Chapter 1

A Century of Public Health in the Americas

Health is a powerful tool for making a safer and durable world for all. For those who really want to "talk the talk" and "walk the walk," it is a moral imperative to make inequities visible. (*1*)

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INTRODUCTION

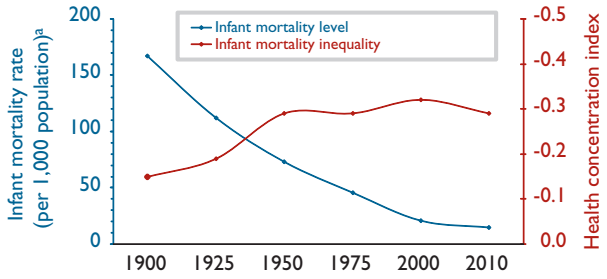
The Region of the Americas is a geographically vast, historically rich, and ubiquitously beautiful land. It also is a region of stark and contrasting realities—in its population's health and human development and

in the interplay of social, economic, environmental, and political determinants. These disparate traits have been increasingly scrutinized, documented, and targeted since the Pan American Health Organization (PAHO) came into being in 1902. Without question, in the intervening 110 years the Region has made remarkable strides in improving the health of its people. But inequities persist, and this fact will inspire and guide the Region's collective effort to usher in a better future—a future that is healthier, wealthier, fairer, and more equitable.

At the beginning of the 20th century, there were 194 million people living in the Region (102 million in North America and 92 million in Latin America and the Caribbean). By 2010, North America's population had tripled, and the population of Latin America and the Caribbean had grown six-fold; the Region's population is expected to reach one billion in seven years (*2*, *3*). In 1900, the Region was beginning to confront the first wave of globalization that followed the great industrial revolution of the late 1800s; in 2010, the Region faced the second globalization wave that followed the great technological revolution of the late 20th century . Back in 1900, the median age was 23 years and the ageing index was 14 (in other words, there were 14 people aged 65 and older for every 100 people younger than 15). By 2010, the median age was 31 years and the ageing index was 37. Moreover, in the intervening 110 years, the population structure changed dramatically (Figure 1.1) and massively shifted from being predominantly rural to being predominantly urban (*4*, *5*).

The Region of the Americas has made remarkable strides in population health. In the last 110 years, the infant mortality rate decreased from 167.4 per 1,000 live births in 1900 (229.1 in Latin America and the Caribbean; 145.0 in North America) to 15.2 in 2010 (20.3 in Latin America and the Caribbean; 6.6 in North America): that is, on average, an astounding 11-fold reduction (22-fold in North America) in the absolute risk of dying before reaching age 1 (Figure 1.2, left scale). In simpler terms, in 1900, one out of every four babies born in Latin America and the Caribbean and one out of every seven babies born in North America would not live to see their first birthday. A century and a decade later, 99% of babies in North America and 98% of babies in Latin America and the Caribbean have already survived beyond their first

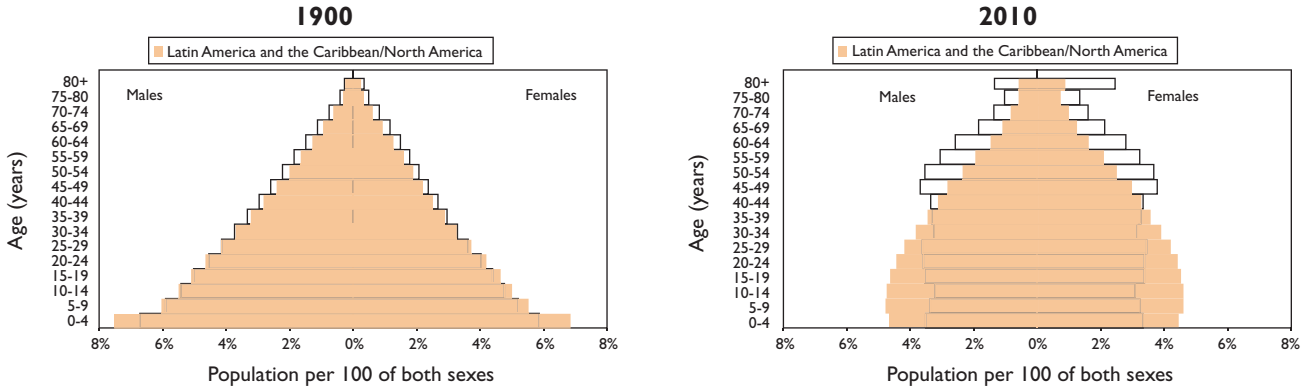
FIGURE 1.2. Historical trends in infant mortality level and inequality, Region of the Americas, 1900–2010.



Source: Reference (7).

[a] Total population as proxy for live-birth population.

FIGURE 1.1. Population structure, by age and sex for main subregions, Region of the Americas, 1900 and 2010.



Source: United Nations Population Division. Pyramids generated by PAHO/WHO with Epidat 4.0®, 2012.

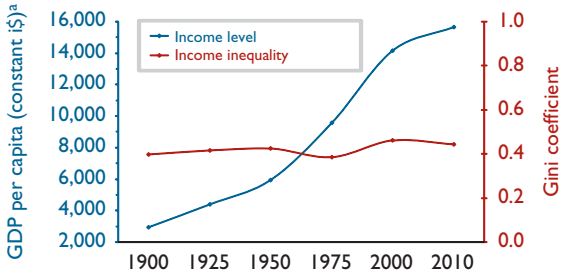
year of life and have a very good chance of making it through childhood, adolescence, adulthood, and old age.

Life expectancy at birth rose from 40.9 years in 1900 (48.0 in North America; 29.2 in Latin America and the Caribbean) to 75.8 years in 2010 (78.6 in North America; 74.2 in Latin America and the Caribbean): that is, a solid absolute gain of 35 years in the expectation of life at birth (31 in North America; 45 in Latin America and the Caribbean), which is, on average, just 15% short of doubling it from the previous century (*6*, *7*, *8*). In other words, a baby born in the Americas in 1900 had only 41 years to live, learn, work, start a family, and contribute to society; a baby born this very day in our Region will live almost twice that long and will probably be able to see his children and perhaps even his grandchildren grow and become parents themselves.

Thanks to the welcome availability of sound, comparable, historical data series,[1] it now can be documented that those remarkable strides in the Region extended beyond the health of its population, reaching its major determinants, as epitomized by the trends in income and education (*7*, *9*, *10*). From 1900 to 2010, the income per capita (in purchasing power-comparable, inflation-controlled 1990 Geary-Khamis dollars) (*11*) rose, on average, fivefold, from GK$ 2,921 to 15,660 (from GK$ 4,012 to 30,596 in North America; from GK$ 1,196 to 6,973 in Latin America and the Caribbean) (Figure 1.3, left scale). In the same period, the national primary education enrollment ratio of the population aged 5–14 went up, on average, from 61.1% (94.7% in North America; 18.7% in Latin America and the Caribbean) to 96.8% (97.9% in North America; 96.2% in Latin America and the Caribbean), which speaks to the remarkable expansion—particularly in Latin America and the Caribbean—of human capital in the Region.

[1] The reader is directed to the list of references at the end of this chapter, including Maddison's, Benavot-Riddle's, Montevideo-Oxford's, Sánchez-Albornoz's, and Abouharb-Kimball's databases, among others listed there. The numerical estimates and aggregates offered here may differ from others presented elsewhere in this publication.

FIGURE 1.3. Historical trends in inter-country income level and inequality, Region of the Americas, 1900–2010.



Source: Reference (*7*).

[a] In 1990 international Geary-Khamis dollars.

These gains notwithstanding, the Americas also experiences—simultaneously and contrastingly—persistent inequities both in its health and in its social realms. In fact, there is plentiful evidence currently available that points to the latter as being determinants of the former: persistent social inequities are determinants of persistent health inequities. With this understanding, unambiguously advanced by the WHO Commission on Social Determinants of Health, comes the realization that the reduction and elimination of health inequities only can be attained by acting on the social determinants of health across the whole spectrum of the social gradient.

An exploratory analysis of the available historical country-level data (*12*) shows that, despite the documented rise in income level, the inter-country income inequality, as measured by the Gini coefficient, barely changed during the historical period examined. In 1900, this Gini index was 0.40; in 2010, it was 0.44 (Figure 1.3, right scale). Moreover, in 1900, the income share for the countries in the poorest quintile of the population was 6.3%, and that of the richest was 7.4 times greater (the so-called Kuznets ratio). In 2010, the share of the poorest quintile was down to 5.3% and that of the richest quintile was now 9.6 times greater.

Consistent with the social determination of health approach, these historical inequalities in the distribution of income (and wealth) in the Americas reproduce—determine—inequalities in the distribution of health. In an analogous methodological

approach, the inequality in the absolute risk of dying before age 1, as measured by the concentration index of the infant mortality rate, has not improved in the last 110 years, again despite the remarkable success in reducing the average infant mortality rate highlighted above. In fact, the relative health inequality seems to be worsening: back in 1900, the health concentration index was –0.15; in 2010 it was –0.29 (Figure 1.2, right scale). In 1900, the countries in the poorest quintile of the population concentrated 28.4% of all infant deaths in the Region; in 2010, they concentrated 38.0% (the associated Kuznets ratio went up from 2.1 to 4.2). The same pattern and trend, although somewhat attenuated, is reproduced with the country-level social gradient defined by access to primary education.

Upon reflecting on the sweep of changes experienced in the Americas over the last 110 years, it is possible to be convinced that the Region's countries have collectively succeeded in making this part of the world healthier and wealthier. However, upon reviewing more recent developments in the population's health and its determinants in the Americas—as documented in this publication's chapters—the picture does not seem quite so rosy. The Pan American Health Organization, working hand in hand with the countries' governments, leaders, and communities, and with our partners, must now "walk the walk" and march forward to make this Region a more equitable and sustainable home.

HISTORICAL VIEW

THE EARLY YEARS: 1900–1920

The first 20 years of the 20th century saw important discoveries about the role of vectors in disease transmission. Governments launched policies and undertook actions at the international level to prevent and control diseases, including the creation of an agency specifically devoted to health in the Americas. In 1901, the Second International Conference of American States, held in Mexico, proposed the establishment of a "general convention of representatives of the health organizations of the different American republics" charged with creating agreements and regulations and convening periodic conferences on health. To this end, the First General International Sanitary Convention of the American Republics was held on 2 December 1902 in Washington, D.C. The convention established the International Sanitary Bureau, which was renamed the Pan American Sanitary Bureau in 1923 and finally the Pan American Health Organization in 1958 (*13*).

Also notable during these years was the United States' plan to construct the Panama Canal. In 1901, the Yellow Fever Commission, headed by Walter Reed, confirmed that the *Aedes aegypti* mosquito was the single vector of this disease, an observation made previously by the Cuban physician Carlos Finlay. Beginning in 1904, the United States took over the management of the Panama Canal Zone, where there was a high incidence of yellow fever. William Gorgas, formerly the principal health official in Cuba, was assigned to supervise health measures in the area (*14*).

Brazil and Cuba also were struggling to control yellow fever at this time. As part of that effort, Cuba, in 1905, published 3,000 copies of the *Heath Practices Handbook*—directed to public health officials, physicians, and other government employees—along with more than 50,000 pamphlets on yellow fever prevention and on children's hygiene (*15*). In Brazil, Oswaldo Cruz, of the Federal Serotherapy Institute (today the Oswaldo Cruz Foundation), relied on methods similar to those being used by the Panama Canal Zone's health brigades. Under his leadership, yellow fever was temporarily eliminated from Rio de Janeiro. A few years later, Carlos Chagas, an investigator at the Oswaldo Cruz Foundation, described American trypanosomiasis, or Chagas' disease, and discovered both the vector (*Triatoma infestans*) and the causal parasite (*Trypanosoma cruzi*) responsible for this infection (*16*).

GROWTH AND DEVELOPMENT: 1920–1960

During the 20th century's middle decades, public health concepts began to evolve. In 1920, C. E. A.

Winslow expanded the definition of public health to "the science and art of preventing disease, prolonging life and promoting health through the organized efforts and informed choices of society, organizations, public and private, communities and individuals" (*17*).

In 1924, in Havana, Cuba, 18 countries approved a draft of the Pan American Sanitary Code, which 17 of these countries subsequently ratified between 1928 and 1931. The Code sought to prevent the international spread of communicable infections, promote cooperation to protect health, standardize morbidity and mortality statistics, promote the exchange of health information, and standardize disease-protection measures. The Code was the first major step toward the framing of a regional health policy (*18*).

In the 1930s, health issues expanded beyond infectious diseases to include human resources development, the dissemination of public health information, maternal and child health programs, and systems for technical cooperation and assistance. These years also saw the development of bacteriostatics, antibiotics and vaccines for mass administration, the production of the diphtheria antitoxin, and the implementation of programs for the control of tuberculosis and venereal diseases (*15*).

In the 1950s, PAHO and public health authorities continued to focus on disease eradication, specifically of yaws and malaria. In Haiti, yaws had a prevalence of 40% to 60% in the rural population. In 1950, Haiti, with the support of PAHO and UNICEF, launched a campaign against this disease using the new antibiotic penicillin, and by 1958 there were only 40 infectious cases recorded nationwide (*19*).

In terms of malaria, an ambitious effort to combat the disease was launched in 1954, involving spraying dwellings with DDT and treating patients with new antimalarial drugs. From then on, national campaigns were carried out every five to eight years. Academic centers in Brazil, Mexico, the United States of America, and Venezuela developed research-and-training programs in malariology built capacity for the management of specific programs. By the early 1970s, mortality associated with malaria had been significantly decreased in the Region (*20*).

Evolution and Revolution: 1960–1990

The 1960s brought new advances in public health. Many of these built on special meetings that had been held in the previous decade, such as those in Viña del Mar, Chile (1954), and Tehuacán, Mexico (1955), which promoted the incorporation of "social and preventive medicine" in existing and new schools of public health and in medical schools. The University of São Paulo, Ribeirão Preto campus, in Brazil, and the University of Cali, in Colombia, were pioneers in this regard and in the introduction of "community medicine" (*21*).

After making significant advances in the control of several infectious diseases, and upon the arrival of antibiotics and the polio vaccine, health agencies and public health institutions began to establish programs for mental health, workers' health, and environmental health; they also began to focus on the organization and financing of the health services, including hospitals. The yawning gap between health care provided in urban areas and that provided in rural areas became a major concern: the health policy debate then shifted from promoting rural health posts, to building regional hospital systems that could provide referrals, to, ultimately, the development of national health systems (*22*).

As it increasingly acknowledged the intimate relationship between socioeconomic status and health, the Region advanced toward strategic health-sector planning. To that end, the countries developed "ten-year public health programs," followed by national health plans and by planning units within the ministries of health (*23*).

In the 1960s, regionalization and centralization strategies also became part of the development of national health systems. The first regional health system in Latin America—the National Health Service of Chile—was created by Leonardo Bravo and Abraham Horwitz, who attempted to unify the country's fragmented prevention and treatment medical services under a single management scheme. Similarly in Puerto Rico, Guillermo Arbona established a regional health system, with regionalization being understood as the "delegation" of authority and responsibility from the central level to the regional level, and from the regional level to the local level (*24*).

In 1964, the Rockefeller Foundation and the United States Agency for International Development (USAID) undertook a study intended to steer the development of medical systems in resource-poor areas of developing countries. The study, published in 1969 and covering 21 countries, pointed out that many people in the world had no access to health care. The study emphasized that health care models that involved the waste of their abundant resources, such as were typically found in the industrialized countries, were neither affordable nor practical in poorer nations (*25*).

Regionalization, with its hierarchy based on specialization, rationalization, and efficiency, could make health care available to all at a cost that countries could afford. The national level would care for marginalized populations, a charge that imposed great demands on the system. The ministries would then become the health providers of last resort. Due to their limited resources, however, the ministries could only offer second-class care for the poor, while patients who could afford it would receive first-class care from paid private providers (*26*).

Social security institutions, which began growing during this period, remained separate from the ministries of health and mainly dealt with medical treatment rather than prevention. Fragmentation, overlapping jurisdictions, and duplication of services by different national agencies were seen as problems to be tackled through structural reforms. To this end, the ministries of health made great efforts to organize public health programs (*27*).

In 1963, the ministers of health of the Americas agreed to intensify and accelerate efforts to eradicate smallpox from the Region. In 1966, the 19th World Health Assembly approved a program and budget for the global eradication of smallpox and allocated a portion of these resources for launching the program in the Americas in 1967. In only eight years, this health policy and the development of a regional approach, along with the countries' individual efforts, achieved success: the last case of smallpox in the Americas was identified in 1971 (in Brazil), and the countries progressed to a phase of ongoing surveillance to prevent the disease's reintroduction in the hemisphere (*28*).

Starting in the early 1960s, experts in the social sciences had begun to insist that social development should not be contingent on economic development. These scientists suffered isolation and threats for their views, and their studies were often regarded as subversive. Around 1970, Juan César García and others, with the support of the Milbank Memorial Fund, headquartered in New York City, began to conduct new studies. They also coordinated communication and information exchanges among sociologists, successfully increasing interest in the importance of social conditions and their influence on the leading health problems (*29*).

This period was characterized by radical changes in disease prevention, with greater focus being placed on behavior and health promotion. The 1970s led to a worldwide movement of "Health for All," highlighted by the 1978 Alma-Ata Conference and by the Alma-Ata Declaration, which emphasized the need to consider primary health care as an essential aspect of socioeconomic development (*30*). The "Health for All" initiative required that greater emphasis be placed on rural health care, the training of community health workers, the incorporation of informal providers into health services networks, and the promotion of community participation. The Region contributed successful models and experiences gained over several decades and promoted new initiatives as countries evolved toward democratic governments. PAHO launched the creation of local health systems, strengthening intersectoral action as a new approach to public health (*31*, *32*).

Advocacy for primary health care coincided with global political turmoil and with the onset of national liberation movements in many developing countries. Halfdan Mahler, then Director-General of the World Health Organization, played a key role in recasting the problem of health coverage by shifting the issue from a purely technical approach to one grounded in ethical and political principles. Mahler argued for community mobilization and a behavioral approach based on individual responsibility. Thus, health system reform became an overall strategy for social change (*33*).

Civil wars in El Salvador, Guatemala, and Nicaragua left tens of thousands injured and dead.

In 1983, the Region's governments, in response to an appeal from the Contadora Group (the presidents of Colombia, Mexico, Panama, and Venezuela) and with support from PAHO and UNICEF, created an initiative dubbed "Health: A Bridge for Peace" (*34*). The strategy rested on an alliance among countries affected by violence and featured several health programs organized and implemented collaboratively. In the first phase, clinics and hospitals were rebuilt, health workers were trained, drugs and food were distributed, and mass vaccination programs were carried out in war-torn Central America (*35*). Slightly earlier, in 1980, following the example of mass vaccination programs in Cuba, Brazil attempted to eradicate polio through broad use of the oral vaccine against this disease (OPV) (*36*). Shortly thereafter, this strategy was adopted Regionwide, with successful results. In 1991, the last case of poliomyelitis was detected in Peru—Latin America and the Caribbean had achieved the complete eradication of polio (*37*, *38*).

Renewal and Change: 1990–2010

The 1990s were characterized by new epidemiological, economic, and political challenges. The so-called Washington Consensus approach (*39*) was a neoliberal response to the economic and financial crises of the time. Its recommendations resulted in public spending cutbacks, including on critical social investments, and weakened the State's authority and regulatory capability. Diminished investments in access to water and health services aggravated the historical deficit. During this period, cholera was reintroduced into Peru and spread rapidly across the continent; by 1992 it had reached 14 Latin American countries. Nevertheless, thanks to coordinated responses that were put in place, the last endogenous case of cholera was reported in 2000 (*40*).

The 1990s also witnessed one of the greatest challenges to world health, the HIV/AIDS epidemic, which had begun in the previous decade. Between 1983 and 1993, comprehensive programs for the prevention and control of AIDS were established in every country in the Region (*41*). Starting in 1996, Brazil pioneered methods of care for people affected by HIV, establishing a policy of universal coverage with antiretroviral therapy and reducing by half the national rate of mortality from HIV/AIDS in less than a decade (*42*).

In September 2000, 187 member countries of the United Nations signed the Millennium Declaration, calling on governments to achieve, by 2015, eight Millennium Development Goals (MDGs). The MDGs took 1990 as the baseline year for measurement, and sought to address hunger and poverty; education; gender equity; infant mortality; maternal mortality; control of the epidemics of AIDS, tuberculosis, and other communicable diseases; environmental sustainability; and the necessity of forging strategic partnerships and cooperation for development. These goals have served as an incentive and a target for improving the living and health conditions of the world's countries (*43*).

In the first decade of the 21st century, international assistance and private expenditure for health (*44*) both increased significantly. Much of this growth has come in response to threats to world health associated with SARS (severe acute respiratory syndrome) and the epidemics of H1N1, HIV/AIDS, and multidrug-resistant tuberculosis. The SARS epidemic in particular demonstrated the direct and continuous threat from epidemics to both economic and health interests. Its outbreak led to political pressure that resulted in approval of the International Health Regulations (2005). This legally binding agreement lays out a framework for the coordinated management of events that may constitute a public health emergency of international concern and seeks to boost each country's capacity to detect, evaluate, report, and respond to public health threats (*45*). Also during this period, several institutions began to emerge in the international arena that began to take a larger role in health cooperation with countries, including the Global Fund to Fight AIDS, Tuberculosis and Malaria; the Global Alliance for Vaccines and Immunisation (GAVI); the United States President's Emergency Plan for AIDS Relief (PEPFAR); and foundations such as the Bill & Melinda Gates Foundation and the William J. Clinton Foundation (*46*).

From a political perspective, there has been a striking increase in the number of high-level meetings where health and development have been on the agenda, in particular summits of heads of state and of governments of the Americas and of Latin America, as well as of ministers of health. These have been held within the framework of regional and subregional integration processes. Other relevant meetings included the Millennium Summit, the United Nations High Level Meeting on the Prevention and Control of Non-communicable Diseases, and the United Nations General Assembly Special Session on HIV/AIDS.

The last 20 years have seen major advances on nearly all health-related fronts, including achieving a greater awareness of the need and rational justification for respecting human rights, the importance of using multisectoral approaches, and the potential gains from taking advantage of new scientific knowledge, innovative technology, and the most up-to-date and relevant information for improving the health and well-being of the Region's people.

CONCLUSION

In the last 110 years, Latin America and the Caribbean have experienced great transformations, from the independence of the Caribbean countries to the construction of modern states, from authoritarian regimes and dictatorships to democracy and the rule of law, and from cycles of economic growth and high productivity to financial crises, economic slowdowns, and massive foreign debt. The Region also has achieved a notable increase in life expectancy and a substantial reduction in poverty, as well as major improvements in the health and living conditions of the majority of the population. Around the world, and especially in the Americas, there is also an ongoing shift to a new paradigm and a comprehensive approach that considers health as the result of a complex interaction of biological factors, the physical environment, and a series of social, political, and economic determinants.

Finally, the new reality associated with rapid economic, social, and cultural globalization has highlighted the close associations between health and the development of societies, public policy management, foreign policies of countries, and interactions with multiple actors at the regional and global levels. Similarly, advances in scientific research, technology, and access to information have moved forward at dizzying speed and have gone further than ever envisioned. This has made possible, on the one hand, wide and immediate dissemination of new knowledge, ideas, and methods, and on the

BOX 1.1. On the right path: Women in the governments of Latin America and the Caribbean.

Latin America and the Caribbean and Europe are the only two regions where women's representation in parliaments exceeds the world average: Cuba (43.2%), Argentina (38.5%), and Costa Rica (36.8%) rank first, second, and third on this measure. The participation of women in government cabinets tripled between 1990 and 2007, reaching 24%. In countries such as Bolivia, Chile, Costa Rica, Ecuador, Nicaragua, and Uruguay, women's participation in cabinets approaches 30%. In the last 20 years, six women have governed or govern countries in Latin America: Violeta Chamorro (Nicaragua, 1990–1997), Mireya Moscoso (Panama, 1999–2004), Michelle Bachelet (Chile, 2005–2010), Cristina Fernández (Argentina, 2007–present), Laura Chinchilla (Costa Rica, 2010–present), and Dilma Rousseff (Brazil, 2010–present). In the Caribbean, also in the last 20 years, eight women have served as prime ministers: Dame Eugenia Charles (Dominica, 1980–1995), Susanne Camelia-Römer (Netherlands Antilles, 1993 and 1998), Claudette Werleigh (Haiti, 1995–1996), Janet Jagan (Guyana, 1997), Jennifer M. Smith (Bermuda, 1998), Portia Simpson-Miller (Jamaica, 2006–2007), Michèle Pierre-Louis (Haiti, 2008–2009), and Kamia Persad-Bissessar (Trinidad and Tobago, 2010–present).

Source: Women World Leaders 1945–2011, ZPC Collections. http://www.terra.es/personal2/monolith/00women.htm

other, an unprecedented increase in social demand, growing capacity for change, and ultimately a more democratic distribution of power.

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