



PUERTO RICO COMPREHENSIVE CANCER CONTROL PLAN

2015 - 2020



 Coalición para el
Control de Cáncer
de Puerto Rico

PROGRAMA DE CONTROL COMPRENSIVO DE CÁNCER

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Puerto Rico Cancer Control Coalition and
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Mensaje del Gobernador del Estado Libre Asociado de Puerto Rico



El cáncer agrupa una serie de enfermedades que afectan el bienestar físico, mental y emocional del paciente, sus familias y cuidadores. En las últimas décadas, gracias a mejores métodos de detección y tratamiento, ha sido posible reducir la mortalidad. Aun así, las cifras demuestran que continúa siendo la primera causa de muerte en Puerto Rico.

A la reducción de la mortalidad tiene que acompañarla medidas para reducir el sufrimiento que causa la enfermedad, promover el acceso y reducir la inequidad en la prestación de los servicios a los pacientes. Estos esfuerzos deberán realizarse en un marco de colaboración para maximizar el rendimiento de los recursos existentes, operar cambios en el entorno de sistemas públicos y privados, y de política pública.

El Plan de Control Comprensivo de Cáncer 2015 2020 desarrollado por la Coalición para el Control de Cáncer de Puerto Rico es un ejemplo de la combinación de esfuerzos colaborativos para desarrollar un mejor sistema de salud para Puerto Rico. El informe elaborado con los datos estadísticos y científicos más recientes servirá para reducir la incidencia de y mortalidad por cáncer, y ayudará a mejorar la calidad de vida de los sobrevivientes.

Felicito a todas las organizaciones e individuos que participaron en el desarrollo de este Plan de Control Comprensivo de Cáncer para Puerto Rico 2015 2020. Los invito a trabajar juntos en su implantación. Les reitero mi compromiso con la salud de nuestro pueblo y me comprometo a trabajar con todos para lograr un Puerto Rico cada vez más saludable.

Alejandro J. García Padilla

CARTA SECRETARIA DE SALUD



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PUERTO RICO

Departamento de Salud

9 de diciembre de 2014

Presentación del Plan para el Control de Cáncer en Puerto Rico

Mensaje de la Secretaria de Salud

El cáncer agrupa una serie de enfermedades con grandes repercusiones sociales, económicas y que afectan la calidad de vida de la persona que vive con la condición y sus familiares. Desde el año 2012, el cáncer pasó a ser la primera causa de muerte en Puerto Rico, sobrepasando por primera vez a las muertes por enfermedades del corazón.

El control del cáncer requiere la unión de diversos sectores en esfuerzos concertados: 1) para realizar una utilización efectiva de los recursos disponibles, 2) para lograr cambios en los sistemas y en las políticas públicas, 3) para permitir la implementación de estrategias basadas en evidencia o prácticas prometedoras y 4) finalmente poder disminuir la carga de esta condición en Puerto Rico.

El Plan de Control Comprensivo de Cáncer de Puerto Rico 2015-2020 es el documento que guiará a Puerto Rico en los próximos años con metas y objetivos específicos para lograr una población más saludable. Este Plan representa el esfuerzo coordinado del Centro Comprensivo de Cáncer y la Coalición para el Control de Cáncer de Puerto Rico, la cual agrupa a personas y organizaciones comprometidas con mejorar la calidad de vida en nuestro país. Es por esta razón, que reconozco la excelente labor realizada por cada una de las personas que trabajaron en el desarrollo de este Plan.

El Departamento de Salud se reafirma en su compromiso ministerial de promover y ejecutar las acciones preventivas que ayuden a reducir los factores de riesgo en la población e implementar estrategias para aumentar la detección y el tratamiento temprano, así como mejorar la calidad de los servicios ofrecidos a las personas con cáncer. Exhorto a que utilicemos este Plan como modelo y marco de referencia para elaborar las estrategias que trabajará cada una de nuestras organizaciones y de este modo lograr cumplir con la meta de reducir la carga social y económica del cáncer en Puerto Rico al 2020.

Atentamente,

Dra. Ana C. Rius Armendáriz
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INTRODUCTION



The Puerto Rico Comprehensive Cancer Control Plan (PRCCC Plan) 2015-2020, is an updated call for action to address the burden of cancer in Puerto Rico developed by the Puerto Rico Cancer Control Coalition. This document represents the second iteration of the PRCCC Plan with revision of priority areas and update of goal, objectives, and strategies in order to increase cancer prevention efforts through risk reduction, screening and early detection of cancer, access to early and adequate treatment for cancer, and improve the care and quality of life of cancer survivors and their caregivers. The plan addresses the implementation of sustainable changes in policy, system and environmental factors and the reduction of cancer inequalities in the island.

WHAT IS COMPREHENSIVE CANCER CONTROL?

Cancer control encompasses a broad range of activities and efforts. The Centers for Disease Control and Prevention defines Comprehensive Cancer Control as: "***an integrated and coordinated approach to reduce cancer incidence, morbidity, and mortality through prevention, early detection, treatment, rehabilitation, and palliation***" through:

- Risk Reduction
- Early Detection
- Improved Treatment
- Enhanced Survivorship

Why Comprehensive Cancer Control?

- Reduces duplication of efforts
- Maximizes resources
- Enables changes in systems and policies
- Enables implementation of multi-level interventions
- Maximizes impact on cancer burden

Why Comprehensive Cancer Control produces better outcomes?

- Uses evidence-based planning and intervention
- Identifies gaps
- Identifies priorities
- Allows better allocation of resources
- Focuses on the big picture
- Is a collaborative approach

The Puerto Rico Comprehensive Cancer Control Program

The Puerto Rico Comprehensive Cancer Control Program (PRCCCP), is a program partially funded by the National Comprehensive Cancer Control Program (NCCCP) of the Centers for Disease Control and Prevention (CDC), Figure 1. The PRCCCP is affiliated, through a Memorandum of Understanding (MOU) with the Puerto Rico Department of Health (PRDOH), at University of Puerto Rico Comprehensive Cancer Center (UPRCCC). Under this agreement, the UPRCCC has served as the Bona Fide agent for the PRDOH. The PRCCCP is responsible for:

- Soliciting and administrating the CDC funding
- Integrating, activating and maintaining the Puerto Rico Cancer Control Coalition representative of cancer stakeholders in the Island
- To develop, review, and implement the Puerto Rico Comprehensive Cancer Control Plan

Puerto Rico Cancer Control Coalition

The Puerto Rico Cancer Control Coalition is a group of Group of cancer stakeholders (entities and individuals) representative of the different sectors of the Island interested in cancer control, Figure 2. It is responsible for assessing the cancer status in Puerto Rico, establishing goals to reduce cancer morbidity and mortality, identifying evidence-based strategies to reach those goals, and identifying priorities for implementation.

Members of the Puerto Rico Cancer Control Coalition include:

- Public health programs
- Government agencies
- Professional associations and organizations
- Academic and medical institutions
- Business & industry
- Non-profit and community-based organizations
- Individuals
- Others

Selection of Priorities is based on:

- Cancer Burden
- Risk Factors Burden
- Interest & expertise
- Opportunity
- Availability of adequate data (e.g.; PRCCR, PRBRFSS) to evaluate outcomes
- Availability of evidence-based strategies or best practices
- Feasibility of implementing policy, system and/or environmental strategies
- Potential for meaningful impact at short-, mid-, and long-term



Figure 1 Puerto Rico Comprehensive Cancer Control Program

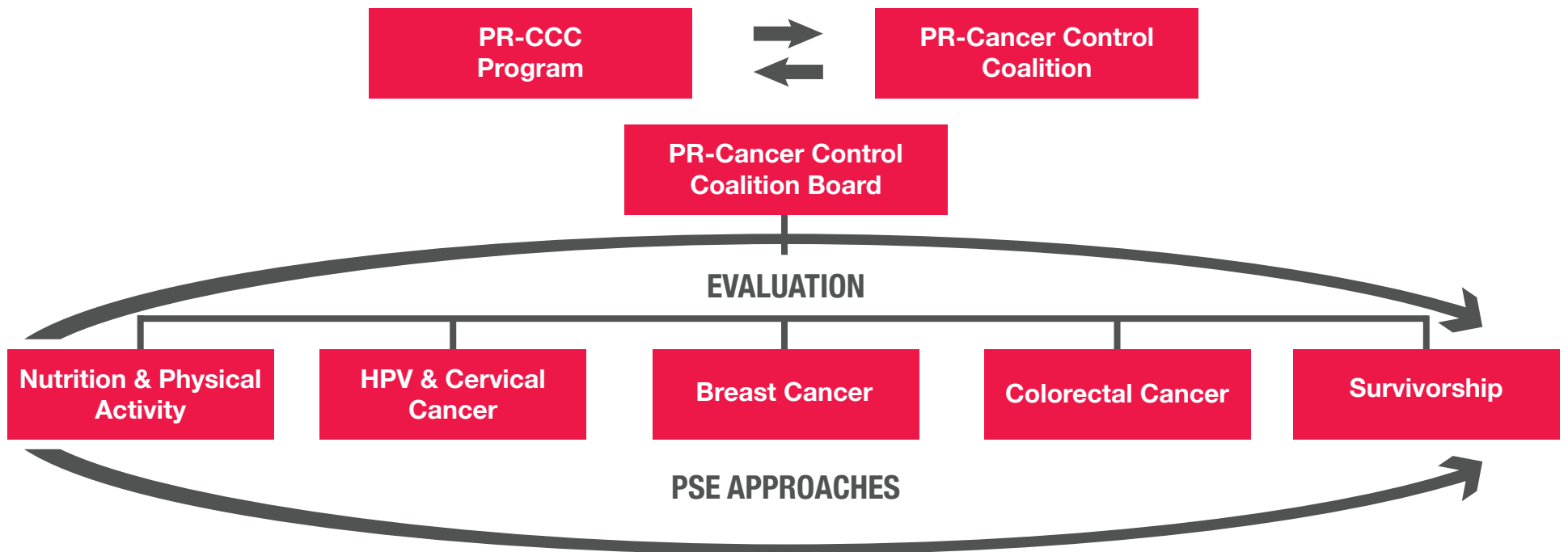
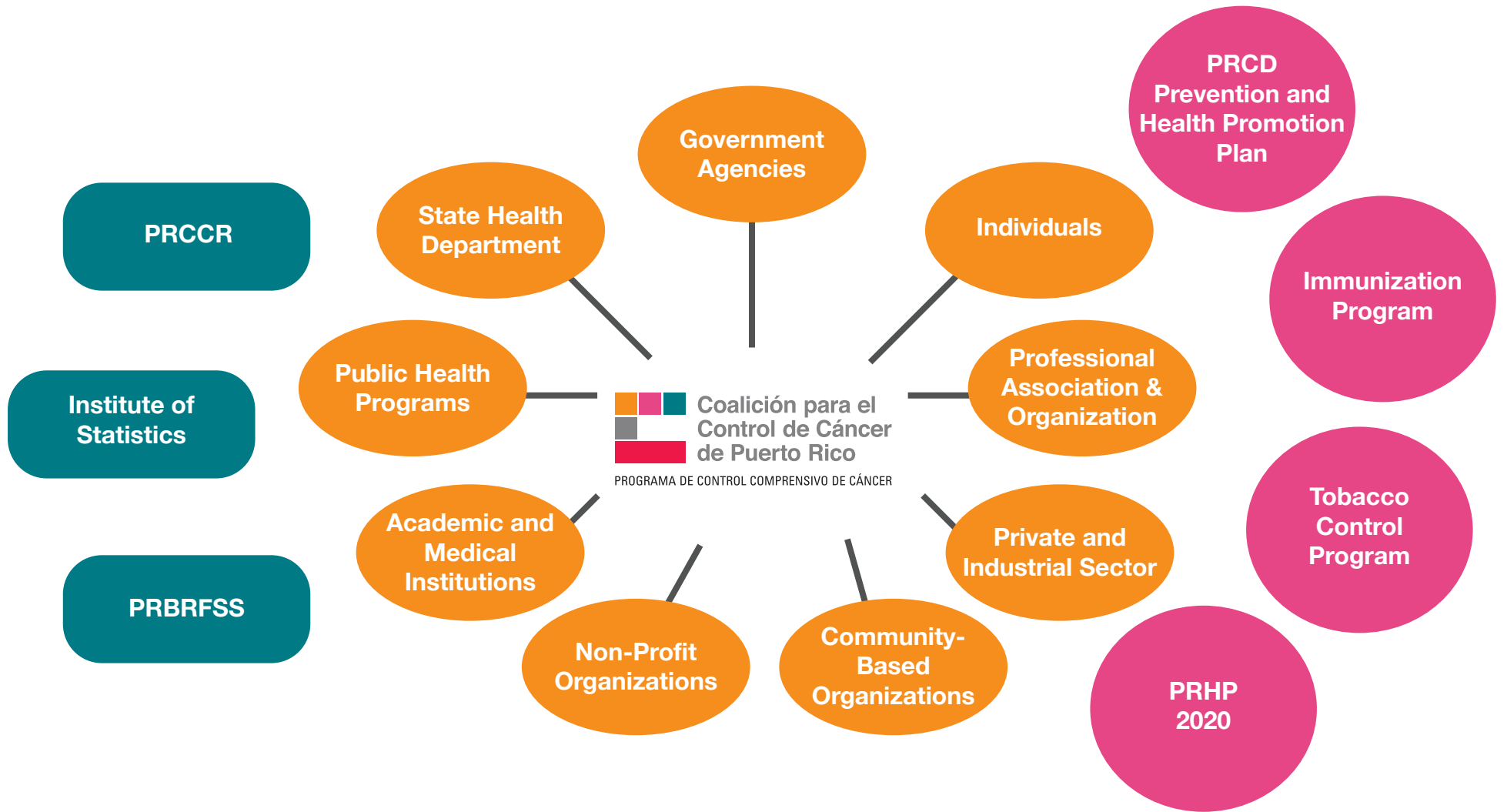


Figure 2. Puerto Rico Cancer Control Coalition



PUERTO RICO COMPREHENSIVE CANCER CONTROL PLAN

The Puerto Rico Comprehensive Cancer Control Plan (PRCCC Plan) is the document developed by the PRCCC in collaboration with the PRCCCP. The Plan is reviewed every five years to assess impact, update the burden of cancer and cancer-related risk factors, and update scientific progress, identify new evidence-based strategies and best practices, and select new priorities for cancer control. This document is a Call for Action and a Blueprint for coordinated cancer control efforts in the island. The first PRCCC Plan was developed for the Period 2008-2012. It was presented to the Puerto Rican Community in September 2008, and began implementation in 2010.

The PRCCC Plan 2015-2020, is a strategic plan to reduce the cancer burden in the island through evidence-based strategies and best practices for cancer control. The Plan is designed to provide guidance to individuals and organizations interested in cancer control on priority areas to be addressed during the next five years, identify common goals and objectives, and provides a list of strategies in order to reach the proposed goals and objectives. The plan is organized based on the stages of the Cancer Control Continuum, from prevention to survivorship, and utilizes the Social-Ecological Model as a framework to impact at different levels (individual, interpersonal, organizational, community, and policy levels), Figure 3 and Figure 4.

Figure 3 Cancer Control Continuum

CANCER CONTROL CONTINUUM

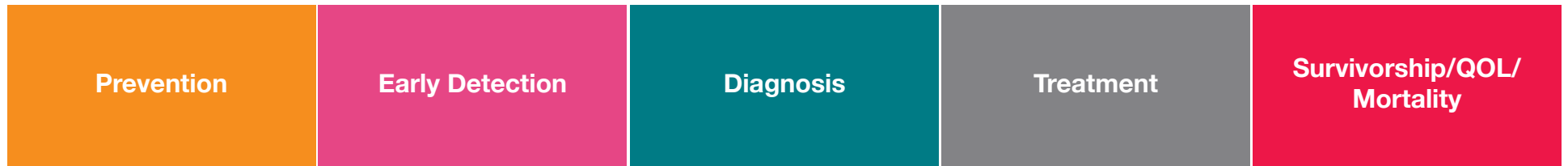
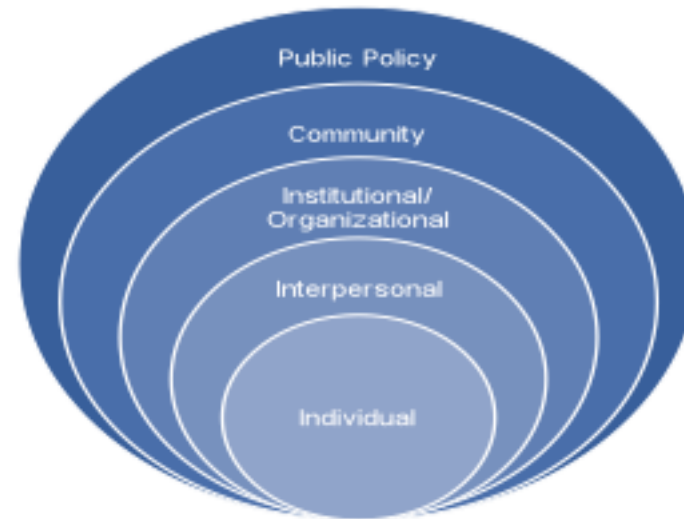


Figure 4 Social - Ecological Model



Adapted from: McLeroy KR, Bibeau D, Steckler A, Glanz K. An ecological perspective on health promotion programs. *Health Education Quarterly* 15:351-377. 1988.

History of Comprehensive Cancer Control in Puerto Rico

For several decades, Puerto Rico has been conducting cancer control efforts; however until recently, these have been uncoordinated, in many cases duplicated and missing to address the care continuum., Figures 5.a and 5.b. In December 2006, the University of Puerto Rico and the Puerto Rico Department of Health (PRDOH) signed a Memorandum of Understanding as partners for the comprehensive cancer control initiative, naming the University of Puerto Rico Comprehensive Cancer Center as the Bona Fide agent of the PRDOH.

In June 2007, the University of Puerto Rico was funded for the first time by the Centers for Disease Control and Prevention (CDC) National Comprehensive Cancer Control Program (NCCCP) to develop the Puerto Rico Comprehensive Cancer Control Plan. The Steering Committee of the PRCCCP identified and contacted individuals and organizations in Puerto Rico to plan, develop, and implement the PRCCC Plan. Seven work groups were integrated to address the stages of the cancer control continuum (prevention, screening and early detection, treatment, access to care, and survivorship), research and training, and data and surveillance. The work groups on research and training, and data and surveillance were added at the suggestion of the PRCCC Steering Committee. The work groups were responsible for assessing available data, identifying assets, barriers and priorities. They defined goals and objectives, and recommended evidence-based strategies.

In April 2011, the government of Puerto Rico approved the Law Num. 49 of “To establish the Public Policy of the Government of Puerto Rico for Comprehensive Cancer Control.” In its article 2, this Law the law establishes the UPRCCC as the Bona Fide agent of the PRDOH

to lead, in collaboration with the PRDOH, all government efforts for cancer control and those of other in a coordinated and comprehensive manner the efforts to reduce the cancer burden cancer through prevention, early detection, access to treatment and rehabilitation and palliative care.

The second edition of the Puerto Rico Comprehensive Cancer Control Plan 2015–2020 was developed by the PRCCC Steering Committee. The Committee was integrated by the PRCCC Board of Directors, leaders and co-leaders of the 5 work groups (prevention, screening and early detection, treatment, access to care, and survivorship), the evaluation consultant team, cancer control consultants (Strategic Health Concepts, Inc.), PSE consultant, and the PRCCCP principal investigator (PI), and program consultant (PD). The committee started meeting in 2013 to develop the process for the review of the PRCCC Plan. The committee was informed by the Puerto Rico Central Cancer Registry, The Puerto Rico Behavioral Risk Factors Surveillance System and other related agencies about burden of cancer and other related risk factors. In addition, the committee members review examples of recently updated Cancer Control Plans from different State programs; review the literature to identify evidence-based strategies; make decisions about areas of interested; developed a first draft of goals, objectives and strategies; submitted the draft for the review by the consultants; and revised, accordingly, the draft. After this initial face, the Steering Committee identified cancer control leaders and experts in the community to attend a 2-day retreat to review the existing draft and work on a second version of the document. This second version was completed y submitted for review by the consultants. The Steering Committee continued meeting through the fall-2014 until completing the plan.

Once again, the Plan is intended to direct collective efforts toward specific and measurable goals and objectives to reduce the cancer burden and reduce cancer disparities in Puerto Rico. The Plan continues to use the stages of the Cancer Control Continuum:

Prevention:

- HPV vaccination
- Nutrition and Physical Activity
- Use of Tobacco and other Products
- Sun Exposure

Screening and Early Detection:

- Breast Cancer
- Cervical Cancer
- Colorectal Cancer
- Prostate Cancer

Treatment:

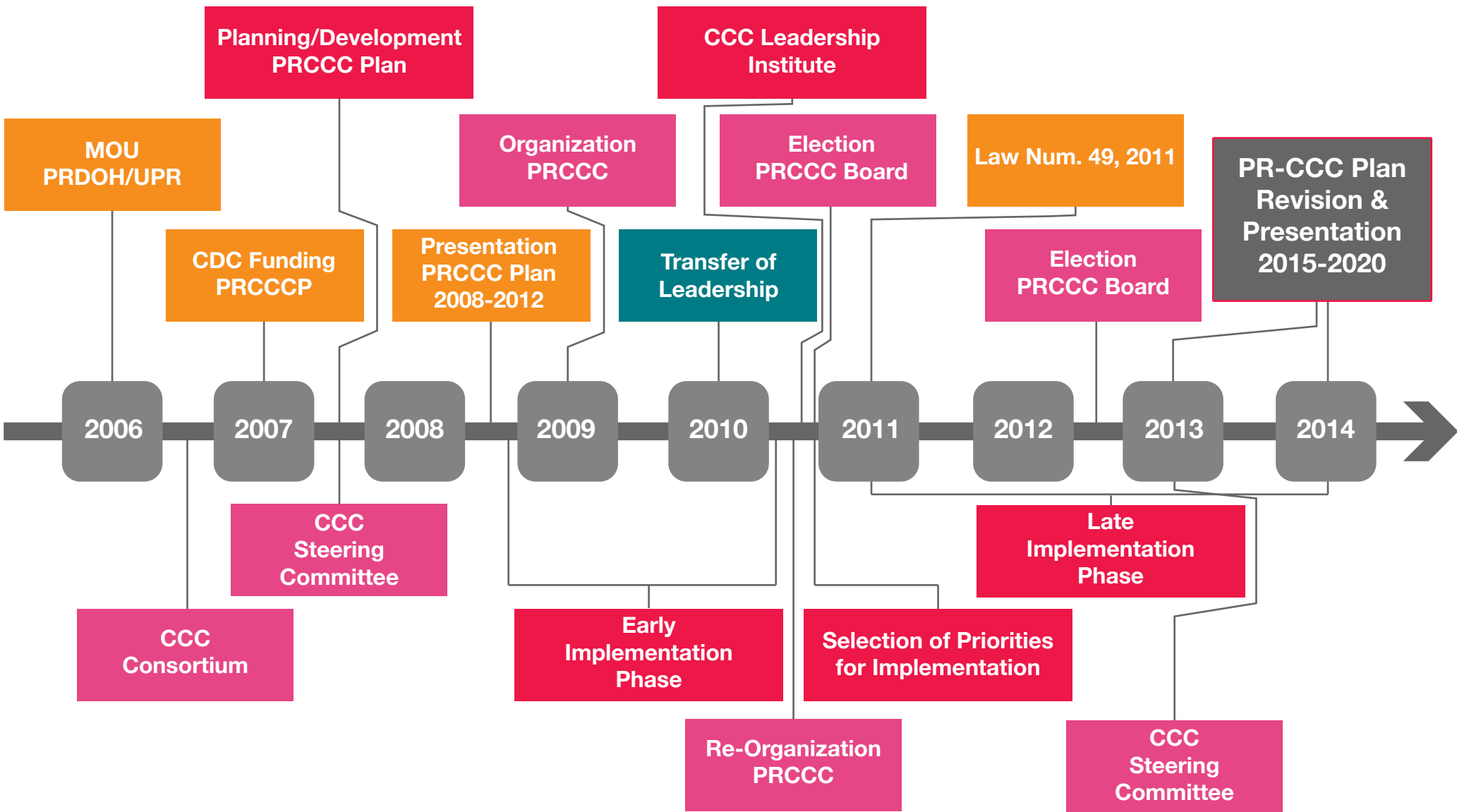
- Access the High Quality Treatment
- Access to Patient Assistant Program
- Use of Treatment Guidelines
- Access to Clinical Trials

Survivorship:

- Use Survivorship Care Plan
- Services and Resources for cancer Survivors and Caregivers
- Assess Economic Impact of Cancer Care

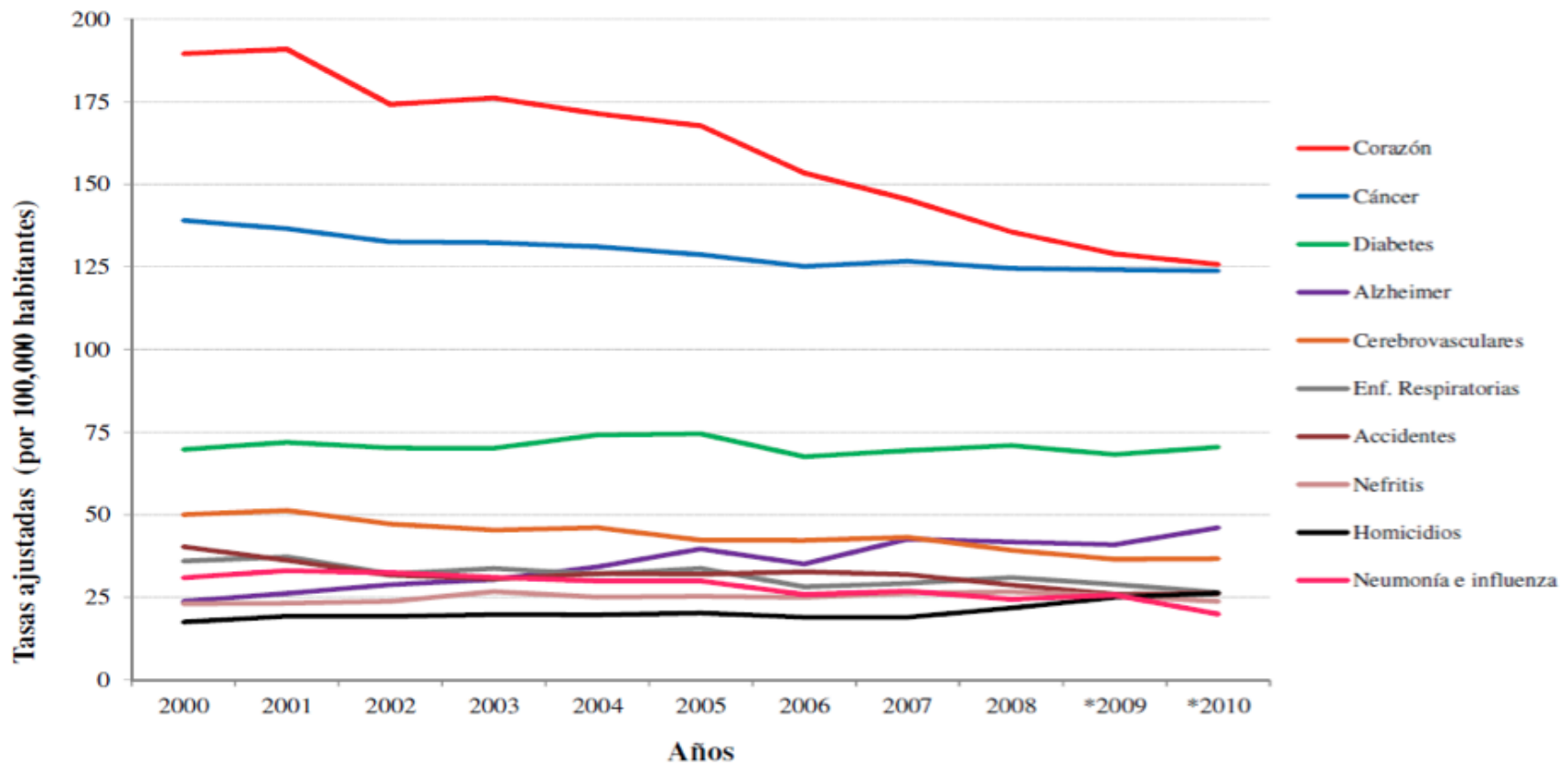
Policy, Systems and Environmental Approaches (PSE)

Figure 5a. Timeline PRCCCP: 2006 - 2012



Burden of Cancer in Puerto Rico

Cancer is a leading cause of death in Puerto Rico, accounting for 17.7% of all deaths. In 2010, there were 5,197 deaths from cancer, 2,927 (56.3%) in men and 2,270 (43.7%) in women. (Tortolero-Luna, et al. 2013) The estimated overall cancer mortality rate in Puerto Rico was 123.8 per 100,000 persons (age-adjusted to the 2000 U.S. population) in 2010. (Departamento de Salud (2012); Tortolero-Luna, et al. 2013) Although over the last 15 years, cancer mortality continuous to decline although at a lower rate than the decline observed from heart disease, which decreased nearly three times faster than mortality from cancer (Figure 6). The number of Puerto Ricans living with cancer from 1987 to 2010 is estimated to be approximately 61,928 people. (Centeno-Girona, H, et al. 2013)



* Notas: Datos son preliminares. Tasas ajustadas son preparadas con la población estándar del 2000 de los Estados Unidos.

Fuente: Departamento de Salud, Secretaría Auxiliar de Planificación y Desarrollo, División de Análisis Estadístico, San Juan, Puerto Rico.

Trends in Overall Cancer Incidence and Mortality

In Puerto Rico, cancer mortality trends have shown a significant decrease for both males and females from 150.1 per 100,000 in 1987 to 123.8 per 100,000 in 2010 (APC = 1.1; $p < 0.05$), Figure 7 (Tortolero-Luna, et al. 2013); whereas, cancer incidence rates showed a small but statistically significant increase from 267.7 per 100,000 in 1987 to 340.4 per 100,000 in 2011 (APC = 0.7%; $p < 0.05$), Figure 8. (PRCCR, 2014) The increase in cancer incidence has been greater among females than in males (APC = 1.1% vs. 0.4%).

Figure 7. Age-Adjusted (2000 US Std. Pop.) Mortality Rates of All Cancer Sites by Sex, Puerto Rico 1987-2010

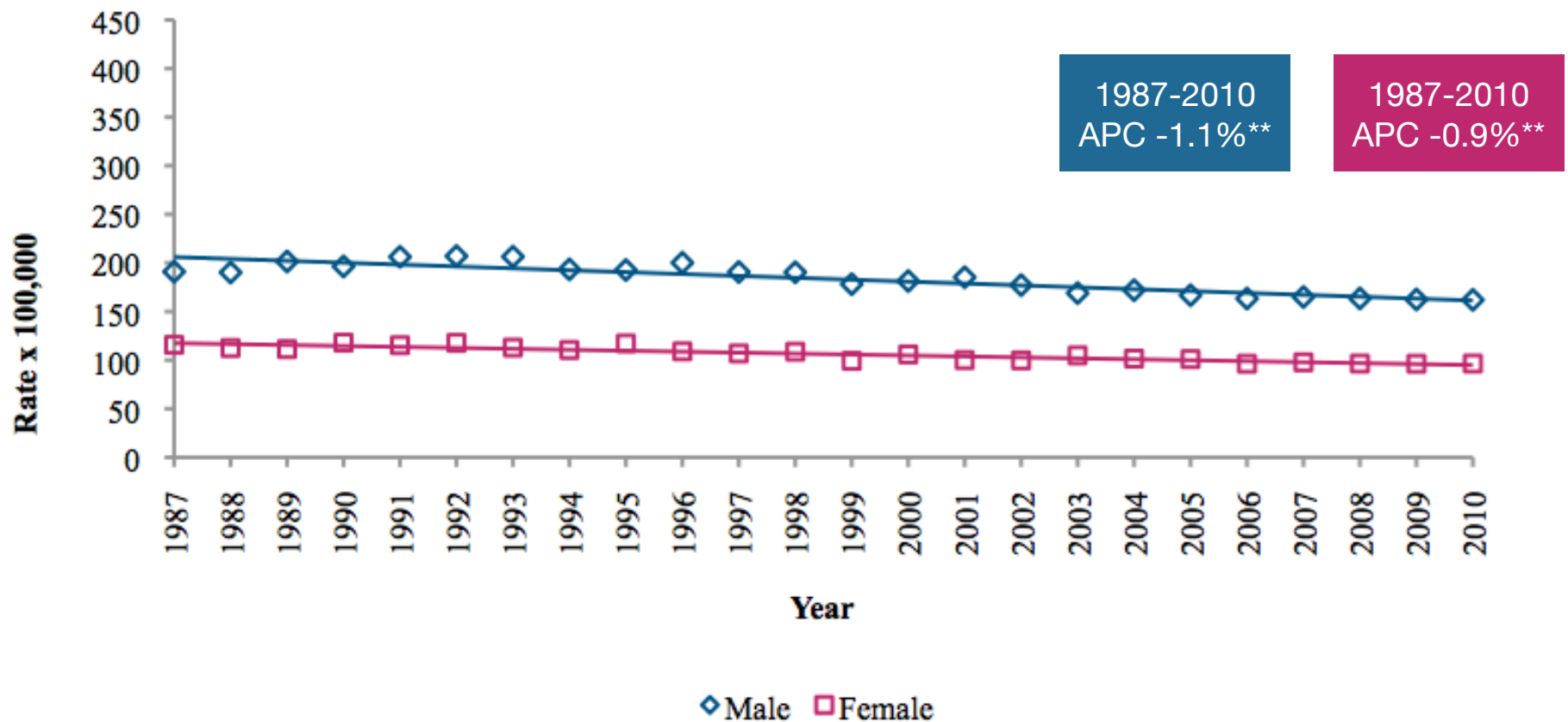
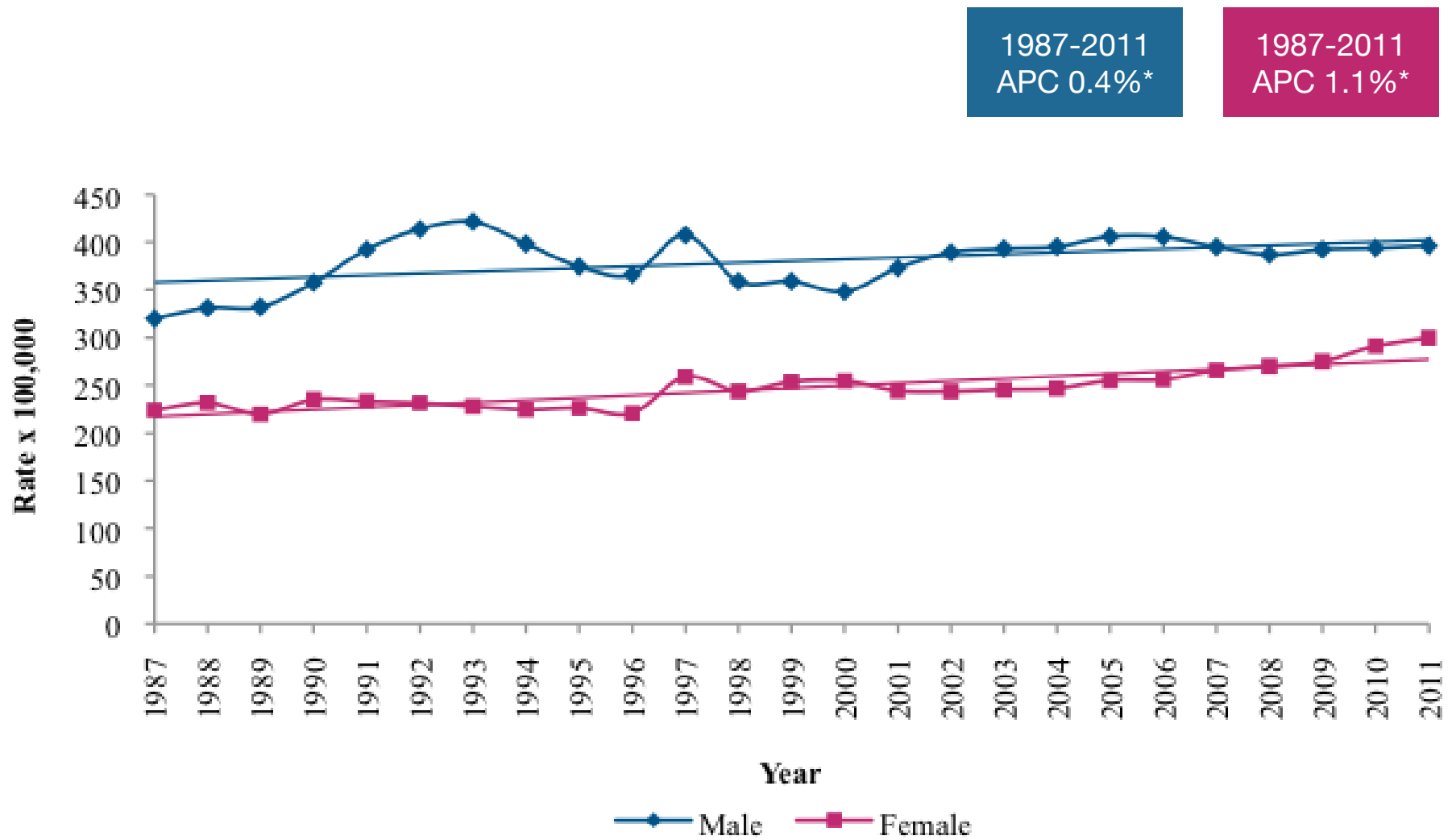


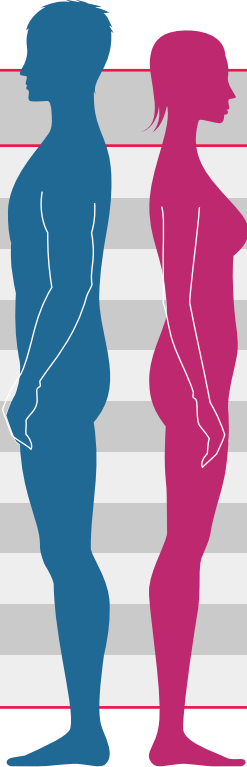
Figure 8. Age-Adjusted (2000 US Std. Pop.) Incidence Rates of All Cancer Sites by Sex, Puerto Rico 1987-2011



Leading Cancers in Puerto Rico

During the period 2007-2011, 68,312 cancer cases were diagnosed (36,908 in men and 31,045 in women). The leading cancer sites diagnosed in Puerto Rico during the period 2007-2011 are shown in Figures 9. (PRCCR, 2014) Among males prostate cancer was the leading cancer site accounting for approximately 40% of all cases; whereas among females, breast cancer was the leading cancer accounting for 30.2%. Colorectal cancer was the second most common cancer diagnosed accounting for 13.2% in men and 12.8% in women. Lung cancer continues to be the third leading cancer site in men accounting for 6.1% of all cancers; while thyroid cancer, is now the 3rd leading cause of cancer among females accounting for 9.5% of all cancers diagnosed in women.

Figure 4. Top Leading Incidence Cancer Sites by Sex in Puerto Rico, 2007 - 2011

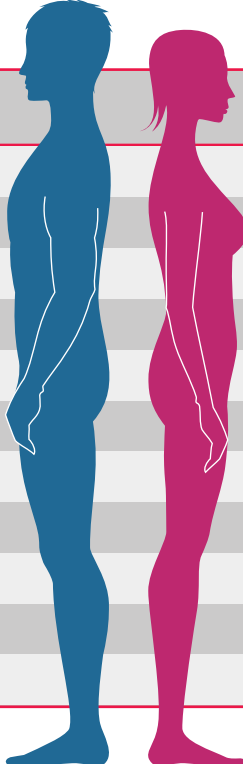


MALES (N=36,908) %		FEMALES (N=31,145) %	
Prostate	39.9	Breast	30.2
Colon and Rectum	13.2	Colon and Rectum	12.8
Lung and Bronchus	6.1	Thyroid	9.5
Urinary Bladder	4.4	Corpus and Uterus, NOS	7.5
Oral Cavity and Pharynx	4.1	Lung and Bronchus	4.1
Non-Hodgkin Lymphoma	3.4	Cervix Uteri	3.9
Liver and Intrahepatic Bile	3.0	Non-Hodgkin Lymphoma	3.9
Stomach	2.8	Ovary	2.6
Kidney and Renal Pelvis	2.5	Stomach	2.3
Leukemia	2.0	Pancreas	2.1
Other Locations	18.7	Other Locations	21.1

The leading cancer deaths from cancer in men and women are presented in Figure 10. (Tortolero-Luna G, et al., 2013) Among men, prostate cancer is the leading cause of cancer death, accounting for 18.3% of all deaths due to cancer. Lung cancer ranks second, while colorectal cancer ranks third as causes of cancer deaths in males. These three cancer sites account for 45% of all cancer deaths among Puerto Rican men. Whereas among women, breast cancer is the leading cause of death from cancer accounting for 18.9% of all cancer deaths, followed by colorectal cancer (13.6%), lung cancer (9.7%) and pancreatic cancer (5.3%). Cancers related to tobacco use cause approximately 40% of all deaths due to cancer among men.

In Puerto Rico, the most common cancer sites as cause of morbidity and mortality are preventable (lung cancer) or are amenable to early detection (breast, colorectal, and cervix uterine). Improvements in prevention, detection, and treatment of cancers have led to a decline in the overall cancer death rate in Puerto Rico. Despite these declines, cancer continues to demand significant resources. The population is aging and, since the risk of developing cancer increases with age, the number of cancer cases could double by 2050. This increase will place a significant demand on the health care system.

Figure 5. Top Ten Mortality Cancer Sites by Sex in Puerto Rico, 2006 - 2010



MALES (N=36,908) %		FEMALES (N=31,145) %	
Prostate	18.3%	Breast	18.9%
Lung and Bronchus	13.8%	Colon and Rectum	13.6%
Colon and Rectum	13.1%	Lung and Bronchus	9.7%
Liver and Intrahepatic Bile Duct	6.5%	Pancreas	5.3%
Stomach	4.7%	Liver and Intrahepatic Bile Duct	4.8%
Pancreas	3.9%	Corpus and Uterus, NOS	4.6%
Oral Cavity and Pharynx	3.6%	Ovary	4.2%
Esophagus	3.5%	Stomach	3.9%
Leukemia	3.3%	Leukemia	3.5%
Non-Hodgkin Lymphoma	3.2%	Non-Hodgkin Lymphoma	3.4%
Other Locations	26.0%	Other Locations	28.2%

Tortolero-Luna G, Zavala-Zegarra D, Pérez-Ríos N, Torres-Cintrón CR, Ortiz-Ortiz KJ, Traverso-Ortiz M, Román-Ruiz Y, Veguilla-Rosario I, Vázquez-Cubano N, Merced-Vélez MF, Ojeda-Reyes G, Hayes Vélez FJ, Ramos-Cordero M (2013). Cancer in Puerto Rico, 2006-2010. Puerto Rico Central Cancer Registry San Juan, PR.

Trends in Incidence and Mortality Rates for Specific Cancer Sites

Incidence and mortality trends for some of the leading cancer sites in men and women for the period 1987-2011 (incidence) and 1987-2010 (mortality) are depicted in Figure 11. (PRCCR, 2014; Tortolero-Luna G, et al., 2013) Between 1987 and 2011, a statistically significant increase trend in incidence was observed among men for cancers of the prostate, colon and rectum, thyroid, liver & intrahepatic bile duct, and non-Hodgkin lymphoma. Whereas, a decreasing trends was reported for cancers of the oral cavity and pharynx, stomach, and lung and bronchus. On the other hand, cancer mortality from colorectal cancer and non-Hodgkin lymphoma increased between 1987 and 2010; while mortality from cancer of prostate, thyroid, oral cavity and pharynx, stomach, and lung and bronchus have declined significantly.

Among women, six of the 10 the leading cancer sites (breast, colorectal, thyroid, corpus and uterus NOS, liver & intrahepatic bile, and non-Hodgkin lymphoma) showed a statistically significant increase trend during the period 1987-2011. While mortality from oral cavity and pharynx, stomach, and cervix uterine cancers have declined during the same period. Despite the long-term declining trend in the incidence of cervix uterine cancer, a reversing trend seems to be occurring since 2004. Between 2004 and 2011 the incidence rate of cervix uterine increased significantly (APC = 5.7%, $p < 0.05$). This increase is observed in women younger than 60 years of age and only for squamous cell carcinomas. (Traverso, et al., 2014)

No significant changes in mortality trends were observed from breast, colorectal, thyroid, corpus and uterus, NOS, and bladder cancers in women during the period 1987-2010; whereas, mortality from liver & intrahepatic bile, and non-Hodgkin lymphoma, lung and bronchus, oral cavity and pharynx, stomach, and cervix uterine cancers declined during the same period.

Figure 6. Trends in Incidence and Mortality for Selected Cancers in Puerto Rico, 1987 - 2011

MALES	Inc	Mor	FEMALES	Inc	Mor
Prostate	↑	↓	Breast	↑	↔
Colon and Rectum	↑	↑	Colon and Rectum	↑	↔
Thyroid	↑	↓	Thyroid	↑	↔
Liver & Intrahepatic Bile	↑	↔	Corpus and Uterus, NOS	↑	↔
Non-Hodgkin Lymphoma	↑	↓	Liver & Intrahepatic Bile	↑	↓
Urinary Bladder	↔	↔	Non-Hodgkin Lymphoma	↑	↓
Oral Cavity and Pharynx	↓	↓	Lung and Bronchus	↔	↓
Stomach	↓	↓	Urinary Bladder	↔	↔
Lung and Bronchus	↓	↓	Cervix Uteri	↓	↓
			Stomach	↓	↓
			Oral Cavity and Pharynx	↓	↓

Tortolero-Luna G, Zavala-Zegarra D, Pérez-Ríos N, Torres-Cintrón CR, Ortíz-Ortíz KJ, Traverso-Ortíz M, Román-Ruiz Y, Veguilla-Rosario I, Vázquez-Cubano N, Merced-Vélez MF, Ojeda-Reyes G, Hayes Vélez FJ, Ramos-Cordero M (2013). Cancer in Puerto Rico, 2006-2010. Puerto Rico Central Cancer Registry San Juan, PR.

Cancer Incidence in Puerto Rico 2007 - 2011

From 2007 to 2011, a total of 68,312 invasive cancers were diagnosed in Puerto Rico, approximately 13,662 invasive cases per year. The average annual age-adjusted incidence rate (U.S. 2000 standard population) was 329.7 cases per 100,000 persons during this period. Age-adjusted incidence rates were higher among males (395.1 per 100,000) than females (281.3 per 100,000) and this difference increased with age, Figure 11. (PRCCR, 2014) Cancer incidence rates increased with age in both men and women with 55% of cancers diagnosed among the population aged 65 year and older. Age-specific incidence cancer rates increased from 13.5/100,000 among persons aged 0–19 years to 1,596.9/100,000 among those aged ≥ 75 years, Figure 11 and Table 1. (PRCCR, 2014) The estimated lifetime risk of been diagnosed with cancer in Puerto Rico is 1:3. This means than among men and women born today living in Puerto Rico 1 in 3 persons will be diagnosed with cancer in their lifetime.

By cancer site, rates were highest for cancers of the prostate (152.1 per 100,000 men), female breast (84.2 per 100,000 women), colon and rectum (42.6 overall; 52.5 among men and 34.8 among women), thyroid cancer in women (29.2 per 100,000), lung cancer in men (24.5 per 100,000 men), and corpus and uterus, not otherwise specified (NOS) (20.5 per 100,000 women), Table 1. These cancers account for approximately 60% of cancers in men and women.

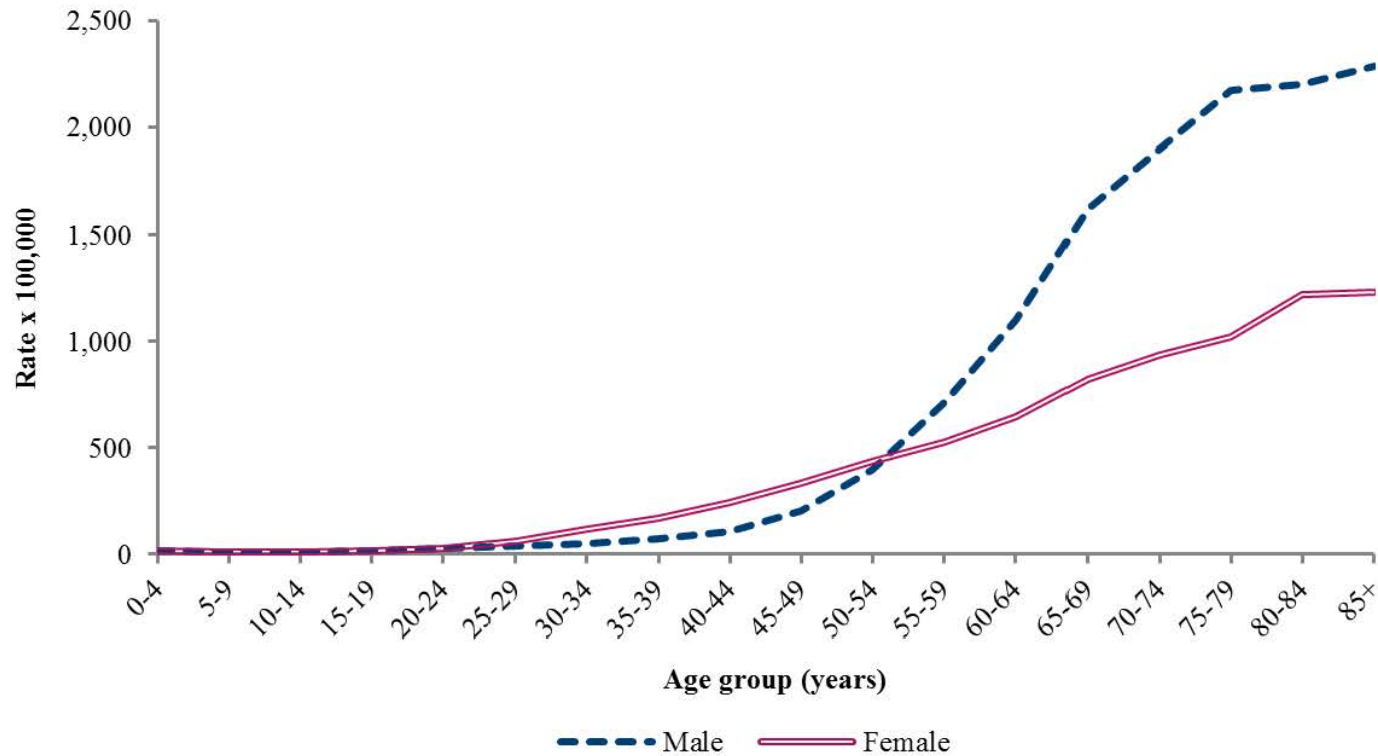
Puerto Rico has a lower age-adjusted overall cancer incidence rate than the observed in the U.S. population, 338.6 per 100,000 and 450.6 per 100,000, respectively. Cancer incidence rates are lower in Puerto Rico regardless of U.S. racial/ethnic group: 465.3 for U.S. non-Hispanic black, 461.5 for U.S. non-Hispanic white, 355.0 for U.S. Hispanic, and 338.6 for Puerto Rico. However by cancer specific sites, prostate cancer incidence was higher in Puerto Rico (150.0 per 100,000 men) than the U.S. overall (128.3) and the U.S. Hispanic population (105.0), but lower than that observed for U.S. non-Hispanic black population (197.7), Figure 12. Breast cancer incidence in Puerto Rico (93.0 per 100,000 women) was similar to the U.S. Hispanic incidence (93.7), but lower than the U.S. overall (122.0), the U.S. non-Hispanic whites (126.5), and the U.S. non-Hispanic black (122.8). Although lung cancer is lower in Puerto Rico than in the U.S. (17.2 versus 61.0 per 100,000), in 2011 it was the third most common cancer among men in Puerto Rico (23.8 per 100,000). Colorectal cancer incidence in Puerto Rico (43.3 per 100,000) is similar to the U.S. overall (39.9 per 100,000). Puerto Rico has the second highest colorectal incidence rates following non-Hispanics blacks (47.4 per 100,000).

Over the last decades, thyroid cancer (TC) incidence increased worldwide in women and men. (Pelligriti, et al., 2013) In the U.S., incidence rates increased from 4.9/100,000 in 1975 to 14.3/100,000 in 2009 (Davies & Welch, 2014). In Puerto Rico, it increased significantly from 2.6/100,000 in 1987 to 20.6/100,000 in 2011 ($p < 0.05$). This trend is mostly due to an increase in thyroid papillary carcinoma (TPC). Approximately 90% of cases in PR and the U.S. are TPCs. Although the increase was higher in women, it is also observed in men. During the period 2007-2011, in Puerto Rico thyroid cancer was the third commonly cancer diagnosed in women and the thirteenth in men. It accounts for 6% of all cancers diagnosed during the period 2007-2011 (9.5% in women and 1.7% in men). An estimated 50% of cases were diagnosed between 40-59 years of age. The median age at diagnosis of thyroid cancer was 54 years in

men and 50 years in women. Whereas, the median age at death was 71 years in men and 73 years in women. In 2011, higher incidence rates are reported in Puerto Rico (Both 20.6 per 100,000; men 7.1 and women 29.2) than in the U.S. (13.8 per 100,000). Thyroid cancer incidence rates in Puerto Rico are higher than in any race/ethnic group in the US: non-Hispanic White (15.0), Hispanic population (12.3), and non-Hispanic Black (8.9), Figure 13.

Few studies suggest that the increase in incidence of thyroid carcinoma is related to increased access to health care services and/or to high socioeconomic position. Others suggest that the increase of thyroid carcinoma can be related to an increase in the use of new diagnostic modalities and an increase in medical surveillance. This can be supported by the fact that, through time, more thyroid cancers are diagnosed in the earlier stages. In addition, the slowdown in the incidence trend (APC) in women between the period 2002-2007 and 2007-2011 might also support that the increase might be due to over-diagnosis.

Figure 12. Age-Specific Incidence Rates of All Sites Cancer by Sex and Age-Groups, Puerto Rico 2007 - 2011



Data Source: Incidence Case File of Puerto Rico from the Puerto Rico Central Cancer Registry (August 15, 2014)

Table 1. Age-adjusted rates* and numbers† of cancer incidence by sex, selected primary sites, and age group - National Program of Cancer Registries (NPCR), Puerto Rico, 2007 - 2011

Abbreviation:

NA = not available

~ = data is suppressed because fewer than 16 cases were reported in the category.

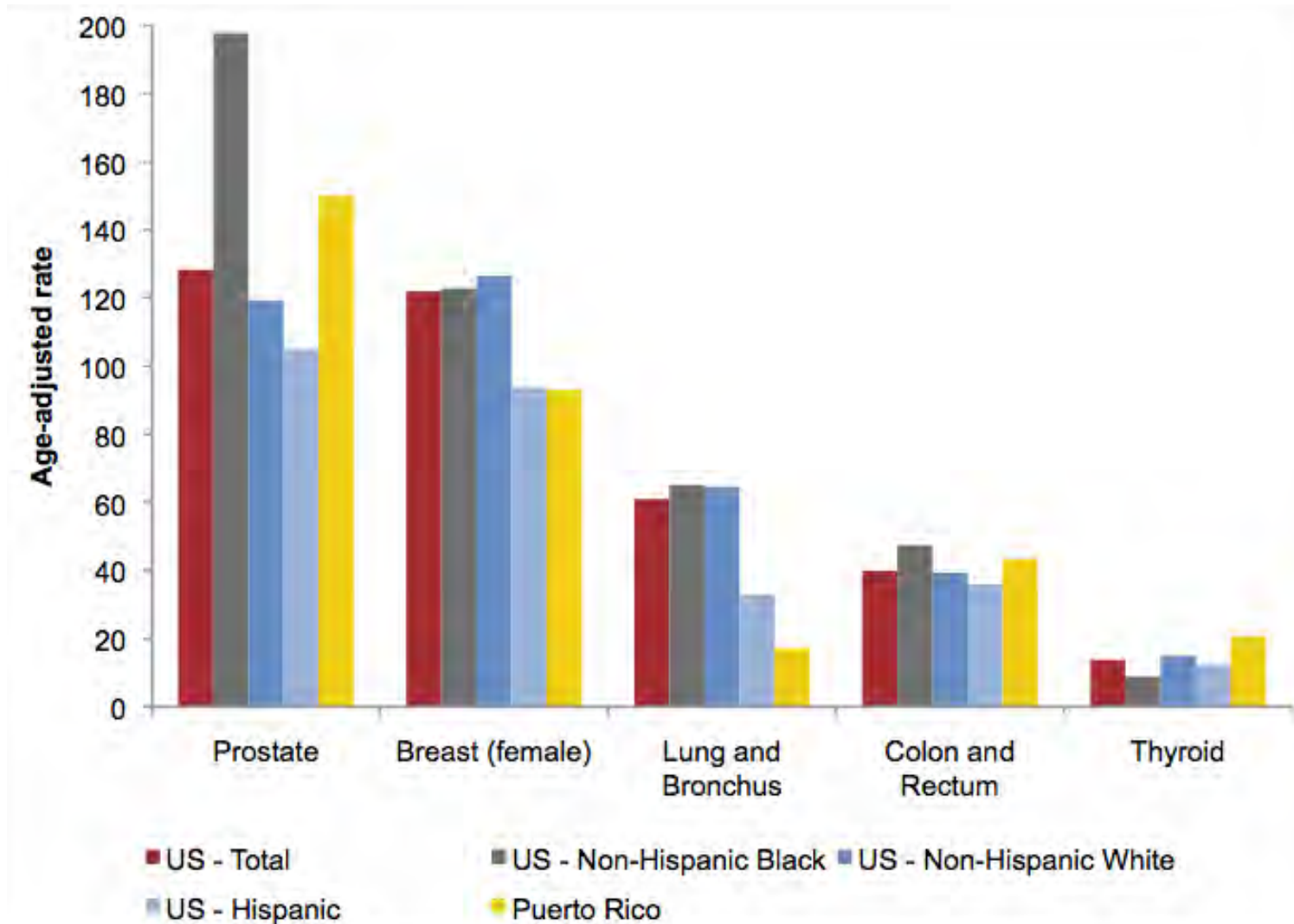
* Rates are per 100,000 persons and are age adjusted to the 2000 U.S. standard population.

† Excludes basal and squamous cell carcinomas of the skin, except when these occur on the skin of the genital organs, and in situ cancers, except urinary bladder.

Source: CDC, MMWR, 2014

Characteristic	Incidence					
	Overall		Males		Females	
	Rate	No.	Rate	No.	Rate	No.
All cancer sites combined	329.7	68,312	395.1	37,068	281.3	31,244
Brain and other nervous system	4.7	925	5.2	477	4.2	448
Breast (female)	NA	9,389	NA	NA	84.2	9,389
Breast (female), in situ	NA	1,705	NA	NA	15.3	1,705
Cervix Uteri	NA	1,215	NA	NA	12.2	1,215
Colon and Rectum	42.6	8,891	52.5	4,880	34.8	4,011
Corpus and uterus, NOS	NA	2,332	NA	NA	20.5	2,332
Esophagus	3.7	776	6.6	620	1.3	156
Hodgkin Lymphoma	2.5	481	3	267	2.1	214
Kaposi Sarcoma	0.7	121	1.2	103	0.2	18
Kidney and renal pelvis	6.9	1,429	9.7	914	4.5	515
Larynx	3.5	743	7	664	0.7	79
Leukemias	6.8	1,338	8.3	734	5.7	604
Liver and intrahepatic bile duct	7.8	1,660	12.2	1,157	4.3	503
Lung and bronchus	17	3,575	24.5	2,274	11.2	1,301
Melanomas of the skin	2.7	547	3.5	313	2.2	234
Mesothelioma	0.2	40	0.4	34	~	~
Myeloma	3.9	818	4.9	446	3.2	372
Non-Hodgkin Lymphoma	12.2	2,479	13.9	1,269	10.8	1,210
Oral cavity and pharynx	9.6	2,008	15.9	1,505	4.5	503
Ovary	NA	795	NA	NA	7.2	795
Pancreas	6.3	1,313	7.1	664	5.6	649
Prostate	NA	14,725	152.1	14,725	NA	NA
Stomach	8.4	1,752	11.4	1,030	6.2	722
Testis	NA	282	3.3	282	NA	NA
Thyroid	18.9	3,601	7.1	637	29.2	2,964
Urinary bladder	10.7	2,198	18	1,613	5	585
Age group						
0-19 years	13.5	701	13.9	368	13	333
20-49 years	127.5	9,152	85.4	2933	165.6	6,219
50-64 years	594.2	20,875	683.7	11200	518.6	9,675
65-74 years	1281.4	19,481	1762.7	12,177.00	880.5	7,304
≥75 years	1596.9	18,103	2235.7	10,390.00	1149	7,713

Figure 13. Age-adjusted rates* of invasive cancer† incidence by selected primary cancer site, geographic location, race and ethnicity — National Program of Cancer Registries (NPCR) and Surveillance, Epidemiology, and End Results (SEER) program,§ Puerto Rico and United States, 2011



* Incidence rates are per 100,000 persons and are age-adjusted to the 2000 U.S. standard population.

† Excludes basal and squamous cell carcinomas of the skin, except when these occur on the skin of the genital organs, and in situ cancers, except urinary bladder.

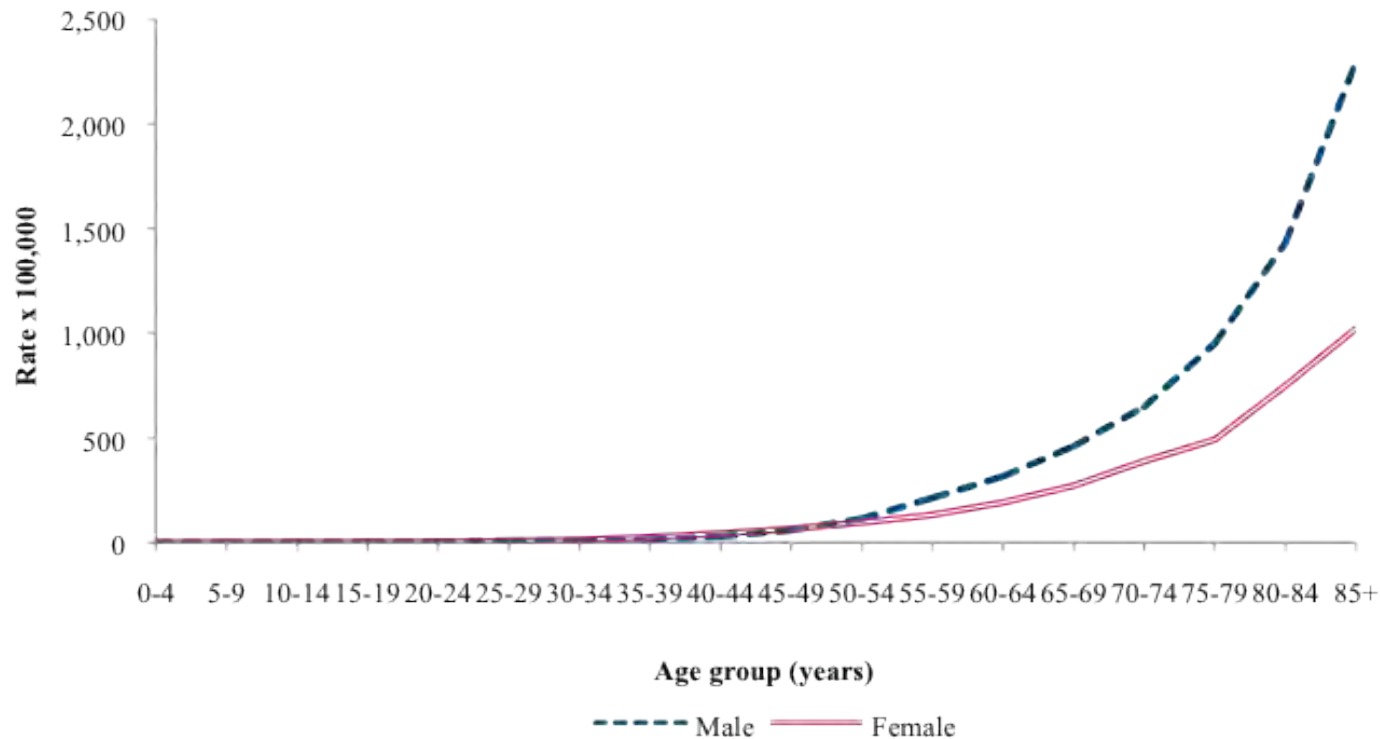
§ Compiled from cancer registries that meet the data-quality criteria for all invasive cancer sites combined (representing 99% of the U.S. population).

Source: MMWR, (In Press)

Cancer Mortality in Puerto Rico 2006 - 2010

During the period 2006 to 2010, a total of 25,113 deaths from cancers were reported in Puerto Rico, approximately 5,023 deaths from cancer per year. (Tortolero-Luna, et al., 2013) The average annual age-adjusted mortality rate was 124.6 per 100,000 persons during this period. Age-adjusted mortality rates (U.S. 2000 standard population) were higher among males (163.3 per 100,000) than females (96.7 per 100,000). (Tortolero-Luna, et al., 2013) Cancer mortality rates increase with age for both men and women and 70% of cancer deaths occur among the population aged 65 year and older. Among men the age-specific cancer mortality rate increased from 5.5/100,000 in 20–24 years to 1,432/100,000 among those aged 80-84 years; whereas among females rates increased from 3.0/100,000 in 20–24 years to 749.6/100,000 in those aged 80-84 years. (Figure 8) (Tortolero-Luna, et al., 2013)

Figure 14. Age-Specific Mortality Rates of All Cancer Sites by Sex, Puerto Rico 2006-2010



By cancer site, mortality rates were highest for cancers of the prostate (32.1 per 100,000 men), female breast (18.5 per 100,000 women), colorectal (16.5 overall, 21 among men and 13 among women), lung and bronchus (14.7 overall, 22 among men and 9.2 among women among women) and liver and intrahepatic bile duct (7.1 overall, 10.1 among men and 4.6 in women). (Tortolero-Luna, et al., 2013)

Pediatric and Young Adult Cancers in Puerto Rico

In 2011, 159 pediatric and young adult cancers (PYAC) were reported to the Puerto Rico Central Cancer Registry (PRCCR) accounting for 1.1% of all cancers. The most frequent malignant tumors in the population less than 20 years of age were: Leukemia, lymphoma, and cancer of the central nervous system accounting for 60% of reported PYAC cases, Table 2.

Between 2006 and 2010, the age-adjusted incidence cancer rate for PYAC was 131.8 per million for all cancers combined, and the age-adjusted mortality rates was 18.8 per million. (Tortolero-Luna G, et al, 2014) Incidence rates for male and female childhood cancer remained stable during the period 1987-2010. It is currently unknown if the observed lower rate in Puerto Rico is due to a lower risk in the young population less than 20 years of age or if it can be attributed to incomplete capture of all PYAC cases occurring in the island.

Table 2. Incidence Count and Rates for PYAC Cancer >Types by Sex, Puerto Rico: 2006-2011

Cancer Type	All		Male		Female	
	Count‡	Rate*	Count	Rate	Count	Rate
All Cancers Combined	850	134.4	448	138.9	402	129.6
I Leukemia, myeloproliferative & myelodysplasia diseases	218	35.3	123	38.9	95	31.6
II Lymphomas and reticuloendothelial neoplasm	141	21.7	87	26.2	54	17.0
III CNS and misc. intracranial and intraspinal neoplasm	149	24.0	85	26.9	64	20.9
IV Neuroblastoma and other peripheral nervous cell tumors	35	5.9	16	5.3	19	6.6
V Retinoblastoma	12	2.1	5	1.7	7	2.5
VI Renal tumors	27	4.4	12	3.9	15	5.0
VII Hepatic tumors	7	1.2	5	1.6	2	0.7
VIII Malignant bone tumors	49	7.6	24	7.2	25	8.0
IX Soft tissue and other extra osseous sarcomas	54	8.4	26	7.9	28	9.0
X Germ cell & trophoblastic tumors & neoplasms of gonads	52	7.9	31	9.2	21	6.6
XI Other malignant epithelial neoplasms and melanomas	98	14.6	30	8.9	68	20.5
XII Other and unspecified malignant neoplasms	8	1.3	4	1.2	4	1.3

‡ Counts < 20 are too few to calculate a stable age-adjusted rate.

* Rates are per 1,000,000.

Statistics were generated using the International Classification of Childhood Cancer (ICCC).

Data Source: Incidence Case File of Puerto Rico from the Puerto Rico Central Cancer Registry (August 09, 2013).

Population Source: Vintage 2012 estimates series from the Population Division of the United States Census Bureau.

For more cancer statistic information visit the webpage of the Puerto Rico Central Cancer Registry at www.rcpr.org or www.rcpr.com.



PREVENTION



Prevention

GOAL: PREVENT CANCER IN THE PUERTO RICAN POPULATION THROUGH THE REDUCTION OF RISK FACTORS.

Cancer prevention is action taken by individuals or communities to reduce the chance of getting cancer. Our lifestyle behaviours and the environment may increase or decrease our risk of getting cancer. Several lifestyle and environmental factors have been associated with an increased risk for cancer, these factors include cigarette smoking, diet, alcohol, sun exposure, environmental pollutants, infections, stress, obesity, physical inactivity, radiation (ionising), use of hormones, and reproductive history. (Parkin, 2011; Yoon et al., 2014) About 25–30% of cancer-related deaths are due to tobacco, 30–35% to diet, 15–20% to infections, and the remaining to other factors such as radiation, stress, physical activity, environmental pollutants etc. Therefore, a person's cancer risk can be reduced by avoiding tobacco use, excessive exposure to ultraviolet rays from the sun and other sources, eating a healthy diet rich in fruits and vegetables, maintaining a healthy weight, and being physically active. Also vaccination against the Human Papilloma Virus (HPV) and Hepatitis virus (HbV) can help reduce risk of anogenital cancers and liver cancer, respectively.

The most common cancer sites as cause of disease and death in Puerto Rico are preventable (lung, cervix uteri) or are amenable to early detection (breast, colorectal, and cervix uteri). Improvements in prevention, detection, and treatment of cancer have led to a decline in the overall cancer death rate in Puerto Rico. Despite these declines, cancer continues to be a significant public health problem and demands significant resources. Furthermore, Puerto Rico faces important challenges that may contribute to an increase in the burden of cancer in next decades. The population is aging and, since the risk of developing cancer increases with age, the number of cancer cases could double by 2050. This increase will place a significant demand on the health care system. In addition to the aging population, Puerto Rico has lower level of education than the U.S. population, a lower median annual income (\$19,429 vs. \$51,371); higher percentage of the population below poverty level (45% vs. 16%); and a recent emigration pattern to the U.S. primarily young, well educated, and higher socioeconomic level which will add to the impact of aging and poverty. (U.S. Census Bureau, 2007-2011, Puerto Rico Community Survey) Moreover, Puerto Rico has a high prevalence of certain behaviors and conditions that might contribute to an increased risk of developing cancer or dying from it. Based on data from the Behavioral Risk factors Surveillance System, in 2012 Puerto Rico has the highest prevalence of diabetes in the U.S. (12.8%); higher prevalence of obesity and overweight (66.2%); and the lowest levels of physical activity (57.6%) and fruit and vegetable consumption (17.7%), Table 3.

In addition, HPV vaccination rates among males and females in Puerto Rico lag behind U.S. rate and the prevalence of sun protection behaviors (such as use of sunscreen, hat, and long sleeves) is lower that among the U.S. population and other Hispanic populations. (Coups et al., 2014) On the positive side, Puerto Rico together with California has the lowest prevalence of current smokers among the adult population (12.6%). (BFRSS, 2012)

This section presents the goals, objectives, and evidence-based strategies in order to increase HPV vaccination, intake of healthy diet, and physical activity and reduce obesity, tobacco use and ultraviolet (UV) light exposure.

Table 2. Cancer-Related Risks Factors in the U.S. and PR.BRFSS 2012

Risk Factor	U.S. (Md %)	Puerto Rico
Diabetes	8.7%	12.8%*
Overweigh/Obesity	63.4%	66.2%
Physical Activity last month	77.1%	57.6%\$
Fruit & Vegetables 5+/day	23.4%	17.7%\$
Current Smokers	19.6%	12.6%\$

* Highest / \$Lowest in the U.S.; 3rd Lowest in the U.S.

Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data* Atlanta, Georgia; U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2012.

Human Papillomavirus (HPV) Vaccination

OBJECTIVE 1: BY 2020, INCREASE THE PERCENTAGE OF YOUTH 13-15 YEARS OLD THAT HAVE COMPLETED THE HPV VACCINATION SCHEDULE.

MEASURES	BASELINE	2020 TARGET
Youth 13-15 years old that have completed the HPV vaccination schedule.	17.0%	80.0%

STRATEGIES:

1. Educate providers to strongly recommend HPV immunization to parents and youth.
2. Partner with community organizations to deliver outreach and educational activities in order to increase public awareness of the HPV vaccine benefits.
3. Promote school-based educational activities to increase awareness of the HPV vaccine benefits among age-eligible students.
4. Support school-based clinics that offer the HPV vaccine at low or no cost to students.
5. Integrate young leaders to provide education about HPV vaccines such as Jóvenes SISA (Servicios Integrados de Salud del Adolescente)
6. Support health promotion campaigns targeted at parents and age-eligible individuals to increase their awareness of the HPV vaccine benefits including cancer prevention.
7. Promote the implementation of the office-based reminder systems to increase the number of age-eligible patients who initiate and complete the HPV vaccination series.
8. Promote the use of the Puerto Rico Immunization Registry among providers.

NUTRITION AND PHYSICAL ACTIVITY

OBJECTIVE 2: BY 2020, INCREASE THE PERCENTAGE OF ADULTS WHO PARTICIPATE IN ANY PHYSICAL ACTIVITY DURING THE PAST MONTH.

MEASURES	BASELINE	2020 TARGET
Adults who participate in any physical activity during the past month.	57.6%	58.6%

STRATEGIES:

1. Educate health professionals and policymakers regarding the importance of physical activity to reduce cancer risk.
2. Promote policies that address access to safe, enjoyable, and accessible environments for physical activity, such as Calles Completas-Complete Streets Initiatives.
3. Stimulate educational activities for the community, geared towards the inclusion of a variety of physical activities and exercises throughout life.
4. Promote policies regarding access to environments encouraging physical activity during workday in public and private workplaces, and community wide strategies such as Activate Puerto Rico.
5. Uphold the implementation of Act 146 - 2000, requiring physical education courses in public schools as extrapolating it to private schools.

OBJECTIVE 3: BY 2020, INCREASE ACHIEVEMENT AND MAINTENANCE OF A HEALTHY WEIGHT THROUGHOUT LIFE AMONG ADULTS.

MEASURES	BASELINE	2020 TARGET
Adults self-reported normal weight (BMI 18.5-24.9)	31.7%	32.7%

STRATEGIES:

1. Educate health professionals and policymakers regarding the importance of healthy weight to reduce cancer risk.
2. Promote workshops and health education initiatives to educate about the importance of measuring waist circumference and BMI in all clients as a preventive measure in the early identification of excess body fat.
3. Encourage the development of public campaigns that address the following issues:
 - Excess body fat and increase cancer risk
 - Lack of physical activity and cancer risk
 - Importance of healthy body weight composition

OBJECTIVE 4: BY 2020, INCREASE THE CONSUMPTION OF RECOMMENDED SERVICES OF FRUITS, AND VEGETABLES IN ADULTS.

MEASURES	BASELINE	2020 TARGET
Adults who have consumed fruits and vegetables five or more servings per day.	17.7%	18.7%

STRATEGIES:

1. Collaborate with public and private sectors to increase access to affordable, healthy foods.
2. Encourage the development of public campaigns that address the benefits of eating fruits, vegetables, legumes and nuts throughout life.
3. Support implementation of public policies and rules geared toward healthy snacks and foods at public schools (e.g., Smart Snacks in School) and promote these policies to private schools.
4. Encourage policies regarding healthy foods in communities, worksites (public and private sectors) and schools, such as Department of Health Administrative Order OA-287 of September 14, 2011 about healthy food and beverages).
5. Foster the access and development of farmers markets and locally grown foods.

TOBACCO USE

OBJECTIVE 5: BY 2020, DECREASE THE PREVALENCE OF TOBACCO USE AMONG ADULTS.

MEASURES	BASELINE	2020 TARGET
Adults who are current smokers.	10.8%	9.1%

STRATEGIES:

1. Increase the number of smokers advised to quit smoking by health care providers.
2. Develop and deliver training sessions on tobacco cessation brief interventions for health care providers.
3. Increase the number of fax-to-quit referrals to the Puerto Rico Quitline.
4. Increase the number of health care organizations using health information technologies to identify patients who are current smokers and advise them to quit.
5. Develop an Island-wide health promotion campaign to increase smokers' awareness of smoking cessation services available to them.
6. Enforce compliance with state and federal laws on marketing and sales of tobacco products.
7. Leverage initiatives of the Puerto Rico Tobacco Control Plan.

OBJECTIVE 6: BY 2020, DECREASE THE TOBACCO ACCESS AND INITIATION AMONG ELEMENTARY SCHOOLS STUDENTS (4TH-6TH GRADE).

MEASURES	BASELINE	2020 TARGET
Smoked a whole cigarette for the first time before age 13 years.	4.4%	3.4%

STRATEGIES:

1. Coordinate at least one train the trainer workshop per region in Mi comunidad libre de humo or similar educational activity.
2. Implement educational strategies similar to Mi comunidad libre de humo, giving special attention to second and third hand smoke, in at least 1 elementary school per municipality of Puerto Rico.
3. Develop and deliver an Island-wide youth-focused campaign on tobacco counter-marketing.
4. Increase the number of public and private schools delivering tobacco control educational activities to students, parents, and teachers.
5. Monitor tobacco advertising near schools.

OBJECTIVES 7: BY 2020, IMPLEMENT POLICIES TO REGULATE NON-CIGARETTE TOBACCO PRODUCTS (E.G., ELECTRONICALLY NICOTINE DELIVERY SYSTEM, SNUFF, CIGARS, AND CHEWING TOBACCO).

MEASURES	BASELINE	2020 TARGET
Policies to regulate non-cigarette tobacco products (e.g., electronically nicotine delivery system, snuff, cigars, and chewing tobacco).	4	5

STRATEGIES:

1. Include e-cigarettes in smoke-free laws to prohibit use of e-cigarettes in restaurants, bars and other public places and work places where cigarette smoking is also prohibited.
2. Adopt policies to regulate advertising and sales of non-cigarette tobacco products (e.g., e-cigarettes, snuff, cigar, and chewing tobacco).
3. Adopt or increase tax rates on all non-cigarette tobacco products (e.g., e-cigarettes, snuff, cigar, and chewing tobacco).

ULTRA VIOLET EXPOSURE

OBJECTIVE 8: BY 2020, INCREASE THE USE OF SUN SCREEN PROTECTION AMONG THE POPULATION OF PUERTO RICO.

MEASURES	BASELINE	2020 TARGET
Use of sun screen protection (always/often)	21.1% (HINTS - Puerto Rico)	23.2%

STRATEGIES:

1. Gather information regarding what percent of population using sun screen protection in settings where outdoor activities occur.
2. Promote sun protection public policies.
3. Disseminate existing skin cancer prevention education and policy resources.
4. Conduct educational activities for caregivers and health care professionals regarding the harmful effects of overexposure to UV light.
5. Promote and disseminate existing skin cancer prevention education, and resources, such as Rayito cuida tu piel.
6. Uphold policies regarding sun protection in public outdoor areas.

SCREENING AND EARLY DETECTION



Screening and Early Detection

GOAL: INCREASE THE EARLY DETECTION OF CANCER.

Early detection of cancer or cancer screening refers to the application of strategies to determine whether cancer or pre-cancerous lesions are present in an asymptomatic person (does not show signs or symptoms of the disease). The goal is to detect cancer in early stages before symptoms develop when the disease can be treated more effectively improving health outcomes. Early detection has been shown to decrease mortality and improve survival, and in some cases, to detect precancerous lesions leading to the prevention of cancer.

Early detection strategies depend on the type of cancer and may include clinical examination, diagnostic imaging, laboratory tests, endoscopic examination, or a combination of those procedures. Research has shown that screening for cervical, colorectal, and breast cancers identify disease at an early, often at a highly treatable stage, so that the individual has a greater survival and potential for cure. In Puerto Rico, breast, cervical and colorectal cancer comprise about 37% of all cancers in women and 13% in men (colorectal cancer). Current cancer screening guidelines are presented in Tables 4 to 6. In the case of prostate cancer, it is not clear yet whether screening for prostate cancer reduces mortality. Therefore, the U.S. Preventive Task Force (USPSTF) recommends patients' informed decision-making instead of the PSA test.

Based on data from the PR-BRFSS, in 2012 approximately 71% of women 18+ years and 77% of women aged 21-64 years old reported having had a Pap smear within the last three years, compared with 78% and 85% in the U.S., respectively Table 6. Rates of screening endoscopy for colorectal cancer are lower in Puerto Rico (47%) than in the U.S. (67%). Whereas, a relatively similar prevalence of breast cancer screening was reported in Puerto Rico than in the U.S. Seventy-eight percent of women age 40+ years in Puerto Rico reported having had a mammography within the last two years compared to 74% of U.S. women. Similarly, among women aged 50+ years 79% of women in Puerto Rico and 77% in the U.S. reported having had a screening mammography in the last two years, Table 7. Higher rates of screening are observed among more educated, higher income, and private insurance.

In the last two decades cancer screening rates have increased in Puerto Rico, Table 8. However, despite the increase screening rates are still far below the established of Healthy People 2020 goals: cervical cancer screening 93%, colorectal cancer screening 70.5%, breast cancer screening 81.1%. More recently, a new national goal for colorectal cancer screening of 80% by 2018 was proposed by the National Colorectal Cancer Roundtable Initiative.

Table 4. Cervical Cancer Screening Guidelines by the American Cancer Society (ACS), the United States Preventive Services Task Force (USPSTF) and the American College of Obstetrics and Gynecology (ACOG) for Average Risk Women.

	ACS 2012	USPSTF 2012	ACOG 2012
Age to start	Age 21	Age 21	Age 21
Women ages 21-29	Cytology every 3 years	Cytology every 3 years	Cytology every 3 years
Women ages 30-65	Cytology every 5 years (preferred) or Every 3 years with Pap alone	Cytology every 5 years or Every 3 years with Pap alone	Cytology every 5 years (preferred) or Every 3 years with Pap alone
Women ages > 65	Discontinue after age 65 years (adequate screen)	Discontinue after age 65 years -	Discontinue at age 65 years (adequate screen)
Total Hysterectomy	Discontinue (if no history of CIN2+)	Discontinue (if no history of CIN2+)	Discontinue (if no history of CIN2+)
Screening among fully vaccinated	Same as for non-vaccinated	Not reviewed	Same as for non-vaccinated

Table 5. Breast Cancer Screening Guidelines by the American Cancer Society (ACS) and the United States Preventive Services Task Force (USPSTF) for Average Risk Women

POPULATION	EXAM/PROCEDURE	ACS	USPSTF
Women 20 - 39 Years	Breast Self-Exam (BSE)	<ul style="list-style-type: none"> • Optional, if women decide to do BSE she must ask her healthcare provider to explain the benefits and limitation of the BSE and to teach her how to conduct the exam 	<ul style="list-style-type: none"> • No Evidence
	Clinical Breast Exam (CBE)	<ul style="list-style-type: none"> • Recommended every 3-years • During routine check-up 	<ul style="list-style-type: none"> • No Evidence
Women 40+ Years	Mammography	<ul style="list-style-type: none"> • Annual 	
	Clinical Breast Exam (CBE)	<ul style="list-style-type: none"> • Annual 	
Women 50 - 74 Years	Mammography		<ul style="list-style-type: none"> • Biennial
	Clinical Breast Exam (CBE)		<ul style="list-style-type: none"> • No Evidence

Table 6. Colorectal Cancer Screening Guidelines by the American Cancer Society (ACS) and the United States Preventive Services Task Force (USPSTF) for Average Risk Population

ACS Men and Women 50+ years		USPSTF Men and Women 50-75 years
EXAM/PROCEDURE	FREQUENCY	FREQUENCY
Fecal Occult Blood Test (FOBT)	<ul style="list-style-type: none"> • Annual 	<ul style="list-style-type: none"> • Annual • No Screening after age 76 years
Fecal DNA Test	<ul style="list-style-type: none"> • Uncertain Interval 	<ul style="list-style-type: none"> • Insufficient Evidence
Flexible Sigmoidoscopy	<ul style="list-style-type: none"> • Every 5 years. It could be combined with gFOBT or FIT 	<ul style="list-style-type: none"> • Every 5 years • No Screening after age 76 years
Double-Contrast Barium Enema (DCBE)	<ul style="list-style-type: none"> • Every 5 years 	<ul style="list-style-type: none"> • Insufficient Evidence
Colonoscopy	<ul style="list-style-type: none"> • Every 10 years 	<ul style="list-style-type: none"> • Every 10 years • No Screening after age 76 years
CT Colonography (virtual colonoscopy)	<ul style="list-style-type: none"> • Every 5 years 	<ul style="list-style-type: none"> • Insufficient Evidence

Table 7. Cancer Screening in U.S. and Puerto Rico, BRFSS 2012

Screening Test	U.S. (Md%)	Puerto Rico
Pap Smear (21-64 yr./≤3 yr.) (18+/ \leq 3 yr.)	85% (78%)	77% (71%)
Mammography (\leq 2 yr.) 40+ years 50+ years	74% 77%	78% 79%
Colonoscopy/FlexSig	67%	47%
FOBT (50+ yr./Last 2 yr.)	14%	26%
PSA (40+ yr./Last 2 yr.)	45%	77%

Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data* Atlanta, Georgia; U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2010.

Table 8. Trends in Cancer Screening in Puerto Rico, BRFSS 1996, 2010, & 2012

Screening Test	1996	2010	2012
Pap Smear (18+ yr./≤3 yr.)	70%	75%	71%
Mammography (≤2 yr.)			
40+ years	60%	77%	78%
50+ years	61%	80%	79%
Colonoscopy/FlexSig	28% ¹	43%	47%
FOBT (50+ yr./Last 2 yr.)	12% ¹	10%	26%
PSA (40+ yr./Last 2 yr.)	65% ²	63%	77%

¹ 1999; ² 2002

Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data* Atlanta, Georgia; U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

BREAST CANCER

OBJECTIVE 1: BY 2020, INCREASE THE PERCENTAGE OF WOMEN 40 AND OLDER WHO HAVE HAD A MAMMOGRAM IN THE LAST TWO YEARS.

MEASURES	BASELINE	2020 TARGET
Women 40 and older who have had a mammogram in the last two years.	77.5%	83%

Puerto Rico - BRFSS, 2012

OBJECTIVE 2: BY 2020, INCREASE THE PERCENTAGE OF WOMEN 40 AND OLDER WHO ARE IN HEALTH DISPARITY DUE TO NOT HAVING A HEALTH INSURANCE WHO HAVE HAD A MAMMOGRAM IN THE LAST TWO YEARS.

MEASURES	BASELINE	2020 TARGET
Women 40 and older who have no health insurance who have mammogram in the last two years.	52.3%	57.8%

Puerto Rico - BRFSS, 2012

STRATEGIES:

1. Encourage the use of evidence based interventions such as: client reminder, small media, one to one or group education on women 40 years and older.
2. Collaborate with partners around the island to promote a consistent public message about breast cancer screening guidelines.
3. Promote messages with information about indications, importance of mammogram and how to overcome barriers for screening.
4. Promote breast cancer screening and early detection programs among women who have no health insurance.
5. Promote interventions to reduce system barriers to breast cancer screening.

CERVICAL CANCER

OBJECTIVE 3: BY 2020, INCREASE THE PERCENTAGE OF WOMEN 21-65 YEARS OR OLDER WHO HAVE HAD A CERVICAL CANCER SCREENING.

MEASURES	BASELINE	2020 TARGET
Women 21-65 years or older who have had a Pap test during the past three years.	77%	80%

Puerto Rico - BRFSS, 2012

OBJECTIVE 4: BY 2020, INCREASE THE PERCENTAGE OF WOMEN 21-65 YEARS OR OLDER WHO ARE IN HEALTH DISPARITY DUE TO NOT HAVING A HEALTH INSURANCE WHO HAVE HAD A CERVICAL CANCER SCREENING.

MEASURES	BASELINE	2020 TARGET
Women 21-65 years or older with no health insurance who have had a Pap test during the past 3 years.	52.9%	58.4%

Puerto Rico - BRFSS, 2012

STRATEGIES:

1. Encourage the use of evidence based intervention such as: client reminder, small media, one to one or group education on women 21 to 64 years.
2. Promote messages of awareness of the importance and use of cervical cancer screening guidelines.
3. Promote educational activities on cervical cancer screening guidelines for the community and health professionals.
4. Promote cervical cancer screening and early detection programs among women who have no health insurance.
5. Promote the use of co-testing (Pap- test and HPV testing) among health care providers.

COLORECTAL CANCER

OBJECTIVE 5: BY 2020, INCREASE THE PERCENTAGE OF INDIVIDUALS 50 YEARS AND OLDER WHO HAD COLORECTAL SCREENING.

MEASURES	BASELINE	2020 TARGET
Adults aged 50 years or older who have colorectal cancer screening	Fecal Occult Blood Test 26.4%	80.0%
	Sigmoidoscopy/Colonoscopy 47.2%	

Puerto Rico - BRFSS, 2012

OBJECTIVE 6: By 2020, increase the percentage of individuals 50 years and older who have colorectal screening among those insured under the government health plan (Mi Salud).

MEASURES	BASELINE	2020 TARGET
Adults aged 50 years or older insured under the government health plan who have colorectal cancer screening	35.0%	80.0%

Puerto Rico - BRFSS, 2012

OBJECTIVE 7: By 2020, increase the percentage of individuals 50 years and older who have colorectal screening among those uninsured.

MEASURES	BASELINE	2020 TARGET
Adults aged 50 or older uninsured who have colorectal cancer screening.	15.2%	80.0%

Puerto Rico - BRFSS, 2012

STRATEGIES:

1. Encourage the use of evidence based intervention such as: client reminder, small media, one to one or group education on individuals 50 years and older.
2. Promote community educational activities about colorectal cancer risk factors, colorectal cancer screening, importance of early detection and how to overcome barriers for screening.
3. Promote educational trainings to health care professionals about colorectal cancer screening guidelines.
4. Encourage the use of physician reminder systems to improve colorectal cancer screening.

PROSTATE CANCER

OBJECTIVE 8: BY 2020, INCREASE THE PERCENTAGE OF MEN 40 YEARS AND OLDER WHO HAVE TALKED WITH HEALTH CARE PROVIDERS ABOUT PSA ADVANTAGE AND DISADVANTAGE.

MEASURES	BASELINE	2020 TARGET
Men 40 years and older who have talked with health care providers about PSA advantage.	71.0%	77.0%
Men 40 years and older who have talked with health care providers about PSA disadvantage.	53.3%	59.0%

Puerto Rico - BRFSS, 2011

STRATEGIES:

1. Collaborate with PRBRFSS to gather information regarding the percent of men 40 years and older who have talked with health care providers about PSA advantage and disadvantage.
2. Encourage health professionals talk with men 40 years and older about prostate cancer, risk factors and screening benefits and risks and participate in shared decision-making regarding screening.
3. Develop question for prostate cancer regarding informed decision making to include in data surveillance systems.
4. Promote community educational activities about prostate cancer risk factors, prostate cancer screening recommendations, and importance of early detection.
5. Promote educational trainings to health care professionals about prostate cancer screening guidelines.



TREATMENT

TREATMENT

**GOAL: INCREASE AVAILABILITY AND QUALITY OF
CANCER CARE PROGRAMS.**

Access to timely and proper cancer care is essential for greater survival and quality of life of the individuals. In 1993, Puerto Rico implemented Law 72 establishing the Government Health Insurance Plan (GHIP), also known as Reforma. The law created the Puerto Rico Health Insurance Administration (Administración de Seguros de Salud, ASES) to contract with commercial insurance companies utilizing an island-wide managed care service delivery model. In addition, Law 103 (1993) authorized the privatization of public health facilities shifting the provision of publicly financed health care services from the public to the private sector. Due to the introduction of the Reforma, approximately 92% of the population of Puerto Rico has access to health insurance and 8% are uninsured. The percentage of uninsured is higher in men (10%) than in women (5%). The GHIP provides services to over 1.5 million population (42%) who are: federally eligible Medicaid beneficiaries; children enrolled in the CHIP; individuals and families certified as medically indigent by the Puerto Rico Medicaid Program; and local government employees choosing to participate. Models of care include multiple types of managed care organizations (HMO, PPO, IPAs); fee-for-service; federally funded community health centers under the Health Center Program Section 330; diagnostic and treatment centers (DTC); public clinics; managed behavioral health organizations (MBHO); government sponsored substance abuse services; and non-governmental voluntary organizations. In 2010, the Reforma program was renamed MiSalud including new health care service initiatives designed to improve the delivery of health care services to the Medicaid population. Contractors of MiSalud are reimbursed on a risk capitated basis.

Based on data from the Health Information National Trends Survey-Puerto Rico (HINTS-PR) conducted during 2009-2010, approximately 51% of the population have heard about clinical trials. However, no information is available about clinical trials participation.

The plan identified three priority areas to assure all Puerto Ricans have access to the most appropriate cancer treatment: cancer survivors need to be informed and provided with a treatment summary and information about patient assistance programs and resources, promote the American College of Surgeons Commission on Cancer (ACoS CoC) accreditation and the participation in clinical trials.

OBJECTIVE 1: BY 2020, INCREASE THE PERCENTAGE OF CLINICAL FACILITIES THAT PROVIDE INFORMATION ABOUT PATIENT ASSISTANCE PROGRAMS AND RESOURCES.

MEASURES	BASELINE	2020 TARGET
Clinical facilities that provide information about patient assistance programs and resources.	TBE	TBE

STRATEGIES:

1. Work with hospital and clinical systems to gather information regarding Clinical facilities that provide information about patient assistance programs and resources.
2. Educate patients through physicians, health care providers and health educators on treatment alternatives including the treatment care plan.
3. Provide targeted education that incorporates the principles of informed decision (empowerment).
3. Train physicians, healthcare providers and insurance companies, to provide patients with the information related to assistance programs and educational materials (Standard Clinical Guidelines).

OBJECTIVE 2: BY 2020, INCREASE DE NUMBER OF CANCER TREATMENT CENTERS ACCREDITED BY THE AMERICAN COLLEGE OF SURGEONS COMMISSION ON CANCER.

MEASURES	BASELINE 2014	2020 TARGET
Number of cancer treatment facilities accredited by the American College of Surgeons Commission on Cancer.	3	4

STRATEGIES:

1. Encourage non-accredited institutions to comply with national practice standards in order to seek accreditation by the American College of Surgeons Commission on Cancer.
2. Encourage accredited cancer programs to maintain accreditation.
3. Support partnerships of non-accredited institutions with accredited cancer programs to foster collaborations and increase compliance with national practice standards.
4. Develop and deliver training on national practice standards and guidelines for oncology healthcare providers and staff (e.g., physicians, nurses, navigators, supporting staff).
5. Promote the use of Tumor Boards among institutions.

OBJECTIVE 3: BY 2020, INCREASE THE PERCENTAGE OF PARTICIPATION AND RETENTION OF CANCER PATIENTS IN CLINICAL TRIALS.

MEASURES	BASELINE	2020 TARGET
Cancer patients participating in clinical trials.	TBE	TBE

STRATEGIES:

1. Work with hospital and research centers to gather information regarding what % of cancer patients participating in clinical trials.
2. Develop educational campaigns aimed at increasing public awareness regarding the benefits of participating in clinical trials.
3. Develop training activities to increase knowledge and skills among the medical workforce on effective recruitment and retention strategies, principally for underserved populations.
4. Create a Spanish-language website where cancer patients can find information about ongoing cancer research and clinical trials in Puerto Rico.
5. Use electronic health record systems and health information technologies to support recruitment and retention of patients in cancer clinical trials.
6. Encourage researchers and agencies applying for funding to increase infrastructure resources necessary to deliver cancer treatment clinical trials and to expand geographic access of clinical trials.
7. Convene a workgroup of all Puerto Rico's institutions offering cancer clinical trials to discuss collaborative plans and strategies for effective recruitment and retention of patients.
8. Promote community outreach activities to support enrollment in cancer clinical trials and to disseminate results.



SURVIVORSHIP & QUALITY OF LIFE

SURVIVORSHIP & QUALITY OF LIFE

GOAL: ASSURE CANCER SURVIVOR QUALITY OF LIFE
IN PUERTO RICO.

According to the Institute of Medicine (IOM, 2006), advances in cancer early detection and treatment plus an aging population have resulted in more people surviving longer after being diagnosed with cancer. As January 1st 2012 there were an estimated 13.7 million cancer survivors in the U.S. This number is projected to increase by >30% in the next decade. (Ekwueme et al, 2014) Meanwhile in Puerto Rico, based on data from the Puerto Rico Central Cancer Registry, as January 1st 2010 there were an estimated 61,928 cancer survivors among cancer patients diagnosed between 1987-2010; whereas, there were an estimated 29,057 cancer survivors among those patients diagnosed between 2005 and 2010. (Centeno-Girona, H, 2013) Most cancer survivors are patients diagnosed with prostate, breast cancer, colorectal and thyroid cancer.

Cancer survivors often face challenges managing treatment and follow-up, long-term side-effects of treatment, increased risk for recurrence and new cancers, physical, emotional, social, and financial challenges as a result of their cancer diagnosis and treatment. (Ekwueme et al, 2014) Financial challenges are related to cost of treatment, insurance coverage, and limitation in work and daily activity. The Commission on Cancer of the American College of Surgeons (COC, 2012) emphasizes that all patients who complete cancer treatments be provided with a cancer care summary and a follow up care plan as standard of care. This is to ensure, through adequate and integrated follow-up, that cancer survivors will have adequate management of short and long-term treatment side-effects and prevent cancer recurrences and new cancers, as well as to increase survival and quality of life after cancer treatment.

Collaborative alliances between stakeholders must be established to identify resources in the community to increase the awareness and utilization of the survivorship care plans and adequate post-treatment monitoring.

OBJECTIVE 1: BY 2020, INCREASE THE PERCENTAGE OF CANCER SURVIVORS WHO RECEIVE A SURVIVORSHIP CARE PLAN AS A QUALITY STANDARD OF CARE IN ONCOLOGY.

MEASURES	BASELINE	2020 TARGET
Cancer survivors who receive a survivorship care plan as quality standard of care in oncology.	TBE	TBE

STRATEGIES:

1. Assess physician’s knowledge toward follow up care for cancer survivors in a collaborative effort between physician associations and other partners, using SPARCCS (Survey of Physicians Attitudes Regarding the Care of Cancer Survivors.)
2. Implement the cancer survivorship module of BRFSS to gather information regarding the cancer survivors who receive a survivorship care plan as quality standard of care in oncology (CDC -Behavioral Risk Factor Surveillance System).
3. Educate physicians, health professionals and policymakers regarding the importance of integrating the survivorship care plan as quality standard of care in oncology.
4. Promote workshops and health education initiatives to educate and make survivors and caregivers aware of the benefits of survivorship care plans
5. Promote the use of survivorship care templates among patients and caregivers.

OBJECTIVE 2: BY 2020, INCREASE THE USE OF SURVIVORSHIP SERVICES AND RESOURCES AMONG CANCER SURVIVORS, FAMILIES AND CAREGIVERS.

MEASURES	BASELINE	2020 TARGET
Use of survivorship services and resources among cancer survivors, families and caregivers.	TBE	TBE

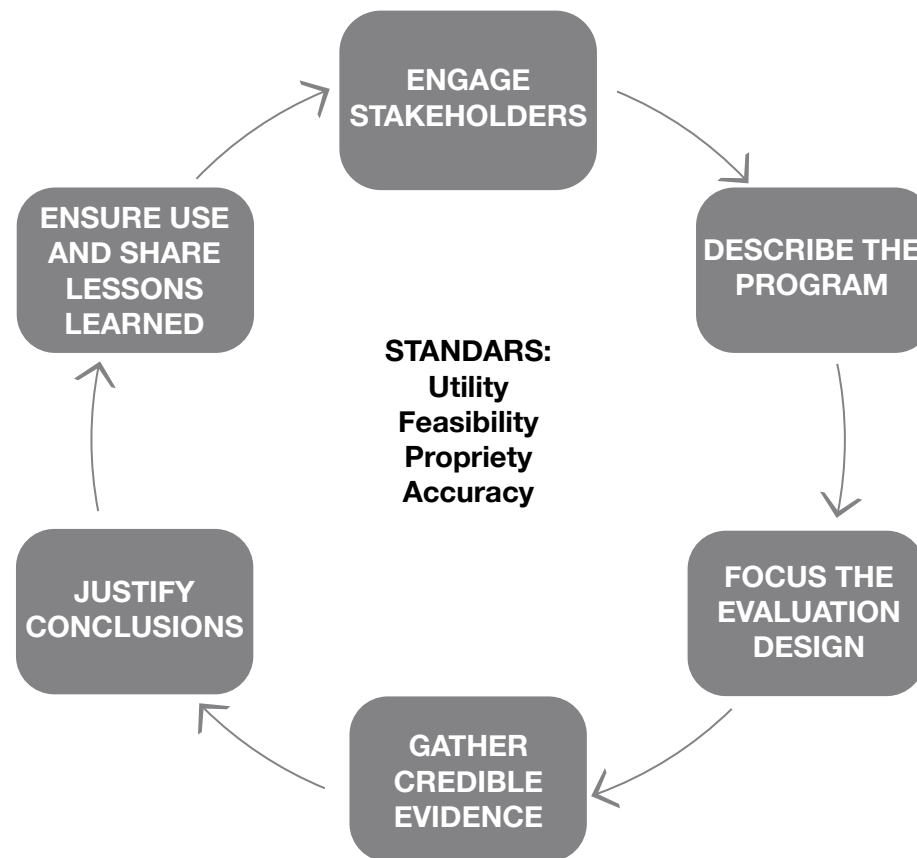
STRATEGIES:

1. Identify survivorship services and resources in Puerto Rico.
2. Assess the use of survivorship services and resources to establish a baseline.
3. Promote collaboration among cancer centers, healthcare professionals, community-based organizations, governmental and private agencies to provide supportive services for cancer survivors and caregivers.
4. Disseminate survivor resources and services through partner websites and the media.

EVALUATION

Evaluation is the systematic collection of information about the activities, characteristics, and outcomes of programs to make judgments about that program, improve program effectiveness, and/or inform decisions about future program development (Patton, 1999). Evaluation is critical to monitor activities and measure progress and success of the Puerto Rico Comprehensive Cancer Control Plan. The essential components of Puerto Rico Comprehensive Cancer Control Plan' evaluation framework is the Centers for Disease and Prevention's evaluation framework, presented below.

Steps in CDC's Framework for Program Evaluation in Public Health



EVALUATION PLAN

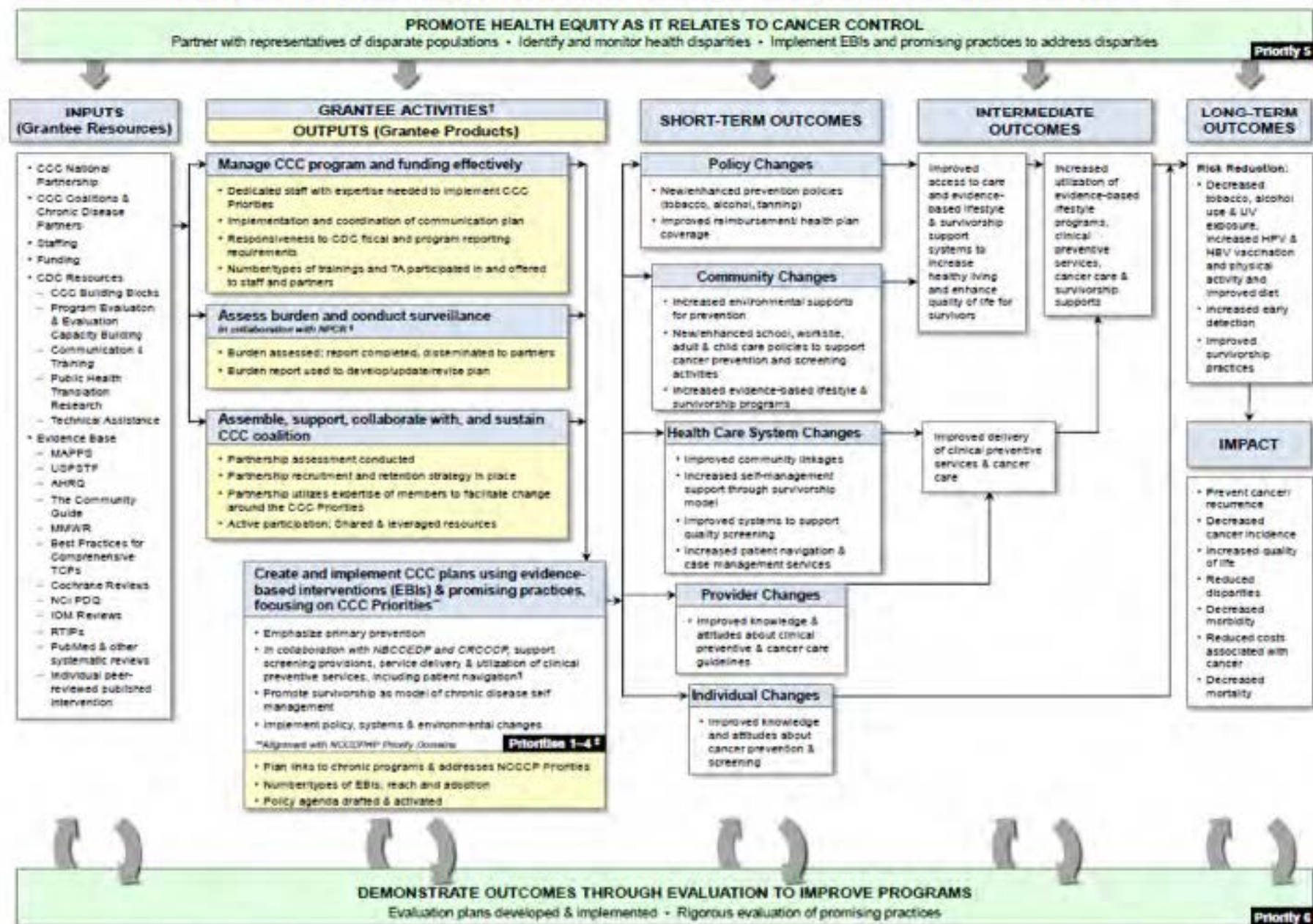
There are two most commonly type of evaluation: process and outcome evaluation. Both evaluation types are essential to document progress toward achieving the goals and objectives of the Cancer Plan.

- **Process Evaluation** determines whether the program or activities are implemented as expected and the target audience. It focus in the monitoring the progress toward implementing the strategies linked with the Cancer Plan' goals and objectives and in identifying the improvement areas.
- **Outcome Evaluation** purposes are to learn how well the program succeeded in achieving its ultimate goal. The ultimate measure of the Plan's success will be the reduction of cancer burden in Puerto Rico. However, since long-term outcomes take years to achieve, short-term impacts will be assessed through progress on measurable objectives included in the Plan. Quantitative data to measure the impact of the Plan will be obtained from the Puerto Rico Central Cancer Registry, which will be used to measure improvements in cancer incidence, stage of diagnosis and mortality. For tracking progress in meeting targets related to cancer screening and risk factors objectives, other quantitative data sources will be used, as the Puerto Rico Behavioral Risk Factor Surveillance System (http://www.cdc.gov/brfss/data_tools.htm). However, the establishment of a baseline was included as part of the strategies in those objectives that don't have measures to monitor achievements.

EVALUATION IMPLEMENTATION

The evaluation team of the Cancer Control Program is constituted as a collaboration model between with the UPR-Comprehensive Cancer Control Center (CCC), the Cancer Prevention and Control Program for Puerto Rico (PRCPCP), the Center for Evaluation and Sociomedical Research (CIES)-Graduate School of Public Health, Medical Sciences Campus of the University of Puerto Rico and coalition's key members. The evaluation team works closely with the UPRCCC Program staff and key stakeholders to insure that all evaluation activities are conducted in accordance with CDC Framework and guides for Program Evaluation. While the Puerto Rico Comprehensive Cancer Control Program is responsible for evaluating the Plan, it is in collaboration with the designated Evaluation Team of the Cancer Control Coalition. The Coalition not only participates in monitoring progress of the Plan but also will utilize the Plan to guide their cancer control activities. All of the measurable objectives in the Plan will be followed in progress reports utilizing the most reliable data sources to assess cancer control progress, impacts, and outcomes in Puerto Rico.

National Comprehensive Cancer Control Program Logic Model with CCC Priorities*



Notes: *Logic model is a revision of the CCC logic model that was published in Cancer Causes and Control (2005) 16 (Suppl. 1): 3-14 and reflects the current state of the NCCCP. | ¹NCCCP grantee activities are aligned with recipient activities described in DP 12-1204 Component 2. The model assumes a highly coordinated approach to CCC program implementation per DP 12-1204 Component 1. | ²Assess the burden and conduct surveillance is done in collaboration/coordination with DP 12-1204 Component 4. | ³Support service delivery & utilization of clinical preventive services, including patient navigation is done in collaboration/coordination with DP 12-1204 Component 3. | ⁴Priority 1-4 are in alignment with current NCCDEP Priority Domains.

HOW CAN YOU USE THE PUERTO RICO COMPREHENSIVE CANCER CONTROL PLAN 2015-2020?

The Puerto Rico Cancer Control Coalition membership has been a vital player in leading collaborative work necessary to achieve the goals and objectives outlined in the Puerto Rico Comprehensive Cancer Control Plan. If PRCCC member organizations and key partners commit to implement the cancer control strategies included in the Plan, this collaborative effort will result in an impact on the cancer burden in Puerto Rico.

Actions Individuals Can Take

- Get cancer-preventive immunizations such as human papillomavirus (HPV).
- Eat more fruits and vegetables, and maintain a healthy weight.
- Participate in daily physical activity.
- Avoid tobacco use and second hand smoke.
- Avoid overexposure to the sun and artificial tanning.
- Know the screening guidelines for proper screening.
- If diagnose with cancer, consider enrolling in a clinical trial.
- Support legislation and/or policies that promote cancer prevention and control efforts.

Actions Hospitals and Health Care Organizations Can Take

- Collaborate to sponsor community screening programs.
- Provide information about cancer prevention, screening, treatment, clinical trials, survivorship and palliative care
- Acquire or maintain American College of Surgeons membership.
- Submit complete cancer case reports in a timely manner to the Puerto Rico Cancer Central Registry.
- Ensure all individuals are appropriately screened, asked about tobacco use and provided with options for quitting and received evidence-based treatment and a written follow-up care plan.
- Provide cancer patients with a written summary of their care plan.
- Establish and participate in a multidisciplinary tumor board.

Actions Community, Faith-Based and Professional Organizations Can Take

- Support initiatives to encourage exercise, tobacco cessation and nutritional eating across the life span.
- Establish healthy vending/cafeteria policies and other wellness policies for the organization.
- Provide cancer information and resources to participants.
- Promote cancer screening among participants.
- Educate members on the importance of promoting cancer clinical trials.
- Train professional members on standard cancer symptom management.
- Support cancer awareness activities.
- Support legislation and/or policies that promote cancer prevention and control efforts.

Actions Employers Can Take

- Establish health and wellness among employees, such as: healthy vending/cafeteria policies, benefit packages including comprehensive cancer coverage, UV protecting gear and development of wellness centers.
- Collaborate with healthcare institutions to host screening events.
- Provide employees with paid leave for clinical preventive service appointments, such as breast, cervical and colorectal cancer screening.

Actions Physicians and Other Healthcare Providers Can Take

- Ensure patients are screened for cancer in accordance with the guidelines, eat a healthy diet, maintain a healthy weight and exercise regularly.
- Implement a cancer screening reminder system.
- Provide cancer patients with a written summary of their care plan.
- Refer patients to and encourage patients to enroll in cancer clinical trials.
- Refer patients to community survivorship resources and palliative care, as appropriate.
- Establish and participate in a multidisciplinary tumor board.
- Submit complete cancer case reports in a timely manner to the Puerto Rico Cancer Central Registry.

GLOSSARY

Age-adjusted mortality rate: A mortality rate statistically modified to eliminate the effect of different age distributions in the different populations.

Age-specific mortality rate: A mortality rate limited to a particular age group. The numerator is the number of deaths in that age group; the denominator is the number of persons in that age group in the population.

Behavioral Risk Factor Surveillance System (BRFSS): Is the nation's premier system of health-related telephone surveys that collect state data about U.S. residents regarding their health-related risk behaviors, chronic health conditions, and use of preventive services. BRFSS collects data in all 50 states as well as the District of Columbia and three U.S. territories.

Body mass index (BMI): A measure that relates body weight to height. BMI is sometimes used to measure total body fat and whether a person is a healthy weight. Excess body fat is linked to an increased risk of some diseases including heart disease and some cancers. Also called body mass index.

Bona Fide Agent: Also known as Administrative Partner (AP) is an organization that supports a governmental entity, such as a health department, with processing federal grants and assuring compliance with grant requirements. The goals of an administrative partnership are to increase the competitiveness of the health department in applying for and accepting federal funding and to expedite implementation of grant activities. Ultimately, the AP and the health department aim to improve the public's health and safety in the most efficient and effective manner.

Cancer Survivorship: An individual is considered a cancer survivor from the time of diagnosis, through the balance of his or her life. Family members, friends, and caregivers are also impacted by the survivorship experience and are therefore included in this definition.

Continuum of care: In medicine, describes the delivery of health care over a period of time. In patients with a disease, this covers all phases of illness from diagnosis to the end of life.

Early detection:

Incidence: The number of new cases of a disease diagnosed each year.

Invasive Cancer: Cancer that has spread beyond the layer of tissue in which it developed and is growing into surrounding, healthy tissues. Also called infiltrating cancer.

Mortality rate: A measure of the frequency of occurrence of death in a defined population during a specified interval of time.

Palliation: Relief of symptoms and suffering caused by cancer and other life-threatening diseases. Palliation helps a patient feel more comfortable and improves the quality of life, but does not cure the disease.

Prevention: Action taken to decrease the chance of getting a disease or condition. For example, cancer prevention includes avoiding risk factors (such as smoking, obesity, lack of exercise, and radiation exposure) and increasing protective factors (such as getting regular physical activity, staying at a healthy weight, and having a healthy diet).

Prevalence: The number or proportion of cases or events or conditions in a given population.

Quality of Life: Is a broad multidimensional concept that usually includes subjective evaluations of both positive and negative aspects of life.

Rehabilitation: A process to restore mental and/or physical abilities lost to injury or disease, in order to function in a normal or near-normal way.

Screening: Checking for disease when there are no symptoms. Since screening may find diseases at an early stage, there may be a better chance of curing the disease. Examples of cancer screening tests are the mammogram (breast), colonoscopy (colon), and the Pap test and HPV test (cervix). Screening can also include checking for a person's risk of developing an inherited disease by doing a genetic test.

Survivorship care plan: Record of a patient's cancer history and recommendations for follow-up care. The plan should define responsibilities of cancer-related, non-cancer-related, and psychosocial providers.

Treatment: Management and care of a patient or the combating of disease or disorder.

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Coalición para el Control de Cáncer de Puerto Rico

PROGRAMA DE CONTROL COMPRENSIVO DE CÁNCER



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