INTRODUCTION

Haiti, with a land mass of some 27,700 km², occupies the western third of the island of Hispaniola, which it shares with the Dominican Republic. Haiti’s 2010 population was estimated at 10,303,698. With an annual growth rate of 2.2%, the country’s population is expected to reach 12.3 million by 2030. Total life expectancy at birth was estimated at 62 years in 2008; crude birth and death rates were 27 births and 9 deaths per 1,000 population, respectively, in 2009. The total fertility rate (number of children per woman) declined from 4.7 (2000–2001) to 4.0 (2005–2006). Haiti’s population is young, with more than 50% under the age of 21 and 36.5% under the age of 15. Women represent 51.8% of the population (86 men per 100 women in urban areas and 98 men per 100 women in rural areas) (see Figure 1).

Haiti is divided into 10 departments, 41 arrondissements (similar to districts), 135 communes.
(similar to parishes), and 565 communal sections. The two official languages of the country are French and Creole but the latter is the most commonly spoken.

Haiti’s recent history has been characterized by recurrent political instability, which has exacerbated the vulnerabilities created by widespread poverty and environmental degradation. Since 2004, the United Nations Stabilization Mission in Haiti (MINUSTAH) has been stationed as a peacekeeping force and has restored a sense of security in most of the country. Between 1995 and 2010, with the country undergoing serious tension, four presidential and parliamentary elections were held. The new Government elected in October 2011 has committed itself to bring the necessary peace and stability to consolidate democratic principles and set the country on the path of sustainable development.

Haiti has experienced negative economic growth over the last two decades albeit with some signs of improvement since 2005. At US$ 332, Haiti’s per capita gross domestic product (GDP) has declined by 50% in the last two decades. According to the World Bank, unemployment rates are high, especially in the Port-au-Prince metropolitan area (49%), with lower rates in other urban (37%) and rural (36%) areas. Formal sector jobs are limited and more than 100,000 job-seekers enter the metropolitan labor market every year, where there are few opportunities.

External migration in various forms (temporary and permanent, legal and illegal) is a significant phenomenon in Haitian society. The Ministry for Haitians Living Abroad puts the total number of émigrés at 1.5 million. Haiti is the world’s most remittance-dependent country, measured by its share of household income and GDP. According to World Bank estimates, 44% of households in metropolitan Port-au-Prince receive remittances from abroad, and total remittances are estimated at about US$ 800 million annually (30% of household income).

In 2008, Haiti was hit by a food crisis that saw average increases of 80% in food prices. Within a seven-month period (October 2007 to April 2008), the price of imported rice increased by more than 60%, imported flour increased by 73%, local maize rose by 91%, and sorghum by 30.5%. These food price hikes, along with increases in fuel prices, deeply affected the

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1 The 2011 exchange rate of the U.S. dollar to the Haitian Gourde was US$ 1 to HTG 40.
population and led to violent demonstrations. The National Commission for Food Security estimated that some 2.5 million Haitians were in need of food assistance as a result of the crisis.

HEALTH DETERMINANTS AND INEQUALITIES

According to a 2006 World Bank report, 92% of schools are non-state, most public schools are in urban areas, and 80% of primary and secondary school students attend private (fee-paying) schools. Haiti is the only country among the world’s poorest where more than 50% of children are in non-state schools. The General Population and Housing Census for 2003 reported that 61% of the population aged 10 and above was literate (53.8% females and 63.8% males), with urban areas showing higher literacy rates (80.5%) than rural (47.1%). According to the 2001 Survey on Health Conditions in Haiti, the net enrollment rate in primary school for children aged 6–11 years was 60% nationwide. While there was no significant difference between the net primary enrollment rates for girls (60%) and boys (59%), there was a difference in gross secondary school enrollment rates (37% for girls and 45% for boys). There was also a wide gap in gross secondary enrollment rates between children from more affluent households (71%) and those from households in the lowest income quintile (23%).

A national nutrition survey conducted in 2008–2009 showed that the country’s rate of global acute malnutrition varied between 2.0% and 5.2%. The rate of severe acute malnutrition was 2.2% in Nord-Ouest and Centre departments and below that in the remaining eight. The rate of chronic malnutrition ranged from 18% to 32%. The prevalence of underweight (weight/age) was about 4.5%. The same survey indicated that the prevalence of vitamin A deficiency among children aged 6–59 months was 32%. The Survey of Mortality, Morbidity, and Utilization of Services for 2005–2006, conducted by the Haitian Ministry of Health (EMMUS-IV), showed that anemia affected 61% of children of this age group. The corresponding figure for children aged 6–24 months was 75%.

HIV/AIDS, sexual and physical abuse, unemployment, crime, and violence are common problems affecting Haitian youth and have been exacerbated by many years of political instability and recurring natural disasters.

THE ENVIRONMENT AND HUMAN SECURITY

Access to Clean Water and Sanitation

Poor access to potable water and proper sanitation remains a major risk to public health in Haiti. Before the January 2010 earthquake, regular access to drinking water was only available to 63% of the country’s population; a mere 10% to 12% of the population had access to piped water, but only intermittently. Damage caused by the earthquake disrupted these services in the Port-au-Prince metropolitan area, but no figures are available on the extent of damage. In camps for people displaced by the earthquake, access to drinking water is only available to 40%–45% of the population.

In terms of sanitation, statistics released prior to the earthquake indicate that only 17% of the population had access to improved sanitation services. Waste disposal facilities in the country are inadequate: household trash, rubble, excreta, and biomedical waste are commonly seen along streets and waterways. The low income and social development levels, coupled with a lack of sanitation services, contribute to the high incidence of communicable diseases and subsequent economic losses.

In health care centers, availability of safe water is a major problem that also poses a potential risk for transmission of waterborne diseases such as cholera. More than 30% of the health care centers have no access to safe water, and even though 80% of them have pit latrines, only half of these meet sanitation requirements.

Air and Chemical Pollution

The Haitian population faces health risks associated with a variety of chemical pollutants. Measurements
of polychlorinated biphenyls (PCBs) in lactating women have yielded concentrations of 3.66 μg/L; in cow’s milk, concentrations of 120 μg/L have been reported. Indoor air pollution due to carbon used for cooking poses another serious health risk. Policies protecting workers’ health and safety are lacking or unenforced.

**Violence**

It is generally believed that Haiti is one of the world’s most dangerous countries, but statistics to back up this belief are hard to come by. Some reports indicate that kidnapping, death threats, murders, drug-related shootouts, armed robberies, home break-ins, and carjacking are common in Haiti. Based on a United Nations Office on Drugs and Crime (UNDOC) 2011 report, the 2010 homicide rate in Haiti was estimated at 6.9 murders per 100,000 inhabitants, significantly lower than some other Caribbean countries.

However, gender-based violence is of significant concern in Haiti. According to the EMMUS-IV survey (2006), 20% of women in a relationship reported being victims of physical or sexual violence by their partners. Adolescents aged 15–19 years were the most affected age group, at 25.3%, compared to 21.1%, 23.1%, and 18.4% for women aged 20–29, 30–39, and 40–49 years, respectively.

**Disasters**

In 2008, the country was hit by four hurricanes and tropical storms within a two-month period. According to the report of the Ministry of Interior’s Civil Protection Directorate (1 October 2008), the impact of these storms (Tropical Storm Fay, followed by Hurricanes Gustav, Hanna, and Ike) in August and September affected all departments and resulted in 793 deaths, 310 missing, 548 injured, 135,337 families without housing, 22,702 houses destroyed, and 84,625 houses damaged.

On 12 January 2010, a devastating earthquake measuring 7.0 on the Richter scale hit Haiti, resulting in the loss of more than 200,000 lives and widespread destruction that the country is yet to recover from. This was the most powerful earthquake to strike Haiti in 200 years and was followed by at least 24 aftershocks ranging from 5.0 to 5.9 on the Richter scale. The epicenter was 16 km southwest of the capital Port-au-Prince and 10 km below the Earth’s surface. The earthquake affected three departments, with the cities of Port-au-Prince, Jacmel, Léogâne, Grand-Goâve, and Petit-Goâve being particularly hard hit, and forced some 1.5 million people into temporary camps and shelters. An estimated 500,000 people migrated to other departments that were less affected by the earthquake.

Total damages and losses are estimated at US$ 7.8 billion (US$ 4.3 billion in physical damage and US$ 3.5 billion in economic losses), which is equivalent to more than 120% of the country’s GDP for 2009. The migration away from the most seriously affected areas and the temporary camps for the displaced population raised the urgent need for disease surveillance and outbreak alert and response. The response to the disaster from the Government, the United Nations, and the international community was immediate and spectacular. Support from all over the world started arriving in Haiti within the first 24 hours.

Almost two years after the earthquake, an estimated 600,000 people were still living in some 1,000 temporary camps scattered mostly around Port-au-Prince. Some US$ 5.57 billion was pledged by donors to assist the Haitian Government in spearheading the recovery process.

In the aftermath of the 2010 earthquake, the UN Humanitarian Coordinator mobilized Clusters—a mechanism for coordinating international response to major disasters by thematic areas (e.g., health, nutrition, water and sanitation, emergency shelter, etc.) and led by relevant UN agencies. The Health Cluster began operating three days after the event and provided support to the Presidential Emergency Committee that was established to coordinate the international health relief effort. Sub-working groups were created to guide the response on a range of issues, including primary health care and mobile
clinics, hospitals and trauma care, the referral system, health information management, mental health and psychosocial support, disabilities, medical supplies, and early warning of communicable diseases. More than 390 partners registered with the Health Cluster in the immediate aftermath of the event, including international nongovernmental organizations (NGOs) and multilateral and bilateral cooperation agencies. Their support was critical to ensuring the population’s access to health care.

HEALTH CONDITIONS AND TRENDS

Health Problems of Specific Population Groups

Maternal and Reproductive Health

It is estimated that 80% of pregnant women in Haiti attend at least one prenatal visit. Before the free obstetric care project, Soins Obstétricaux Gratuits (SOG), started in July 2008, only 25% of women delivered in health facilities with skilled birth attendants. However, for women in the highest income quintile who can afford the cost of care and are less constrained by distances from the nearest health facility, the percentage was as high as 75%. In 2010, it was estimated that the number of deliveries in health facilities had increased by 26.5% as compared to the 2006–2007 baseline. In 2005–2006, the contraceptive prevalence rate was estimated at 25% and unmet need was 38%.

The country’s maternal mortality rate increased from 457 per 100,000 live births in 1995–1999 to 630 per 100,000 live births in 2006. The major causes of maternal death are hemorrhage, eclampsia, abortion, and sepsis. This situation is linked to the weakness of the health system and financial barriers to access, which, with the exception of the SOG program, has required direct payment for obstetrics services.

Infants and Children (0–4 years old)

Although Haiti has experienced a decline in infant and child mortality over the past two decades, its infant mortality rate is still the highest in the Region of the Americas. According to reports from Surveys of Mortality, Morbidity, and Utilization of Services (EMMUS), the infant mortality rate showed a downward trend from 99 per 1,000 live births in 1987 to 57 per 1,000 live births in 2006, while child mortality decreased from 158 per 1,000 live births (1987) to 86 (2006). The neonatal mortality rate also showed a decrease from 40 per 1,000 live births (1987) to 25 (2006), and the post-neonatal mortality rate decreased from 59 (1987) to 32 (2006).

The major causes of death in children under 5 years old are infections, malnutrition, injuries, HIV/AIDS, tuberculosis, and malaria. Acute respiratory infections and diarrhea account for more than 50% of the deaths in this age group.

Mortality

Most of the published data on mortality in Haiti show a decline in the total mortality rate between 1985 and 2005 (see Table 1).

Information on specific causes of death is scarce, however. The Ministry of Health’s Planning and Evaluation Unit is currently undertaking to update the mortality data published in 1999, where 2,150 deaths were reported from various causes including HIV/AIDS (413), diarrheal disease (398), cerebrovascular disease (279), pneumopathy (180), other forms of cardiopathy (163), tuberculosis (162), pregnancy and puerperal complications (157), malnutrition (145), perinatal infections (127), and diabetes mellitus (126).

| TABLE 1. Total mortality rate (per 1,000 population), Haiti, 1985–2005. |
|-----------------|--------|
| Period          | Rate   |
| 1990–1995       | 11.85  |
| 1995–2000       | 10.72  |
| 2000–2005       | 9.60   |

Source: Institut Haïtien de Statistiques et d’Informatiques (IHS).
**Morbidity**

**Communicable Diseases**

**Vector-borne Diseases**

Haiti is seriously affected by malaria, with a prevalence rate of 2% to 3%. A national program based on individual and community-based prevention, early case detection, and case management has been supported by the Global Fund to Fight AIDS, Tuberculosis, and Malaria since 2004. This support will continue to assist in implementing the new national strategic plan for malaria elimination. Table 2 shows malaria trends for 2008–2010. In 2010 the Centre department reported a very significant increase in the number of cases as compared to previous years. It is not clear if the increase was due to an outbreak or to underreporting in 2008 and 2009.

Despite evidence of the presence of dengue in Haiti, the country does not have a dengue prevention and control program. There is a need to support surveillance so that reliable and representative figures are obtained and appropriate prevention and control measures are undertaken.

**Table 2. Distribution of malaria cases, by department, Haiti, 2008–2010.**

<table>
<thead>
<tr>
<th>Department</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artibonite</td>
<td>1,877</td>
<td>2,773</td>
<td>3,157</td>
</tr>
<tr>
<td>Grand’Anse</td>
<td>886</td>
<td>379</td>
<td>1,808</td>
</tr>
<tr>
<td>Nippes</td>
<td>661</td>
<td>358</td>
<td>1,904</td>
</tr>
<tr>
<td>Nord</td>
<td>935</td>
<td>4,029</td>
<td>597</td>
</tr>
<tr>
<td>Nord-Est</td>
<td>1,315</td>
<td>1,205</td>
<td>2,551</td>
</tr>
<tr>
<td>Nord-Ouest</td>
<td>2,117</td>
<td>4,653</td>
<td>1,038</td>
</tr>
<tr>
<td>Ouest</td>
<td>1,380</td>
<td>N/A</td>
<td>3,440</td>
</tr>
<tr>
<td>Sud</td>
<td>5,484</td>
<td>4,496</td>
<td>1,042</td>
</tr>
<tr>
<td>Sud-Est</td>
<td>15,170</td>
<td>18,617</td>
<td>7,443</td>
</tr>
<tr>
<td>Centre</td>
<td>N/A</td>
<td>264</td>
<td>26,563</td>
</tr>
<tr>
<td>TOTAL</td>
<td>29,825</td>
<td>36,774</td>
<td>84,153</td>
</tr>
</tbody>
</table>


**Vaccine-preventable Diseases**

Although the demand for vaccination is high, daily provision of routine vaccination services is often not ensured. A large proportion of the population lives far from health facilities, and the provision of outreach services is irregular. Where these services do exist, they depend on NGOs for operational and managerial costs. Table 3 shows that the vaccine coverage was consistently below 80% for the 2006–2010 period.

The January 2010 earthquake disrupted national immunization activities that had been planned to address a diphtheria outbreak in various departments, including the Port-au-Prince metropolitan area. Many health facilities participating in the Expanded Program on Immunization (EPI) were destroyed during the earthquake, and others were temporarily unable to function, further weakening EPI capacity to support and supervise vaccination activities at national and departmental levels. Conditions that heightened the threat of outbreaks of disease were the concentration of large populations in temporary, overcrowded camps and the influx of thousands of expatriates who were involved in earthquake relief activities, including from regions where measles, rubella, and other vaccine-preventable diseases are in circulation. Tetanus vaccination and serum were made available in hospitals that treated the injured. Two rounds of vaccination for measles, rubella, tetanus, pertussis, and diphtheria were organized following the earthquake. Vitamin A supplements and de-worming medication (albendazole) were distributed in targeted areas (Ouest and Sud-Est departments and the Port-au-Prince metropolitan area).

A multi-year immunization plan has been developed and costed, and preparations are underway for the introduction of new vaccines. Pentavalent vaccines will be introduced in 2012, and pneumococcal and rotavirus vaccines in 2013.

**Zoonoses**

Haiti remains the country most affected by human rabies in the Americas. In response to the growing
threat posed by dogs, especially in the aftermath of the January 2010 earthquake, the Ministry of Agriculture developed a policy for vaccination of cats and dogs (the main reservoirs) and adopted a national plan for rabies elimination. The plan emphasizes the need to maintain a high level of animal vaccination coverage for a period of at least 10 years to achieve elimination of human rabies. However, the vaccination campaign, scheduled for 2011, has not started due to lack of funding.

**Neglected Diseases and Other Infections Related to Poverty**

Lymphatic filariasis is endemic in Haiti but surveys to determine the extent of the disease have been rare. In 2002, an estimated 2,130,000 people (30% of the population) were thought to be infected. The filariasis eradication program, mainly supported by the Bill and Melinda Gates Foundation, is based on mass drug administration in highly affected areas. According to the Ministry of Health, Haiti will achieve nationwide mass drug administration by the end of 2011.

Leprosy is no longer a significant public health problem in Haiti, with around 40 cases reported annually. Efforts are now geared toward integrating leprosy control in a larger program addressing dermatological diseases which are generally poorly diagnosed and treated in the country.

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

According to the EMMUS-IV survey published in 2006, HIV prevalence in the population between 15 and 49 years old was estimated at 2.2% compared to the 4.4% HIV prevalence among pregnant women (2006–2007 sentinel antenatal survey). However, more recent data from the National AIDS Program show a seroprevalence rate of 2.7% among pregnant women.

The HIV/AIDS landscape in Haiti has changed dramatically since 2003, when the Global Fund started supporting HIV/AIDS activities in the country, followed by the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR) in 2004. This resulted in an increase in the amount of funds available for HIV/AIDS interventions, as well as in the number of implementing partners. As a result, the number of people receiving antiretroviral (ARV) therapy increased from about 2,000 in 2003 to some 34,927 in 2011. According to the 2012 UNGASS Report, the current gap is estimated at 59,750 AIDS patients who are in need of treatment. The challenges faced by the National HIV/AIDS Program relate to efficient coordination, effective utilization of resources, increase in coverage, and the sustainability of interventions.

**Tuberculosis**

Despite progress made since 1999, the national tuberculosis program has yet to attain its objectives of 70% case detection and 85% treatment success. In 2009, there was 59% case detection and 78% treatment success. Between 2001 and 2008, annual TB case notifications were in the range of 12,000 to 15,000. In 2010, 13,884 new TB cases were notified to the National TB Control Program (see Table 4).

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**TABLE 3. Vaccine coverage (%), by antigen, Haiti, 2006–2010.**

<table>
<thead>
<tr>
<th>Antigens</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCG</td>
<td>59.0</td>
<td>70.0</td>
<td>62.0</td>
<td>66.0</td>
<td>55.0</td>
</tr>
<tr>
<td>DTP1</td>
<td>88.0</td>
<td>68.0</td>
<td>77.0</td>
<td>72.8</td>
<td>75.2</td>
</tr>
<tr>
<td>DTP3</td>
<td>78.0</td>
<td>60.0</td>
<td>58.0</td>
<td>65.1</td>
<td>68.6</td>
</tr>
<tr>
<td>Polio 3</td>
<td>73.0</td>
<td>58.0</td>
<td>58.0</td>
<td>65.1</td>
<td>61.9</td>
</tr>
<tr>
<td>MR</td>
<td>65.0</td>
<td>48.0</td>
<td>20.0</td>
<td>17.0</td>
<td>44.9</td>
</tr>
</tbody>
</table>

*Source: Annual vaccine coverage report of the Ministry of Health, EPI Program.*
Case distribution by TB type has remained fairly constant over the past 5 years: 59% of cases were sputum-smear positive (SS+), 31% were sputum-smear negative (SS-), and 10% were extrapulmonary TB (ETB). Table 4 shows the distribution of new tuberculosis cases throughout Haiti’s departments.

The most serious challenges faced by the country’s TB control program include management of TB/HIV coinfection; low coverage using the directly observed treatment, short-course strategy (DOTS) (currently estimated at 70%); a weak drug delivery system; and surveillance and management of multi-drug-resistant TB.

**Emerging Diseases**

In October 2010, a cholera outbreak began in Centre department and quickly spread to all departments of the country. As of 27 March 2012, a total of 532,192 cases had been reported to the Ministry of Health and 7,060 cholera deaths were registered. These figures translate to a 5.1 cumulative incidence rate and 1.3% cumulative case fatality rate for the first year of the epidemic. Table 5 shows the cumulative incidence rate of cholera as of the end of 27 March 2012.

An alert system that was put in place at the beginning of the epidemic has been instrumental in identifying hotspots and targeting response where it was most needed. Health promotion has been intensified and resources mobilized to improve access to potable water and sanitation. Although significant progress has been made in the management of cholera cases, ongoing monitoring is necessary. Considering trends and conditions in 2011, projections for the number of new cases for the second year of the cholera epidemic are as high as 200,000.

**Chronic, Noncommunicable Diseases**

Disease prevention and control activities in Haiti have focused largely on communicable diseases, but there are indications that the prevalence of chronic, noncommunicable diseases is on the rise. A 2006 cross-sectional survey carried out in the Port-au-Prince metropolitan area showed that the age-standardized prevalence of diabetes was 4.8% in men and 8.9% in women. Hypertension was found in 48.7% of men and 46.5% of women in the same study. Available data on cancer show that in 2008 a total number of 8,400 new cancer cases were diagnosed, including 4,500 males and 3,900 females. Prostate cancer was the most prevalent malignancy among men with 2,178 cases reported, whereas for females breast and cervical cancers accounted for 831 and 568 cases, respectively.

<table>
<thead>
<tr>
<th>Department</th>
<th>Sputum-smear positive cases (No.)</th>
<th>Sputum-smear negative cases (No.)</th>
<th>Extrapulmonary cases (No.)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ouest</td>
<td>2,901</td>
<td>2,211</td>
<td>578</td>
<td>5,690</td>
</tr>
<tr>
<td>Nord</td>
<td>1,020</td>
<td>653</td>
<td>152</td>
<td>1,825</td>
</tr>
<tr>
<td>Artibonite</td>
<td>1,000</td>
<td>372</td>
<td>120</td>
<td>1,492</td>
</tr>
<tr>
<td>Sud</td>
<td>796</td>
<td>340</td>
<td>168</td>
<td>1,304</td>
</tr>
<tr>
<td>Nord-Ouest</td>
<td>490</td>
<td>189</td>
<td>63</td>
<td>742</td>
</tr>
<tr>
<td>Centre</td>
<td>458</td>
<td>203</td>
<td>58</td>
<td>719</td>
</tr>
<tr>
<td>Grand’Anse</td>
<td>488</td>
<td>110</td>
<td>47</td>
<td>645</td>
</tr>
<tr>
<td>Sud-Est</td>
<td>472</td>
<td>83</td>
<td>32</td>
<td>587</td>
</tr>
<tr>
<td>Nippes</td>
<td>282</td>
<td>99</td>
<td>75</td>
<td>456</td>
</tr>
<tr>
<td>Nord-Est</td>
<td>335</td>
<td>75</td>
<td>14</td>
<td>424</td>
</tr>
<tr>
<td>TOTAL</td>
<td>8,242</td>
<td>4,335</td>
<td>1,307</td>
<td>13,884</td>
</tr>
</tbody>
</table>

HEALTH POLICIES, THE HEALTH SYSTEM, AND SOCIAL PROTECTION

Health Policies

Epidemiologic surveillance is a key public health function and has been identified by the Ministry of Health as a priority. Surveillance systems are in place for vaccine-preventable diseases, HIV/AIDS, malaria, and tuberculosis. Weekly surveillance data are received from 71 sentinel sites with data on 23 priority communicable diseases. Similarly, each of the Ministry’s divisions (e.g., HIV/AIDS, Malaria, Tuberculosis, Laboratory, Maternal Health, etc.) has its own program-specific system. Data are sent electronically to the departments and the central level. Weekly surveillance meetings are held at the National Reference Laboratory where surveillance data are reviewed, trends analyzed, and recommendations formulated. Outbreak investigations beyond the competence of the national departmental epidemiologists are undertaken jointly by the Epidemiology Division, PAHO/WHO, and other partners such as the National Reference Laboratory, the Expanded Program on Immunization (in the case of a vaccine-preventable disease), and the U.S. Centers for Disease Control and Prevention. Following the January 2010 earthquake, partnership for disease surveillance and outbreak response expanded to include the Canadian International Development Agency; the Cuban Medical Brigade; the UN Stabilization Mission in Haiti; the Taiwan (Republic of China) Centers for Disease Control; epidemiologists from Brazil, China, and the Philippines; Médecins Sans Frontières; and other NGOs.

The Health System’s Stewardship Role

The Ministry of Health’s capacity to coordinate health care delivery at the national and departmental levels by setting policies, norms, guidelines, and protocols did not match increased demands for leadership following the earthquake. Some of the challenges the Ministry of Health faced at that time persist, including issues of human resource management particularly regarding remuneration and retention of health workers, a limited capacity to implement a decentralization policy aimed at improving delivery of health services, and the effective procurement, management, and distribution of drugs and medical products.

Human Resource Development Policies

Human resources for health remains one of the areas where little progress has been made in Haiti. The

<table>
<thead>
<tr>
<th>Department</th>
<th>Cases</th>
<th>Deaths</th>
<th>Case fatality rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artibonite</td>
<td>107,924</td>
<td>1,212</td>
<td>1.1</td>
</tr>
<tr>
<td>Centre</td>
<td>43,129</td>
<td>545</td>
<td>1.3</td>
</tr>
<tr>
<td>Grand’Anse</td>
<td>22,107</td>
<td>923</td>
<td>4.1</td>
</tr>
<tr>
<td>Nippes</td>
<td>7,247</td>
<td>193</td>
<td>2.6</td>
</tr>
<tr>
<td>Nord</td>
<td>45,149</td>
<td>877</td>
<td>1.9</td>
</tr>
<tr>
<td>Nord-Ouest</td>
<td>28,168</td>
<td>382</td>
<td>1.4</td>
</tr>
<tr>
<td>Nord-Est</td>
<td>27,433</td>
<td>324</td>
<td>1.2</td>
</tr>
<tr>
<td>Ouest</td>
<td>65,865</td>
<td>948</td>
<td>1.4</td>
</tr>
<tr>
<td>Port-au-Prince</td>
<td>143,036</td>
<td>1,008</td>
<td>0.7</td>
</tr>
<tr>
<td>Sud</td>
<td>27,944</td>
<td>292</td>
<td>1.0</td>
</tr>
<tr>
<td>Sud-Est</td>
<td>8,090</td>
<td>356</td>
<td>4.3</td>
</tr>
</tbody>
</table>

Source: Epidemiology Division, Ministry of Health.
impact of the 2010 earthquake and the cholera epidemic on the health system as a whole has further complicated the situation. Haiti has not established an Observatory of Human Resources in Health where reliable figures on the health workforce can be obtained. Since the January 2010 earthquake many private, bilateral, and international partners have increased their involvement in the health sector but the Ministry of Health has had little control over the influx of health workers hired by these different stakeholders. As the country emerges from the disaster period, there is a need to strengthen the Ministry of Health department which is responsible for human resources development. The health management capacity building project (PARC), administered by CIDA (Canada) and the Clinton Foundation (U.S.), is contributing to this effort.

Of particular concern is how to strike the right balance between administrative/support staff and staff directly providing health services. For example, between September 2010 and February 2011 a total of 1,159 people were hired by the Ministry of Health to fill 768 administrative/support posts and 391 health care service posts despite the fact that the country was faced with a major cholera epidemic. Other important challenges include improving the career paths and status of health care providers, instituting a policy for competitive selection of candidates for health posts, and developing a clear policy for remuneration of health care providers. The issue of higher pay and better working conditions offered by international partners based in Haiti needs to be addressed to prevent further losses of qualified personnel by the public sector.

**The Health Services**

The Haitian health system is organized around three levels of care. At the first level, there are some 700 primary health care facilities distributed countrywide, which are supported by community hospitals. Ten departmental hospitals constitute the secondary level of care and the tertiary level relies on four university hospitals.

Nearly half of Haiti’s health facilities are concentrated in the Port-au-Prince metropolitan area and its poor neighborhoods, with the rest located in rural areas. Traditional medicine plays an important role and constitutes the first recourse for almost 80% of the population due to its low cost and accessibility.

The country’s health system faces complex organizational and managerial problems which have resulted in services of limited availability and poor quality. Geographic and financial barriers limit access to quality health services for most of the population and there are critical shortages of qualified health care professionals. The provision of health care is highly fragmented, and effective mechanisms for coordinating health services provided by the many NGOs and donors present in Haiti are lacking.

Haiti lacks a national policy on pharmaceuticals and its system for regulating medicines is antiquated. There is no authority that provides information or training on legislation regarding pharmaceuticals, regulatory procedures, prescribing information (such as indications, contraindications, side effects, etc.), authorization of distributors, or approved medicines. The lack of national, hospital, or primary care standard treatment guidelines for illness contributes to problems regarding the rational use of pharmaceuticals. One illustration of this is that antibiotics are frequently sold over the counter without a prescription.

PROMESS, a PAHO/WHO project created in 1992, is the main essential drugs supply system in Haiti. It has a management board presided over by the Minister of Health. Some of the main achievements are the strengthening of international norms, the development of standard operational procedures that have been subsequently validated by the board, and the partial integration of supply systems through partnerships with multilateral agencies. PROMESS played a fundamental role in the response to the earthquake and cholera emergencies not only by ensuring supplies, but also by strengthening coordination between partners through the creation of software facilitating stock management of cholera supplies in the country. PROMESS has also put in place an active distribution system.

Three pharmaceutical laboratories have been officially designated to produce drugs for national
use, and they supply 30% to 40% of the Haitian market. Regulations are in place for the licensing of manufacturers, wholesalers, distributors, importers, and exporters of medicines. However, entities responsible for importing or distributing medications do not always adhere to regulations and are therefore not generally registered or licensed by the Government. The actual volume of pharmaceutical products available on the market is not known. Official protocols and mechanisms for ensuring the quality of medicines are not in place in Haiti.

While regulations exist for the licensing and practice of prescribers, pharmacists, and pharmacies, the majority of retail pharmacies are not registered with the Government of Haiti nor are they owned or operated by a licensed prescriber or pharmacist. According to the Ministry of Health registry, there are approximately 120 licensed, private retail medicine outlets in the country, most of which are registered in the Port-au-Prince area; only 31 are registered in other departments. However, there are more than 300 private retail medicine outlets operating in the country. A substantial proportion of medicines are dispensed at facilities operated by the public, private, and nonprofit sectors.

Some 1,200 medicinal products have been approved for marketing by the Ministry of Health in Haiti. Because the registration of medications is voluntary, not all medications sold in Haiti are specifically authorized. Marketing, promotion, and advertising of pharmaceuticals are not regulated.

Haiti’s National Essential Medicines List, last updated in 2011, has not been officially adopted, and no entity is responsible for selecting medicines for the list. The draft list includes approximately 325 unique medicine formulations. The list is not currently being used for public-sector procurement or for reimbursement by public and private insurers.

Certain public facilities provide medications free-of-charge, but most sell medications to patients. Fees charged to patients for medicines are not standardized and may include consultation fees, dispensing fees, flat rates for medicines, or flat rate or percentage co-payments for medicines. Certain medicines are covered by public insurance (available primarily to government employees) or by private insurers. Of the country’s expenditures on drugs, 80% are made by the private sector.

The Haitian Government does not have a national medicine pricing policy and does not set the price either of originator brand products or generic products. There is no obligation to prescribe generic drugs nor are there incentives to dispense generics at public or private pharmacies. Retail prices are not monitored by the Government and there are no requirements that medicine price information be made public. Official guidelines or regulations do not exist for donors of medicines or for the public, private, or NGO sectors on accepting and handling donated medicines.

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

**Scientific Production in Health**

With regards to health information, Haiti suffers from a lack of data, incomplete and inaccurate data, information that is outdated, and less-than-optimal use of available data for analysis and decision-making. Due to the weak health information system, parallel systems of health information have been created by different vertical programs, and coordination between departments needs improvement. If the health information system can be strengthened, there is potential for the use of modern information and communication technology, which, combined with a trained workforce, could transform the quality of health information and the collection, analysis, and use of information to improve health.

The Ministry of Health has been addressing this issue through the National Committee on Health Information Systems (CONASIS), which was formed in 2008. The 15-member CONASIS is led by the Ministry’s Planning and Evaluation Unit and includes other Ministry divisions (including Epidemiology, Family Health, Health Promotion, Health Services, Human Resources, Immunization, and the Haiti University and Education Hospital) as well as bilateral and NGO partners.
Voluntary contributions to Haiti totaled more than US$ 99 million between 2006 and 2010. In addition to the response to health emergencies after the January 2010 earthquake, which exceeded US$ 43 million, 20 international multilateral and bilateral agencies provided medicines and materials for hospitals and supported activities such as child and maternal health, HIV/AIDS, family and community health, immunization, neglected diseases, epidemiology, and health surveillance.

SYNTHESIS AND PROSPECTS

Despite many social, political, and economic challenges, further compounded by natural disasters and health emergencies, there are positive trends in the health status of the Haitian population. For example, the infant mortality rate has been on the decline, even though it remains one of the highest in the world. Lymphatic filariasis control is on track with nationwide mass drug administration. HIV prevalence rates were stable between 2005 and 2008 and ARV treatment coverage has significantly increased. Access to maternal and child health care services has improved. The Government is drafting a new strategic plan for health and collaboration between the UN, the Government, bilateral and international agencies, and NGOs.

However, weaknesses in human resources recruitment and retention and in health financing have persisted, with negative impacts on the overall quality of health care delivery in the country. There is the risk that gains made by programs such as HIV/AIDS control and treatment will be lost and the burden of diarrheal diseases, including cholera, and human rabies will worsen if the Government does not increase its share of expenditures on health.

There are many opportunities for strengthening strategic alliances between donor agencies and technical partners on different health issues such as disease surveillance and outbreak response, maternal and child health, HIV/AIDS, tuberculosis, malaria, lymphatic filariasis, and rabies, among others.

BIBLIOGRAPHY

- Economic Commission for Latin America and the Caribbean [Internet]. Available at: http://www.eclac.cl/ Accessed on 7 March 2012.
- GLOBOCAN 2008. Country FAST STATS.
- Haiti, Ministère de la Santé Publique et de la Population; Institut National de Santé Publique du Québec; Organisation panaméricaine de la santé. La mesure de la performance des fonctions essentielles de santé publique. MSPP; OPS; Institut national de santé publique du Québec.