010. The predominant race is black (90%) and the official language is English. With significant immigration of refugees and job seekers from nearby Haiti and the
Dominican Republic, French Creole and Spanish are widely spoken in the territory. The aforementioned inward migration of non-nationals to the Turks and Caicos Islands saw the non-national population grow to 67% of the resident population in 2008 (2). The impact of the influx of persons aged 25–44 years (of prime working age and including women of childbearing age) is reflected in that age group of the 2008 pyramid and probably contributed to the dependency ratio decreasing from 48% in 2001 to 32.5% in 2008. However, the relatively small denominators and even smaller numerators make it necessary for changes in demographics to be cautiously interpreted (Figure 1). Overall, life expectancy for males and females increased from 71.2 years and 75.5 years, respectively, in 2001 to 73.1 years and 77.8 years in 2008.

**THE ENVIRONMENT AND HUMAN SECURITY**

Rainfall in the Turks and Caicos Islands is insufficient to meet the needs of the territory; therefore, a significant proportion of the potable water for distribution/consumption on the more populous islands of Grand Turk and Providenciales is produced by reverse osmosis. Additionally, more than two-thirds of households harvest rainwater via private catchments and store it in cisterns and/or drums for personal use.

Household sewage is disposed of mainly through septic tanks and soakaways, with relatively few pit latrines being used (3). There are 75 sewerage treatment plants to service the hotel industry, primarily on Providenciales.

Solid waste management remains a major challenge throughout the territory and plans are underway to address this issue beginning on Grand Turk and Providenciales.

Vector control is a responsibility of the Environmental Health Department and focuses primarily on the control of mosquitoes, especially *Aedes aegypti*, the vector for dengue fever. Activities include monitoring and elimination of breeding sites, using various biological control techniques including larvivorous fish and amphibians, as well as larvicidal treatments and fogging.

![FIGURE 1. Population structure, by age and sex, Turks and Caicos Islands, 1990 and 2010.](image-url)

The population increased 275.3% between 1990 and 2010. In 1990, the population’s structure showed a pyramidal shape in age groups older than 25 years, with less variation among groups younger than those years. By 2010, this shape shifts toward older age groups and diminishes in younger age groups. This change is a reflection of a decrease in fertility and mortality in the intervening years. The country’s skyrocketing population growth—soaring from 7,000 in 1980 to 35,000 in 2007—was fueled by an influx of immigrants and expatriates drawn to the Turks and Caicos Islands by its rapid economic growth and job opportunities. In 2007, roughly two-thirds of the population was non-native.

**Source:** United States Census Bureau. International Database, 2009. Updated December 2010 (online database).

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

The National Health Emergency Management Unit (NHEMU), established in 2009, is responsible for the coordination of activities designed to prepare for, monitor, mitigate, and respond to public health threats and disasters. The NHEMU works in partnership with Ministry of Health units and departments as well as nongovernmental organizations (NGOs), hospital administrators, and the Department of Disaster Management and Emergencies (DOME) and their regional and international stakeholders.

In 2008, the Turks and Caicos Islands was struck by two tropical cyclones within three days of each other, Tropical Storm Hanna and Hurricane Ike. The latter passed just south of the Turks and Caicos Islands as a Category 4 hurricane, with 135 mph winds, affecting primarily the islands of Grand Turk, Salt Cay, and South Caicos. Utilities such as electricity and water were disrupted during and for an extended period after the hurricane's passage. There was damage to 95% of the buildings particularly on Grand Turk, Salt Cay, and South Caicos; over 700 persons lost their homes. Severe flooding, beach erosion, accumulation of debris, and destruction of vegetation also occurred. Fortunately no deaths were reported as a direct result of these cyclones. Remediation costs as well as economic losses incurred were conservatively estimated at US$ 213.6 million, with a per capita impact of US$ 6,119.5 (4).

**Health Conditions and Trends**

**Health Problems of Specific Population Groups**

**Maternal and Reproductive Health**

At-risk pregnancies have declined with the proportion of highly multi-gravid women decreasing from 4.9% in 2005 to 3.5% in 2010, and the percentage of teen births decreasing from 10.9% to 6.1% (5). All pregnant women presenting at the health care facilities are screened for anemia and treated with supplements as necessary (5). Additionally in 2010, more than one-third (34.9%) of all deliveries were via cesarean section, half of them being emergencies (6).

In terms of preventive interventions, there are no data on screening for prostate cancer in men. Data are incomplete on the number and outcome of mammograms performed during this period, and Pap smear screening, offered free of cost to women, is underutilized.

**Infants and Children (under 5 years old)**

The Primary Health Care Annual Report for 2008 indicated that the majority of infants seen at 3 months were partially breast-fed (that is, mostly being given formula with some breastfeeding) (7). Of the 1,100 children (aged 1–4 years) seen in child health services in 2008, 18% were overweight. During the 2006–2010 period the Turks and Caicos Islands averaged 500 live births per year. Twenty-one deaths occurred in the age group 0–4 years old. Of these, 17 deaths were under age 1 year. There were four deaths in the 1–4 age group. Other conditions for which children accessed health services are gastroenteritis and acute respiratory infections (ARIs). With regard to gastroenteritis, of the 1,144 and 1,487 cases that were reported in 2009 and 2010, 28% and 21%, respectively, were in the under-5-year-old population. In terms of acute respiratory infections, of the 1,297 and 1,539 cases that were reported in 2009 and 2010, 44% and 50%, respectively, were in the population under 5 years old.

Accessing health care for both gastroenteritis and ARIs was primarily responsible for this age group’s highest health service utilization ranking among all age groups (470.3 per 1,000 population). Vaccine-preventable conditions are rare—80% of all infants were immunized in 2007 and 91% in 2008.

**Adolescents (10–19 years old)**

Surveys of adolescents (10–14 years old) transitioning from elementary to high school during 2008–2010 reveal an increasing trend in overweight and obesity, where approximately 30% were either overweight/obese or at risk for being overweight.
Information on physical activity and dietary practices reveals a relationship to this increasing trend. This is consistent with what is being observed in other westernized countries. Surveys on anemia among this age group reveal a marked improvement in the hemoglobin (Hgb) status. None of the adolescents had severe anemia (Hgb < 10.0 g/dL) compared to 16% in 1974. During this period less than 20% of adolescents were classified as mildly anemic (Hgb 10–12 g/dL). Plans are under way to intervene as necessary in this age group (8).

**Ethnic or Racial Groups**

The development of the public-private partnership with ICL to deliver some primary and all secondary care services in the Turks and Caicos Islands, as well as enforcement of fees for service either through National Health Insurance for legal residents or personal payments, could mean that access to routine care by illegal residents is not guaranteed.

**Mortality**

Crude mortality rates varied from a high of 3.3 deaths per 1,000 population in 2007 to a low of 1.5 in 2008, an artifact of small populations. During the period 2006–2010, the leading causes of death were chronic, noncommunicable conditions (such as hypertension, diabetes, heart disease, and injuries), and HIV/AIDS, which accounted for at least one-third of all deaths (9). Other inadequately categorized/defined conditions such as cardiac arrest accounted for more than one-quarter of all deaths (27.6%) when potential years of life are considered. However, there has been a significant decrease in years of life lost due to AIDS, as many victims survive longer on antiretroviral therapy.

**Morbidity**

**Communicable Diseases**

In 2007, the country introduced syndromic surveillance (10). Cases of gastroenteritis in persons above 5 years of age increased from 296 in 2006 to 1,222 in 2010. Thirteen of the 18 tuberculosis cases reported in 2005–2010 were imported. Those who did not return to their country of origin responded favorably to directly observed treatment, short course (DOTS) in the Turks and Caicos Islands with the exception of one relapse and one refusal. An outbreak of 6 cases in the prisons in 2010 was controlled and managed. There was one case of comorbid HIV infection from reactivated TB in a non-Turks and Caicos Islands resident.

There has been a decrease in AIDS mortality. Antiretroviral therapy was introduced in 2005; in 2010, approximately one-quarter (23.4%) of the known HIV-positive cases were on antiretroviral therapy (10). Prevalence is difficult to estimate as many positives are detected through screening work permit applications and may not remain in the Turks and Caicos Islands. Seropositivity varied between 1.1% in antenatal women and 5.4% in screened workers.

**Chronic, Noncommunicable Diseases**

**Malignant Neoplasms**

Cancer incidence rose from 15 cases in 2000 to 26 cases in 2008. The main sites/types were prostate, breast, uterus, cervix, and colorectal. Overall, females accounted for 52% of the 77 cases. The majority (56.7%) of the cases diagnosed were in the advanced stage (11); 71% of cervical cancers and more than 50% of other screenable cancers fell into this category. Only 10% of those patients who were diagnosed at an advanced stage survived beyond two years, compared to 60% of those detected at the early stage; however, numbers for the latter were small.

**Hypertension and Diabetes**

Hypertension and diabetes are the most prevalent noncommunicable diseases, with rates of at least 34.2 and 11.0 per 10,000 total population, respectively, for 2010 after sustained increases in numbers during the period 2001–2009. For both conditions, approximately half of the cases were among persons aged 45–64 years (57.1% and 51.1%, respectively), with
the other cases evenly distributed between the 25–44 age group and persons 65 years old and older. The male:female ratio for both conditions was 1:1.4.

**Nutritional Diseases**

A school-health study showed that less than half of adolescents eat fruits more than three times per week, far less than the recommendation of three servings per day. A similar trend was seen with vegetable consumption. These dietary practices could contribute to the increasing levels of overweight and obesity reported in this age group. Anemia in pregnant women, primarily due to iron deficiency, reflects dietary inadequacy that could also be related to low consumption of fresh fruits and vegetables, which may also be related to cost and availability. Pregnant women are routinely supplemented with vitamins and minerals including iron (12).

**Accidents and Violence**

As seen from the mortality data, there has been an increase in both intentional and unintentional injuries (10). A review of persons presenting for care at the emergency department (ED) in 2008 showed that injury was the most frequent reason for presentation there, accounting for nearly one of every five contacts (18.8%). The most common injury was falls (17.1%) followed by nail sticks (11.3%) and intentional injury (9.0%). Males aged 25–44 years comprised the majority of victims of intentional (32%) as well as non-intentional injury (25%).

**Mental Disorders**

A psychiatrist, psychologist, and mental health nurse provide mental health-related services at the primary and secondary levels and make patient referrals to Jamaica for care as needed. According to the WHO Assessment, mood and neurotic disorders accounted for half of all mental illness (26% and 24%, respectively), followed by schizoid disorders and psychoactive substance abuse, among the approximately 200 mentally ill persons (13).

However, the sex differential varies by diagnosis; although there are more female mental health cases than males, more males than females suffer from substance abuse. Challenges affecting the delivery of mental health services during this 2006–2010 review period included outdated legislation and policies and insufficient human resources to guide service delivery.

**Other Health Problems**

**Oral Health**

The Division of Dental Health (DDH) provides clinic and community-based primary dental services, including a school dental health program for children through age 18 years. The DDH monitors oral diseases using the decayed, missing, and filled teeth (DMFT) scale and promotes prevention of mainly dental caries and periodontal diseases through oral health education. In 2007, 6,038 clients were seen mostly for prophylactic services—cleaning (29.4%), permanent fillings (20.4%), and palliative treatment (18.2%). Less than one-fifth (17.3%) had extractions (14). With the opening of the new hospitals in 2010, some secondary and emergency dental services have been made available. A wide range of primary and secondary dental services are offered on a fee-for-service basis by the private sector in Providenciales.

**HEALTH POLICIES, THE HEALTH SYSTEM, AND SOCIAL PROTECTION**

The Ministry of Health provides health care services to residents of the Turks and Caicos Islands including treatment abroad for services not available locally. The increasing population led to health care costs which rose from US$ 27.2 million in 2006 to a peak of US$ 70.4 million in 2008 and accounted for a little less than one-third (30%) of government expenditure. More than half of that 2008 health expenditure was for the Treatment Abroad Programme, which cost US$ 40.1 million, up from
US$ 12.6 million in 2006 (15). For a breakdown of selected health care financing indicators, see Table 1.

In 2006, the Turks and Caicos Islands Government embarked on a Health Care Renewal Strategy (HCRS). The aims were to extend the benefit of state-funded health care to all residents of the Turks and Caicos Islands and carry out recommendations of the Health Sector Development Strategy produced in 2000 with support from the Department for International Development (DFID) of the United Kingdom. The goal is to provide a more cost-effective service by reducing unnecessary expenses and containing health care costs, while improving cost recovery and generating alternative or supplemental financing, without sacrificing quality of care (16).

One response has been the introduction of the National Health Insurance Programme (NHIP), which is funded in part by government contributions and contributions of employers and employees (17). Self-employed individuals also pay into the plan. Another strategic response has been the commissioning of ICL in 2009/2010 to administer new hospital facilities in Grand Turk and Providenciales. These new facilities offer enhanced emergency room and in-hospital care services, imaging and laboratory support, and specialist services in general surgery, pediatrics, internal medicine, obstetrics and gynecology, and orthopedics, with visiting ear/nose/throat, neurology and gastroenterology specialists. These facilities should reduce the need to travel abroad for these services and expenses incurred by the Treatment Abroad Programme. Clients for all of these services are those persons covered under the National Health Insurance Plan, private health insurance, or those able to pay for the service.

Specified primary care services based out of the hospital centers in Grand Turk and Providenciales remain under the remit of the Ministry of Health (e.g., antenatal care up to 35 weeks, immunization and vaccination, infectious disease management and control, and community nursing). Government-run primary care clinics on the family islands of North Caicos, Middle Caicos, South Caicos, and Salt Cay provide full primary care services including routine and acute outpatient care.

**KNOWLEDGE, TECHNOLOGY, INFORMATION, AND HUMAN RESOURCE MANAGEMENT**

Another challenge facing health service delivery in the Turks and Caicos Islands is the limited human resource base. Although there has been some increase in clinical staff to respond to the increase in population, rates of 10.8 physicians, 30.3 nurses, and 1.8 dentists per 10,000 population compare well with other Caribbean countries but may be inadequate to meet the challenge of serving a population that is spread over several islands, similar to the Commonwealth of the Bahamas, whose comparative rates for physicians, nurses, and dentists are 28, 48.5, and 2.4 per 10,000 population (9).
Staff turnover is high, since most contracted staff leave the islands after a stay of two or three years. Government efforts to provide incentives to nationals to return to work in the public sector through the granting of scholarships for tertiary and other specialized training have not reduced the need for international recruitment. The constant turnover of professional staff has greatly affected continuity in patient health care, professional relationships, and treatment regimens.

The Ministry of Health has a small pool of staff upon which to draw for succession planning as a result of this staff turnover. Despite this, a number of health personnel posts remain vacant for long periods of time, thus affecting the delivery of health care services. Based on per capita needs, there was a shortage of nurses, especially public health nurses. Nurses are the most vulnerable to migration pressures due to high international demands for their services. Nevertheless, the nursing staff constituted the largest portion of health care workers on the islands.

The National Epidemiology and Research Unit (NERU) of the Ministry of Health was created as a stand-alone entity to support and enhance health service delivery. It is intended to bolster disease surveillance, strengthen the Ministry’s capability to respond more effectively to disease outbreaks, and spearhead and conduct surveillance and research activities in order to generate health information that can inform health policies and support evidence-based decision making and interventions in health. In 2007 a Chief/National Epidemiologist was hired to lead the Unit, and since then, despite staff and infrastructural constraints, the Unit has been fulfilling its mandate—it has produced and disseminated various epidemiological and surveillance reports and has conducted essential research projects, especially in child health and in seafood illnesses. Research findings are disseminated at the local and regional levels. Plans are under way to conduct an annual data dissemination workshop and conference to bring together local stakeholders (health practitioners and policymakers) and regional and international colleagues and partners to facilitate and support knowledge transfer and exchange; this will support evidence-based decision making in health in the Turks and Caicos Islands. As part of its capacity building function, the Unit conducts mentorships and preceptorships for local and international graduate students in public health and junior staff within the Ministry of Health. NERU conducts communicable disease workshops, coordinates efforts with other local stakeholders, and informs the development of national health policies. Avenues are being explored to (1) maximally promote and strengthen knowledge exchange and transfer mechanisms, including links to policymakers and other research users; (2) highlight the need for sustainable research environments; and (3) emphasize the importance of support for effective training and mentoring in the Turks and Caicos Islands. NERU also participates in regional activities and maintains close collaboration with the Caribbean Epidemiology Centre (CAREC) and other regional and international affiliates. NERU’s Chief was elected (2008) and currently serves as a Scientific Secretary of the Caribbean Health Research Council (CHRC). In 2008 NERU’s Chief became one of 13 recipients of the four-year Global Health Leadership Award. The award supports many of the surveillance, research, and capacity building activities being conducted under NERU’s auspices, while simultaneously enhancing the growth and development of NERU’s Chief—all of which aims at strengthening the public health delivery system in the Turks and Caicos Islands. GHRI is a partnership formed by four Canadian agencies—Health Canada, the Canadian Institutes of Health Research, the International Development Research Centre, and the Canadian International Development Agency—to strengthen Canada’s role in global health research. GHRI funds and facilitates innovative, interdisciplinary research and training programs to address the priorities of low- and middle-income countries.
HEALTH AND INTERNATIONAL COOPERATION

The Government of the Turks and Caicos Islands has collaborated and cooperated with national, regional, and international bodies in support of its many activities. The Pan American Health Organization, through its Country Office and regional institutions, has provided technical assistance and training in environmental protection, prevention and control of infectious diseases, disaster preparedness, mass casualty management, strategic planning, and health information. The Global Fund to Fight AIDS and the Clinton Foundation have also provided assistance to the national AIDS program.

SYNTHESIS AND PROSPECTS

A significant change in the health landscape has been the influx of immigrants to the Turks and Caicos Islands, whether as workers or illegal aliens, resulting in increased demands for health services, especially for maternity/reproductive health and child health. Another factor has been the reform of the health services so that the majority of the services (some primary and secondary care and all tertiary care) are delivered to legal residents of the Turks and Caicos Islands through the two facilities administered and paid for in part by the Government of the Turks and Caicos Islands and contributions from employees and private-sector employers via the newly-established National Health Insurance Programme. As a consequence, equitable access to health by all legal residents is assured.

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