INTRODUCTION

Chile is situated at the southwestern extreme of South America, bordering Argentina, Bolivia, and Peru. Its continental territory is long (4,329 km) and narrow (average width of 177 km), encompassing a total area of 756,626 km². Its political-administrative divisions include 15 regions, 53 provinces, and 346 communes (1). Chile is a unitary republic, with a stable democratic political system in which the State has three independent branches: executive, legislative, and judicial.

The estimated population in 2010 was 17,094,275 inhabitants, 22.3% of whom were under 15, and 11.1% over 60 (1). The population has aged progressively due to a falling birth rate and rising life expectancy in all age groups (Figure 1) (2). In 2010, the birth rate was 14.8 per 1,000 inhabitants, and the fertility rate was 1.9 children per woman. Infant mortality was 7.7 per 1,000 live births in 2009, and
estimated life expectancy at birth over the five-year 2006–2010 period was 78.5 years (75.5 years for men, 81.5 for women) (1, 3).

The Chilean economy has continued to grow steadily. In 2009, the per capita gross domestic product (GDP) was US$ 14,341 and annual inflation was 0.3% (4). Figure 2 shows a steady increase, between 1995 and 2008, in both per capita gross national income and life expectancy at birth. The population’s state of health generally reflects the gradual improvement in the country’s social and economic situation; the presence of a social safety net for the most vulnerable groups; the existence of social and health policies that foster promoting, accessing, and covering care; and the development of the health system (5). The performance of the public health system with regard to the neediest and the geographically remote has promoted equity by preventing maternal and child mortality, premature mortality, communicable diseases, and malnutrition, and by improving sanitation (3, 6).

**HEALTH DETERMINANTS AND INEQUALITIES**

In 2009, average monthly household income was approximately US$ 1,500, although income in the highest income quintile was 15.7 times higher than that of the lowest quintile. Unemployment has declined progressively in the last decade, and was 8.1% in 2010 (1). In 2009, 15.1% of the population lived in poverty and 3.4% in extreme poverty.

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**FIGURE 1. Population structure, by age and sex, Chile, 1990 and 2010.**

The population increased 29.9% between 1990 and 2010. In 1990, the population’s structure presented a pyramidal shape in groups older than 25 years and another in those younger than 15 years, with relative similarity among persons between 15 and 29 years old, reflecting changes in fertility during the previous three decades. By 2010, the pyramidal shape shifts to older ages and the population structure presents some stability in persons younger than 50 years, reflecting low fertility and mortality in the previous five decades.


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

**FIGURE 2. Evolution of per capita gross national income (GNI) and of life expectancy at birth (LEB), Chile, 1995–2008.**

*Source: Reference (5).*
(indigence). Figure 3 shows the levels of poverty and of extreme poverty in Chile’s 15 regions. Poverty is greater where there are more children, adolescents, and family groups headed by women, as well as in rural areas and among indigenous populations (7).

Redistributive social policies and monetary subsidies targeting the poorest and most vulnerable provide effective social protection. The subsidies represent 43.7% of total income in the lowest-autonomous-income decile, and a scant 0.1% in the upper-income decile (effective targeting). The number of dwellings increased 30.6% in the last decade (34.2% in urban areas and 13.0% in rural areas). The literacy rate in the population over 15 years of age is 98.6%. Average schooling is 10.4 years (10.8 in urban areas, 7.8 in rural areas) (6, 7, 8, 9).

Some public policies reflect the gender perspective, and intersectoral efforts to promote women’s rights have been made. Women’s participation in the labor force and in politics is relatively low. The percentage of women in the labor force is 40.3%, while the percentage for men is 71.4%. Over 60% of women who work are under the age of 40. Customary patterns in the division of labor persist in the traditional household, with an excessive workload falling on women. In addition, many women serve as heads of household (10).

The percentage of the population that reports belonging to—or being a descendant of a member of—an indigenous population is 6.9%, and only 12% of the indigenous population speak and understand their indigenous tongue. Of the indigenous population, 31.1% live in rural areas, 19.9% are poor, 56.9% have completed no more (and in some cases less) than primary school, and only 11.9% have some higher education. Average income in the indigenous population is 48% below the average in the nation’s nonindigenous population (7).

In 2006, an examination of communes ranked according to household income found that the number of years of potential life lost (YPLL) in the lowest income decile was 273.9 per 1,000 inhabitants (before the age of 80), while the figure was only 181.2 YPLL per 1,000 in the highest decile. In that same year, 0.9% of children under 6 in households of the lowest income quintile were malnourished, and 8.6% were obese or overweight, while the corresponding percentages in the highest quintile were 0.1% and 5.6% (3, 7).

**THE ENVIRONMENT AND HUMAN SECURITY**

Chile has achieved extensive coverage for basic sanitation. In 2009, drinking water coverage was universal in urban areas and above 95% in rural areas, while 82% of households had sewerage, and wastewater treatment reached 83%. Urban and industrial development has generated a series of side effects, including a worsening of some environmental conditions (most notably in the capital, Santiago) in areas such as air, water, and soil contamination, and in solid waste disposal conditions (7, 11). In 2010, Law 20,417 went into effect, creating the Ministry of the Environment, the Environmental Assessment Service, and the Superintendency of the Environment (12).

With its mountainous and volcanic features, the country has frequent seismic activity. Notable are
the severe earthquake and tsunami of February 2010, which particularly affected four regions and caused 512 deaths and left 16 more missing. In addition to direct harm to health, changes in living conditions and sanitation created very significant health risks. A full 800,000 people were affected by problems of housing, poverty, sanitation, mental health, and others, while 18 hospitals and hundreds of outpatient care facilities were rendered unusable. The features of the country’s development and its antiseismic housing and public works infrastructure, as well as the degree of national disaster preparedness, prevented the consequences from being even worse (13). The country needs to prepare to face some anthropogenic problems, especially environmental pollution (13, 14).

HEALTH CONDITIONS AND TRENDS

Health Problems of Specific Population Groups

Maternal and Reproductive Health

The maternal mortality rate, 19.8 deaths per 100,000 live births as of 2008, has undergone a major decline in the country’s history. This has been particularly true since 1965, when family planning programs were introduced and the coverage of prenatal and delivery care began a steady rise. The total fertility rate has declined from 2.5 children per woman in 1983 to 1.9 as of 2009, and 53.4% of women of childbearing age use some contraceptive method (divided among an intrauterine device, 39%; oral contraceptives, 44%; and “other,” 17%). Women who have opted for voluntary sterilization represent 7.6% of the female population of childbearing age. In 2008, 11.6% of live births were to mothers under 20. Teenage pregnancy is a major concern, especially because it is associated with social and health risks and because this age group does not have easy access to contraceptive services. The percentage of the 15- to 19-year-old population that is sexually active is 49.1%, with sexual activity beginning on average at age 15 (3, 15).

Children (under 5 years old)

There has been a sustained decline in infant mortality, in both its neonatal and postneonatal components, with an asymptotic pattern of around 8 deaths per 1,000 live births since 2002. In 2008, the infant mortality rate was 7.9 per 1,000 live births (with neonatal mortality at 5.5 per 1,000 live births). Meanwhile, 81.9% of infant deaths occurred in the first week of life. The main causes of infant mortality were disorders related to prematurity, congenital malformations of the heart, and breathing difficulties among newborns. Perinatal deaths were due mainly to prematurity (44%) and congenital diseases (35%). The most frequent causes of hospitalization for children under 1 year of age were diseases of the respiratory system (33.4%) and conditions originating in the perinatal period (23%). Obstructive bronchial syndrome was the leading specific cause of hospitalization, accounting for between 23% and 25% of medical consultations for illness. In 2008, among children under 5, the rate of acute diarrhea was 6.9 cases per 100 children, with an increase of cases in the summer (16). In 2008, 5.9% of babies were born with low birthweight (under 2,500 g), and 1% with very low birthweight (under 1,500 g). Of children under 6 seen in the public health system in 2009, 21.6% were overweight, nearly 10% obese, 0.3% showing malnutrition, and 2.3% showing risk of malnutrition. Since 2003, overweight and obesity rates have remained relatively stable in that age group (3).

Children (5–9 years old)

In 2008, mortality in the 5–9 age group was 0.17 deaths per 1,000 children, with the leading sources being external causes (22.3%), malignant neoplasms (19.4%), and birth defects (16.8%). The leading causes of hospitalization were diseases of the respiratory system (26.3%) and diseases of the digestive system (14.2%) (3).

Adolescents (10–19 years old)

In 2009, mortality in the 10- to 19-year-old population was 0.35 deaths per 1,000, with the leading
sources being external causes (59.0%), malignant neoplasms (11.4%), and diseases of the nervous system (9.6%). The most frequent causes of hospitalization were related to pregnancy, childbirth, and puerperium (30.0%); diseases of the digestive system (13.6%); and injuries, poisonings, and other external causes (13.2%). The principal risk factors in adolescents are smoking, alcoholism, illegal drug use, unprotected sexual activity, pregnancy, and accidents (3, 15).

**Adults (20–64 years old)**

In 2009, mortality in the 20- to 64-year-old population was 2.6 deaths per 100,000 (3.4 per 100,000 for men, and 1.8 per 100,000 for women). In 2006, the leading sources were external causes (44.0%), tumors (17.0%), diseases of the circulatory system (9.3%), and diseases of the digestive system (7.2%). In 2008, the most frequent causes of hospitalization were related to pregnancy, childbirth, and puerperium (45%), followed by injuries and other external causes (9.7%). This age group accounted for 93% of occupational accidents. Traffic accidents were responsible for 13% of deaths in the 20–64 age bracket. In the 45–64 subbracket, traffic accidents were the cause of 3.3% of deaths (3, 15).

**Older Adults (65 years old and older)**

In 2009, mortality in those 65 to 79 years old was 31.9 per 100,000 among men and 18.9 per 100,000 among women. In 2006, the leading causes of death were tumors (31.0%) and diseases of the circulatory system (30.0%), respiratory system (8.4%), and digestive system (7.5%). In the 80-and-over age bracket, the most frequent causes of death were diseases of the circulatory system (35.7%), tumors (17.5%), and diseases of the respiratory system (15.2%). In 2008, the most common causes of hospitalization were diseases of the circulatory system (18.4%), respiratory system (16.3%), and digestive system (12.8%), followed by tumors (10.5%) (3).

**The Family**

Households consisting of a nuclear family represent 84.5% of the total. In 2009, families living in poverty had more children (average 2.0) than nonpoor families (average 1.7). Family income and poverty, as well as the mother’s educational level, were associated with differences in infant mortality and malnutrition (undernutrition, overweight, and obesity), as well as in years of potential life lost (3, 7).

**Workers**

In 2004, workers lost an average of 1.0 workdays per worker as a result of accidents, and 0.03 workdays as a result of occupational illnesses. In 2008, mortality from occupational injuries was 7.7 deaths per 100,000 workers, of which 28% were due to accidents on the way to work. The accident rate was 8.5% and the occupational illness rate was 0.15% (3).

**Ethnic or Racial Groups**

Various research projects have systematically pointed to poorer health and less access to services in the indigenous population than in non-indigenous populations. In the 2001–2003 period, overall mortality in six health services that had this information available ranged between 30% and 80% greater in the indigenous population than in other populations (Table 1). Infant mortality in the indigenous population also was between 90% and 250% higher. Especially since 2005, social and health officials in Chile have reached a deeper understanding of the situation of the indigenous populations, and they have launched “Chile Solidario” (Chile in Solidarity), “Chile Cree Contigo” (Chile Grows with You), and other intersectoral social protection programs that target vulnerable population groups (17, 18).

**Other Groups**

**Persons with Disabilities**

Data from 2004 (the latest available from the FONADISINE National Survey) showed there were 2,068,072 persons with disabilities, a prevalence rate of 12.9%. In 7.2% the disability was slight, while moderate cases accounted for 3.2% of the total, and
severe cases for 2.5%. The most frequent impairments were visual (45.6%) and physical or motor (31.0%). Multiple impairments affected 13.8% of the disabled, and the leading cause of disability reported was chronic disease. Only 6% of persons with a disability reported that they had access to rehabilitation services. Of persons with a disability, 43.1% had not completed primary school, and their labor force participation rate was only 31.5% (19).

**Mortality**

The 90,168 deaths registered in 2008 represented a crude death rate of 5.4 deaths per 1,000 inhabitants (6.1 per 1,000 among men, 5.2 per 1,000 among women). The leading causes of death were diseases of the circulatory system (27.5%), tumors (25.0%), external causes (9.2%), and diseases of the respiratory system (9.2%) (3).

**Morbidity**

**Communicable Diseases**

**Vector-borne Diseases**

Chagas' disease extends from Chile's Region I to Region VI, including the Metropolitan Region of Santiago. In 1999, vector-borne transmission of *Trypanosoma cruzi* by *Triatoma infestans* was interrupted. Mortality was 0.3 deaths per 100,000 population, of which 80% were attributable to cardiopathies and the rest to other types of visceromegaly. Neither cases of yellow fever, plague, or schistosomiasis nor indigenous cases of malaria have been reported. In 2010 there were four cases of leptospirosis (0.03 per 100,000 population) and 23 confirmed cases of dengue (0.1 cases per 100,000). However, the latter disease occurred only on Easter Island, 3,500 km from mainland Chile. Also in 2010, 59 cases of illness due to hantavirus infection were recorded, with an incidence of 0.35 cases per 100,000 population and a case-fatality rate of 18%. These diseases present endemically, with localized seasonal outbreaks (70% between November and April) in some regions of the country (16).

**Vaccine-preventable Diseases**

Poliomyelitis has been eliminated. Wild poliovirus is not in circulation, and vaccine-related cases have not been reported. Vaccination coverage is 96%. No cases of diphtheria have been reported. Coverage of the third dose of DPT is 96%. Since 2004, indigenous cases of measles, a disease that is considered to be in the process of elimination, have not been confirmed. No cases of rubella have been reported since 2008. The annual incidence of whooping cough has been 4.4 cases per 100,000 population, with 79.7% of the cases in children.

<table>
<thead>
<tr>
<th>Health services</th>
<th>General mortality /1,000 population</th>
<th>Infant mortality/1,000 live births</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Indigenous population</td>
<td>Non-indigenous</td>
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<tr>
<td>Arica</td>
<td>6.6</td>
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<td>Iquique</td>
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<td>4.2</td>
</tr>
<tr>
<td>Magallanes</td>
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<td>5.9</td>
</tr>
<tr>
<td>Araucania South</td>
<td>8.7</td>
<td>6.5</td>
</tr>
<tr>
<td>Valdivia</td>
<td>10.1</td>
<td>6.2</td>
</tr>
<tr>
<td>Arauco</td>
<td>7.3</td>
<td>4.8</td>
</tr>
</tbody>
</table>

RR: relative risk.  
Source: Reference (19).
under 5. Tetanus occurs sporadically, with seven cases in 2010 (0.04 cases per 100,000), but no neonatal tetanus cases were reported. In 2010, 857 cases of mumps were reported (5 cases per 100,000 population), mainly affecting children under 15 (74.6%). Influenza epidemics appear every three or four years. In 2009, 16,096 cases were reported (1.05 per 100,000 population), mainly in individuals between the ages of 5 and 19, and mortality from the disease was 0.9 per 100,000. Influenza A(H1N1) was responsible for 4,037 cases. In 2010, the incidence of hepatitis B and hepatitis C was 3.3 and 3.5 cases per 100,000, respectively. There were 79 reported cases of meningococcal meningitis (0.6 cases per 100,000 population), 55% of which involved children under 5. The case-fatality rate was 8.6% (16).

**Zoonoses**

Hydatidosis is endemic in Chile. In 2010, 220 cases were reported (2.14 per 100,000 population); they were concentrated in rural, sheep-grazing areas. Hydatidosis causes between 30 and 40 deaths annually, and mortality due to the disease is 0.2 per 100,000 population. Anthrax occurs sporadically in Chile: 1 case was reported in 2009, but there were none in 2010. There were 5 cases of brucellosis in 2010 (0.03 cases per 100,000), but no deaths were reported. There were 14 cases of trichinosis in 2010, or 0.08 cases per 100,000 population; there were between zero and two deaths per year during the reporting period. All outbreaks were related to the clandestine slaughter of pigs. Cases of human rabies have not occurred since 1996 (16).

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

It is estimated that there were 40,000 carriers of HIV in 2009, with a prevalence of 0.4% (12 carriers per 100,000 population). Of those infected, 97.5% of them were over 15 years of age, with higher rates in those 30 to 39 years old. The male/female ratio was 3.6 for HIV and 5.6 for AIDS. In 43.0% of the men who were carriers of HIV, transmission had occurred through sexual relations with men; in 79.6% of the women, transmission had been through heterosexual relations. The prevalence of HIV in high-risk groups is estimated to be 5%. The case-fatality rate has trended downward, and with an increase in the survival rate due to guaranteed access to antiretroviral therapy. The annual incidence of syphilis in 2008 was 16.6 cases per 100,000 population, with 2.2% of these being congenital syphilis. In 2008, the majority of cases reported were in women (53%), and the most affected age group was the 20–24 bracket. The incidence of gonorrhea was 5.6 cases per 100,000 population in 2008, with 86.4% of the cases being in men. In 2003, 0.1% of the population over 17 years old carried the hepatitis B virus. Meanwhile, 15% of sexually active women were carriers of human papillomavirus, and the prevalence was particularly high among those under 35 (23%) (16, 20).

**Tuberculosis**

The tuberculosis incidence rate declined to 13.8 cases per 100,000 population in 2008. This decrease had to do with the prevention and control program activities, such as sputum-smear microscopy and cultures for diagnosis and control purposes as well as treatment for all forms of the disease (16).

**Intestinal Diseases**

Typhoid fever and paratyphoid fever are endemic diseases with seasonal tendencies (March, October, and November). The incidence in 2010 was 1.0 cases per 100,000 population. Incidence was higher in two northern regions, that of Antofagasta and that of Arica and Parinacota. The age group at greatest risk were those 15 to 24 years old. Hepatitis A appears in intermediate endemic form, with outbreaks every 4 or 5 years. The incidence in 2010 was 3.2 cases per 100,000 population. It principally affected those 5 to 14 years old (33%). Since 1998, no cases of cholera (16) have occurred.

**Chronic, Noncommunicable Diseases**

In 2010, the estimated prevalence of diabetes mellitus was 9.4% (8.4% in men and 10.4% in women). The rate increases with age, reaching 16.9%
in the 45–64 age group and 25.8% in the 65-and-above group. Mortality from the disease was 20.8 per 100,000 in 2010. Meanwhile, mortality from ischemic heart disease was 48.9 per 100,000, while mortality from cerebrovascular disease was 49.0 per 100,000. The rate of hospitalization for ischemic heart disease was 127.9 per 100,000 population, and the rate for cerebrovascular disease was 124.7 per 100,000 (3, 15).

In 2009, malignant neoplasms were responsible for 25.0% of deaths, representing a rate of 125.0 per 100,000 population. Annually, more than 30,000 new cases of cancer are diagnosed and there are 111,335 hospitalizations for the disease. The cancers responsible for the most deaths are stomach cancer (18.6 deaths per 100,000 inhabitants) and lung cancer (14.6 per 100,000). In men, the cancers responsible for the most deaths are stomach cancer (24.4 per 100,000), prostate cancer (20.2 per 100,000), and lung cancer (18.3 per 100,000). In women, the cancers responsible for the most deaths are cancer of the gall bladder (15.6 per 100,000), breast cancer (14.5 per 100,000), and stomach cancer (12.9 per 100,000). Between 1999 and 2008, total age-adjusted mortality from cervical cancer was reduced 37%, while in women over 25 the rate dropped from 17 to 14.4 per 100,000 population (3).

**Nutritional Diseases**

Of the Chilean population over 15 years of age, 64.5% of them carry excess weight (body mass index $\geq 25$): 39.3% are overweight, and 25.1% are obese (including 2.3% with morbid obesity). Only 1.8% of the population is underweight (1.1% of men, 2.4% of women) (15).

**Accidents and Violence**

Accidents are the third leading cause of death. In 2009, mortality from accidents was 48.2 deaths per 100,000 population, and was 3.5 times greater in men than in women. Mortality associated with traffic accidents was 12.8 per 100,000 population and five times greater in men than in women. Mortality from injuries and poisoning affected mainly adults, and was higher among those older than 20 (3).

**Mental Disorders**

In 2009, the prevalence of depression was estimated at 17.2% (8.5% in men and 25.7% in women), and the annual incidence of schizophrenia in the adult population was estimated at 12.0 per 100,000 population. The age-adjusted suicide rate for the 2006–2008 period was 7.1 per 100,000 population. Among adults, 17.7% are at risk of becoming problem drinkers (29.3% of men and 6.7% of women) (3, 15). The National Mental Health Plan 2000–2010 included strategies to strengthen public-system programs that address this health issue (21, 22).

**Other Health Problems**

**Oral Health**

The average number of permanent teeth damaged by caries in children 6–8 years of age is 0.59, and the number in children 12 years old is 2.60. In the population over 17 years of age, 66% have caries and 13.3% have missing teeth in the upper jaw, lower jaw, or both. There was a perceived need for dental prostheses (partial or total) in 0.4% of individuals in the 15–24 age bracket, in 18.8% of individuals 25–44, in 43.2% of individuals 45–64, and in 59.7% of those 65 and over. Among adults, 5.5% lack all their teeth, and in the over-65 age group the percentage is 33.4%. The figures are higher in women, in the rural population, and in the population with less than eight years of schooling (15).

**Risk and Protection Factors**

According to the National Quality of Life and Health Survey 2009–2010 (15), the estimated prevalence of hypertension in adults was 26.9% (28.7% in men and 25.3% in women). The prevalence of elevated total cholesterol was 38.5% (39.0% in men, 38.1% in women). More than half of adults presented at least two of the principal
cardiovascular risk factors (smoking, age, family history, high cholesterol, and hypertension), and 6.6% of the population above the age of 17 was found to be at high cardiovascular risk, diabetes aside. If diabetes is included, 13% of the population is at maximum risk levels (15). Sedentary lifestyles affect 88.6% of adults, with the most severe level found in 27.1% of adults (22.2% of men and 37.1% of women). Among those 24 to 44 years old, 39% of them simultaneously present smoking, excess weight (overweight or obesity), and sedentary lifestyle. Among adults, 44.2% of men and 31.1% of women smoke. The prevalence of risk factors and chronic disease is systematically higher in people with fewer years of schooling (Table 2) (15).

HEALTH POLICIES, THE HEALTH SYSTEM, AND SOCIAL PROTECTION

The Health System’s Stewardship Role

The health system is mixed (public and private), and the State performs a leadership and regulatory role through the Ministry of Health (Table 3). The sector’s financing comes mainly from the State, workers’ and firms’ contributions, and out-of-pocket payments. The Health Superintendancy carries out oversight to ensure that guarantees of insurance and service provision are met. Since 1990, there have been specific reforms in the health system, although the basic structure established in 1979 with regard to organization, insurance, financing, and provision of services remains in place. Between 2006 and 2010, the government put emphasis on social protection, which in health is reflected in the Chile Crece Contigo (Chile Grows with You) Program. In the last decade, the Health Objectives 2001–2010 guided development in the sector, along with a series of specific reforms designed to consolidate the system’s functions. The 2010 assessment of progress toward those objectives was the basis for the Ten-Year Health Plan 2011–2020, the objectives of which are to maintain what has been achieved in the health sector; to address the challenges posed by aging as well as changes in lifestyles and society; to reduce health inequities; and to improve service quality. In 2010, the Presidential Health Commission made proposals to the executive branch to modernize current health policies and formulate a new plan with guarantees that embodies solidarity and universality (6, 14, 21, 23).

The Health System’s Performance

The health system has generally achieved a high degree of coverage and access (even for vulnerable and uninsured groups), in line with the relatively

<table>
<thead>
<tr>
<th>Health problem</th>
<th>Years of schooling</th>
<th>Total</th>
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<tbody>
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</tr>
<tr>
<td>Active smoking</td>
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<td>41.3</td>
</tr>
<tr>
<td>High cardiovascular risk</td>
<td>28.0</td>
<td>11.9</td>
</tr>
<tr>
<td>Disability (work, home)</td>
<td>14.7</td>
<td>6.0</td>
</tr>
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</table>

Source: Reference (15).
good health of the population. Nevertheless, there are problems of management and efficiency, and inequities exist. According to the Health Objectives 2001–2010 evaluation and the proposals put forward by the Presidential Health Commission of 2010, improvements are needed in funding, insurance, service delivery, equity of access and impact, and response to the population’s priority health needs. It will be necessary to improve the management, quality, and safety of care; to further perfect the care model; to create integrated care networks; to incorporate communication and information technologies; and to enhance access to drugs. Among the mechanisms designed to monitor and improve the quality of care are the mandate for the Health Superintendency to accredit care establishments and facilities and for the Ministry of Health to implement programs such as the one designed to reduce waiting lists (14, 21, 24).

Public insurance is the responsibility of the National Health Fund (FONASA), while the private system is managed by the private health insurance institutions (ISAPREs). In 2009, FONASA covered 73.5% of the population (including people who were poor or unable to pay), ISAPREs covered 16.3%, the Armed Forces system and other special systems covered 6.7%, and the remaining 3.5% of the population reported that they did not have formal insurance (the poor, who have a right to coverage by FONASA, are not included in this last group). The private insurance system (the ISAPREs) discriminates against women of childbearing age since their insurance plans charge extra fees for additional risk, making women pay a higher price for their health benefits. There is a fund for protection against catastrophic expenditures. A system of explicit guarantees (known as GES) contributes to social health coverage by specifying a group of diseases that both public and private insurers are obligated to treat (8, 25, 26, 27).

**Health Legislation**

Within the framework of policies and plans for the 2006–2010 term of government, Law 19,966, the General System of Health Guarantees, was passed. That legislation created the Plan for Universal Access with Explicit Guarantees (known initially by the acronym AUGE and later as GES), which, for certain health problems (69 problems as of 2010), establishes four basic guarantees: access, timeliness, quality, and financial protection. Law 19,937, pertaining to the health authority and the Network of Autonomous Hospitals, strengthens the health authority and creates more flexible conditions for hospital management (14, 21, 24, 28).
**Health Expenditures and Financing**

The mixed health system is financed with public and private funds that are allocated to and transferred among the system’s various insurance entities and service providers. The public funds come from the general budget of the State, which is supplied by the general and specific taxes that people pay. The private funds include direct and indirect contributions, people’s out-of-pocket expenditures, and premiums that subscribers pay to the private insurance system. The out-of-pocket expenditures consist of copayments for medical care, payments for drugs, and fees for private medical care that users pay directly to service providers. In 2009, total health care expenditure represented 8.3% of GDP. Of that amount, 47.4% was covered by public funds and represented 16% of the Government’s budget. Of the private expenditure, 64.6% was direct or out-of-pocket expenditure (which is the most regressive type of spending). Between 2005 and 2009, per capita health care expenditure rose by US$ 841, to US$ 1,185. Despite that increase, private expenditure was a greater proportion of the total than was public expenditure, which makes it difficult to attain universality with equity and efficiency (8, 25).

**Human Resource Development Policies**

Human resources development policies in health have historically favored training based on traditional medical specialization, which is not entirely consistent with current needs, especially at the primary care level. Public sector human resources have moved to the private sector and have become concentrated in urban areas, leading to inequity in the geographical distribution of physicians, who are located mainly in the center of the country, serving primarily clients of private insurers (ISAPREs) (29). In 2008, the National Health Services System (SNSS) reported that the country had 15.8 physicians, 9.1 nurses, and 6.0 dentists per 10,000 inhabitants. It is estimated that there are 26,821 active physicians registered as specialists in 70 different specialties, although only half have received formal graduate-level university training. It is also estimated that 60% of the specialists work exclusively in the private sector. The majority of the physicians working in the public sector also work in the private sector. Overall, 44% of physicians work in the public sector: 9% in primary care and the other 35% in the SNSS. Between 2004 and 2008, the number of physicians almost doubled, although there is still a shortage of physicians, especially specialists trained to work in primary care. The Ministry of Health has developed strategies designed to produce the number of specialists needed to work in primary care and in other understaffed specialties. The country has 25 medical schools and over 70 university nursing schools (3, 29).

**The Health Services**

The delivery of public health services is the responsibility of the National Health Services System (SNSS), which has 29 offices and a care network made up of hospitals, centers for therapeutic diagnosis, health reference centers, and primary care facilities (urban and rural doctors’ offices, family health centers, rural clinics, and rural medical stations). Primary care is administered mainly by the municipalities. This level of services has broad coverage, with outpatient care in urban physicians’ offices and at rural clinics. Promotion, prevention, ongoing care, and rehabilitation are offered at these facilities, as well as health programs coordinated by the Ministry of Health. There are also emergency primary care units that meet most of the demand for such services. In 2010, the proportion of consultations for illness that were resolved locally (at the primary care level) was 87.7%. With respect to hospitals, the emphasis has been on autonomous management and on granting concessions for new establishments. The system of privately provided health services is quite extensive, with clinics, medical centers, laboratories, pharmacies, and other facilities throughout the country (3, 5).

Drug regulatory activity has been strengthened with the creation of the National Drug Agency. Drug policy seeks to ensure that the essential drugs included in the National Formulary are available for—and accessible to—the entire population, in an efficacious
form and with guaranteed quality. The Agency works to make sure that drugs are safe, are affordable, and are consumed rationally so as to maximize benefit and control costs. A considerable proportion of generic drugs (or drugs with international nonproprietary names) are produced in domestic laboratories, which makes for relatively low prices (approximately US$ 1.00 per unit sold, in contrast to proprietary equivalents, with prices 5.8 times higher). Three pharmaceutical chains control 90% of sales; 35 of the country’s 346 communes still lack community or neighborhood pharmacies (6, 14, 30, 31).

**INTERSECTORAL ACTION AND HEALTH**

In achieving the Health Objectives 2001–2010, intersectoral work at the national, regional, and local levels played a major role. This was particularly true in the area of promotion and prevention, and as regards social protections for vulnerable populations. Major intersectoral work was also done to address the social and health consequences of the earthquake of February 2010. The effective response was facilitated by the experience of the authorities and of governmental and nongovernmental organizations, as well as by the general community. Disaster preparedness measures were in place, health facilities were relatively safe, international assistance was available, and there was coordination among authorities at various levels. With the response measures, of particular note were the civil defense plan, the coordination, and the assistance provided to affected populations. Ongoing essential health care operations were assured, as were the rebuilding of critical infrastructure and the prevention of the types of complications characteristic of deteriorating conditions in health, housing, food, and the population’s psychosocial state (13, 21).

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

The National Council of Science and Technology (CONYCIT) encourages health research specifically oriented to basic science and clinical research. For its part, the National Health Research and Development Fund has the mission of supporting projects that generate new knowledge, in order to help to improve decision-making in health. Its functions range from health policy design to clinical decision-making. In 2008, science and technology spending was estimated at US$ 673.58 million. In 2010, 41% of the population used the Internet actively, at an average of 3.6 hours per day.

The health authority and health system have modern records systems and computer programs for statistics, financial information, management of inputs, and administrative and technical processes, as well as for monitoring program performance and results. Work is being done on the country’s health strategy. An interinstitutional group coordinated by the Ministry of Health participates in the international Evidence-Informed Policy Network (EVIPNet). The Chilean network for the Virtual Health Library has been consolidated, and an incipient interinstitutional network has been formed for the Chilean node of the Virtual Public Health Campus (5, 6, 32).

**HEALTH AND INTERNATIONAL COOPERATION**

Given the intermediate level of development of Chile’s economy and health sector, international cooperation focuses on some of the population’s specific health issues, such as emerging diseases, disasters, and chronic noncommunicable diseases, as well as on the needs of the SNSS (human resources planning and management, development of priority health programs, and primary care). The agencies of the United Nations System that have offices in Chile are involved in joint strategic programming, through which the United Nations Development Assistance Framework (UNDAF) for the country is agreed on. As part of the assistance the country received for reconstruction in health after the disaster of 2010, the Ministry of Health received donations of US$ 29.6 million during that year (13).

Since 2006, Chile’s health sector has intensified technical cooperation with the other countries in the
Region of the Americas, mainly in the areas of nutritional programs, health services management, insurance and payment mechanisms, health services oversight, air quality monitoring, hospital management, supply systems, and rehabilitation for persons with disabilities.

As an associate member of the Andean Community of Nations and MERCOSUR, Chile has participated in a series of subregional initiatives on vector control and zoonosis, matters related to the International Health Regulations, health economics, and social protection. It also participated in the Andean and South American Network of Epidemiological Surveillance, and in addressing issues of Andean policy on medicines, disabilities, and health technology assessment. In 2008 and 2009, with leadership from the President of Chile, the country contributed to the partnership for maternal, neonatal, and child health, in cooperation with Bolivia, Brazil, and Ecuador. In 2009, Chile promoted and led the formation of the Health Advisory Council of the Union of South American Nations (UNASUR).

SYNTHESIS AND PROSPECTS

In the 2006–2010 quinquennium, following the trend of recent decades, Chile’s sustained economic and social development continued, accompanied by advances in the population’s state of health and in the health system. Improved living conditions, social protections, and the existence of health policies and plans have helped reduce infectious disease, maternal and child problems, and preventable and premature mortality, while extending life expectancy and developing a national mixed health system with wide coverage for insurance and health services. These very achievements pose new challenges that need to be translated into new policies, strategies, and plans that will continue to improve the population’s state of health by reducing inequity and strengthening the structure and operation of the health system.

There are still geographical, economic, ethnic, and educational discrepancies that function as determinants of health inequalities. Development and epidemiological and demographic changes, with the gradual aging of the population, have played a role in a very significant increase in the prevalence of chronic diseases, in the number of ill elderly who survive longer, and in the consequent disease burden, as well as in a worsening of some environmental conditions. Among the emerging or reemerging public health problems are influenza A(H1N1), environmental pollution, obesity, chronic disease, and occupational and traffic accidents. The health system includes solid health policies, coverage, and social protection. However, deficiencies remain—particularly in the public system—in terms of the quantity and distribution of resources, financing, insurance, and management and quality of care. These issues point to the need to design and implement structural changes in the health system. The objective is to move toward greater equity in the allocation of human and financial resources, so as to improve access to quality care and respond appropriately to the needs of the various population groups. These subjects have been duly taken into account in the evaluation of the Health Objectives 2001–2010, as well as in the projection of objectives for the National Health Plan 2011–2020.

REFERENCES


