

NON-COMMUNICABLE DISEASES  
IN THE AMERICAS:

# BUILDING A HEALTHIER FUTURE





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## FOREWORD

Global interest in the prevention and control of non-communicable diseases (NCDs) offers an unprecedented opportunity to face one of the greatest public health perils of our time. Cardiovascular disease, chronic respiratory disease, cancer and diabetes—the four most common NCDs—are no longer diseases of the wealthy. Each has quickly reached alarming levels among developing countries, impacting poverty and development in ways that can no longer be ignored. Emerging from the historic United Nations High-Level Meeting (UN HLM) and lasting far beyond, a global consensus for swift action among all stakeholders must be catalyzed to inspire a vastly expanded effort to address this growing global health crisis in the coming decades.

Nowhere is the need for bold action greater than in the Americas. Having left no country, community or family untouched, the early and devastating rise and spread of the NCD epidemic now threatens to roll back our hard earned advances towards the Millennium Development Goals (MDGs), overwhelm our health systems and weaken our economies.

In the face of such threats, we have had little choice but to tackle NCDs on all fronts. As our understanding of the root causes of these diseases has evolved, so have our efforts to reduce risk, lower incidence and improve survival rates for those suffering. The health sector alone cannot be expected to

solve this problem. Efforts to increase early detection and improve the quality of life and survivorship of those already affected must be complemented by a broader multisectoral response aimed at tackling the root causes of disease to reduce incidence—one that is backed by wide-ranging support and considerable new resources.

Over the past several years diverse sectors of governments (health, education, agriculture, transport and finance), civil society organizations, and increasingly the private sector have worked together with the Pan American Health Organization (PAHO) to find effective, scalable solutions. From Bogotá to Mexico City and then to New York, a “Whole of Society” approach to NCDs is emerging, which includes stakeholders from all sectors in the fight against NCDs. This multisectoral approach engages governments, civil society organizations, businesses and individual citizens to do their part to take on the root causes of the epidemic. Efforts to ensure access to healthy food, create healthy workplaces and cities, promote healthy ageing, prevent demand generating advertising for tobacco and junk food to youth and re-align our health systems with the emerging demands of NCDs are all examples of the necessary steps forward.

As the international community charts its path, it is important to recognize the political leadership and emerging programmatic innovations that are

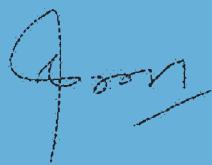
shaping successful responses to NCDs in the Americas. Many individuals and organizations, including Sir George Alleyne, Director Emeritus of the Pan American Health Organization, the Public Health Agency of Canada, the Prime Minister of St. Kitts and Nevis Dr. Denzil Douglas, the Caribbean Community Secretariat (CARICOM) among others from our region should be recognized for their vision and credited with sparking early international commitment to NCDs. The UN High-level meeting and other future inter-governmental efforts to curb NCDs would not have become a reality without the vision, leadership, and efforts of these individuals and organizations. Early efforts by CARICOM to integrate NCDs into political platforms of action led to the first Heads of State meeting on NCDs, the first regional declaration on NCDs in 2007 and ultimately, the introduction of a unanimous resolution by CARICOM to the United Nations to host a High-level meeting on NCDs. Further regional efforts to prioritize NCDs at the highest levels of government and catalyze a broad multisectoral response at the Heads of State level are encapsulated in the Mexico City Declaration signed by all member states of the Americas in February 2011.

We must work quickly to establish a global consensus within the health sector to meet the demands of prevention and treatment, while, at the same time, expand the NCD movement beyond the health sec-

tor to move boldly to address the root causes of these diseases. As we look to build this consensus, it is important to highlight recent efforts in the Americas that could potentially prove useful as we work to establish an effective, robust platform for global action. Numerous regional resolutions on the prevention of specific NCD risk factors and diseases such as cervical cancer prevention, reduction in the over consumption of salt, and tobacco control might provide valuable models on inter-governmental commitments to prevent NCDs.

We believe the innovative models and multisectoral policies highlighted in this report provide proof that the prevention and control of NCDs is feasible in all-resource settings. We hope this evidence will encourage greater innovation and broader commitment while catalyzing a greater investment by donors and governments to successfully confront this borderless epidemic in the Americas and beyond.

Dr. Mirta Roses Periago,  
Director, Pan American Health Organization (PAHO)





# NON-COMMUNICABLE DISEASES IN THE AMERICAS: CAUSES AND CONSEQUENCES



## Introduction

This publication represents the culmination of a decade-long effort by PAHO and its country partners to understand and effectively respond to the rising NCD epidemic in the Americas. Informed by PAHO's Regional Strategy and Plan of Action on an Integrated Approach to the Prevention and Control of Chronic Diseases adopted by Ministers of Health in 2006, a new vision for health is emerging. Curb-ing the NCD epidemic has become a significant health priority and target of innovative policies and programs, providing new models to successfully combat NCDs in all-resource settings. We believe that sharing this emerging evidence and these early success stories from the Americas could provide valuable lessons for other regions at earlier stages in this epidemic and help to inform the scale of our global efforts.

In Part 1, the causes and consequences of NCDs in the Americas are considered from three different perspectives—the impact on our health, our economic prosperity and our communities. Part 2 explores the many facets of current success against NCDs in the region—beginning with the Whole of Society approach to health system change to building healthy cities, growing healthy kids and ensuring access to healthy foods. The important role of the private sector is also examined by highlighting several examples of early successes from the region. Finally, our vision and goals for the coming decade are discussed in light of upcoming opportunities globally and regionally.



## Health Impact of NCDs

The Americas has been hit early and hard by the global NCD epidemic. Today, NCDs are the leading causes of death and disability, accounting for more than 3.9 million deaths annually, or 75% of all deaths throughout the region.<sup>1</sup> Like other regions of the world, cardiovascular disease, chronic respiratory diseases, cancers and diabetes are the most common NCDs.

In 2007, an estimated 1.5 million people died of cardiovascular diseases, 1 million people died of cancers, 230,000 died of diabetes and 200,000 died of chronic obstructive pulmonary disease in the Americas.<sup>2</sup> These numbers, as well as the number of people currently living with NCDs, are staggering. Although an exact number is not available for the Americas as a whole, estimates for the number of people living with an NCD in the region are considerable. Far too many suffer from the onset of multiple NCDs, or the exacerbation of infectious diseases, like tuberculosis, made worse by diabetes, smoking or the misuse of alcohol.<sup>3</sup> In the United States, one in five people have multiple NCDs.<sup>4</sup> In the coming decades, these numbers are expected to continue to climb significantly. By 2030, a 42.4% rise in NCDs has been projected for the region if current trends continue.

Despite the tremendous economic, social and ethnic diversity of the Americas, no country or community has escaped unaffected. The burden of disease caused by NCDs ranges from 64% in the Andean region to 86% in North America.<sup>2</sup> NCDs were originally a problem primarily for wealthy countries and populations in middle-income countries. However, their incidence is now growing at the fastest rate in low-income countries, reaching high levels of disease in a much shorter time period than that experienced in wealthy countries. The compressed timeline resulting from this rapid rise in NCDs is worrisome, especially as most low-income countries continue to suffer from significant infectious disease burdens, creating a “double-burden” of disease. Already stressed health systems have little time to react to the surge

and complexity of needs created by this double-burden. As a result, inadequate care vastly increases the risks associated with NCDs, including long-term disability and reduced chances of survival, particularly in the lowest-income countries and communities.


## Demographic and lifestyle changes

The NCD epidemic in the Americas has been triggered by unprecedented demographic, economic and societal change that has driven NCD risk factors to reach levels previously unseen. Thanks to significant improvements in child survival, safe pregnancy and successes against infectious diseases, countries throughout the Americas are experiencing demographic transitions from predominately youthful to increasingly ageing societies. Older persons over 60 currently make up 10% of the population in Latin America and the Caribbean, a number that is expected to rise to 25% by 2050.<sup>5</sup>

In industrialized countries, the demographic transition that has taken place over the past 100 years was largely fueled by economic development—driving improvements in public health. Today, in lower-income countries in the Americas, the demographic transition has been fueled by improvements in public health that have shifted disease patterns and improved survival rates in the absence of vast changes in wealth. As a result, lower-income countries are now struggling to meet the challenges posed by ageing societies without significant economic resources to meet the shifting needs of their populations.

Although an increase in NCDs is expected in countries with growing numbers of elderly, the current pace and scale of the NCD epidemic cannot be attributed solely to ageing. Significant changes in lifestyle are now major determinants of risk and disease at all ages. Industrialization and urbanization are both primary drivers of risk, as is the globalization of products and consumption patterns. An increase in manufacturing jobs has encouraged people to leave rural life in search of economic opportunity. This new life in the city is dramatically different. In-



A woman with dark hair is sitting at a table, looking towards the camera. In the background, a whiteboard is visible with some handwritten text in red and black ink. The text on the whiteboard includes "pie en", "Diabets", "DO", "gobon", "do", and "da".

creasingly sedentary lifestyles, access to inexpensive industrialized foods and societal pressures to smoke and misuse alcohol have caused unforeseen levels of obesity, high blood pressure, high cholesterol and high blood sugar—all preventable risk factors for NCDs. Easy access to industrialized foods, tobacco and alcohol are not limited to urban areas. Today, these industrialized products—such as packaged foods, sugary drinks and tobacco—are found even in the most isolated communities in the Americas.

In communities where food sources remain unstable or environmental pollutants common, research has found that exposure to environmental hazards and early childhood undernutrition—both in utero and during infancy—have been shown to increase risk of future illness. No community in the Americas is immune.

### Growing risk factors

In the absence of sustained population-level interventions to mitigate their root causes, the main risk factors for NCDs—smoking, overconsumption of alcohol, inactivity and obesity—show no signs of abating. Once uncommon, obesity rates continue to increase steadily throughout the region. Obesity rates as high as 39% of all adults are expected by 2015—with lower income women and children becoming particularly vulnerable.<sup>6</sup> In Canada and the United States the percentage of the adult population that is overweight or obese is unprecedented—reaching 45% and 65% respectively.<sup>7</sup> Between 30–60% of the region's population do not achieve the daily-recommended level of exercise and the majority of all people in the region fail to consume the recommended levels of daily fruits and vegetables.<sup>7,8</sup> Despite dropping rates in the United States and Canada, smoking also continues to increase in Latin America, with notable increases among women and youth.<sup>9</sup> The consumption of cigarettes, alcohol and industrialized foods high in fat, salt and sugar, coupled with urban environments that fail to promote health and physical activity are putting far too many at risk.

### Health disparities

Socioeconomic and gender differences determine exposure to risks, access to early treatment and care and lack of financial resources, putting marginalized populations at a significant disadvantage. Among vulnerable populations, disease is often detected late, once patients are already in need of acute care, which is often either inaccessible due to weak health systems or too expensive for them to pay. These differences exist both between and within countries.

The differences in disease and survival rates between countries are striking. Research shows death rates from NCDs are 56% higher for men and 86% higher for women in developing country settings than for those struggling with the same diseases in higher-income settings.<sup>10</sup> Individuals in low-income countries die from NCDs at younger ages than their counterparts in wealthier countries.<sup>11</sup> Over 1.5 million deaths from NCDs occur in people under the age of 70.<sup>1</sup> Globally, approximately 33% of deaths due to chronic diseases in middle-income countries occur in people under 60 years of age. In low-income countries this figure increases to approximately 44%.<sup>10</sup> These national averages fail to capture the extraordinary differences in premature illness, disability and mortality between communities within the same country. In Peru, recent research showed a four-fold likelihood of multiple risk factors for cardiovascular disease among the poorest groups, compared to the wealthiest.<sup>12</sup>

Although NCDs are not communicable, the risk factors that cause these diseases are transmitted knowingly and are spreading in epidemic proportions. Like efforts to stop the spread of infectious diseases, programs to curb the spread of risks leading to NCDs must take effect on vast numbers of the population in order to curb the epidemic. As the following chapters will highlight in detail, the consequences of NCDs have reached unparalleled levels, spurring the need for innovation throughout the region.

## Improving Health through Surveillance

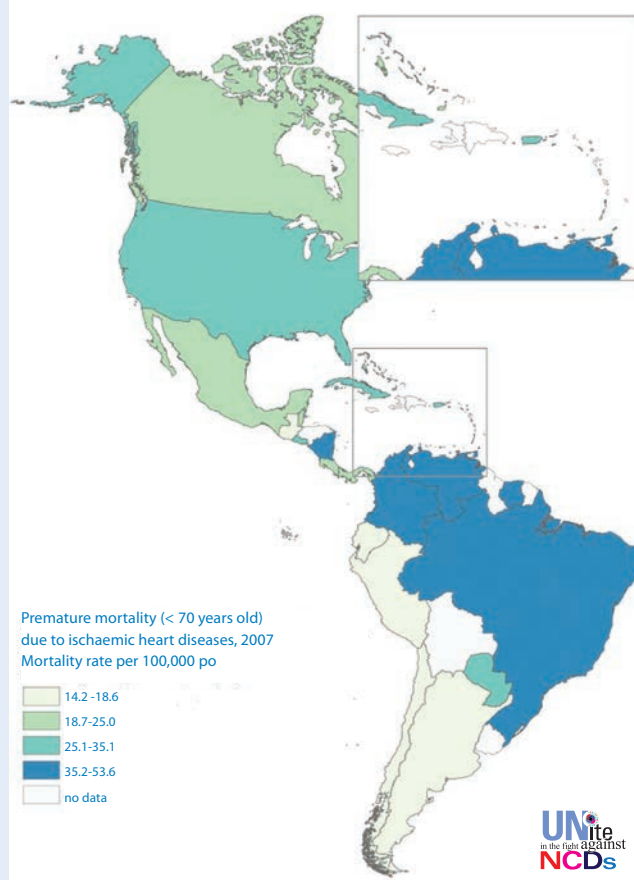
With the approval of PAHO's Regional Strategy for NCD prevention and Control in 2006, surveillance of NCDs and their risk factors has become a priority throughout the region and within PAHO. Through its STEPS program PAHO has worked closely with member countries and with sub-regional networks to improve NCD surveillance and improve evidenced-based policymaking.<sup>13</sup>

A cornerstone of this effort was the development of a common set of NCD indicators that would encourage robust data collection and provide a simple, standardized method for collecting, analyzing and disseminating data for the region. Known as the Minimum, Optimum and Desired list of NCD indicators, this data set combines multiple data sources in one functional annual reporting system as a foundation for NCD surveillance.<sup>14</sup> Since this effort got underway, PAHO has worked to strengthen national surveillance systems in Argentina, Chile, Uruguay, Brazil, Paraguay, Bahamas, Barbados, Belize, Bermuda, Dominica, Jamaica, St. Lucia, St. Vincent and the Grenadines, St. Kitts and Nevis, Suriname, Guyana, Grenada and Aruba. It has also supported sub-regional surveillance efforts with the MERCOSUR, Andean Region and CARICOM. To date, ten countries have implemented the full package of PAHO recommended tools. Five other countries have aligned their national surveillance with STEPs. Costa Rica is one such example.

In Costa Rica, the Social Security System's efforts to establish a strong surveillance system is a good example of the STEPS program in action. This program uses health centers across the country to gather data. In these health centers, staff and laboratory technicians are responsible for the collection of data—proving a vast and up to date snapshot of NCDs in the country.

In 2011, the first data from the program became available. Collected from 103 centers and 4,200 people from a target population of 113,000 inhabitants living throughout Costa Rica, these new

### HEALTH SITUATION IN THE AMERICAS BASIC DATA ON NCDs 2011

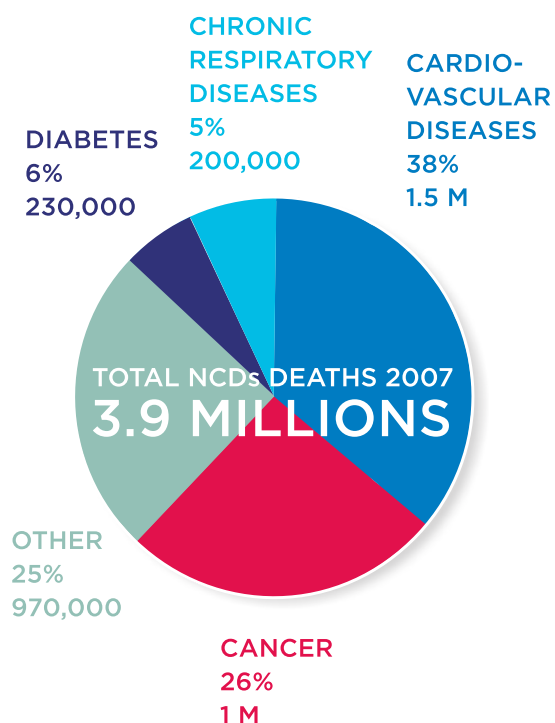


results provide stunning data about the prevalence of NCDs and risk factors in the country. According to the information released, 9.5% of the population observed had diabetes, 31.5% were hypertensive, 25.9% were obese and low-levels of activity reached 50% of the population studied. The study also indicated that among those diagnosed with diabetes and hypertension, 46.6% and 76.1% had good control of blood glucose and blood pressure respectively.<sup>15</sup> The surveillance program plans to produce data every four years.

Regional efforts are also beginning to deliver results. In 2011, PAHO was able to produce the first basic data set on NCD in the Americas, which are essential to shaping future efforts by PAHO, member countries and organizations throughout the region.

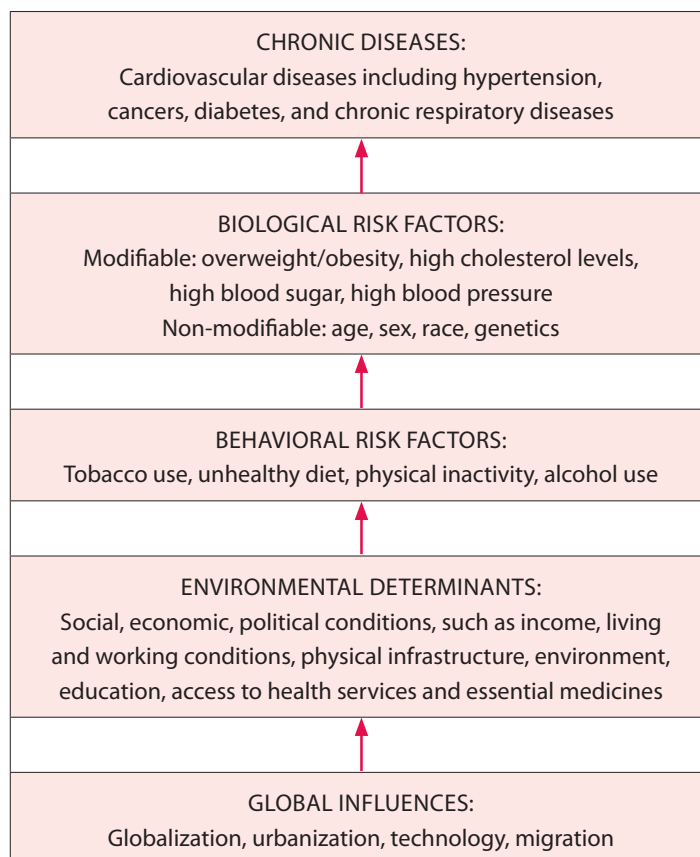


## TOTAL NCDs DEATHS 2007



Source: PAHO mortality data browser, Regional Health Observatory.

## KEY DETERMINANTS OF NCDs



## 4 DISEASES ACCOUNT FOR MOST OF THE DEATHS



CARDIOVASCULAR  
DISEASES  
1.5 M



CANCER  
1 M



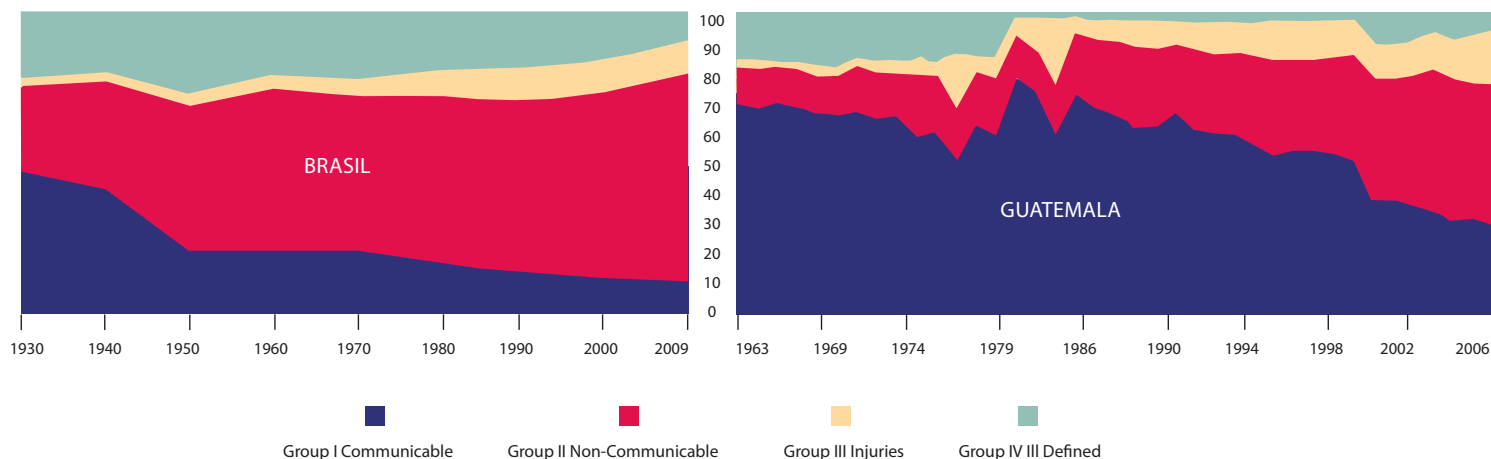
CHRONIC  
RESPIRATORY  
DISEASES  
200,000



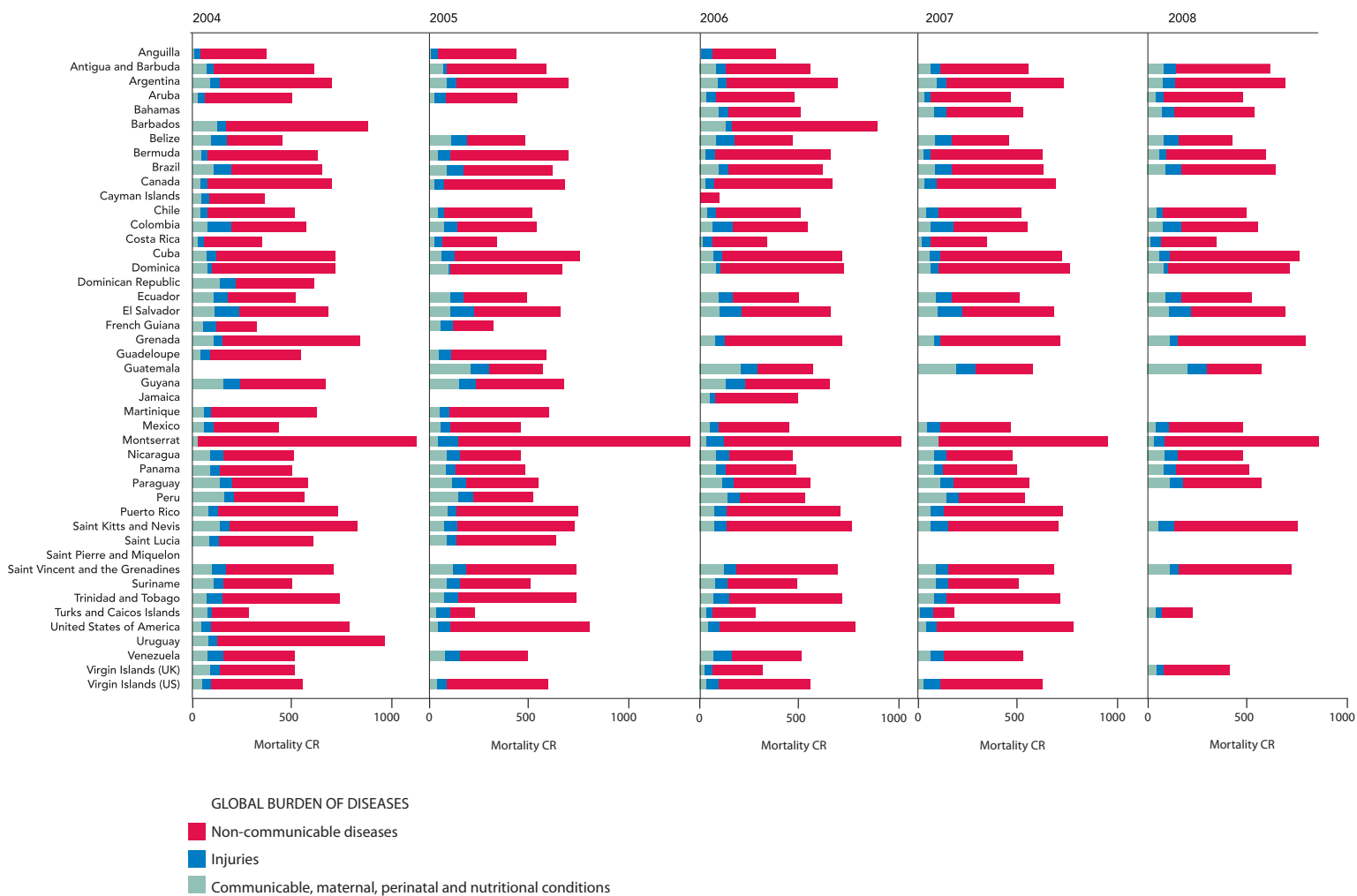
DIABETES  
230,000

Source: PAHO mortality data browser, Regional Health Observatory.

## RISE OF NCDs OVER TIME: MORTALITY BY MAIN GROUPS OF GBD, EXAMPLE OF BRAZIL AND GUATEMALA



## COUNTRIES' MORTALITY CRUDE RATES FOR GROUPS OF GLOBAL BURDEN FOR DISEASES (GBD)





## Economic Impact of NCDs

The financial cost of NCDs in the Americas is a growing threat to regional economic stability. Few national programs adequately meet the current demands for NCD prevention and care, yet the percentage of health resources spent attempting to meet current needs is already a challenge for most countries. In the United States 85% of all dollars spent on health go towards the treatment and care of people with NCDs.<sup>4</sup> The full cost of the epidemic—including prevention, diagnosis, care and loss of productivity—is expected to increase significantly due to the spread of NCDs in the coming decade, placing unparalleled pressure on health systems and economies. In Brazil, the current cost of treatment, paired with the loss of economic productivity due to NCDs was estimated to be \$72 billion.<sup>16</sup> Lower-income countries are particularly challenged to meet the rising demands of NCDs as current health resources are directed towards the prevention and provision of acute care for communicable diseases and maternal and infant mortality. Redistributing existing resources and garnering new ones are essential steps in all-resource settings if health systems in the Americas are to be successful in meeting the evolving health needs of their populations.

### Growing costs

Screening, treatment and chronic care needs for NCDs are expanding throughout the region. Providing adequate levels of healthcare is a challenge for even the wealthiest of countries. In Latin America, health spending has been at around 6.5% of GDP over the past decade. With no new resources invested, health systems are struggling to provide the minimum necessary NCD care for growing numbers of the population.

As early screening and diagnosis programs largely fail to reach the majority of populations, individuals too often seek care for an NCD once the disease


has progressed significantly and expensive acute and palliative care are the only options remaining. In some countries, late stage treatment and palliation are unavailable or only accessible at tremendous expense to the individual and family in need. The costs of dealing with NCDs at the acute care stage forgoes the chance for early preventive treatment and is overwhelming health systems with seriously ill patients. This approach is also having dire economic consequences on families. In Latin America, 39% of all health expenditures are paid out-of-pocket, most related to NCDs.<sup>4</sup> The impact these payments have on household savings, individual investment rates and national economic development is considerable.

The economic impact of diabetes and hypertension provide poignant examples. Latin America has a higher mortality from diabetes than any other region in the world. The current cost of diabetes treatment is estimated to be double the current cost of HIV treatment—reaching \$10.7 billion in Latin America alone.<sup>17</sup> Recent research from the International Diabetes Federation shows that in 2010, spending on diabetes accounted for 9% of the total health expenditure in South and Central America and reached 14% in North America, including the English-speaking Caribbean countries and Haiti.<sup>18</sup> Similarly, the current cost of hypertension and diabetes in Trinidad and Tobago is estimated to be 8% GDP.<sup>19</sup> Recent research from Mexico shows that assuming diabetes and hypertension continue to rise as predicted, national health spending will have to increase by 5–7% per year, just to keep up with needs of the newly diseased.<sup>20</sup> Cancer also has a striking similarly economic impact, costing the United States 1.73% of its GDP.<sup>21</sup>

### Premature morbidity and the labor market

Beyond the cost of treatment, the early onset of NCDs and resulting premature morbidity is of particular concern to economic productivity. Research by USAID and John Hopkins Bloomberg School of Public Health shows that 50% of people in the





Americas between the ages of 30 and 60 have at least one NCD.<sup>4</sup> According to available national risk factor studies in the Americas, the percentage of adults living with three or more risk factors for NCDs ranges between 10% in Uruguay and 46% in the British Virgin Islands. These risks rise with age, in St Kitts 68% of the population between 45 and 65 has three or more risk factors. In Jamaica, 82% of the population between 65 and 74 years of age has three or more risk factors.<sup>22</sup>

The impact of this burden on the labor market is of great concern. In the Americas, the percentage of males who reach 15 years of age who then die before their 60<sup>th</sup> birthday ranges from 15% in Southern Cone countries to 25% in Latin Caribbean countries.<sup>4</sup> Individuals suffering from chronic diseases have lower earnings, higher absenteeism, fewer hours worked and greater job instability due to their disabilities.

The economic consequences of this instability, when coupled with the tragic early loss of individuals from their families, communities and workforce make NCDs a major economic development issue. The World Economic Forum highlighted NCDs as one of three most likely and severe risks to the global economy, along with fiscal crises and inflation.<sup>23</sup> In Brazil, researchers predict that the projected national income loss attributable to NCDs as a percentage of GDP is expected to reach 3.21% by 2015. Reducing these costs through prevention, early detection, access to affordable medicines and use of emerging models for self-care are critical in all settings.

### Investing in prevention

Despite the threats NCDs pose to economic stability, cost-effective solutions for the prevention and treatment of NCDs exist and can be effectively implemented. A number of middle-income countries, most notably Mexico, Brazil and Uruguay, have conducted national research to identify which NCDs are causing the greatest economic strain and cost-effective in-

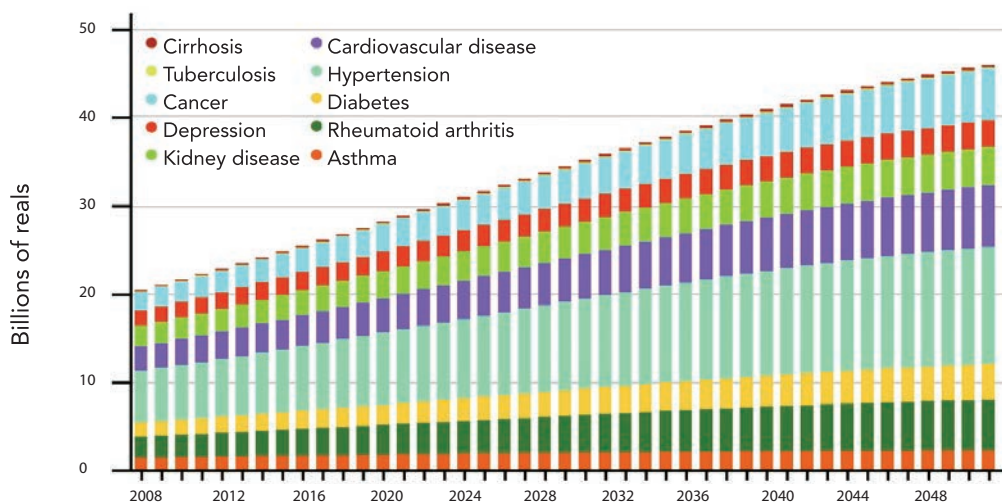
terventions to stem the burden of disease and loss. Affordable cost-effective interventions exist at all levels—from population level interventions like reducing overconsumption of salt and limiting access to tobacco products, to clinical care, health education and access to generic drugs for the treatment of high blood pressure and cholesterol. Investment in early detection and treatment for NCDs at the secondary and tertiary levels, vaccination against the viruses that cause cervical cancer and liver cancer, and novel health insurance schemes have the potential to save considerable resources and lives in the long run. A World Bank review of hypertension programs in Mexico and Brazil found that investing in public awareness campaigns, self-help groups, clinical training and information systems are cost-effective.<sup>4</sup> In Mexico, each dollar invested in identifying and targeting treatment for at-risk patients with prediabetes and prehypertension was shown to save between \$84–\$323 in treatment costs over a twenty year period.<sup>24</sup>

Other fiscal approaches to prevention—such as the taxation of tobacco and alcohol—also have the potential to generate income for health systems while deterring the increase of high-risk behaviors.

Much needed donor financing for NCD programs in low-income countries and disadvantaged communities in middle-income countries is lacking. Currently less than 3% of global development assistance in health is spent on NCDs. A fraction of this money reaches the Americas. Furthermore, middle-income countries—hardest hit by this epidemic—are often ineligible for international donor support and are left to manage the extraordinary costs of this epidemic on their own. This reality must be changed and new financing mechanisms must be explored. The profile that follows highlights Jamaica's creative efforts to levy tobacco and payroll taxes to ensure equitable access to NCD medicines and improve the quality of care available to those affected by NCDs. This program is unique in the Americas and provides a sustainable model for much needed resources to support NCD care.



## HEALTH SPENDING PROJECTIONS BY CHRONIC CONDITION IN BRAZIL, 2008–2050



Source: A. Glassman, T. Gaziano, C. P. Bouillon Buendia, F. C. Guanais de Aguiar: Confronting Chronic Disease burden in Latin America and the Caribbean, Health Affairs, 29, No12 (2010): 2142-2148

## ESTIMATED ECONOMIC BURDEN OF DIABETES AND HYPERTENSION IN SELECTED COUNTRIES OF THE CARIBBEAN (\$US MILLION, 2001)

	Bahamas	Barbados	Jamaica	Trinidad & Tobago
Diabetes	27	38	221	467
Hypertension	46	73	266	250
Total	73	111	487	717
%GDP	1.4	5.3	5.8	8.0

Source: Abdulkadri et al. Social and Economic Studies 58: 3 & 4 (2009): 175-197

## Jamaica Health Fund

The National Health Fund of Jamaica is an exceptional example of an innovative financing mechanism that has allowed Jamaica to successfully manage the growing pressure of NCDs. Representing over 60% of the burden of disease in the country, NCDs pose a significant economic threat to all Jamaicans.

After struggling for decades to find the necessary financial resources to meet the growing demands for chronic care and medicines, the National Health Fund successfully struck a balance by which the government, private insurers and individuals share the burden of a massive investment in the prevention and control of NCDs. Established in 2003, this public corporation has become a fine-tuned investment mechanism that channels new funds into public education, improves and expands the health system infrastructure and ensures affordable access to medicines for all residents suffering from fifteen chronic NCDs.

The financing of the Fund is particularly relevant to countries similarly challenged to identify new resources for NCD prevention and care, as it has created a sustainable model through which significant new resources have been directed into the health system. Resources for the Fund come from a 20% national tobacco consumption tax (43% Fund revenues), a 0.5% national payroll tax (35% Fund revenues) and a government contribution (22% Fund revenues).

The Fund is designed to provide universally subsidized medicines to all eligible individuals suffering from NCDs. Benefits covered by the Fund are available to all residents who have received the required certification of their chronic illness. These Fund-subsidized medicines are made available to all, yet are meant to support, not replace, private or public insurance schemes, including national pharmaceutical coverage for senior citizens, and often require modest out-of-pocket co-payments.



The Fund also supports public education programs within the Ministry of Health and private organizations that fall within the Ministry's Health Protection and Promotion Strategy, aiming to increase public awareness and capacity to self-manage chronic NCDs. Additionally, the Fund provides considerable resources for improving public health infrastructure, NCD surveillance systems, quality of care training and evaluation training, among other initiatives.

A model for other countries, the Fund is currently serving 404,615 individuals, introducing new essential medicines, investing in public programs from road safety to salt awareness to youth sports and improving health service capacities and monitoring the health situation throughout Jamaica.

## Societal Impact of NCDs

The causes and consequences of NCDs must also be understood from a societal perspective—not solely from public health or economic perspectives. Differences in risk and outcomes between socially disadvantaged and more prosperous groups in a society are considerable. The poor and socially disadvantaged are more likely to get sick from NCDs, more likely to suffer economic and social consequences due to their illnesses and more likely to suffer from acute disability and early mortality.

### High exposure, little protection

Socially and economically marginalized groups are more likely to live in environments where policies to tackle NCDs have not yet been established—where there is little protection from environmental hazards, few open spaces to promote regular exercise, little restriction on tobacco or alcohol sales and a shortage of available healthy food to serve as the foundation of a nutritious diet. For these reasons, the disadvantaged are more likely to suffer exposure to the environmental and modifiable risk factors associated with NCDs—such as environmental carcinogens, high obesity rates, low levels of physical activity, consumption of foods high in salt, sugar and trans fats and high rates of smoking and alcohol consumption.

### Inadequate access to health services

Vulnerable individuals are also less likely to have the necessary health education and access to clinical screening, treatment and care to prevent NCDs. Poverty creates additional barriers to accessing available prevention and care. The cost of health service charges and essential medicines, transportation barriers and communication barriers among some indigenous groups are all known to increase health disparities and weaken outcomes from treatment.

A vicious cycle emerges where disadvantaged groups are at greater risk, suffer disproportionately from a lack of chronic care and are more vulnerable to catastrophic medical events associated with these diseases.

Such events can push families deeper into poverty. The high rates of tobacco and alcohol addiction common in disadvantaged communities only serve to further exacerbate this cycle. Disproportionate rates of premature morbidity and mortality among low-income working-age parents have significant effects on their children's future—as a parent's illness or untimely death can have severe consequences on a child's ability to continue schooling and his or her chances for a healthy prosperous life.


### Women and NCDs

Although current global mortality rates for NCDs are divided equally between men and women, it is possible that the future of this epidemic will look rather different. New research reveals an increasing feminization of the NCD epidemic as a result of longer female life expectancy, unique risks associated with female cancers, higher rates of obesity in women, gender specific activities and ongoing social marginalization.<sup>24</sup> These increased risks continue unabated as systems for the prevention, care and provision of services for women outside their childbearing years remain virtually non-existent in low-income countries. Globally, NCDs have become the silent killer of women—accounting for 65% of all female deaths.<sup>25</sup>

Social customs and peer pressure play an important role in expanding risk and driving disease among women. Cultural norms and traditions surrounding physical activity skew sports activities towards men, reducing the access women and girls have to structured, regular exercise. With increasingly sedentary lifestyles, obesity rates have become extraordinarily high among women—reaching rates as high as 40% of all females living in St. Kitts and Nevis.<sup>1</sup> Additionally, as rates of male smoking gradually decline, smoking among women—particularly young women—is on the rise. In Latin America and the Caribbean, 16% of girls smoke compared to 8% in the US and 11% globally. Women in low-income communities that continue to use solid fuels for cooking are also uniquely at risk for Chronic Obstructive Pulmonary Disease (COPD).

In many low- and middle-income countries, the women's health care system focuses primarily on



A background image showing a woman in a purple shirt holding a baby wrapped in a blue cloth. The image is partially obscured by text boxes.

preventing unintended pregnancies and ensuring safe childbearing—and not on NCDs prevention and treatment during or after a woman's childbearing years. Increasingly common in women during these years, NCDs often go undetected, putting women and their unborn children at risk. Recent studies show that a mother's health during pregnancy goes far in determining the future NCD risk for her child. For example, a mother's exposure to diabetes and hypertension in pregnancy establishes a baseline risk for her child later in life and smoking during pregnancy is known to impair the cognitive development of a child in utero. In much of Latin America and the Caribbean, more than half of breast cancer cases and 40% of deaths occur among premenopausal women—a missed chance for early diagnosis and treatment.<sup>26</sup>

Once beyond childbearing years, women are less likely to be diagnosed and properly cared for due to insufficiently equipped health systems. Easily preventable diseases, like cervical cancer, go undiagnosed or mismanaged until late stage cancer is discovered. Clinical knowledge of the manifestation of women's risks and symptoms is poor in many places. Thus, women are less likely to be diagnosed and treated early when more affordable care and successful treatment options are available.<sup>27</sup> Cardiovascular disease, hypertension and diabetes are among the diseases most often missed or diagnosed late among women, despite their increasing frequency.

The cost of services can also be a barrier for women seeking early detection or care. As women commonly work in the informal economy or in the home, few have access to the same level of health insurance received by men working in the formal economy. Often left with little control over family resources to spend on out of pocket health care, countless women remain at the margins of the health system until they are in need of acute care.

The importance of educating women about NCDs and reaching women with services cannot be overstated. Women are often the caregivers to older parents and relatives suffering from NCDs and are the sources of good health and habits for the other members of their families. A child who is

undernourished in childhood is more likely to suffer from obesity and diabetes later in life.<sup>4</sup> With childhood obesity, early teen smoking and physical inactivity on the rise, informed mothers are needed to encourage healthy habits that could curtail the NCD epidemic in the next generation.

## Youth and NCDs

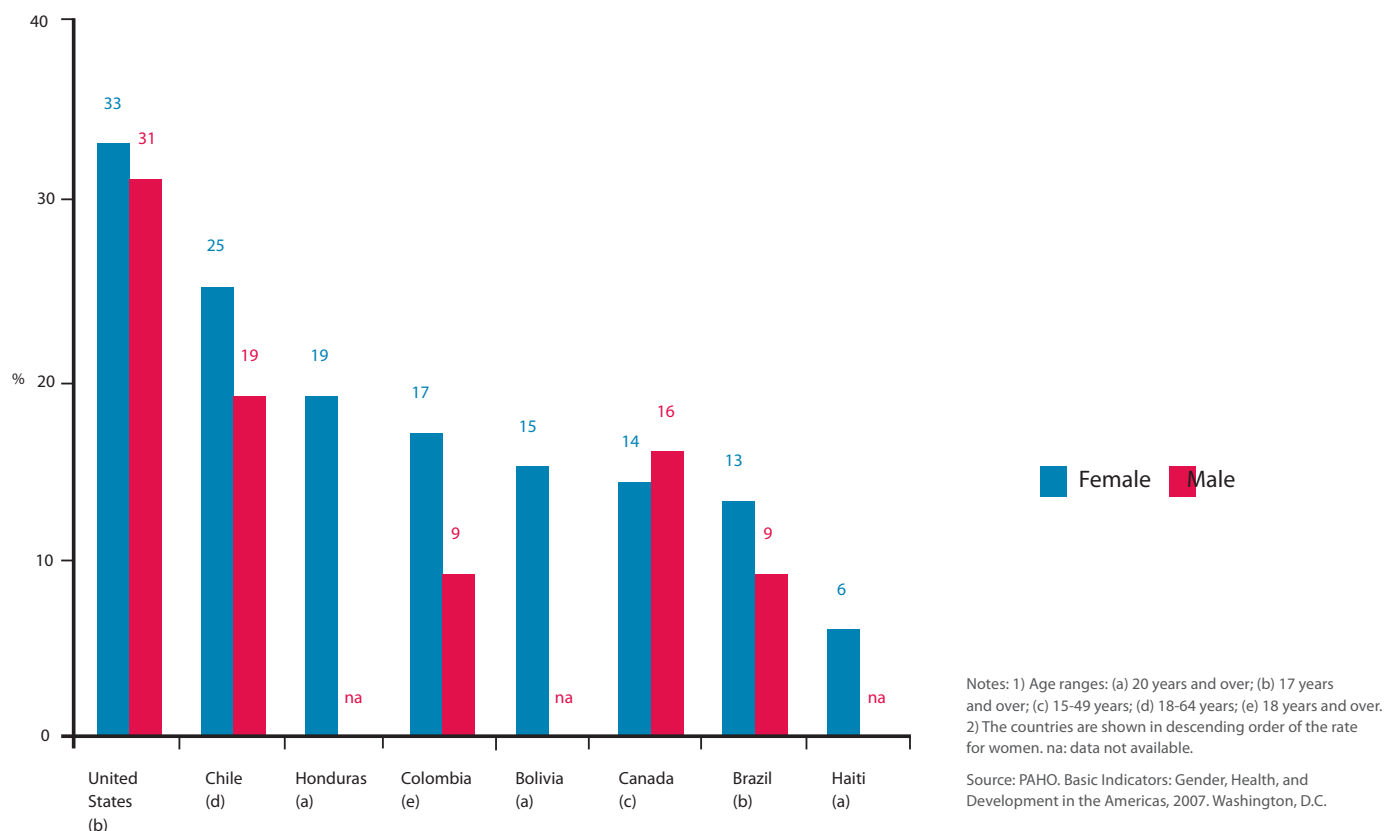
Young people are particularly vulnerable to environmental messages and peer pressures that will determine their behaviors and NCD risk throughout their lifetimes. Childhood obesity in the Americas is a growing problem. The links between education—namely what children learn, eat and do in school—and rising levels of childhood obesity and diabetes must be addressed. Safe public spaces to be physically active and schools that provide nutritious meals and nutrition education are lacking, especially in disadvantaged communities.

Youth smoking rates are on the rise. In some countries, like Argentina and Uruguay, smoking among girls is higher than boys.<sup>28</sup> Restrictive cigarette sale policies backed by strong school and community-based education programs are also essential to discourage teen smoking. As most smokers begin smoking by the age of 18, prevention initiatives—including the prevention of advertising to youth and ensuring barriers to underage access—will go far in preventing the uptake of this life-threatening habit.

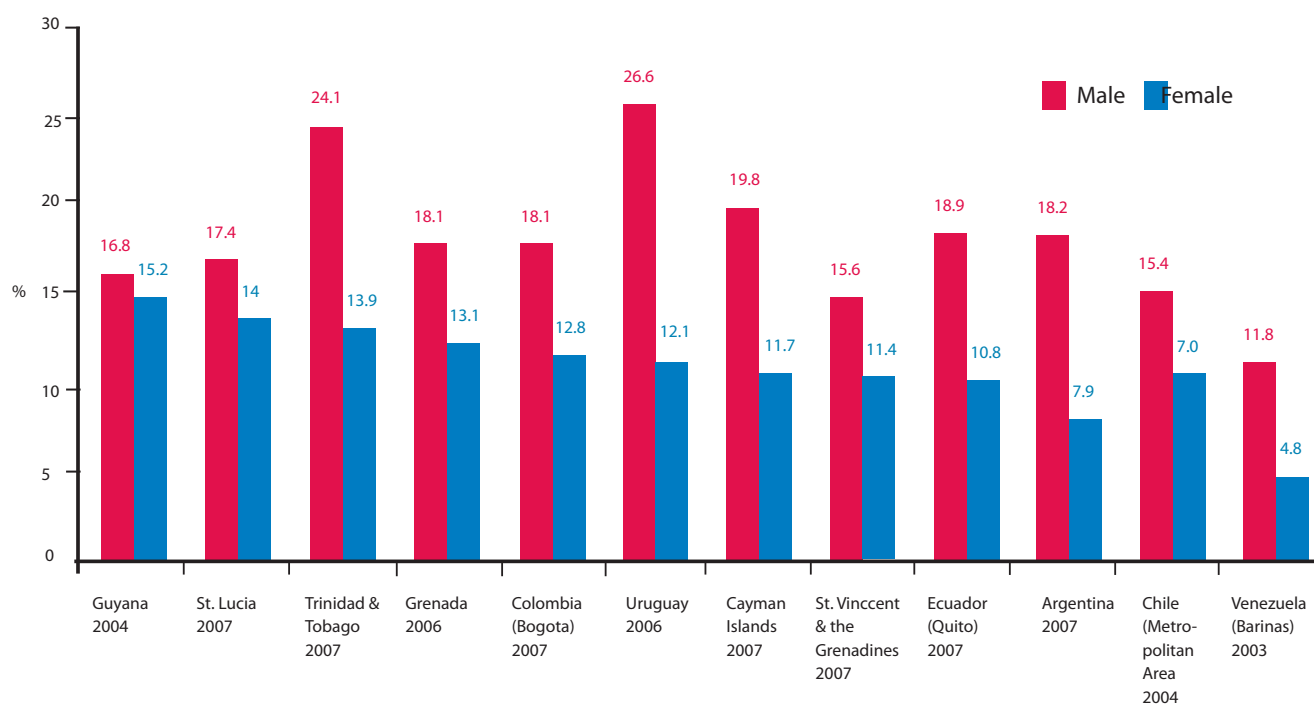
The particular vulnerability of marginalized communities, women and youth to NCDs must remain a focus of policymakers and health planners. Among NCDs, no disease is a clearer map of inequity than cervical cancer. A now preventable disease in all settings, each year over 80,000 women get cervical cancer and 36,000 die from the disease in the Americas.<sup>29</sup>

Today, Cervical Cancer remains the greatest cancer killer among women in low-income communities throughout the Americas. The profile below was chosen to highlight the combined potential of new clinical innovations and political commitment, which are changing the course of this disease throughout the Americas.

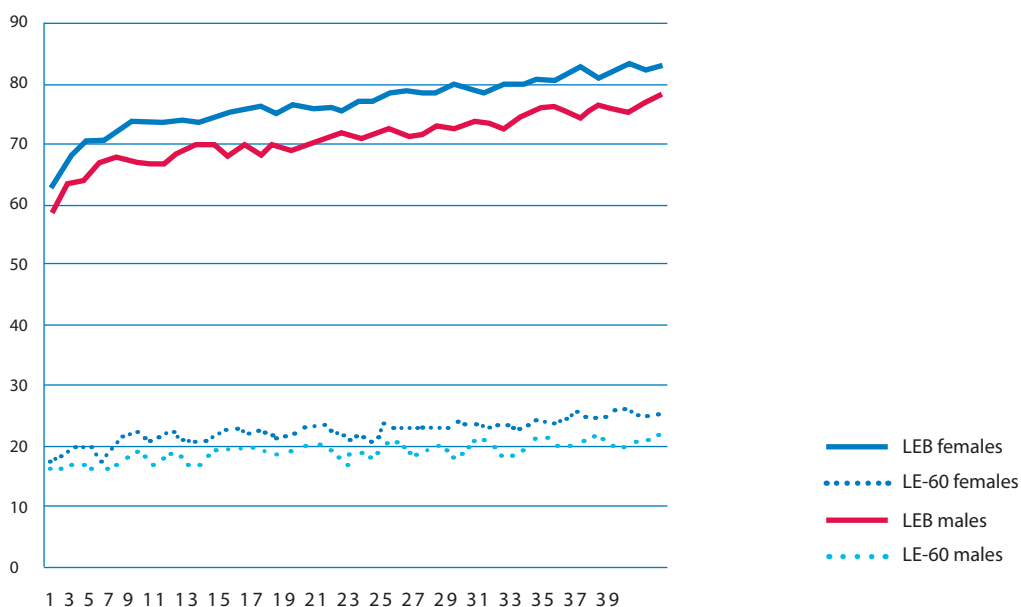
## PREVALENCE OF OBESITY BY SEX (%), EIGHT LAC COUNTRIES, 2002–2006



## PHYSICAL ACTIVITY OF STUDENTS, BY SEX (%), >60 MIN/DAY, SEVEN DAYS PRIOR TO SURVEY 12 LAC COUNTRIES/CITIES, 2003–2008

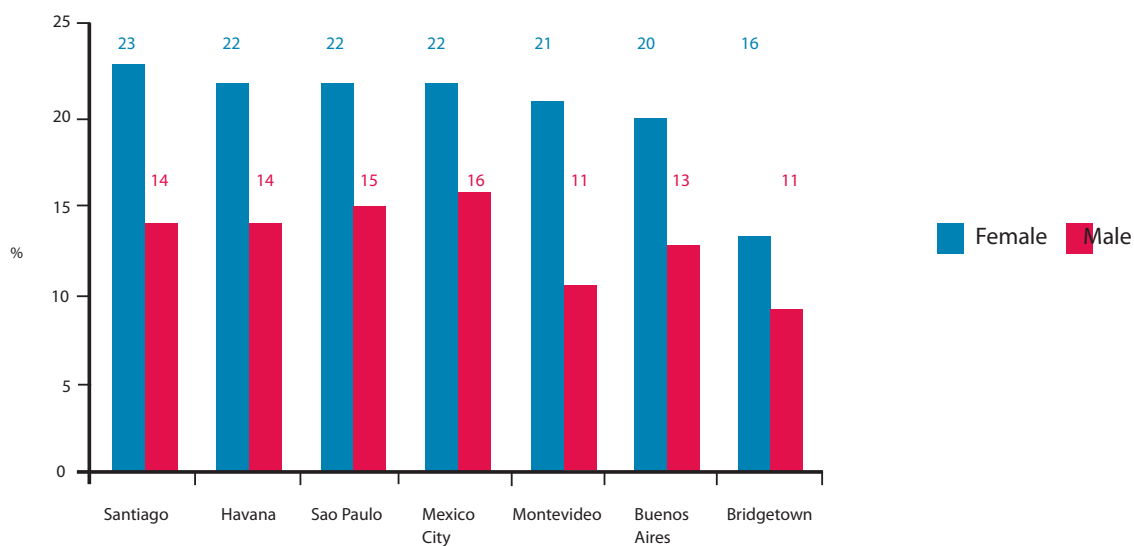


# MEN'S AND WOMEN'S LIFE EXPECTANCY AT BIRTH (LEB) AND AT AGE 60 (LEB-60) IN 39 LATIN AMERICA AND CARIBBEAN COUNTRIES (2005–2010)



Note: The countries are shown in ascending order of LEB for both joint sexes.  
Source: United Nations, Division of Statistics. Statistics and Indicators on Women and Men.  
<http://unstats.un.org/unsd/demographic/products/indwm/statistics.htm>.

## PERCENT WOMEN AND MEN AGED 60+ LIMITED IN THE PERFORMANCE OF AT LEAST ONE EVERYDAY ACTIVITY, 7 LAC CITIES, 2000



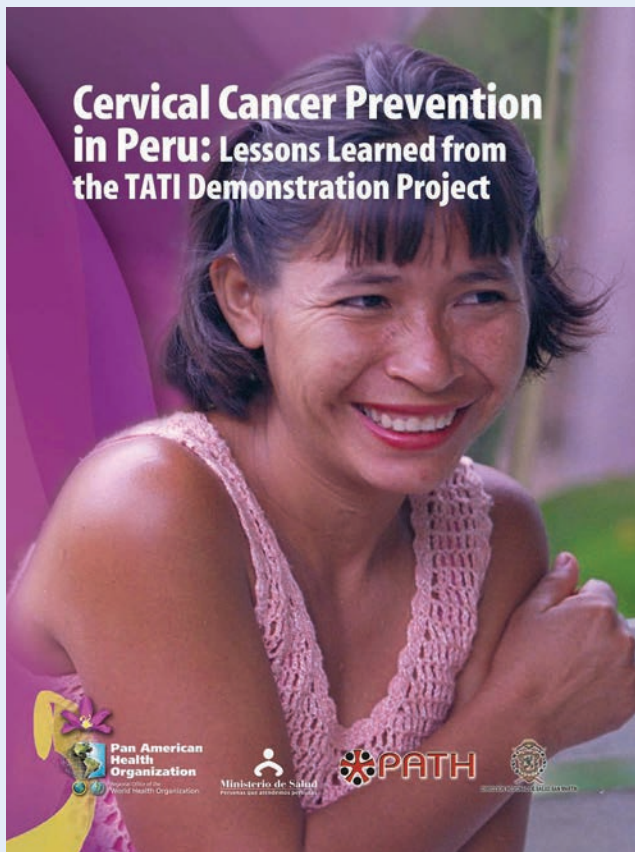
Everyday activities include bathing, eating without assistance, getting dressed, using the toilet, moving from the bed to a chair, walking.  
Source: PAHO/ Merck Institute on Aging and Health, Report on the State of Aging and Health in Latin America and the Caribbean, 2007.

## Cervical Cancer Prevention in Latin America

In the past decade, the Americas have been at the forefront of the global effort to prevent cervical cancer. After decades of programs aimed at scaling up cytology-based programs, regional health leaders now recognize the challenges of this approach and its limited impact on cervical cancer mortality in low- and middle-income countries—including poor test performance and high loss to follow-up. In response, important new evidence and technologies from the scientific, research and public health communities have inspired broad political commitment to prevent the number one cancer killer of women in most low- and middle-income communities in the Americas.

Beginning in 2000 in Amazonia Peru, the TATI demonstration project (TATI being an acronym for the Spanish term *tamizaje y tratamiento inmediato* or screening and immediate treatment) provided groundbreaking evidence that cost-effective, resource appropriate solutions for cervical cancer screening were possible in low-income communities. Based on the research conducted by the TATI project, a new approach to cervical cancer screening was proven to be as, or more, effective than cytology in rural settings. Now an emerging standard, screening using Visual Inspection with Acetic Acid (VIA) to identify pre-cancerous lesions followed by cryotherapy to treat pre-cancer was first introduced in this project. This approach has now been introduced in over forty low-income countries globally—including Bolivia, Colombia, El Salvador, Guatemala, Guyana, Nicaragua, Peru, Haiti and Suriname.

The commitment to cervical cancer prevention in the Americas has continued to expand to include new HPV vaccines. In 2008, Mexico became the first country in Latin America to introduce HPV vaccines and sophisticated HPV screening tests—targeting rural communities with the highest rates of cervical cancer mortality. In the same year, Panama quickly followed suit becoming the second country in Latin



America to introduce HPV vaccines. Today, six countries in the region have included HPV vaccines in their national public health programs—Canada, USA, Mexico, Panama, Peru, and Argentina. Demonstration or pilot projects are also underway in four other countries—Bermuda, Bolivia, Cayman Islands, and Haiti.

As of 2010, HPV vaccines have been included in PAHO's EPI Revolving Fund, allowing participating countries in Latin America to purchase the vaccine at a singular low price. The inclusion of the HPV vaccine in the EPI Revolving Fund has led to a significant reduction in price from over US\$120 to \$14.00 in 2011. Backed by the PAHO 2008 Regional Strategy and Plan of Action for Cervical Cancer Prevention and Control, countries throughout the region have committed to ensuring access to these life-saving tools for all women and girls in the region.





## 2

# EVIDENCE OF SUCCESS/ BUILDING A HEALTHIER FUTURE



### Whole of Society Approach

Over the past decade, our understanding of the root causes of NCDs has evolved dramatically. At first, the growing rates of smoking, unhealthy consumption of industrialized foods and inactivity were thought to represent alarmingly poor decision-making by individuals. Little was done to curb these risk factors or the social inequities that drive them. Early efforts by Ministries of Health focused primarily on providing much needed services for the already diseased.

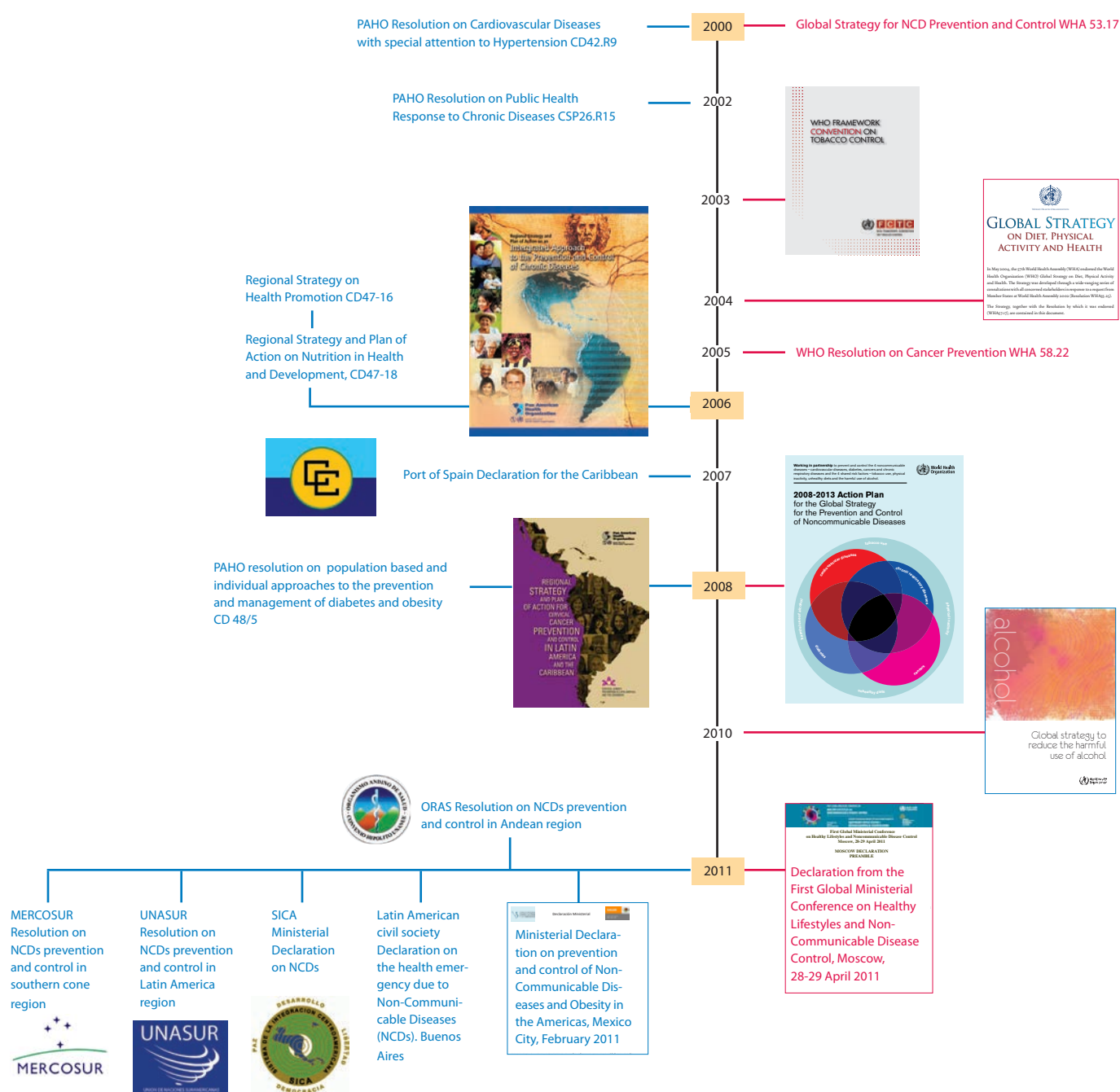
As the rates of those affected continued to increase, however, Ministries of Health came to understand that their focus on treating acute cases alone would not prevent the rapidly growing number of NCD cases. In order to decrease the incidence of NCDs, Ministries of Health started to reach out of other parts of government—ranging from Agricul-

ture and Education to Trade and Urban Planning—with the hope of promoting coordinated policies and actions to prevent the most common risk factors. Initiatives to improve links between small farmers and city dwellers, improve food and nutrition education in schools, tax the importation of tobacco and open city streets to pedestrians all serve as examples of intra-governmental efforts.

As these activities began to flourish, it quickly became clear that efforts to prevent NCDs needed to expand beyond governments to include a Whole of Society Approach encompassing civil society, the private sector, community leaders, the media and others. In their own ways, each of these groups has proven essential to creating a social environment that supports a culture of change, promotes healthy choices and encourages new lifestyle options in homes, at work and in the cities and towns in which we live. Below are several examples of projects that have pioneered this approach and made a significant impact on the course of NCDs.



## RESOLUTIONS AND DECLARATIONS RELEVANT FOR NCDs



## The WHO Framework Convention on Tobacco Control in the Americas

Tobacco use is a major preventable cause of premature death and disease worldwide. Each year approximately 5.4 million people die from tobacco use and 600,000 from the exposure to secondhand smoke. Tobacco is the only legal product that kills between one-third and one-half of those who use it as intended. In the Americas, 145 million adults are smokers and among the youth population, girls and boys, on average, smoke in the same proportion. Lethal both to smokers and those around them, tobacco consumption is finally facing important government-led restrictions.

The WHO Framework Convention on Tobacco Control (WHO FCTC), which was adopted in May 2003 and backed by PAHO Resolutions CD 48.R2 and CD 50.R6 in September 2008 and 2010 respectively, has mobilized high-level support and triggered important policy shifts. With technical and policy support from PAHO, 29 countries (or 83% of PAHO member states) are Parties to the WHO FCTC. Six other countries have not yet assumed legally binding responsibility for their commitments. Using the WHO FCTC as a blueprint for action, governments are working across sectors to decrease demand by increasing prices and taxes, banning advertising, promotion and sponsorship, ensuring smoke-free public spaces, increasing consumer awareness through health warnings and promoting smoking cessation for current smokers.

An important step in decreasing consumption among vulnerable populations and youth is raising taxes and prices of tobacco products, which could also provide much needed resources for tobacco education, cessation programs or other health and social service programs. A few countries, like Mexico and Panama, raised taxes on tobacco products as indicated in the WHO FCTC, however these levies still fail to represent 75% of the retail price. Only Argentina and Chile include taxes of such percentage or higher. The majority of countries have yet to ful-



fill this element of the treaty, leaving tobacco prices at unfavorably low prices. As part of an additional strategy aimed at reducing the number of new smokers, bans on tobacco advertising, promotion and sponsorship are called for in the WHO FCTC. Ecuador, Colombia and Panama have full bans on tobacco advertising, promotion and sponsorship.

Protection against unnecessary death and disease caused by second hand smoke is also an important strategy of the WHO FCTC. Argentina, Barbados, Canada, Colombia, Ecuador, Guatemala, Honduras, Panama, Peru, Trinidad and Tobago, Uruguay and Venezuela are leading the way for the full implementation of smoke-free policies. At the same time, countries are working to expand smoking cessation programs for all. To date, all countries in the Americas are providing some kind of support for cessation, but few cover all the elements recommended in the WHO FCTC such as publicly funded cessation programs (including nicotine replacement therapy) with a national quitline for those who need help.

Although many countries are Parties to WHO FCTC, the enactment of national legislation that is consistent with WHO FCTC is still necessary to move from intention to action. In the coming years, PAHO will continue to work closely with member states to support the enactment of national policies and programs to reduce smoking rates and second hand smoke exposure throughout the Americas.

## Caribbean Wellness Day

Currently, the Caribbean has some of the highest prevalence of NCDs in the Americas. In order to address NCDs, Caribbean Community and Common Market (CARICOM) and PAHO, with the support of the Government of Canada, convened a summit of governmental leaders in September of 2007. At this meeting, leaders issued the Port-of-Spain Declaration, "Uniting to Stop the Epidemic of Chronic Non-Communicable Diseases in the Caribbean." The Declaration emphasized the need for comprehensive and integrated preventive and control strategies at the individual, family, community, national and regional levels and declared the second Saturday in September "Caribbean Wellness Day (CWD)."

From the time of the declaration in 2007 to 2009, 18 out of 20 Caribbean countries have participated in the CWD initiative. CWD was inaugurated in September of 2008 with the goal of stimulating ongoing physical activity in communities, workplaces and schools and promoting healthy food choices and screening in a smoke-free environment. From 2008 to 2009, activities have grown from isolated celebrations in capital cities to a diverse range of activities sponsored for the day throughout more than half of CARICOM's parishes and administrative regions. Celebrations have included athletic competitions, take a fruit to school/work day, activity and food preparation classes, and chronic disease screening stations measuring blood pressure, height, weight, cholesterol, and glucose levels with referrals as necessary. In 2009, an average budget of US \$22,000 was assigned by the government in each country for CWD and was supplemented by the private sector.

Despite the positive impact of CWD on Caribbean communities, multisectoral teams in several of the participating countries realize that one day de-



**CARIBBEAN WELLNESS DAY 2010**  
**"LOVE THAT BODY"**

**SATURDAY, 11 SEPTEMBER**

Contact the listed coordinator for activities in your area:

District/Community	Contact
District 2	<b>Mrs. Carolyn Stoutt Igwe</b> 494-0723
District 3	<b>Ms. Bernet Scatliffe</b> 494-3701 ext. 2168 <b>Ms. Beverly Hodge Smith</b> 494-3701 ext. 2174
District 5	<b>Ms. Veda Austrie</b> 442-2578
Purcell Estate	<b>Ms. Shirmel Benjamin</b> 494-3435
Districts 7 & 8	<b>Mrs. Helen Frett</b> 852-7651
Long Trench	<b>Mrs. Joyce Samuel</b> 494-2767
Virgin Gorda	<b>Mrs. Grace Flax Waters</b> 495-5344
Anegada	<b>Mrs. Andrea Vanterpool Fahie</b> 495-8048
Jost Van Dyke	<b>Mr. Mark Morris</b> 494-3450

voted to activity and wellness is not enough. Trinidad and Tobago has instituted a national "Family Fitness Sunday" where multiple roads are blocked throughout the country every Sunday to provide space for physical activity and healthy product sampling. The Minister of Health in the Virgin Islands launched, "Walk Into It," a year-long walking initiative. In total, five countries have sustained physical activity and wellness programs country wide including those listed above, as well as Saint Lucia, Antigua and Barbuda, Saint Vincent and the Grenadines. Fourteen of the eighteen participating countries have conducted structured evaluations of budget, participation of partners, geographic spread of CWD, utilization of regional branding, media coverage, plans for sustained activities, and recommendations.

## Act Now BC

The Canadian province of British Columbia (BC) won the bid to host the 2010 Winter Olympics in 2003. The presiding government decided to use this honor as a catalyst for a dramatic and innovative change in the health of their population. In 2005, the government launched ActNowBC, a multisectoral health promotion initiative integrating government action with civil society awareness and motivation.

Five main targets were set including the following: increase the proportion of BC's adult population that is physically active during leisure time by 20%; increase the proportion of BC's adult population that eats the daily recommended level of fruits and vegetables by 20%; reduce the proportion of BC's adult population that uses tobacco by 10%; reduce the proportion of BC's adult population that is classified as overweight or obese by 20%; increase the number of women counseled regarding alcohol use during pregnancy by 50% and foster strategies focused on the prevention of fetal alcohol disorder in all regional health authorities.

By 2009, BC had already made some important improvements to the health of its population. Targets to increase fruit and vegetable consumption and to expand fetal alcohol programs had met program targets. ActNowBC also expanded training and grant opportunities for holistic healthy lifestyle strategies aimed at improving health equity within Aboriginal communities. Additionally, BC adopted stronger tobacco control legislation, stronger restrictions on the use of industrially produced trans fat, stricter guidelines for the inclusion of healthy foods in vending machines in public buildings, and school health guidelines related to healthy snacks in vending machines and higher physical activity levels.

Though there are several factors that can help explain the overwhelmingly positive results of the ActNowBC campaign, a report by the World Health Organization from 2009 highlighted the importance



of two main ones: leadership and collaboration. Leadership from BC's Premier as well as from all Ministers, Deputies and Assistant Deputy Ministers helped to keep the initiative at the forefront of the government's agenda. Collaborative action among government sectors was broad as was the involvement of civil society. That diverse engagement helped spread the target messages to a broad audience and contributed immensely to the program's success.

ActNowBC not only changed the health of BC residents, it also has had a great impact on the way the government functions and does business. This multisectoral collaboration between government and civil society serves as an example for how ambitious health goals can be achieved successfully in the years to come.

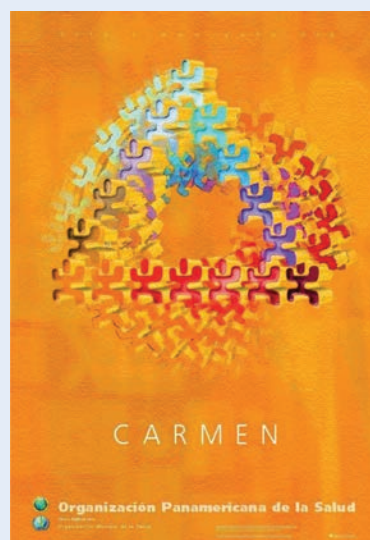


## The CARMEN Network (Collaborative Action for Risk Factor Prevention and Effective Management of NCDs)

The CARMEN network of national chronic disease program managers is a regional initiative of the countries of the Americas and the Pan American Health Organization/World Health Organization (PAHO/WHO) that encourages multisectoral policies, programs and collaborative social mobilization efforts to prevent NCDs at the local, national, sub-regional and regional levels. Members of the CARMEN network include countries and civil society partners that work together to decrease the incidence and impact of NCDs on societies throughout the Americas through effective policymaking and the development of programs to prevent and treat NCDs. With PAHO's support, the CARMEN Network serves as a catalyst for multisectoral action and an important vehicle for the implementation of the Regional Strategy and Action Plan for the Integrated Prevention and Control of Chronic Diseases, which was endorsed by PAHO member states in September 2006.

Since its inception in 1997, initially with Chile, Canada and Cuba, the CARMEN network played a key role in creating demonstration sites for community based interventions for NCD prevention and control, disseminating effective evidenced-based practices and policies while establishing regional NCD surveillance efforts and fostering regional and sub-regional collaboration between countries. The network is comprised of 32 member countries and numerous civil society organizations working on NCDs, ranging from WHO collaborating centers to the Inter American Heart Federation and Ciclovías de las Américas. At the sub-regional level, the CARMEN network has been active working with those members residing in the regions of the Andean countries, MERCOSUR countries, and the Caribbean.

Beyond its sharing of evidence based experiences for NCD prevention, control and promotion of



collaboration between countries and advocacy roles, the CARMEN network has two projects designed to improve the region's capacity to effectively manage the rise of NCDs. The CARMEN Policy Observatory supports regional NCD policy research and analysis and spearheads the constructive exchange of experiences between policymakers, planners and agencies throughout the region. The CARMEN school works to strengthen the technical capacity of chronic disease program managers and health providers on public health policy and health service interventions to manage the rise of NCDs. Additionally, the CARMEN network has become an information resource—sharing the latest field data and approaches through its biennial meetings, meetings at sub-regional levels and electronic communications.

Since its creation, the CARMEN network has played a crucial role in increasing the visibility of NCDs and supporting the development of technical capacity and political commitment in order to manage the rise of NCDs throughout the region. Its multisectoral and multi-dimensional efforts have shaped and supported a more informed, active and effective engagement against NCDs.



## Health System Change

In conjunction with programs or policies that take a Whole of Society approach to prevention in reducing the incidence of NCDs, health system change is also essential to improving the survival of those already affected. Expanding access to early detection and treatment for high-risk individuals and life-saving healthcare for people living with NCDs is essential in order to reverse growing morbidity and mortality trends. In developing countries, primary health care systems continue to respond to acute care needs driven by communicable diseases and childbearing, while NCD care—where existent—remains largely late-stage and hospital-based. In order to meet the exponential rise in incidence and growing mortality from NCDs, health systems must adapt by expanding human resources and integrating NCD prevention and care into primary healthcare services as a part of the services offered at the community-level.

Scalable interventions that provide affordable community-based prevention and chronic care for individuals throughout the lifecycle—from children to the elderly—must be integrated into the existing health infrastructure. As the Lancet points out,<sup>30</sup> NCDs are a “litmus test” for health systems. In low- and middle-income countries, most individuals are diagnosed with an NCD once they become symptomatic and expensive late stage treatment is necessary.

In order to prevent the high cost and poor success rates associated with dealing with NCDs in this manner, a range of new interventions must be implemented to drive the prevention, diagnosis and care of NCDs down to the primary health care level. These interventions include primary and secondary prevention, ensuring a reliable supply of essential medicines, identification and referral systems for individuals at risk, expanded numbers of health care workers, information and monitoring systems and new affordable technologies and approaches. At the same time, secondary and tertiary levels of health care must also be improved to meet emerging demands for late stage treatment and care. In the

Americas today, the ratio of radiotherapy units per unit of population varies widely. In 2010, the most industrialized countries had an average of 6.6 high-energy radiotherapy units per 1 million people, while the average in Latin America and the Caribbean was 1.3 per 1 million people. Some countries in the region have averages far below that figure, such as Bolivia, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua, Paraguay, and Peru and others these services are nonexistent.<sup>31</sup>

Health system improvements that ensure greater access to essential medicines, access to the health system for vulnerable populations, improved prevention and early treatment and chronic care models are necessary. These changes will go far in benefiting all aspects of healthcare—including current efforts to reduce the burden of communicable diseases, like TB and HIV, and improve maternal and child health outcomes.

For most low- and middle-income health systems this expanded mandate will be costly. New resources must be made available and new approaches to care innovated for early detection and care. As disease burden grows, available and effective approaches like the engagement of lay health personnel and self-care approaches should be carefully explored as ways to improve patient outcomes while reducing the cost of chronic care through task shifting, self-monitoring and innovative uses of technology in the provision of care. Health insurance schemes that encourage health-seeking behavior, including the reduction of risky behaviors, and increase the accessibility, affordability and availability of preventive health services could go far in reducing the economic and social burden of NCDs.

As demonstrated in the profiles below, new models for health system change are emerging in the Americas. These programs show early signs of being scalable and effective. Complemented by a Whole of Society approach to reducing risk factors and engaging non-health sectors, these programs show promise that the early detection and care of NCDs is possible in all-resource settings. As a result, the overwhelming inequities in survival can be eliminated.



## Improving Integrated Chronic Care

As non-communicable diseases spread, strengthening the ability of health systems to provide preventive and chronic care has become an important priority. An integral part of its Strategy for the Integrated Prevention of Chronic Disease, PAHO has worked to increase the capacity of its member states to provide quality chronic care and reduce the gaps between current need, clinical recommendations and existing care. In its efforts to bolster capacities within the region, PAHO partnered with the University of Miami to provide technical training on a systematic approach to improving the quality of care through evidence-based decision-making, the introduction of evidence-based clinical guidelines and active on the ground efforts to improve the quality of care, including patient follow-up essential for chronic diseases. This model, created by the Cindy MacColl Institute in Seattle, focuses on expanding the quality and points of care by linking the traditional health system with community-based organizations, which support the expansion of health services and education to underserved and vulnerable communities. New models of self-care and community-based group support are also important elements of the model and future care for NCDs, especially in low-resource settings.

PAHO's training and technical support has helped to catalyze a variety of successful programs throughout the region. In Central America, the CAMDI Program developed a successful model of integrated chronic care by linking improved clinical skills of health providers with community-based education and support for those living with NCDs—including community clubs for people living with diabetes and other chronic diseases. This program, now active in a total of 15 health centers in Guatemala, El Salvador, Nicaragua and Honduras, is showing early success in improving care and preventing premature morbidity for those suffering from chronic conditions. In Alberta, Canada, an integrated community-based approach to NCD prevention, treatment and care is paving the way for the successful integration



of NCD care. Argentina, Brazil, the Caribbean, the Dominican Republic, El Salvador, Mexico, Paraguay and Uruguay also are forging new models for the integrated chronic care of non-communicable diseases that are meeting the emerging needs of their populations and providing models for other countries and communities in the region. Some of these strategies have proven to be effective in improving quality of care, for example in reducing blood glucose among people with diabetes (Veracruz, Mexico; Misiones, Paraguay), improving process indicators such as registration of BMI and tobacco use (Argentina), improving the number and quality of screening for cervical cancer (El Salvador), and decreasing hospital admission for those with COPD (Alberta, Canada).

Providing tools to health providers and patients is an important part of improving quality of care. One such example is the PAHO Chronic Care Passport, a patient held card containing a care plan, healthy lifestyle advice, a personalized healthy meal plan and preventive measures for cardiovascular disease among others. The Chronic Care Passport is being implemented in around 15 countries across Latin America and the Caribbean.

## Argentina's National Health Strategy for the Prevention and Control of NCDs



Argentina's new National Health Strategy for the Prevention and Control of Non-Communicable Diseases is a strong example of a government-led initiative that tackles NCDs comprehensively. This ambitious strategy unleashed full government support for the prevention of NCDs—now responsible for 60% of premature deaths in Argentina. With support from the highest-levels of government, it triggered massive changes within the Argentinean health system, revising national health priorities and expanding the parameters and players engaged in improving public health in Argentina.

Approved by ministerial decree (1083/09), the new national strategy called for new goals within the National Health Plan, significant organizational restructuring within the Ministry of Health and a nationwide effort to use population-based interventions to prevent NCDs while initiating quality of care at all levels of the health system. With the support of a newly created intersectoral advisory board, the Ministry of Health charged its Directorate of Health Promotion and Protection with the task of expand-

ing its mandate to include NCDs. Now the Directorate of Health Promotion and Protection and Control of NCDs, this group is at the helm of the government's four-pronged strategy. This ambitious effort combines policy and advocacy with national-level population-based interventions, improved clinical care and a strong emphasis on surveillance as a tool for monitoring and evaluation.

The strategy has achieved early success on many levels. Policies focused on limiting the use of harmful oils and salts in industrialized foods have taken hold and are among the first in the region. Other initiatives to improve public awareness and revised national nutritional guidelines are similarly making great strides to reduce public risk and improve health. Ministry led efforts to increase intake of fruits and vegetables—currently at 1.9 portions per person per day, not the 5 recommended by PAHO/WHO—are also multisectoral in nature. In addition to improving public awareness and demand for fresh foods, the Ministry has taken the non-traditional step of working directly with national food distribution



networks to ensure that fresh fruits and vegetables are available in underserved areas. Public awareness is also an important element of the national strategy. In partnership with the National Federation of Cardiology and the Argentinean Biochemical Foundation, the Ministry of Health is leading a nation-wide campaign to improve public awareness of healthy living—named 100,000 Hearts for Healthy Change (100.000 Corazones para un Cambio Saludable).

Simultaneous initiatives have been underway to improve access to quality care for NCDs at all levels of the health system. Facing a system that was not prepared to provide chronic care, the new program integrated the Chronic Care Model worked swiftly to improve clinical diagnosis and revise patient intake forms to include risk factors for NCDs. Since these tools have gone into use, patient monitoring for NCD risks have improved dramatically. New clinical guidelines for diabetes, cardiovascular disease, tobacco related diseases and renal disorders have been launched in conjunction with clinical supports for greater patient self-care, including self-monito-



ring booklets that patients can use to track their progress between clinical visits and self-risk calculators widely distributed to the general public.

The government has recognized the importance of surveillance in ensuring success. Current efforts are underway to understand emerging trends such as tobacco use among youth and premature morbidity, while simultaneously measuring the impact of current efforts and communicating epidemiological evidence to policymakers and the general public.

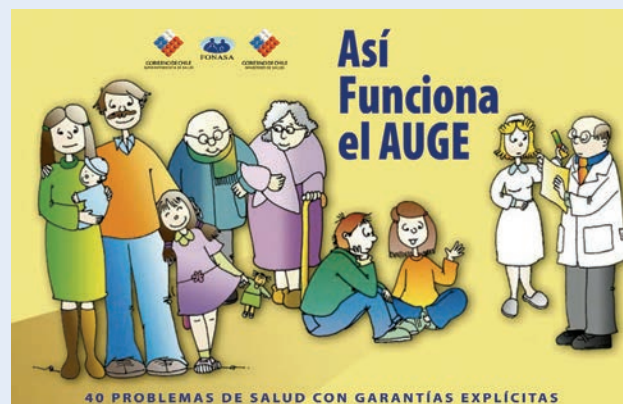
This ambitious initiative is not without challenges. According to the Ministry of Health, greater efforts are still needed to deepen multisectoral actions, improve clinical capacity at the provincial level, ensure all strategies are based on national evidence and gain the financial resources needed to match the growing needs. Despite these ongoing challenges, the scale and scope of Argentina's full national front against NCDs is an inspiration throughout the region.

## Chile's AUGE Program

Health care coverage in Chile is provided through two insurance systems that operate in parallel, the public National Health Fund (Fondo Nacional de Salud or FONASA), which covers 73.5% of the population, and a private system, called the Provisional Health Institutions (Instituciones de Salud Previsional or ISAPRES), with a coverage of 16.3%. The other 10% comprises beneficiaries of the armed forces and the uninsured. Employees are required to participate in either the public or private system, with a mandatory payment of 7% percent of their salaries.

In 2004, Chile's Universal Access with Explicit Guarantees Plan (AUGE Plan) went into effect as part of an ongoing reform of the health system. This Plan guarantees access to a list of interventions related to 69 predefined health conditions (75% of them are non-communicable diseases), plus a preventive health examination to all beneficiaries of the public and private insurances. Prioritization of health problems was agreed upon scientific evidence, epidemiologic relevance, feasibility of solutions and definition of appropriate medical response. Both FONASA and the ISAPRES are required to provide their beneficiaries with care and treatment for these health conditions, including the drugs and medical supplies required.

The AUGE Plan requires by law that interventions associated with each of the conditions in the Plan must be provided within an established time-frame and meet predefined quality standards, while, at the same time, guaranteeing individual financial protection. Providing treatment free-of-charge to individuals who are unable to pay and ensuring that costs to do not exceed a certain percentage of monthly earnings for those who are able to pay provides such protection.



The successes of the strategy include increased overall coverage, lower hospitalizations and early diagnosis of various cancers. Quality services, low costs and reasonable waiting times are the best attributes evaluated by the beneficiaries of the ISAPRES who have made use of the Plan. AUGE has contributed to a considerable increase in access to health services, particularly in those conditions where the perceived economic benefit is high, such as an increase in coverage for type 1 diabetes.

Case-fatality rates for all conditions covered by AUGE have decreased. Although hospitalizations for diabetes type 2 have increased, case-fatality rates have gone down, which is particularly noteworthy since these are mostly elderly patients. There has been a statistically significant decline in mortality from acute myocardial infarction from 12% before AUGE to 8.6% as of 2010.

The results of an early impact assessment of the AUGE Plan, published by the Ministry of Health in 2009, show that detection of early stages of breast and cervical cancer have also improved and that mortality rates for testicular, bladder & breast cancer fell from 125.8 per 100,000 in 2005 to 114.5 in 2007.



## CONACRO: The National Council for Chronic Disease Prevention in Mexico

First proposed in 2007, the National Council for Chronic Disease Prevention was created by Mexico's President Felipe Calderón with a Presidential Decree in February 2010. The first of its kind in the region, the establishment of this council calls for a government-wide response to the NCD epidemic. The council is composed of high-level representatives from the health sector and five other ministries deemed important in national NCD prevention efforts—Treasury, Labor, Education, Agriculture and Social Development. Members of the council work together to develop and execute intersectoral policies and programs in partnership with stakeholders from other areas of government, civil society and the private sector. In order to support its ambitious agenda, high-level committees have been established to focus on areas of specific needs including health and nutrition, capacity building for clinicians, multisectoral approach to care, NCD prevention, intra-governmental action, eating disorders and impact evaluation. Although new to its endeavors, CONACRO is working quickly to catalyze a more effective response to the prevention and control of NCDs at all levels of the Mexican government and society.



## Free Drugs for Hypertension and Diabetes: Brazil's Experience

In 2010, the Brazilian prevalence of diagnosed diabetes and hypertension in adult population was 6.3% and 23.3% respectively—becoming the two leading causes of hospitalization throughout the country. Recognizing the magnitude and burden of these diseases on the country, the Brazilian Ministry of Health adopted aggressive strategies to reduce the burden of these diseases in the Brazilian population by improving diagnosis and quality of care at the primary health care level.

An important element of this program has been the delivery of free NCD medicines to those in need. The distribution of free medicines in Brazil started in 1971, targeting low-income communities with limited access to drugs. As Brazil's NCD burden has grown, so have its efforts to provide quality health care and access to medicines to those in need.

In 2004, a program called “the Peoples Pharmacy of Brazil”, or Farmácia Popular do Brasil, was created. Supported by federal, state and municipal governments, this program was designed to improve the overall population's access to low cost essential drugs—not just the lowest income communities. In 2006, this program expanded again to include private pharmacies. Through this program the Ministry of Health is subsidizing 90% of the cost of 24 drugs registered for treating hypertension, diabetes, asthma, rhinitis, Parkinson disease, osteoporosis and glaucoma. Presently this program is operating in 2,500 municipalities, where an estimated 1.3 million people live. Within this population, an estimated 660,000 suffer from hypertension and 300,000 have diabetes.

Brazil's commitment to ensuring the availability and affordability of medicines has continued to



grow via its programs, policies and laws. Beginning in 2006 and continuing today, aggressive policies have been put in place to ensure financial support for the provision of NCD medicines through primary health care facilities. With a strong focus on hypertension and diabetes, Brazil's support for this program has come from the highest levels of government. In 2011, after only two months in office, President Dilma Rousseff created a program called “Health has no price” with the objective of broadening access to drugs for persons living with hypertension and diabetes. Now providing 11 free drugs to those in need, this program has reached over 3.7 million users throughout the country (representing a 70% increase in distribution of medicines to people in need) and is already showing an impact on mortality rates.



## Building Healthy Cities

Over the past several decades, urbanization has affected all countries in the Americas. Today, more people live in urban than in rural areas. As mentioned earlier, driven by the search for better paying jobs, many leave the countryside for the cities where they face radically different lifestyle choices. For the majority, low levels of physical activity result from sedentary manufacturing or service sector jobs, as well as the perception that walking in cities is unsafe, due to heavy traffic, crime and a lack of pedestrian-safe walkways. This lack of activity, coupled with a dramatic change in diet due to the relative expense of fresh food compared with industrialized, has caused an epidemic of obesity and triggered the rise of NCDs. In high-income countries in the region, these changes have been ongoing for decades. For lower-income countries, however, these changes are relatively new.

Early leaders in the NCD movement in the Americas understood the importance of using urban planning and policies to shift urbanization's role from "risk factor" to "health enabler". Recent successes in the region have shown the power urban policies and programs hold to combat these trends. From Colombia to New York, cities are taking the lead in reversing the growing risk for NCDs by ensuring that cities are smoke-free, encouraging physical exercise and expanding access to healthy low-calorie foods for everyone—all important elements of an NCD prevention agenda. The profiles below describe the evolution of these innovative efforts.



## Ciclovias: A Healthy Epidemic

The Ciclovía movement is transforming cities and making people happier and healthier. Beginning in the 1960s and 1970s, pilot programs in Bogotá and Ottawa began experimenting with closing portions of city streets on Sundays and holidays to cars. These innovative programs gained recognition and support with the growing acknowledgement from public leaders and health advocates that cities—often inhospitable to physical activity and community building—needed to be transformed into more livable and healthy places.

In the late 1990's the global Ciclovía movement was largely catalyzed by the efforts of the Former Mayor of Bogotá, Enrique Peñalosa, and his brother Guillermo Peñalosa, then Bogotá's City Parks Commissioner. Fighting chronic disease, social isolation and poverty, Mayor Peñalosa recognized that the residents of Bogotá were vulnerable to the health and social ills of rapid urbanization, physical inactivity and rising rates of chronic diseases. Inspired by earlier efforts, the Ciclovía or "bike path" program was expanded ten fold, creating a massive open streets program that covered more than 70 miles of streets throughout the city. The closed streets opened public space to walkers, bikers and joggers, and also inspired a parallel program named "Recrovia" through which dance, aerobic and yoga classes are offered free of charge throughout the city. As the program has grown, it has attracted street vendors—creating new jobs for the underemployed—and provided equal access to public space for all city dwellers.

A successful yet simple solution, Ciclovía requires the participation of many sectors of city government—Transportation, Parks and Recreation, Police, Urban Planning and Health—and the engage-



ment of civil society. Programs such as this one are widely recognized as being low-cost ways to encourage exercise, build communities and reduce environmental pollution. To date, Ciclovías have been launched in 38 cities in 11 countries including Quito, Mexico City, New York City, Salvador, Los Angeles, Guatemala City, Santiago de Chile and Lima.



## New York City Takes on NCDs

Under the leadership of Mayor Michael Bloomberg, New York City has become a global leader in reducing NCD risk factors within municipalities, making the city a healthier place to live. Early in his administration, Mayor Bloomberg worked to make New York City smoke-free by reducing areas where smoking could take place, slapping an additional city tax of \$1.50 on all cigarettes sold and clamping down on the illegal sale of non-taxed cigarettes. In 2003, Mayor Bloomberg expanded a smoking ban to include all workplaces, bars and restaurants and in 2011, this ban was expanded further to include all 1,700 city parks and city beaches.

In 2006, Mayor Bloomberg worked with the New York City Board of Health to eliminate the use of trans fats in the city's restaurants and food establishments. An amendment to the health code was used to deem trans fats a public health risk and call for their phasing out starting in 2007. By 2008, all foods served in New York City had less than 0.5 grams of trans fat per serving. The city government supported the transition by offering support resources for restaurants that would have to find replacement ingredients and new approaches to food preparation. More recently, the New York City Department of Health has begun a TV and poster campaign to discourage the overconsumption of sugary drinks. The "Are you pouring on the pounds?" campaign targets both adult and child consumption of sugary drinks by spreading messages such as "Don't drink yourself fat" and by showing how just a few sugary drinks a day can add up to 93 packets of sugar or 1400 empty calories per day. This campaign builds on Mayor Bloomberg's highly politicized, but so far unsuccessful, efforts to tax soft drinks and ban the use of publicly supported food vouchers to buy sugary drinks.

Bloomberg has been successful improving access to healthy foods and nutritional information in New York City schools and restaurants. Healthy school lunches, cooking classes, nutrition education and school gardens have become a part of a city wide effort to expand knowledge and encourage healthy eat-



ing among youth. Partnerships between the city and cooking celebrities, garden advocates and local farmers have been cornerstones of school-based programs to reduce childhood obesity. Also established under Bloomberg is the requirement that chain restaurants with more than 15 national outlets show the calorie count of their foods.

Encouraging physical activity has also been a priority of Mayor Bloomberg's efforts. Building on the Ciclovias program established in Bogotá, Colombia, New York City established the Summer Streets Program, which is now in its fourth year. For three Sundays in August, Park Avenue from Central Park to the Brooklyn Bridge is closed to car traffic and filled with bikers, joggers, walkers and even temporary swimming pools. The recent "Make NYC Your Gym" campaign offers exercise classes, meet ups and information that aim to increase physical activity by making it more accessible and fun for New Yorkers.

Supporters and critics agree that Mayor Bloomberg has gone further than any Mayor in making New York City a healthier city by reducing the risk factors responsible for NCDs. Early research is showing that these efforts are paying off. Recently the city announced that between 2001–2009 the life expectancy of New Yorkers increased by 19 months with a marked decrease in cardiovascular and other smoking-attributable illnesses.<sup>32</sup>

## Active Cities Healthy Cities

Active Cities Healthy Cities is a unique contest that uses online media to recognize innovative projects shaping the health of cities around the region. PAHO, the US Center for Disease Control and Prevention (CDC), and the Center for Sustainable Transport (EMBARQ) of the World Resources Institute initiative have created a regional platform to promote exchange among healthy city advocates and planners and recognize successful projects that make cities more humane, healthier, safer and more environmentally sound.

Since its inception in 2002, Active Cities Healthy Cities has sought to improve public health in the Americas by encouraging the innovative expansion of pedestrian and bike-friendly urban areas. Reduction in traffic-related injury and deaths, improved air quality, increased physical activity, and improved social interaction and mobility for all citizens, including the elderly and handicapped, are all ambitious goals of this regional initiative and keys in the fight against NCDs. Existing projects in the areas of sustainable transportation and air quality, public space, parks and environmental protection, physical activity, recreation and road safety are eligible for nomination.

Over the past nine years, Active Cities Healthy Cities has awarded its prize to 12 projects in five different countries in the Americas. By combining online public voting with the engagement of expert regional leaders, this program offers a unique public platform for exchange between civil society, municipal leaders, urban planners and public health specialists. In identifying and building consensus around innovative models, this program has gone far in quickly identifying scalable solutions to physical inactivity, obesity and environmental risk in urban areas and supporting the spread of effective models between countries.





## Educating Healthy Kids

Innovative health and civil society leaders have begun to recognize the important role schools play in the larger fight against NCDs. Schools are important places to educate, mobilize and feed children with the goal of improving their health and reducing their future risk of disease. This is especially the case, in communities where fresh food sources are limited, parents are undereducated about healthy food choices and habits, and social and gender norms place restrictions on safe and accessible play spaces for girls and boys.

Impacting health today, school-based physical activity programs can help reverse obesity trends and help establish good habits like healthy eating, exercise and not smoking. In vulnerable communities, school meal programs can provide a healthy meal for children living on the margins. Government policies restricting the types of foods and quantities of foods for sale in schools are likely to have an impact on children's health now. Similarly, school-based exercise programs might be the only safe and reliable place for physical activity in vulnerable communities.

Education itself has been shown to have protective effects against NCDs. Recent research shows that adults with less than an 8th grade education are twice as likely to get diabetes than adults with more education.<sup>33</sup>

The profile below describes several ongoing national initiatives to improve the knowledge and health of children through replicable policies and programs in schools.





## School Meal Reformulation

Over the past several decades, school meal programs were put into place to prevent undernourishment among students in need. Today, the focus has shifted from solely providing food, to providing nutritious food. With rates of childhood obesity skyrocketing, school-based education and access to healthy quality foods has become a priority among governments. In Latin America, Colombia and Brazil are leading the way. In 2009 an “obesity law” was passed in Colombia in an effort to reverse inactivity and obesity trends by promoting physical activity, healthy eating and nutrition education in schools. According to the law, schools are required to provide both healthy balanced food, including fruits and vegetables, as well as health education programs that emphasize healthy eating. In Brazil, a national law not only defined healthy school meals as a human right of every student, but also took a step further to ensure government investments in school meals would support local family farms. According to this new law, at least 30% of national funds used to support the National School Meal Program must be used to acquire locally produced foods. As of 2009, the National School Meal Program provided 47 million meals per day to students—investing US \$1.7 billion in school meals and directing hundreds of millions of dollars to family farms.

In Brazil, Panama, Mexico and the United States, the sale of sweetened soft drinks and other industrialized foods in schools has also become a focus of national and sub-national policies and programs.



Once common targets of industry efforts to increase sales and build new markets, schools are now a focus of government efforts aimed at controlling the foods sold in school vending machines, snack bars and outside schools, while improving access to healthier snacks. Among the first of its kind, Panama banned the sale of fried foods and soft drinks in schools in 1997. In Mexico where one in three children is obese, new rules went into effect January 1st, 2011 to limit the portion size of foods that could be sold at schools. Now, industrially produced “school-sized” packages are produced and available in schools. Other bans are in effect in Brazil and Panama. In the United States a combination of Congressional bans and voluntary compliance by industry reduced the calories from all drinks shipped to schools by 58% between 2004–2007.<sup>34</sup> Although still in its infancy, multisectoral partnerships involving Ministries of Health, education, agriculture, local farmers and industries to successfully reduce childhood obesity and increase healthy eating in and outside of schools are taking hold.



## Healthy Food for All

As the demand for industrialized foods continues to grow, creating new social norms to promote healthy eating through, while mitigating the risks associated with these foods must become a priority. Policies limiting harmful levels of sugar, salt and trans fats in foods are and will continue to be paramount. Efforts to expand affordable access to healthy foods while making unhealthy foods more expensive and less attractive—through taxes and on-pack labeling—have the potential to go far in reversing current demand patterns. The production and transport of healthy foods should be encouraged, while more effectively managing the risks, place of sale and costs of low-priced industrialized foods. Early partnerships that include food manufacturers are showing promising signs that new product standards can become the cornerstones of socially responsible business practices and to the expansion of healthy options in communities.





## Salt Reduction in Latin America and the United States

The overconsumption of salt and its impact on hypertension has become one of the largest challenges to the prevention of NCDs in the Americas. Today, approximately 35% of all people in the Americas suffer from hypertension, in large part due to the overconsumption of salt from industrialized foods high in sodium, or the overuse of discretionary salt in cooking or at the table.<sup>47</sup> Fortunately, as proven over the past several years, population-wide policies and cost-effective programs can deliver rapid reductions in hypertension and change consumption patterns through public awareness efforts. Backed by PAHO's regional expert group on Cardiovascular Disease Prevention Through Dietary Salt Reduction, Chile, Brazil, Argentina and the United States are leading the region with their innovative salt reduction initiatives.

With over double the recommended consumption of salt and over 33% of its adult population hypertensive, Chile has taken action to introduce national targets for gradual salt reduction. Launching the National Strategy to Reduce Salt Consumption 2010–2015, Chile has prioritized surveillance on patterns of disease and risk, public awareness, voluntary commitments by industry and national regulation elements of its national strategy. Building on the Food Law passed in 2009, this four part strategy is actively working to reformulate products (namely bread, the major source of sodium for the population), increase consumer choice through improved sodium labeling on industrialized packaged foods, increase regulation and build demand for low-sodium products among the public. Unhealthy food products are appropriately labeled and not available for sale in schools.

In Brazil, the Ministry of Health has pioneered voluntary commitments with the food industry. Aiming to reach a nationwide consumption of less than 5 grams per day of sodium, the government has signed an agreement with the Brazilian Associations of Food



Industries, Pasta and Dough Industries, and Wheat and Bakeries to lower sodium levels in commonly consumed foods through 2020. Industrially produced breads and soups are among the first foods for which new targets will be developed and applied. Among the many commitments made new criteria have been established to limit the maximum sodium content in processed foods and make yearly reductions in the sodium of instant pastas, breads and pão francês (or “French bread,” the national staple and a major source of sodium intake in the country). Additional reductions are scheduled in 2012 and 2014 for other food categories, including processed meats, cheeses, breakfast cereals and packaged meals.

In Argentina, the Ministry of Health has similarly focused on promoting population-based policies aimed at reducing public consumption of sodium and building public demand for lower-sodium products through its program, “Menos Sal Mas Vida”. Using a multi-pronged approach the government has had an important impact on national salt consumption. Researchers found that bread consumption was responsible for over 25% of the total national sodium intake—estimated to be well above double the recommended national levels. In partnership with the Federación Argentina de la Industria del Pan y Afines



(FAIPA) and the Instituto Nacional de Tecnología Industrial (INTI), the Ministry of Health developed a nationwide campaign targeting artisanal breadmakers—who provide 95% of the national bread through a network of 25,000 bakeries—and the general public. This effort was designed to encourage bakers to reduce sodium levels in bread by 1 gram per loaf—a reduction found to be indistinguishable to consumers, yet could save 2,000 lives per year in Argentina. Beginning with a national campaign, the government sought to encourage new lower-salt bread formulations through national contests and to build demand for reduced salt bread among consumers. This effort has led to the nationwide uptake of lower-sodium bread formulations by over 30,000 bakeries throughout the country. Additionally, the Ministry of Health has successfully launched voluntary salt reduction agreements with the leading producers of industrialized foods in the country. In a short time, a number of key producers have agreed to reduce sodium levels in key products over the coming years. These activities, coupled with the Ministry's public awareness efforts are likely to go far in reducing salt consumption and ultimately play an important role in reducing death and disease from hypertension.

In the United States, a similar initiative is underway to reduce the salt in industrialized and restaurant foods, which provide over 80% of the salt consumed by the population. The National Salt Reduction Initiative (NSRI) is a public-private partnership comprised of 72 partners, including 15 cities, 29 state authorities, 19 national health organizations and 9 state and local associations. This initiative has developed sodium targets for 62 categories of packaged food and 25 categories of restaurant food. Participating companies pledge to meet voluntary targets within a food category, but are allowed to do so by bundling their products together. This allows companies to



Hostess Brands, Kraft Foods and Starbucks Coffee Company have all pledged. In an effort to ensure that pledges are kept, this initiative tracks companies' progress towards their commitments and sodium levels in the national food supply. If the NSRI is able to reach its goal to cut the salt in packaged and restaurant foods by 25% over five years, salt intake in the United States would be reduced by 20% and tens of thousands of lives would be saved each year.

Although efforts are well underway in some countries, many countries in the region still lack policy and programmatic support to ensure that healthy low-sodium products are available and in demand. It is hoped that the initiatives described here will provide encouragement and helpful experience for additional countries to design their own cost-effective salt reduction strategies.

## Chile 5 a Day

In Chile, Cardiovascular diseases are the primary cause of death, followed by cancer. The 2003 National Health Survey results show that 55% of the adult population (17 to 65 years) has a high cardiovascular risk, where 33.7% had hypertension and 61% were overweight or obese. Guided by these figures and the knowledge that Chile's national vegetable and fruit production was capable of supplying national demand, INTA – University of Chile launched the national “5 a Day” program to improve national eating habits in 2004. The Chilean program was modeled after a successful program launched in California, USA in 1991, which has since been replicated in over 40 countries worldwide.

The “5 a Day Program” in Chile linked public and private sectors and included partnerships with the Ministries of Agriculture, Health and international organizations such as the WHO/PAHO, United Nations Program for Development (UNDP), and the UN Food and Agriculture Organization (FAO). The overall goal of the Chilean “5 a Day Program” is to increase average consumption of fruits and vegetables to at least 5 portions per day in order to decrease risk of cardiovascular diseases, cancer and other nutrition-related, chronic, non-communicable conditions.

The program has four major components: awareness building through media campaigns, better positioning of fresh fruits, vegetables and nutrition information in supermarkets, expansion of farmers markets and measuring program impact through research and evaluation.

In 2006, the 5 a Day Chile Corporation was founded with partners in both the academic and public sectors. By February 2007, the corporation launched the campaign with the goal of creating awareness and motivating individuals to increase their consumption of fruits and vegetables.

The campaign included media releases, working with national networks of supermarkets to place fruits and vegetables at the front of store locations and offering “fruit and vegetable discount day” each



week. The Ministry of Agriculture supported the project with the goal of solidifying Chile as a top international producer of healthy fruits and vegetables.

According to the research evaluation project, “Impact Evaluation of a ‘5 a Day’ Campaign to Increase the Consumption of Fruits and Vegetables,” results achieved nationwide successes. Before, baseline consumption of fruits and vegetables was low, with 58.7% of those surveyed reporting to consume 1 to 2 servings per day and 48.6% reporting consumption of 3 to 4 servings per day. After the “5 a Day” intervention campaign, consumption of 3 to 4 servings per day increased to 51.4%. The results of the study concluded that the four action components of the “5 a Day Program” are not only feasible but also effective. The “5 a Day Program” in Chile has been used as a positive example throughout Latin America and around the world based on its widespread, multisectoral partnerships and the positive population wide behavior changes that resulted.

## Cinco Pasos Por Tu Salud

The government of Mexico has launched a successful nationwide health education program to battle its obesity epidemic and improve public awareness about NCDs. Launched by José Ángel Córdova Villalobos, the Minister of Health, “Cinco Pasos Por Tu Salud” (Five Steps for Your Health) program is changing the way the Mexican population understands and works to prevent the alarming rates of overweight and obesity—now affecting over 60% of adults and 30% of children.

The program promotes five basic steps towards health through communications activities and partnerships with schools, sports teams, businesses and municipalities throughout the country. These steps are 1) become active, 2) drink water, 3) eat fruits and vegetables, 4) measure yourself and 5) tell others. Using mass media, TV spots are aired, building awareness about the five steps to health. In an effort to gain the nation’s attention, the government has turned to Mexico’s passion—soccer—to gain a captive audience. The Ministry of Health has launched “Football versus Obesity”, a partnership with the National Commission for Popular Health, the Mexican Soccer Federation and Voit, a soccer ball company. This program uses soccer matches to encourage the Mexican public to measure themselves, one of the five steps. The “Measure Yourself” campaign hosts information booths offering physical measurements and health information at every game, health logos on goal posts, health messages before each game, and arm and wrist bands promoting the message to be worn by players and referees during each game. These efforts are complemented by a website, where individuals or groups can track their progress in following the five steps.

At the state and municipal levels, the program has been widely embraced and has catalyzed efforts to improve access to health foods and safe spaces for physical activity. Currently, five states have officially become “Cinco Pasos States,” meaning that the



governor of that state has chosen to include obesity and NCD prevention among the highest priorities of the state government. Five additional states are in the process of becoming similarly accredited. This political commitment has triggered municipal efforts to expand Sunday afternoon physical activity events, ensure the availability of free water at public events, start new local fruit and vegetable markets, host nutrition workshops, improve school lunches, offer health information and measurement services at booths at special events and host campaign days to spread the Cinco Pasos message.

This multi-tiered effort to raise public awareness and encourage individual action is being supported by ongoing efforts to secure the policies and clinical care needed to reduce risk factors and improve access to early diagnosis and effective treatment throughout Mexico.



## Private Sector: Doing Well by Doing Good

Throughout the Americas, the engagement of the private sector in promoting healthier communities through NCD prevention, awareness building and advocacy is a powerful asset to the fight against NCDs. As mentioned earlier, NCDs place unnecessary pressures on the health, productivity and wealth of our communities. Businesses are affected by the loss of workers' time, energy and expertise due to premature illness and mortality.

The potential benefits of private sector involvement in NCD prevention are many. Occupational risks greatly influence NCDs globally. According to the WHO 26% of CVD and COPD, 15% of asthma, 10% of cancer and 8% of injuries and depression result from occupational hazards. Increased attention to worker safety and health-promoting workplace programs that focus on injury risk reduction and the elimination of worker exposure to harmful substances are important steps in NCD prevention. The workplace is also an important venue to reach workers with health education and services that will help reduce their exposure to risk factors outside the workplace—including programs to promote smoking cessation, obesity control, cardiovascular health and physical activity.

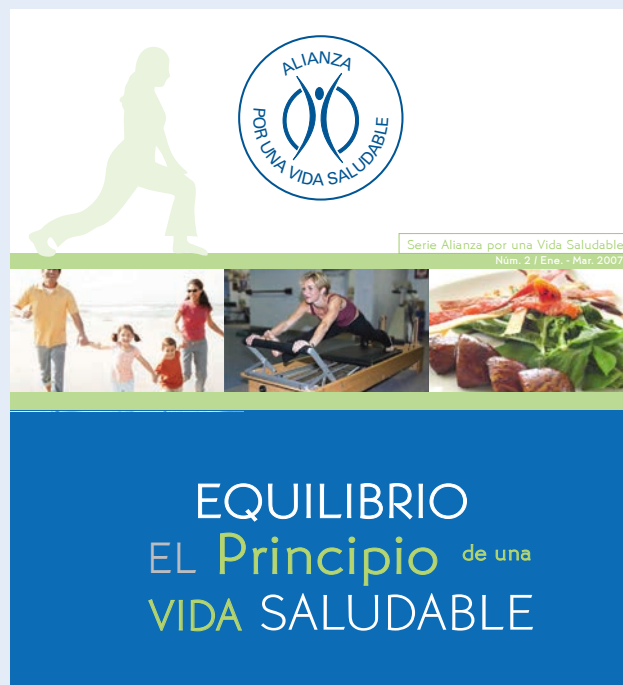
For the private sector, emerging public interest in NCDs also provides the opportunity to develop new, healthier product lines and expand its market reach by developing new products for health conscious populations. This win-win situation exists for products ranging from healthy foods to bicycles. Engagement by the private sector in these important areas—decreasing worker attrition, improving productivity, encouraging greater public awareness and establishing new healthy product lines—is proving to be a beneficial move for socially responsible and entrepreneurial businesses. The following profiles are innovative examples of engagement by the private sector in the fight against NCDs.



## La Alianza por una Vida Saludable

Responding to extraordinarily high national obesity rates, the Mexican food industry formed a unique alliance aimed at improving consumer awareness and providing information to support healthy lifestyles. Created in 2005, La Alianza por una Vida Saludable (The Alliance for Healthy Living) now includes over thirty major industry food leaders including Coca-Cola, Pepsi, Mars, Kellog, Sabritas, Red Bull and La Costeña. Building on its principles that only habits, not food, are good or bad and individual responsibility is key, the alliance is actively engaged in public discourse and activities to curb Mexico's obesity epidemic.

In partnership with civil society and public sector leaders, La Alianza por una Vida Saludable develops initiatives to promote healthy eating and lifestyle choices. Among its many programs, one in particular stands out. Launched in 2010, Checa y Elige, Claves de Nutrición (Check and Choose, Keys to Nutrition) has successfully mainstreamed simple, easy to understand nutritional keys that are quickly being integrated into most packaged food brands throughout the country. This voluntary, industry-initiated system allows consumers to quickly identify the calories, saturated fat, sugar and sodium in a product in order to encourage informed choices about consumption. The easy-to-read labeling system has already been adopted by 300 brands and is expected to be incorporated by hundreds of other brands by the end of this year.



Among its other initiatives, La Alianza por una Vida Saludable encourages product reformulation and new, healthier product development among its members. These efforts focus on reductions in sugar, fats and salt, while expanding the use of high-fiber, whole grain alternatives and portion-controlled packaging. In addition, the alliance is a powerful national advocacy group, closely engaging the government and civil society in healthy eating and lifestyle issues. It is also a major supporter of public information campaigns that shape public awareness and consumer choice in Mexico.

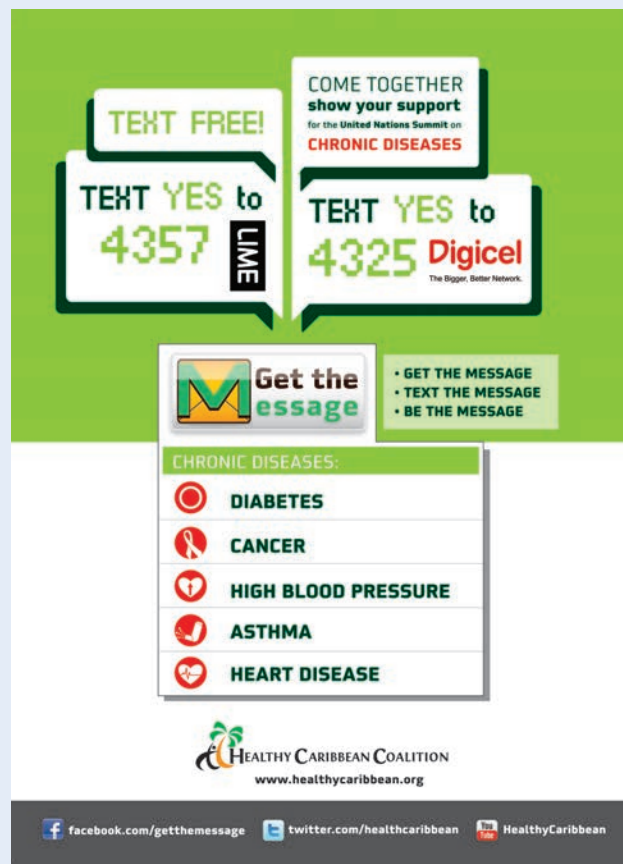


## Get the Message Campaign

In the Caribbean, mobile phone companies are joining the fight against NCDs. The first of its kind in the region, the Get the Message campaign mobilizes the communication networks of mobile phone companies and the power of social media to build public awareness about NCDs and galvanize commitment by Caribbean Heads of State to participate in the UN High-level Meeting. Launched by the Healthy Caribbean Coalition in partnership with two mobile phone network providers, Digicel and CWI Caribbean Limited (trading as LIME in the English Speaking Caribbean), the campaign encourages Caribbean residents to take action by sending messages from their mobile phones to register their support and call on leaders of the Caribbean community (CARICOM) to participate in this important meeting.

The Get the Message campaign provides an opportunity for discussion and dialogue among the youth, an important, but difficult to reach target group, about NCDs and healthy lifestyles, and provides them with a positive application for a popular method of communication. The campaign presents a good example of how civil society in the Caribbean might form alliances to respond to NCDs.

Formed in 2008, the Healthy Caribbean Coalition is a civil society network and NCD alliance that brings together a wide range of partners from health NGOs, private companies, academic institutions, and governments to garner support for the prevention and management of NCDs throughout the Caribbean. The Healthy Caribbean Coalition is using innovative social-media strategies—including text, Twitter,

The graphic is a promotional poster for the 'Get the Message' campaign. At the top, it says 'TEXT FREE!' and 'COME TOGETHER show your support for the United Nations Summit on CHRONIC DISEASES'. Below this, two speech bubbles show text messages: 'TEXT YES to 4357 LIME' and 'TEXT YES to 4325 Digicel'. In the center, there's a section titled 'CHRONIC DISEASES:' with a list of five diseases, each accompanied by a red circular icon: DIABETES (sugar icon), CANCER (ribbon icon), HIGH BLOOD PRESSURE (heart with pulse line icon), ASTHMA (inhaler icon), and HEART DISEASE (heart icon). To the right of this list, a box contains the campaign's three pillars: 'GET THE MESSAGE', 'TEXT THE MESSAGE', and 'BE THE MESSAGE'. At the bottom, the 'Get the Message' logo is displayed, followed by the 'HEALTHY CARIBBEAN COALITION' logo and website 'www.healthycaribbean.org'. The footer includes social media links for Facebook, Twitter, and YouTube.

Facebook and YouTube—to raise public awareness about NCDs. By partnering with DIGICEL and LIME, supporters can send text messages at no cost to the Healthy Caribbean Coalition, opening a previously untapped channel to demonstrate public interest and support for action around NCDs. As momentum surrounding the Get the Message campaign builds throughout the Caribbean, a similar effort is now underway in Latin America.







# 3

## CONCLUSIONS

NCDs like heart disease, stroke, cancer, diabetes and chronic respiratory disease are now the number one killers in the region, with disproportionate impacts on poor and less educated people. As highlighted in this document, the risks are widespread and growing, making the human and economic cost to governments, business and families unsustainable.

The leadership, robust policymaking and innovative programs highlighted in this report indicate a growing awareness and commitment to NCDs throughout the Americas. Mobilized by PAHO's Strategy for the Integrated Prevention of Chronic Disease and concretized in the Mexico City Declaration, the governments of the Americas recognize that the fight against NCDs must be comprehensive and focus on integrated prevention and control strategies that take a "Whole of Society" approach.

This joint effort must be multisectoral and mobilize all members of society.

- Governments must take swift action to integrate NCD prevention and control into their health plans, budgets, programs and policies.
- Civil society must expand its efforts as advocates, educators and watchdogs in this area of growing public health concern.
- And the private sector must step up its efforts to build public awareness of NCDs and provide products that are both good for health and good for business.



As the challenge of NCDs continues to grow, leadership from all stakeholders will be essential—PAHO included. To date, PAHO has played an early and fundamental role in understanding and shaping a response to the NCD epidemic in the Americas. PAHO is committed to expanding this role and its efforts in the years to come through advocacy, technical support and coordination throughout the region. It will expand its prevention efforts, especially high impact interventions like tobacco control, reducing dietary salt, and physical activity. And it will also step up its efforts to support the development of successful practices and models to care for people living with NCDs and quickly disseminate these models throughout the region.

Recognizing that no one sector can do it alone, PAHO will continue its support for NCD focused regional efforts including launching its Pan American Forum for Action on Chronic Disease. The Forum will bring together government, private sector and civil society

to raise awareness of and catalyze the scale-up of successful practices for the prevention and control of NCDs and promotion of health at all levels. The approach is relevant to all countries, and will be needed to intensify action after the UN High Level Meeting on NCDs.

PAHO believes that the people, programs and approaches profiled in this report offer an early glimpse of what is possible and necessary to fight NCDs in the Americas, and beyond. It is hoped that the ambitious, collaborative and committed spirit of these endeavors inspires even greater responsibility in all of us and action throughout the Americas and the world in the years ahead.

In the next 10 years, the health, productivity and quality of life for millions of people in the Americas could be improved and 3 million deaths avoided if known cost-effective interventions such as tobacco and salt reduction measures are implemented at scale and preventive care and treatment is provided to those in need.





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