INTRODUCTION

Honduras has had a democratic government since 1982, and presidential elections are held every four years. In June 2009, the country plunged into a serious political crisis that led to a temporary cessation of disbursements and international cash flows, which are used in key projects for economic and social development (1). After six months of an interim government appointed by the National Congress, general elections were held, with the National Party securing the presidency. In 2010, the Government approved a plan for social and political economic development, the “Country Vision 2010–2038 and National Plan 2010–2022” Law, which divided the national territory into six development regions and 16 subregions according to the main watersheds. However, the established geopolitical division of the country also remains in place, with 18 departments, 298 municipalities, 3,731 villages, and 30,591 hamlets (2).
The country has a land area of 112,492 km$^2$. It borders the Caribbean Sea to the north, the Gulf of Fonseca (Pacific Ocean) and El Salvador to the south, Nicaragua to the east, and El Salvador and Guatemala to the west. The estimated population as of 2010, according to the National Statistics Institute, was 8,045,990 (49.3% male and 50.7% female) (Figure 1). Life expectancy at birth was 73.6 years (77.2 for women and 70.1 for men), up by 1.4 years as compared to the 2001–2005 period (3). The economically active population accounts for 42.1% of the population, or 3.4 million citizens; of these, 36% are women and 53% live in rural areas.

It is estimated that between 2000 and 2010, 7.5% of the total population left the country, with 92.5% of these migrants belonging to the economically active population (4, 5). The National Forum for Migration in Honduras has reported that, over a 10-year period, an average of 30,000 Hondurans have been deported annually from the United States of America and Mexico. Nearly 78% of the migrant population is between the ages of 15 and 34 years, and most are men.

As Honduras is classified as a heavily indebted poor country, in 2005 it was granted US$ 1,300 million in debt relief under the Multilateral Debt Relief Initiative (6). Total foreign debt in December 2010, according to figures provided by the Central Bank of Honduras, was US$ 3,700 million (24.4% of the gross domestic product [GDP]), which represented 12.1% more than in 2009.

During the 2001–2010 decade, the economy grew by an annual average of 6%. However, in 2009 there was a downturn of 2.1%, due to the influence of the global crisis and to the political situation faced by the country in the second half of that year (6). Nevertheless, according to data provided by the Honduran Central Bank, in 2010 the economy began a new upturn cycle, with aggregate output expected to grow 2.6%.

Between 2001 and 2009, poverty fell by 4.9 percentage points, and those in extreme poverty dropped by 7.8 percentage points (Table 1) (7). In 2010, the National Statistics Institute noted that 58.8% of households lived in poverty; of these, 64.4% were located in rural areas.

In 2010, the National Statistics Institute reported that monthly average income was US$ 252, and with it being higher in urban areas (US$ 375.71) than in rural regions (US$ 152.18). Approximately 1.6 million people were unemployed. The rate of open unemployment was 3.9%, but...
nearly twice as high among women (5.3%) as compared to men (3.2%). Of the population aged 15 to 24 years, 25.4% of them neither worked nor studied, and they had few possibilities of joining flexible vocational training programs, making these youths more likely to join gangs. As of 2006, women earned 67.6% of the average wage of men under similar working conditions and skills (1).

In 2007, the human development index (HDI) was 0.709, and Honduras was ranked 117th of 179 countries, with an average level of human development. A comparison of HDI by department found that Francisco Morazán had the highest HDI (0.770) and Lempira the lowest (0.619).

Several achievements were made in the 2006–2010 period that will contribute to the improvement of maternal and child health. These included updating the regulatory framework and protocols for care of women and neonates, addition of the rotavirus vaccine to the national immunization schedule, and development of the 2009–2013 National Breastfeeding Plan. Regarding vector-borne diseases, the country was certified free of transmission of Chagas’ disease by Rhodnius prolixus. With respect to chronic, noncommunicable diseases, the Law on Nuclear Activities and Radiological Safety and the Special Law for Tobacco Control came into effect in 2010, and the National Strategic Plan for the Prevention and Control of Cancer 2009–2013 has been implemented. In the area of sustainable development and environmental health, the first Sectoral Analysis of Solid Waste was published, setting the guidelines for development of this sector.

HEALTH DETERMINANTS AND INEQUALITIES

Between 2001 and 2010, illiteracy declined by 3% (17% in 2010). The average educational attainment of those over 15 years of age was 5 years. Of the population with some level of schooling, 85% had gone through primary school, 12% through secondary school, and only 3% of all adults had some higher education (1, 2).

In 2005, 85.9% of boys and girls aged 6 to 11 years were enrolled in school, a rate that increased to 89.5% in 2009. The proportion of boys and girls who are enrolled in first grade and complete elementary school does not surpass 60%. Therefore, the target set for Millennium Development Goal 2 will not be reached as long as the structural issues that affect the educational system remain unresolved (1, 2).

The National Institute for Women (INAM) leads actions related to gender in the country. A major step was taken with the creation of the 2nd Honduran plan for Gender Equality and Equity 2010–2022. This plan presents the main achievements with respect to the availability of information that highlights the situation of women and of gender-based inequalities. In the 2005 elections, 24.2% of the seats in the National Congress were won by women, while in 2009 this proportion declined to 19.6%. The proportion of mayoral positions held by women declined from 7.7% in 2005 to 6.0% in 2009 (1).

According to the National Statistics Institute, there are six indigenous groups and two peoples of African descent in Honduras, who, together, make up 7.2% of the population. The Lenca are the largest group (4.6%), followed by the Garifuna and Miskito (0.8% each). In 2010, the State Secretariat for Development of Indigenous Populations and Afro-Hondurans and Racial Equality Policies was created (2); however, adequate demographic information disaggregated by the indigenous and Afro-Honduran population groups is not yet available.

### TABLE 1. Incidence of poverty and extreme poverty (% of households), Honduras, 2001–2009.

<table>
<thead>
<tr>
<th>Year</th>
<th>Poverty rate</th>
<th>Extreme poverty rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>63.7</td>
<td>44.2</td>
</tr>
<tr>
<td>2002</td>
<td>64.8</td>
<td>45.6</td>
</tr>
<tr>
<td>2003</td>
<td>65.3</td>
<td>46.7</td>
</tr>
<tr>
<td>2004</td>
<td>64.6</td>
<td>46.2</td>
</tr>
<tr>
<td>2005</td>
<td>63.7</td>
<td>46.0</td>
</tr>
<tr>
<td>2006</td>
<td>59.9</td>
<td>40.4</td>
</tr>
<tr>
<td>2007</td>
<td>58.2</td>
<td>37.5</td>
</tr>
<tr>
<td>2008</td>
<td>59.2</td>
<td>36.2</td>
</tr>
<tr>
<td>2009</td>
<td>58.8</td>
<td>36.4</td>
</tr>
<tr>
<td>2015 goal</td>
<td>37.4</td>
<td>27.1</td>
</tr>
</tbody>
</table>

Source: Reference (1).
THE ENVIRONMENT AND HUMAN SECURITY

ACCESS TO CLEAN WATER AND SANITATION

The National Board of Water and Sanitation reported that, between 2006 and 2010, water services coverage expanded from 84% to 86% of the population (7). In 2010, this coverage was 81.3% for rural dwellings and 95% for urban households (8). The Millennium Development Goal 7 target is 88.5% coverage, which is likely to be achieved (1). However, in rural areas where the water system is run by local boards, water chlorination is not carried out, and in urban areas, the disruptions in service and breaks in the distribution network lead to pollution of water that was adequately chlorinated at its source (9).

In 2008, the Water and Sanitation Commission reported that 71% of households had access to improved sewerage and basic sanitation services (62% in rural areas and 80% in urban areas), a proportion that increased to 78.2% in 2009. Nationwide, 60% of urban dwellings were connected to the sewage system; however, in medium and small municipalities, this rate is only 44% (9). The relevant Millennium Development Goal 7 target, of 50% coverage by 2015, has already been reached.

According to the regulatory entity in charge of drinking water services and sanitation, household wastewater treatment coverage was 22.1% in 2006, rising to 27.3% in 2009 (10). Only 38% of urban localities have wastewater treatment systems.

SOLID WASTE

According to Inter-American Development Bank and PAHO publications, daily waste generation was estimated at 3,792 tons in 2007, increasing to 4,880 tons in 2010 (11). Data on final disposal showed that only 60 municipalities (20%) had solid waste collection services, and that only 4% of the 298 municipalities had appropriate facilities for disposal of household and industrial solid waste; most waste is disposed of in open dumps (12).

DEFORESTATION AND SOIL DEGRADATION

Honduras is considered a forested country, and 85% of its territory is covered with woodland. However, 34,000 to 58,000 hectares have been lost, which corresponds to an annual deforestation rate of 0.6% to 1.1%. This led to a 5.3% reduction in forest cover between 2005 and 2010 (1).

PERSISTENT ORGANIC POLLUTANTS

As part of the activities provided for in the Stockholm Convention, approximately 3.6 tons of pesticides containing persistent organic pollutants were identified. DDT (mixed with fenitrothion residue) accounted for 96%, and the remaining 4% consisted of chlordane with aldrin. However, the country does not have any capacity to reduce persistent organic pollutants (12).

CLIMATE CHANGE

Honduras ranks third in the world with regard to exposure and vulnerability to the hazards of climate change, with a Climate Risk Index score of 10.8 for the period of 1990 through 2009. As a signatory to the United Nations Framework Convention on Climate Change, in 2010 the country prepared the National Climate Change Strategy, in order to help adapt to and mitigate the effects of climate change (13).

HEALTH CONDITIONS AND TRENDS

HEALTH PROBLEMS OF SPECIFIC POPULATION GROUPS

Maternal and Reproductive Health

The total fertility rate among women aged 15 to 49 years declined from 4.4 children per woman in 1998–2001 to 3.3 in 2003–2006. However, the rate remained above the national average in Lempira (5.1), Intibucá (4.8), Olancho (4.2), Copán (4.0), and...
Comayagua (3.8), Columbus (3.7), and La Paz (3.7) (14).

As of 2006, 65% of women overall had access to family planning methods. Women who had even higher coverage levels included those who lived in urban areas (70%), belonged to the 30- to 44-year age group (72%), had a higher education (77%), and belonged to the upper wealth stratum (73%). Also in 2006, 17% of women with a partner did not have access to family planning (14).

Prenatal care increased from 83% in 2001 to 92% in 2006. It is mostly provided by physicians (71%), followed by nursing personnel (21%). Prenatal care from a health professional was provided to 93% of women in urban areas and 90% of those in rural areas, as well as 98% of the women in the upper quintile of wealth, as compared to 88% of those in the lower quintile (14).

In 2006, 67% of deliveries occurred at either a public-sector facility (61% of all births) or a private-sector facility (5% of all deliveries). In urban areas, 89% of deliveries were institutional, in contrast with the rural areas, where only half occurred at a skilled facility; 96% of live births occurred among women in the upper wealth quintile. Among the 33% of deliveries that were not attended by health workers, 80% of them were assisted by midwives. A delivery with the help of a midwife was most common in the departments of Lempira (62% of the births), Intibucá (54%), and La Paz (53%) (14).

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

Between 1991 and 2006, the infant mortality rate fell substantially (Table 2). However, even if this same trend were to continue, it will not be possible to reach the Millennium Development Goal 4 target for the year 2015 of 12 deaths per 1,000 live births (1).

In 2006, infant mortality was estimated at 23 per 1,000 live births. The departments of Copán, La Paz, and El Paraíso each had a rate of 35 per 1,000 live births (14). Neonatal mortality was 14 per 1,000 live births, accounting for 61% of infant mortality. Reducing that neonatal mortality continues to be the greatest challenge to achieving Millennium Development Goal 4 (1, 14).

**Adolescents (10-19 years old)**

Adolescents (aged 10 to 19 years) represent 38.4% of the population. According to the National Statistics Institute, in 2006, 21.5% of women aged 15 to 19 had been pregnant at least once; the highest rate was reported in the department of Colón, with 31.2%, and the lowest in Cortés, with 16.3%. In 2010, nearly 12% (728) of homicides occurred in this age group, especially among men, who were 94% of victims (684). Sexual violence was most often seen in the under-20 population, who made 79% of the complaints (3,177), and 59% of the cases corresponded to female adolescents (15).


<table>
<thead>
<tr>
<th>Period</th>
<th>Child mortality</th>
<th>Infant mortality</th>
<th>Neonatal mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991–1996</td>
<td>48</td>
<td>35</td>
<td>20</td>
</tr>
<tr>
<td>1996–2001</td>
<td>44</td>
<td>34</td>
<td>21</td>
</tr>
<tr>
<td>2001–2006</td>
<td>30</td>
<td>23</td>
<td>14</td>
</tr>
<tr>
<td>2015 goal</td>
<td>16</td>
<td>12</td>
<td>7</td>
</tr>
</tbody>
</table>

*Rate per 1,000 live births. Source: Reference (14).
Teenage pregnancy, traditionally considered a health issue, has become a priority of the 2010–2022 National Plan.

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

Overall, 6.3% of the Honduran population is 60 years old or older; 46% of older adults live in urban areas, and it is estimated that 44% are men (14). The State has created special entities and programs to protect older adults, including the General Directorate for Older Adults within the Department of the Interior, a seniors’ bonus within the framework of the Family Allowance Program, and pension institutes for retired persons.

**Mortality**

Vital records are incomplete (69% of births and 28% of deaths), and the quality of the statement of the cause of death is inadequate (16).

In 2010, the crude death rate was estimated at 4.6 per 1,000 population, and with it being higher in the departments of Copán (5.3), Ocotepaque (5.3), Valle (5.2), and Choluteca (5.1) (14).

Only deaths occurring in the public hospital system and the Honduran Institute of Social Security are reported. Of the total number of in-hospital deaths published by the Ministry of Health in 2009, disorders originating in the perinatal period were the most frequent cause (16.3%), followed by diabetes mellitus (6.7%) and congenital malformations (6.7%). Deaths related to complications of chronic, noncommunicable diseases (diabetes, hypertension, stroke, and ischemic heart disease) accounted for 20.1% of all deaths, and deaths from external injuries, 8% (17). Table 3 presents the leading causes of mortality in Ministry of Health hospitals during 2009.

To update the maternal mortality rate, for which no new data had been available since 1997 (108 per 100,000 live births), the Ministry of Health carried out an active search (RAMOS method) for women of childbearing age who died in 2010. That research yielded a maternal mortality rate of 74 per 100,000 live births for that year. Of these deaths, 69% occurred in a hospital, 48.2% in women aged 20 to 34 years, 28.4% among those 15 to 19 years old, and 69% in the puerperal period. The departments with rates higher than the national average were Gracias a Dios (201 per 100,000 live births), Isla de la Bahía (159 per 100,000), El Paraíso (141 per 100,000), La Paz (128 per 100,000), and Intibucá (113 per 100,000). The most frequent causes of in-hospital maternal mortality remained gestational hypertension (26%) and postpartum hemorrhage (22%).

**Morbidity**

**Communicable Diseases**

**Vector-borne Diseases**

Dengue occurs mainly in the cities of Tegucigalpa and San Pedro Sula. Several outbreaks occurred in the 2005–2010 period, the most severe one in 2010, with 66,814 cases, which represents just over twice as many recorded cases as in the last epidemic (2002). During the 2010 epidemic, 3,180 cases of severe dengue were reported, of which 83.6% occurred in the metropolitan region of Tegucigalpa. Eighty-three deaths were reported, for a case fatality rate of 2.6%. In 2010, all four serotypes of the dengue virus were isolated, with a predominance of dengue virus 2 (92.5% of the cases). Figure 2 presents information on the cases of dengue and severe dengue that occurred in Honduras between 2001 and 2010 (18).

Honduras is one of seven countries in the Americas that have reached the target set for Millennium Development Goal 6, of reducing the incidence of malaria by more than 75% by 2015. The number of cases of malaria fell substantially between 2005 (16,007) and 2010 (9,085). Despite this reduction, the proportion of cases caused by *Plasmodium falciparum* nearly doubled, from 6.2% in 2005 to 10.7% in 2010. Eighty percent of cases occurred in the departments of Gracias a Dios, Colón, Olancho, and Islas de la Bahía (19).
The country has prepared two strategic plans to combat Chagas’ disease, which have made it possible to arrange for external cooperation funds to support the plans’ implementation. Together with nongovernmental organizations and other participants, a technical committee led by the Ministry of Health was formed, with support from PAHO, to coordinate disease control activities. As a consequence of the control of *Rhodnius prolixus* in 12 of the 18 departments in which the presence of this vector was reported, the seroprevalence of Chagas’

### TABLE 3. Leading causes of mortality in Ministry of Health hospitals, Honduras, 2009.

<table>
<thead>
<tr>
<th>ICD-10 code</th>
<th>Cause</th>
<th>TOTAL</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>P22.0</td>
<td>Respiratory distress syndrome of newborn</td>
<td>330</td>
<td>6.14</td>
</tr>
<tr>
<td>P36.9</td>
<td>Bacterial sepsis of newborn, unspecified</td>
<td>162</td>
<td>3.01</td>
</tr>
<tr>
<td>J18.9</td>
<td>Pneumonia, unspecified</td>
<td>158</td>
<td>2.94</td>
</tr>
<tr>
<td>J21.9</td>
<td>Acute myocardial infarction, unspecified</td>
<td>130</td>
<td>2.42</td>
</tr>
<tr>
<td>I64.9</td>
<td>Stroke, not specified as hemorrhage or infarction</td>
<td>104</td>
<td>1.93</td>
</tr>
<tr>
<td>K74.6</td>
<td>Other and unspecified cirrhosis of liver</td>
<td>103</td>
<td>1.92</td>
</tr>
<tr>
<td>I61.9</td>
<td>Intracerebral hemorrhage, unspecified</td>
<td>90</td>
<td>1.67</td>
</tr>
<tr>
<td>A09.9</td>
<td>Diarrhea and gastroenteritis of presumed infectious origin</td>
<td>83</td>
<td>1.54</td>
</tr>
<tr>
<td>E11.2</td>
<td>Non-insulin-dependent diabetes mellitus with renal complica</td>
<td>82</td>
<td>1.53</td>
</tr>
<tr>
<td>J44.9</td>
<td>Chronic obstructive pulmonary disease, unspecified</td>
<td>80</td>
<td>1.49</td>
</tr>
<tr>
<td>Q24.9</td>
<td>Congenital malformation of heart, unspecified</td>
<td>80</td>
<td>1.49</td>
</tr>
<tr>
<td>P23.9</td>
<td>Congenital pneumonia, unspecified</td>
<td>78</td>
<td>1.45</td>
</tr>
<tr>
<td>J44.1</td>
<td>Chronic obstructive pulmonary disease with acute exacerbation, unspecified</td>
<td>77</td>
<td>1.43</td>
</tr>
<tr>
<td>Y34.9</td>
<td>Unspecified event, undetermined intent, unspecified place</td>
<td>77</td>
<td>1.43</td>
</tr>
<tr>
<td>I50.0</td>
<td>Congestive heart failure</td>
<td>72</td>
<td>1.34</td>
</tr>
<tr>
<td>I67.8</td>
<td>Other specified cerebrovascular diseases</td>
<td>71</td>
<td>1.32</td>
</tr>
<tr>
<td>E11.9</td>
<td>Non-insulin-dependent diabetes mellitus without complications</td>
<td>67</td>
<td>1.25</td>
</tr>
<tr>
<td>A16.2</td>
<td>Tuberculosis of lung, without mention of bacteriological or histological confirmation</td>
<td>61</td>
<td>1.13</td>
</tr>
<tr>
<td>P21.0</td>
<td>Severe birth asphyxia</td>
<td>60</td>
<td>1.12</td>
</tr>
<tr>
<td>N18.9</td>
<td>Chronic kidney disease, unspecified</td>
<td>59</td>
<td>1.10</td>
</tr>
<tr>
<td>K70.3</td>
<td>Alcoholic cirrhosis of liver</td>
<td>58</td>
<td>1.08</td>
</tr>
<tr>
<td>R00-R99</td>
<td>Symptoms, signs, and abnormal clinical and laboratory findings, not elsewhere classified</td>
<td>44</td>
<td>0.82</td>
</tr>
<tr>
<td>Other causes</td>
<td></td>
<td>3,251</td>
<td>60.46</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>5,377</td>
<td>100.00</td>
</tr>
</tbody>
</table>

*Source: Reference (17).*

### FIGURE 2. Suspected cases of classical and severe dengue, by epidemiological week, Honduras, 2001–2010.

*Source: Reference (18).*
disease in children under 15 has dropped noticeably. Among children under 5 years of age, the decline was from 0.46% in the 2003–2007 period to 0.1% between 2008 and 2010. Similarly, among children from 5 to 15 years of age, the fall was from 4.89% to 0.6% between those two time periods. These declines are indicative of interruption of the vector-borne transmission of Trypanosoma cruzi by R. prolixus. However, vector-borne transmission by Triatoma dimidiata and other, nonvector alternative forms of infection persists (20).

Zoonoses

The Ministry of Health reports from 4,000 to 5,000 cases of animal bites from rabies carriers each year. After five years in which canine rabies was absent, in 2008, there were 18 cases in the departments of La Paz, Comayagua, Intibuca, and Valle, due to a reduction in vaccination coverage. In 2009, 17 cases of canine rabies and one case of human rabies were reported (21).

Leptospirosis occurs in the entire country, and the Honduran Institute of Medical and Veterinary Research has confirmed the circulation of over 15 Leptospira serotypes. In 2008, 172 cases were reported, followed by 14 in 2009 and 92 in 2010. The cases detected in 2010 occurred mainly in 11 departments; however, the greatest number of cases and all seven deaths that year were in the department of Choluteca, in the south of the country (21).

Neglected Diseases and Other Infections Related to Poverty

According to the Ministry of Health, the department of Choluteca is the only area that reports cases of leprosy every year. The highest incidence was recorded in 2007 (10 new cases). In the 2005–2010 period, 17 cases were diagnosed, of which 11 were of the multibacillary form, 6 were in children under the age of 15, and 6 were in women. At the end of the year 2010, seven patients were in treatment (22).

HIV/AIDS and Other Sexually-transmitted Infections

In 2008 Honduras was the second most affected Central American country by the HIV/AIDS epidemic, with a prevalence of 0.68%. The epidemic is concentrated in the urban areas along the Atlantic coast and in the central area of the country, and the greatest number of cases occur in the population aged 15 to 39 years. Between 2005 and 2010, the male-to-female ratio of HIV transmission was 1.4. AIDS affected 2,964 men and 3,194 women, with a male-to-female ratio of 0.9. In 2010, 44,312 women were seen in the health system for their first prenatal visits; 69% of these were tested for HIV, and 0.2% were positive.

Access to antiretroviral therapy has been increasing: from 1985 to 2010, a cumulative total of 7,326 people received treatment, of whom 1,196 died and 1,334 discontinued therapy (23).

According to the 2010 Report on Universal Access, of the health facilities that provided prenatal care, 21% of them (322 of 1,510) also had HIV advisory and testing services for pregnant women. Eighty percent of pregnant women who were tested for HIV received the result during pregnancy, delivery, or the puerperium. There are 37 comprehensive health care centers distributed in the 18 departments and 20 health regions of the country, and 100% of these offer prophylaxis for the prevention of mother-to-child transmission of HIV. In 2010, development was completed on the National Plan of Action of the Program for Prevention of Mother-to-Child Transmission of HIV and Elimination of Congenital Syphilis (24).

Tuberculosis

The tuberculosis incidence rate is 58 per 100,000 population. According to Ministry of Health statistics, case-finding of patients with respiratory symptoms declined progressively from 33% in 2005 to 25% in 2010, while case-finding of smear-positive patients fell from 2,191 cases in 2005 to 1,842 in 2010. The estimated prevalence dropped from 188 per 100,000 population in 1990 to 85 per 100,000 in 2009 (54.8% reduction), while mortality (excluding HIV/TB coinfection) went from 18.0 per 100,000 in 1990 to 7.9 per 100,000 in 2009 (56% reduction). HIV/TB coinfection affects 12.9% of cases (25).

The target for Millennium Development Goal 6 has been reached, as a sustained downward trend in
both tuberculosis prevalence and mortality has been observed since 2000 (1).

**Emerging Diseases**

Sentinel surveillance of diseases consistent with influenza and severe acute respiratory infection began in 2005 in the cities of San Pedro Sula and Tegucigalpa. In 2009, the Ministry of Health reported a total of 624 cases of laboratory-confirmed influenza A(H1N1), along with 16 deaths. Although cases were reported throughout the country, Tegucigalpa and San Pedro Sula accounted for 58.1% of all infections (34.7% and 23.4%, respectively). Fifty-seven percent of cases were recorded in women, and the age group most affected were those 10 to 14 years old, accounting for 19.1% of cases (26).

**Chronic, Noncommunicable Diseases**

**Malignant Neoplasms**

Assessing the true incidence, prevalence, mortality, and survival rates for cancer is impossible due to underreporting and the lack of linkages for epidemiological information coming from various institutions. However, according to Ministry of Health hospital discharges, between 2008 and 2009, an average of 4,727 patients were treated each year for malignant neoplasms (67.1 per 100,000 in women and 55.4 in men).

Among women, cervical and breast cancer were the leading malignancies (24.1% and 10.3%, respectively). In men, acute lymphoblastic leukemia (13.5%) and stomach cancer (13.1%) were the most frequent neoplasms (27). The National Strategic Plan for Cancer Control 2008–2013 is being carried out.

**Diabetes and Hypertension**

Generally, chronic, noncommunicable diseases have not received high priority in health policies. However, they are taken into account by the 2021 National Health Plan and by health policies for the 2006–2010 period, and they have been included in the Health Agenda of Central America and the Dominican Republic 2009–2018.

A study published in 2009 by PAHO on the prevalence of diabetes, hypertension, and risk factors in the country as of 2004 showed that 22.6% of the adult population of Tegucigalpa had hypertension; 6.2% had diabetes; 53% had high total cholesterol or cholesterol at the upper limit of normal; 28.4% had high triglycerides; 7.3% smoked; 11.3% consumed alcohol; and 51.7% were overweight or obese (28). Proportionally, cardiovascular diseases affect more women (231.9 per 100,000 population) than men (169.1 per 100,000).

**Nutritional Diseases**

**Malnutrition**

Applying the new WHO growth standards to the country’s 2005–2006 National Health Survey indicated prevalence rates of 30.1% for chronic malnutrition, 1.4% for acute malnutrition, and 8.7% for overall malnutrition in boys and girls under 5; therefore, the Millennium Development Goal 1 target would already have been reached (10.7%). Low height-for-age is more than twice as prevalent in rural areas (38.5%) as in urban areas (17.8%); the department of Lempira reported the lowest height-for-age rates (54.9%), followed by Intibucá (53.8%) and La Paz (50.6%).

Exclusive breastfeeding lasts 2.5 months on average, and the percentage of boys and girls less than 6 months old who receive it declined from 34.9% in 2001 to 29.7% in 2005–2006 (14).

Various nutrition-related policies have been formulated, such as the National Nutrition Policy in 2005 and the Food Security Policy and its Plan of Action in 2006. Also in place are the National Micronutrients Plan 2007–2011 and the National Breastfeeding and Complementary Feeding Plan of Honduras 2009–2013.

**Anemia**

It is estimated that 40.2% of children aged 12 to 59 months could have anemia. Although this is a nationwide issue, it affects rural areas more than urban ones, and infants belonging to the lowest
quintile of wealth are particularly affected, as compared to those in the upper quintile (14).

**Obesity**

Under the new WHO growth standards, excess weight in children under 5 increased from 3.1% in 2001 to 5.9% in 2006. In urban areas, 8.1% of children under 5 are obese, as opposed to 4.4% of those living in rural areas. Excess weight affects approximately 60% of women and constitutes an important public health problem (14).

**Accidents and Violence**

The number of fatalities due to injuries caused by traffic accidents increased from 8.7 per 100,000 population in 2006 to 14.7 per 100,000 in 2010 (15). There is no national road safety policy that guides decision-making at all levels in reducing the high rates of accidents (1). In 2006, the National Traffic Law came into force, which forbids driving without a seat belt, driving while intoxicated, and riding a motorcycle without a helmet.

The number of homicides increased from 3,118 in 2006 (42.3 per 100,000 population) to 6,239 in 2010 (77.5 per 100,000 population), figures that make Honduras one of the most violent countries in the Region of the Americas (15). Of the homicide victims, 93.8% were male and 47.0% were aged 15 to 29 years. Most of those victims were killed by firearms.

In its special report, the National Human Rights Commission indicated there were violent deaths throughout the country. However, 44.6% of them occurred in four departments in northern Honduras: Cortés, Atlántida, Colón, and Islas de la Bahía. In 7 of the 18 departments, violence-related mortality was above the national average.

**Disasters**

Because of its geographical location, Honduras is exposed to geomorphologic and seismic events, landslides, subduction, and reduction of its coastlines. Furthermore, it is subject to the climatic events of the Pacific cyclone season and of the Atlantic hurricane season, which worsens periodically due to the effect of cyclic phenomena such as El Niño. According to data from the Permanent Contingencies Committee, over the last 25 years, the country has lost more than US$ 6,000 million because of disasters.

An important achievement with regard to disaster preparedness was the approval in 2009 of the Law of the National Risk Management System, intended to create a legal framework giving the country the ability to prevent and diminish the risks of potential disasters.

**Mental Disorders**

The country has a mental health policy for the 2004–2021 period. However, of all the financial resources invested by the Ministry of Health in mental health, 88% are destined to the two existing psychiatric hospitals in the country, and only 12% to non-hospital services. This shows that care for the majority of patients with mental disorders is not directed to providing preventive services.

According to hospital discharge data, 3,272 patients were treated for mental disorders in 2008, of whom 2,313 (70.7%) were men. The most frequent diagnosis in men (44.3%) was mental and behavioral disorders due to alcohol use (27).

**Other Health Problems**

**Oral Health**

In 2010, the number of registered dentists rose to 2,522, of which 190 (7.5%) worked for the Ministry of Health (a rate of 0.02 per 100,000 population). In 2009, there were 250,183 oral health visits recorded, of which 150,362 (60.1%) were new. Of these new visits, 10.4% corresponded to pregnant women and 71.8% to children under the age of 15 (27).

**Ocular Health**

While the Ministry of Health provides ophthalmological services in 9 of 28 public hospitals, it is estimated that 52.8% of the general population lacks this service. The ophthalmological services available
in the public network include vision screening, corneal transplantation, cataract surgery and other surgical procedures (except for refractive surgery and strabismus correction), and ocular drugs.

**Risk and Protection Factors**

**Smoking**

In August 2010, the Special Tobacco Control Law came into effect. It regulates the production, distribution, marketing, importation, consumption, advertising, promotion, and sponsorship of tobacco products, as well as guidance, education, and prevention to raise awareness of the health risks and damage from tobacco. Nevertheless, information on tobacco consumption in the country is limited.

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

**The Health System’s Stewardship Role**

The Constitution of Honduras establishes that the Executive Branch, through the Ministry of Health, performs the “Health Authority” function and coordinates all public activities of centralized and decentralized health sector agencies, through a National Health Plan, which gives priority to the neediest groups.

The 2006–2010 National Health Plan linked health policy to the Millennium Development Goals for the first time. It also included as priorities health sector reform, maternal and child health and nutrition, health promotion, the prevention of health risks and problems, and control of communicable and chronic, noncommunicable diseases (29). The 2010–2014 National Health Plan, which is currently in effect, includes the creation of and provides the foundations for the development of a pluralistic and integrated health system; the adoption of a comprehensive, family- and community-based health care model; the establishment of a national quality system for health; strengthening of the health surveillance system; bolstering of the supervision and evaluation system; and mapping out and developing a health information system.

The 2010–2014 Health Plan includes a set of policies, standards, procedures, instruments, manuals, and provisions that guide a course of action for establishing a system of social health protection based on linking three components: care, management, and financing. These components focus on health promotion, decentralization, quality, and broad social involvement. Nevertheless, little progress has been made in this matter (29).

The country has several national policies focused on health issues, such as maternal and child health, sexual and reproductive health, nutrition, and mental health. However, few changes have occurred in the health care model, and there has been little impact on the health of the population.

The productivity of the hospital network is low if one considers that it receives 42% of the total budget of the Ministry of Health. Problems in managing various resources in the health services, as well as the inadequate supply and distribution of drugs and other critical supplies, contribute to reduced productivity and quality in health facilities’ delivery of services. This is made even worse by continuing labor and union disputes that lead to temporary disruptions in hospital services (2).

**Health Expenditures and Financing**

In keeping with the annual budget of the Ministry of Health, 76% of funds invested in health come from the National Treasury, 11% from foreign loans, 9% from donations, and, recently, 4% from relief of the national debt. The Ministry of Health allocates 57% of its budget to wages, 6% to service contracts, 21% to procuring materials and supplies, 5% to capital goods, and 11% to transfers and subsidies. Between 2005 and 2010 the percentage of expenditure on medicines ranged from 9.7% to 12.8%.

**The Health Services**

The Honduran health system is made up of the public sector, consisting of the Ministry of Health, which provides services to 60% of the population; the
Honduran Institute of Social Security, which covers 15% of the working population and their dependents; and the private sector, which serves 10% of the population (14). The system is characterized by fragmentation and major problems of coordination and interaction among institutions and service units, which often leads to such issues as the duplication of activities, efforts, and resources.

Its approach is primarily curative, focused on addressing disease or injury rather than tackling health issues in a comprehensive manner, and it allows little community involvement (29). Under health sector reform, there are efforts to strengthen the stewardship role of the Ministry of Health and to separate the essential functions of financing, insurance, and delivery of services. That reform also involves developing appropriate actions so that, in the long run, these functions will be delegated to other institutional participants.

The Ministry of Health operates 28 hospitals (6 national hospitals, 6 regional ones, and 16 area ones); 61 maternal and child health clinics; 394 health centers staffed by physicians and dentists; 1,048 rural health centers; 4 peripheral emergency clinics; and 14 family counseling centers that specialize in managing family violence (29).

Pharmaceuticals

The Ministry of Health estimates that the Honduran pharmaceutical market has grown to US$ 230 million, with an average annual growth of 15% between 2005 and 2010. The market consists of new drugs (41.9%), branded generics (50.9%), and unbranded generics (7.3%). According to the General Directorate for Health Regulation, as of June 2010, 16,763 drugs were registered in the country.

Knowledge, Technology, Information, and Human Resource Management

In 2008, the National System of Health Research was established, configured as an Interinstitutional Health Research Committee. For its part, the Virtual Health Library continues a process of inclusion of new subjects, actors, and sources of information.

In May 2006, the Management Planning and Evaluation Unit of the Ministry of Health, within the framework of the Health Metrics Network and using an instrument for improving health information system performance, pinpointed the lack of a regulatory unit, an incomplete legal framework, insufficiently trained personnel, and little use of information. With the support of PAHO, the Strategic Plan for the Strengthening of the Honduran Health Information System 2006–2011 was prepared. The Plan includes nine strategic objectives, one of which concerns vital statistics.

In 2008, according to a situation report titled “Analysis of the Health Human Resources of Honduras,” there were 6,792 physicians in the country, of whom 3,677 (54.1%) were practicing. Of these practicing physicians, 2,323 of them (63.2%) were employed by the Ministry of Health, 880 (23.9%) by the private sector, and 474 (12.9%) by the Honduran Institute of Social Security. The Ministry of Health had 17,699 workers throughout the country, of whom 64.9% were nurses’ aides, 12.2% were registered nurses, and 22.9% were physicians (11.8% general practitioners and 11.1% specialists). The 2008 coverage rate was 9 physicians per 10,000 population. There were differences among the departments: Francisco Morazán had 23.8 physicians per 10,000 population, whereas Lempira and Santa Bárbara had only 2 physicians per 10,000 population.

Health and International Cooperation

As a lower-middle-income country, Honduras has priority for PAHO assistance, and it also receives support from the international community to develop its health programs. Despite some unfulfilled commitments and responsibilities that had been taken on by the countries of the Organization for Economic Cooperation and Development
(OECD), official development assistance (ODA) increased approximately 30% in the 2004–2009 period, to US$ 119.6 million, which represented 0.31% of the gross national income of the countries belonging to the OECD Development Assistance Committee (DAC) (1). Health development assistance has fluctuated over time, but bilateral assistance and aid from the World Bank through its International Development Association has proven to be more stable (Figure 3) (30). Funding for reproductive health and family planning increased exponentially between 2002 and 2010. On the other hand, there was a significant drop in official development assistance from 2008 to 2010 (Figure 4) (31).

**SYNTHESIS AND PROSPECTS**

Despite the progress made toward achieving the Millennium Development Goals, Honduras faces major challenges related to the Country Vision and National Plan and to the 2008–2017 Health Agenda.
for the Americas. These challenges concern strengthening the national health authority, with a clear description of the orientation of the health services. Identifying health inequities should accompany strategies to address health determinants and measures to ensure social protection.

In order to contribute to global safety, Honduras will need to establish a national surveillance system for communicable disease events and risk factors and to develop the basic skills needed to comply with the provisions of the International Health Regulations (2005). In order to successfully address these challenges, the country should also strengthen the management and training of health workers.

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