



Chapter 5

Health Systems and Social Protection in Health

INTRODUCTION

This chapter describes and analyzes the situation and trends of the Region of the Americas' health systems and social protection in health mechanisms during 2006–2010. It examines a range of issues, including governance in health, [public policies](#), and national plans; the strengthening of sectoral capacity; and [health system](#) reforms with a primary care approach. It also reviews recent legislative trends

toward a guarantee of the right to health, the legal framework that bolsters the role of the [national health authority](#), and the countries' challenges and achievements in social protection in health. The chapter also presents data on health expenditure and health financing—including household expenditure—and analyzes the impact of economic policy and the financial crises on the health systems. Finally, it explores issues dealing with access to and quality of the services, technology, and the situation

and trends of human resources for health in the Region.

The heterogeneity of the Region's health systems may well be one of the most salient issues in this analysis. Another important characteristic is that the usual health risks are now coupled with other risks connected with the impact of globalization, climate change, and new production and consumption patterns. Yet, notwithstanding the backlog of social problems and uneven response capacity, the Region's countries have placed health front and center on their political agendas and display a growing appreciation of the human rights approach in [health policy](#), which they have begun to adopt. Today, health is understood not only as a human right, but also as synonymous with development and as a market force that boosts investment, educational performance, and economic growth. Health also plays a key role in the distributive dynamic, human security, and [governance](#). New institutions and agendas also have emerged, in an effort to cope with the challenge of a world in which society grows more permeable to outside influences and risks such as macroeconomic imbalances, a lack of public safety, and global governance failures.

Latin America and the Caribbean have been exhibiting healthy economic growth, accompanied by a small reduction in poverty and a slight increase in extreme poverty. Social public expenditure, both as a percentage of gross domestic product (GDP) and per capita, has increased, and the majority of the countries have experienced a decrease in the concentration of wealth and distributive disparities (1). Nevertheless, inequitable access to services, poor and insufficient distribution of public health expenditure (with high [out-of-pocket expenditures](#)), and accumulated lags masked by national averages still persist. Thus, while average national health expenditure as a percentage of GDP (7.3%) in Latin America and the Caribbean is the highest for developing regions, it is well below the global average of 8.5%. Furthermore, this average hides the high concentration of health expenditure in the more industrialized, higher-income nations, with a consequent high degree of inequity in [access to health services](#) (2).

The ratio of expenditure—as a percentage of GDP—to health indicators is often used to describe efficiency in the use of resources. For the Region's countries, this ratio suggests that there is ample room for improvement. The countries' experiences show that [universal coverage](#) and the pooling of funds are the best option for providing financial protection against catastrophic illness. This is especially true for low-income households, where this possibility is connected with access to essential medicines and quality first-level care, and not just to increasingly expensive medical care and state-of-the-art products and technologies or the lack of guaranteed packages of services tailored to their needs.

Several countries have recently revamped their legal frameworks and embraced policies designed to restructure systems and services based on the exercise of the right to health—policies that stress inclusion and comprehensive benefits, compassionate care, active citizen participation in health, a recognition of the national health authority's [stewardship](#), the acknowledgment of primary health care as a guiding principle, and the expansion of social protection in health. Some countries have even ratified new constitutions proclaiming the link between health and integral development, recognizing interculturalism, and guaranteeing free [access to health services](#) at all levels of care. In so doing, several countries have moved toward [universal coverage](#), launching major systemic reforms or adopting insurance plans suited to the needs of specific groups. Implementation of these plans is expected to reduce segmentation and fragmentation in the health systems, thus improving social protection. In most of the countries, however, social protection in health remains a challenge, as does the urgent need to find solutions to the problems of inadequate financing and low real coverage, both of which contribute to inequity in access and inefficiency in health care and service management. In addition, new challenges that stem from the global agenda remain unmet, including a rights-based approach as the framework for integrating standards and principles and a search for more representative quality-of-life indicators to achieve their universality in the Region.

HEALTH SYSTEMS' GOVERNANCE

TRENDS IN SOCIAL AND HEALTH POLICIES

Throughout Latin America and the Caribbean, the state has tended to expand its regulatory and coordination functions, but success has varied from country to country. The pursuit of broader **social policy** objectives in the Region also has translated into greater decentralization; a gradual and more comprehensive delegation of authority to non-state actors; a greater participation in health issues by civil society; and improved legal and regulatory systems for pharmaceuticals, vaccines, and medical technology. Welfare policies have tended to hold on to minimum floor benefits and to expand targeted social assistance or contributive benefits according to the beneficiary's income level. The distributive effect of some social policies, including that of health policies, is affected by resource allocation patterns, and it also is influenced by the distribution of entitlements and the differentiated capacity of beneficiaries to take advantage of them. Some studies point to the existence of a dual welfare pattern: on the one hand, minimum social security benefits for the formal sector are maintained or reduced; on the other, benefits for the poor are tied to income. Moreover, some countries have put in place progressive programs, such as Brazil's "Bolsa Familia," Chile's "Chile Solidario," Colombia's "Familias en Acción," and Mexico's "Oportunidades." These programs could effectively improve equity, but they may not be able to eliminate structural poverty (3).

Most of the Region's countries have experimented with various public-sector reforms during the past 30 years, but only a few have successfully strengthened the **institutionality of their social policies**. Although some countries have been able to effectively coordinate social policies, pursue human rights approaches, and consolidate technically and professionally robust teams (4), the quality, stability, adaptability, and effectiveness of resulting policies has varied. This inconsistency is due to various factors, such as a given country's quality of democracy, political institutions and their rules of

the game, and the context in which policies are processed (5).

In general, the **policy-making capacity** to formulate, implement, and evaluate policies varies from country to country which, in turn, affects the effectiveness of the health policies in question (6). That said, quality also hinges on factors external to the health sector, such as the soundness of a country's overall political process, a legislative capacity to formulate policies aimed at the common good, the existence of an independent judicial power, technically adept bureaucracies, institutionalized political parties, and effective social-participation mechanisms (5). Consequently, certain conditions must be met or optimized in order to improve the quality of health policies and, thus, their effectiveness.

Most countries in the Americas have formulated national health plans, policies, or strategies of varying quality. A review of current national plans, policies, and strategies shows that, in general, national development goals are not always effectively reflected in the health sector's priorities and that, often, priorities fail to echo institutional objectives and operational targets. Moreover, because most plans and policies do not include an actionable monitoring and evaluation framework, the construction and use of performance indicators are weak.

The subordination of health policies to other decision-making spheres, particularly to budget and financing, is widespread in the Region, and this affects the development of policies and plans. There is also insufficient integration of decision-making levels within national planning and priority settings among sectoral, regional, and provincial arenas, and this characteristic interferes with the successful design and implementation of health plans, policies, and strategies. Many challenges remain in moving forward, such as improving the quality of policies, making health a decision-making criterion in all sectors, achieving better coordination in social policies, and strengthening the countries' capabilities to conduct timely and appropriate analyses and optimizing efficiency in the delivery of goods and services. Including health in all policies and pursuing a whole-government approach to health will help achieve the desired progress (7).

HEALTH SYSTEMS DEVELOPMENT IN THE REGION

Several frameworks have been developed to describe, explain, and analyze how a **health system** works and how to improve it (8, 9, 10, 11, 12, 13). Regardless of its structure, a **health system** must discharge some basic functions if it is to achieve its goals. These functions include providing services, developing a workforce and other relevant health resources, mobilizing and allocating finances, and ensuring proper leadership and **governance**.¹ Effective governance comes from providing vision and direction for the **health system**, collecting and using intelligence, and exerting influence through regulation. Failures of **governance** seem to explain, in part, the limited success of some **public policies** or programs, where those most in need often are unable to receive the benefits that some social and health policies purport to guarantee.

Because health systems extend beyond health care and are country specific, their organization, legal structure, integration and constitutive elements, policy priorities, and available resources show varying degrees of development from country to country. And yet, while health systems differ, policy mixes in terms of financing, organization, and management seem to converge in some countries, regardless of ideological context (14, 15, 16). Table 5.1 provides up-to-date information on the health systems in the Americas and population coverage according to the sector providing service.

Many health systems have experienced radical changes. Some have pursued a separation between their normative and provider functions (Dominican, Honduras, Uruguay); some have sought greater decentralization (Brazil, Peru); some have seen the private sector grow (Colombia); some have entered into partnerships with non-health and/or non-state actors to achieve health goals; and some have developed new health care finance arrangements. Furthermore, the establishment of ministries of

social development and intersectoral commissions in many countries indicates that participatory and cohesive work is on the rise and that consensus and dialogue about policy among different sectors is being pursued—all of which benefits the health system. Except for Ecuador's Ministry of Development, created in 1980, and Mexico's Ministry of Social Development, created in 1992, similar institutions have been established more recently in Latin America: in Peru in 2002, in Argentina in 2003, in Brazil in 2004, in Uruguay and Panama in 2005, and in Chile in 2011. Some countries have made other institutional arrangements for the management of social policies, ranging from provisions within ministries of health (El Salvador, Paraguay, and Venezuela), within the Ministry of Planning (Chile and Costa Rica), within the Office of the Presidency (Honduras and the Dominican Republic), within the Ministry of Urban Development and Housing (Guatemala), within the Ministry of Economic Development (Bolivia), within the Ministry of Social Protection (Colombia), and within the Ministry of Family in Nicaragua (17).

Implementing the Primary Health Care Approach in the Region's Health Systems

Since 2006, the countries of the Americas have renewed their commitment to transform their health systems based on the primary health care (PHC) strategy. This approach takes into account the often-inadequate health infrastructure, emerging health risks of global reach, and the inequalities among and within countries (18). The 2008 *World Health Report* states that the primary health care approach addresses major shortcomings of conventional health care systems, which are unable to meet the needs of large numbers of people (19). As the Latin American and Caribbean population reaches more than 596 million people, the health systems will be further taxed to deliver efficient quality care. In addition, with the population 60 years old or older totaling 61.5 million in Latin America and the Caribbean and the percentage of the economically active population declining, it is reasonable to expect that there will be a greater demand for health services and potentially fewer resources to finance health care (20).

¹ The concept of governance is polysemic, most often addressing steering and coordination of interdependent actors based on the established institutional and political rules.

TABLE 5.1. Health coverage, by sector, countries of the Americas, selected years.

Country	Source and year	Sector	Coverage
Anguilla	Health Systems Profile of Anguilla, 3rd edition, Ministry of Health, 2007	Public Social security Private	44.1% Social security network 19.1% Group 7.2% Individual (life) 5.5% Medical 38.5% Undeclared
Antigua and Barbuda	National Business Plan for Health. Ministry of Health, Antigua and Barbuda, 2008–2010	Public Social security Private	100% Ministry of Health Data unavailable Data unavailable
Argentina	Country profile: Health in the Americas 2006–2010, PAHO, 2012	Public Social security Private	100% 60.8% 9%
Aruba	www.gobierno.aw	Public Private	100% General health insurance Data unavailable
Bahamas	www.bahamas.gov.bs 2011	Public Private	100% National Health Insurance Data unavailable
Barbados	Health Systems Profile, Barbados, Ministry of Health, 2008	Public Private	100% 25% Private insurance
Belize	Country profile: Health in the Americas 2006–2010, PAHO, 2012	Public Private	65% National Health System 35% Population with ability to pay, health services purchased from the public sector
Bermuda	Health System Profile Bermuda, Ministry of Health, 2010	Public Private	Data unavailable 90% Health insurance, provided by employer
Bolivia	Revista salud pública de México, vol. 53, suplemento 2, January 2011	Public Social security Private	14%–15% Ministry of Health network 28.4% 12%
Brazil	Revista salud pública de México, vol. 53, suplemento 2, January 2011	Public Private	100% Unified Health System (SUS) 25% Private coverage with access to the SUS
British Virgin Islands	Health Systems Profile, British Virgin Islands, Ministry of Health, 2008	Public Private	100% National Health Insurance Data unavailable
Canada	Ministry of Health of Canada, 2009 http://www.hc-sc.gc.ca/hcs-sss/medi-assur/index-eng.php	Public Private	100% Medicare ^a 65% of the population has private health insurance for services not covered by Medicare (dentistry and drugs)
Chile	Country profile: Health in the Americas 2006–2010, 2012	Public Private	73.5% National Health Fund 16.3% Health Insurance Institutions (ISAPREs) 10.2% Other
Colombia	Revista salud pública de México, vol. 53, suplemento 2, January 2011	Public	General Social Security Health System, by coverage schemes 39.4% Contributory 51.4% Subsidized 4.9% Special (military, national police, Empresa Colombiana de Petróleos, teachers, and public universities) 4.3% Without coverage
Costa Rica	Revista salud pública de México, vol. 53, suplemento 2, January 2011	Public Social security	87.6% Universal Social Security medical coverage 12.4% Costa Rican Social Security Fund
Cuba	Proyecciones de la salud pública en Cuba para 2015, Ministry of Health, 2006	Public	100% Coverage by the National Health System
Dominica	Data unavailable		

TABLE 5.I. Health coverage, by sector, countries of the Americas, selected years. (Continued)

Country	Source and year	Sector	Coverage
Dominican Republic	Profile of the health system of the Dominican Republic, 3rd edition, Ministry of Health, 2007 Revista salud pública de México, vol. 53, suplemento 2, January 2011	Public	75% SESPAS
		Social security	34% Social security
		Private	Data unavailable
Ecuador	Revista salud pública de México, vol. 53, suplemento 2, January 2011	Public Social security Prepaid medicine	51% Health Services in the public network 20% 3%
El Salvador	Multipurpose Household Survey 2009—El Salvador	Public Social security Private	78.4% Ministry of Public Health and Social Welfare 20% Salvadorian Social Security Institute 2%
Guatemala	Health Systems Profile, Guatemala, Ministry of Health, 2007; United Nations Development Assistance Framework. UNDAF 2010–2014	Public	70% Ministry of Health
		Social security	17.5% Guatemalan Social Security Institute
		Private	12% (civil society and faith-based organizations) 8% (private insurance)
		Without coverage	20.5%
Guyana	Health Systems Profile, Guyana, 2009; National Health Plan 2007–2012, Ministry of Health	Public	100% Universal insurance plan
Grenada	Health Systems Profile, Grenada, 2008; National Health Policy, 2007–2011; Ministry of Health	Public	100%
Haiti	CCA-UNDAF Report Haiti 2009–2011	Public Private	70% 30%
Honduras	Health Systems Profile, Honduras, 2009, Ministry of Health	Public Social security Private	60% Ministry of Health 18% Honduran Social Security Institute 2.9% Private insurance
Jamaica	National Health Policy 2006–2015, Jamaica, Ministry of Health	Public Private	95% 13.5%
Mexico	Health Systems Profile, Mexico, Secretariat of Health, 2009	Public Social security	25.5% Seguro Popular de Salud 45.3% Mexican Social Security Institute; Institute for Social Security and Services for State Workers, Petróleos Mexicanos, Secretariat of Defense, Secretariat of the Navy
		Private	3% Private insurance
		Without coverage	29.2%
Montserrat	Health Systems Profile, Montserrat, Ministry of Health, 2008	Public	100% First- and second-level health services
Netherlands Antilles	PPK ("pro-paupere kaart")—insurance fully financed by the government	Public	100% through PPK
Nicaragua	Revista salud pública de México, vol. 53, suplemento 2, January 2011	Public Social security Private Other	61.2% Ministry of Health network 16.5% 11% 6% Government agencies and army
Panama	Health Systems Profile, Panama, 3rd edition, Ministry of Health, 2007	Public Social security	14.4% Ministry of Health network 75.6% Social Security network

TABLE 5.1. Health coverage, by sector, countries of the Americas, selected years. (Continued)

Country	Source and year	Sector	Coverage
Paraguay	Health Systems Profile, Paraguay, 3rd edition, Ministry of Health, 2008	Public Social security	12.5% 17% Social Security Institute and insurance for workers, individuals, the police, military, others
		Private Without coverage	1% Private insurance 78.3% Without social security or private coverage
Peru	Revista salud pública de México, vol. 53, suplemento 2, January 2011	Public Social security	58% Ministry of Health 20% EsSALUD 18% Comprehensive health insurance
		Other	4%
Puerto Rico	Health Systems Profile, Puerto Rico, Department of Health, 2007	Public	40% ELA plan (Medicaid) 14% Medicare
		Private	37% Private 12% Public employer 4% Veterans insurance
		Without coverage	8%
Saint Kitts and Nevis	Health Systems and Services Profile, SKN, Ministry of Health, 2008	Public	100% Ministry of Public Health
Saint Lucia	Health Systems Profile, Saint Lucia, Ministry of Health, 2008	Public Private	100% National Insurance Plan Data unavailable
Saint Vincent and the Grenadines	Health Systems and Services Profile, SVG, 2008	Public	100% Ministry of Health
	Strategic Plan for Health 2007–2012, Ministry of Health and the Environment	Social security	Data unavailable
Suriname	Social Sector Plan, Suriname, Ministry of Social Affairs, 2008	Public Private	30% National Health Services 13% Private insurance
Trinidad and Tobago	Health Systems Profile, TT, Ministry of Health, 2008	Public	The Ministry of Health is creating an entity that will guarantee a package of health services to the country's entire population
United States of America	U.S. Census Bureau. Income, Poverty, and Health Coverage in the United States: 2010. September 2011. http://www.census.gov/prod/2011pubs/p60-239.pdf	Public	15.9% Medicaid ^b 14.5% Medicare ^c
		Social security ^d Private Without coverage	55.3% Employment-based health insurance 64% Employment-based health insurance 16.3%
Uruguay	Health Systems Profile, Ministry of Health, 2009	Public Private	25.4% Ministry of Health 74.6%
Venezuela	Revista salud pública de México, vol. 53, suplemento 2, January 2011	Public Social security Private	68% 17.5% Venezuelan Social Security Institute 11.7% Private insurance

^a In Canada, Medicare is the universal-coverage system; it covers all legal residents in the country.

^b National health program for low-income and disabled people.

^c Medicare is a national health insurance program.

^d National health program for people aged 65 and over and the disabled.

In general, changes in health services delivery continue to focus on seeking a better fit between the population's needs and the demand for health care. Although there is no single model of health care delivery that predominates in the Region, common trends can be seen as the countries try to improve

equity in access, provide **universal coverage**, and put in place models of care that are more people-centered. Initiatives have focused on strengthening health leadership and health promotion.

Despite the fact that throughout 2006–2010 the Region's countries increased their commitment

to and made concrete progress on the implementation of the primary health care approach (Table 5.2) (21, 22, 23), the “health for all” goal will not be met easily nor soon. The reality is that a significant proportion of the Region’s population continues to lack access to basic health services and must rely on fragmented and segmented health systems. Such systems will have to be reorganized if their quality, efficiency, and equity are to improve. Many countries also lack health schemes that provide broad social protection, and those that do, struggle to find the right balance between expanding them to improve equity and achieving financial sustainability.

Some countries must also recover lost ground. Among those that had made real progress in implementing primary health care between the 1970s and the 1990s, some have neglected the referral systems and back-up needs of first-level services to such an extent that patients now face long waiting lists of months and even years before receiving certain types of care. Other countries have fallen back into overmedicalization, fragmentation of care, and an undervaluation of the role of essential health professionals (nurses, medical technicians, community health workers, nutritionists, midwives, and social workers), individuals, families, and communities in health protection and promotion. There also are countries that have compromised financial sustainability by overindulging in the use of costly equipment and new technology, when less expensive alternatives might have proven to be as good or better, and by overspending on curative and hospital services not articulated with, or at the expense of, first-level care.

There is no evidence that the additional resources being spent on overmedicalization and specialty care are producing better health outcomes in the population. There is evidence, however, that effective disease prevention, health promotion, and evidence-based and cost-effective therapies and treatments do help improve health outcomes (24, 25). In order to move forward, the Region’s countries must shift away from the existing curative model of health care towards a preventive model, and must develop and implement health policies that can shape and sustain effective health systems and services.

HEALTH LEGISLATION²

The countries of the Americas have advanced in developing legal frameworks to guarantee the right to health, emphasizing the construction of health systems geared toward inclusion, comprehensive services, compassionate treatment, and the empowerment of individuals in their dealings with the system. The **national health authority** is considered to be the entity responsible for **stewardship**, and the principles of primary health care are consolidated within the regulatory system.

During 2008–2010, Ecuador, Bolivia, and the Dominican Republic ratified new constitutions. The Constitution of Ecuador (2008) mandates the creation of social inclusion and equity systems that guarantee the exercise of rights and the fulfillment of the country’s development objectives through the “living well” strategy. The Constitution also mandates free, universal State health services at all levels of care, underscoring the free nature of maternal health services and services for older adults, disabled persons, children and adolescents, and persons suffering from catastrophic, highly complex health conditions. The Constitution of Bolivia (2009), in turn, trumpets the relationship between health and integral development, and recognizes interculturalism, decentralization, and autonomy in different areas, including health. It mandates the creation of a unified health system in which the traditional medicine of native indigenous nations and peoples and campesinos has a recognized place, the guarantee of free access by the population to health services, and the creation of a social security system. The Constitution of the Dominican Republic (2010) charges the State with protecting the health of all persons, linking that right to others such as access to clean water, better nutrition, quality medicines, and free medical and hospital care for those who need it.

² The websites mentioned in this section are public and free and have been provided for reference only. The reader is advised that the only authorized text of legal documents is the text published by the official distribution agency recognized as such by national law (official newsletters, gazettes, or journals).

TABLE 5.2. Goals, approaches, and examples of health system reforms based on primary health care, Region of the Americas, 2006–2011.

Goal	Approach	Examples
Striving for universal coverage and equity in access	Enacting new laws and establishing public policies and special programs that target vulnerable groups	<ul style="list-style-type: none"> Provisions in the new constitutions of Bolivia (2009), Venezuela (2006), and Ecuador (2008) specify that health is a basic right of all citizens and establish the state's responsibility to guarantee access to care. Peru's Law on Universal Insurance establishes public health insurance financed with public funds to provide coverage for low-income persons. Uruguay's National Integrated Health System brings together the private not-for-profit and public subsystems under a single structure, eliminating fragmentation and reducing inequities in access to care; the National Health Fund (FONASA) incorporates a number of preexisting insurance schemes into a single national health insurance plan, extending coverage to the population.
Pursuing intersectoral public health policies	Seeking cross-cutting policies that involve sectors other than health to prevent disease, promote health, and address the social determinants of health, thus ensuring greater health gains for all	<ul style="list-style-type: none"> Through the Port of Spain Declaration, "Uniting to Stop the Epidemic of Chronic Non-communicable Diseases," Caribbean countries committed themselves to the annual observance of a Caribbean Wellness Day, the development of healthy public policies, the formation of national commissions on noncommunicable diseases, and efforts to mobilize civil society and academic institutions. Paraguay developed a Policy on Health Promotion that includes a healthy housing strategy. Through an intersectoral agreement with the National Housing Council (CONAVI), it is incorporating health promotion into the national housing plans. Argentina, Brazil, Chile, Colombia, Panama, Peru, Uruguay, and Venezuela implemented a healthy diet program based on an initiative originally designed by the United States National Cancer Institute; it involves multiple sectors of the economy. "AGITA São Paulo" promotes physical exercise, increases awareness of its importance, and provides easy access to physical activity. Colombia has launched a similar program, "Por su salud, muévase pues" ("Get Moving for Your Health") in Antioquia.
Seeking people-centered services	Putting in place initiatives designed to improve the quality and acceptability of care, while providing health services that are integrated, accessible, acceptable, and comprehensive	<ul style="list-style-type: none"> Uruguay's new model based on primary health care (Sistema Nacional Integrado de Salud) is designed to achieve universal coverage; it includes a guaranteed portfolio of entitlements and establishes mechanisms to implement and fund the new system. In Brazil, primary care services provided through the traditional services-on-demand approach are being gradually replaced by a family health program, whereby multidisciplinary health teams provide people-centered health care to about 50% of the country's population. Peru's decentralization efforts have transferred 125 health systems' functions from the central to the departmental level. In addition, the family health strategy is expanding its services and strengthening primary care with a comprehensive family care model.
Bolstering the health sector's leadership role	Promoting the health sector's effective leadership and stewardship capabilities through initiatives designed to promote cross-sector advocacy and dialogue, raise public awareness on health issues, and increase the public's participation	<ul style="list-style-type: none"> Showing strong leadership, and through a participatory process that included social and political dialogue, Chile implemented a health system reform designed to coordinate a mixed system with modern and effective state regulation. The most significant aspect of the reform was the creation Plan of AUGE (Regime of Explicit Health Guarantees for all citizens). There are 30 communities in 17 Latin American and Caribbean countries that participate in the regional initiative "Faces, Voices, and Places." The initiative showcases country and community efforts to advance the Millennium Development Goals (MDGs), especially those related to health, in the poorest and most vulnerable communities. Specific interventions are based on an analysis of local realities and are carried out by the communities themselves, with technical assistance from the Pan American Health Organization and other United Nations agencies. The Bahamas developed a public health information system that will standardize and computerize all medical records at the primary care level. The system will provide a consolidated patient database to facilitate analyses of morbidity, mortality, and other indicators as a way to provide evidence for better decision-making at the national, community, and health facility levels.

Source: References (21, 22, 23).

Pursuant to its constitutional mandate, Bolivia enacted the Andrés Ibáñez Framework Law on Autonomy and Decentralization (2010) to regulate the autonomy system and the foundations of the State's territorial structure. The central level is responsible for the unified [health system](#) nationwide and for the provision of universal health insurance. The autonomous departmental and municipal governments have parallel responsibilities in the implementation, management, and cofinancing of the [health system](#), and with the autonomous native-indigenous-campesino governments in terms of participation.

The national health authority's strengthened [stewardship](#) power also implies progress. Ecuador's Organic Health Law (2006) recognizes the Ministry of Public Health as the [national health authority](#), with functions that include the exercise of [stewardship](#) in health and responsibility for the implementation, control, and enforcement of the Law and the [regulations](#) issued for its full application. Argentina's Ministries Law No. 26,338 (2007), in turn, strengthens the monitoring of health service and health institution operations, sectoral planning, and coordination with health authorities in the different jurisdictions for the implementation of a federal [health system](#). Resolution No. 1,070 (2009) (again, in Argentina) created the Federal Health Facilities Registry within the Ministry as part of its performance of the [essential public health functions](#); the purpose of the registry is to facilitate greater cohesiveness in the health sector, better service coverage, more rational use of resources, and better quality of care. Costa Rica, for its part, published Decree No. 34,610-S (2008), Organic Regulation of the Ministry of Health, which establishes the ministry's authority to ensure the equitable, evidence-based coordination, strengthening, and modernization of policies, legislation, plans, programs, and projects, as well as the mobilization and synergy of the social, institutional, and community forces that impinge on the health determinants of the population.

Laws aimed at expanding social protection in health also were enacted. Colombia promulgated Law No. 1,122 (2007), revamping the General

Social Security [Health System](#) in the areas of [governance](#), [universal coverage](#), financing, stakeholder balance, rational use of resources, and the improvement of health service delivery; the law also created the Health Regulation Commission to draft and amend the compulsory health plans guaranteed to subscribers by the health promoting agencies. In January 2011, the country officially published Law No. 1,438, reforming the General Social Security [Health System](#); this law standardized the benefits plan, created universal insurance, and guaranteed the portability of benefits and financial sustainability. Uruguay enacted Law No. 18,211 (2007), which establishes the Integrated National Health System (SNIS), organized by levels, based on users' needs and the complexity of the benefits. This law, which governs the right to health protection, led to the creation of National Health Insurance and the National Health Council to enforce that right, ensuring observance of its guiding principles. The Integrated Health System is grounded in—and gives priority to—primary health care. The system is financed through the National Health Fund, created by Law No. 18,131 (2007).

In El Salvador, the National Health System was created by Legislative Decree No. 442 (2007) as a set of interrelated, integrated institutions that operate in a systematic, coordinated manner under the leadership of the Ministry of Health to guarantee the population's right to health. Anguilla passed the National Health Fund Act (2008) for the purchase of health services, guaranteeing access to the services stipulated by law, and grounded in the principles of solidarity, sustainability, equity, efficiency, effectiveness, and accountability to ensure their efficacy and cost-effectiveness.

In Peru, Law No. 29,344 (2009) provides the framework for universal health insurance to guarantee the full and progressive right of every person to social security health benefits. It defines the functions of regulation, financing, provision, and supervision of insurance under the Essential Health Insurance Plan. The Ministry of Health, as the lead agency, is responsible for the decentralized, participatory adoption of [regulations](#) and policies

governing the promotion, implementation, and strengthening of national health insurance.

In the United States, the Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act (both of 2010) lay out the principles for increasing coverage through the reform of the health insurance system, with an implementation horizon of 2020. In 2010 the country passed the Medicare and Medicaid Extenders Act, which extends the specific benefits of the two systems.

The new access framework has also bolstered people's rights in their dealings with health institutions. In Brazil, for example, Ordinance No. 675 (2006) approved a charter on the rights of users of the [health system](#) within the framework of the exercise of citizenship, and the Decree of March 2006 created the National Commission on Social Determinants of Health under the Ministry of Health. The functions of the Commission include contributing to the formulation and implementation of health policies, plans, and programs based on interventions targeting the social determinants that impinge on the health status of the population. Argentina, in turn, enacted Law No. 26,529 (2009) on patients' rights in their dealings with health professionals and health institutions (e.g., the right to care and to decent and respectful treatment; the right to privacy, confidentiality, and autonomy; the right to health information and to be seen by specialists). In Chile, Supreme Decree No. 44 (2007) and Supreme Decree No. 1 (2010) complement the matrix of health problems and explicit guarantees set forth in Law No. 19,966 (2005) on financial coverage and timely health care for the diseases responsible for the greatest number of deaths and years of life lost in the country. In Mexico, Official Mexican Standard NOM-071-SCFI-2008—business practices and out-of-pocket medical care—details the information that medical providers must furnish in their facilities so that users have clear and sufficient information to make decisions that meet their needs, and the basic elements that subscriber contracts should contain in the event they are used.

In Uruguay, Law No. 18,335 (2008) sets forth the rights and responsibilities of patients and users of

the Integrated National Health System. In Peru, Law No. 29,414 (2009) stipulates the rights of health service users (e.g., access, information, care, the restoration of health, and informed consent). In 2010, Panama created the Program for Compassionate Care and Spiritual Support for Patients (Decree No. 41), designed to help revive the call to service and solidarity in the health professions and ensure that health professionals and administrative personnel offer compassionate care and spiritual solidarity to help reduce the suffering of patients and their families. Panama also adopted Resolution No. 60 (2010), which reinforced the client care subsystem created in 2004 to increase user satisfaction in terms of needs and expectations.

The rights framework is complemented with [regulations](#) that buttress social participation in health. In Peru, Law No. 29,124 (2007) mandates civic co-management and participation at the first level of care in Ministry of Health facilities, so as to expand coverage, improve quality, increase equitable access to care, and create better conditions with organized community participation as part of the exercise of the right to health and pursuant to the [regulations](#) governing decentralization. In Ecuador, one of the functions of the Organic Law on the Civic Engagement and Social Control Council (2009), created by the 2009 Constitution, is to promote and set up social control and accountability mechanisms on matters of interest and for public entities and juridical persons in the private sector that offer public services, engage in activities of public interest, or manage public resources. In 2010 El Salvador, through Presidential Decree No. 54, created the Departmental Cabinets to coordinate and link government plans at the local level and effectively meet the needs of the population.

The countries of the Americas have made legislative advances in addressing health in the context of its determinants, with a consequent expansion of responsibilities among sectors. This progress, however, entails the need to develop new frameworks for preserving equity and safeguarding solidarity in expanded litigation scenarios. Given the breadth of the guarantees, the legislative challenge will be to accurately reflect the social debate surrounding the exercise of rights.

FINANCING AND SOCIAL PROTECTION IN HEALTH

SOCIAL PROTECTION IN HEALTH

During 2006–2010, the Region of the Americas made great strides in social protection in health at the global, regional, and national levels.

At the global level, the International Labour Organization (ILO) and the World Health Organization (WHO), working with many United Nations agencies, launched the Social Protection Floor Initiative. The initiative has two components: 1) a basic set of essential social rights and transfers, both monetary and in-kind, aimed at providing a minimum of income security and means of subsistence to all and facilitating real demand and access to essential goods and services; and 2) the delivery of a basic level of goods and social services that are accessible to all, among them health care, water and sanitation, education, food, housing, and information about life and the saving of assets (26).

At the regional level, in 2009 the Organization of American States (OAS), after the decision adopted at the V Summit of the Americas, launched the Inter-American Social Protection Network (RIPSo, from its Spanish name) as a community of practice designed to facilitate information exchange on policies, experiences, programs, and best practices in social protection. National ministries and social development organizations in the Americas participate in the Network, as do international and nongovernmental organizations, the private sector, and academia (27).

Beyond the previously mentioned initiatives, the countries' progress in the area of social protection at the national level has manifested itself in the strengthening, consolidation, or launch of agreements, plans, programs, or strategies to expand such protection. Several of the Region's countries have embarked on an important shift in how they approach the financing of the [health system](#), the organization of health-system resources, and the role of the various stakeholders in these processes, by replacing the individual risk approach that prevailed in the 1990s with the concept of the right to health.

The fact that this change has occurred in both high- and middle-income countries (e.g., Brazil, Chile, Colombia, Ecuador, Mexico, Peru, the United States, and Uruguay) with highly developed health institutions, in one lower middle-income country (El Salvador), and one very low-income country (Haiti) whose health institutions are in an incipient stage of development is significant.

In 2008, Haiti began offering free obstetric services—financed with humanitarian aid—in response to the growing maternal mortality reported in the preceding decade. The following year, more than half the participating institutions reported an average increase of 62% in the rate of institutional births. Of the women who gave birth in institutions and who participated in this free obstetric program, 30% said that their last child had been born at home and 83% voiced satisfaction with the care they had received (28). In 2010, this initiative received new funding and expanded its activities to include emergency obstetric care, neonatal services, the prevention of vertical transmission of HIV, and the prevention of gender violence and care for its victims. With this expansion, the number of facilities participating in the program jumped from 42 to 63, while institutional births soared from 2,953 per month to 6,828. As of this writing, the maternal mortality rate reported in institutions participating in the free obstetric-services program is roughly five times lower than that reported by nonparticipating facilities (120 and 630 per 100,000 live births, respectively) (29).

Haiti also launched the Free Children's Services Program in 2010 to meet the needs of children under 5. Also financed with humanitarian-aid funds, the program has been activated in the country's 27 largest hospitals (19 public and 8 private) and offers quality health care to over 15,000 additional children than the baseline numbers (29).

In 2008, Uruguay undertook in-depth reforms to guarantee universal health coverage by establishing the Integrated National Health System (SNIS, from its Spanish name). The reforms involved the gradual enrollment of beneficiaries in the new system up to 2016, in order to guarantee [universal coverage](#)

and the sustainability of the new model. Public employees, children under 18, disabled persons, and new retirees were added to the rolls first, with workers' spouses, unaffiliated workers, subsequent retirees, and pensioners being incorporated gradually. In March 2008, SNIS covered close to 120,000 workers and 335,000 children under 18, an increase of 500,000 new members since August 2007 (30). In 2011, SNIS was to expand health coverage to more than 50% of the Uruguayan population—approximately one million workers, 537,000 children, and 127,000 retirees (31).

In 2010, Chile's Plan for Universal Access with Explicit Guarantees (AUGE, from its Spanish name) expanded the guaranteed package of services to cover 69 health problems. Introduced in 2005, the system originally covered 25 health problems, selected on the basis of their frequency, severity, cost, and detriment to the quality of life. In 2006, 15 additional problems were included; in 2007, another 16; and in 2010, another 13. AUGE also explicitly guarantees access, timely quality care, and financial protection against priority problems (32).

Argentina expanded its Plan Nacer (Provincial Maternal and Child Health Insurance): originally covering two provinces when it began in 2005, the plan was activated countrywide in 2007. The Plan offers health coverage to 1,719,457 pregnant women, new mothers, and children under 6 years old (33). Brazil, in turn, expanded its Family Health Program throughout the country in 2011. Operating in 94.9% of the country's 5,282 municipalities, the Family Health Program currently covers over 101 million people through 32,029 teams of health professionals, each serving a population of 3,500–4,000 (34).

Mexico has significantly expanded the Seguro Popular de Salud (People's Health Insurance), adding coverage for medical-surgical, pharmaceutical, and hospital-based services through 275 interventions covering over 40% of the population. Enrollment in the Seguro Popular soared from some 3 million in 2009 to over 12 million in 2010 and 46 million in 2011. Beginning in 2008, Seguro Popular offered medical care for all types of cancer to children under 18, as a response to the country's high child cancer mortality and the fact that this disease was the second

leading cause of death in the population aged 1–19. In 2011, the coverage was expanded to diseases requiring highly specialized care (35).

In the United States, one of the main objectives of the Affordable Care Act (2010) is to expand health coverage to the population and eliminate access barriers. To that end, it includes a series of measures, such as the introduction of coverage for the uninsured with preexisting conditions, the elimination of copayments for some preventive services, the elimination of the annual coverage caps imposed by insurance companies, a ban on denying coverage to children under 19 with preexisting conditions, coverage for children under their parents' policy up to the age of 26, the elimination of copayments, coinsurance, and deductibles for preventive services and annual check-ups, and drug discounts for Medicare recipients. The law is being challenged at the state level.

Peru's Comprehensive Health System (SIS, from its Spanish name), which provides subsidized public insurance, aims at moving toward [universal coverage](#), giving priority to vulnerable populations living in poverty and extreme poverty. Access to the Comprehensive Health System by the poor (43 percentage points) and nonpoor (20 percentage points) increased dramatically between 2005 and 2010, representing a substantial increase in the covered population. In 2004, just 37% of the Peruvian population was insured. By 2010, the percentages of poor, extremely poor, and nonpoor populations with health insurance were 72%, 80%, and 61%, respectively (36).

The above information shows that several Latin American countries have made great strides in social protection in health, largely due to the adoption of strategies to increase service coverage and reduce the financial risks to the most vulnerable populations. Nevertheless, most of the countries must still grapple with the challenge of solving the urgent problem of financing social protection in health and reducing the segmentation of their health systems, the fragmentation of services, and the low levels of real coverage—all of which have a hand in inequitable access and inefficiency in health service delivery and health services management (37).

CATASTROPHIC HEALTH EXPENDITURES

The impact of catastrophic health expenditures on households is directly linked to the degree of financial protection that health systems offer, regardless of their structure. Although catastrophic health expenditures in the Americas hit households in countries with different income levels, there appears to be a high correlation between these expenditures and total health expenditure as a percentage of GDP, out-of-pocket expenditure as a proportion of total expenditure, the percentage of population under the poverty line, and the availability of a limited basic package of services³ (38, 39).

The 2010 World Health Report also underscores the role of direct payments, such as copayments, coinsurance, or deductibles, in the likelihood that a household will experience a financial catastrophe, particularly if it is a low-income household. Given this situation, [universal coverage](#) and the pooling of funds are the best option for ensuring financial protection for the population (40). However, the rising cost of medical care, technological advances, and the development of expensive medicines, as well as the aging of the population and the lack of coverage packages, pose a challenge to the financial sustainability of health systems, even those with pooled funds.

In recent years, several countries have moved forward in expanding health coverage and setting up prepaid insurance systems that protect families from financial risk and keep them from becoming impoverished due to catastrophic [out-of-pocket expenditures](#)—systems that also guarantee a basic package of health services for the population (41). Notable among them are the recent advances in Uruguay, the United States, and Peru in expanding insurance and health coverage through the above-mentioned reforms. Uruguay achieved these successes by increasing the public share of health care financing from 51.0% in 2005 to 63.6% in 2008. Out-of-pocket household expenditure (not counting

prepayments) is estimated to have fallen by 5 percentage points over the 2007 figure (42).

The principal social and financial protection mechanisms adopted in the Region include the conditioned transfer and specific funds models to cover particular diseases, such as the Heads of Household and Universal Children's Coverage (Argentina), the Bolsa Familia (Brazil), Juancito Pinto (Bolivia), and Oportunidades (Mexico). These approaches are grounded in the principles of shared social responsibility in health and are basically designed to guarantee access to prevention programs. Specific funds designed to cover the costly, low-prevalence diseases—those that can generate catastrophic expenditures for households—generally guarantee [universal coverage](#) with a specific package of basic or compulsory services for the entire population and a gradual reduction in the length of time and the number of households that incur such expenditures. Examples of these measures are the use by Uruguay's National Resources Fund of new treatments for costly diseases (in 2005) and expensive drugs (between 2006 and 2008), and Mexico's creation of the Catastrophic Expenditures Fund (2004).

Notwithstanding the Region's progress in terms of embracing policies that guarantee social protection against financial risk, only now are studies emerging that reveal the impact of catastrophic health expenditures on households. The reasons for this lack of evidence include conceptual issues and problems defining what should be considered a catastrophic expenditure, as well as the difficulties created by a lack of information or irregularity in data production.

Existing studies are based on the findings of national household, standard-of-living, or household budget surveys—depending on availability of data and the design—and the data from interviewees. The problem with these surveys is that, on the one hand, their design tends to complicate the comparison of information on income and specific health expenditures, and, on the other, that the results are normally presented on a quarterly basis, making it difficult to construct longitudinal databases or time series. Furthermore, household and living-conditions surveys are not exempt from measurement errors that

³ Out-of-pocket expenditure is the most regressive form of financing and what most exposes households to catastrophic risk (9).

can affect the quality of the data and, thus, the results obtained (43).

Moreover, there are few recent studies that show the direct link between catastrophic health expenditures and poverty. One of them, which examines health-adjusted poverty lines (HAPL) in Chile, based its results on the 2006–2007 Household Budget Survey (EPF). In terms of urban poverty, the study shows an increase of 14% according to official estimates, to 16.4% using the direct method, and to 16.5% using the indirect method;⁴ in terms of extreme poverty, according to official figures, the estimated change was 3.2% according to official estimates, to 3.6%, using the direct method, and to 4.3%, using the indirect method. Concerning the impact of catastrophic health expenditures on the incidence of poverty and extreme poverty, the findings show that the situation of 30.6% of people living in extreme poverty worsened due to health expenditures, while 30.7% of the extreme poor fell into that situation because of health expenditures (44).

Estimates of the impact of catastrophic health expenditures on households vary widely. In Mexico, for example, the figure ranges from 2% to 14% of all households (45). Moreover, there seems to be a correlation between health coverage levels and the percentage share of out-of-pocket expenditure in the financing of health services, on the one hand, and the percentage of households affected by **catastrophic events**, on the other. A common finding of these studies is a higher incidence of catastrophic health expenditures in the low-income quintiles and the risk that this poses of perpetuating the high economic vulnerability of these population groups.

⁴ The indirect methodology for including health expenditures in the poverty line proposed by the U.S. National Academy of Sciences discounts health expenditure from both the poverty line (income) and the expenditure line, arguing that health expenditures are not part of basic needs, because they are uncertain in terms of recurrence and amount. In reaction, some investigators have called for the direct inclusion of necessary health expenditures as part of the poverty line.

A recent study based on the results of household surveys conducted between 2003 and 2008 compares the prevalence of catastrophic expenditures among population subgroups in 12 Latin American and Caribbean countries. According to the study, there is wide variation in the percentage of households with catastrophic health expenditures (1%–25%), and these differences are linked to the levels of coverage and social protection offered by different health systems. In subgroups, the factors behind a greater propensity to incur catastrophic expenditures are rural residence, low income, older adults living in the home, and a lack of family health insurance (46).

Available studies show the extent to which catastrophic health expenditures affect household income levels; more importantly, they demonstrate the need to continue to expand those systems designed to protect against financial risk in health. That said, the diversity of methods and assumptions uncovered in these studies also reveals the need to conduct further investigations in the Region, in order to come up with a standardized and comparable methodology for estimating the impact of catastrophic health expenditures on household income and, thus, their impact on poverty and extreme poverty. Pending issues in the Region's research agendas include an assessment of the effect that the introduction of financial protection programs for the poor or the uninsured has had, as well as the future challenges posed by the intensification of the epidemiologic and demographic transition (47). Work has already begun in this regard, with a study in Mexico that relied on the method proposed by Wagstaff and Van Doorslaer.⁵ While substantial improvements in the poverty and financial protection indicators were observed between 1992 and 2004, the study's authors caution that it is impossible to determine the causal role played by the introduction of the

⁵ This method involves measuring the impact of catastrophic health expenditures on households using two definitions of income: prepaid income, measured by household consumption; and postpaid income, equivalent to prepaid income minus the cost of food (48).

BOX 5.1. Trends in catastrophic health expenditures in Mexico.

In 2010, 2.23% of Mexican households incurred catastrophic health expenditures—32,000 fewer households than in 2008–2010. Moreover, the percentage of households that fell into poverty as a result of health expenditures decreased from 1.57% in 2002 to 0.98% in 2010, for a total of 98,000 households in this latter year alone. The decline in catastrophic expenditures that began in 2006 may be linked, among other things, to the significant expansion of coverage by the Seguro Popular, which offers publicly funded financial protection to households whose employment status makes them ineligible for coverage under the social security system.

Source: Secretariat of Health of Mexico, Economic Analysis Unit.

Seguro Popular de Salud, Oportunidades, and other social programs or of macroeconomic and poverty reduction policies. Furthermore, the sharp reduction in catastrophic health expenditures in Mexico between 2006 and 2010 may be linked to coverage increases by the Seguro Popular (Box 5.1).

HEALTH EXPENDITURE AND FINANCING

In 2010, the world's total expenditure in goods and services related to health care was estimated at around US\$ 6 trillion (about 8.5% of the world's total GDP) and the per capita expenditure, at US\$ 850.⁶ As expected, the share of health expenditures, as a percentage of GDP, and the level of per capita expenditure in health care related goods and services varied widely among regions and countries (Table 5.3) (49, 50, 51, 52). Total health expenditures as a share of GDP varied from an average of 13.2% in the Region of the Americas to an average of under 3.8% in Southeast Asia countries. The average per capita expenditure in health varied from US\$ 2,995 in the Americas to US\$ 47 in Southeast Asia (Table 5.3). For Latin American and Caribbean countries in 2010, the total expenditure in health represented 7.3% of GDP, and the average per capita expenditure was estimated at US\$ 623. Among these countries, the share of total health expenditures as a percentage of GDP ranged from 15.2% in the

Netherlands Antilles to 3.9% in Trinidad and Tobago. Total health expenditure in per capita terms ranged from US\$ 2,711 in Aruba, to US\$ 90 in Bolivia (Table 5.4) (49, 50, 51).

Worldwide, health expenditures are vastly concentrated in high-income countries. For example, the European countries, Canada, and the United States represent about 18% of the world's population, but account for about 75% of world's health expenditures. Latin America and the Caribbean, on the other hand, represent 9% of the population and account for 8.5% of the world's expenditures in health. The United States' level of expenditure on health related goods and services is more than eight-fold that of the Latin America and Caribbean average (Table 5.3).

The relationship between the share of health expenditures as a percentage of GDP and health status indicators—such as life expectancy at birth and maternal and infant mortality—is often used to assess how efficient is the allocation of resources. Indicators from the Americas suggest a potential need for improvement in the allocation of resources in some countries. The United States' share of total health expenditure as a percentage of GDP nearly doubles that of European Region countries with similar economic development and per capita income. Health indicators for the United States are not better than those observed in these European countries, however (53). Likewise, health expenditure as a percentage of GDP in Latin America and the Caribbean (7.3%) is the highest among developing regions of the world and higher than that for the Western Pacific Region (5.8%), which has

⁶ All figures are expressed in 2010 U.S. dollars, unless otherwise specified.

TABLE 5.3. Total expenditure in health, Region of the Americas and other WHO Regions, 2010.

	Total population (in millions)	Per capita GDP (in current 2010 US\$)	Total expenditure on health as % of GDP	Per capita expenditure in health (in current 2010 US\$)	Public/ private mix ratio
Region of the Americas ^a	929.9	22,692.2	13.2	2,995.4	2.0
Latin America and the Caribbean	582.7	8,541.7	7.3	623.5	1.2
Canada	34.0	39,403.5	9.7	3,822.1	5.5
United States of America	313.2	47,198.5	14.6	6,891.0	2.2
Other WHO Regions					
African Region ^b	824.4	1,383.3	6.0	83.0	1.0
South-East Asia Region ^c	1,783.5	1,236.8	3.8	47.0	0.7
European Region ^d	891.5	26,858.8	8.5	2,283.0	3.1
Eastern Mediterranean Region ^e	592.2	3,642.9	4.2	153.0	1.1
Western Pacific Region ^f	1,799.8	7,706.9	5.8	447.0	2.2
Worldwide	6,816.5	10,047.1	8.5	854.0	1.6

Source: References (49, 50, 51, 52).

^a Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia (Plurinational State of), Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, United States of America, Uruguay, Venezuela (Bolivarian Republic of).

^b Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, São Tome and Príncipe, Senegal, Seychelles, Sierra Leone, South Africa, Swaziland, Togo, Uganda, United Republic of Tanzania, Zambia, Zimbabwe.

^c Bangladesh, Bhutan, Democratic People's Republic of Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand, Timor-Leste.

^d Albania, Andorra, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Malta, Monaco, Montenegro, Netherlands, Norway, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, The Former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine, United Kingdom, Uzbekistan.

^e Afghanistan, Bahrain, Djibouti, Egypt, Iran (Islamic Republic of), Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Pakistan, Qatar, Saudi Arabia, Somalia, South Sudan, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates, Yemen.

^f Australia, Brunei Darussalam, Cambodia, China, Cook Islands, Fiji, Japan, Kiribati, Lao People's Democratic Republic, Malaysia, Marshall Islands, Micronesia (Federated States of), Mongolia, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Philippines, Republic of Korea, Samoa, Singapore, Solomon Islands, Tonga, Tuvalu, Vanuatu, Viet Nam.

similar levels of per capita income and health indicators such as life expectancy at birth, stillbirth rate, neonatal mortality, and infant and under-5 mortality (54). These patterns suggest that Western Pacific countries are able to spend less to produce similar population health indicators than are Latin American and Caribbean countries.

UNIVERSAL COVERAGE AND HEALTH EXPENDITURES

Evidence suggests that health systems that offer **universal coverage** have different levels of health

expenditures as a percentage of GDP and a different public/private composition of total health expenditures than those systems that do not. Health expenditure as a percentage of GDP in universal-coverage health systems hovers around 9%, with an 80/20 composition of the public/private mix (55, 56, 57, 58, 59). The public/private mix of health expenditures in countries with universal health systems is in line with WHO's recommendation that countries keep the level of direct payments to below 15%–20% of total health expenditure. Direct payments as a percentage of total health expenditures is an indicator of economic barriers to access and of the likelihood of financial risk and impoverishment due to illness or accident (41).

TABLE 5.4. Per capita GDP and national health expenditure indicators, selected countries of the Americas, 2010.

Country or territory	Per capita GDP (in 2010 US\$)	Per capita national health expenditure (in 2010 US\$)	National health expenditure as a % of GDP	Public expenditure as a % of GDP	Private out-of- pocket expenditure as a % of national health expenditure
Anguilla	18,624	1,242	6.7	4.2	37.0
Antigua and Barbuda	12,849	611	4.8	3.6	24.4
Argentina	9,138	777	8.5	5.3	38.0
Aruba	24,000	2,711	11.3	10.0	11.5
Bahamas	21,879	1,470	6.7	3.4	49.4
Barbados	14,326	1,227	8.6	5.7	33.5
Belize	4,159	96	2.3	1.0	56.5
Bolivia	1,858	90	4.9	3.2	34.1
Brazil	10,816	793	7.3	3.6	50.9
Chile	11,828	986	8.3	5.1	38.8
Colombia	6,273	374	6.0	3.5	41.2
Costa Rica	7,843	617	7.9	4.6	41.6
Cuba	5,596	604	10.8	10.5	2.8
Dominica	5,167	405	7.8	5.3	32.3
Dominican Republic	5,228	305	5.8	1.4	76.0
Ecuador	3,984	341	8.6	4.7	45.0
El Salvador	3,701	306	8.3	3.3	60.1
Grenada	6,543	654	2.0	5.3	234.8
Guatemala	2,888	164	5.7	2.1	63.1
Guyana	2,868	208	7.3	5.3	27.1
Honduras	2,016	177	8.8	4.6	47.7
Jamaica	5,039	272	5.4	2.7	50.1
Mexico	9,566	776	8.1	4.9	39.6
Montserrat	3,400	306	9.0	9.0	0.0
Netherlands Antilles	11,800	1,790	15.2	14.0	7.7
Nicaragua	1,127	109	9.7	5.5	43.2
Panama	7,593	393	5.2	3.9	24.6
Paraguay	2,886	252	8.7	4.2	51.8
Peru	5,172	267	5.2	2.9	43.8
Saint Kitts and Nevis	9,636	438	4.5	2.2	51.6
Saint Lucia	5,668	293	5.2	2.4	53.6
Saint Vincent and the Grenadines	5,229	226	4.3	3.5	18.9
Trinidad and Tobago	21,200	828	3.9	2.0	48.8
Uruguay	11,998	1,168	9.7	4.5	53.8
Venezuela	9,960	459	4.6	1.8	61.0

Source: References (49, 50, 51).

Between 2005 and 2010, total health expenditures in Latin America and the Caribbean increased faster than the Region's economic growth rate. The share of total health expenditures as a percentage of GDP increased from 6.8% in 2005 to 7.3% in 2010. Public expenditure in health as a percentage of GDP increased even faster, from 3.3% in 2005 to 4.1% in 2010. The public/private mix in Latin America and the Caribbean, which is still high in relation to the 20% benchmark established by WHO, reversed from a 48/52 ratio in 2005 to a 55/45 ratio in 2010, indicating a positive trend towards a reduction of direct, out-of-pocket payments (60, 61). As noted before, the average health expenditure for Latin America and the Caribbean hides large differences (Table 5.4) in the nature and scope of health system financing among countries.

PUBLIC SPENDING IN HEALTH

Chile, Costa Rica, and Cuba are among the Latin American and Caribbean countries with the best health status indicators in the region for life expectancy at birth, maternal mortality, and infant and child mortality; they also have above-average health expenditures as a percentage of GDP. These

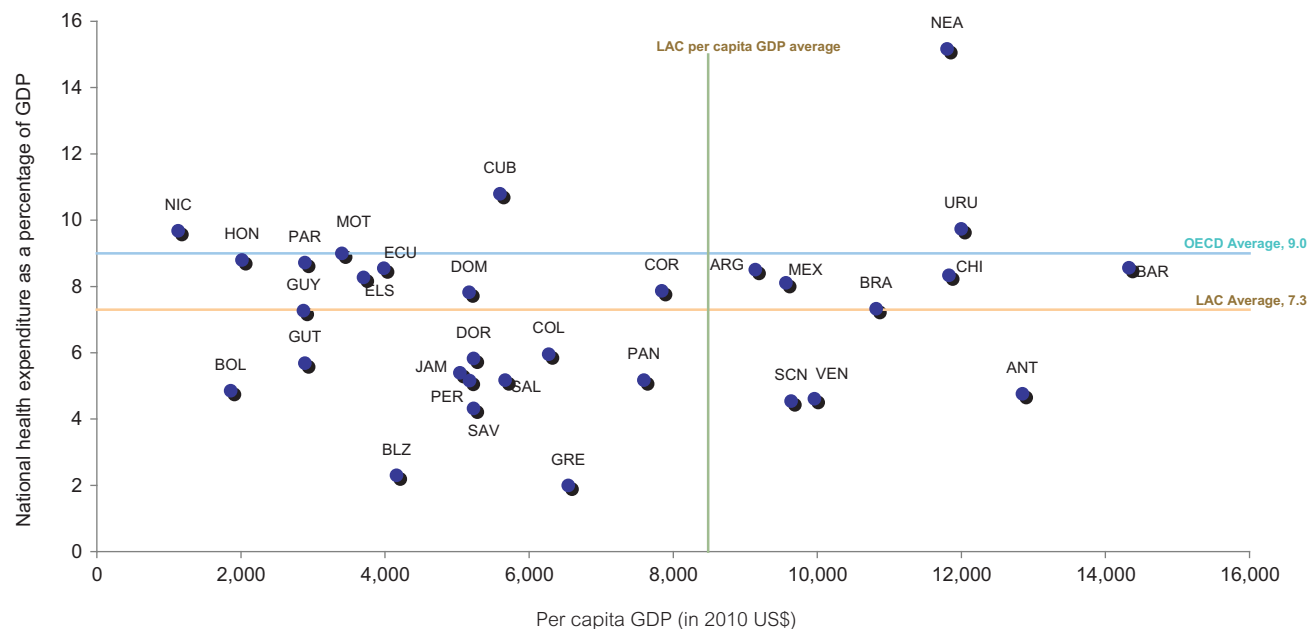
countries share other characteristics that positively affect the health of their populations, such as the availability of universal health care and/or the existence of public policies designed to extend population health coverage and to provide social protection in health to their citizens.

Evidence shows that per capita income does not fully explain national differences in per capita health expenditures, indicating that other variables may be playing more important roles in that relationship. The same holds true for the relationship between total health expenditures as a percentage of GDP and per capita income, as shown in Figure 5.1. This implies that other important factors—such as the existence or absence of social protection policies, the organization and management of the health system, and health care market regulation, including that of private health insurance and pre-paid medical plans—may better explain the level of resources assigned to health than income, be it per capita or as a percentage of GDP.

THE IMPACT OF THE GLOBAL ECONOMIC CRISIS

Between 2008 and 2010, most countries in the Region applied countercyclical government expenditure

FIGURE 5.1. Total health expenditure as a percentage of GDP and per capita GDP in the Americas (current 2010 US\$).



policies to alleviate the economic impact of the global economic crisis. The 2008 economic slow-down and the 2009 recession were offset by economic growth in 2010. Public expenditures in social programs, including in health and social security, maternal services, and curative programs, were maintained or expanded in most Latin American and Caribbean countries (1). Public expenditures in goods and services related to health care were protected in countries severely affected by the crisis (Argentina, Guatemala, Mexico), and maintained or even increased in others (Brazil, Colombia, Ecuador, El Salvador, Honduras, Panama, Paraguay, and Peru). However, some of these efforts may not be financially sustainable. During the years prior to the global financial crisis, most Latin American and Caribbean countries experienced rapid economic growth and fiscal buoyancy. Most of them used the benefits of the economic boom to advance towards stronger economic fundamentals and to expand social programs. Increases in benefits and expenditures, particularly for social security institutions in some countries, were funded by delaying capital expenditures and/or by using contingency funds. Without appropriate financing schemes, such as increases in taxes or contribution rates, the fiscal soundness and sustainability of health services may be compromised in some countries, such as Costa Rica, Guatemala, Honduras, and Mexico (62, 63, 64).

ACCESS AND QUALITY OF HEALTH SERVICES

HEALTH SERVICE PROVISION

The heterogeneity of health care services in the Region of the Americas manifests itself in the segmentation of health systems in at least two subsectors: the public sector that most often includes the ministries or secretaries of health and social security institutions, and the nonprofit and for-profit private sector. The majority of health services within the public and private sectors consist of two components: first level of care and specialized care.

Many countries have large numbers of first level of care facilities that provide ambulatory services, including health promotion, preventive and public health services, and curative care. Specialized care is provided by a widening array of health care facilities that range from hospitals, to diagnostic centers, to long-term care facilities (65, 66, 67).

There is no standard definition of what constitutes a hospital in the Region. According to data from the countries, there are many facilities with a 10-to-60-bed capacity. Many are health posts, health centers, or maternal care units that do not rank as hospitals but that the countries report as such. The percentage of facilities with 60 beds or fewer in the subregions ranges between 14% and 75%, with the highest figures being seen in Central America and the United States (68). How a hospital is classified—as district, general, provincial, regional, or national—also varies from country to country and lacks any uniform criteria. Clearly, hospital classification and categorization in the Region calls for simplification and standardization.

In terms of hospital ownership regionwide, 46% of hospitals are publicly owned (89% depend on ministries of health and 11% are owned by social security institutions). These figures vary widely in the Region, however. In Mexico and the United States, for example, 69% and 68% of the hospitals, respectively, are privately owned, whereas in Cuba and Central America, 100% and 65%, respectively, of hospitals are public. In the English-speaking Caribbean, 60% of hospitals are publicly owned, 48% are publicly owned in the Southern Cone, and 37% are public hospitals in the Andean countries (61, 68).

Since 2005, the number of hospital beds in the Americas has declined significantly, dropping from an average of 2.4 per 1,000 population to the 2.3 per 1,000 figure for 2010. These averages mask vast disparities in bed distribution in the countries, however, which range from 0.6 per 1,000 in Guatemala to 6.7 in Bermuda. The average discharge rate in the Region is 68.8/1,000 (61). Regionwide, the public sector operates 48% of the hospital beds, with the for-profit and nonprofit private sector controlling the remainder. There are considerable geographical variations, however: in the

Southern Cone, for example, 36% of staffed hospital beds are public and 64% are private; in the Andean region, public-hospital beds account for 55% of operational beds; in Central America and the English-speaking Caribbean 89% and 85% of beds, respectively, are public-sector beds; in Mexico, public beds represent 67% of the total; and in the United States, approximately 38% are public-sector beds (54, 69).

Ambulatory, or first-level, care in the English-speaking Caribbean is predominantly offered by public services, with only 10% of ambulatory care being provided by the private sector. In Latin America and the Caribbean, 94.7% of the approximately 31,763 first level of care facilities are operated by the **national health authority**; these facilities provide an average of 2,674 visits per 1,000 population. The Region is clearly moving towards a greater reliance on ambulatory surgery, day hospitals, and home care, and this trend is seen with greater intensity in Argentina, Brazil, Canada, Cuba, Chile, Mexico, and the United States (59, 69, 70). Alongside this trend is a decline in the number of hospital beds and in the resources allocated to hospitals in countries with more advanced health systems, such as Canada, Chile, Colombia, Brazil, Peru, and the United States.

ACCESS TO HEALTH SERVICES

Overall, access to health care services has improved dramatically in the Region since the 1950s, both in terms of the number and share of the population who receive treatment for their health problems and in the availability and effectiveness of health services for the population. This improvement in access to care has contributed to improved health outcomes, high immunization rates, and the successful eradication of diseases in the Americas.

That said, a few countries that have expanded access to services have had little success in improving health outcomes. For example, a country in the Spanish-speaking Caribbean with consistently high rates of access to prenatal care, delivery by skilled health personnel, and institutional delivery has been

unable to reduce maternal mortality, which stands at 125 deaths per 100,000 live births (70). This situation belies that observed elsewhere in Latin America, especially in countries whose health systems have near-universal access to sexual and reproductive health care. This apparent paradox is linked to poor sexual and reproductive services offered at that country's health centers. This is particularly true in the public sector, which, according to the country's information system, serves 76.0% of all institutional births.

While access to health care is nearly universal among higher income groups in most of the Region's countries, the majority of the poor cannot get care when they need it. Evidence suggests that approximately 30% of the Region's population cannot access care because of financial reasons and 21% are deterred from seeking care due to geographic barriers (60). Access barriers to care have cumulative and synergetic effects on the affected populations. Inequity in access to health care is associated with social and health inequalities. On the one hand, people with the most means and often with the least needs consume the most care, while those with the least means and greatest health problems consume the least. On the other, social inequities in the distribution of access to health care are associated with disparities in health outcomes. For example, between 2003 and 2006, 30.6% of direct medical care expenditures for African Americans, Asians, and Hispanics in the United States of America were excess costs due to health inequalities (71).

QUALITY OF CARE

Improving the quality of care also means doing everything possible to mitigate, reduce, or eliminate adverse outcomes that come about in the course of providing health care. As users become more informed about their care they are more willing to express their dissatisfaction with the quality of care they receive. Among the most frequent complaints are poor service or treatment, crowded facilities, lack of patient information, long waits for treatment or surgery, inconvenient hours or days of operation,

refusal to treat patients who are unable to pay, and poorly maintained facilities (restrooms without water, soap, or out of order) (72).

A recent study conducted in five Latin American countries from 2007 to 2009 shows that 10.5% of hospitalized patients suffered some type of adverse event, 58.9% of these could have been avoided, and 19.8% were considered severe. Participating hospitals exhibited an **adverse event ratio** of 11.85%. The most frequent events were related to nosocomial infections and inpatient care procedures. On average, adverse events prolonged hospital stays by 16.1 days (73).

CHALLENGES AND THREATS TO THE HEALTH CARE SERVICES

Despite improvements in access to services and in health outcomes, as discussed earlier, health care services will still face challenges and threats. Health services will continue to be beset by such factors as the **health system's** high degree of fragmentation and its inefficiency in responding to demands imposed by the existing model of care. Other important factors include the aging of the population, the increasing impact of chronic diseases, climate change, and urbanization, all of which also affect the quality of care.

For instance, emergency medical services in every country of the Region had to cope with the demand imposed by the H1N1 pandemic in 2009. In 2010, the Region faced two devastating seismic events. In January, Haiti's earthquake laid waste the country's health care infrastructure, trying even the international emergency and relief programs' capability to provide basic care to the population. A month later, Chile's earthquake overwhelmed that country's emergency services. And in many countries, emergency services experience bottlenecks due to outbreaks of cholera, dengue, yellow fever, and seasonal influenza.

Although there is an urgent need to strengthen emergency services, few countries have put in place programs specifically designed to do so. Canada, Mexico, and the United States have emergency

systems with strong pre-hospital components as part of their health care services (74), but other countries such as Brazil, Colombia, Costa Rica, Chile, Cuba, Paraguay, and Peru rely on mobile units for providing emergency services (75). According to a recent study conducted in Colombia, Costa Rica, Peru, and Uruguay, while hospital emergency care varies widely among and within countries, the overuse of emergency services for non-urgent care is common to all (76). The overuse of hospital emergency services for non-urgent care is a hallmark indicator of a lack of access to basic health care. It is enormously costly to the **health system** and shifts needed resources away from more effective primary care services to the population.

Health care services in most countries of the Americas remain highly fragmented, which translates into a lack of or poor continuity of care and in services that do not fulfill the needs and expectations of the populations they serve. **Hospital-centrism**, fragmentation, and the commercialization of health services (turning away patients who are deemed unable to pay for services) undermine the health systems' ability to respond to the health care needs of the population (19), generate inequities in access to quality health services, and lead to higher costs due to inefficiencies. Central to addressing these problems is the need to resolve the fragmentation of health care organization. To this end, new models of care that reflect the current demographic and epidemiologic reality must be developed, in order to ensure that equitable, integrated, comprehensive, continuous, and quality care can be delivered to all.

The rising cost of care due to the adoption of new, high-end technology and medicines and to the influence of market forces further stresses the Region's health services. Advances such as genomics, nanotechnology, and proteomics undoubtedly can enhance health care. Ensuring that their use is appropriate and safe and controlling their effect on rising health care costs has not been easy, however.

Inefficiencies in managerial systems and practices also fuel higher costs of care in the Region. Undoubtedly, health care services, particularly hospitals, are one of the most complex systems to manage, but current inefficiencies generate waste

and detract from effective care. Lack of knowledge and competencies, coupled with poor use of information, hinder the decision-making process and lead to inadequate interventions. For example, although some managers are concerned with obtaining better and more sophisticated management information systems within their health services, evidence has shown that the information use and data analysis is poor, even when those sophisticated information systems are available. Moreover, many of the Region's health services suffer because managers are unable to move from decision to action and to adequately use the available information and resources to improve service output. In those health care services without performance evaluation systems, this flaw can become a chronic managerial weakness.

HEALTH TECHNOLOGY POLICIES

Within overall health policies, health technology policies provide a framework for setting medium- and long-term objectives in the public and private sector and for developing strategies and mechanisms for evaluation and control.

Although few of the Region's countries have integrated health technology policies, they have begun to be proposed. Brazil's 2010 adoption of a national health technology management policy that covers medicines, pharmaceutical care, science, technology, and innovation in health is an interesting case in point. In recent years, moreover, several countries in the Region have intensified efforts to integrate health technology into their health systems through the use of the Health Technology Assessment (HTA) toolkit.

As part of its *stewardship* function, health technology regulation must meet the objectives of protecting and promoting public health. This will require that the countries strengthen their regulatory authorities. In September 2010, the Directing Council of PAHO adopted Resolution CD50.R9, "Strengthening National Regulatory Authorities for Medicines and *Biologicals*" (76), which urges the countries to evaluate their national pharmaceutical regulatory authorities. As a result of the evaluations conducted as

of 2011 Argentina, Brazil, Colombia, and Cuba have been qualified as regional reference authorities.

Regulatory harmonization, an essential tool for correcting asymmetries among regulatory systems, offers countries—especially less-developed countries—health, economic, and technical advantages. The Pan American Network for Drug Regulatory Harmonization (PANDRH), comprised of health regulatory authorities, pharmaceutical industry associations, non-governmental organizations, professional associations, academia, and PAHO, has been working steadily for 14 years (76). The Region's countries are actively engaged in network activities through discussions on strategies, training programs, and the preparation of technical documents that support the various regulatory functions and the countries' integration of those documents into their legislative frameworks.

Since 2004, Brazil has had in place a pricing policy for new drugs based on HTA, while in 2009 Argentina created the HTA Unit to coordinate HTA studies among 14 institutions in the country. In 2010, Uruguay issued a decree requiring economic evaluations of drugs financed by the national resource fund. In 2011, Colombia passed legislation creating a National Institute for Health Technology Assessment, and Mexico established new criteria for adding technologies to the basic matrix, based on cost-effectiveness studies.

In addition, MERCOSUR countries (through its Subcommittee on the Assessment and Use of Technologies in Health Services) and the Andean countries have taken an important step in assessing *health technologies* with the approval of methodological guidelines that promote and facilitate the sharing of experiences and training activities among the countries of the Hemisphere. It was precisely the need to seek synergies and avoid the duplication of efforts in conducting HTA studies that led the countries to set up the Health Technology Assessment Network of the Americas (RedETSA from its name in Spanish) in 2011. Twelve countries initially joined this network, comprised of national health authorities and organizations of excellence in health technology assessment, whose purpose is to improve their ability to sustain decisions on innovation and the adoption, development, and use of *health technologies*.

INNOVATION AND HEALTH TECHNOLOGIES

The Region is experiencing a renewed interest in promoting health technology innovation, development, and production systems. For example, the Region's countries played a major role in the adoption of the Global Strategy and Plan of Action on Public Health, Innovation, and Intellectual Property (77) and its Regional Perspective (78), demonstrating their political commitment to working cooperatively on this issue. That said, health technology innovation and production systems in Latin America and the Caribbean vary markedly from country to country in terms of their degree of development. Even in countries such as Brazil and Cuba, which have made great strides in this area, success is confined to certain technologies without addressing many [health system](#) priorities related to the use of other essential technologies.

The Region faces a double-pronged challenge. On the one hand, it does not yet have the necessary products in hand for combating or preventing many of the neglected diseases that largely affect the Hemisphere's most vulnerable populations. On the other, the growing burden of chronic diseases in the countries requires major investments in expensive health products (79, 80). The countries have taken steps to turn this situation around, such as by allocating more resources for investing in new technology development and by adopting regulatory frameworks that promote innovation in health (81).

Subregional integration mechanisms, such as the Union of South American Nations (UNASUR), the Andean Health Agency (ORAS), and MERCOSUR and Associated States, have embraced the core elements of the global integration strategy. The Region continues to give priority to tackling the issue of intellectual property rights from a public health standpoint. To that end, Bolivia and Paraguay adopted an instrument known as "prior consent," similar to the one that Brazil uses for patent review by the drug regulatory authority. In another major development, the United States National Institutes of Health has ceded a patent for an antiretroviral drug to the patent pool created by the International Drug Purchase Facility (UNITAID). Furthermore, countries have

taken advantage of the flexibilities contained in the Agreement on Trade-related Aspects of Intellectual Property Rights (TRIPS): for example, Ecuador, with the national authorities' use of compulsory licenses, and Colombia, with the incorporation of the parallel importation mechanism in its legislation.

There are numerous and varied examples of the concrete steps that governments and other principal stakeholders are taking to bridge the gaps that hinder access to essential [health technologies](#). Argentina, for example, has passed a law creating the National Program for State Production of Vaccines, Sera, Reagents, and Medicines, which promotes access to medicines, vaccines, and other medical supplies and facilitates science and technology development through public production laboratories. The political will of the principal stakeholders and their desire to cooperate has yielded dynamic networks that transcend institutional barriers and geographical borders. For example, the use of medicinal plants is the province of the Andean Network for Research and Development of Amazon Medicinal Plants (RAPMA, from its name in Spanish).

In the Americas, the governments have put health technology innovation front and center on their agendas. Although gaps persist—coordination with the private sector is lacking, the productive sector does not take advantage of the plethora of scientific findings emanating from academia, and the progress made in this field varies widely among countries—the Region stands poised to become a key player in health technology innovation and to meet its people's needs in terms of essential strategic [health technologies](#).

MEDICINES, SERVICES, AND PHARMACEUTICAL POLICIES

In terms of pharmaceuticals, the countries cooperate through networks to promote information exchange and synergy. In addition to the Pan American Network for Drug Regulatory Harmonization (PANDRH) (82) that was created 14 years ago, the above-mentioned RedETSA and the Latin American

and Caribbean Network of Drug Information Centers (Red CIMLAC, for its name in Spanish) were founded in 2011 to promote critical analysis and independent information on medicines.

All subregions have established pharmaceutical policies: the Andean countries, updated in 2009; MERCOSUR in 2002; Central America in 2007; and the Caribbean in 2011. As of 2010, according to information gathered in 23 countries of the Region as part of the WHO project on pharmaceutical country profiles,⁷ 10 countries (43.5%) had established an official pharmaceutical policy and, of these, only 7 (30.4%) had an implementation plan (83).

A study on the content of available policies shows that most of them deal with such issues as the promotion of essential medicines, good manufacturing practices, the regulation of drug advertising and publicity, and good procurement practices. Other important questions related to drug management, such as the independence of the regulatory authority, the regulation of and access to herbal medicines, and agreements on intellectual property rights, are still not a priority. In the Pharmaceutical Policy of the Andean Subregion, the development of pharmaceutical services has been adopted as a strategy for improving access to medicines, recognizing the close link between access and the rational use of medicines (84).

The inclusion of medicines among health guarantees is critical to ensuring universal [access to health services](#). As of 2010, of the 20 countries that responded to this question in the pharmaceutical profile survey, 90.0% said they had a public health or social security system that provides medicines found on the National List of Essential Medicines (NLEM) at no cost to the patient. Further, in 85.7% of the 21 countries that responded, that insurance program or

plan covers medicines for the treatment of noncommunicable diseases. With regard to copayment, 39.1% (9/23) of the countries in the sample have this requirement at the point of dispensing (84). This percentage is high, given that WHO considers that any sort of direct payment by the patient at the time of care is a barrier to health service access.

Pharmaceutical coverage has been shown to affect access to medicines. Estimates of spending on pharmaceuticals (an indicator of access) in 21 Latin American and Caribbean countries suggest that disbursements by public institutions in 2008 accounted for just 22% of the total spent, while 78% corresponded to [out-of-pocket expenditures](#). In this regard, the annual average per capita out-of-pocket expenditure on medicines in Latin America and the Caribbean for that year was US\$ 97, with figures ranging from a low of US\$ 7.50 in Bolivia to a high of over US\$ 160 in Argentina and Brazil, evidence of this region's pharmaceutical gap (85).

Latin American and Caribbean countries have also advanced in recognizing the close relationship between access and the rational use of medicines as a way of coordinating needs, efficacy, safety, and use, as has been emphasized in the Pharmaceutical Policy of the Andean Subregion (85). In order to sustain this prospect and have it expand beyond isolated interventions, Bolivia and Nicaragua in 2010 launched a comprehensive strategy on the rational use of medicines, based on a regional proposal (86); other countries also are embracing this approach.

Several Latin American and Caribbean countries have made an evidence-based selection of their list of essential medicines (LEM) a priority because of its proven impact in fostering more efficient use of these products. In 2007, 24 countries reported having an up-to-date list of essential medicines, and 16 had up-to-date national drug formularies. There were 24 countries with pharmacotherapy committees and, of these, 12 had up-to-date national therapeutic guidelines. A 2010 survey (83) confirmed the same proportion of countries with LEMs, and in that year, CARICOM drew up a list of essential medicines for use in disasters. Although the majority of the Latin American and Caribbean countries reported that they used the list of essential medicines

⁷ WHO implemented the Pharmaceutical Country Profiles worldwide between 2010 and 2011. The questionnaire used to gather the information includes indicators on all areas related to medicines. By 2011, information had been collected from 23 countries. Up to 2010, information was collected on the countries' pharmaceutical situation, but that year questions were reformulated, making comparisons with earlier periods impossible.

for public-sector procurement, they still did not appear to give the list the importance it deserves as a reference tool for the health services, prescribers, and dispensers. In any case, several challenges remain when it comes to the rational use of medicines. For example, a 2005–2008 study in four countries of the Region estimated the use of antibiotics was inappropriate in over 50% of the patients who received them, while in the 2007 survey, only 12 countries indicated that they had a strategy for containing antimicrobial resistance (87).

According to data from 2008, 17 Latin American and Caribbean countries had general [regulations](#) covering all medicines, but these did not address the specifics of [biologicals](#), whose use has burgeoned, given their importance in the prevention, diagnosis, control, and treatment of disease.

Among mechanisms selected to improve access to medicines, the adoption strategies for the use of generics have not advanced as expected, possibly because there still is no general consensus as to what constitutes a generic drug and because of numerous prejudices and misinformation about their quality (88). In 2010, in a sample of 23 countries, 79% (17 countries) required the prescription of generics in the public sector, a figure that was 26.1% (7 countries) in the private sector (83). All (100%) of the sampled countries allow public-sector pharmacies to substitute generics, while only 72.7% permit it in private-sector establishments (83).

The supply of pharmaceuticals in most Latin American and Caribbean countries is both fragmented and segmented—as are the health services—which leads to duplication of efforts, inefficient use of resources, and poorer-quality services. Costa Rica, Cuba, and Peru, however, all have pharmaceutical supply systems that are centralized under a single, integrated model. Moreover, nine Caribbean countries that are members of the Organization of Eastern Caribbean States procure their drugs jointly through an autonomous procurement agency, enabling them to take advantage of economies of scale and to exercise quality control.

Joint procurement initiatives also have been undertaken to purchase expensive and hard-to-obtain medicines, as did the Central American

countries and the Dominican Republic in 2008, when they negotiated the price of 37 pharmaceuticals, resulting in a 46% cost reduction. Likewise, the Andean subregion adopted a resolution for the joint procurement of priority medicines through the PAHO [Strategic Fund](#). Price observatories also have been set up in the Central American Integration System, in MERCOSUR, and in the Andean-subregion countries. In the past five years, 19 of the 23 member countries that participated in the Fund as of 2011 have used the PAHO [Strategic Fund](#) to procure medicines and public health supplies, achieving more competitive prices and savings through economies of scale (89).

Public-sector vaccination schemes in Latin America and the Caribbean also have yielded outstanding results, reaching coverage levels that are among the world's highest: for example, 90% of the Region's children under 1 year old were vaccinated with DPT/pentavalent in 2010. Given the high cost of the newer vaccines and the emergency created by influenza A(H1N1), the countries have acknowledged that they need to boost regional production capabilities. One element key to the success of the immunization programs has been the creation of PAHO's [Revolving Fund](#), in which most of the Region's countries participate and which gives them access to 28 antigens prequalified by WHO.

With regard to pharmacovigilance, 18 countries reported an uptick in this function in 2007. Some countries, Argentina and Colombia among them, are broadening the reach of standardized practices in this field, while others have joined integration systems that have adopted regional pharmacovigilance reference documents (82). In 2004, for example, the sentinel surveillance network for rotavirus, pneumonia, and bacterial meningitis was created; since 2009, 15 countries and territories have been reporting on rotavirus and 9, on pneumonia and bacterial meningitis.

In terms of official drug quality control laboratories, which support the regulatory function, a 21-country network has been established. In recent years, a laboratory evaluation system has been set up to acknowledge these entities as international reference laboratories, empowering them to exercise quality

control over the drugs purchased by international agencies. In 2010 and 2011, the laboratories of Bolivia, Brazil, Peru, and Uruguay were prequalified as international reference laboratories for the United Nations.

BLOOD AND TRANSPLANTATION SERVICES

Nearly every Latin American and Caribbean country has legislation in place that specifically governs blood services.⁸ Notwithstanding, ministry-of-health leadership in this field remains weak, despite the fact that some countries do have regulatory entities.⁹ National organizations also coordinate activities related to blood services, among them the Costa Rican Social Security Fund, the National Blood Center of the Ecuadorian Red Cross, El Salvador's Laboratory Surveillance Unit, Mexico's National Blood Transfusion Center, Nicaragua's National Diagnostics and Reference Center, and Haiti's National Transfusion Safety Program. Coordination in the rest of the countries is handled by hospital blood banks or national transfusion centers.

From 2005 to 2009, the number of units of blood collected in the Region rose from 8,059,960 to 9,166,155 (Table 5.5) (90, 91, 92, 93, 94, 95), with the donation rate also rising during the period, from 145 per 10,000 population to 157.4. In 2009, 29 countries collected more units than in 2005. That same year, although annual collection figures fell in Cuba, the Netherlands Antilles, and Uruguay, these countries had the highest donation rates, at 295, 360, and 274 per 10,000 population, respectively. Bolivia, the Dominican Republic, Guatemala, Haiti, Honduras, Jamaica, Peru, and Saint Vincent and the Grenadines reported rates under 100 (88). Voluntary donation in Latin America and the Caribbean increased from 2,950,018 donations in 2005 to 3,308,996 in 2009, while the number of paid donors in the Dominican Republic, Honduras, Panama, and Peru fell from 15,507 to 11,323 in that same period. In

2009, Cuba, the Netherlands Antilles, and Suriname had universal voluntary donation.

In 2009, screenings for markers of transfusion-transmitted infections (TTIs) identified 319,996 positive units in the Region, leaving 8,846,159 available units, equivalent to 151.9 per 10,000 population. The proportion of units with positive markers ranged from a low of zero in the Netherlands Antilles to a high of 16.6% in Paraguay (median 3.1%)¹⁰ (90, 91, 92, 93, 94, 95, 96). While blood quality control programs improved considerably in Latin America and the Caribbean and screening for TTIs rose between 2005 and 2009, TTI screening did not reach 100%. In 2005, 95,962 units were not screened for hepatitis C, a figure that fell to 2,861 in 2009 (96). Unscreened units in 2009 numbered 1,708 for HIV, 1,371 for hepatitis B, 1,535 for syphilis, and 288,405 for *Trypanosoma cruzi*. Six countries did not have universal screening (96). An estimated 10 units were transfused with HIV, 7 with HBV, 16 with HCV, and 1,187 with *T. cruzi*. In 2009, every country in the Caribbean, with the exception of Barbados and Jamaica, participated in programs for the external evaluation of screening performance. Guatemala and Paraguay did not have national programs. Immunohematology performance evaluation was limited (88).

In 2005, 610,375 units of red blood cells or whole blood were discarded because they had expired; in 2009, the figure was 981,253. The value of the expired units of red blood cells and units with TTIs was US\$ 47,547,976 in 2005 and US\$ 72,869,944 in 2009. The high number of centers that process units of blood and the lack of standardized technical and administrative procedures were the principal factors for discarding the blood. Of the 9,166,155 units collected in 2009, 7,864,906 were transfused, or 135.1 per 10,000 population (88, 90).

⁸ Chile, El Salvador, and Mexico have no laws specifically governing blood services.

⁹ Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, the Dominican Republic, Guatemala, Honduras, Paraguay, Peru, Uruguay, and Venezuela have a regulatory agency.

¹⁰ The national blood availability has been shown to be inversely proportional to the maternal mortality rate (97).

TABLE 5.5. National blood systems, Latin America and the Caribbean, 2005 and 2009.

Variable	2005	2009	Difference
Units collected	8,059,960	9,166,155	1,106,195
Donation rate per 10,000 population	145	157.4	12.4
Voluntary donors (No. and %)	2,950,018 −36.60%	3,308,996 −36.60%	358,978 0
Paid donors (No. and %)	15,507 −0.19%	11,323 −0.12%	−4,184 −0,0007
Units separated into components (median)	77%	90%	13%
Screening (%) for markers of:			
HIV	98,910	99,981	1,071
Hepatitis B	98,834	99,985	1,151
Hepatitis C	98,809	99,968	1,159
<i>T. cruzi</i>	87,065	96,583	9,518
Countries with incomplete screening	Belize, Bolivia, British Territories, Chile, Colombia, Dominica, Guyana, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis	Antigua and Barbuda, British Territories, Dominica, Mexico, Peru, Saint Kitts and Nevis	−9
Units with TTI markers	238,696	319,996	81,300
No. and prevalence (median)	−3.11%	−3.09%	−0.0002
Number of expired units of red blood cells	610,375	981,253	370,878
Total discarded annually (No. of units)	849,071	1,301,249	452,178
Cost of discarded units (US\$ 56/unit)	47,547,976	72,869,944	25,321,968

Source: References (90, 91, 92, 93, 94, 95).

Although most of the Region's countries have kidney transplantation programs and laws regulating transplants, not all them are comprehensive enough to include a death diagnosis, authorization forms, a ban on organ trafficking, restrictions on the use of live donors who are not relatives, and control of organ and tissue distribution, as well as quality control and safety for both donor and recipient. Moreover, while transplants are increasingly becoming a systematic component of health care in Latin American and Caribbean countries, access to them is limited in low- and middle-income countries. Donor and transplant rates per million population in Latin America and the Caribbean remain low, and over 42% are from living donors (98).

International resolutions and guidelines on the principles for cell, tissue, and organ use are based on the countries' concern about this issue, especially given the changes in the Region's population profile and the alarming increase in patients with pathologies that might require a transplant during the clinical course of their disease. Even though some countries have national or regional organizations for managing the donation-transplantation process, there aren't enough hospital transplant coordinators and most hospitals have none. In 2010, 12,973 transplants were performed in Latin America, 10,112 of which were kidney transplants (42.4% from living donors); 2,168, liver transplants (7.7% from living donors); 350, heart transplants; 120, lung transplants; 210, pancreas transplants; and 13, intestinal transplants (98).

DIAGNOSTIC IMAGING AND RADIATION THERAPY SERVICES

International standards for radiological services require that countries have a national regulatory infrastructure for radiation safety and protection (99, 100). However, only 21 Latin American and Caribbean countries have such regulatory authorities and, where they exist, the technical capacity and resources are insufficient to perform the required functions.

The Region is benefiting to some extent from the dizzying development of interventional diagnostic imaging technologies and radiation therapy services. Depending on their income level, countries are embracing state-of-the-art technology to one degree or another, primarily in the private sector. In middle-income countries, the number of computed tomography teams per population is three times lower than in high-income countries, and only some 40% of this equipment is owned by the public sector (101). The fact that the planning of these services and the management of these technologies are not always adequate in the Region is also a matter of concern. Furthermore, procurement and maintenance costs are higher than in the industrialized countries, and the geographical distribution and periods of use are not very efficient.

Developing countries generally face several challenges when adopting these technologies, since they are almost always designed for use in industrialized countries (72). Consequently, many pieces of complex equipment are either underutilized or lie in disrepair due to poor maintenance capacity in the countries. The ineffective management of these technologies, including the lack of planning for the operation of the services prior to procuring the technology, is a root cause of this underutilization (102).

An estimated 3.6 billion diagnostic x-rays are performed worldwide each year, but this figure masks the wide disparity in radiological diagnosis rates between the developing and industrialized countries. In Latin America and the Caribbean, countries at an intermediate level of health development (22) perform some 400 radiological studies per 1,000 population annually, while the numbers for

those with low levels of health development (5) remained unchanged between 1997 and 2007, at 30 per 1,000 population. In the industrialized countries the figure is 1,700 studies per 1,000 population (103). Over half the world's population has no access to diagnostic imaging services (101).

In terms of radiation therapy, the use of cobalt therapy units continues to decline (40% used in Latin America and the Caribbean and 10% in the industrialized countries), while the use of linear accelerators (60% in Latin America and the Caribbean and 90% in the industrialized countries) continues to grow (104). Furthermore, although radiation therapy services have improved in recent years, many of the Region's countries still lack the necessary technology and human resources to provide this service properly and in a timely manner. This is a serious problem, given that malignant neoplasms are the second leading cause of death in the Region (70). In 2010, the industrialized countries had 6.6 teletherapy units per million population, while Latin America and the Caribbean had 1.3, with some countries exhibiting even lower figures or offering no services of this type. There were 7.8 radiation oncologists and 4.4 medical physicists per 1,000,000 population in the industrialized countries, compared to 2.2 and 1.0 in Latin America and the Caribbean, respectively (104).

Technological advances in diagnostic imaging and radiation therapy are changing the dose of radiation that patients receive. In digital mammography, for example, the dose of radiation per examination has decreased thanks to improvements in detection systems. In computed tomography, on the other hand, radiation doses have markedly increased, especially as a result of diagnostic radiology. The proportion of children undergoing these studies also has risen, and these young patients are at greater risk of radiation-induced cancer than are adults (105). Proper, evidence-based prescription of diagnostic imaging studies improves the quality of care and optimizes **health system** resources, eliminating tests that are of no benefit to the patient. Nevertheless, the use of these resources remains a challenge in the Region, even though some countries (such as Argentina, Canada, and the United States)

already have reference guidelines, and others (such as Colombia and Mexico) are currently developing them (106, 107, 108).

Quality assurance programs designed to obtain accurate diagnoses or efficient therapies improve the clarity of the image and reduce the dose of radiation to both patient and health worker (102). A 2008 study conducted in sentinel hospitals showed that the quality of the pediatric chest x-rays was not good and there were major differences in the doses of radiation and the quality of the images. Moreover, the shortage of properly trained professionals and technicians, especially medical physicists, puts patient safety at risk (109, 110). Patients receiving radiation therapy continue to experience adverse events in industrialized and developing countries alike, with potential harm to health and even death. A case in point is the situation seen in Trinidad and Tobago in 2010: more than 200 patients received an overdose of radiation and the effects on their health are being evaluated. In another event in Costa Rica, 115 patients were affected; two years after the event, at least 17 had died. Similarly, in Panama some 500 patients were affected, 28 of whom received a heavy overdose of radiation and 8 died (110, 111), arousing great concern among the health authorities, regulatory agencies, patients, the media, and the general public.

MANAGEMENT AND DEVELOPMENT OF HUMAN RESOURCES FOR HEALTH

While the issue of human resources for health varies considerably within the Region, the shortage in the absolute numbers of health workers seen in many countries, widespread distribution problems that manifest themselves in an overconcentration of the health workforce in major cities, and imbalances in occupational profiles and prevalent competencies are all matters of grave concern. Further stresses are brought to bear on this reality as a result of the aging of the population, the internal and international migration of health workers in search of better living and working conditions, and changing health needs, particularly the increasing burden of noncommunicable diseases (112).

Notwithstanding the troubling issues outlined above, the development of human resources policies, strategies, and plans, as well as the cooperation among the countries in search of effective responses to their most pressing problems, displayed sustained energy. A key element in this regard has been the strengthening of the ministries of health's capabilities to undertake a strategic management of human resources; this approach is designed to help make the sectoral policies of universal access and the expansion of service coverage a viable element in the renewal of primary care. Many countries have invested in developing leadership capacities in this field through dynamic training processes and the professionalization of human resources management, coupled with organizational restructuring and the elevating of the position of human resource management offices within the organizational structure.

Human resource policies in the Region have focused on increasing the availability of health workers and improving their distribution, putting the right competencies in the right places (mainly in family health teams at the first level of care in vulnerable or hard-to-reach communities), designing recruitment and retention strategies for personnel in underserved areas, improving hiring and working conditions, and establishing mechanisms for coordinating training interventions and training programs with educational institutions and the education sector as a way to achieve the desired changes in the health care model. Some studies have documented a positive correlation between an increase in health worker density or coverage by family health teams and improved health indicators, maternal mortality among them (113).

The countries reached new general agreement on various issues dealing with human resources for health toward the end of 2006–2010. One of them is the acknowledgment of the growing pressure that chronic diseases place on the health services, a situation that requires being able to better forecast and plan for future human resources needs, having regulatory frameworks in place that facilitate the optimal use of the health-team members, and establishing personnel management models. A second area of consensus is the need to improve health worker performance and increase productivity

to reduce current inefficiencies. And the third consists of the need for greater cooperation with the education sector in the design of joint strategies for strengthening integrated, geographically-based networks of health services, as well as the rollout of learning networks that take advantage of the new information and communication technologies to ensure quality people- and community-centered care (76). That said, the main challenge in today's international context will be to stabilize the workforce in terms of health needs; this will require creative strategies for managing mobility and the migration of health professionals (10).

AVAILABILITY AND DISTRIBUTION OF HEALTH WORKERS

A WHO report proposes a human resources for health (physicians, nurses, and midwives) ratio of 25 per 10,000 population to guarantee the advisable minimum level of coverage with the basic public health interventions (10). This proposal is based on a study of the global shortage of health professionals conducted by the Joint Learning Initiative, which suggests that in countries with fewer than 2.5 health professionals (physicians, nurses, and midwives) per 1,000 population, it is impossible to increase to 80% the proportion of women attended in childbirth by skilled personnel or measles immunization coverage.

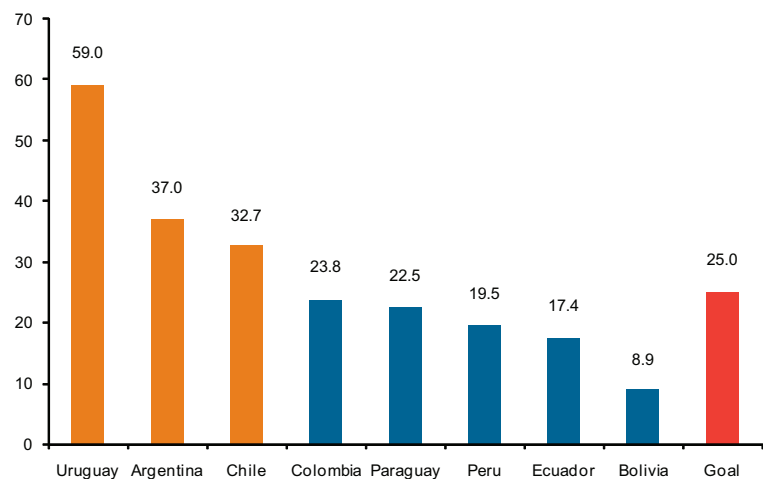
Although progress has been made in the availability of human resources in several countries, with some of them even exceeding the goal, another sizable number of countries have work ahead to approach the established ratio. It also should be emphasized that this information does not indicate the distribution of personnel within each country, either geographically or in the public or private sector. By way of example, the text below describes the situation in two countries: first Chile—

a country that exceeds the goal—and then Peru—a country that has made progress but has yet to reach the goal, among other reasons, because of the phenomenon of migration. Figure 5.2 shows the human resources situation in South America in 2009–2010.

In 2009, Chile reported almost 30,000 physicians, with a ratio approaching 18 physicians for every 10,000 population. A look at their geographical distribution, however, reveals that 73% of these professionals are located in the country's central area near the capital, with a ratio of 21.2 physicians per 10,000 population, while in the country's northern region, that ratio drops to 12 per 10,000, almost half that of the central region (92).

In Peru, 47.7% of health workers are concentrated in Lima and Callao. And here there also are marked contrasts between different parts of the country—for example, between Lima, with 15 physicians per 10,000 population, and Ayacucho, with only 5. In both countries, the heavy presence of health workers in urban areas, especially near the capital, is directly correlated with the high concentration of hospital health professionals, at the expense of community practices based on the primary care model.

FIGURE 5.2. Ratio of human resources for health per population, selected countries in South America, 2009–2010.



Source: Pan American Health Organization, Human Resources Project, Measurement of Goals, 2010.

MIGRATION OF HEALTH WORKERS

The migration of health workers is a growing problem in the Americas. This phenomenon particularly affects Caribbean and some Central American countries, but its effect is also beginning to be felt in South America. Because of the problems it creates for the health systems, the issue of migration is being taken up in several international forums that are searching for effective ways of dealing with the situation. A key factor in migration is active international recruitment, an issue that was the focus of the agenda of the Ibero-American Conference of Ministers of Health (Montevideo, 2006) and has been addressed in recent WHO and PAHO resolutions.

Estimates for the English-speaking Caribbean put the number of nurses working abroad as threefold those who work in the country where they were trained. The main destinations are the United States, the United Kingdom, and Canada (114). In the subregion as a whole, 42% of nursing posts are vacant due to emigration, with Jamaica (58.4%) and Trinidad and Tobago (53.3%) showing the highest numbers (115).

Another factor in health personnel migrating abroad, and one that especially affects the Andean subregion, is Spain's accreditation of degrees in the health professions, with the number of accreditations for professional nurses from the six Andean countries climbing from 89 in 2002 to 871 in 2008. Between 2002 and 2009, 3,313 Andean nurses had their degrees accredited in Spain, and the number of medical degree accreditations soared from 246 in 2002 to 3,534 in 2009. In 2002–2009, 15,669 physicians from the six Andean countries had their degrees accredited in Spain (Figure 5.3). A total of 18,998 nurses and physicians had their degrees accredited during that period; 7,353 of them were from Colombia and 5,252, from Peru, with the two countries accounting for 66.4% of the total (116).

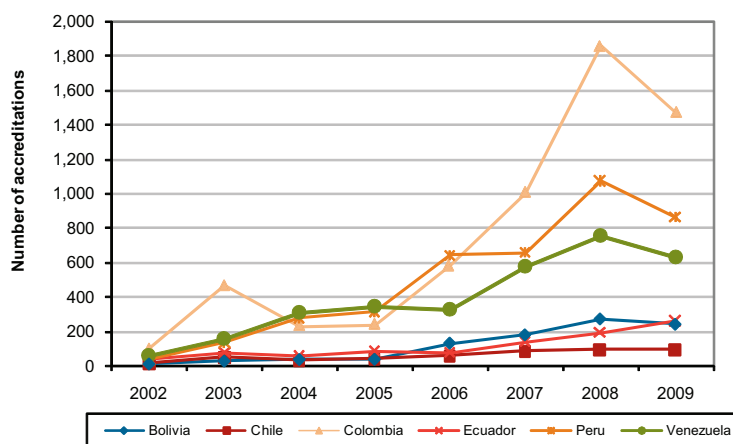
HUMAN RESOURCES PLANNING

Addressing the problem of human resources for health from a public policy standpoint is making it possible to identify the factors that are driving health worker imbalances in the Region's countries. There is some agreement that urban-rural inequalities, the inadequacies of medical education, migration, the brain drain from the public to the private sector, and the lack of economic incentives are the key factors driving these gaps, to which must be added a lack of incentives for health professionals' personal and professional development, especially for physicians (117).

In order to find solutions to these problems in the Region, several complementary lines of action are being studied with respect to human resources plans and policies, including economic and professional development incentives, undergraduate curriculum reforms and the decentralization of training centers, redefinition of professional profiles to adapt them to the primary care model, growing use of new computer technologies, and an integrated approach to the phenomenon of health worker migration.

The challenges described also suggest the urgent need for countries to know the current availability of health workers and their distribution and current and future needs, so that goals concerning human resources for health can be

FIGURE 5.3. Accreditation of medical degrees in Spain by nationals of the six Andean countries, 2002–2009.



Source: Undersecretariat of Degrees and Accreditation of Qualifications, Ministry of Education of Spain.

met. To this end, one of the countries' priority tasks will be to steadily strengthen information systems on human resources for health; the evidence stream will facilitate the preparation of long-term plans that can ensure that the necessary personnel, with competencies adequate to the needs of the work location, will be available.

The initial challenges for these planning processes lie in determining the necessary composition and profiles of the health teams involved in primary care, and in estimating the current and future gaps with respect to human resources for health that will have to be reduced to offer the entire system a viable and effective response. In the analysis of productive capacity, both infrastructure and technology, these decisions must consider each country's demographic and epidemiologic profile and financial situation. To date, human resource planning initiatives in the Latin American and Caribbean health sector have stressed the identification of shortages by profession. In the future, with health systems based on primary care, it will become necessary to continue adopting methods for estimating the needs of multidisciplinary teams. A major step already taken in this direction has been the countries' growing awareness of the need to intensify intersectoral coordination in the formulation of human resources plans that begin with a definition of the priority areas for health systems and services development.

WORKING CONDITIONS IN THE HEALTH SECTOR

In recent years, the Latin American and Caribbean region has experienced a strong recovery that, in addition to allowing the region to attain a series of socioeconomic indicators similar to those seen prior to the crisis of the 1990s, has helped to restore the State's role as mediator of social conflicts and guarantor of the system's continuity. The expansion of the domestic market and the increase in public investment have been central to the State's recovery, still weakened and scarred by strategies and structures devised in very different times. This recovery process has implied reviewing the management of

human resources in health, understanding that this process involves a complex array of interacting, interconnected dimensions that make it a critical component of the quality of care and efficiency of health systems and services.

Although there is evidence that hiring practices in the Region's health sector have improved, the situation is still unsatisfactory in terms of employment and working conditions. Clearly, the state of working conditions in the health sector is an issue that has yet to be resolved (118). It also can be said, however, that nearly every country in the Region, most notably Argentina, Brazil, El Salvador, Paraguay, and Peru, is striving to examine, define, and improve the structures and functions involved in the strategic management of human resources (119).

One of the leading human resources management problems in the Americas in the 1990s was brought on by changes in hiring conditions and the consequent vulnerability that they created for health workers. Since the early 2000s, social dimensions (work, health, education) have been considered aspects central to development, and this has had an impact on hiring conditions. Even an incomplete mapping of the different types of employment conditions for health workers in the Region paints a picture of great fragmentation, with multiple hiring and payment practices (120) (Table 5.6).

Studies show that changes in hiring policies in the Region's health sector have had major consequences, resulting in employment rates that are much higher than those seen in the previous decade (121). The data clearly show the changes in human resources management policies in several countries, especially in the hiring category, where sound measures to reduce vulnerability, along with several other professional incentives, were introduced. Brazil's is a success story. The country adopted new policies and actions designed to reduce health workers' vulnerability by developing job, career, and wage plans; offering training and continuing education; and promoting a responsible dialogue during labor-dispute negotiations—all of them indispensable for the smooth operation of the country's Unified Health System (122). As part of the effort to reduce the vulnerability of health workers, several of the Region's countries

TABLE 5.6. Employment conditions in fragmented systems—hiring and payment modalities.

Organization of service delivery		Type of employment	Contract	Payment mode
Public (Ministry of Health and decentralized entities)	Public health services	Salaried (protected and unregistered salaried workers)	Indeterminate period	By time
	Ambulatory services	Semi-salaried	Short-term (flexible)	By service
	Public hospitals			Per capita
	Projects Extension of coverage Outsourcing (cooperatives)			By goals
Social security	Own services	Salaried (protected)	Indeterminate period Short-term	By time By service Per capita
	Contracted/outsourced services (cooperatives)	Salaried Semi-salaried	Short-term	By time By service Per capita
Private	Insurance company services	Salaried Semi-salaried Independent	Short-term	By time By service
	Medical companies	Salaried Semi-salaried Independent	Short-term	By time By service
	Private practice (physicians)	Independent	Own account	By service
NGOs	Own services	Salaried	Short-term	By time By service
	Outsourcing and other modalities	Salaried Mixed	Short-term	By time By service

Source: Reference (120).

also have launched initiatives to develop a “public health career path” through measures ranging from federal directives in Brazil to career legislation in countries such as the Dominican Republic, Guatemala, Nicaragua, Paraguay, and Peru (123).

SITUATION AND TRENDS IN HEALTH EDUCATION

Information on the number of institutions that train health workers is not available for every country in the Region. The figure is estimated at 682 medical programs or medical schools, 160 of them in the United States and 170 in Brazil, accounting for 48% of all such institutions in the Region (124). Nursing-education data are even more limited, given the sheer numbers of institutions. Brazil, Mexico, and the United States alone—where some 600 million people live—have more than 2,300 nursing schools, whose ranks have dramatically increased in recent

years due to their location in private educational institutions. Estimates put the number of nursing schools in the rest of the countries at 500.

Many nursing and medicine programs in the Region have put forward new educational approaches, such as those that rely on problem solving or those that incorporate community-based programs. Some institutions of higher learning, such as the University of Medical Sciences of Havana, have introduced significant changes in medical education; under these programs, first-year students work in polyclinics and medical offices (primary care units), where they spend 75% of their time learning on the job.

A recent study shows that the training of health technicians in the Southern Cone is still driven by market forces that contribute to an exacerbation of social inequalities in each country and in the Region as a whole (125). These countries have a long way to go in introducing new orientations in health

education and adopting innovative strategies to improve vocational training programs in health. In this regard, the Health Agenda for the Americas points out that “Human resource education continues [to be taught] through traditional modalities that frequently do not encourage the development of leadership and creativity” (41).

EDUCATING PROFESSIONALS IN PRIMARY HEALTH CARE

Most of the Region’s countries have committed themselves to the primary care strategy and integrated networks of health services. To that end, they are proposing specific plans and educational policies at this level of care. In 2007, a study on training in primary care at nursing schools in the Southern Cone found that most of the countries in the group had made this strategy the foundation of their curriculum, stressing the concept of health in the different stages of the life cycle, health promotion, and disease prevention, with considerable emphasis on community health practices (126).

Within this framework, Brazil set itself the goal of training some 52,000 professionals during 2008–2011 through a specialty program in family health. It also instituted a strategy in which academic institutions and the health services work together to meet the needs of the Unified Health System (127). Peru created the National Training Program in Family and Community Health for first-level health professionals, an initiative that grew out of the dialogue, discussions, and consensus built by a sectoral commission comprised of government institutions and health professionals.

There is widespread recognition that medical residencies are an important component of policies governing human resources for health due to the predominant role of specialists in the health services. This can be corroborated by examining the funding that ministries of health provide to train specialists through medical residencies. Data from 14 countries in the Region on the residencies offered in 2009 and 2010 show that there are generally more slots in surgery, pediatrics, clinical medicine, critical care, diagnosis, and therapeutics (128). With the exception

of Cuba, 43% of all residencies awarded were concentrated in the basic specialties. The number of residencies awarded in general and family medicine point to a quantitative increase in most of the countries, although the percentage growth has been relatively lower than that of the specialties. Only 14% of the slots awarded for the basic specialties are in general and family medicine—once again, with Cuba being an exception. The percentage of residencies awarded in family medicine fell from 41% in 2000 to 18% in 2010. Some countries in the Region have begun to provide non-physician residencies for the health team, an area in which Argentina has the most experience, with a single- or multiprofessional modality (Table 5.7) (128).

Only two of the Region’s countries—Canada and the United States—have a matrix of medical competences for identifying existing gaps in the capacity of personnel to perform the essential public health functions. The initial exercises in measuring the attainment of regional goals in the Andean countries suggest a troubling situation in terms of public health competencies and the intercultural approaches of the primary health teams, as well as

TABLE 5.7. Total annual residency slots, countries of the Americas, 2010.

Country	Number
Argentina	3,365
Bolivia	424
Brazil	11,263
Chile	659
Colombia	852
Costa Rica	225
Cuba	4,801
Dominican Republic	683
El Salvador	158
Honduras	300
Mexico	6,122
Paraguay	306
Peru	1,391
Uruguay	246
Total	30,795

Source: (Reference 128).

the managerial competencies of those who administer services and programs. In light of this situation, the countries have committed themselves to setting up mechanisms to coordinate with the national institutions that oversee educational matters to ensure that the profiles and qualifications of future professionals are consistent with a public health orientation and with the health sector's needs. They also have agreed to develop competency matrixes for family and community health teams, with special emphasis on interculturalism; adopt learning policies; and buttress the eLearning strategy with a continuing education approach.

The strategies for establishing or improving coordination between the ministries of health and of education include regulating quality through accreditation systems (124, 127). At least 27 countries in the Region have accreditation systems for medical education. The countries have forged promising alliances for evaluating the standards proposed by the Ibero-American Network for Higher-Education Accreditation (RIACES, from its name in Spanish) for physicians, which put primary care at the heart of the training. These efforts are a good example of the coordination between the health and the education sectors and the specialized accreditation agencies. Finally, the MERCOSUR countries have been working for the past decade to harmonize their health legislation and sanitary control systems (129).

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GLOSSARY

Access to health services

How people perceive and experience the ease in reaching health services or health facilities in terms of location, time, and ease of approach (130).

Accessibility (of health services):

Aspects of the structure of health services or health facilities that enhance people's ability to reach a health care practitioner in terms of location, time, and ease of approach (130).

Actual consumption

Actual final consumption by households includes household out-of-pocket expenditures, plus the value of health care goods and services in kind received from social security or social health insurance institutions, government final consumption expenditures in health care goods and services of individual and collective consumption, and the final expenditures in health care goods and services by nonprofit institutions, net of sales (131).

Adverse event ratio

The number of adverse events over the total number of studied patients.

National health authority

The State agency charged with stewardship of the health system and its actions, as well as its regulation and control. In practice, it is the ministry of health or its equivalent.

Catastrophic event

The definition of a catastrophic event in health varies, as does the methodology used to measure it. Most studies define an event as catastrophic as a function of its impact on household income and, thus, on poverty levels. The World Health Organization defines financial catastrophe in terms of the ability to pay—such as direct expenditures of over 40% of the household income on health care, once basic needs are covered. There is no consensus, however, on the definition of this threshold, which according to the authors, ranges from 5% to 30% (38, 39).

Revolving fund

Collective mechanism for cooperation whereby vaccines, syringes, and related supplies are purchased on behalf of PAHO Member States.

Essential public health functions

The health actions that must be carried out for specific purposes, necessary for the attainment of the central objective, which is likewise the purpose of public health, which is to improve the health of populations (132). Briefly, they are a set of basic actions that governments should undertake to improve the health of the population.

Governance

“... the exercise of economic, political and administrative authority to manage a country's affairs at all levels. It comprises the mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations and mediate their differences” (133).

Health governance

“... the actions and means adopted by a society to organize itself in the promotion and protection of the health of its population. The rules defining such organization, and its functioning, can be formal (i.e., Public Health Act, International Health Regulations) or informal (i.e., Hippocratic oath) to prescribe and proscribe behavior. The governance mechanism can be situated at the local/subnational (i.e., district health authority), national (i.e., ministry of health), regional (i.e., Pan American Health Organization), or international (i.e., WHO) level. Health governance can be public, private or a combination” (134).

Health policy

Decisions by the government—on behalf of the public—that are related to or influence the quest for the health and well-being of the population (135).

Health system

(i) all the activities whose primary purpose is to promote, restore and/or maintain health; (ii) the people, institutions and resources, arranged together

in accordance with established policies, to improve the health of the population they serve, while responding to people's legitimate expectations and protecting them against the cost of ill-health through a variety of activities whose primary intent is to improve health (130).

Hospital-centrism

Supply-oriented provision of fragmented episodic curative services that requires a predominance of medical specialists organized around hospitals, with a high dependency on costly technologies, and with serious deficits in quality and patient safety.

Institutionality of social policy

Formal and informal rules of the game that serve to process and prioritize social problems. The following characteristics define an institutional policy: it arises from a political and social accord to solve a specific problem, it sets clear objectives and goals and includes mechanisms to evaluate their performance, it establishes specific obligations and rights for each relevant actor, and it defines norms and rules of behavior (17).

Out-of-pocket expenditures

The sum of all out-of-pocket payments (OOP) made by individuals. OOP for goods or services include: (i) direct payments—payments for goods or services that are not covered by any form of insurance; (ii) cost sharing—a provision of health insurance or third-party payment that requires the individual who is covered to pay part of the cost of health care received; and (iii) informal payments—unofficial payments for goods and services that should be fully funded from pooled revenue (136).

Primary health care (PHC) approach

“... an overarching approach to the organization and operation of health systems that makes the right to the highest attainable level of health its main goal, while maximizing equity and solidarity. Such a system is guided by the PHC principles of responsiveness to people's health needs, quality orientation, government accountability, social justice, sustainability, participation, and intersectoriality” (18).

Policymaking capacity

“... the ability to structure the decision making process, coordinate it throughout government, and feed informed analysis into it”(137).

Public policies

Authorized decisions made by executive, legislative, and judicial entities that result in regulations, laws, standards, taxes, and other economic incentives or deterrents. Their application produces behavioral changes—in institutions, groups, or individuals—that are necessary for meeting established policy objectives.

Biologicals

Vaccines, allergens, antigens, blood and plasma products, immunological sera, immunoglobulins, antibodies, products manufactured through recombinant technology, etc.

Regulations

A type of public policy that serves as the primary vehicle enabling agencies to implement laws. Regulations are specific standards or instructions that state what may or may not be done by individuals, businesses, and other actors (138).

Social policy

All forms of collective intervention (by the State and civil society) that contribute to the general welfare (139). It is understood as a type of public policy that deals with the way societies respond to social problems and needs—for example, how families organize their lives, how social protection is provided, or the response to unemployment and poverty.

Stewardship

Stewardship may be described as the exercise of substantive power and responsibility for public health policy in the context of new relationships between government and society in the modern state.

Strategic Fund

The Pan American Health Organization created the Strategic Fund in 2000 to facilitate the acquisition of strategic public health supplies in its

Member States. By providing technical support in procurement, the Fund promotes the continuous availability of quality strategic supplies at low cost. It also helps to build capacity in drug supply management and procurement programming and planning at the national level. The Strategic Fund is also known as the Regional Revolving Fund for Strategic Public Health Supplies.

Health technologies

The use of organized knowledge and skills structured as devices, medicines, vaccines, procedures, and systems developed to solve a health problem and improve the quality of life (WHA

60.29). Health technologies also include biologicals and biotechnology products; blood and blood products; human cells and tissues; laboratory supplies; diagnostic imaging; radiation therapy; and medical equipment.

Universal coverage

The term implies that financing and organizational arrangements are sufficient to cover the entire population. Universal coverage removes the ability to pay as a barrier to accessing health services and protects people from financial risk, while providing additional support to meet equity goals and implement health-promoting activities (18).