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PUERTO RICO
Departamento de Salud

Puerto Rico Chronic Disease Action Plan

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Chronic Disease Prevention and Control Division,
Secretariat for Health Promotion

Estado Libre Asociado de Puerto Rico
Departamento de Salud



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Message from the Secretary of Health

I am pleased to present the Puerto Rico Chronic Disease Prevention Action Plan 2014-2020. This Plan illustrates the fact that chronic diseases significantly affect the life of people living with these conditions and those at risk of developing them. The Puerto Rico Department of Health recognizes that the foundation of this Plan is that our population can be healthy and our efforts in public health can facilitate better access to adequate health care and to environments that promote proactive healthy behaviors, such as healthy nutrition and physical activity.

During the past two years, the Department of Health worked in collaboration with the Puerto Rico Chronic Disease Control Alliance in the development of this Plan. The Plan was built upon a deliberate process to obtain feedback from representatives of different sectors and agencies that work with chronic disease prevention and health promotion. The Plan is designed to provide a common framework of strategies for action in four key domains: epidemiology and surveillance, health system, community-clinical linkages, and strategies that support and reinforce healthy behaviors. I believe that with concentrated and cooperative efforts focused in these key domains, and by following the recommendations in this Plan, the burden of chronic disease in Puerto Rico can be greatly reduced.

When people with chronic diseases have reliable access to health care, live in healthy community environments and experience healthy relationships, all of Puerto Rico benefit. I hope that the goals, objectives and strategies described in this Plan will achieve a healthy and prosperous future for all the residents in Puerto Rico.

Sincerely,

Dra. Ana Rius Armendáriz
Secretary of Health



Introduction

The Challenge of Chronic Disease

Chronic diseases are long-term diseases that develop slowly over time, usually progress in severity, and can often be controlled, but rarely cured. Heart disease, stroke, cancer, diabetes, asthma, arthritis, and Alzheimer's disease are the leading causes of disability and death in Puerto Rico. However, the burden of chronic disease is shared unequally across the population. People in low socioeconomic circumstances and older adults have higher levels of disability, morbidity and mortality from chronic disease compared to the rest of the population.

In 2010, the ten leading causes of death in Puerto Rico were similar to those observed in the United States (Table 1). During this year, deaths from heart diseases, malignant neoplasms, diabetes, Alzheimer's disease, and cerebrovascular diseases accounted for 57.1% of all deaths in Puerto Rico (Figure 1). Heart diseases occupy the first cause of death. In 2010, heart diseases accounted for 17.8% (n=5,208) of all deaths in Puerto Rico. Cancer is the second leading cause of death. Malignant neoplasms accounted for 17.7% of all deaths (n=5,197). Prostate cancer is the most frequent cause of death due to cancer among males, while breast cancer is the most frequent cause among females. Diabetes is the third leading cause of death and this disease alone accounted for approximately 10% of all deaths (n = 2,959). Alzheimer's disease and stroke are the fourth and fifth leading causes of death, causing 6.4% (n=1,863) and 5.1% (n=1,507) of all deaths in Puerto Rico, respectively.

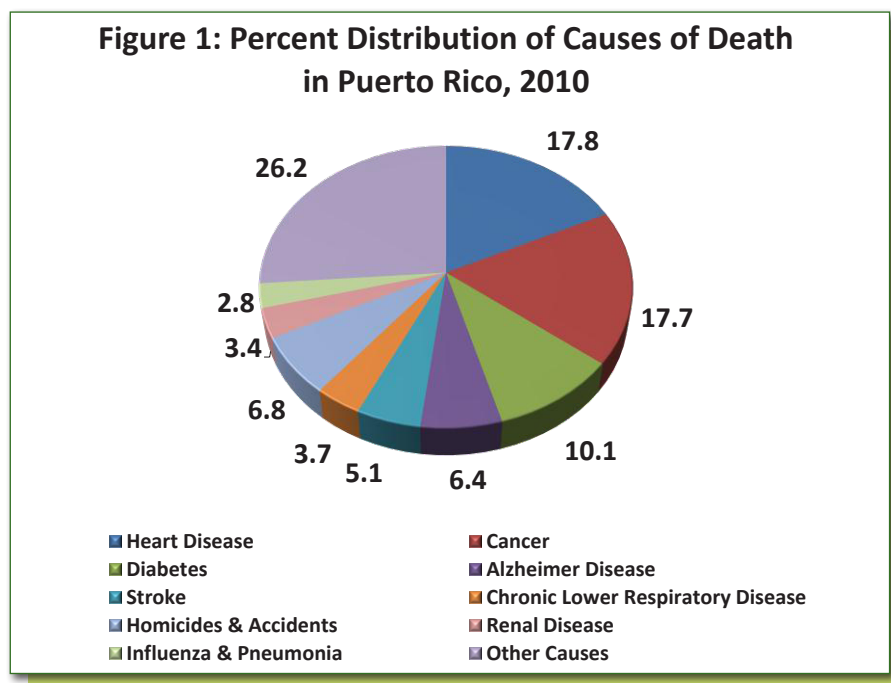


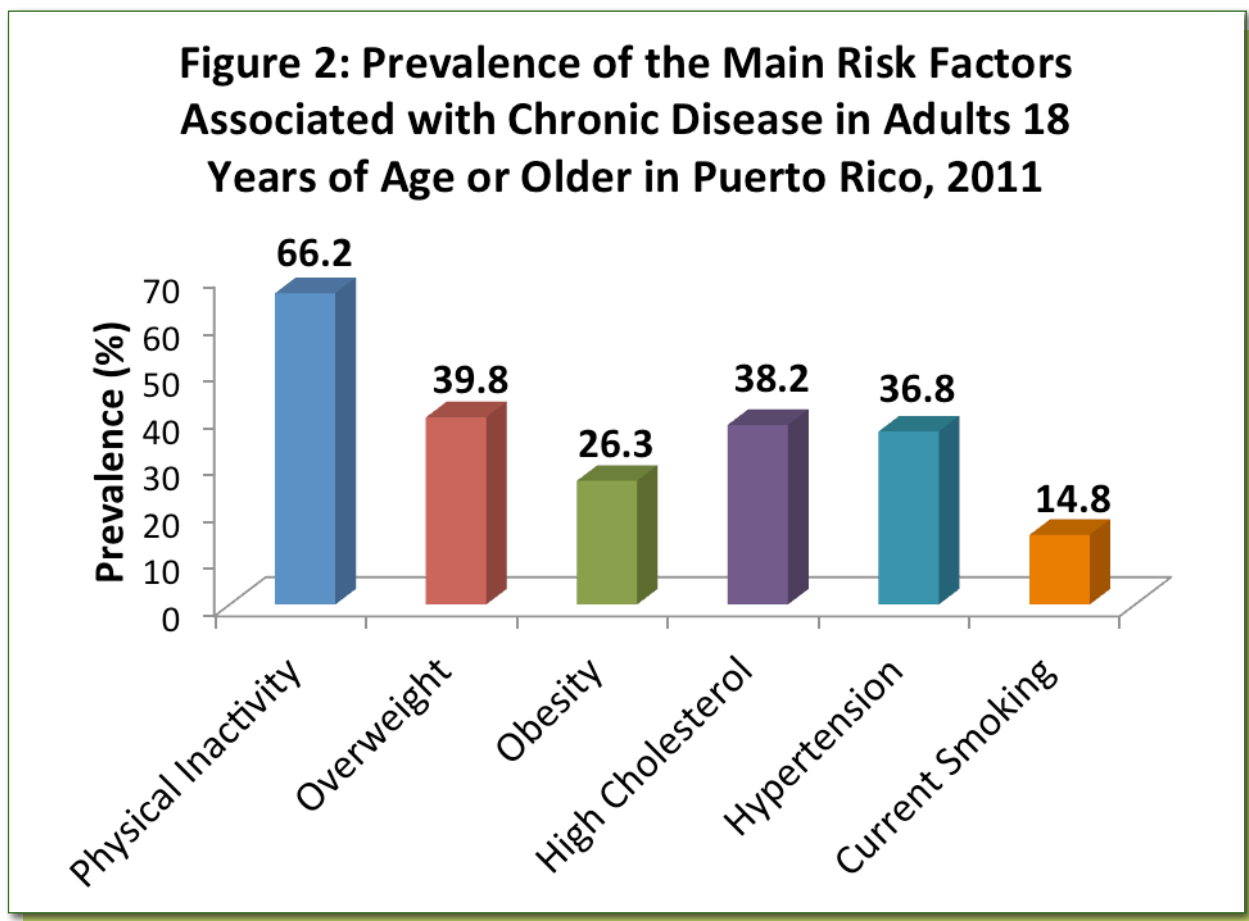
Table 1: The Ten Leading Causes of Death and Age-Adjusted Death Rates in Puerto Rico and the United States, 2010

Rank	Puerto Rico [^]		United States	
	Cause of Death	Age-adjusted Death Rate*	Cause of Death	Age-adjusted Death Rate**
1	Diseases of Heart	125.7	Diseases of Heart	179.1
2	Malignant Neoplasms	123.8	Malignant Neoplasms	172.8
3	Diabetes	70.4	Chronic Lower Respiratory Diseases	42.2
4	Alzheimer's disease	46.1	Cerebrovascular diseases/Stroke	39.1
5	Cerebrovascular diseases/Stroke	36.7	Accidents (unintentional injuries)	38.0
6	Chronic Lower Respiratory Diseases	26.5	Alzheimer's disease	25.1
7	Homicides	26.3	Diabetes	20.8
8	Accidents (unintentional injuries)	26.2	Nephritis, nephrotic syndrome, and nephrosis	15.3
9	Nephritis, nephrotic syndrome, and nephrosis	23.8	Influenza and pneumonia	15.1
10	Influenza and pneumonia	20.0	Suicides	12.1

[^] Preliminary Data

Rates are per 100,000 population; age-adjusted rates per 100,000 U.S. standard population based on the year 2000* and 2010** standards respectively.

In Table 2, we present a snapshot of the present situation regarding the principal chronic diseases affecting our population in Puerto Rico. Data from the Puerto Rico Behavioral Risk Factor Surveillance System and the Puerto Rico Central Cancer Registry confirms this burden. Although chronic diseases are among the most common and costly health problems affecting the population in Puerto Rico, they are also among the most preventable. While many chronic diseases cannot be cured, many can be prevented through interventions that address key behavioral risk factors and that improve health care and early detection. Preventive measures should be targeted towards modifiable risk factors, such as tobacco use, lack of physical activity, and poor nutrition, and towards populations with health disparities (Figure 2). Hypertension and dyslipidemia are also major risk factors for heart disease, stroke, congestive heart failure, and kidney disease (Figure 2).



Data Source: Puerto Rico Behavioral Risk Factor Surveillance System, 2011

The Puerto Rico Chronic Disease Action Plan outlines the Department of Health’s seven year plan to target preventable chronic diseases. It provides epidemiological evidence and health promotion actions to support the prioritization of prevention and disease management strategies to address the increasing burden of chronic diseases in Puerto Rico. This plan is aligned to the Puerto Rico Healthy People 2020 plan and the Pan-American Health Organization plan for the Prevention and Control of Non Communicable Disease. The Puerto Rico Healthy People 2020 includes specific health indicators for the majority of the chronic diseases

addressed in this Plan, such as heart disease, stroke, cancer, respiratory disease, diabetes, and Alzheimer disease.

The burden of chronic disease in the health system can be reduced by focusing public health strategies in primary prevention, early interventions, and disease management. Responsibility for chronic disease prevention and management is shared by the government, health professionals and providers, other non-government organizations and all Puerto Ricans. For that reason, the plan articulates strategies focused in four key domains: a) surveillance and epidemiology, b) clinical-community linkages, c) health systems, and d) strategies to support healthy behaviors. In 2012, the Puerto Rico Alliance for Chronic Disease Control (PR-ACDC) was established. The Alliance comprises governmental agencies and private organizations compromised with the health and wellness of the population. The partnership between the Puerto Rico Department of Health and the PR-ACDC is essential in the implementation and sustainability of this Plan. Partnerships with organizations throughout the health system and in other areas related to the health system are required to have a measurable impact on reducing the burden of chronic disease in Puerto Rico over the next seven years.

Table 2: Snapshot of Chronic Disease Burden in Puerto Rico

Chronic Disease	What is it?	Prevalence* or Incidence	Disparities
<p>Heart Disease</p>	<p>Group of diseases of the heart, including ischemic heart disease and heart failure, among others.</p>	<p>Heart attacks were self-reported in 4.8% of people aged 18 years or older. Angina or coronary heart diseases were self-reported in 7.2% of people aged 18 years or older.</p>	<p>Age* - Heart attack prevalence and angina or coronary heart disease prevalence were significantly higher in adults 65 years of age or older when compared with other age groups (13%; 95% CI: 11.3% - 14.8% and 15.1%; 95% CI: 13.3% - 16.9%, respectively).</p> <p>Gender^ - Although there is no significant differences by gender in the prevalence of heart attacks and coronary heart disease or angina, Puerto Rican women who suffered an acute myocardial infarction were at increased risk of death. Furthermore, women with acute myocardial infarction had significantly higher prevalence of comorbidities (diabetes, hypertension, stroke and heart failure), but smoked less than men (10.2% vs. 22.2% respectively). In addition, the use of clinical guidelines for the prevention of second acute myocardial infarction (aspirin at discharge and 24 hours, smoking cessation counseling and therapies using average helpful) was significantly lower in women than in men.</p> <p>Socioeconomic factors* - Among those with annual household income less than \$15,000, the prevalence of heart attack was 6.8% (95% CI: 5.7% - 7.9%) and the prevalence of angina or coronary heart disease was 9.7% (95% CI: 8.4% - 10.9%). These estimates were significantly higher than the estimates for persons with an annual household income of \$15,000 or more. The same trend was observed in adults with lower level of education.</p>

Table 2: Snapshot of Chronic Disease Burden in Puerto Rico (continued)

Chronic Disease	What is it?	Prevalence* or Incidence**	Disparities
Diabetes	A metabolic disease in which high blood glucose levels result from defective insulin secretion or insulin production, or both. The most common form is type 2, in which there are reduced levels of insulin and/or the inability of body cells to properly use insulin.	Self-reported in 13.5% of people aged 18 years or older.	<p>Age* - About one of every 3 adults 65 years of age or older has diabetes (33.2%; 95% CI: 30.8% - 35.6%).</p> <p>Gender* - In Puerto Rico, diabetes is more frequent in women when compared with men (14.2%; 95% CI: 13.0% - 15.3% vs. 12.7%; 95% CI: 11.2% - 14.1%, respectively).</p> <p>Socioeconomic factors* - The same trend occurs in socioeconomic disadvantaged populations; among adults with annual household income less than \$15,000, the prevalence of diabetes was significantly higher than in those with annual household income of \$50,000 or more (18.9%; 95% CI: 17.1% - 20.6% vs. 5.2% 95% CI: 3.1% - 7.4%, respectively). The same trend was observed in adults with lower level of education.</p>
Malignant Neoplasms	Diseases characterized by tumors that tend to grow, invade, and metastasize.	<p>In 2009, there were 12,906 new cancer cases in Puerto Rico, of which 6,898 (53.4%) were males and 6,008 were females (46.6%). Prostate cancer was the most common cancer among males; breast cancer was the most common among females. Colon and rectum cancer is the second most frequent cancer for both males and females.</p>	<p>Age** - Incidence and mortality rates vary by age. About 54.7% of all new cases and the 68.8% of all deaths by cancer in Puerto Rico occur after the age of 65 years.</p> <p>Gender** - Incidence rates among males had a slight increase with an average of 0.3% each year; in females the incidence rates increased by an average of 0.9% each year during this period. The increase was statistically significant for the females only (p<0.05).</p> <p>Socioeconomic factors‡ - Incidence and mortality of cancer in Puerto Rico varied by socioeconomic position area. In general, the incidence and mortality for cancers of the esophagus and stomach were higher for municipalities with the lowest socioeconomic position; in contrast, rates for breast, colorectal, kidney, pancreas, prostate, and thyroid were higher for areas with the highest socioeconomic position.</p>

Table 2: Snapshot of Chronic Disease Burden in Puerto Rico (continued)

Chronic Disease	What is it?	Prevalence* or Incidence**	Disparities
Arthritis	Group of diseases characterized by inflammation of joints.	Self-reported in 18.1% of people aged 18 years or older.	<p>Age* - Almost half of the adults aged 65 years or older have arthritis (49.3%; 95% CI: 46.8% - 51.8%).</p> <p>Gender* - Arthritis is more common in women than in men (25.3%; 95% CI: 23.8% - 26.8% vs 13.4%; 95% CI: 11.9% - 14.8%, respectively).</p> <p>Socioeconomic factors* - Among adults with annual household income less than \$15,000, the prevalence of arthritis was significantly greater than among those with annual household income of \$50,000 or more (27.1%; 95% CI: 25.2% - 29.1% vs. 10.7%; 95% CI: 7.6% - 13.9%, respectively).</p>
Asthma	Disease involving inflammation of the air passages, causing episodes of wheezing, chest tightness and shortness of breath.	<p>Current asthma self-reported in 10.1% of people aged 18 years or older.</p> <p>Lifetime asthma self-reported in 17.2% of people aged 18 years or older.</p>	<p>Age* - Lifetime asthma prevalence is higher in younger groups. Young adults from 18 to 24 years of age had the highest lifetime asthma prevalence, while adults aged 55 years or older had the lowest prevalence (20.8%; 95% CI: 17.2% - 24.5% vs. 14.3%; 95% CI: 12.0% - 16.6%, respectively).</p> <p>Gender* - Lifetime asthma is more common in women than in men (21.7%; 95% CI: 20.1% - 23.3% vs. 12.1%; 95% CI: 10.5% - 13.7%, respectively).</p> <p>Socioeconomic factors* - Among adults with annual household income less than \$15,000, the prevalence of asthma was significantly greater than among those with annual household income of \$50,000 or more (18.7%; 95% CI: 16.8% - 20.7% vs. 12.2%; 95% CI: 8.6% - 15.8%, respectively).</p>

Table 2: Snapshot of Chronic Disease Burden in Puerto Rico (continued)

Chronic Disease	What is it?	Prevalence* or Incidence**	Disparities
Alzheimer's Disease	Neurologic disease characterized by loss of mental ability. Usually occurs in old age, and is marked by a decline in cognitive functions such as remembering, reasoning, and planning.	There is no official statistical information available for Puerto Rico to estimate incidence or prevalence. However, in 2012, 9.75% (n=274,972) of the adults 18 years of age or older self-reported perceived cognitive impairment in the last 12 months. Of these, 6.8% (n=18,660), self-reported having received a diagnosis of Alzheimer's disease from a health provider (PR-BRFSS, 2012).	Alzheimer's disease is more common in older adults; however, there is no statistical information to assess other disparities.

*Behavioral Factor Surveillance System. (2011). Puerto Rico Prevalence and Trends Data. Retrieved from <http://apps.nccd.cdc.gov/BRFSS/page.asp?cat=XX&yr=2011&state=PR#XX>

^Zevallos, J.C. (2007). Puerto Rico Heart Attack Study. *Revista Galenus*, 1118. Retrieved from <http://www.galenusrevista.com/spip.php?article1118>

**Puerto Rico Central Cancer Registry. (2012). Cancer in Puerto Rico 2004-2009: Cancer Incidence and Mortality. Retrieved from <http://www.salud.gov.pr/RCancer/INFORMES%20ESPECIALES/Cancer%20in%20Puerto%20Rico%202004-2009.pdf>

‡ Torres-Cintrón, M., Ortiz, A. P., Ortiz-Ortiz, K. J., Figueroa-Vallés, N. R., Pérez-Irizarry, J., De La Torre-Feliciano, T., Díaz-Medina, G., & Suárez-Pérez, E. (2012). Using a Socioeconomic Position Index to Assess Disparities in Cancer Incidence and Mortality, Puerto Rico, 1995-2004. *Preventing Chronic Disease*, 9. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3298767/pdf/PCD-9-E15.pdf>

Goals

The overarching goal of the Puerto Rico Chronic Disease Action Plan is to reduce the chronic disease burden in the population by promoting the adoption of healthy lifestyles to improve the quality of life of the Puerto Rican society.

Specific goals are to:

1. Establish a solid scientific base of knowledge on the prevention of chronic diseases.
2. Increase awareness of chronic diseases, their impact, and the importance of early diagnosis, appropriate management, and effective prevention strategies.
3. Implement effective programs to prevent the onset of chronic diseases and promote the management of them

In order to accomplish these goals, specific tactics and objectives have been developed in the following four key domains:

- ▶ Epidemiology, surveillance, and evaluation
- ▶ Clinical and community linkages
- ▶ Health systems
- ▶ Strategies to support and reinforce healthy behaviors

Epidemiology, Surveillance, and Evaluation

Surveillance and epidemiological data is essential in monitoring the trends of the principal chronic diseases affecting the population in Puerto Rico. The timely data collection, analysis, interpretation, and dissemination allow to describe the burden associated with chronic disease, to identify inequities in health care, to focus resources where there is more need, provides the necessary evidence to identify areas or subpopulations with health disparities, and can be used to develop policy to properly address chronic diseases.

The proposed objectives are based in the following four main milestones:

1. Development and implementation of policy to support chronic disease surveillance,
2. Development and maintenance of necessary technological infrastructure,
3. Development and enforcement for the use of guides and protocols to prevent and manage chronic diseases, and
4. Integration of different sectors in supporting chronic disease surveillance

The accomplishment of these objectives is critical in the development of a rapid and effective chronic disease surveillance system.

Goal 1: To establish a solid scientific base of knowledge on the burden of chronic diseases in Puerto Rico by supporting timely collection and analysis of chronic disease surveillance data.

Objective 1.1: By 2020, increase the number of available chronic disease data sources.

Strategies	Key Activities	Responsibility
<ul style="list-style-type: none"> Establish and/or maintain chronic disease surveillance systems, including primary and secondary data sources such as BRFSS, YRBSS, hospitalization discharge data, and chronic disease registries. 	<ol style="list-style-type: none"> Identify available and potential chronic disease data sources. Identify chronic disease data gaps. Work in collaboration with other programs within the Department of Health, hospitals and clinics, universities, and other partners to enhance the process of sharing chronic disease data. Identify funding for core surveillance and evaluation activities. 	<p>Department of Health's Health Promotion Secretariat (DOH-HPS)</p> <p>Alliance's Epidemiology, surveillance, and evaluation Working Group</p>
<ul style="list-style-type: none"> Integrate electronic health records (EHR) data to complement chronic disease burden reports and improve care coordination and population health. 	<ol style="list-style-type: none"> Establish a plan with the PRHIN to share specific data on selected chronic disease indicators. Identify and select chronic disease indicators available in EHR. 	<p>Puerto Rico Health Information Network (PRHIN)</p> <p>Alliance's Epidemiology, surveillance, and evaluation Working Group</p>

Goal 1: To establish a solid scientific base of knowledge on the burden of chronic diseases in Puerto Rico by supporting timely collection and analysis of chronic disease surveillance data.

Objective 1.2: By 2020, increase the number of chronic disease surveillance and evaluation reports to support program and policy development and to support decision making efforts to improve chronic disease prevention and control in the population.

<ul style="list-style-type: none"> Analyze, create, and disseminate chronic disease data reports that include risk factors and social determinants of health. 	<ol style="list-style-type: none"> Establish a plan to create standardized and continuous data driven chronic disease and risk factor burden reports. Establish a plan to utilize innovative communication strategies, such as Facebook, Twitter, electronic newsletters, and others to disseminate chronic disease burden data. 	<p>DOH-HPS Puerto Rico Health Information Network (PRHIN)</p>
<ul style="list-style-type: none"> Develop a plan to continuously evaluate chronic disease prevention and control efforts. 	<ol style="list-style-type: none"> Use of the CDC Framework for Program Evaluation. Standardize the evaluation reports. Develop logic models to assist in the evaluation process. 	<p>DOH-HPS</p>

Health System

In order to deliver high quality clinical and other preventive services to populations at risk of developing and/or with a diagnosis of a chronic disease in Puerto Rico, there is a need to organize the delivery of services and to integrate different sectors of the health system. To make this integration possible, it is necessary to establish collaborations between the government, the policy makers, health care administrators, and health care providers, among others.

Strategies in this domain will include:

1. Promote communication and adequate coordination of clinical and preventive services for patients with chronic disease across the different levels of the health system.
2. Promote the adoption and use of electronic health records with registry function, decision support, and electronic reminders.
3. Promote the adoption and implementation of the Expanded Chronic Care Model in primary care settings to improve chronic disease outcomes.

Goal 2: To establish an organized and accessible health system with the capacity of delivering effective and high quality clinical and other preventive services in order to prevent disease, detect diseases early, reduce risk factors, and manage complications.

Objective 2.1: By 2020, increase the number of primary care settings implementing one or more components of the Expanded Chronic Care Model.

Strategies	Key Activities	Responsibility
<ul style="list-style-type: none"> Support the adoption and implementation of electronic health records with registry functions, decision support, and electronic reminders to improve care coordination and outcomes in patients. 	<ol style="list-style-type: none"> Provide training and technical assistance in the use of EHR data to improve the coordination of clinical and preventive services for patients at risk or with chronic diseases across the different levels of the health system. 	<p>Department of Health’s Health Promotion Secretariat (DOH-HPS) Puerto Rico Health Information Network (PRHIN)</p>
<ul style="list-style-type: none"> Promote the adoption and implementation of the Expanded Chronic Care Model in primary care settings. 	<ol style="list-style-type: none"> Provide training and technical assistance in: <ul style="list-style-type: none"> Team-based care, including participation of allied health professionals, such as nurses, pharmacists, nutritionist, among others. Referral to chronic disease self-management education programs. Implementing the Department of Health’s Chronic Disease Management Guidelines. Delivery of smoking cessation services and treatments, including referrals to the Puerto Rico Quitline. 	<p>Department of Health’s Health Promotion Secretariat (DOH-HPS) Alliance’s Health System Working Group Primary Health Association of Puerto Rico</p>

Community-Clinical Linkages

The Puerto Rico chronic disease prevention and health promotion efforts will focus on the management of chronic diseases through the promotion of evidence-based interventions to reduce risk factors and control chronic conditions. Strategies include clinical and community linkages and collaborations. These strategies are:

1. Support the implementation of evidence-based interventions to reduce risk factors and control chronic disease at different community settings, such as schools, worksites, faith-based organizations, among others.
2. Promote and support the delivery of chronic disease self-management education at both clinical and community settings.
3. Promote the use of community health workers and other allied health professionals to assist in chronic disease prevention and health promotion efforts in order to effectively outreach to the population.

Goal 3: To promote chronic disease prevention and control by implementing evidence-based strategies and interventions across the life span.

Objective 3.1: By 2020, increase the number of evidence-based interventions or programs in chronic disease prevention and control impacting every stage across the life span.

Strategies	Key Activities	Responsibility
<ul style="list-style-type: none"> Establish and/or maintain evidence-based interventions on chronic disease prevention and control in different clinical and community settings and impacting different stages across the life span. 	<ol style="list-style-type: none"> Identify culturally appropriate evidence-based interventions on chronic disease prevention and health promotion to implement in Puerto Rico. Provide training and technical assistance in the implementation of health promotion and wellness programs at worksites, including the utilization of the CDC Worksite Health Scorecard. Provide training and certification to health professionals and community leaders in Stanford’s Chronic Disease Self-Management Licensed Program. Provide training and technical assistance to community health workers in interventions on chronic disease prevention and health promotion, targeting populations at different stages across the life span. Implement programs or curriculums in elementary and secondary schools with an emphasis on increasing physical activity, increasing healthy eating habits, and preventing tobacco use and alcohol abuse. 	<p>Department of Health’s Health Promotion Secretariat (DOH-HPS) Alliance’s Community - Clinical Linkages Working Group University of Puerto Rico Department of Education</p>

Environmental Approaches that Support and Reinforce Healthy Behaviors

Supporting and reinforcing healthy behaviors is an important strategy to achieve a healthier population. Improvements in social and physical environments make healthy behaviors easier and more convenient for the population. In order to create the necessary infrastructure to accomplish this objective, the efforts should be directed by the following strategies:

1. Development and implementation of policies to increase the population access to healthful foods and safe places for physical activity.
2. Development and implementation of policies to establish comprehensive wellness programs at worksites.

Goal 4: To reinforce and support healthy behaviors in the population by environmental changes approaches.

Objective 4.1: By 2020, increase the number of policies or regulations that promote access to healthy and safe environments and healthful foods.

Strategies	Key Activities	Responsibility
<ul style="list-style-type: none"> • Establish policies on nutritional standards for food and beverages offered in settings, such as governmental agencies, schools, and worksites, among others. • Establish policies on improving access to safe environments for physical activities in different settings (parks, worksites, etc). • Establish a policy to require daily and quality physical education in schools for all grades. • Develop a policy to establish comprehensive workplace wellness including health insurance coverage for preventive services. 	<ol style="list-style-type: none"> 1. Provide technical assistance in the development and implementation of policies by using the <i>Community Putting Prevention to Work (CPPW)</i> experience and MAPPS interventions. 2. Support the implementation of the Complete Streets Initiative. 3. Provide technical assistance in the development and implementation of a policy to require daily and quality physical education in schools for all grades. 4. Provide technical assistance in the development and implementation of the policy in accordance with the requirements established by the <i>Affordable Care Act</i>. 	<p>Department of Health’s Health Promotion Secretariat (DOH-HPS) Alliance’s Community - Policy Working Group Department of Education AARP</p>

Conclusion

Chronic diseases impose a great social and economic burden for the Puerto Rican society. Reducing this burden will only be possible by integrating efforts to achieve common goals and objectives and minimize duplication of efforts. In addition, we should consider social determinants of health, disparities, and health inequities to identify needs and populations at risk. The Puerto Rico Chronic Disease Action Plan provides a framework to address chronic disease burden in Puerto Rico for the next seven years. The Department of Health cannot accomplish this mission alone. It is our responsibility to unite efforts in one direction to address chronic diseases and to support the public health system. Every one of the sectors represented in the Puerto Rico Alliance for Chronic Disease Control can adopt this Plan as their own. By achieving the goals presented in the Plan we will reduce the impact of chronic disease in Puerto Rico and will improve the quality of life of the population.

“Both the public health system and the medical care system need to participate, as both perform vital functions the other cannot, or cannot perform as well. Unfortunately, the public health system is vastly underfinanced and underdeveloped to achieve its mission of optimal health for all through prevention. Reducing disease, disparities, and cost, and improving quality of life will depend on having a robust and effective public health system than effectively addresses chronic disease.” (James S. Marks & Janet L. Collins in the foreword of Chronic Disease Epidemiology and Control, 2010).



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