2015 PuertoRico Primary Care Needs Assessment

April, 2016

Puerto Rico Primary Care Office (PR-PCO)
Auxiliary Secretariat of Planning and Development
Puerto Rico Department of Health

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Foreword & Acknowledgments

Dear Stakeholders:

Puerto Rico Primary Care Office (PR-PCO) is pleased to present the 2015 Primary Care Needs Assessment (PCNA). Since 1986, PR-PCO was established with the purpose of improving and assuring the provision of comprehensive primary health care services for underserved and vulnerable populations, through the coordination of federal, State and local resources.

This Primary Care Needs Assessment (PCNA) represents a significant source of information to all Puerto Ricans and can be used to ensure provision of the 10 essential public health services. This document has potential to enhance health planning, identification of geographic health disparities, and deployment and evaluation of health care resources, particularly to improve the quality of care for underserved and vulnerable populations. This PCNA, as a collaborative effort, aims to produce a reliable and accurate source of information that helps to improve accessibility of primary care services and resources, and its provision to all citizens in Puerto Rico.

With this needs assessment, we hope to keep health care providers, communities health centers, health agencies and others stakeholders on the cutting edge of managing vulnerable populations and their health needs.

Special Acknowledgments:

Behavioral Risk Factor Surveillance (PR-BRFSS)
Board of Medical Licensure (JLDM)
ETS and HIV Surveillance Programs
Immunization Registry
Maternal and Child Health Division
Non-Profit Health-Related Organizations
Office of Regulation and Certification of Health Professionals (ORCPS)
PR Cancer Registry
PR Continuum of Care Homeless Assistance Programs
Primary Care Professional Associations and Academic Institutions
Puerto Rico's Community Health Centers
Puerto Rico Primary Care Association
Puerto Rico Health Insurance Administration
PR Office of Minority Health
Suicide Prevention Commission
U.S. Census Bureau, U.S. Department of Labor
U.S. Department of Housing and Urban Development
Vital Statistics/ Planning and Development Auxiliary Secretary

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Glossary of Acronyms

PCO	Primary Care Office
PR	Puerto Rico
PR-DOH	Puerto Rico Department of Health
HRSA	Health Resources and Service Administration
DHHS (or HHS)	U.S. Department of Health
PCNA	Primary Care Needs Assessment
HPSAs	Health Professional Shortage Areas
MUAs	Medically Underserved Areas
MUPs	Medically Underserved Populations
NHSC	National Health Service Corps
LRP	Loan Repayment Program
SP	Scholarship Program
S2S LRP	Students to Service Loan Repayment Program
NELRP	Nursing Education Loan Repayment Program
NSP	Nursing Scholarship Program
CSF	Critical Shortage Facility
FQHCs	Federally Qualified Health Centers
PHS	Public Health Service
BRFSS	Behavioral Risk Factor Surveillance System
STD	Sexually Transmitted Diseases
WHO	World Health Organization
PR-HRH	PR Observatory of Human Resources for Health
ORCPS by its *sigla* in Spanish	PR Office of Regulation and Certification of Health Professionals
HRSA-ORO	Subdivision of HRSA in PR
PR PCA	Puerto Rico Primary Care Association
MDA	Medical Directors Association
SPSS	Statistical Package for the Social Sciences software
GIS	Geographic Information Systems
FTE	Full-Time Equivalent
ACS	American Community Survey
BLS	U.S. Bureau of Labor Statistics
PR-DLHR	PR Department of Labor and Human Resources
FPL	Federal Poverty Level
IMR	Infant Mortality Rate
CoC	Continuum of Care Homeless Assistance Programs

Executive Summary

Overview

By a cooperative agreement between Puerto Rico Department of Health (PR-DOH) and Human Resources and Health Services Administration (HRSA) of U.S. Department of Health and Human Resources (DHHS), Puerto Rico Primary Care Office (PR-PCO) carries out an overall island-wide Primary Care Needs Assessment (PCNA). The main purpose of the PCNA is to identify the geographic areas with the greatest unmet health care needs, health disparities, health workforce shortages, and also to identify the key barriers to access to health care in Puerto Rico; in order to collect, analyze, and use data to educate and mobilize communities, develop priorities, garner resources, and plan actions to improve the public's health.

Data Sources and Methods

An extensive array of secondary and primary data (including 35 health indicators, in addition to surveys and meetings with stakeholders) was collected and synthesized for this report, comprising the 78 municipalities of Puerto Rico. Three major identified categories of criteria were considered to prioritize the "most important" health issues in Puerto Rico: Socio-demographic, Health Status (a.k.a. Health Outcomes) and Health Access characteristics. To establish comparison and ranking of the municipalities with the most unmet primary health care needs and greatest challenges or barriers, an aggregated standardized score (Z-Score) was computed for each group of indicators; along with an overall score. Analyses consisted of descriptive statistics and estimation of z-scores.

Note to the Reader

It is important to emphasize that the following presented key findings are based on the comparison methods and indicators selection criteria used in the study, thus it is advised considerable caution in the interpretation of the results. Beyond the Executive Summary, readers may choose to study the entire report or alternatively focus on a particular section to more deeply understand a particular topic.

Socio-Demographic Profile:

- ❖ Puerto Rico has a greater percentage of elderly population aged over 65 years compared to United States.
- ❖ The population trend is declining while the median age is increasing.
- ❖ A median household income of $19,686, significantly lower than the U.S. average, $53,482. Even the municipalities with the higher income had lower value than the U.S. average.
- ❖ In terms of unemployment rate, PR had more than double percent of people age 16 and older unemployed than the federal average.
- ❖ There was a lower unemployment rate, higher income and lower percent of adults without high school diploma in the municipalities located in the metropolitan area.

Health Status Profile:

- ❖ PR had a lower all cancer sites incidence rate than U.S.
- ❖ All municipalities had a lower female breast cancer incidence than the U.S. average.
- ❖ The incidence of HIV and Syphilis exceeded the U.S average.
- ❖ As of 2014, Puerto Rico had a preterm birth rate of 11.8 per each 100 live births and an infant mortality rate of 8.2 deaths per 1,000 live births; both higher than the U.S.
- ❖ Diabetes mortality within all municipalities in Puerto Rico exceeded the U.S. average.

Health Access Profile:

- ❖ A high percentage of the population is living below the federal poverty level, almost half (45.3%) is living below 100% FPL.
- ❖ The 78 municipalities had lower percent of uninsured population comparing to the U.S. average.
- ❖ A low percent of late entry to prenatal care was observed (1.8%); even the municipalities with the higher percent of late entry to prenatal care had lower proportions than the U.S. average.
- ❖ It was observed a 10.8% of low birth weight infants; which is higher than the U.S average.
- ❖ When compared to U.S. almost double percent of Puerto Rican' population had a disability, 12.3% and 20.9%, respectively. Especially, more than half of the elderly population (51.0%) had a disability in PR for the 2010-2014 U.S. Census estimates.

Key Survey Findings:

As part of the PCNA, PR-PCO developed and administered three distinctive surveys to Community Health Centers (CHC's), Non-Profit Health-Related Organizations, and Primary Care Providers Associations and Academic Institutions, with the purpose to identify perceived key barriers and causes to accessing primary health care in Puerto Rico.

- ❖ All groups of stakeholders agreed that Puerto Rico is facing major health challenges due to health professional's shortage.
- ❖ Most of them believed that unfair economic remuneration could be the cause of the health professionals' shortage. Also, stakeholders concurred that unfair remuneration is causing a constant exodus of health care professionals seeking better job opportunities.
- ❖ According to participants, Puerto Rican population usually waits over a week between the day they request an appointment and the date they finally get it; this waiting time is more frequent among the uninsured population.
- ❖ There was a clear consensus about the need for collaborations between State partners and other stakeholders to improve the primary care and public health needs in PR.

Key Barriers and Challenges:

- ❖ The major identified barriers to primary care services in PR were: access to health services; health insurance coverage; health professionals' shortage; lack of knowledge and health literacy; transportation, mobility and distance to health services; and economic resources and high costs of services.

Top Priorities Service Areas

❖ Through the final overall score of the 19 health indicators, the top 10 municipalities with potentially higher need for intervention and primary health care services are: (listed alphabetically)
- o Arroyo
- o Culebra
- o Guánica
- o Guayanilla
- o Luquillo
- o Maunabo
- o Peñuelas
- o Salinas
- o Santa Isabel
- o Yauco

Total Health Indicators
Z-Score Ranking

Aggregate Score:
⬆ Max.= +26.15
⬇ Min.= -15.60
Puerto Rico= -8.23 (Rank #72)
United States= -31.49 (Rank #80)

Need-Based Criteria
High Priority

Low Priority

Puerto Rico Primary Care Office (PR-PCO), Department of Health

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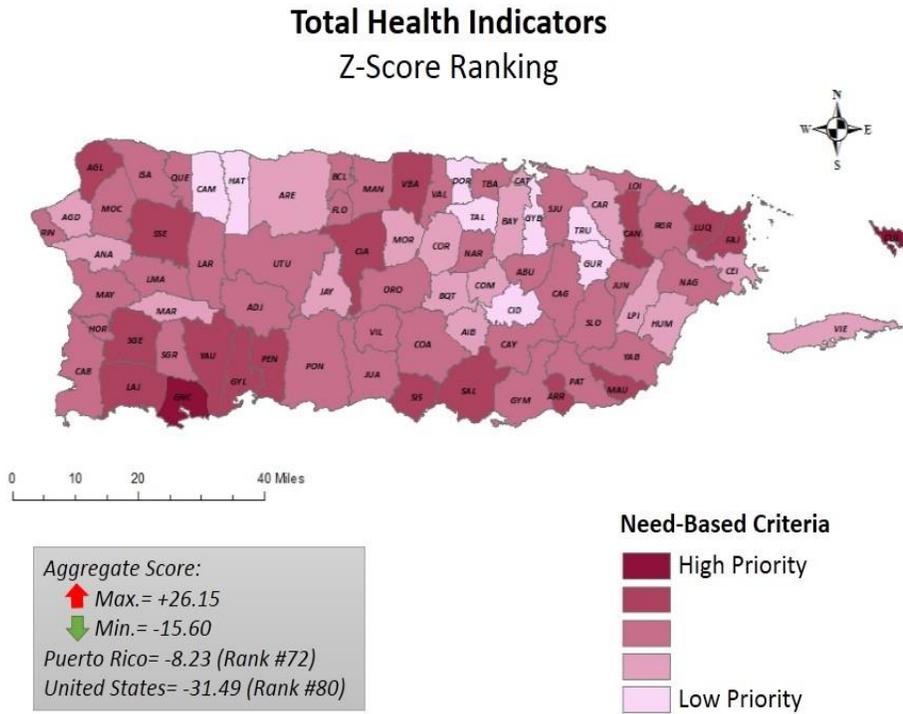
Recommendations

The following are some recommendations to address the needs outlined throughout the PCNA taking into account four major identified priority areas: Collaboration, Health Access, Health Professional Shortages, and Mental Health.

1. PR-DOH must develop and maintain strategic primary care partnerships to continue to foster collaborative relationships through the outreach and engagement of key stakeholders.
2. Addressing and reducing health disparities and promoting health equity, affordability of services and health resources in PR, through the identification of where the inequalities are situated.
3. Enhance collaborations between health professionals associations, academic institutions and State agencies to improve health workforce recruitment process. Accordingly, develop an innovative plan for recruitment and retention of health professionals in collaboration with Professional Associations, Community Health Centers, among other key stakeholders.
4. Improving mental health services from access to sustainability, affordability and quality of care. With emphasis on the efficiency and quality of services to improve Puerto Rico's health vision aimed to primary care and the need of prevention, rather than curative medicine.
5. Continue to collect, analyze, and disseminate health-related data to leaders and stakeholders to improve information systems available to students, and health professionals. Support staff through a coalition aimed to monitoring and analyzing the need for health professionals in PR. Accordingly, maintain a sustainable database with reliable and updated information related to students and health professionals currently working in the Island.

SECTION 1: About the Primary Care Office

1.1 The Primary Care Office (PCO)

Puerto Rico Primary Care Office (PR-PCO) was established in 1986, by a cooperative agreement between Puerto Rico Department of Health (PR-DOH) and a federally funded grant from the Health Resources and Services Administration (HRSA) of U.S. Department of Health and Human Resources (DHHS). The Office carries out an overall island-wide Primary Care Needs Assessment (PCNA) to analyze unmet needs, health disparities, health workforce issues and key barriers for accessing health care in Puerto Rico. In addition, PR-PCO provides technical assistance and collaboration to HRSA partners and organizations seeking to expand access to primary care for underserved and vulnerable populations, through the coordination of federal, State and local resources.

1.2 Establishing Priorities

PR-PCO strives to link and support individuals, community and organizational health efforts to needed health services and resources; with this needs assessment the PCO will be able to prioritize the distribution of resources and primary care health services to achieve its goals and to focus its efforts on the most essential areas. The findings of this island-wide needs assessment will support the primary care work establishing priorities in the following areas:

- Identify target areas to improve accessibility to health care services for Puerto Ricans in all parts of the island, with emphasis on those municipalities with the most unmet health care needs and greatest identified challenges or barriers.
- Promoting workforce programs to recruit and retain primary care providers in all underserved geographic areas and medically underserved populations.
- Supporting shortage designations for medical services and health workforce activities and analysis.
- Monitoring and over-sighting the health status of vulnerable populations and accessibility to health care in Puerto Rico.

1.3 Shortage designations (HPSAs, MUA/MUPs)

A federal shortage designation is a way to establish a need for additional health care professionals and to prioritize limited health resources. The overall purpose of a shortage designation is to identify geographic areas, population groups or facility with the greatest unmet healthcare needs, in order to direct the needed resources to the people in those areas. These designations can be classified in three (3) major areas based on the evaluation criteria stated by HRSA: Health Professional Shortage Areas (HPSAs) and Medically Underserved Areas (MUAs)/ Populations (MUPs).

1.3a Health Professional Shortage Areas (HPSAs)

HPSAs are areas designated as having a shortage of healthcare professionals. There are HPSAs designations in the following three (3) disciplines: ***Primary Care, Dental Health and Mental Health***. Each discipline is designated under three (3) categories: ***Geographic Areas, Population and Facility***.

The designation of geographical area includes a municipality or group of municipalities taking into account the total population compared with all the primary care providers serving in the area. The designation of population refers to low income communities, homeless people, migrant communities, and other disadvantaged populations. In this case, the designation considers the specific population within the geographical area and the number of providers serving it. The designation of facility includes hospitals, health centers, and correctional facilities. This designation indicates that the population served by the facility has insufficient access to care. Additionally, a HPSA designation is necessary to become a National Health Service Corps (NHSC) approved site.

Primary Care HPSAs

In Puerto Rico, there are 32 HPSAs in the area of primary care. Of the total HPSAs, 11 designations are under the population category, specifically low income population. These include 5 groups of municipalities and 6 individual municipalities. The groups of municipalities are the following:

- ❖ Aguada, Aguadilla, Isabela, Rincón, Moca
- ❖ Camuy, Lares, Hatillo
- ❖ Adjuntas, Arecibo, Barceloneta, Florida, Utuado, Jayuya
- ❖ Hormigueros, Cabo Rojo, San Germán y Lajas
- ❖ Añasco, Las Marías, Maricao, Mayagüez, San Sebastián.

The individual municipalities with HPSA Population designation are:

- ❖ Arroyo
- ❖ Maunabo
- ❖ Patillas
- ❖ Santa Isabel
- ❖ Vieques
- ❖ Villalba

In addition to these designations, Puerto Rico also has 21 Auto-facilities with primary care designation.

Dental Care and Mental Health Care HPSAs

For the disciplines of dental health and mental health, there is currently only one Geographic HPSA designation; both located in the geographic area of the municipality of Vieques. Also, for these disciplines, there are 21 Facility HPSA designations which correspond to Auto-facilities.

The 21 Auto-Facility designations are the following:

- ❖ Barceloneta Primary Health
- ❖ Camuy Health Service
- ❖ Castañer General Hospital
- ❖ Centro De Salud Familiar (Arroyo)
- ❖ Centro de Servicios Primarios de Salud, Inc.
- ❖ Centro Servicios Primarios de Salud de Patillas Inc.
- ❖ Concilio De Salud Integral De Loíza

- ❖ Consejo De Salud
- ❖ Corporación de Servicios Médicos Primarios de Hatillo
- ❖ COSSMA Corporation
- ❖ HPM Foundation, Inc.
- ❖ Lares Health Center
- ❖ Metropolitan Detention Center (**federal correctional facility)**
- ❖ Morovis Community Health
- ❖ NeoMed
- ❖ PryMed-Ciales Primary Health
- ❖ Rincon Rural Health
- ❖ Salud Integral En La Montaña
- ❖ San Juan Comprehensive
- ❖ SANOS
- ❖ Western Region/Migrant Health

The following table shows Puerto Rico's Geographic, Population and Facility HPSAs in the three (3) disciplines of Primary Care, Dental Health and Mental Health:

Table 1: Puerto Rico HPSAs

HPSA Type	Total	Geographic HPSAs	Population HPSAs	Facility HPSAs
Primary Care	32	0	11	21
Dental Health	22	1	0	21
Mental Health	22	1	0	21
Source: http://datawarehouse.hrsa.gov/HGDWReports/RT_App.aspx?rpt=HD				
Last update: July 7, 2015				

1.3b Medically Underserved Areas (MUAs)/Medically Underserved Populations (MUPs)

MUAs and MUPs help to identify areas or populations with a shortage of health services, and its documentation is based on four (4) factors: ***Health care provider to population ratio, Infant Mortality rate, Percentage of population below the federal poverty level and Percentage of population aged 65 or over***. The designations of MUA and MUPs are necessary to determine areas where community health centers can be located. In Puerto Rico, 72 municipalities have MUA designation. The 6 municipalities without designation are: Guaynabo, Guayanilla, Guayama, Guánica, Fajardo and Morovis. Nevertheless, there are currently no MUPs designations in the island. The following map figure presents Puerto Rico's municipalities with MUA.
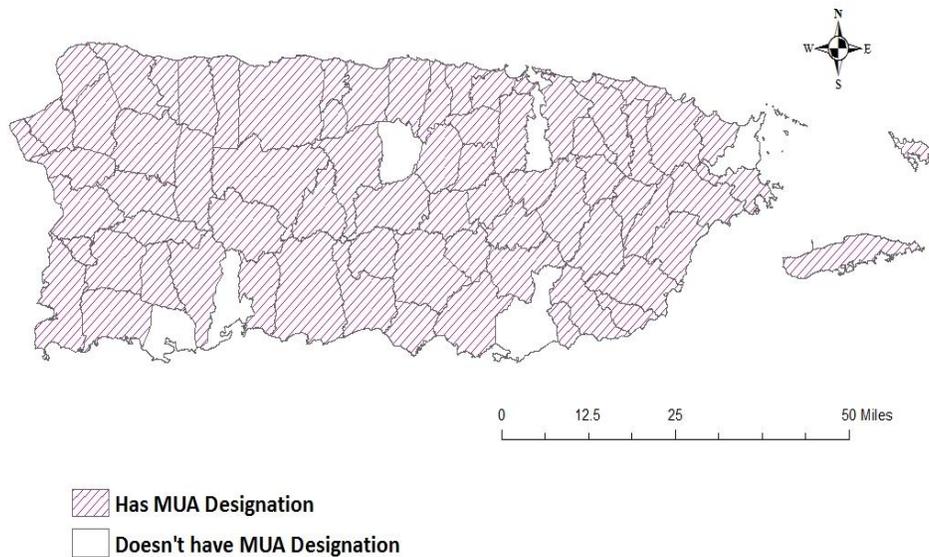
Source: Puerto Rico Primary Care Office (PR-PCO), as of March 2016

Figure 1: Puerto Rico's Medically Underserved Areas (MUAs)

1.4 National Health Service Corps (NHSC) Programs

The National Health Service Corps (NHSC) programs provide an opportunity to assist health professional shortages areas (HPSA's) to meet their need for primary care physicians, dental and mental/ behavioral health providers.

PR-PCO is responsible of the promotion, coordination and collaboration to incorporate NHSC resources into the state's strategy to increase the number of health professionals serving in HPSAs and MUAs/Ps. Not only to ensure NHSC resources are appropriately utilized in the island, but also to coordinate NHSC programs for provider recruitment and placement; and coordination of the implementation of J-1 Visa Program, Conrad 30 and other similar programs in the island. Therefore, PR-PCO works with Academic Institutions as medical, nursing, mental and behavioral sciences schools, medicine residencies and other entities involved in workforce development, engaging constantly in activities that successfully recruit and retain clinical staff, with emphasis on community health centers.

As defined by HRSA, the NHSC builds healthy communities by supporting qualified health care providers dedicated to working in areas of the United States, including Puerto Rico, with limited access to care. Since its creation in the 1970's, the NHSC has helped thousands of primary care providers to achieve their goals while working in underserved communities through its several scholarships and loan repayment programs, such as the NHSC Loan Repayment Program (LRP), NHSC Scholarship Program (SP), Students to Service Loan Repayment Program (S2S LRP), Nurse Corps Loan Repayment Program (NLRP)*,* Nurse Corps Scholarship Program (NSP), and Faculty Loan Repayment Program (FLRP); described as follows:

NHSC Loan Repayment Program (LRP)

This program provides an opportunity to pay off student loans while providing care to communities in need. Eligible clinicians from primary care, mental health and dental health areas can repay their student loans in exchange for 2 to 5 year service commitment on a NHSC-approved site in a high need underserved area. Depending on the NHSC-approved sites and its Health Professional Shortage Area (HPSA) score, providers receive loan repayment in addition to a competitive salary from their employers. To be qualified, the health care provider must be licensed in one of the following eligible disciplines: Physician (MD or DO), Primary Care Nurse Practitioner, Certified Nurse-Midwife, Physician Assistant, Dentist (general o pediatric), Dental Hygienist, Psychiatrist, Psychologist (health service), Licensed Clinical Social Worker, Psychiatric Nurse Specialist, Marriage and Family Therapist and Licensed Professional Counselor.

NHSC Scholarship Program (SP)

NHSC Scholarship Program (SP) offers a scholarship to students pursuing careers in primary care with the promise to serve in the Corps upon completion of their training, in which the years of support equals the years of service required, with at least 2 years of service commitment and up to 4 years of support. The scholarship includes the benefits of a tax-free tuition payment and required fees, other tax-free educational costs (books, etc.) and a taxable monthly living stipend. Scholars in coordination with the NHSC choose where they will serve from NHSC-approved sites in high-need areas. To be eligible for the SP the individual must be a full-time student at an accredited school, pursuing a degree in: Medicine (MD or DO), Dentistry, Nurse Practitioner, Certified Nurse-Midwife and Physician Assistant.

Students to Service Loan Repayment Program (S2S LRP)

S2S LRP offers tax-free loan repayment for 3 years of full-time or 6 years of part-time service commitment. This loan repayment program is offered to full-time student in their last year at an accredited school, pursuing a degree in Medicine (MD or DO) and planning to complete an accredited primary medical care residency in a NHSC-approved specialty (Internal Medicine, Family Practice, Pediatrics, OB/GYN, Psychiatric and Geriatrics).

Nurse Corps Loan Repayment Program (NLRP)

The Nurse Corps Loan Repayment Program (NLRP) is available to registered nurses and advanced practice registered nurses such as nurse practitioners, working in a Critical Shortage Facility (CSF, also known as health care facilities with a shortage of nurses) or nursing faculty employed by an accredited school of nursing. NLRP program participants receive 60 percent of their total outstanding qualifying educational loan balance incurred while pursuing an education in nursing for a two-year service commitment. Qualifying NLRP participants may also receive an additional 25 percent of their original loan balance for a third year of service.

Nurse Corps Scholarship Program (NSP)

Nursing students are eligible to receive funding for their education and training in exchange for working at a Critical Shortage Facility (CSF) located on a HPSAs. To be eligible for this program the individual must be accepted or enrolled in a professional nursing degree program (graduate, collegiate, associate degree, or diploma) at an accredited school in the United States, including Puerto Rico. The service commitment of this program is one-year for each year of scholarship support, with a minimum of 2-year service commitment and up to 4 years of support. This opportunity offers both full-time and part-time status.

Faculty Loan Repayment Program (FLRP)

The FLRP is available for faculty members from disadvantage backgrounds with a professional health care degree/certificate in exchange for teaching at educational institutions that provide training for health care professionals. With this program eligible participants receive loan repayment for 2 years' service commitment and may apply for sequential contracts. The members of this program serve teaching in classrooms at health professional schools offering degrees in eligible primary care, dental care, mental/behavioral health, nursing, and other disciplines such as public health, pharmacy, respiratory therapy, among others eligible disciplines.

1.5 J-1 Visa Program/ Conrad 30

The J-1 visa program is directed to foreign nationals who want to participate in an exchange visitor/internship program in the USA. The J-1, exchange visitors classification, is authorized for those who intend to participate in an approved program to expand their education and training in the United States.[1]

Conrad State 30 Program

To address the shortage of qualified doctors in medically underserved areas, PCOs are able to coordinate the implementation of programs such as the Conrad 30. The Conrad 30 Waiver program allows J-1 medical doctors to apply for a waiver of the 2-year residence requirement upon completion of the J-1 exchange visitor program.[2]

For the waiver, the J-1 medical doctor must:

❖ Agree to be employed full-time in H-1B non-immigrant status at a health care facility located in an area designated as a Health Professional Shortage Area (HPSA), Medically Underserved Area (MUA), or Medically Underserved Population (MUP).
❖ Obtain a contract from a health care facility located in a designated area.

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[1] J-1 Visa Exchange Visitor Program. Available at: http://j1visa.state.gov/
[2] Conrad 30 Waiver Program. Available at: https://www.uscis.gov/working-united-states/students-and-exchange-visitors/conrad-30-waiver-program

❖ Obtain a "no objection" letter from his or her home country, if the home government funded his or her exchange program.

❖ Lastly, agree to begin employment at the health care facility within 90 days of receipt of the waiver, not the date his or her J-1 visa expires.

1.6 Federally Qualified Health Center (FQHC)

Federally Qualified Health Centers (FQHCs) are "safety net" of primary care providers, such as community health centers, public housing centers, outpatient health programs and others programs serving migrants and the homeless. The main purpose of the FQHC Program is to enhance the provision of primary care services in underserved and vulnerable communities. All FQHCs by designation receive a grant under Section 330 of the Public Health Service (PHS) Act. Nonetheless, there are also FQHCs look-alikes, centers not receiving such a grant, but are determined by the Secretary of U.S. DHHS to meet the requirements for receiving it based on the recommendation of HRSA. In Puerto Rico, there aren't any FQHCs look-alikes, but the island has 21 FQHC and one federal correctional facility, to help serve as PR's safety net, of which 20 are part of PR Primary Care Association (PR-PCA). To date, more than 35 clinics provide primary health care in nearly 50 municipalities across the island.

Health centers are non-profit private or public entities that serve designated medically underserved populations/areas or special medically underserved populations comprised of migrant and seasonal farmworkers, the homeless or residents of public housing. Those centers provides all required primary, preventive and comprehensive health services as appropriate and necessary, either directly or through established written arrangements and referrals. Also, they make efforts to establish and maintain collaborative relationships with other health care providers, including other health centers, in their service area. These health centers provide primary health care services to children and adults in Puerto Rico and offer a variety of comprehensive services such as prenatal care, immunizations, treatment for patients with acute and chronic conditions; additionally support services such as education and transportation. The services are for all patients, regardless their ability to pay; offering a scale of fees according to patients' income, also known as "sliding fee scale".

Figure 2: Puerto Rico's Community Health Centers, Satellite Clinics and Correctional Facilit
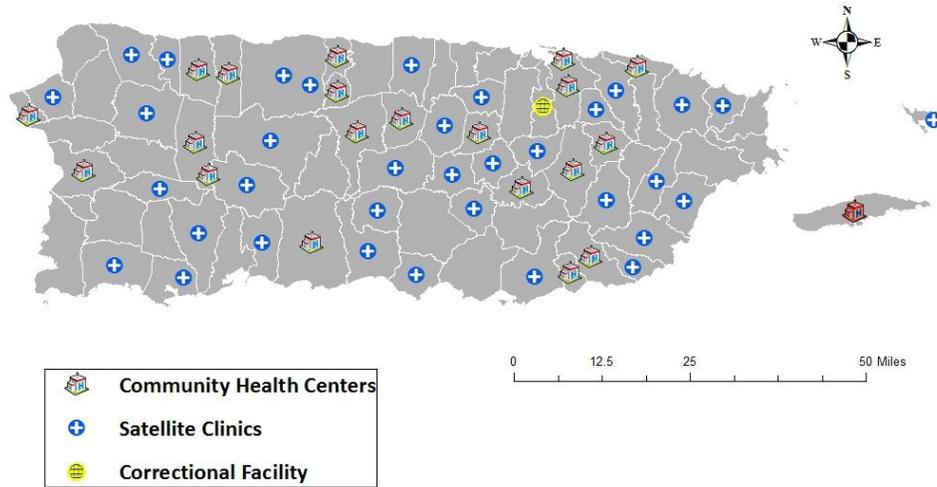
Puerto Rico Primary Care Office (PR-PCO), Department of Health
Data Source: U.S. Health Resources and Services Administration (HRSA) and PR Primary Care Association, Inc. (PR-PCA), as of March 2016.

2015 Puerto Rico Primary Care Needs Assessment

SECTION 2: Introduction

2.1 Needs Assessment

A health needs assessment is a comprehensive approach to collecting, analyzing, and using data to educate and mobilize communities, develop priorities, garner resources, and plan actions to improve the public's health.[3, 4]This Primary Care Needs Assessment (PCNA) represents a significant source of information to all Puerto Ricans and can be used to ensure provision of the 10 essential public health services[5]. This document has potential to enhance health planning, identification of geographic health disparities, and deployment and evaluation of health care resources, particularly to improve the quality of care for underserved and vulnerable populations. The PCNA has many benefits for health care professionals, health care systems and public health agencies to plan and manage resources, to detect geographic inequalities, and to evaluate populations and their health needs.

2.2 Purpose of the Primary Care Needs Assessment (PCNA)

This PCNA aims to produce a reliable and accurate source of information for providers, academic institutions, health care centers, community organizations and public and private organizations supporting efforts to improve accessibility of primary care services and resources, and its provision to the entire population in Puerto Rico. In order to accomplish this goal, this needs assessment will identify the geographic areas with the greatest unmet health care needs, health disparities, health workforce shortages, and also to identify the key barriers to access to health care for these communities in Puerto Rico. Understanding the utility of this PCNA is a significant factor in enhancing decision making for improvement of primary care programs, health care services and the PCO organizational structure and operations.

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[3] Points to Consider: Primary Care Assessment. HRSA 2015.
[4] State Health Assessment: Executive Summary. Florida 2012. Retrieved from: http://www.floridahealth.gov/about-the-department-of-health/about-us/state-and-community-health-assessment/state-health-assmt/_documents/ExecSum.pdf
[5] The Public Health System and the 10 Essential Public Health Services. Available at: http://www.cdc.gov/nphpsp/essentialservices.html

SECTION 3: Methodology

For the development of this needs assessment, two (2) general types of data were used throughout the PCNA: Quantitative and Qualitative Data. PR-PCO obtained compiled statistics about socio-demographic, economic and health conditions' variables, comprising the 78 municipalities of Puerto Rico. For the qualitative component, the population of interest were the Community Health Centers, Non-Profit Health-Related Organizations, Professional Associations and Academic Institutions.

3.1 Quantitative Data Collection

The purpose of the quantitative design was to identify the health outcomes and health disparities through analysis of secondary data. Secondary data collected includes morbidity and mortality indicators, including health risk factors prevalence, chronic disease prevalence, mental health and HIV/AIDS/sexually transmitted diseases (STD) indicators. Additionally, the PCO staff selected indicators related to access to primary and preventive care services; including population insurance status, poverty level, homelessness, among others demographics and socio-economic variables. Secondary data comes from several sources of state programs and federal agencies, including U.S. Census Bureau, U.S. Department of Labor, U.S. Department of Housing and Urban Development, PR Continuum of Care Homeless Assistance Programs, PR Cancer Registry, PR Department of Health and its different subdivisions such as Vital Statistics, Maternal and Child Health Division, Suicide Prevention Commission, Immunization Registry, ETS and HIV Surveillance Programs, and the Behavioral Risk Factor Surveillance System (PR-BRFSS). The data used on the analysis was selected by the availability of the secondary data requested and the databases published by the different federal, state and local entities.

3.1a Indicator process selection

To communicate high-priority health issues affecting our population and to determine difference between municipalities in PR, a selection of indicators based on three (3) criteria were performed: Healthy People 2020 initiatives[6], the World Health Organization (WHO) reports and recommendations[7], and its relevance to the PCO and HRSA priorities were determined (See Figure 3). Also, study findings by a work endorsed by Puerto Rico Department of Health (PR-DOH) and the Office of Minority Health in 2013 "Assess the demand and supply of physicians in the island, historical trends and forecast of the numbers of general practitioners, primary care physicians and specialists for 2013-2019", enriched the data selection and analysis performed. This reference study included possible factors related to the supply and demand of physicians in PR such as social, economic, demographic, and others dimensional areas of the health system.
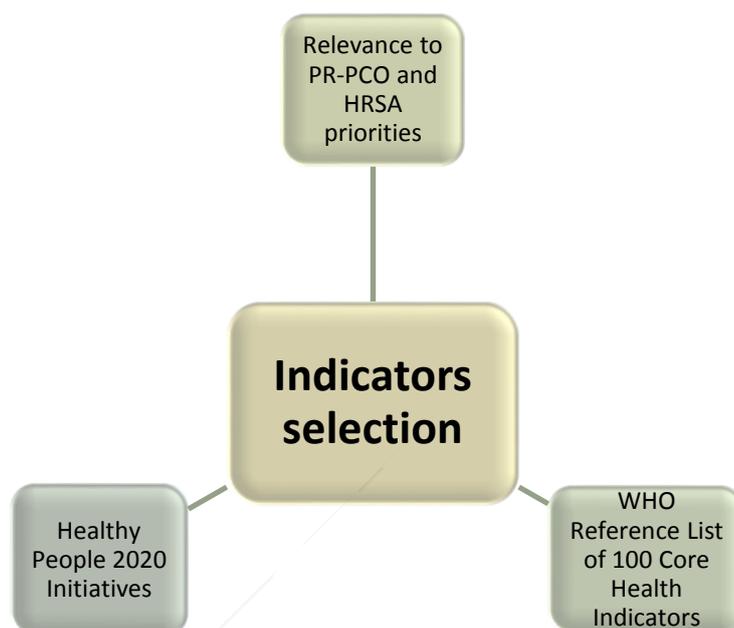
Figure 3: Health Indicators Selection Criteria

Using the previous criteria thirty-five (35) health related indicators were selected, as follows:

Table 2: Selected Health Indicators for the PCNA

Socio-Demographic (n=5)	Health Status (n=20)	Health Access (n=10)
• Percent of Population Under 5 years, • Percent of Population 65 years and over, • Annual Median Household Income, • Percent of Civilian Labor Force Unemployed, and • Percent of Population 25 years of age and	• Prevalence Rate for Selected chronic diseases, risk factors and health behaviors: Diabetes, Heart Attack, Overweight, Obese, Tobacco Use, and Binge Drinking, • All Cancer Sites Incidence Rate • Breast Cancer Sites Incidence, • Colon and Rectum Cancer Incidence Rate,	• Percent of Population Below 100% of Federal Poverty Level, • Percent of Population Below 200% of Federal Poverty Level, • Percent of Population Uninsured, • Percent of Mothers who Received Prenatal Care in the First Trimester,

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[6] 2020 Topics and Objectives – Objectives A-Z. Available at: https://www.healthypeople.gov/2020/topics-objectives

[7] Global Reference List of 100 Core Health Indicators, 2015. Available at: http://www.who.int/healthinfo/indicators/2015/en/

Socio-Demographic (n=5)	Health Status (n=20)	Health Access (n=10)
over with No High School Diploma.	- Prostate Cancer Incidence Rate, - HIV Incidence Rate, - Syphilis Incidence Rate, - Preterm Birth Rate, - Teen Births - Alzheimer Services Utilization - Cancer Mortality Rate, - Heart Disease Mortality Rate, - Diabetes Mortality Rate, and - Infant Mortality Rate.	- Percent of Mothers who Received Prenatal Care in the Third Trimester, - Percent of Low Birth Weight Infants, - Percent of Non-Vaccination Coverage Among Children, - Percent of Non-Vaccination Coverage Among the Elderly Population, - Percent of Population with a Disability, and - Count of homeless population.

3.1b Criteria for prioritization

In order to establish a scoring and therefore to perform a prioritization methodology, a second criteria[8] was applied to select the health indicators. If at least two or more of the following criteria were applicable to the indicator, then it was chosen:

- ❖ First, the accessibility, availability, and reliability of the data. The indicator had to be available by service area (municipalities) or geographic distribution and from a reliable source of information.
- ❖ Second, Puerto Rico comparison to the United States. If the indicator value for Puerto Rico was worse than the U.S. average, or if more than 25% of PR municipalities performed worse than the U.S., then the indicator was selected.
- ❖ Third, the indicator value comparison to Healthy People 2020 (HP2020) benchmarks. If Puerto Rico had not yet met the target set by HP2020 initiatives (when applicable) [9], then the indicator was chosen.
- ❖ Fourth, core need and barriers measures required by HRSA applications for funding opportunities or for designation process were considered[10].
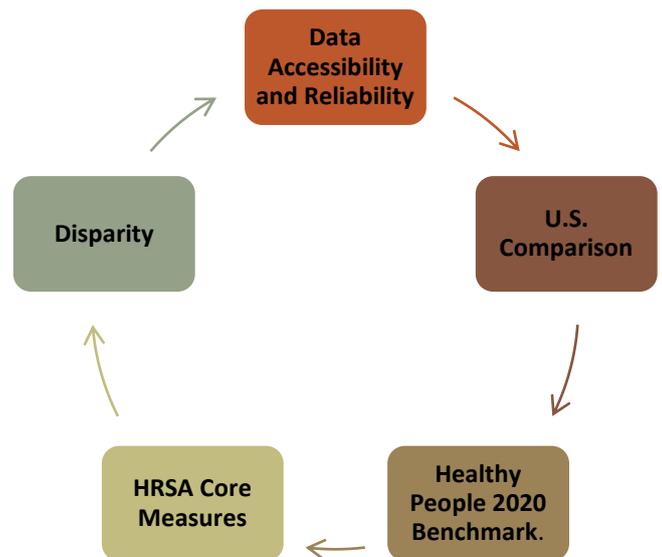
Figure 4: Health Indicators Selection Criteria for the Scoring Methodology

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[8] 2013 State of Hawaii Community Health Needs Assessment. Available at: http://hah.org/wp-content/uploads/2013/12/2013_state_chna.pdf
[9] Healthy People 2020 Leading Health Indicators: Progress Report. Available at: https://www.healthypeople.gov/sites/default/files/LHI-ProgressReport-ExecSum_0.pdf
[10] 2014 HRSA Data Resource Guide. Available at: http://bphc.hrsa.gov/programopportunities/fundingopportunities/NAP/dataresourceguide.pdf

❖ Fifth, a final comparison criterion was disparities within each indicator for those indicators with greatest sub-groups disparities (age, sex, or other), when data was available. If one sub-population had a value three times worse than another for the same indicator, then this criteria was valid.

The following table shows the health indicators selected for the scoring methodology, based on these criteria:

Table 3: Health Indicators Used for the Scoring Methodology by Categories (N=19)

Socio-Demographic (n=5)	Health Status (n=8)	Health Access (n=6)
1. Percent of Population Under 5 years, 2. Percent of Population 65 years and over, 3. Annual Median Household Income, 4. Percent of Civilian Labor Force Unemployed, and 5. Percent of Population 25 years of age and over with No High School Diploma.	1. Prostate Cancer Incidence Rate, 2. Colon and Rectum Cancer Incidence Rate, 3. HIV Incidence Rate, 4. Syphilis Incidence Rate, 5. Preterm Births Rate, 6. Heart Disease Mortality Rate, 7. Diabetes Mortality Rate, and 8. Infant Mortality Rate.	1. Percent of Population Below 200% of Federal Poverty Level, 2. Percent of Population Uninsured, 3. Percent of Low Birth Weight Infants, 4. Percent of Non-Vaccinated Children, 5. Percent of Non-Vaccinated Elderly Population, and 6. Percent of Population with a Disability.

Key Scoring Steps

Considering that the variables used to measure needs and health disparities criteria rarely use the same scales (e.g. Percent, Rate, among others), using a standardized measure such as Z-Score, allowed some comparison or assessment of risk and needs across the service areas. For each municipality, the first step in the scoring process was to calculate the z-score for every single indicator presented in the previous Table 3, using the following formula:

$$\textit{Z-Score (Indicator)} = \frac{(\textit{Value} - \textit{Mean})}{\textit{Standard Deviation}}$$

With the exception of median household income; unlike the other variables used where greater values indicate higher priority, lower values of median household indicate high need. Hence, in this specific case the z-scores are multiplied by negative 1 when a high magnitude corresponds with a low priority[11].

As a second step in the scoring process, the scores were aggregated into one score for each category: Socio-Demographic, Health Status and Health Access. A score for the three (3) categories was computed by grouping the associated indicator scores in a cumulative Z-Score for each Puerto Rico municipality.

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[11] Prioritizing Preferable Locations for Increasing Urban Tree Canopy in New York City. Available at: http://www.nrs.fs.fed.us/pubs/37293

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$$Aggregate\ Score\ (Category\ X) = \sum Each\ Indicator\ Z - Score\ Value\ for\ Category\ X$$

Finally, an overall score was computed used as a proxy for measuring the level of need for primary care services, followed by the ranking of the municipalities and highlighting those with the greatest primary health care needs.

$$Overall\ Score\ (N=19) = \sum Total\ Health\ Indicators\ Z - Scores$$

This methodology was used to create a risk Index to rank all municipalities in Puerto Rico. It is assumed that the higher the measured score in a particular service area (municipality in the case of Puerto Rico), the greater the perceived need for intervention and for primary care services, conversely, a low score indicates municipalities with less need.[12,13,14,15]

3.2 Qualitative Data Collection

On the other hand, the qualitative design of the study aimed to identify the key barriers to access to health care in Puerto Rico and its possible causes through the analysis and interpretation of the data collected through surveys, community focus group and key informants interviews. Data to identify unmet needs, health disparities and the key barriers to access health care services in Puerto Rico was gathered through three stages.

Figure 5 shows the three stages conducted by PR-PCO to complete the qualitative component of the PCNA. During the first stage, the PCO developed three (3) distinctive questionnaires and distributed them to the respective interest groups: Community Health Centers, Non-Profit Organizations, and Professionals Associations and Academic Institutions. The second stage was a meeting and discussion session with Community Health Center's staff. In the last stage, information about health workforce main issues was gathered by a questionnaire directed to Primary Health Care professionals.

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[12] 2007 Georgia Primary Care Access Plan and Rural Health Chart Book. Available at:
https://dch.georgia.gov/sites/dch.georgia.gov/files/imported/vgn/images/portal/cit_1210/17/37/1060968272 007_Primary_Care_Access_Plan_Combined_final_2.pdf
[13] 2009 State of Hawaii Primary Care Needs Assessment Data Book. Available at:
http://health.hawaii.gov/about/files/2013/06/pcna2009databook1.pdf
[14] Use of Percentiles and Z-Scores in Anthropometry. Available at:
www.springer.com/cda/content/.../cda.../9781441917874-c1.pdf
[15] Physical Status: The Use and Interpretation of Anthropometry, WHO Technical Report Series. Available at:
http://apps.who.int/iris/bitstream/10665/37003/1/WHO_TRS_854.pdf

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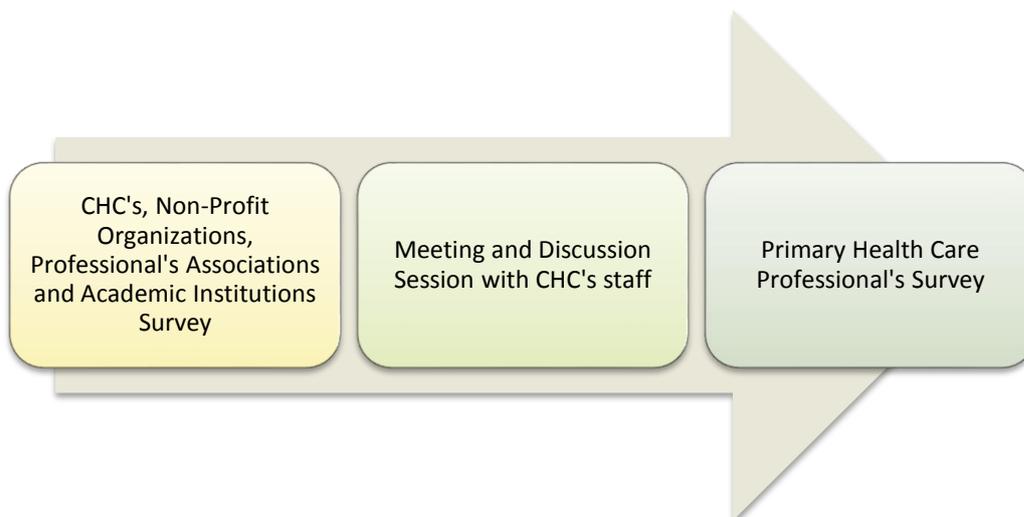
Figure 5: Qualitative Data Collection Design

3.2a First Stage: CHC's, Non-Profit Organizations and Professional Primary Care Associations/ Academic Institutions' Surveys

For the Community Health Centers' survey, the PCO distributed an electronic questionnaire to the Executive and Medical Directors from the twenty-one (21) corporations and the federal correctional facility. In order to get perspective from different staff of Community Health Centers, the survey was completed by the Executive and Medical directors, Board members which acted as community voices, and health care providers in the main and satellite clinics.

The second survey developed was directed to Non-Profit Health-Related Organizations. The Community organizations were selected from the Directory of Non-Profit Organizations of Puerto Rico; created by the Non-Profit Evaluation & Resource Center, Inc.

For the third survey distributed, most of the Professional Associations related to primary care and Academic Institutions such as medicine, mental health and nursing schools, were included in the sample.

For a higher response rate, to decrease response time and to expedite the process of organizing data, the surveys for community non-profit organizations and professional associations were administered using an online platform. This platform enable the staff to have a better data management and control of the data collection process.

Core Team Participation Process

The Primary Care Office maintains relationships with other health-related organizations and agencies in their efforts to work as a collaborative entity, identifying the needs of the island population related to access to primary care. To develop and create the surveys' instruments for the Community Health Centers, Community Non-Profit Organizations and Professional Associations/Academic Institutions; the PCO used primarily previous U.S. PCOs' surveys models available online, HRSA criteria and points to consider. Inputs and recommendations regarding the design and development of data collection instruments were received from HRSA partners, Primary Care Association (PR-PCA), and Office of Minority Health.

3.2b Second Stage: Group Discussion Sessions

To identify potential causes for the key barriers for accessing primary health care, the greatest unmet health care needs and disparities; most importantly to gather inputs and recommendations, the PCO conducted a focus group and key informant interviews to present the preliminary analysis of the data collected through the CHCs' surveys. The PCO gathered insights on the main obstacles to quality health care identified on the preliminary results using the *World Café* dynamic[16]; which emphasizes the power of simple conversation in considering relevant questions and themes.

Access to Primary Care Services, Access to Mental Health Services and Health Professional's Shortage were the topics assigned to the three discussion groups created and selected based on the preliminary results and the major barriers identified from surveys.

3.3 Data analysis process

For the development of this PCNA, analyses consisted of tabulation of descriptive statistics; including prevalence rates and incidences, and estimation of z-scores for prioritization. PR-PCO examined the data for prioritizing health needs and identifying differences in distribution among geographic areas. In order to represent the geographic distribution of the health related indicators, Geographic Information System (GIS) application was used to create maps.

Analysis of qualitative data gathered from community health centers, non-profit organizations and professional associations/academic institutions were performed using the Statistical Package for the Social Sciences Software (SPSS). Then, a profile of the main issues and insights on the key barriers constraining Puerto Rican population from receiving a quality health care was created.

3.4 Communication of Findings

The final results of the PCNA was presented to the CHC's, PR-PCA members, Non-Profit Organizations, Professionals' Associations and Academic Institutions, Office of Minority Health, and other internal and external stakeholders and health organizations. Also, a written copy of this report will be publicly available. Subsequently, the PCO is using the findings from this needs assessment to develop a plan for monitoring, evaluating, and implementing activities such as the recruitment and retention of primary care professionals and shortage designation coordination in PR. More importantly, PR-PCO expect that the PCNA findings can be a useful source of information for our respective initiatives in the health area and to continue collaborative efforts to improve access to primary health care for the Puerto Rican population by leveraging federal, state and other local programs such as the NHSC and other HRSA programs.

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[16] World Café: Dynamic Iteration on Key Discussion Questions. Available at: http://www.unicef.org/knowledge-exchange/index_83122.html

4.1 About Puerto Rico

Puerto Rico is an unincorporated territory of the United States of America, officially known as the Commonwealth of Puerto Rico (*Estado Libre Asociado de Puerto Rico* in Spanish). The official language is Spanish and English is also spoken, mostly as a second language. P.R. is located in the northeastern Caribbean, east of the Dominican Republic and west of both the U.S. Virgin Islands and the British Virgin Islands. Puerto Rico, the smallest of the Greater Antilles, consists of an archipelago that includes the main island of Puerto Rico and two smaller islands: Vieques and Culebra, for a total number of 78 municipalities.

Source: Retrieved from gis.pr.gov
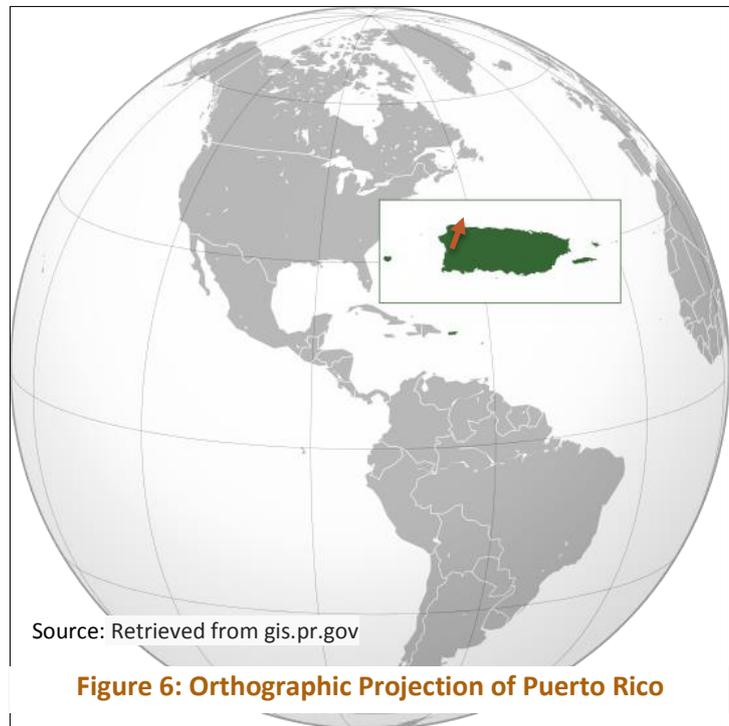
Figure 6: Orthographic Projection of Puerto Rico

Therefore, the majority of the indicators in this PCNA are presented by municipality's distribution. Five of the eight characteristics presented in this profile are considered as primary care need indicators related to socio-demographic data:

- ❖ Percent of Population aged Under 5 years,
- ❖ Percent of Population aged 65 years and over,
- ❖ Annual Median Household Income,
- ❖ Percent of Civilian Labor Force Unemployed, and
- ❖ Percent of Population 25 years of age and over with No High School Diploma.

Taken together with the population estimates, sex ratio and age composition; they represent Puerto Rico's demographic profile.

Note: As the following maps images are shown with the abbreviations of the service areas for a better visualization of the data, please refer to Table 6 for more details about the municipality's complete name.

4.2 Population Data

Since the 2010 Census, population estimates in 2014, show that the total population in Puerto Rico has been declining, from 3,808,610 to 3,638,965 people, respectively. Based on the 2010-2014 American Community Survey (ACS) estimates, the most populated municipalities in Puerto Rico were: San Juan (380,149), Bayamón (201,273) and Carolina (171,310). While, the municipalities with the lowest number of inhabitants were: Culebra (1,585), Maricao (6,384) and Vieques (9,217). (See Table 8 for more details).
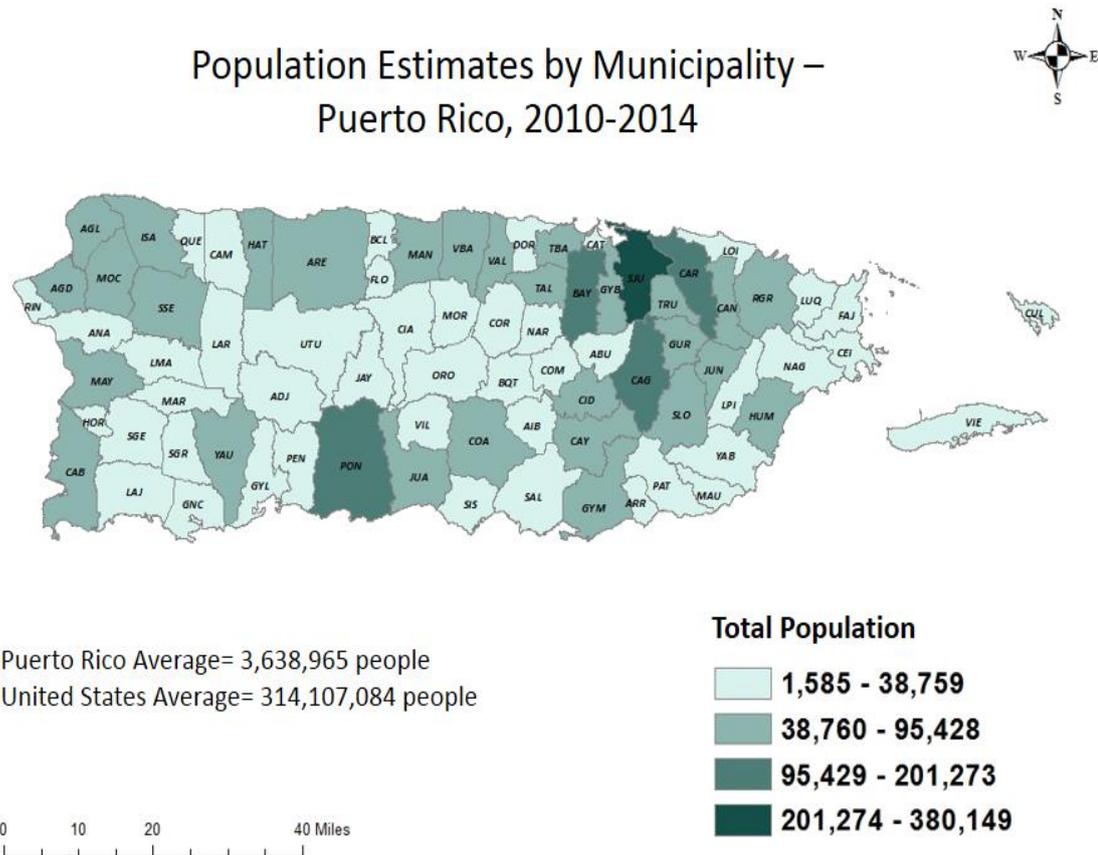
Figure 7: Population Estimates by Municipality, Puerto Rico 2010-2014 Estimates

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4.3 Sex Ratio

According to the ACS data, there was an overall higher percent of female (52.1 %) than male population (47.9%) in Puerto Rico for 2010-2014. This is similar to the United States where females compose the majority of the population with a 50.8%. The municipalities of San Juan (54.0%), Carolina (53.8%) and Hormigueros (53.5%), have the highest females' percentages; compared to Culebra (57.8%), Vieques (51.2%) and Orocovis (50.4%), with the highest percentages of male population. (See Table 8)

Sex Distribution, Puerto Rico, 2014

Female 52% | Male 48%

Data Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates, and PR PCO.
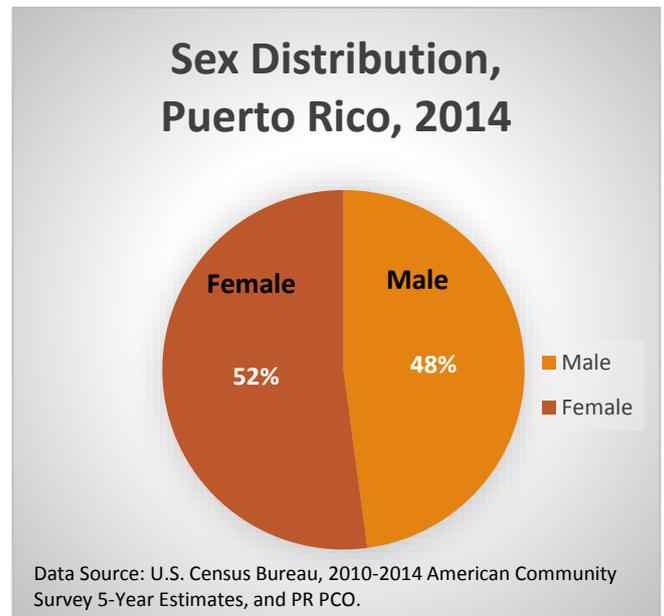
Figure 8: Puerto Rico Sex Distribution, 2014

4.4 Age Composition

The age and sex composition within Puerto Rico's municipalities are a significant factor when determining the health status and health care needs of its population. As of July 2014, the median age in Puerto Rico was 38.1 years, higher when compared to a median of 37.4 years for the United States.

In terms of the age composition by selected age categories, there was a similar distribution between P.R. and U.S. with a slight difference in the age categories of the population under 5 years and 65 years and over. (See Figure 9). In these categories, Puerto Rico had a smaller percent of infant and toddler population and a higher percent of the elderly population than U.S estimates. (See Table 9 for more details)

Selected Age Categories Distribution

Age Categories (years)	Puerto Rico (N=3,638,965)	United States (N=314,107,084)
< 5	5.6	6.4
5 TO 17	17.4	17.1
18 TO 34	23.1	23.4
35 TO 44	12.8	13
45 TO 64	25.1	26.4
65 +	16	13.7

Data Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates, and PR PCO.
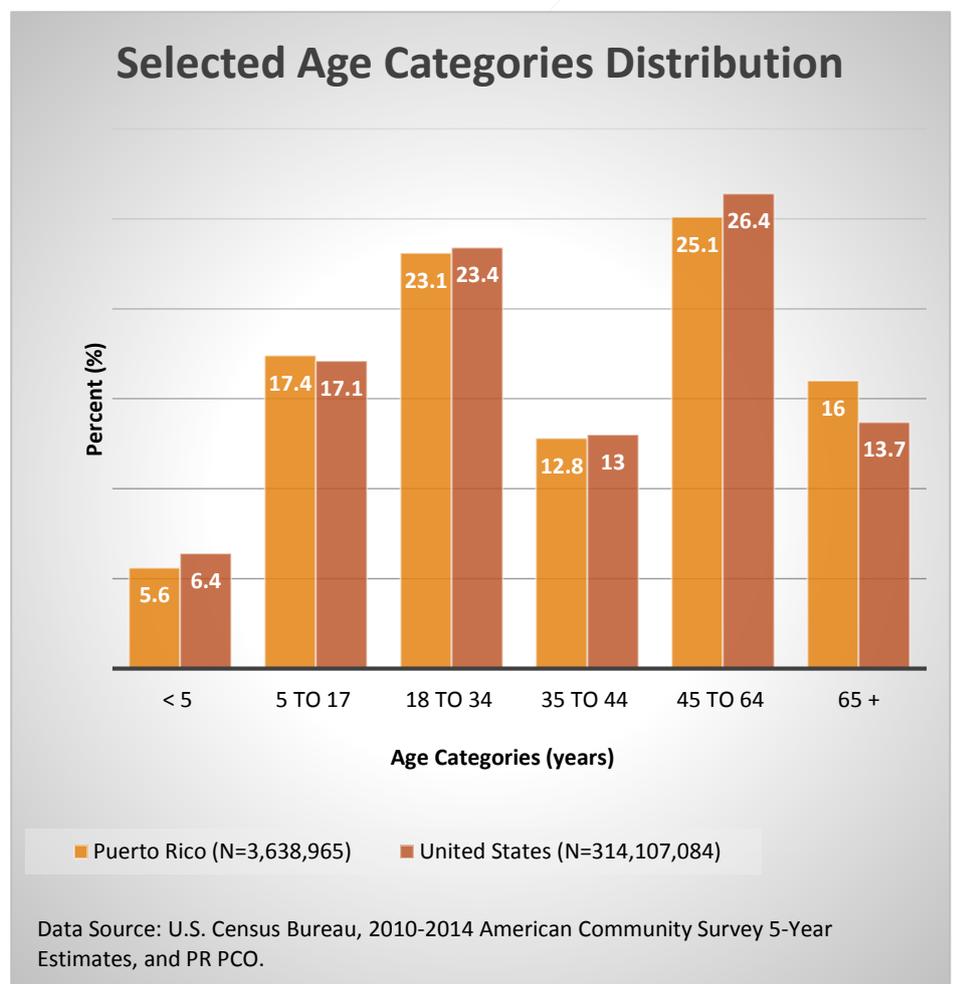
Figure 9: Selected Age Categories Distribution- PR vs. U.S.

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4.5 Population Under 5 years

For the ACS 2010-2014 period, Puerto Rico had a LOWER percent of population under 5 years when compared to United States, 5.6% and 6.4%, respectively. When looking closely at the population aged under 5 years by municipalities, there was a higher proportion in Peñuelas (6.8%) and Barranquitas (6.7%) along with Canóvanas, Culebra, Jayuya, Las Marías and Santa Isabel with a percent of 6.4% each. While, there was a lower percent of toddlers and infants population in the following municipalities: Hormigueros (4.6%), Guaynabo (4.8%) and Mayagüez (4.9%). (See Table 9 for more details)
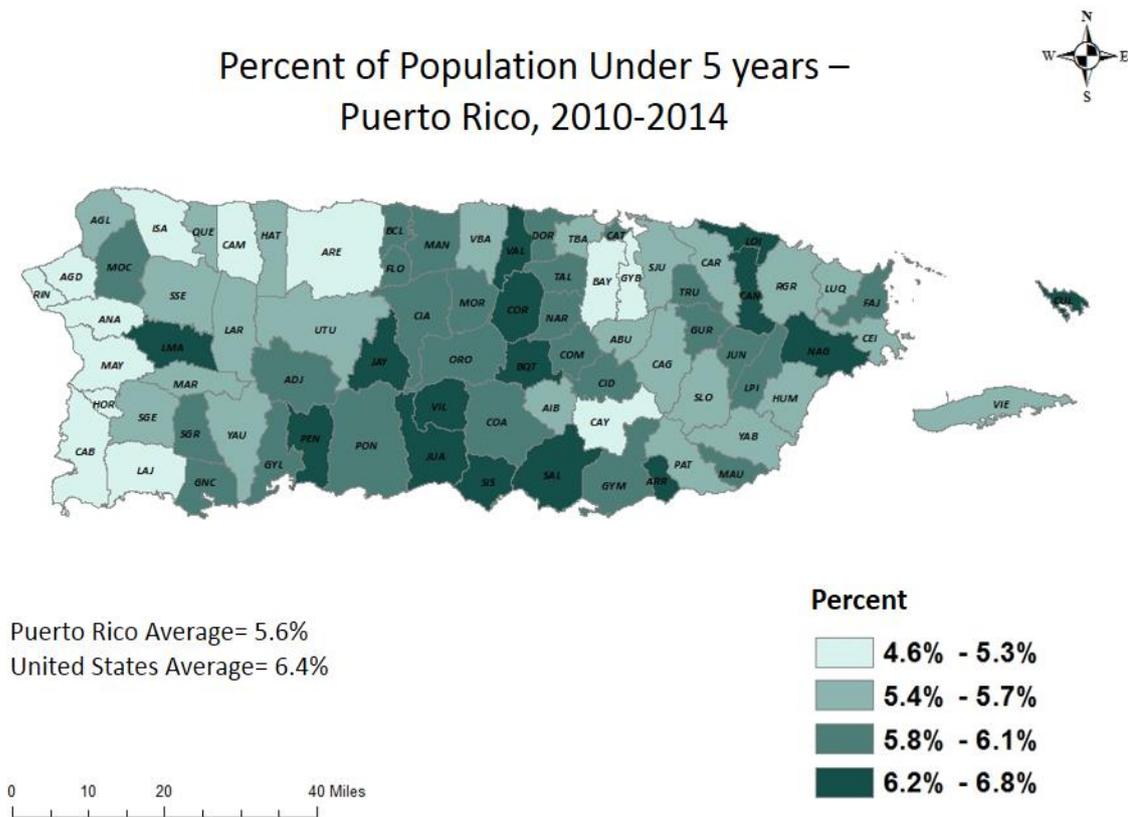
Figure 10: Percent of Population Aged Under 5 years, Puerto Rico 2010-2014 Estimates

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4.6 Population 65 years and Over

Regarding the elderly population, Puerto Rico had a HIGHER percent (16.0%) when contrasted to United States (13.7%), for 2014. When looking closely at the data by municipalities, the highest percentages of population aged 65 years and over were in Hormigueros (22.5%), San Germán and Rincón with 19.6%, and Lajas and Mayagüez with 19.2% each. Whereas, the municipalities with the lowest percent of elderly population were: Toa Alta (10.6%), Barranquitas (11.9%) and Morovis (12.0%). (See Table 9 for more details)
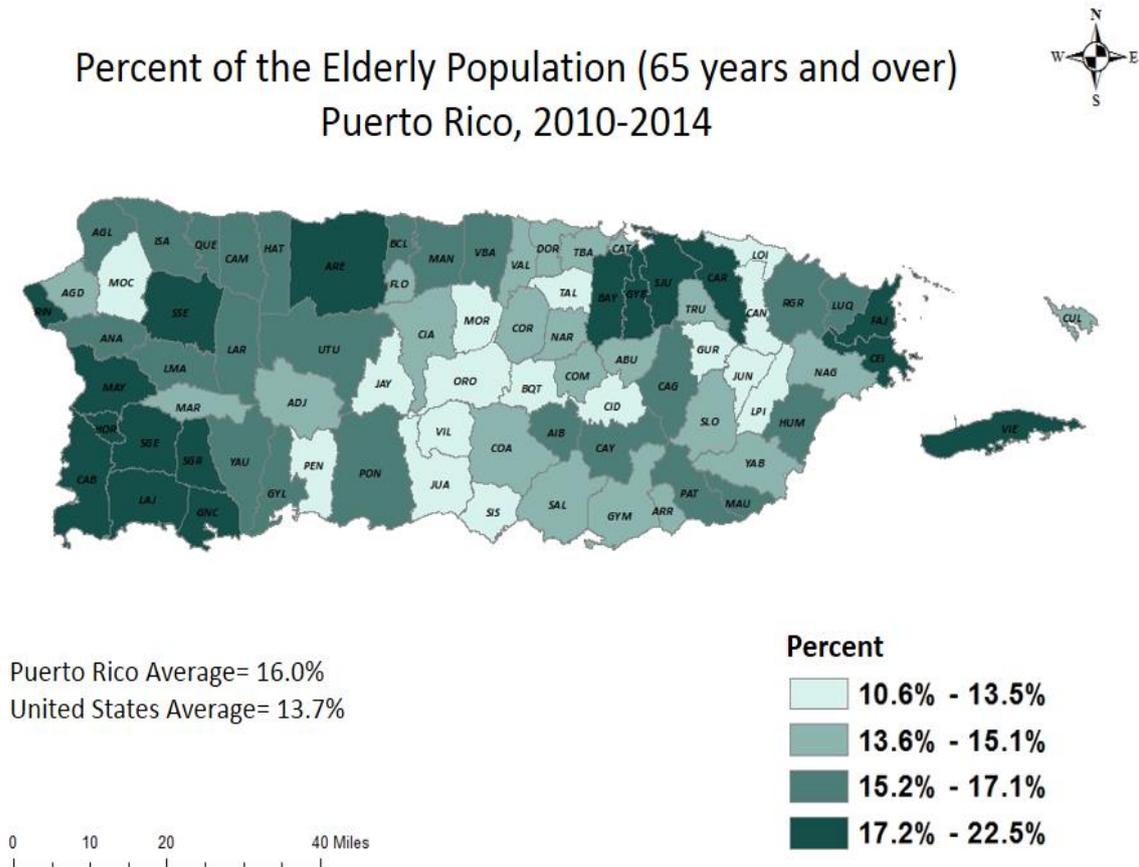
Figure 11: Percent of the Elderly Population (65 years and over), Puerto Rico 2010-2014 Estimates

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4.7 Median Household Income

According to the U.S. Census Bureau, the median household income includes the income of the householder and all other individuals 15 years old and over in the household, whether they are related to the householder or not.[17]

Compared to the United States, Puerto Rico has a significantly **LOWER** median household income. As of July 2014, Puerto Rico had an overall annual income of $19, 686 contrasted to $53,482 for the United States. Regarding the income distribution within the municipalities, there is a higher income in the metropolitan area compared to the rest of PR. The municipalities with the lowest household income were: Adjuntas, Lares and Ciales, being Adjuntas the smallest of them all with a median of $10,550. Whereas, the municipalities with the highest median household income were: Guaynabo, Trujillo Alto and Toa Alta. Of which Guaynabo showed the highest annual household income with a value of $34,450. (See Table 10 for more details)
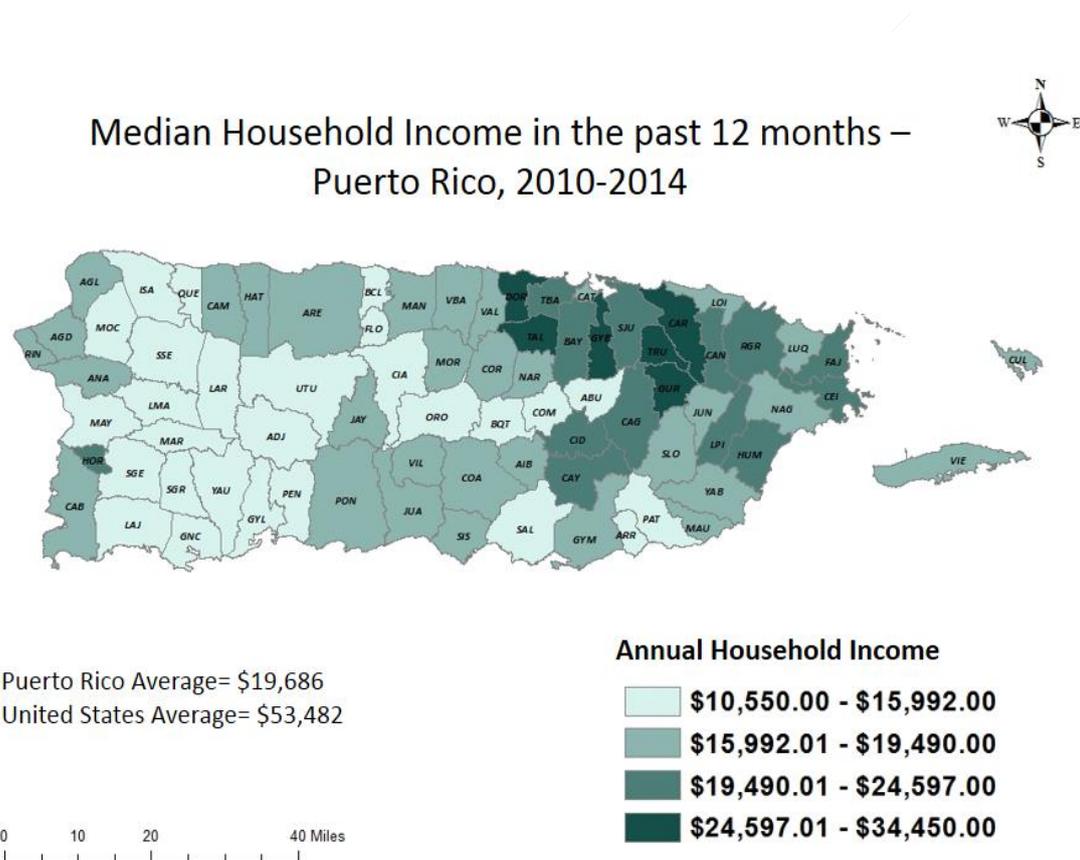
Figure 12: Median Household Income in the past 12 months, Puerto Rico 2010-2014 Estimates

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[17] Median Household Income. Available at: http://quickfacts.census.gov/qfd/meta/long_INC110213.htm

4.8 Employment Status

For purposes of employment and unemployment information, the data sources used were: the Labor Force Data by County, 2014 Annual Averages, by the Bureau of Labor Statistics (BLS) in coordination with PR Department of Labor and Human Resources (PR-DLHR) monthly reports, including labor force, employment and unemployment information. From 2014 to 2015 there was a marked increase in the number of labor force (all persons classified as employed or unemployed) and employed individuals (persons 16 years and over in the civilian non-institutional population who worked at least 1 hour as paid employees or 15 hours or more as unpaid workers, excluding persons working on their own houses or volunteer work)[18]. The increase was of 9,347 individuals and 23,121 individuals, respectively for both groups.

On average, Puerto Rico had a **HIGHER** unemployment rate (number of unemployed population age 16 and older as a percent of the labor force) of 13.9% contrasted to 6.2 % for the United States in 2014. Nevertheless, there has been a continuous reduction in Puerto Rico unemployment rates since 2010 (See Table 12). As of November 2015, Puerto Rico had an unemployment rate of 12.5%, lower when compared to 13.8% in 2014; a 1.3 percent points decrease. In relation to unemployment rate distribution within PR's municipalities, there was a lower unemployment rate in the metropolitan area, contrary to the income distribution. When looking closely at the data by municipalities; Salinas, Las Marías and Guánica had the higher unemployment rates, with values of 25% or more for 2014 Annual Averages. Whereas, the municipalities with the lowest unemployment rate were: Guaynabo, Culebra and Trujillo Alto. Salinas has the highest unemployment rate (26.3%) whilst Guaynabo (6.5%) has the lowest in Puerto Rico. (See Table 11 for more details)

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[18] Labor Force Characteristics. Retrieved from: http://www.bls.gov/cps/lfcharacteristics.htm

Annual Average of Unemployment Rate – Puerto Rico, 2014
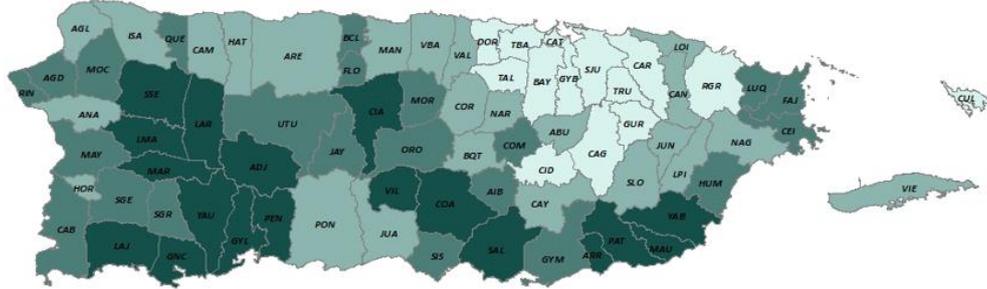
Puerto Rico Average= 13.9 %
United States Average= 6.2 %

0   10   20   40 Miles

Unemployment Rate (%)

	6.5 - 12.2
	12.3 - 16.6
	16.7 - 20.4
	20.5 - 26.3
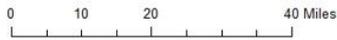
Puerto Rico Primary Care Office (PR-PCO), Department of Health
Data Source: Labor Force Data by County, 2014 Annual Averages, Bureau of Labor Statistics (BLS), Local Area Unemployment Statistics (LAUS).

Figure 13: Annual Average of Unemployment Rate, Puerto Rico 2014

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4.9 Population 25 years and over with No High School Diploma

This indicator reports the percent of adults (population 25 years and over) who have not completed high school (including its equivalency) for the 2010-2014 ACS 5 year Estimates. Puerto Rico had a **HIGHER** percent of adults with no high school diploma compared to United States, 28.1% and 13.7%, respectively.

When looking closely at the data by municipality, there was a lower percent of adults without high school diploma in the metropolitan area, particularly in Carolina and Guaynabo with 18.0% each, followed by Trujillo Alto (19.3%) and Fajardo (22.3%). Whereas, the municipalities with the higher percent of adults with no high school diploma were: Vega Baja (46.8%), Las Marías (44.1%) and Maricao (43.5%). (See Table 13 for more details)
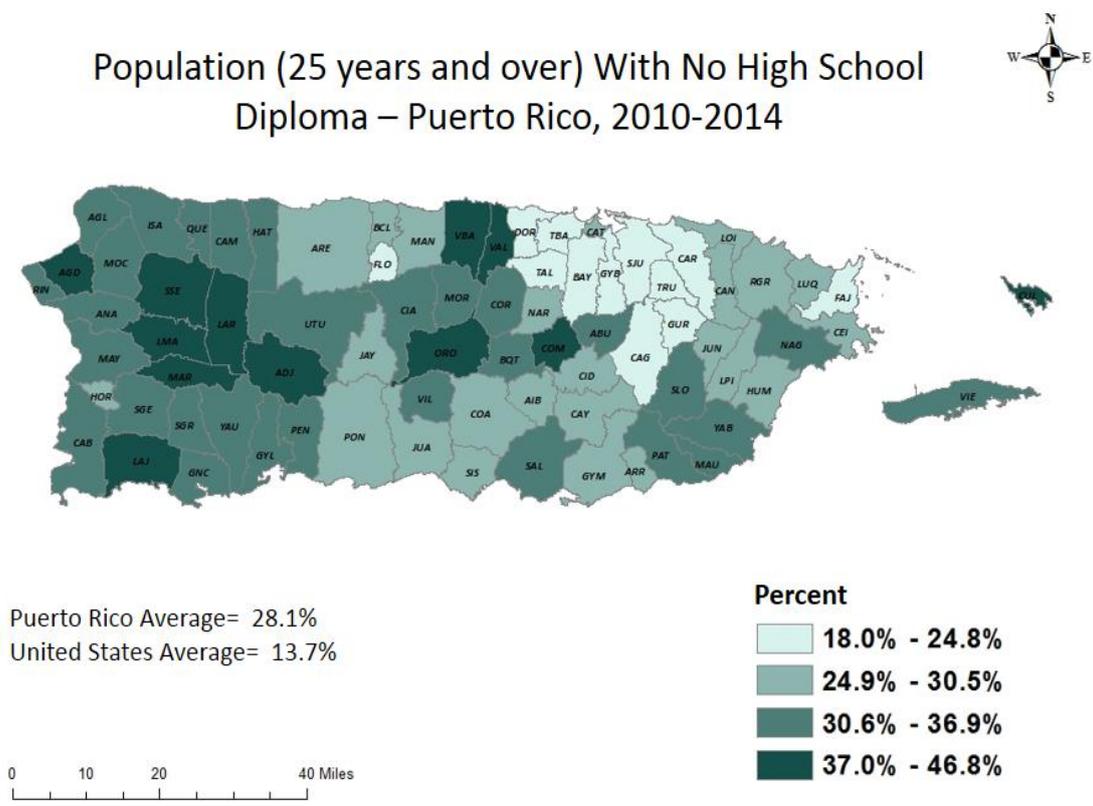
Figure 14: Population (25 years and over) with No High School Diploma, 2010-2014 Estimat

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SECTION 5: Health Status Profile

5.1 Overview: Morbidity and Mortality Indicators

Morbidity and Mortality, known as health outcomes indicators, are used together as measurable key evidence when describing the health status of a population.

For this needs assessment, 15 morbidity indicators and 5 mortality indicators were used to describe the health status of the Puerto Rican population, as shown in the following table:

Table 4: Selected Morbidity and Mortality Indicators

Morbidity (n=15)	Mortality (n=5)
Prevalence Rate for selected chronic diseases, risk factors and health behaviors: Diabetes, Heart Attack, Overweight, Obese, Tobacco Use, and Binge Drinking.	Cancer Mortality Rate
Health Behavior: Teen Pregnancy	Heart Disease Mortality Rate
All Cancer Sites Incidence Rate	Diabetes Mortality Rate
Breast Cancer Incidence Rate	Suicide Mortality Rate (Crude Rate and Adjusted)
Colon and Rectum Cancer Incidence Rate	Infant Mortality Rate (IMR)
Prostate Cancer Incidence Rate	
HIV Incidence Rate	
Syphilis Incidence Rate	
Preterm Birth Rate	
Alzheimer Services Utilization	

These health status indicators provide information about the relative health of each of Puerto Rico's municipalities and health regions. Due to accessibility of the data, some indicators are presented by Puerto Rico Department of Health regions. As of 2015, Puerto Rico's municipalities were distributed in the following health regions: Aguadilla/Mayagüez, Arecibo, Bayamón, Caguas, Fajardo, Metropolitan Region and Ponce (See Table 14 for more details).

These morbidity and mortality indicators were selected to examine health risk factors and behaviors, chronic disease incidence and prevalence, mental health, STD and HIV/AIDS conditions; and to examine mortality rates such as Infant Mortality and the top 3 leading causes of death in Puerto Rico in 2013. Through the examination of these indicators, PR-PCO can determine where to establish priorities to eliminate health disparities for vulnerable population among other groups identified as at-risk for health disparities.

5.2 Prevalence rate for selected chronic diseases, risk factors and health behaviors

This indicator reports the 2014 prevalence rate of: diabetes, heart attack, heart disease, overweight, obese, tobacco use, and binge drinking. These prevalence were self-reported in the Behavioral Risk Factors Surveillance System (BRFSS) health-related telephone surveys which collects data in all United States, including the District of Columbia and the U.S. territories.

When looking at the diseases or health conditions data by health regions, the highest prevalence were the following:

- o **Diabetes:** Fajardo (23.9%), Ponce (18.4%), and Arecibo (17.5%);
- o **Heart attack:** Fajardo (9.1%); Mayaguez (6.3%), along with Ponce and Metropolitan Region with 5.6% each;
- o **Heart disease:** Caguas (10.1%), Ponce (9.5%), and Arecibo (9.4%); and
- o **Obese population:** Ponce (29.7%), Caguas (29.5%), and Fajardo (29.3%).

	Aguadilla	Arecibo	Bayamón	Metro	Fajardo	Caguas	Ponce	Mayagüez
☐ Heart Attack	3.9	5.5	4.3	5.6	9.1	5.3	5.6	6.3
☐ Heart Disease	7.1	9.4	8.5	6.6	8.2	10.1	9.5	8.6
☐ Diabetes	17.2	17.5	14.7	12.1	23.9	15.6	18.4	16.4
☐ Obese	24.7	26.3	28.7	25.7	29.3	29.5	29.7	28.3
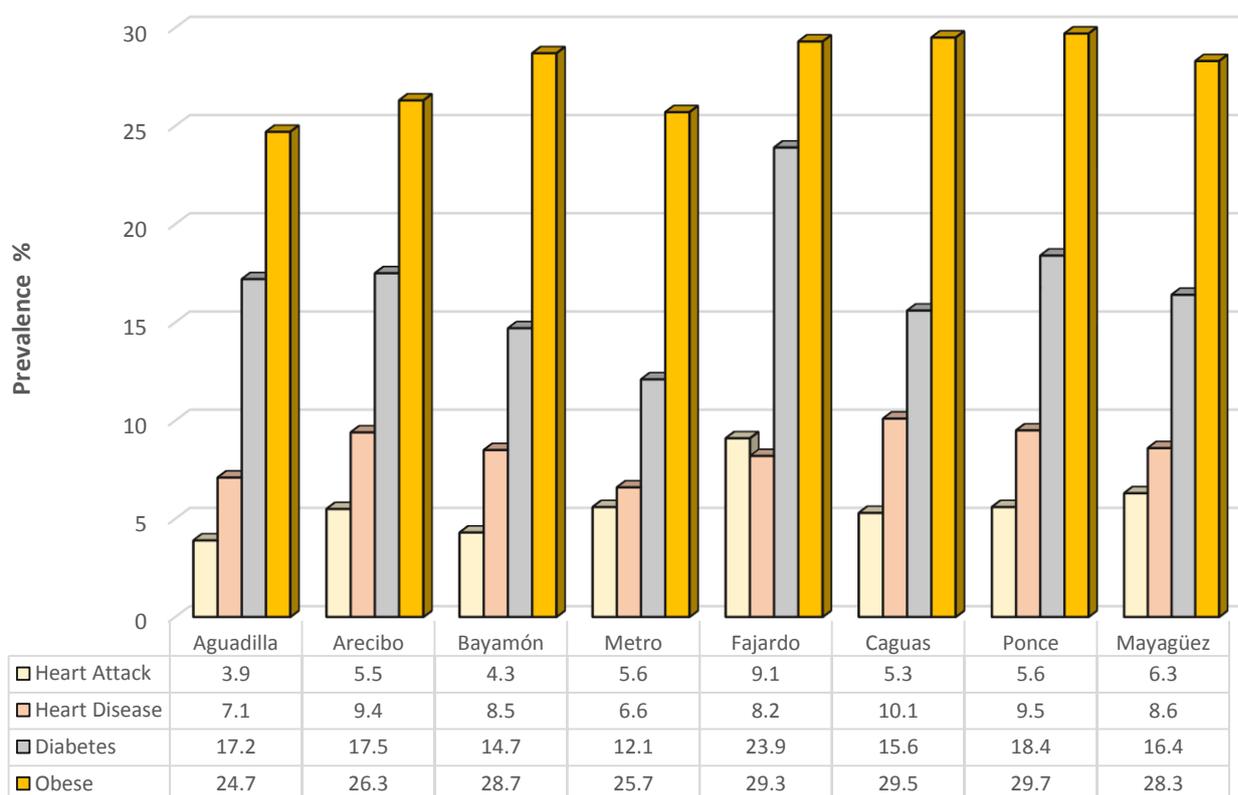
Figure 15: Prevalence Rate for Selected Chronic Health Conditions by Health Regions, 2014

While the highest prevalence for the risk factors data by health regions, were the following:

- o **Overweight population:** Aguadilla (40.3), Bayamón (39.3%), and Arecibo (39.0%);
- o **Tobacco use:** Metropolitan (12.1%), Ponce (11.9%), and Mayaguez (11.4%); and
- o **Binge drinking:** Caguas (11.5%), Arecibo (10.9%), and Mayaguez (10.4%). (See Table 15 for more details)

	Aguadilla	Arecibo	Bayamón	Metro	Fajardo	Caguas	Ponce	Mayagüez
■ Binge Drinking	8.7	10.9	10.3	10.0	10.3	11.5	9.6	10.4
□ Tobacco Use	9.4	11.1	11.0	12.1	11.3	10.9	11.9	11.4
□ Overweight	40.3	39.0	39.3	37.4	38.4	37.6	38.9	37.9
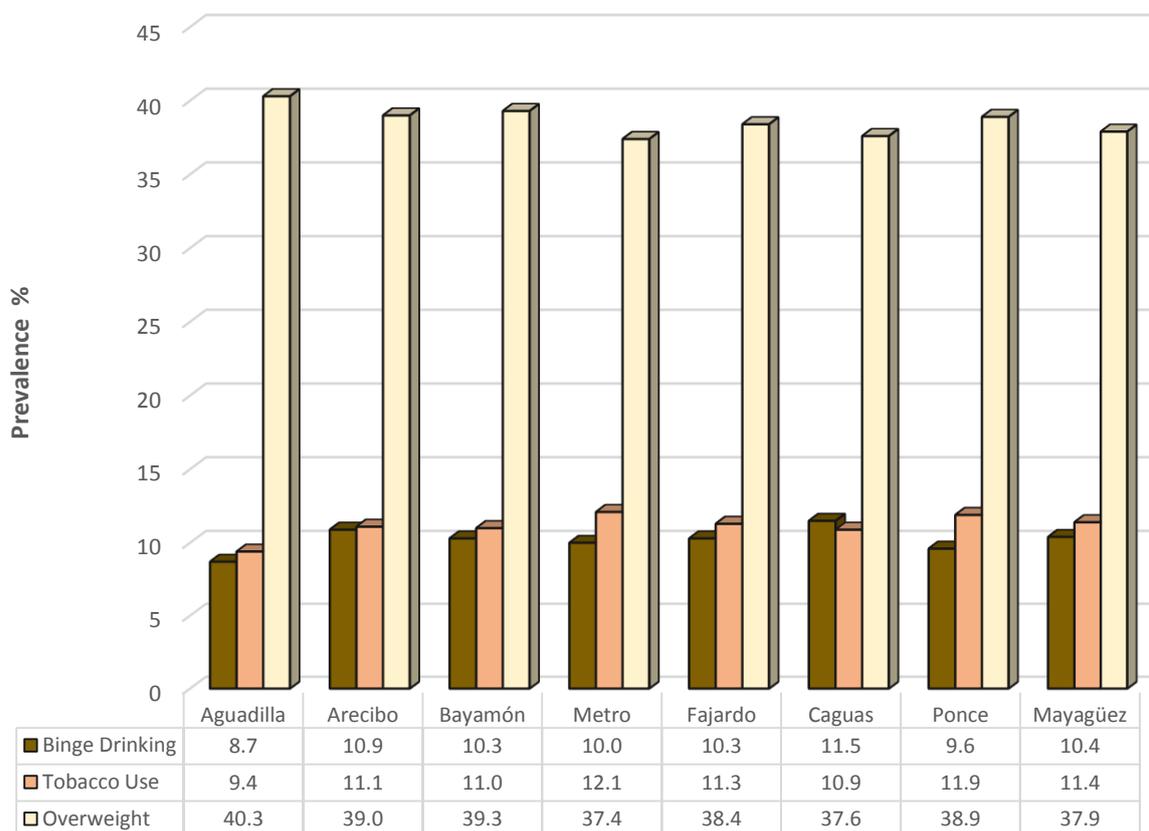
Prevalence %

Figure 16: Prevalence Rate for Selected Risk Factors/Behaviors by Health Regions, 2014

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5.2a Births to Teenage Mothers

As part of the population health-risk behaviors, this indicator reports the percent of births to teenage mothers (19 years or younger) for 2014. Teenage pregnancy and child bearing is associated with immediate and long-term impacts on teen parents and their children. Literature shows that teen pregnancy is related to births defects, low birth weight, prematurity, among others health-related and social factors such as lower educational attainment (high school dropout rates among girls), lower income, and to face unemployment as a young adult[19].

For the aforementioned year, Puerto Rico had an overall percent of 14.4% teenage mothers. Since this indicator refers to different age groups and due to the limitations of the data collection, it is not comparable with the U.S. average. However, in the preliminary 2014 data on U.S. births, the birth rate for teenagers was 24.2 births per 1,000 women aged 15-19 years old[20]. When looking closely at PR data by municipality, there was a lower percent of births to teenage mothers in Dorado (10.0%), Hormigueros (10.1%) and Culebra (10.5%). While; Maricao (35.2%), Maunabo (29.8%) and Vieques (26.5%) had the higher percentages of teenage mothers for 2014. (See Table 18 for more details)
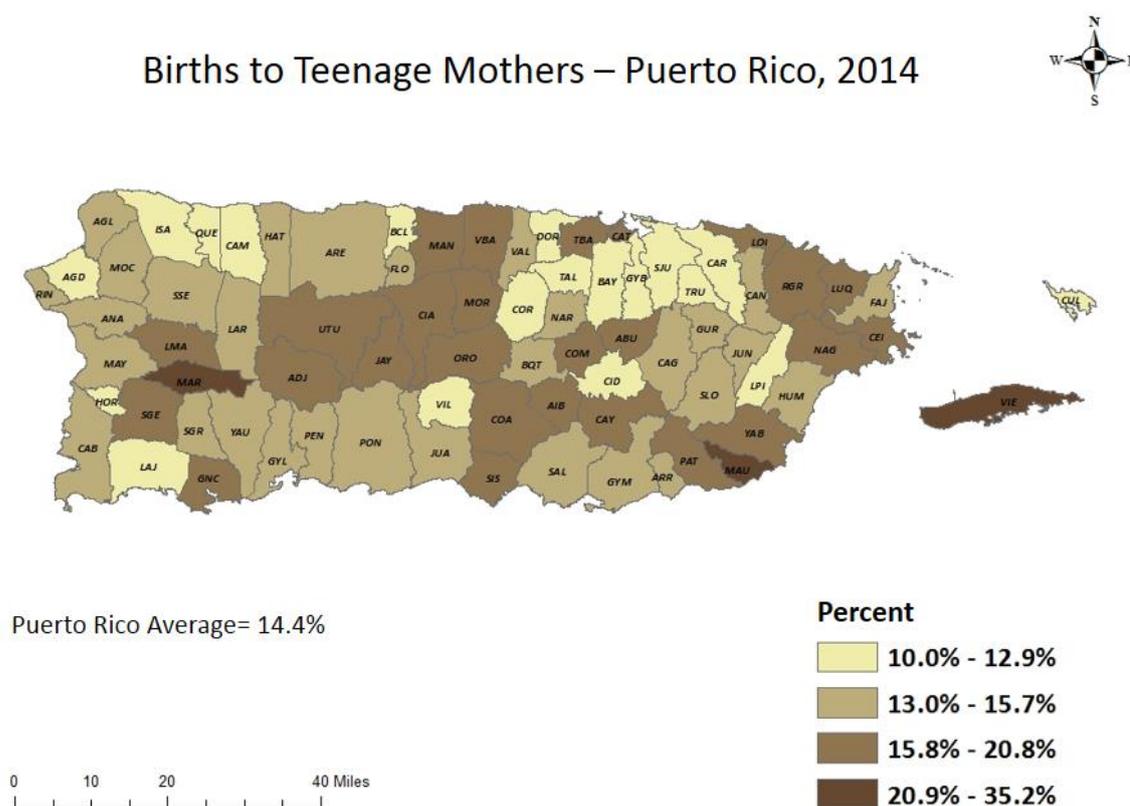
Puerto Rico Primary Care Office (PR-PCO), Department of Health
Data Source: Puerto Rico Department of Health, Maternal and Child Division.

Figure 17: Births to Teenage Mothers, Puerto Rico 2014

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[19] About Teen Pregnancy. Retrieved from: http://www.cdc.gov/teenpregnancy/about/index.htm
[20] Births: Preliminary Data for 2014. Retrieved from:
http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_06.pdf

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5.3 All Cancer Sites Incidence Rate

This indicator reports the total number of new cases of all types of cancer per population for a given period of time (new cases per 100,000 population from 2008 to 2012) and age-adjusted to the 2000 PR – User Standard population. Puerto Rico had a **LOWER** age-adjusted cancer incidence when compared to the U.S., 314.4 new cases contrasted with 454.8 new cases per 100,000 inhabitants, respectively.

When looking closely at the data by municipalities, cancer incidence rates were lower in Vieques (240.1 cases per 100,000), Maricao and Aguada (245.4 cases per 100,000 each), followed by Loíza (250.0 cases per 100,000). Whereas, Aibonito (364.3 cases per 100,000), Florida (350.9 cases per 100,000), Hormigueros (348.9 cases per 100,000), and Santa Isabel (346.0 cases per 100,000) had the highest all cancer sites incidence rate during 2008-2012 average. Even the municipalities with highest all cancer site incidence rate were lower than the U.S. average. (See Table 16 for more details)

Literature shows that differences in reported cancer incidence rates between U.S. and Puerto Rican residents might be partly explained by variations in the prevalence of risk factors such as behaviors associated with cancers or in the use of cancer screening tests.[21]
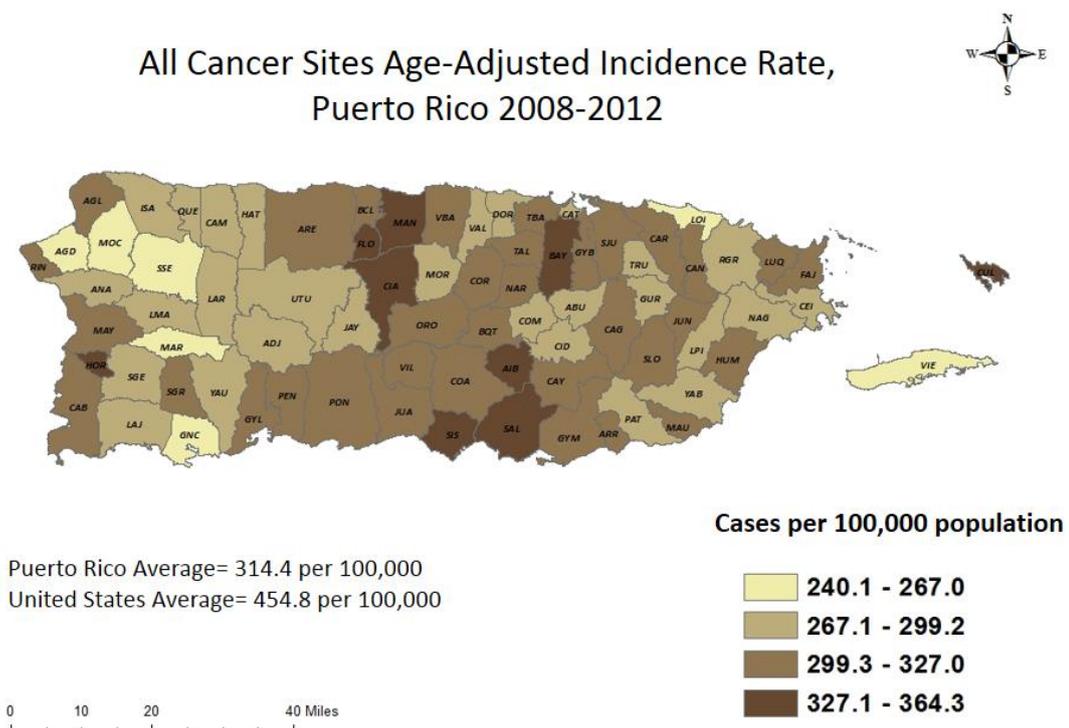
Figure 18: All Cancer Sites Age-Adjusted Incidence Rate, Puerto Rico 2008-2012

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[21] Invasive Cancer Incidence – Puerto Rico, 2007-2011. Available at Morbidity and Mortality Weekly Report (MMWR): http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6414a5.htm

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5.4 Colon and Rectum Cancer Incidence Rate

This indicator reports the age-adjusted incidence rate (new cases per 100,000 population for 2008 to 2012) of colon and rectum cancer adjusted to the 2000 PR – User Standard population age groups. For the aforementioned period, Puerto Rico had a **LOWER** age-adjusted colorectal cancer incidence when compared to the U.S., 38.4 new cases contrasted with 42.5 new cases per 100,000 inhabitants, respectively.

When looking closely at the data by municipalities, colorectal cancer incidence rate was lower in Cidra (25.6), Aguada (26.7) and Dorado (26.9). Whereas, Culebra (73.6), Sabana Grande (50.4) and San Germán (50.3) had the highest colon and rectum cancer incidence rate per 100,000 population.

For this indicator, counts and rates were suppressed if 5 or fewer cases were reported in the specified category. Counts less than 20 are too few to calculate a stable age-adjusted rate as for example in the case of the municipality of Maricao. (See Table 16 for more details)

Figure 19: Colon and Rectum Cancer Age-Adjusted Incidence Rate, Puerto Rico 2008-2012

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5.5 Breast Cancer Incidence Rate

This indicator reports the age-adjusted incidence rate (new cases per 100,000 population for 2008 to 2012) of males and females with breast cancer adjusted to the 2000 PR – User Standard population (19 age groups). For the aforementioned period, Puerto Rico had a **LOWER** age-adjusted female breast cancer incidence when compared to the U.S., 80.5 new cases contrasted with 124.8 new cases per 100,000 at risk population, respectively. When looking closely at the data by municipalities and by sex, there was no female breast cancer incidence in Culebra (0). However, the incidence rate was lower in Maricao (38.2 cases per 100,000 population), Loíza (46.6 cases per 100,000), followed by Jayuya (47 cases per 100,000). Whereas, Manatí (107.6 cases per 100,000), Fajardo (99.6 cases per 100,000) and Canóvanas (96.7 cases per 100,000) had the highest breast cancer incidence rate in Puerto Rico during 2008 to 2012. Even the municipalities with the highest female breast cancer incidence rates were lower than the U.S. average.

Female Breast Cancer Age-Adjusted Incidence, Puerto Rico 2008-2012

Puerto Rico Average= 80.5 per 100,000
United States Average= 124.8 per 100,000

Cases per 100,000 population
38.2 - 56.3
56.4 - 72.4
72.5 - 83.7
83.8 - 107.6
Rate=0
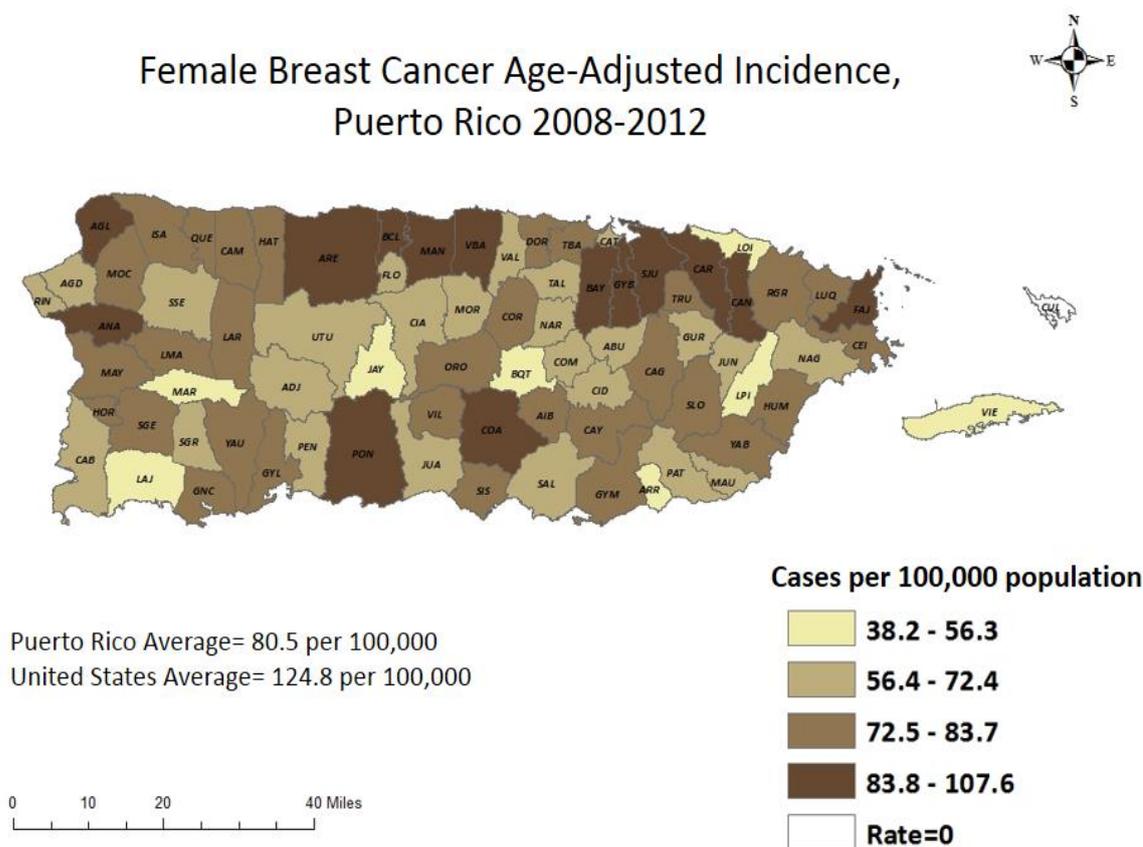
Puerto Rico Primary Care Office (PR-PCO), Department of Health
Data Source: Incidence Case File of Puerto Rico from PR Central Cancer Registry (as of July 6,2015), Puerto Rico Department of Health and the Population Division, U.S. Census Bureau.

Figure 20: Female Breast Cancer Age-Adjusted Incidence Rate, Puerto Rico 2008-2012

Also, Puerto Rico had new cases of male breast cancer for the 2008-2012 period. Puerto Rico's male breast cancer incidence rate was 0.8 cases per 100,000 population. The municipalities with more than 5 cases were: Bayamón (1.0 incidence rate), San Juan (1.0 incidence rate), and Ponce (1.3 incidence rate). For this indicator, counts and rates were suppressed if 5 or fewer cases were reported in the specified category. Counts less than 20 are too few to calculate a stable age-adjusted rate as for example Maricao and Vieques' female breast cancer incidence rates; and Bayamón, San Juan, and Ponce's male breast cancer incidence rates. (See Table 16 for more details)

5.6 Prostate Cancer Incidence Rate

This indicator reports the age-adjusted incidence rate (new cases per 100,000 population for 2008 to 2012) of males with prostate cancer adjusted to the 2000 PR – User Standard population age groups. Puerto Rico had a **HIGHER** age-adjusted prostate cancer incidence when compared to the U.S. mainland, 141.9 new cases contrasted with 137.9 new cases per 100,000 at risk population, respectively, for the same period of time.

When looking closely at the data by municipalities, there was a lower prostate cancer incidence rate in Utuado (83.4), Camuy (92.5) and Quebradillas (93.3). Whereas, Arroyo (231.1), Maunabo (226.9) and Santa Isabel (208.3) had the highest prostate cancer incidence rate per 100,000 at-risk population.

For this indicator, counts and rates were suppressed if 5 or fewer cases were reported in the specified category. Counts less than 20 are too few to calculate a stable age-adjusted rate as for example in the case of the municipalities of Culebra and Maricao. (See Table 16 for more details)
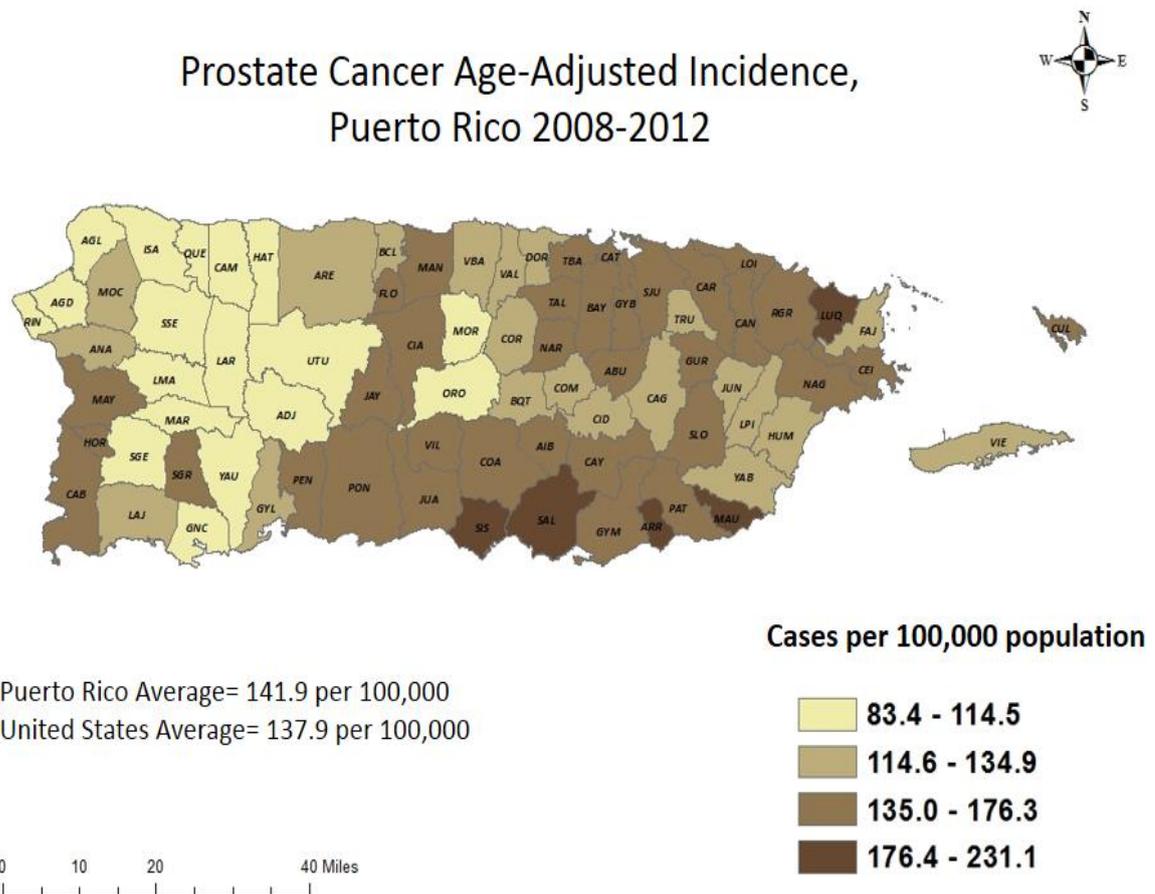
Figure 21: Prostate Cancer Age-Adjusted Incidence Rate, Puerto Rico 2008-2012

5.7 HIV Incidence Rate

This indicator reports the incidence rate (new cases) of HIV per 100,000 population for 2014. For the aforementioned year, Puerto Rico had a **HIGHER** age-adjusted HIV incidence rate when compared to the U.S., 18.4 new cases contrasted with 16.7 new cases per 100,000 at risk population, respectively.

When looking closely at the data by municipalities, there were no reported new cases of HIV for the municipalities of: Las Marías, Jayuya, and Cidra. While, HIV incidence rates were lower in Aguada (2.5), Lares (3.6), followed closely by Quebradillas (4.0) and Aibonito (4.1). Nevertheless, Culebra (110.0), Maunabo (43.2), and Fajardo (41.0) had the highest HIV incidence rate per 100,000 population for 2014. It is important to note, that despite the high HIV incidence rate observed in Culebra, the total number of new cases reported was two (2). Also, this municipality has a significantly lower population, compared to rest of the municipalities. These factors may alter the value of the adjusted incidence rate observed in Culebra. (See Table 17 for more details)
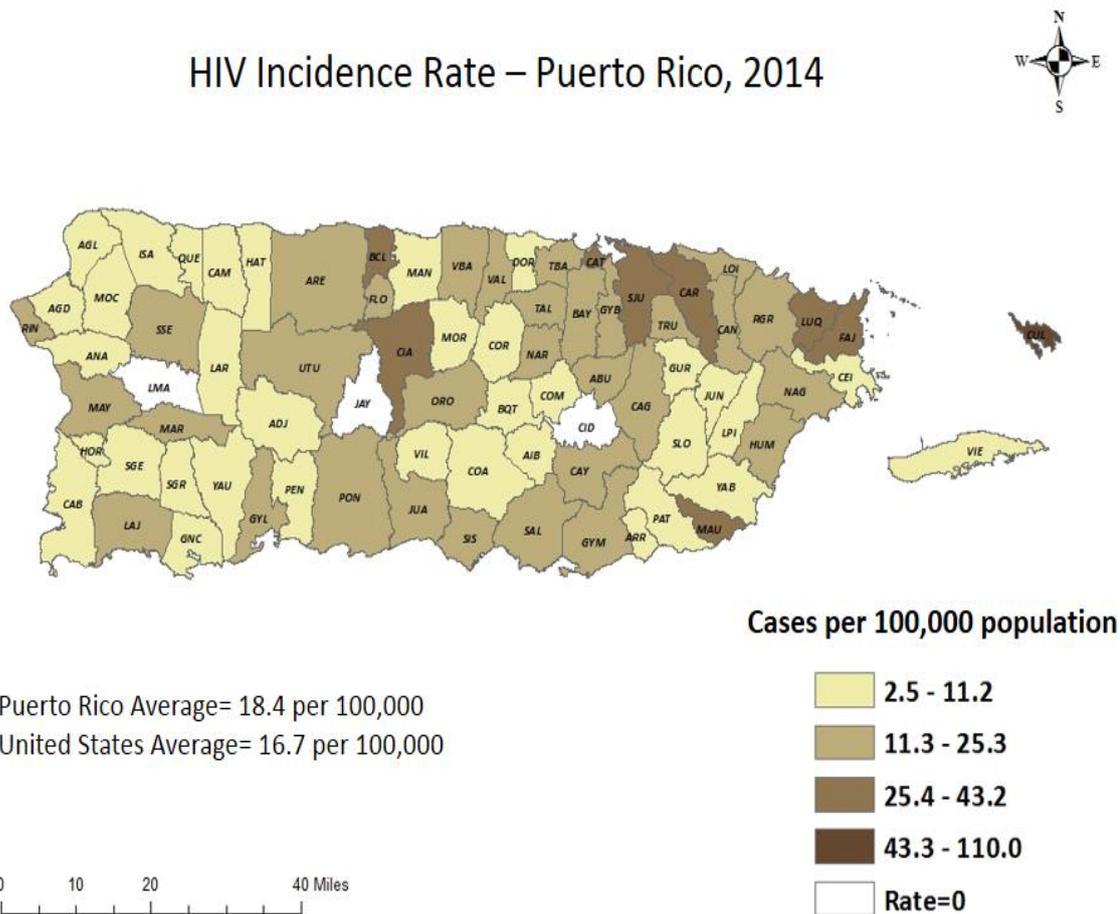
Puerto Rico Primary Care Office (PR-PCO), Department of Health
Sources: Puerto Rico Department of Health, HIV/AIDS and STD Surveillance Program (2014)
United States Statistics Sources: Centers for Disease Control and Prevention, Sexually Transmitted Diseases Surveillance 2014

Figure 22: HIV Incidence Rate, Puerto Rico 2014

5.8 Syphilis Incidence Rate

5.8a Primary and Secondary Syphilis

This indicator reports the incidence rate of primary and secondary syphilis per 100,000 population for 2014. For the aforementioned year, Puerto Rico had a **HIGHER** syphilis incidence rate when compared to the U.S. mainland, 13.4 new cases contrasted with 6.3 new cases per 100,000 at risk population, respectively. When looking closely at the data by municipalities, there were no reported new cases of primary and secondary Syphilis for the municipalities of: Adjuntas, Coamo, Comerío, Culebra, Florida, Guánica, Jayuya, Las Marías, Maunabo, Moca, Patillas, Sabana Grande, Salinas, and Yauco. While, Syphilis incidence were lower in Guayama (2.3), San Sebastián (2.4), Naranjito (3.3), and Loíza (3.5). Nevertheless, Barceloneta had the highest number of new cases, 36.7 per 100,000 population, followed by Vieques (32.5), San Juan (31.2), and Toa Baja (24.4). It is important to note, that despite the high Primary and Secondary Syphilis incidence rate observed in Vieques, the total number of new cases reported was three (3). Also, this municipality has a significantly lower population, compared to the rest of the municipalities. These factors may alter the value of the adjusted incidence rate observed in Vieques.   (See Table 17 for more details)
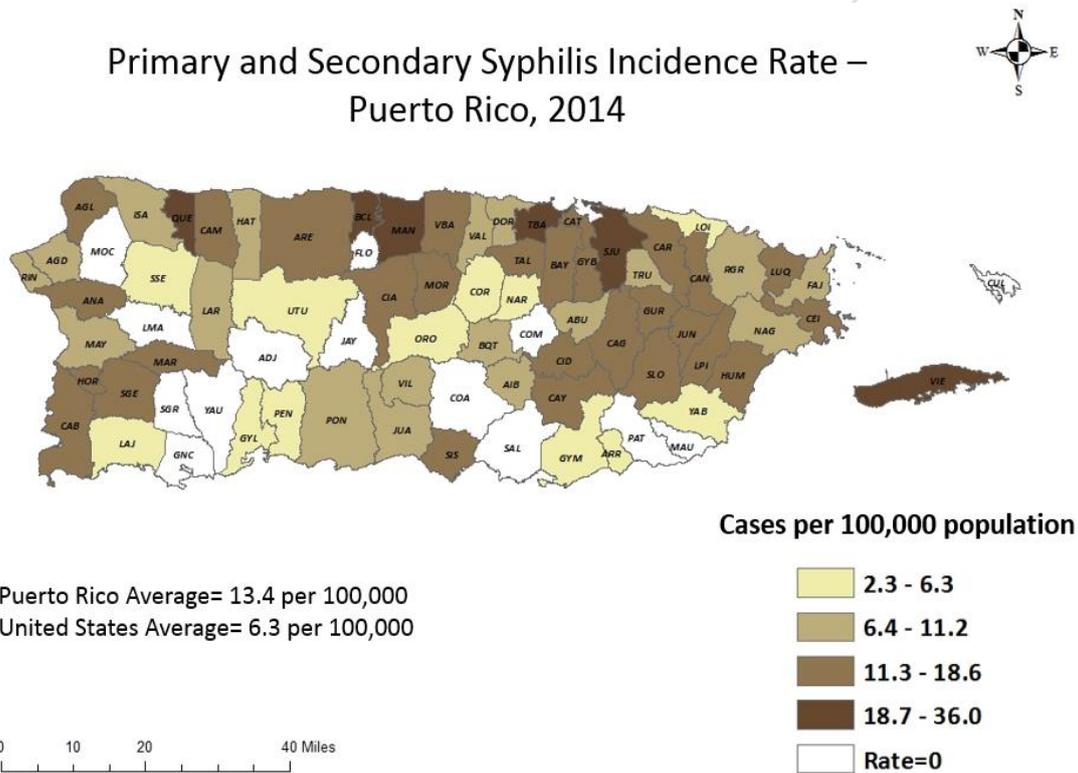
Puerto Rico Average= 13.4 per 100,000
United States Average= 6.3 per 100,000

Cases per 100,000 population

- 2.3 - 6.3
- 6.4 - 11.2
- 11.3 - 18.6
- 18.7 - 36.0
- Rate=0

Puerto Rico Primary Care Office (PR-PCO), Department of Health
Sources: Puerto Rico Department of Health, HIV/AIDS and STD Surveillance Program (2014)
United States Statistics Sources: Centers for Disease Control and Prevention, Sexually Transmitted Diseases Surveillance 2014

Figure 23: Primary and Secondary Syphilis Incidence Rate, Puerto Rico 2014

5.8b Total Syphilis Incidence Rate

This indicator also reports the total syphilis incidence rate which includes the following stages of syphilis: primary, secondary, latent and late stage. For this indicator, Puerto Rico had a total of 26.6 new cases per 100,000 population, a **HIGHER** rate than the U.S. mainland (20.1). When looking closely at the data by municipalities, there were no reported new cases of Syphilis for the municipalities of: Yauco, Patillas and Las Marías. While, Syphilis incidence rate was lower in Coamo (2.5), Sabana Grande (4.1), followed by San Sebastián (4.9). Nevertheless, Culebra had the highest incidence, 164.1 per 100,000 population, followed by San Juan (54.2) and Ceiba (54.1). It is important to note, that despite the high Syphilis incidence rate observed in Culebra, the total number of new cases reported was three (3). Also, this municipality has a significantly lower population, compared to rest of the municipalities. These factors may alter the value of the adjusted incidence rate observed in Culebra. (See Table 17 for more details)
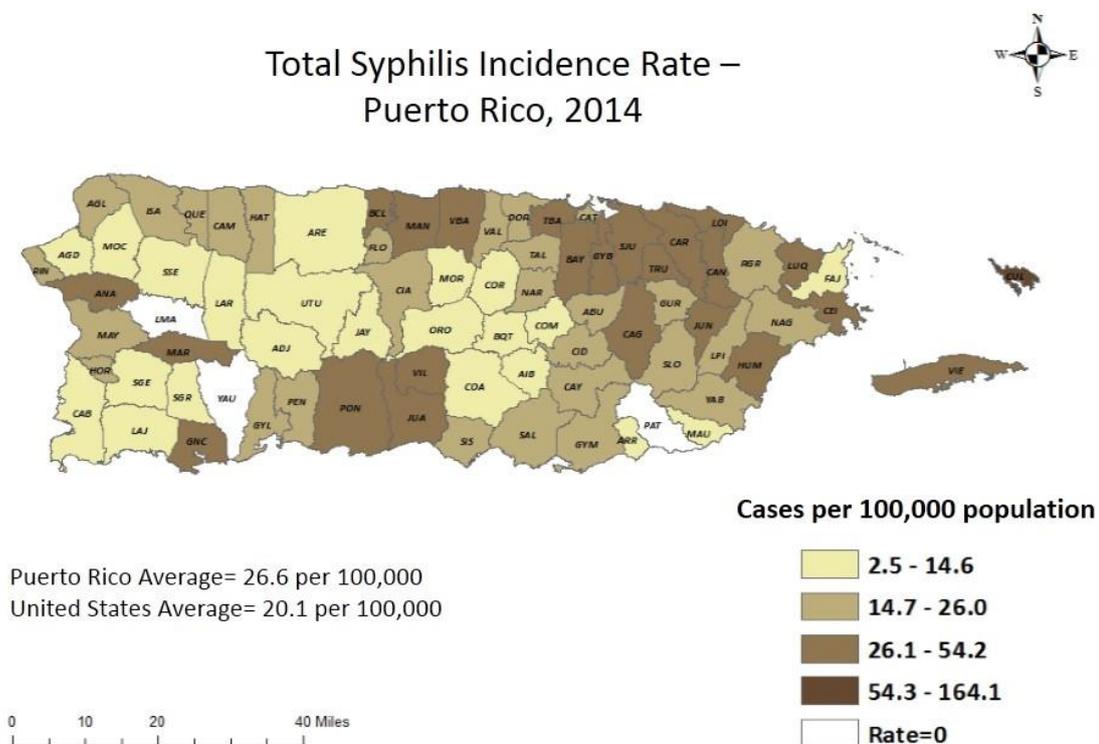
Puerto Rico Primary Care Office (PR-PCO), Department of Health
Sources: Puerto Rico Department of Health, HIV/AIDS and STD Surveillance Program (2014)
United States Statistics Sources: Centers for Disease Control and Prevention, Sexually Transmitted Diseases Surveillance 2014

Figure 24: Total Syphilis Incidence Rate, Puerto Rico 2014

5.9 Preterm Birth Rate

Preterm birth, refers to infants born before 37 weeks of pregnancy. Preterm births are the greatest contributor to infant death and also a leading cause of long-term neurological disabilities in children[22]. This indicator reports the percent of preterm birth rate per 100 live births for the year 2014. On average, Puerto Rico had a preterm birth rate of 11.8 per 100 live births for 2014. Similarly, U.S had an 11.4 preterm birth rate for the year 2013.

When observing closely the data by municipalities, preterm birth rate was lower in Barranquitas (5.7), Aibonito (6.0) and Ceiba (7.0). While, Yauco (23.3), Maricao (20.4), followed closely by Guánica (20.3) had the highest preterm births rates for 2014. (See Table 18 for more details)
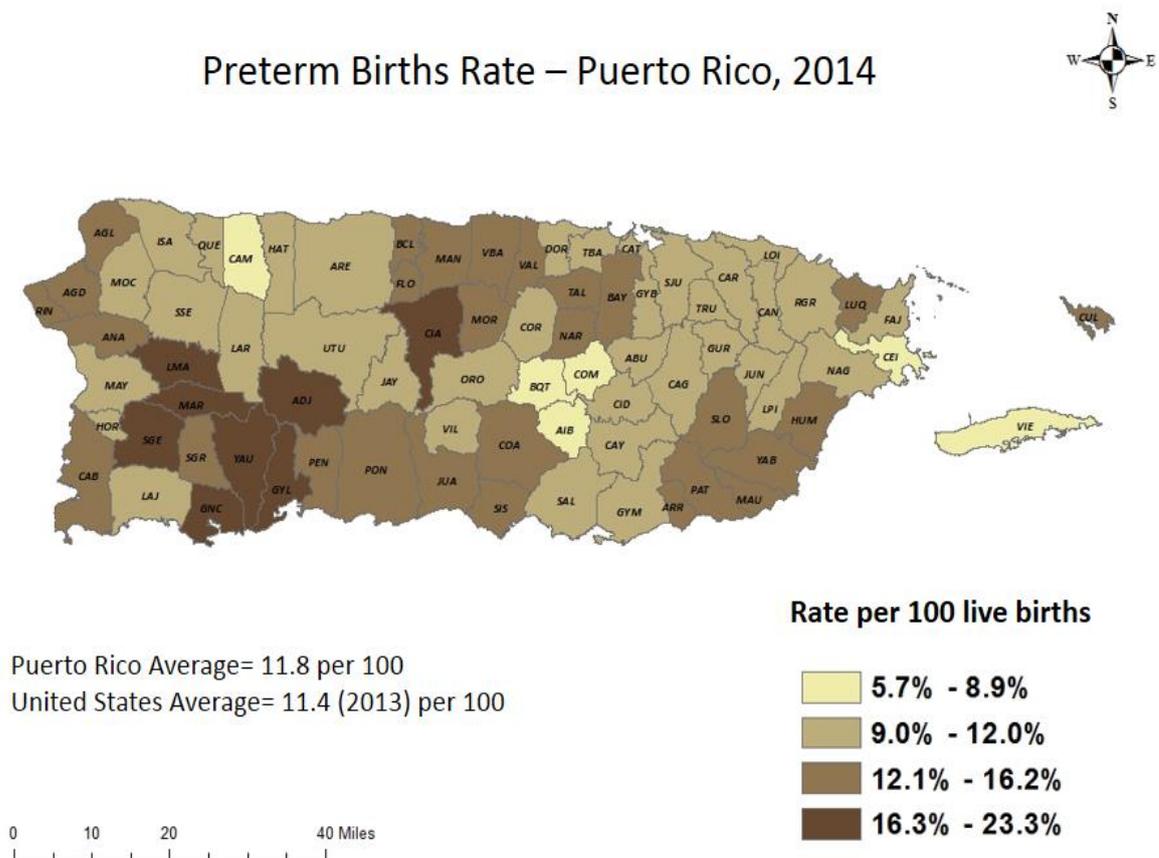
Figure 25: Preterm Births Rate, Puerto Rico 2014

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[22] Preterm Birth. Retrieved from the CDC:
http://www.cdc.gov/reproductivehealth/maternalinfanthealth/pretermbirth.htm

5.10 Alzheimer Services Utilization

This indicator reports the estimates of people with Alzheimer diagnostic (ICD9 331.0) by municipality who received health services during the year 2013. On average, a total of 34,478 people with this disease received health services. Since this indicator refers to people who at some point during 2013 received Alzheimer services, it might not be comparable to the U.S.

When looking closely at the data by municipalities, the estimates of people who received health services with Alzheimer diagnostic was lower in Maricao (14), Culebra (15) and Las Marías (44); whereas the more populated municipilaties: Bayamón (2,606), San Juan (2,456) and Carolina (1,864) have a considerably high number of people who received health services with Alzheimer's disease during 2013. (See Table 19 for more details)
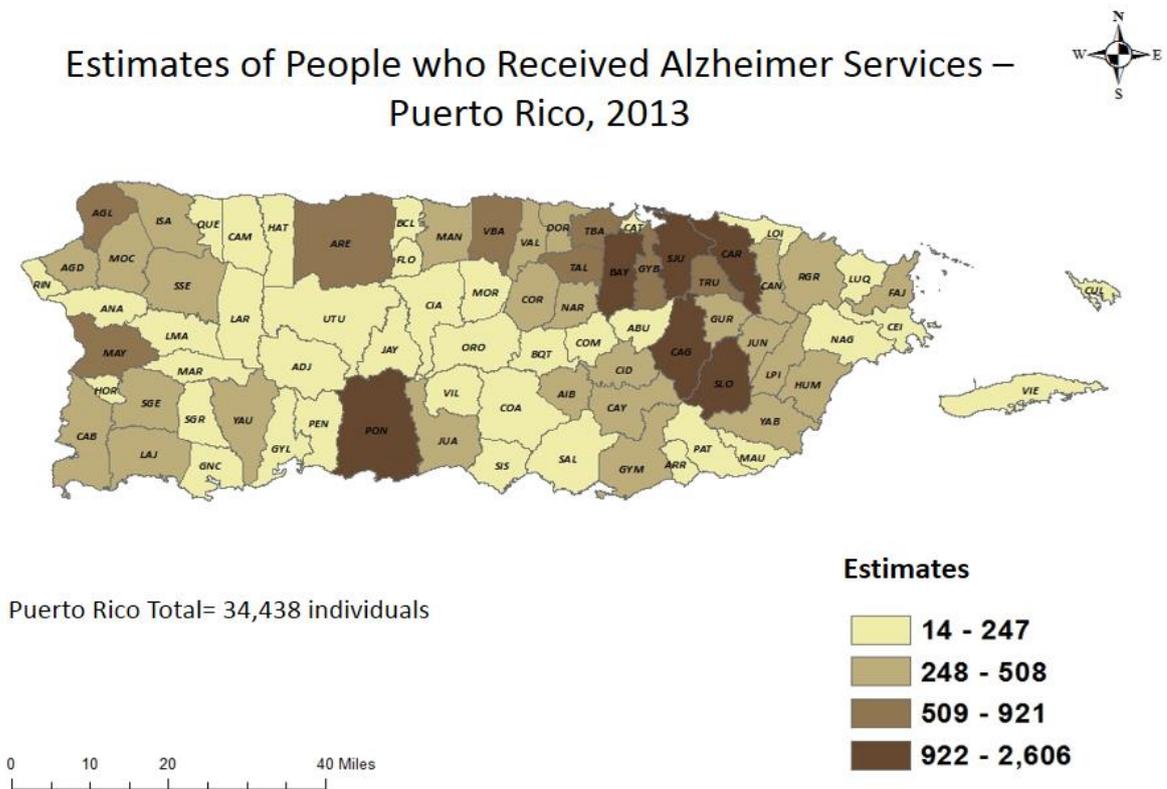
Figure 26: Estimates of People who Received Alzheimer Services, 2013

Note: This data doesn't represent the prevalence or incidence of Alzheimer's disease in Puerto Rico. The data can't be used for established geographic comparisons because the information is not adjusted by the area population. The data only shows the cases who received services by municipality at some point during 2013.

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5.11 Mortality Indicators

Before presenting Puerto Rico's top 3 leading causes of death for 2013, Infant Mortality and Suicide Mortality Rate, it's important to describe the island' mortality profile. This profile compares Puerto Rico's top 9 leading causes of death with the U. S. for 2013.

Comparing Puerto Rico's leading causes of death with the United States, some cause-specific death rates are noticeably **HIGHER** for Puerto Rico, such as in the case of: Diabetes Mellitus, Alzheimer's Disease, Homicides, and Nephritis.

	Cancer	Heart Disease	Diabetes	Alzheimer	Cerebrovascular Disease	Accidents	Homicides	Chronic Lower Respiratory Disease	Nephritis
Puerto Rico	144.4	140.7	87	50.6	37.4	28.9	24	27.6	24.7
United States	185	193.3	23.9	26.8	40.8	41.3	5.1	47.2	14.9
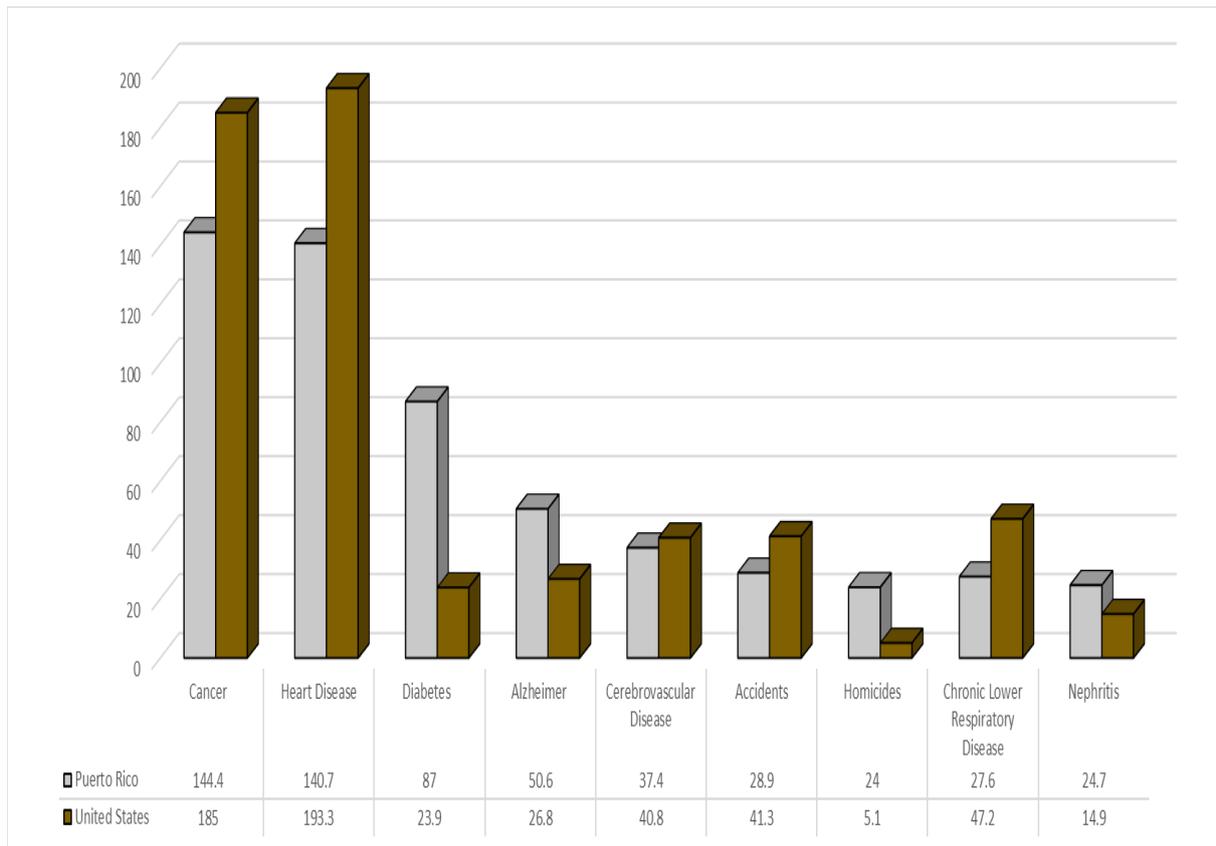
Figure 27: Selected Leading Causes of Death for Puerto Rico and United States, 2013

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5.12 Leading Cause of Death: Cancer

This indicator reports cancer death rate per 100,000 population. For the year 2013, Cancer was the **first** leading cause of death in Puerto Rico for 2013. For the aforementioned year, Puerto Rico had a **LOWER** cancer age-adjusted mortality rate when compared to the U.S. mainland, 117.5 deaths contrasted with 163.2 deaths per 100,000 population, respectively.

When looking closely at the data by municipalities, cancer mortality rate was lower in Maricao with a marked rate of 45.4, then Añasco (71.1) and Florida (73.6). Whereas, Culebra (218.0) had a considerably high cancer mortality rate, followed by Arroyo (169.1) and Juana Díaz (161.7). See Table 20 for more details
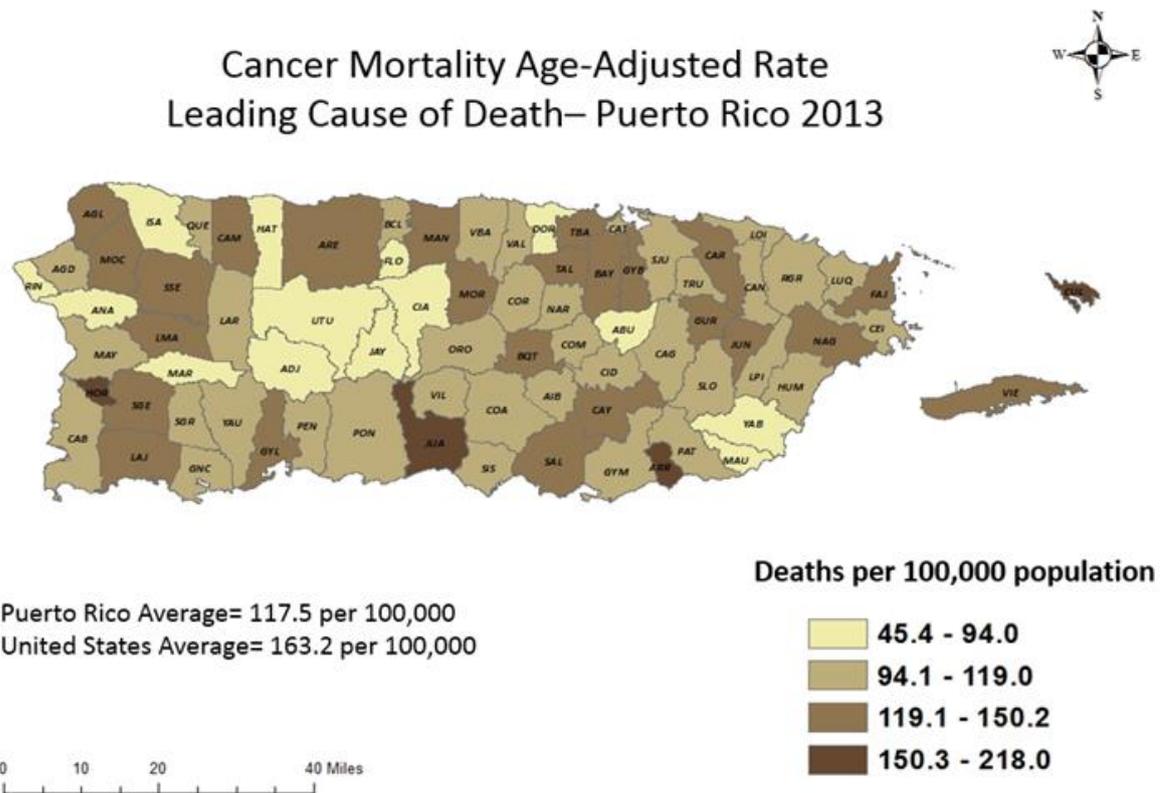
Figure 28: Leading Cause of Death- Cancer, 2013

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5.13 Leading Cause of Death: Heart Disease

This indicator reports the heart disease death rate per 100,000 population. In the year 2013, heart disease was the **second** leading cause of death in Puerto Rico. For the aforementioned year, Puerto Rico had a **LOWER** heart disease age-adjusted mortality rate when compared to the U.S. mainland; of 114.4 deaths contrasted with 169.8 deaths per 100,000 population, respectively.

When looking closely at the data by municipalities, heart disease mortality rate was lower in Maricao with a marked rate of 15.4, followed by the municipalities of Vieques (60.8) and Dorado (61.9). Whereas, Jayuya (219.9) had a considerably high heart disease mortality rate, followed by Culebra (195.7) and Arroyo (180.2). (See Table 20 for more details)
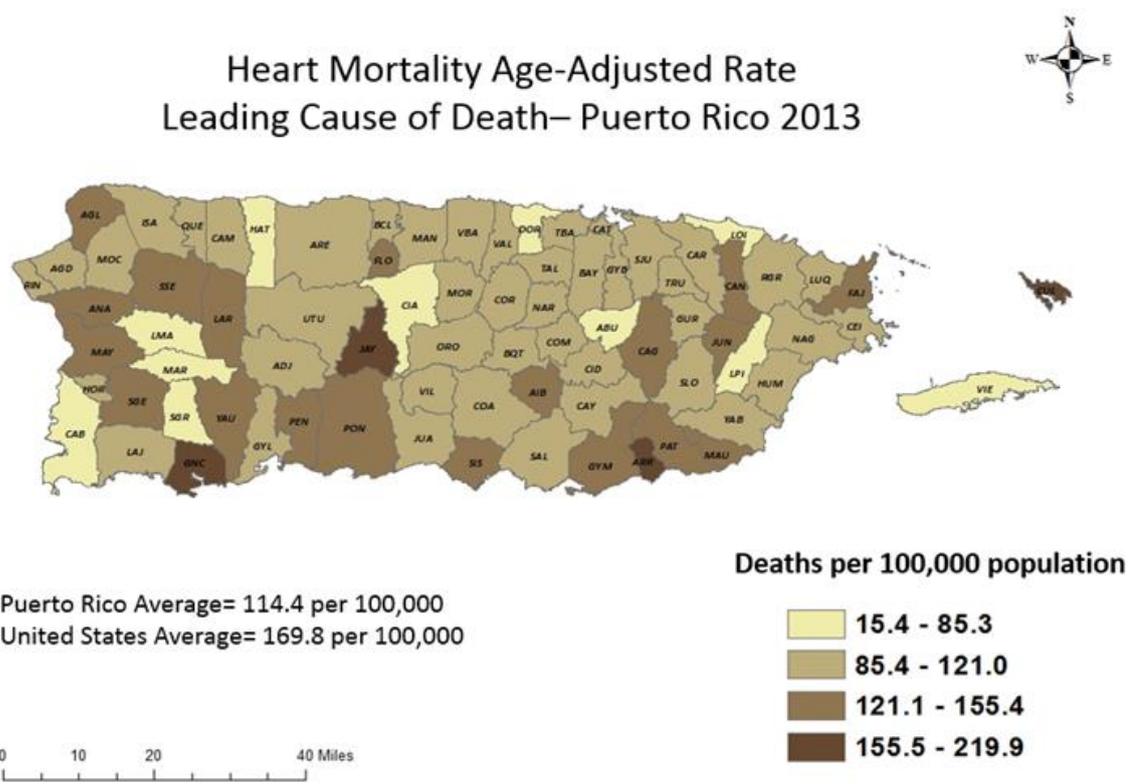
Figure 29: Leading Cause of Death- Heart Disease, 2013

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5.14 Leading Cause of Death: Diabetes

This indicator reports diabetes death rate per 100,000 population. For the year 2013, diabetes was the **third** leading cause of death in Puerto Rico. For the aforementioned year, Puerto Rico had a considerably **HIGHER**, almost tripled diabetes age-adjusted mortality rate when compared to the U.S. mainland, 70.5 deaths contrasted with 21.2 deaths per 100,000 population, respectively.

When looking closely at the data by municipalities, diabetes mortality rate was lower in Jayuya (34.4), then Culebra (38.8) and Ceiba (39.8). Whereas, Guayanilla (122.0), Santa Isabel (117.8) and Guánica (112.0) had the highest diabetes mortality rate in Puerto Rico. (See Table 20 for more details)
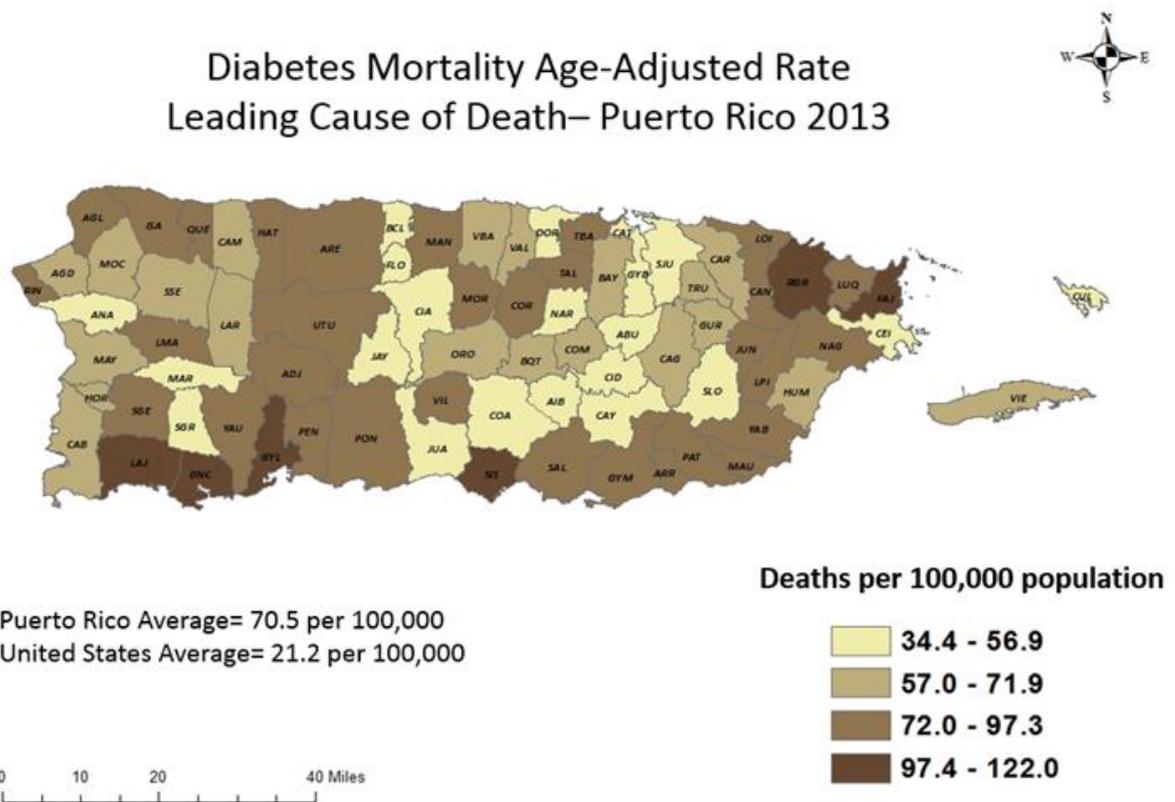
Figure 30: Leading Cause of Death- Diabetes, 2013

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5.15 Infant Mortality Rate (IMR)

This indicator reports the rate of deaths to infants less than one year of age per 1,000 live births (2010-2014 average). On average, Puerto Rico had a **HIGHER** infant mortality rate (IMR) when compared to the U.S. mainland, 8.2 deaths contrasted with 6.0 deaths per 1,000 live births for the U.S. (during the year 2013).

When looking closely at the data by municipalities, IMR was lower in Florida (1.4), Jayuya (2.0) and Barceloneta (2.3); whereas, Hormigueros (16.9), Culebra (16.0) and Cabo Rojo (14.5) had the highest IMR for 2010-2014 average. (See Table 18 for more details)
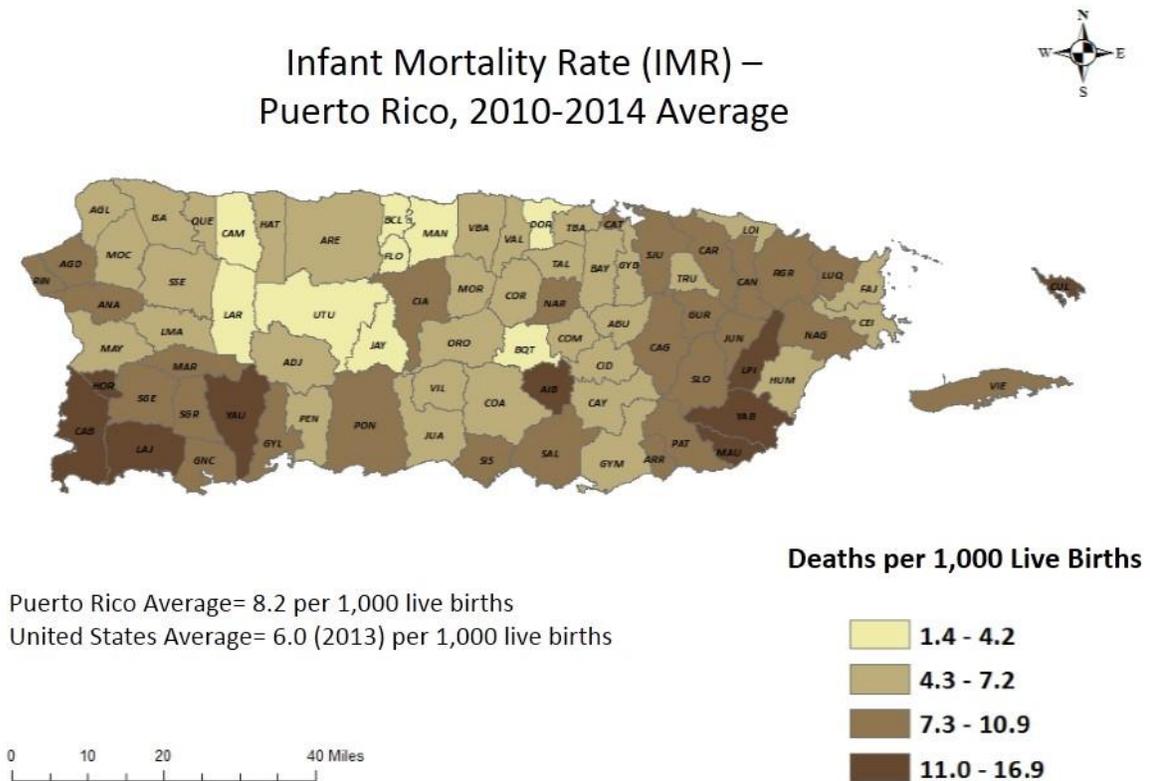
Figure 31: Infant Mortality Rate, 2010-2014 Average

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5.16 Suicide Mortality Rate

This indicator reports the suicide crude death rate per 100,000 population. On average, Puerto Rico had a **LOWER** adjusted suicide rate compared to the U.S. mainland, 6.5 deaths contrasted with 12.6 deaths per 100,000 population (during the year 2015).

When looking closely at the data, the following municipalities had no suicides for the year 2015: Vega Alta, Santa Isabel, Rincón, Peñuelas, Maricao, Loíza, Las Marías, Lajas, Hormigueros, Dorado, Culebra, Comerío, Ceiba, and Arroyo. (See Table 21 for more details)
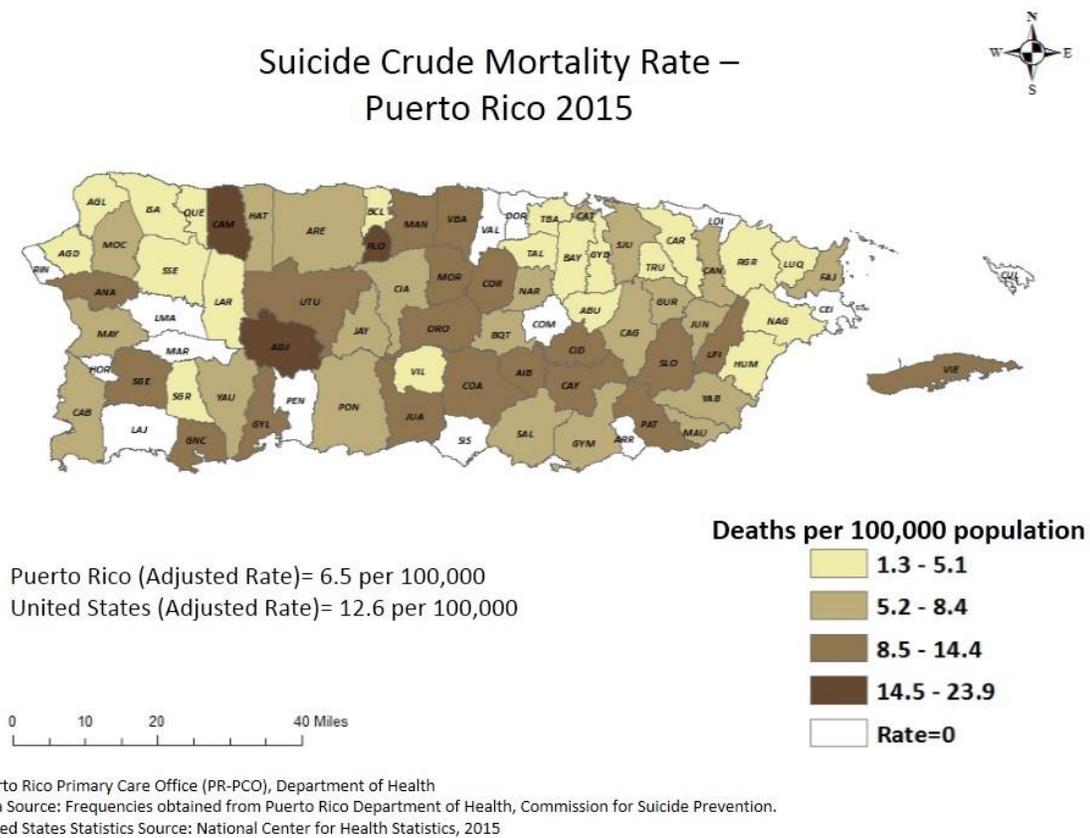
Figure 32: Suicide Crude Mortality Rate, 2015

Also, this indicator reports the adjusted suicide rate per 100,000 population by Puerto Rico health regions. When we examined the data by health regions, the highest suicide death rate was for Arecibo Health Region, with a marked rate of 9.63. (See Table 22 for more details)

Note: *The data can't be used for established geographic comparisons because the information is not adjusted by the municipality population.*

SECTION 6: Health Care Access Profile

Access to health services affects a person's health and well-being. Moreover, a person's ability to access health services has a profound effect on the individual health status. For instance, literature shows that people without medical insurance are more likely to lack a usual source of medical care, and are more likely to skip routine medical care due to costs, increasing their risk for serious and disabling health conditions. [23]

Increasing regular and reliable access to both routine medical care and services are vital steps in improving the health of all people in Puerto Rico. In the next sections, we present PR's health care access profile by showing data of the following 10 leading health access indicators:

- ❖ Percent of population below 100% and 200% of the Federal Poverty Level, FPL
- ❖ Percent of population uninsured
- ❖ Early and late entry into prenatal care
- ❖ Percent of low birth weight infants
- ❖ Vaccination Coverage among children and the elderly population
- ❖ Percent of population with a disability
- ❖ Count of the homeless population

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[23] Access to Health Services. Retrieved from: http://www.healthypeople.gov/2020/leading-health-indicators/2020-lhi-topics/Access-to-Health-Services

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6.1 Poverty Level

6.1a Poverty Rate (Below 100% of the Federal Poverty Level, FPL)

This indicator reports the percent of the population below 100% of the Federal Poverty Level, FPL (2010-2014 American Community Survey 5-year Estimates). On average, there was a total population of 3,604,637 million people for whom poverty status was determined in Puerto Rico, of which 45.3% was below 100% FPL. Puerto Rican population reported a **HIGHER** poverty rate when compared to 15.6% for the U.S. during the same period of time.

When looking closely at the data by municipalities, poverty rates were lower in the metropolitan area. Guaynabo (27.7%), Carolina (30.1%) and Trujillo Alto (30.8%) had the lower poverty rate; whereas, Guánica (64.4%), Adjuntas (62.1%), followed by Lajas and Peñuelas (60.1%) had the highest poverty rate for 2010-2014 average. Even the municipalities with the lowest poverty rate had higher percent than the U.S. average. (See Table 23 for more details)

Puerto Rico Average= 45.3%
United States Average= 15.6%

Percent
☐ 27.7% - 37.8%
☐ 37.9% - 46.1%
☐ 46.2% - 54.6%
☐ 54.7% - 64.4%
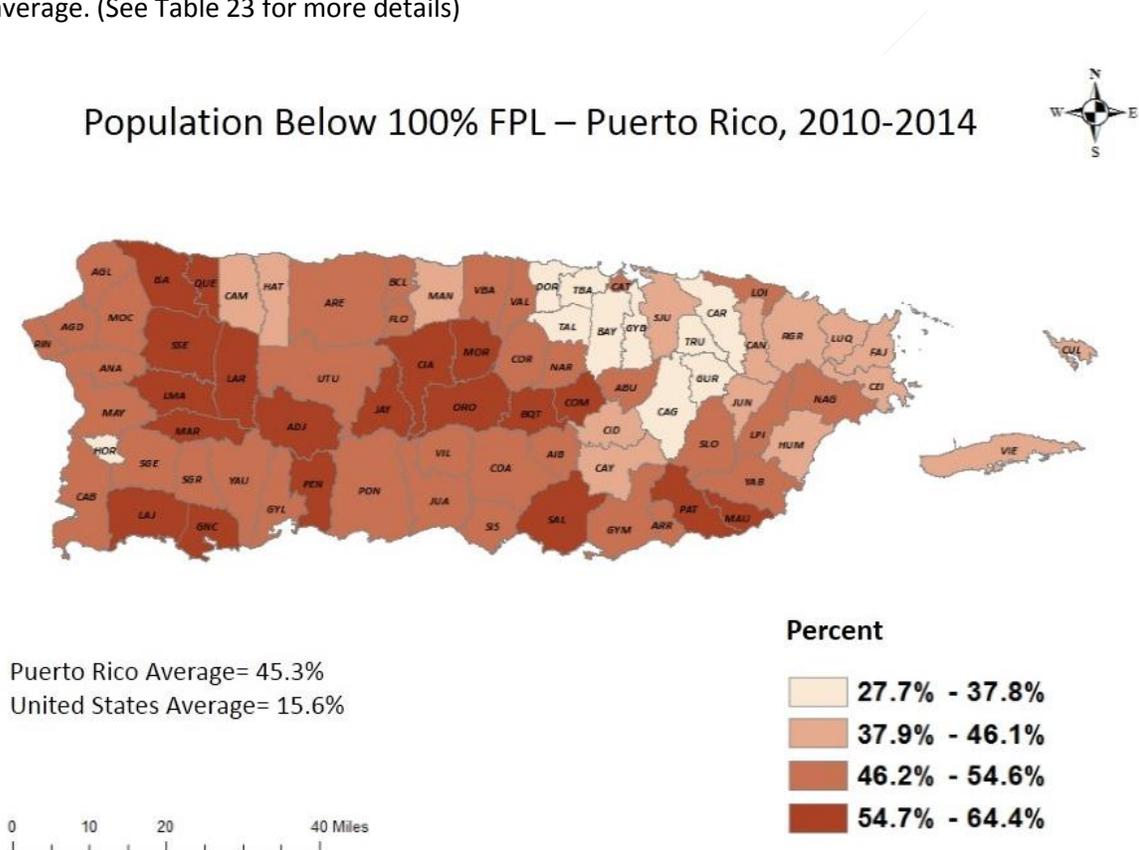
Puerto Rico Primary Care Office (PR-PCO), Department of Health
Data Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates.

Figure 33: Population Below 100% FPL, 2010-2014 Estimates

6.1b Poverty Rate (Below 200% of the Federal Poverty Level, FPL)

This indicator reports the percent of the population below 200% of the Federal Poverty Level, FPL (2010-2014 American Community Survey 5-year Estimates). On average, there was a total population of 3,604,637 million people for whom poverty status was determined in Puerto Rico, of which 73.5% was below 200% FPL. Puerto Rican population reported a **HIGHER** poverty rate when compared to 34.5% for the U.S. during the same period of time.

The metropolitan area reported the lower rates of population below 200% FPL, similarly to the population below 100% FPL. When looking closely at the data by municipalities, poverty rates were lower in Guaynabo (50.0%), Trujillo Alto (59.8%), followed closely by Gurabo (59.9%); whereas, Guánica (89.5%), Florida (88.8%) and Maricao (87.3%) had the highest poverty rates for 2010-2014 average. Even the municipalities with the lowest poverty rate had higher percent than the U.S. average. (See Table 23 for more details)
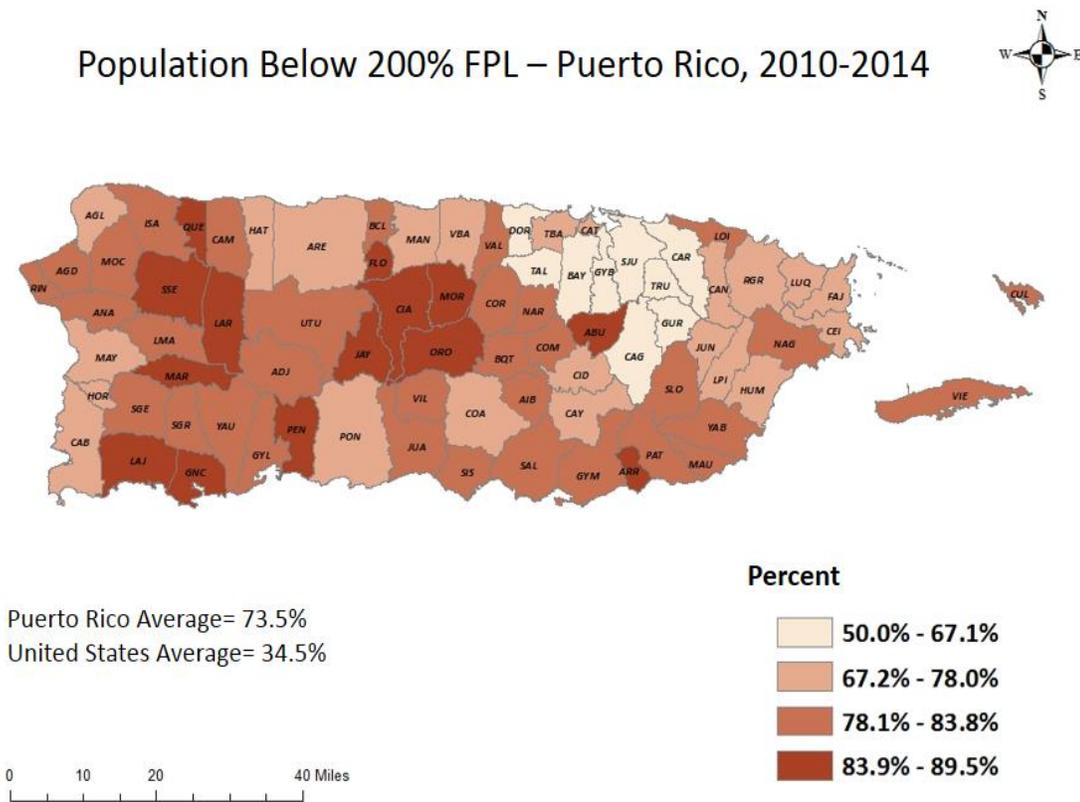
Puerto Rico Primary Care Office (PR-PCO), Department of Health
Data Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates.

Figure 34: Population Below 200% FPL, 2010-2014 Estimates

6.2 Uninsured Population

According to the U.S. Census Bureau, a health insurance coverage includes plans that provide comprehensive coverage. Health insurances for dental, vision, life, disability and specific conditions were not considered in this definition. The U.S. Census Bureau classifies insurance as private or public. Private insurance includes plans provided by an employer or union, purchased by an individual from a private company, Tricare or other military health care. The public health insurance includes Medicare, Medicaid- PR Government Health Care Insurance or Veterans Affairs Health Care. Thus, people who had no reported a private or public health coverage were considered uninsured.

The American Community Survey data showed that, on average, 43,878,131 (7.2%) people were uninsured in Puerto Rico during 2010-2014 period. When compared to United States (14.2%), Puerto Rico had a **LOWER** percent of uninsured population. Looking at the data by municipality, the percent of uninsured population was higher in San Juan (11.5%), followed by Lares and Loíza with 11.4% each. Whereas, Jayuya (2.2%), Barranquitas (2.8%), and Añasco (2.9%) reported the lower percentages of uninsured people. Even the municipalities with the higher percent of uninsured population still had lower proportions than the U.S. average. (See Table 24 for more details)
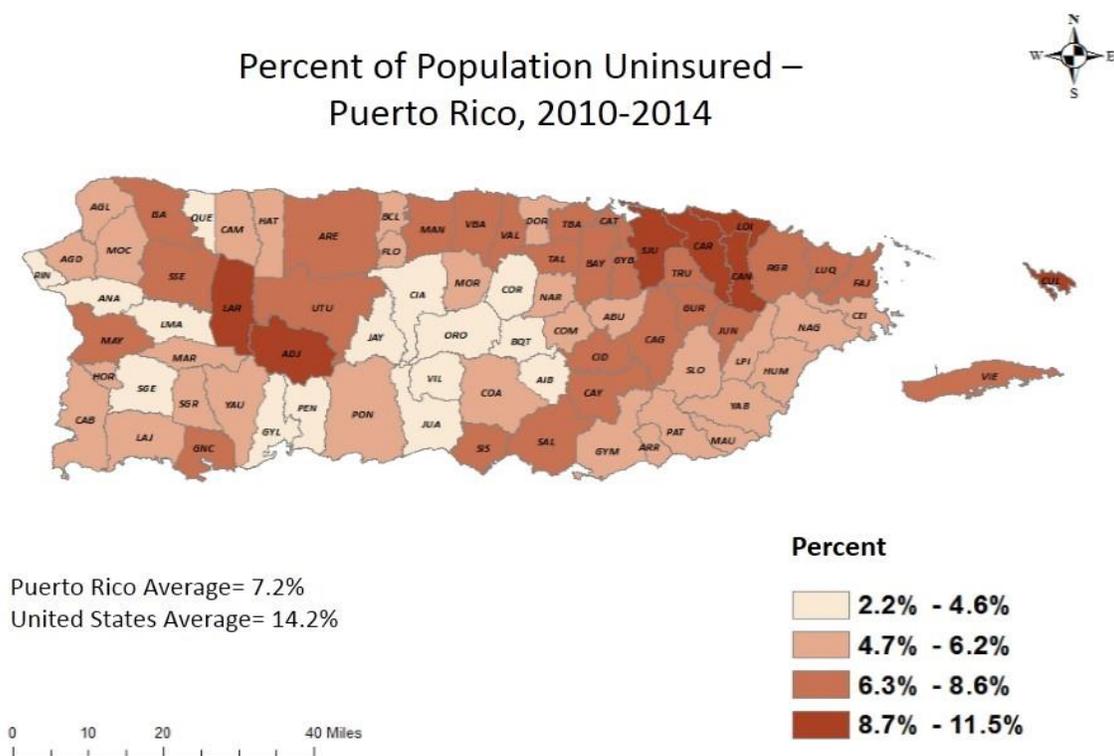
Figure 35: Percent of Population Uninsured, 2010-2014 Estimates

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6.3 Prenatal care

Prenatal care involves medical attention to pregnant women and the baby. Literature shows that late or non-prenatal care can be harmful for the babies' development and health, which makes them more likely to be born at low birth weight or die, than those whose mothers received prenatal care on adequate time .[24,25]

6.3a Early Entry to Prenatal Care

Early prenatal refers to healthcare that starts in the first trimester of gestation; it's associated with better health outcomes. For 2014, 83.4% of births in Puerto Rico were from mothers who began prenatal care in the first trimester. Municipality data showed lower percentage of births to mothers who began prenatal care in first trimester in Maricao (66.7%), Vieques (73.5%), and Cataño (77.5%). Whereas, higher percentage were reported in Barceloneta (90.2%), Hormigueros (89.9%), and Moca (89.7%) (See Table 25 for more details).
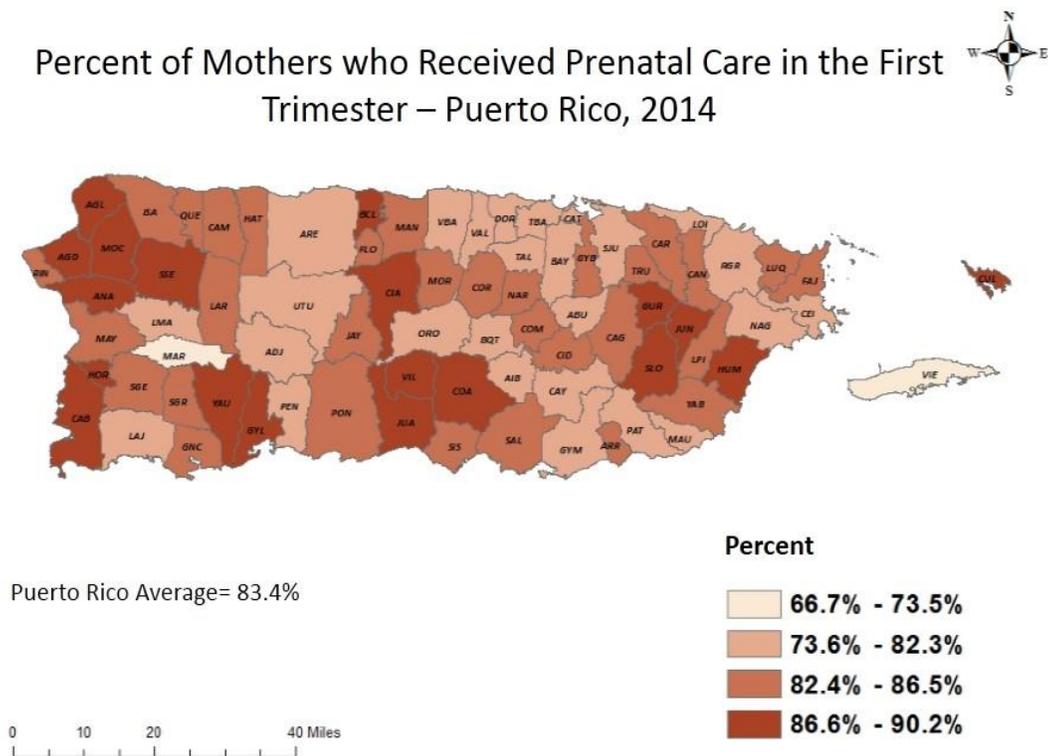
Figure 36: Early Entry to Prenatal Care (First Trimester), 2014.

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[24] Prenatal- First Trimester Care Access. Available at:
http://www.hrsa.gov/quality/toolbox/measures/prenatalfirsttrimester/
[25] Prenatal Services. Available at: http://www.mchb.hrsa.gov/programs/womeninfants/prenatal.html

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6.3b Late Entry Into Prenatal Care (Third trimester)

This indicator reports the percent of births from mothers who began prenatal care in the third trimester, registered for 2014. For the aforementioned year, Puerto Rico had a **LOWER** percent when compared to the U.S., 1.8% contrasted with 4.1%, respectively. When looking closely at data by municipalities, there were no reported births from mothers with late entry into prenatal care for Culebra, Hormigueros and Rincón. While, low percentage were registered in Juncos (0.2%), Sabana Grande and Villalba, 0.4% each; followed closely by Lajas (0.5%). Whereas, Santa Isabel (3.8%), Peñuelas (3.6%) and Orocovis (3.5%) had the higher percentages of births from mothers with late entry into prenatal care for 2014. Even the municipalities with the highest percent of late prenatal care still had lower proportion than the U.S. average. (See Table 25 for more details)
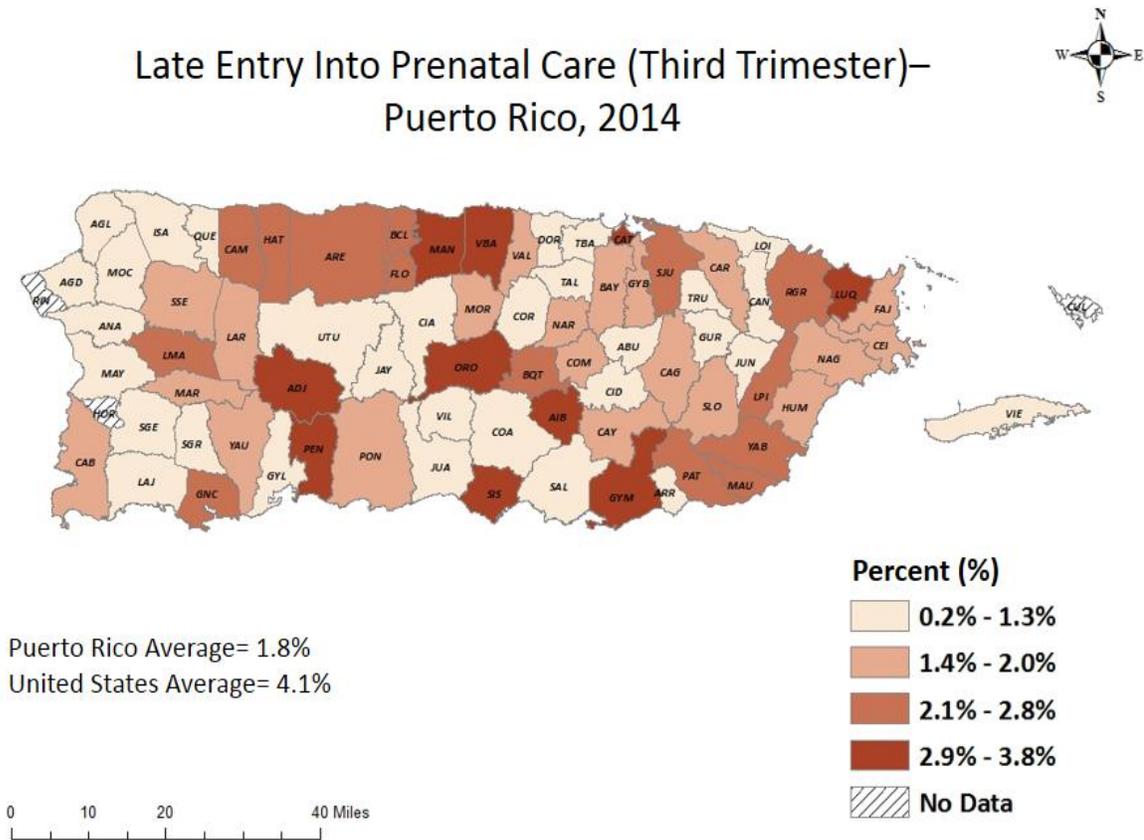
Figure 37: Late Entry Into Prenatal Care (Third Trimester), 2014

6.4 Low Birth Weight Rate

This indicator reports the percent of births with a weight lower than 2,500 grams or 5.5 pounds, defined as low birth weight births, for the year 2014. During this period, there were a total of 34,493 live births in Puerto Rico, of which 10.8% were low birth weight births. Puerto Rico had a **HIGHER** percent of low birth weight births, when compared to 8.0% for the U.S. mainland during the same period of time.

When observing municipalities level data, low birth weight rate was higher in Guánica (19.8%), Yauco (16.3%), followed closely by Ciales (16.1%); whereas Camuy (5.4%), Ceiba (6.1%) and Barceloneta (7.1%), had the lower rates for 2014. (See Table 26 for more details)
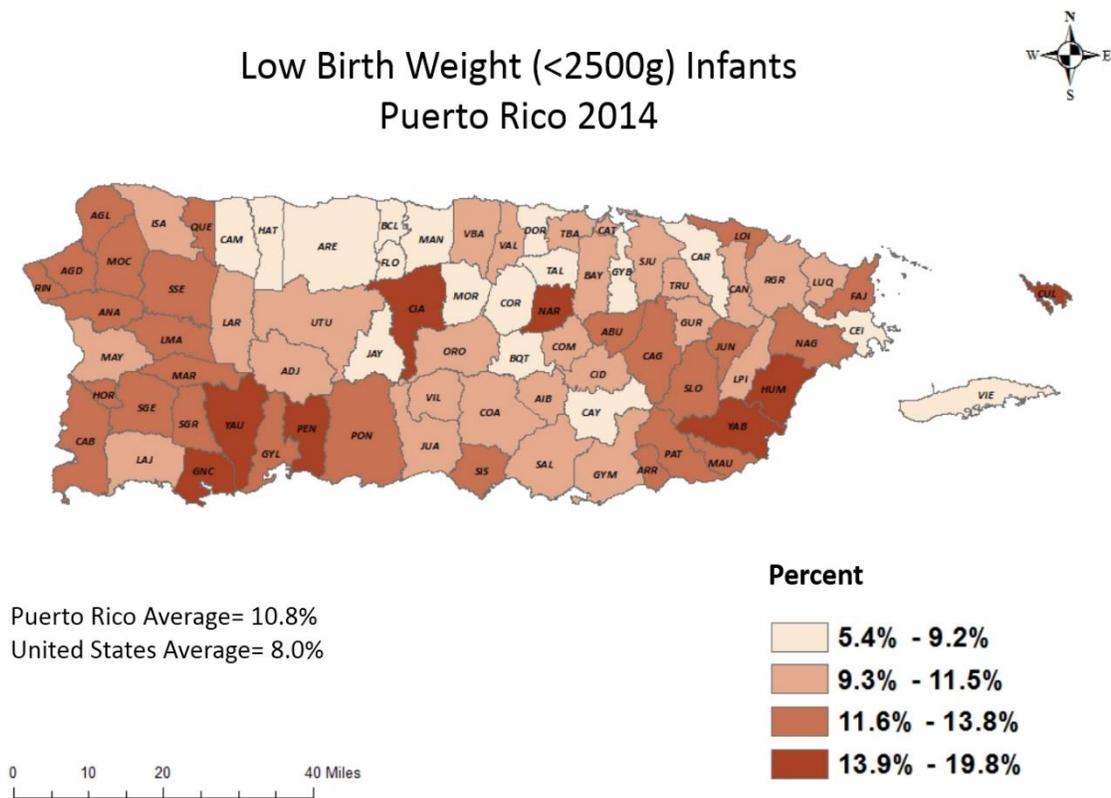
Figure 38: Low Birth Weight (<2,500g) Infants, 2014

6.5 Children Vaccination Coverage

6.5a Children (19 to 35 months old) Vaccinated

For the year 2014, 56.4% nineteen to thirty-five months old infants in Puerto Rico received all recommended vaccines (4 Dtap/3Polio/1MMR/3Hib/3Hep/1Vaqr/4PCV). For the aforementioned year, Puerto Rico reported a lower immunization coverage compared to the 71.6% of U.S.

6.5b Children (19 to 35 months old) Not Receiving Recommended Immunizations

This indicator reports the percent of nineteen to thirty-five months old infants who didn't receive all recommended vaccines (4 Dtap/3Polio/1MMR/3Hib/3Hep/1Vaqr/4PCV) for 2014. Puerto Rico had a **HIGHER** percent of 19 to 35 months old infants without recommended immunization when compared to the U.S., 43.6% non-vaccinated children contrasted with 28.4%, respectively. When looking at the data by municipality, the municipalities with the lower reported percentages of non-vaccinated children were Patillas (19.1%), Maricao (20.0%) and Guayanilla (23.2%). While, Vega Baja (61.3%), Carolina (57.8%) and Cidra (57.1%) had the higher percentages of children without all recommended vaccines (See Table 27 for more details).
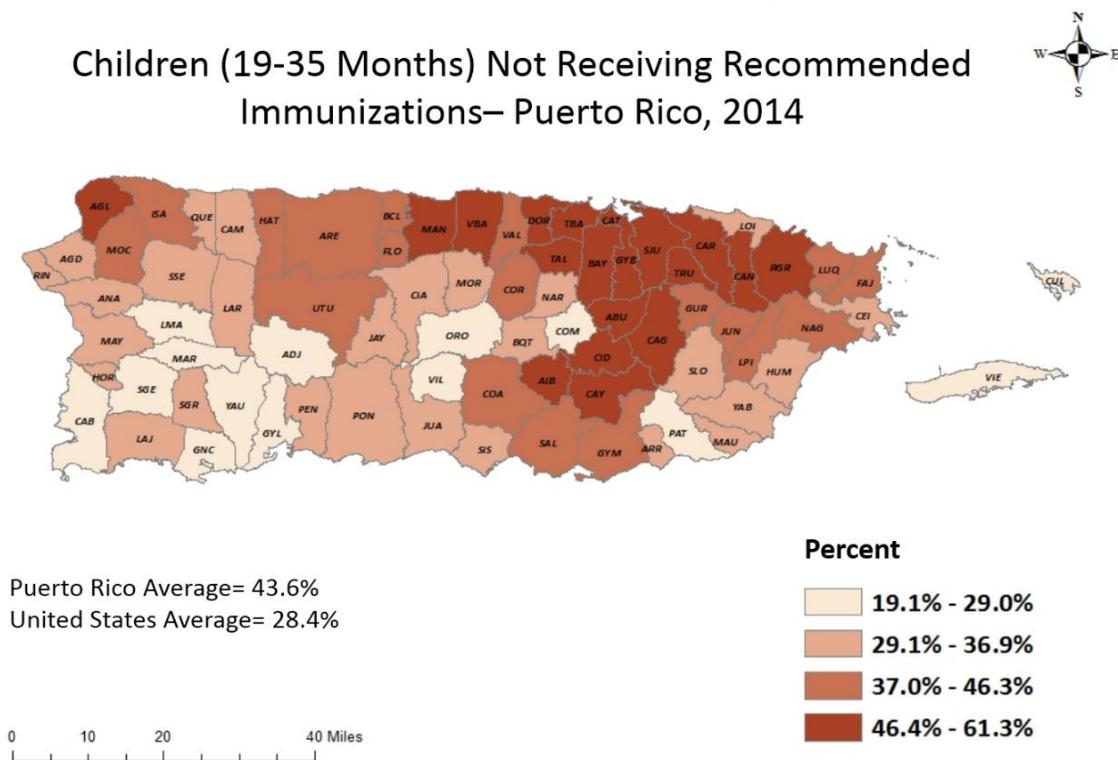
Children (19-35 Months) Not Receiving Recommended Immunizations– Puerto Rico, 2014

Puerto Rico Average= 43.6%
United States Average= 28.4%

0   10   20   40 Miles

Percent

	19.1% - 29.0%
	29.1% - 36.9%
	37.0% - 46.3%
	46.4% - 61.3%

Puerto Rico Primary Care Office (PR-PCO), Department of Health
Data Source: Puerto Rico Immunization Registry; U.S. Data Source: National Immunization Survey (NIS), United States, 2014.

Figure 39: Children (19-35 Months) Not Receiving Recommended Immunizations, 2014

6.6 Elderly Vaccination Coverage

6.6a Elderly who had the flu shot

For August 2014 to June 2015 season, 15% of the elderly population (> 65 years old) in Puerto Rico received the flu shot. When looking at the data by municipalities; Ceiba (3.1%), Salinas (3.7%), followed by Aguadilla and Luquillo with 4.6% each, reported the lowest vaccination rates. Whereas, the higher percent of vaccination were reported in Adjuntas (47.4%), Lares (41.1%) and Rincón (34.8%).

6.6b Elderly Population Not Receiving the Flu Shot

This indicator reports the percent of elderly population who didn't receive the recommended flu shot during the August 2014 to June 2015 season. For the aforementioned season, Puerto Rico had 85% percent of the elderly population without vaccination coverage.

When looking closely at the data by municipalities, Adjuntas (52.6%), Lares (58.9%) and Rincón (65.2%) registered the lower percent of non-vaccinated elderly. Whereas; Ceiba (96.9%), followed closely by Salinas (96.3%), and Aguadilla (95.4%) had the higher percent of elderly without the flu shot. Even the municipalities with lowest percentages had more than half of their elderly population without the flu shot. (See Table 28 for more details).
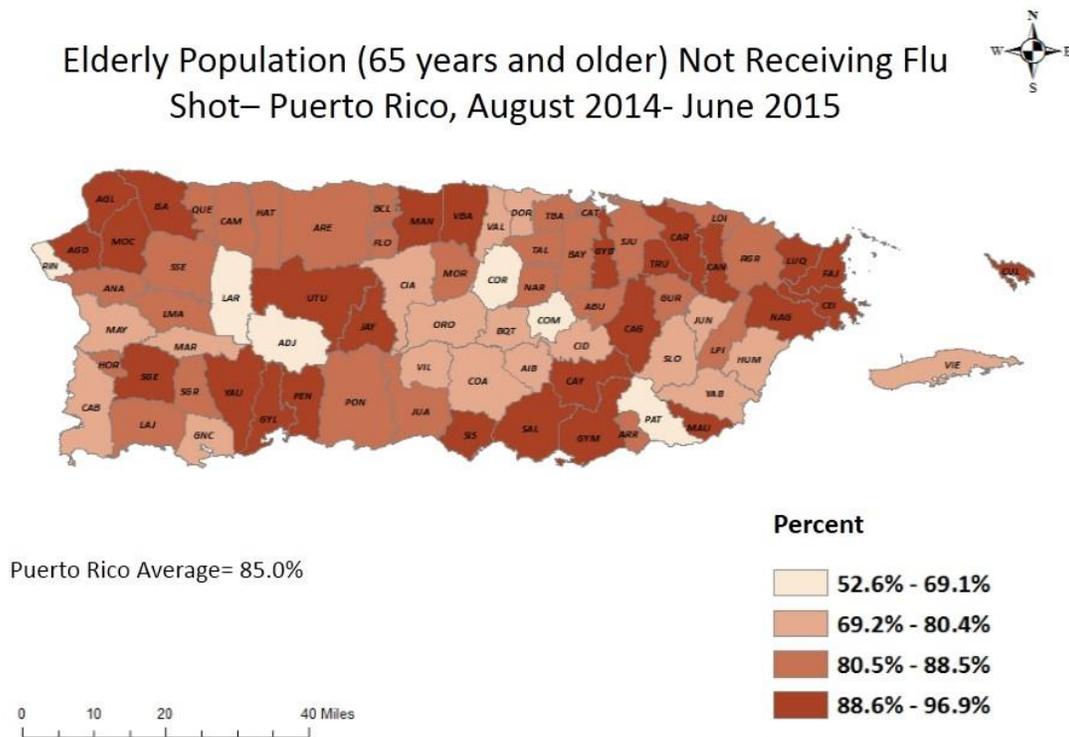
Puerto Rico Primary Care Office (PR-PCO), Department of Health
Data Source: P.R. Department of Health Vaccination Program. U.S. Data source: BRFSS (From Document: National Early Season Flu Vaccination Coverage), United States 2014.

Figure 40: Elderly Population (65 years and older) Not Receiving the Flu Shot, August 2014-June 2015

6.7 Population with a Disability

This indicator reports the percent of the population with a disability, including but not limited to ahearing difficulty, a vision difficulty, a cognitive difficulty, an ambulatory difficulty, a self-care difficulty and/or an independent living difficulty (2010-2014 American Community Survey 5-year Estimates). On average, there was a total civilian non-institutionalized population of 3,612,464 million people for whom a disability status was determined in Puerto Rico, of which 20.9% have a disability. Puerto Rican population is reporting **HIGHER** percent of disability when compared to 12.3% for the U.S. during the same period of time.

When looking closely at the data by municipalities, the general percent of the civilian non-institutionalized population with a disability was lower in Culebra (7.6%), Hatillo (8.1%), followed by Las Marías (8.4%); whereas, Orocovis (34.3%), Barceloneta (33.6%), along to Cayey and Rincón with 31.3% each, had the highest percent of people with a disability for 2010-2014 estimates. When examining the overall distribution by age group, in Puerto Rico fifty-one percent (51%) of the population aged 65 years and older have a disability, compared to a lesser extent for the population under 5 years of age (1.1%) (See Table 29 for more details)
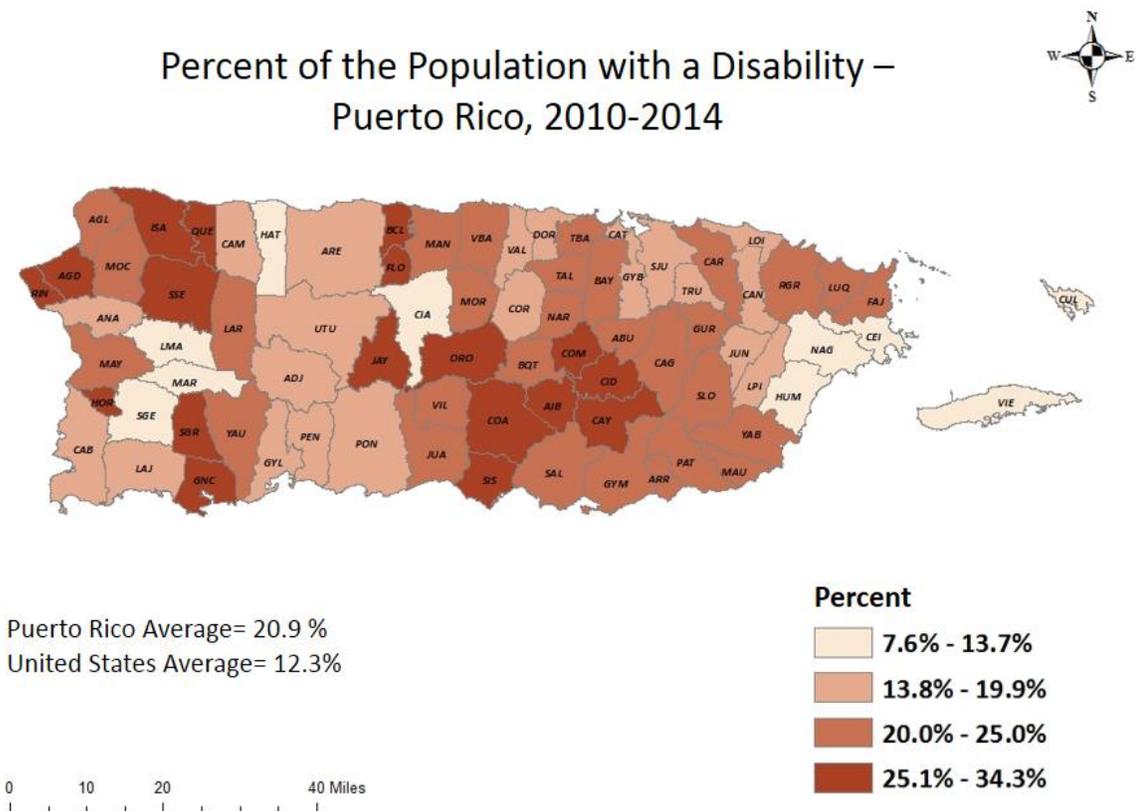
Puerto Rico Average= 20.9 %
United States Average= 12.3%

Percent
7.6% - 13.7%
13.8% - 19.9%
20.0% - 25.0%
25.1% - 34.3%

Puerto Rico Primary Care Office (PR-PCO), Department of Health
Data Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates.

Figure 41: Percent of the Population with a Disability, 2010-2014 Estimates

6.8 Homeless Population

As required by the U.S. Department of Housing and Urban Development, the Continuum of Care Homeless Assistance Programs (CoC) perform every two years a Point in Time Survey (PIT) to count the homeless population in the Island. In Puerto Rico, there's two recognized CoC programs: CoC Balance of Commonwealth, which groups 24 municipalities and CoC South/Southeast PR (known in Spanish as *Coalición de Coaliciones*), which groups the remaining 54 municipalities.

This indicator reports the count of the homeless population by January 28, 2015. For the aforementioned point in time, 4,518 homeless people were counted in PR. When looking at the data by municipalities, there was no reported homeless population in Culebra for that specific point in time. While, Dorado, Maricao, Morovis, Quebradillas, and Villalba reported only one homeless person; followed by Adjuntas, Hatillo and Rincón, who reported two homeless people. Highest counts were reported for the municipalities of San Juan (1,317), Ponce (303) and Caguas (248) (See Table 30 for more details).
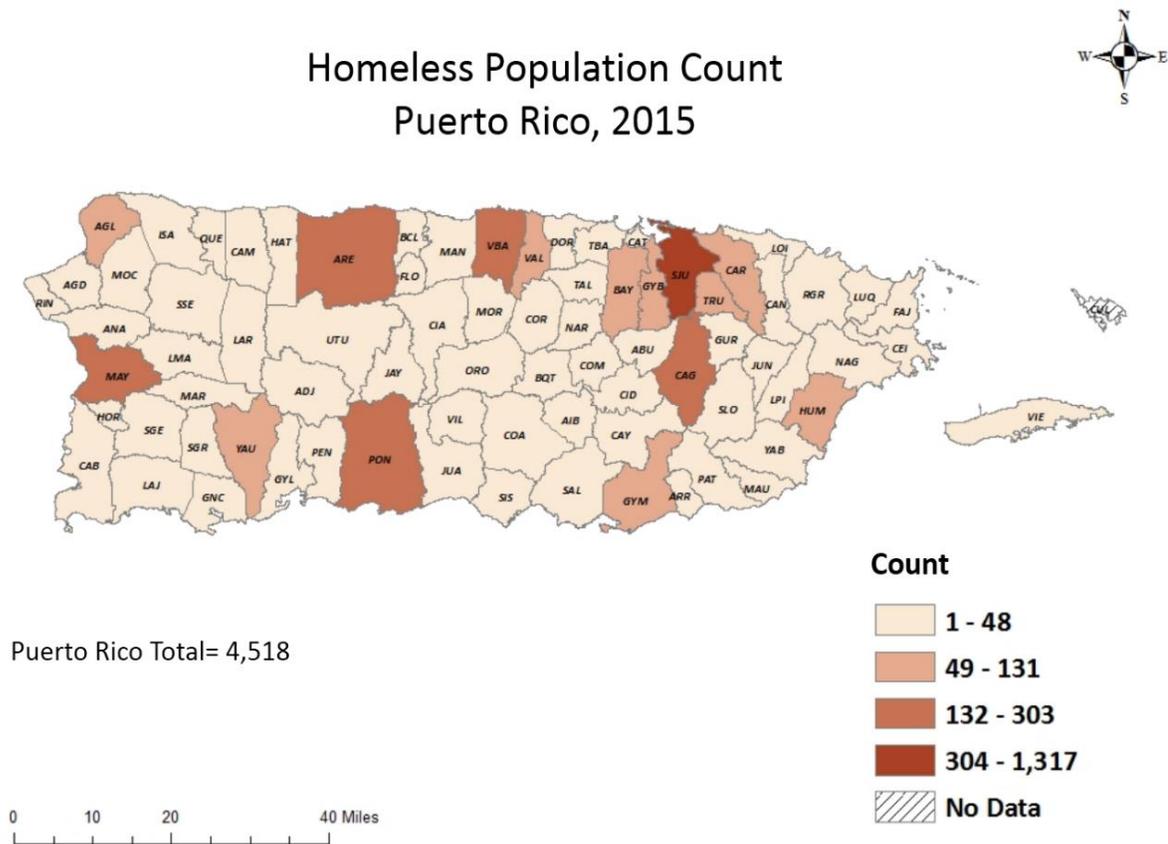
Figure 42: Homeless Population Count, 2015

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SECTION 8: Qualitative Component of the PCNA

8.1 Surveys Results

As part of the PCNA, PR-PCO developed and administered surveys to Community Health Centers (CHC's), Non-Profit Health-Related Organizations, and Primary Care Providers Associations and Academic Institutions, with the purpose to identify perceived key barriers and their potential causes to accessing primary health care in Puerto Rico. These surveys allowed the PCO staff to collect information and involved stakeholders in the PCNA's process.

- **Community Health Centers' survey**
  The CHC's survey was delivered to the 21 corporations and the federal correctional facility, with a response rate of 59.1%. The survey was completed by staff members such as Executive Directors, Medical Directors, Board members, acting as community voices, and health service providers (including physicians, nurses, social workers, psychologists).

- **Non-Profit Health-Related Organizations' survey**
  The survey was delivered to 44 Non-Profit Health-Related organizations, with a response rate of 43.2%. These organizations have first-hand knowledge about the community and provide service to a wide variety of populations, including but not limited to; elderly, children, homeless people, low income and other high-risk and underserved populations.

- **Primary Care Provider Associations and Academic Institutions**
  The PCO distributed an electronic survey to primary care provider associations and Academic Institutions to identify possible perceived primary care provider shortage, also to reveal healthcare access barriers and their potential causes in Puerto Rico. A total of 20 organizations were contacted, with a response rate of 45.0%. The majority of the respondents were provider associations or members.

From the three type of instruments, six major barriers to primary care service were identified. Also, there was a high consensus regarding issues influencing the access to primary care services and the need for collaborative efforts between State partners and other stakeholders.

8.2 Major Identified Barriers

❖ **Health Insurance Coverage:** Several issues regarding Health Insurances were mentioned as leading barriers to care, becoming a major concern for stakeholders. According to stakeholders, health insurance coverage influences the access and quality of service the population receive. Restrictions and decisions made by Insurance's Companies without consulting the providers or without taking in consideration how it will affect the population is another topic of concern.

Regarding the Government Health Insurance Plan, stakeholders perceived as barriers the constantly primary care provider turnover, difficulty to obtain referrals to specialists, and limited access caused by the insurance regulations.

Other issues as lack of health insurance and limitations to access prescription drugs were reported as main concerns.

❖ **Access to Health Services**: Most of the access-related barriers identified were associated to limited access to primary care and specialist physicians, and the waiting time to receive the health services needed or to get a referral to a specialist in a suitable and short time. Also, it was mentioned a lack of access to preventive care, like screening tests and follow up services.

According to the participants, the access barrier is specifically due to lack of resources because Health Insurances restricts the services the patient can receive or the health services have specific restrictions, such as the hours of service. Although there are primary care services with extended hours, the existing services don't meet the population needs even with the extended time.

The lack of access to control medications was identified as a barrier to accessing services in the island, mostly psychiatric medications and other control medicine for elderly population.

❖ **Transportation, Mobility and Distance to Health Service:** The participants identified the lack of mobility, transportation, and the distance to health service and specialists as a major barrier.

❖ **Health Professionals Shortage:** Stakeholders perceived a health professionals' shortage in Puerto Rico as another major barrier, particularly of primary care providers and sub-specialists physicians. Moreover, participants identified the migration of healthcare providers as a barrier and also as a possible cause for primary care provider shortage. It's important to point out that some of the Primary Care Provider Associations and Higher Education Institutions participants identified that, due to the shortage of primary care physicians in the island, arises the problem of long waiting times, either to get medical appointments or in the medical visit.

- ❖ **Lack of knowledge and Health Literacy**: Another barrier identified was related to the lack of knowledge of preventive health behavior (healthy behaviors), lack of knowledge and awareness of available services and patients' rights.

  According to some participants, the individual comprehension of clinical terminology and health indications is another key barrier for low literacy population, who can't understand clearly provider's recommendations and instructions.

- ❖ **Economic Resources and High Costs of Services**: Other barrier was the lack of economic resources and economic need for the low income populations and communities. Also, the high costs of some control medications and other medical services not covered by health insurance plans influence the affordability of patients.

8.3 Highlighted Results from the Questionnaires

Accordingly to the indicators and barriers previously presented, results emerging from the three questionnaires reveals insights about primary care needs, disparities and possible causes for these barriers.

In the following sections, highlighted results from the three surveys are presented.

8.3a CHC's survey

Health Professionals Shortage

Community Health Centers' participants indicated their organizations are facing challenges due to primary care provider's vacancies.

- ❖ 70.8% of the respondents indicated to have Family Physicians vacancies in their organizations.
- ❖ 37.5% indicated to have Pediatricians vacancies.
- ❖ 35.4% indicated to have OB/GYN vacancies.
- ❖ 25.0% of the respondents have Psychiatrists vacancies.

Over half of the respondents (57.4%) perceived as a major reason for vacancies and difficulties in the recruitment and retentions process the health professional's shortage in their areas, followed by a 29.8% which indicated the reason is an unfair financial remuneration along with the shortage.

Experiences when seeking health services

The experiences of Puerto Rico's population when seeking health services depends by the type of health insurance they possess:

- ❖ Uninsured Population
  - • Usually Have waiting time of over a week between the day they request an appointment and the date they finally get it (44.6%).
  - • Usually have waiting time of over an hour in their doctor's visit (33.3%).

- ❖ Medicare Population
  - Usually Have waiting time of over a week between the day they request an appointment and the date they finally get it (35.2%).
  - Sometimes have waiting time of over an hour in their doctor's visit (30.8%).
- ❖ Government Health Insurance Plan
  - Usually Have waiting time of over a week between the day they request an appointment and the date they finally get it (40.7%).
  - Usually have waiting time of over an hour in their doctor's visit (33.3%).
- ❖ Private Health Insurance
  - Usually are attended the same day they request an appointment (38.9%).
  - Sometimes have waiting time of over an hour in their doctor's visit (30%).

8.3b Non-Profit Health-Related Organizations' Survey

Access to care

When asked if they consider that their population have a good access to primary care providers:

- ❖ Most respondents considered that there is not a good access to primary care providers, especially to Pediatricians (73.3%), OB/GYN (80.0%) and Psychiatrist (86.7%). Some of the reasons given were related to patient health insurance coverage, shortage of health providers and lack of extended hours for the service.

Health Professionals Shortage

- ❖ The participants identified significant shortage of the following health professionals: Psychiatrist (58.8%) and Psychologist (64.7%).

Experiences when seeking health services

Participants demonstrated that experiences their population face when seeking health services in Puerto Rico varies by the type of health insurance they possess:

- ❖ Uninsured Population
  - Usually have waiting time of over a week between the day they request an appointment and the date they finally get it (45.5%).
  - Usually have waiting time of over an hour in their doctor's visit (45.5%).
  - Usually have difficulty to get a referral to a specialist (45.5%).
- ❖ Medicare Population
  - Usually have waiting time of over a week between the day they request an appointment and the date they finally get it (54.5%).
  - Usually have waiting time of over an hour in their doctor's visit (45.5%).
  - Government Health Insurance Plan Usually have waiting time of over a week between the day they request an appointment and the date they finally get it (72.7%).
  - Usually have waiting time of over an hour in their doctor's visit (54.5%).
  - Usually have difficulty to get a referral to a specialist (54.5%).

- ❖ Private Health Insurance
  - Usually are attended the same day they request an appointment (45.5%).
  - Usually are attended by their urgency and within doctors' hours (54.5%).

Travel time experience

The highest percent of reported average travel time to get to the nearest primary care center was less than 30 minutes (64%), followed by 30 minutes to 1 hour (36%).

8.3c Professional Associations/Academic Institutions with Primary Care Programs Survey

Health Professionals Shortage

The majority (93%) of participants perceived a primary care provider shortage. The providers with the highest frequency of shortage were the following:

- ❖ Pediatricians (80%),
- ❖ OB/GYNs (64%), and
- ❖ Psychiatrists (64%).

Most of them believe that unfair economic remuneration (96%) could be the cause of the shortage. They also believe the shortage could be due to the following causes:

- ❖ Primary care provider migration (80%)
- ❖ Low primary care program enrollment (36%)
- ❖ Lack of primary care academic programs (44%)
- ❖ Geographic distribution of the providers (44%), most of the providers are providing services only in the metropolitan area.

Also, from the survey's questions, the participants indicated the following related to provider shortage' possible causes:

- ➢ 83% of the Professionals' Associations indicated that primary care academic programs have decreased.
- ➢ 50% of the higher education institutions replied that the academic offer had decreased. While 33% considered it have stayed the same and 17% didn't perceive any changes.
- ➢ 67% of the participant academic institutions perceived a decrease in enrollment in primary care academic programs.
- ➢ The 83% of the primary care provider associations perceived a decrease in enrollment in primary care academic programs.

Another important finding is that, specifically primary care physicians and psychiatrists, are difficult to recruit. The following providers were identified by the participants as the most difficult to recruit and retain:

- ▪ Internal Medicine Physician (81%),
- ▪ Family Physician (70%),

- Pediatrician (85%),
- OB/GYN (81%) and,
- Psychiatrist (77%).

Furthermore, the major cause identified in this questionnaire for the provider recruitment and retention difficulty is unfair economic remuneration (96%).

8.4 Strengthen Collaborative Efforts between State Partners and Other Stakeholders

Results of the three surveys converged about the need of collaborative efforts between State partners and other stakeholders. There's a general consensus between the stakeholders from Community Health Centers, Non-Profit Health-Related Organizations, Primary Care Provider Associations and Academic Institutions regarding a need to promote cooperative efforts between state partners and other stakeholders to improve and fulfill the primary care and public health needs in Puerto Rico.

According to the participants, the following top ten partners and stakeholders should be part of that working group as a collaborative entity:

1. Puerto Rico Department of Health
2. Professionals' Association or Boards
3. Non-Profit Organizations
4. Hospitals
5. Health Insurance companies
6. Municipalities
7. Government and Private sector
8. Higher Education Institutions/ Academia
9. Community Health Centers

8.5 Meetings with Stakeholders

A discussion session was performed to present preliminary results and gather inputs about the major topics identified during the first stage. Three discussion groups were created to share impressions about three topics selected based on results and the major barriers identified by the stakeholders in the survey.

In the following sections are presented the results of the discussion groups by topic.

8.5a Primary Care Professional's Shortage

First group were asked to prioritize the possible causes and solutions to primary health professionals' shortage in Puerto Rico.

The possible causes were ranked as follows:

1. The constant exodus (migration) of health professionals seeking better job opportunities.
2. High turnover in the different health sectors.
3. Gaps between the competencies gained during their training and the labor market needs.
4. There's no sufficient human resources to supply the population's needs.

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5. There's not a fair financial remuneration in relation to the high-risk tasks they perform.
6. There's not an appropriate relationship between the demand and supply of health related professions in Puerto Rico.

The possible solutions were ranked as follows:

1. Promote among students at an early age, studies or career choices related to primary care to arouse interest in studying some of them.
2. Develop and/or promote scholarship and loan repayment programs to primary care related professions.
3. Increase access to sufficient internships, residences and trainings to admit and to graduate a considerable number of candidates with the competencies needed, to meet the demand for health professionals in specific geographic areas.
4. Strengthening collaborations between academic institutions and potential employers.
5. Develop public policy and cooperative agreements between PR Department of Health, Academic Institutions, and other stakeholders to work on Puerto Rico's health workforce issues.
6. Create strategies aimed to increase job opportunities for recent graduates.
7. Establish continuing education programs in primary care to develop new skills based on emerging health care models.
8. Improve information systems available to students, health professionals and support staff through a coalition aimed to monitoring and analyzing the need for health professionals in PR. Accordingly, maintain a sustainable database with reliable and updated information related to students and health professionals currently working in the Island.

8.5b Access to primary care services

The second group discussed the topic related to access to primary care services. Using a *4-category Likert frequency scale*, from usually to never, they consider that Puerto Rico's population **frequently** have access to primary care services.

After, this group established a priority order to rank the potential causes for a lack of primary care services. The possible causes were ranked as follows:

1. The population lacks health insurance.
2. The population does not have the financial resources to access services.
3. There are not enough primary care providers.
4. The population doesn't have a constant health care (not primary care physician or health service that they usually visit).
5. The population can't get timely appropriate appointments.
6. The population has long waiting times to be treated from a primary care professional.
7. There are many people facing legal obstacles (undocumented immigrants).
8. The Population doesn't get transportation to health services within a reasonable time.

Also, the participants established a priority order for possible and potential solutions to the lack of primary care services. The possible solutions were ranked as follows:

1. Increase primary care workforce.

2. Extend service hours accordingly to the needs of the population served.
3. Provide weekly or monthly home appointments.
4. Increase the number of people with health insurance.
5. Increase health insurance coverage (including dental, pharmacy and preventive services).
6. Increase the number of people with a regular primary health care provider.
7. Provide services in mobile units.
8. Have trained health professionals to serve people with disabilities.
9. Provide transportation for people in need.
10. Primary care providers providing health information via e-mail or telephone.

8.5c Access to Mental Health Services

The third group discussed the topic of access to mental health services. They answered that half of the times Puerto Rico's population have access to any mental health services.

This group prioritized the possible causes of lack of mental health services in Puerto Rico, ranked as follows:

1. The population can't get timely appropriate appointments.
2. The population has long waiting times to be treated from a primary care professional.
3. The population doesn't have a constant health care (not primary care physician or health service that they usually visit).
4. There are not enough mental health providers.
5. The population lacks health insurance.
6. The population does not have the financial resources to access services.
7. There are many people facing legal obstacles (undocumented immigrants).
8. The Population doesn't get transportation to health services within a reasonable time.

Afterward, they ranked the possible solutions to the lack of mental health services as follows:

1. Increase mental health workforce.
2. Extend service hours accordingly to the needs of the population served.
3. Have trained health professionals to serve people with disabilities.
4. Increase the number of people with a regular mental health care provider.
5. Increase the number of people with health insurance.
6. Increase the private health coverage.
7. Provide transportation for people in need.
8. Provide services in mobile units.
9. Provide weekly or monthly home appointments.
10. Primary care providers providing health information via e-mail or telephone.

SECTION 9: Study Findings and Results

In order to establish comparison and ranking of the municipalities with the greatest primary health care needs and challenges, cumulative z-scores were computed for each of the three (3) selected major health categories, followed by an overall score:

- ❖ Category #1: Socio-Demographic
- ❖ Category #2: Health Status
- ❖ Category #3: Health Access
- ❖ Overall Score

The following diagram present the prioritization process conducted to rank the service areas by the need-based criteria established:

Indicators Selection for Each Category	Z-Score Calculations for Each Indicator	Cumulative Z-Scores per Service Area for Each Category and Overall Score	Need-Based Criteria Ranking of the Service Areas
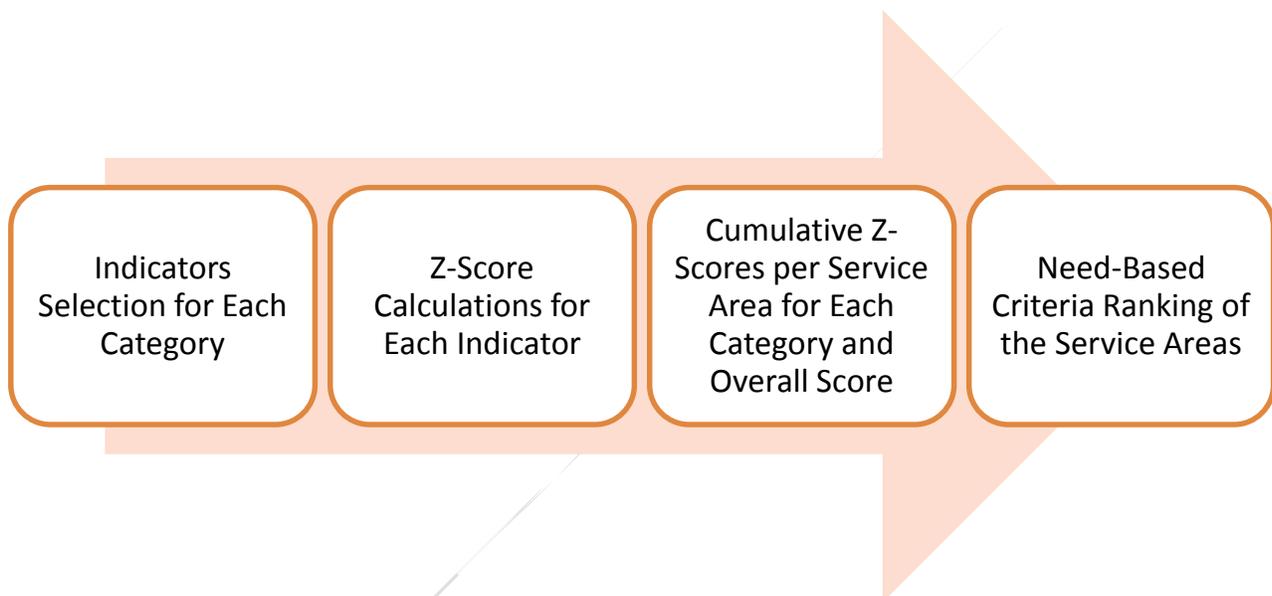
Figure 43: Prioritization Process of the Service Area by Need-Based Criteria Ranking

In the next sections, we present the findings of the prioritization process for each categories based on the chosen indicators. As mentioned previously, the applied scoring methodology in this study was used to create a risk Index to then rank, by score, all municipalities in Puerto Rico. Higher ranking indicates potentially higher need, thus it is assumed that the higher the measured score in a particular service area or municipality, the greater the perceived need for intervention and for primary health care services, conversely, a low score indicates municipalities with less need and priority.

Even though this methodology facilitates the comparison and ranking of the service areas, it is advised considerable caution in the interpretation of the results of these analyses. It is important to emphasize that the following presented results are based on the comparison methods and indicators selection criteria utilized in the study.

9.1 Service Area Ranking by Aggregate Socio-Demographic Indicators Score

To perform an assessment of risk and needs across the 78 municipalities in Puerto Rico by the socio-demographic category, five (5) indicators were chosen:

- ❖ Population aged Under 5 years,
- ❖ Population aged 65 years and older,
- ❖ Annual Median Household Income,

- ❖ Unemployment rate, and
- ❖ Population 25 years of age and over with No High School Diploma.

The main criterion for choosing these indicators was Puerto Rico overall value when compared to the U.S. average. For the indicators of income, unemployment rate and educational attainment; PR average was worse and compare poorly to the U.S. average. Regarding the two selected age groups, children and elderly, these were chosen primarily due to their demonstrated disparity across the service areas and because their known correlation to health.

The map below shows the ranking of Puerto Rico municipalities by their aggregate z-scores values based on the five chosen socio-demographic indicators. From PR z-score value (-1.66), we can see that compared with the 78 municipalities, PR did better than a large proportion of the municipalities and was within the 5.0% of values with the lowest scoring. When looking closely at the data, the five municipalities with the higher rankings, thus potentially higher need for intervention and primary care services, were: Las Marías (6.35), Guánica (4.83), Lajas (4.76), San Sebastián (4.63) and Adjuntas (4.52). Whereas, the municipalities with the lowest need priority were: Guaynabo (-9.53), Toa Alta (-7.61), Trujillo Alto (-7.25), Gurabo (-6.27) and Carolina (-5.93). See Table 7 for more details.

Category #1: Socio-Demographic Indicators Z-Score Ranking

Aggregate Score:
⬆ Max.= +6.35
⬇ Min.= -9.53
Puerto Rico= -1.66 (Rank #61)
United States= -12.62 (Rank #80)

Need-Based Criteria
High Priority

Low Priority
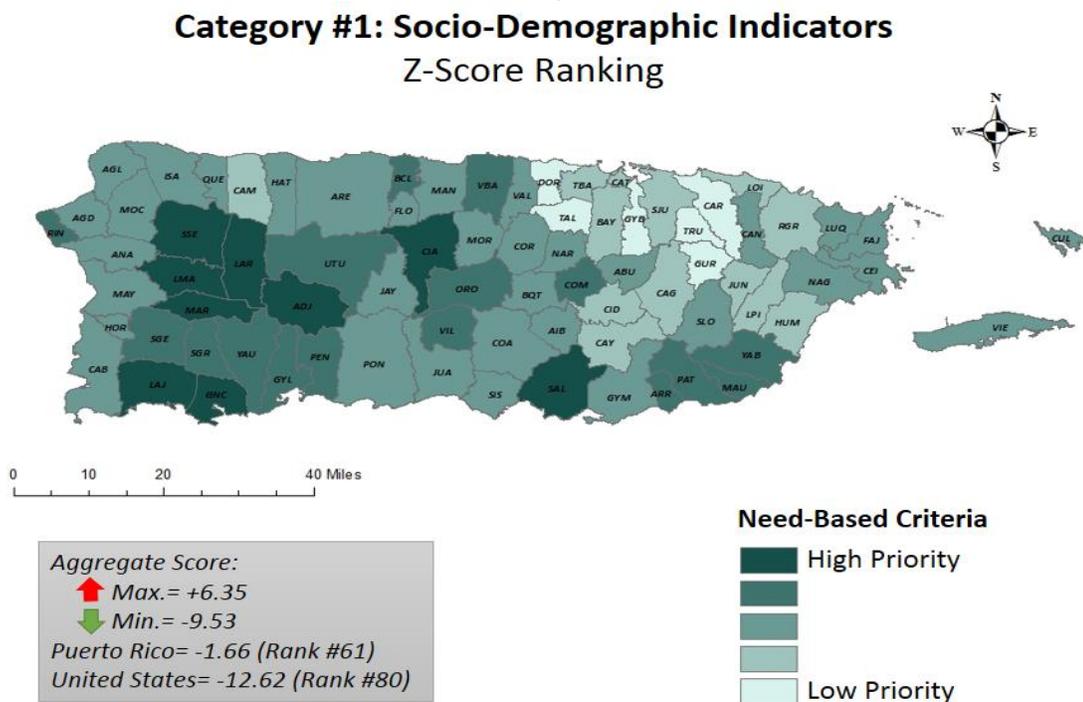
Puerto Rico Primary Care Office (PR-PCO), Department of Health

Figure 44: Category #1- Socio-Demographic Indicators Ranking

9.2 Service Area Ranking by Aggregate Health Status Indicators Score

Eight (8) indicators were chosen for the ranking of the service area by the health status category:

- ❖ Prostate Cancer Incidence Rate,
- ❖ Colon and Rectum Cancer Incidence Rate*,
- ❖ HIV Incidence Rate,
- ❖ Total Syphilis Incidence Rate,

- ❖ Preterm Births Rate,
- ❖ Heart Disease Mortality Rate,
- ❖ Diabetes Mortality Rate, and
- ❖ Infant Mortality Rate.

The main criterion for choosing these indicators was Puerto Rico overall value when compared to the U.S. average. For these selected indicators, PR compared poorly to United States and its value was worse than the U.S. average, at exception of Colon and Rectum Cancer Incidence Rate. Even though, PR had a lower colorectal incidence rate than U.S., more than 25% of the values of PR municipalities were not as good as the U.S. average. Also, though Puerto Rico's primary and secondary syphilis and total syphilis incidence rates were higher than the U.S average, total syphilis incidence rate was used because it includes syphilis infection new cases in all its stages (primary, secondary, latent and late stages).

The map below shows the ranking of PR municipalities by their cumulative z-scores values based on the eight (8) chosen health status indicators. On average, compared to its 78 municipalities PR was within the 5.0% of values with the lowest scoring, ranked in the position number 78 with a z-score value of -6.84. When looking closely at the data, the five municipalities with the higher ranking (and potentially higher need for intervention and primary care services) were: Culebra with a marked z-score value of 24.13, followed by Maunabo (8.50), Guánica (6.80), Arroyo (5.77), and Santa Isabel (5.71). While, the five municipalities with lower priority were: Dorado (-7.30), Cidra (-6.48), Camuy (-5.76), Comerío (-5.27) and Lares (-4.77). See Table 7 for more details.
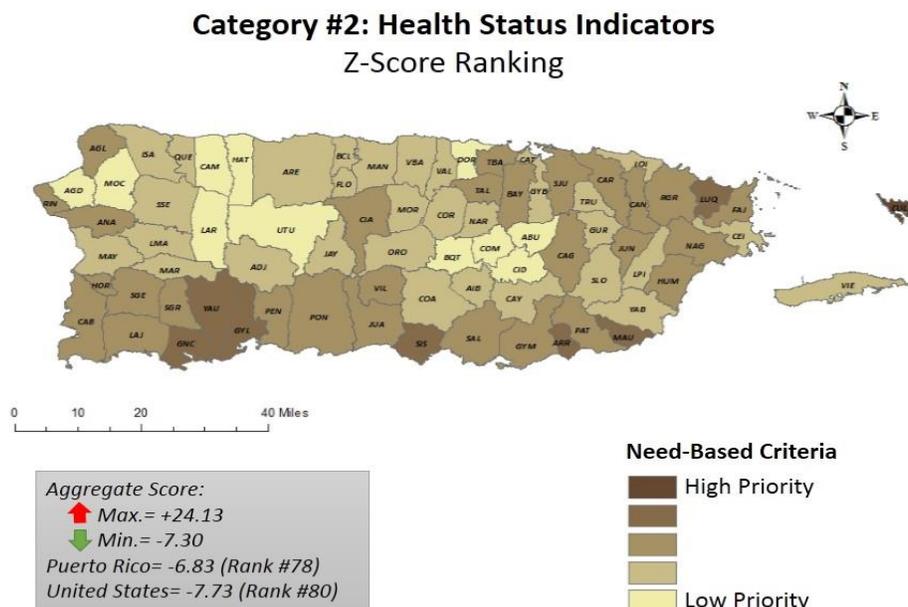
Figure 45: Category #2- Health Status Indicators Ranking

9.3 Service Area Ranking by Aggregate Health Access Indicators Score

To rank Puerto Rico service areas by the cumulative scores of the last category, six (6) indicators were selected from the health care access indicators described previously in Section 6:

- ❖ Percent of Population Below 200% of FPL,
- ❖ Percent of Population Uninsured,
- ❖ Low Birth Weight Rate,
- ❖ Children (19 to 35 month old) not receiving recommended immunizations,

- ❖ Elderly Population not receiving the flu shot, and
- ❖ Percent of Population with a Disability

Similarly to the others two category, the main criterion for choosing these indicators was Puerto Rico overall value when compared to the U.S. average, additionally to HP2020 benchmarks. For instance, even though the uninsured rate (%) for Puerto Rico is lower than in United States, the indicator still doesn't meet Healthy People 2020 target, explaining its inclusion in the prioritization analysis. For the case of poverty rate (%), including both indicators (below 100% and 200% FPL) can potentially introduce an overestimation of the need or risk of the municipalities. Thus, poverty below 100% FPL was excluded from the analysis to avoid this effect.

In contrast with the other categories, in this one PR was ranked #39, within the 48.8% of municipalities with the higher aggregate z-scores values (0.26). The following map shows the ranking of PR municipalities by their aggregate z-scores based on the six selected health access indicators. A better look at the data revealed the top five municipalities with higher health care access need, these are: Guánica (4.94), Isabela (3.69), Canóvanas (3.41), Aguas Buenas (3.21) and Cayey (3.05). Whereas, the municipalities with the lower priority regarding health care access are: Vieques (-4.42), Corozal (-4.05), Maricao (-3.83), Ceiba (-3.45) and Barranquitas (-3.14). See Table 7 for more details.

Figure 46: Category #3- Health Access Indicators Ranking

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9.4 Service Area Ranking by Aggregate Total Health Indicators Score

To establish a final ranking of the municipalities and to highlight those top 10 with the greatest primary health care needs, a final overall score was computed by aggregating the z-scores values for each of the total nineteen (19) indicators used in the scoring methodology.

The following table shows the top 10 municipalities with higher scores and thus ranking from the prioritization process of the service areas by the established need-based criteria for each of the three (3) selected categories and by the computed overall score:

Table 5: Top 10 Service Area Ranking by the Categories of Socio-Demographic, Health Status, Health Access and Total Health Indicators Score

Rank #	Socio-Demographic	Health Status	Health Access	Overall Score
1	Las Marías	Culebra	Guánica	Culebra
2	Guánica	Maunabo	Isabela	Guánica
3	Lajas	Guánica	Canóvanas	Maunabo
4	San Sebastián	Arroyo	Aguas Buenas	Yauco
5	Adjuntas	Santa Isabel	Cayey	Santa Isabel
6	Ciales	Yauco	Aguadilla	Salinas
7	Lares	Luquillo	Vega Baja	Arroyo
8	Salinas	Guayanilla	Loíza	Guayanilla
9	Maricao	San Germán	Luquillo	Luquillo
10	Peñuelas	Fajardo	Moca	Peñuelas

When comparing the ranking between the different selected categories and the overall score, we can see that there are municipalities repeated in two or more groups such as Guánica, Salinas, Culebra, Peñuelas, and Yauco; suggesting possible need and higher risk in each group.

Regarding Puerto Rico's overall ranking, in general it was among the 5.0% of the municipalities with the lowest scores except for the category of Health Access. In this category Puerto Rico score was ranked #39 and positioned among the municipalities with higher z-scores values (0.26). See Table 7 and Figure 47 for more details.

9.5 Top 10 High Priority Municipalities Profiles

In the next sections, we present a profile of the top 10 service areas with the most primary care unmet needs based on the overall scoring process to fulfill the purpose of this study. In this profile are included the core measures or health indicators used throughout this PCNA along with their rank among the 78 municipalities (from the highest to the lowest value) and identified strengths, challenges and important highlights for each of these top priorities municipalities.

Service Area- Culebra

Core Measures	Value	Rank (1-78)	PR	U.S.
Socio-Demographic Profile				
Overall Population	1,585	78	3,638,965	314,107,084
Female Population (%)	42.2	78	52.1	50.8
Male Population (%)	57.8	1	47.9	49.2
Population Under 5 years (%)	6.4	3	5.6	6.4
Elderly Population (%)	14.8	45	16.0	13.7
Median Household Income ($)	18,167	30	19,686	53,482
Unemployment Rate (%)	6.9	77	13.9	6.2
Adults (25 years and over) with No High School Diploma (%)	39.2	8	28.1	13.7
Health Status Profile (Health Outcomes)				
Teenage Births (%)	10.5	76	14.4	24.2
All Cancer Sites Incidence Rate (per 100,000)	335.7	6	314.4	454.8
Female Breast Cancer Incidence Rate (per 100,000)	ND	ND	80.5	124.3
Colon and Rectum Cancer Incidence Rate (per 100,000)	73.6	1	38.4	42.5
Prostate Cancer Incidence Rate (per 100,000)	145.2	26	141.9	137.9
HIV Incidence Rate (per 100,000)	110	1	16.7	ND
Primary and Secondary Syphilis Incidence Rate (per 100,000)	0.0	65	13.4	6.3
Total Syphilis Incidence Rate (per 100,000)	164.1	1	26.6	20.1
Preterm Births Rate (%)	15.8	10	11.8	11.4
Alzheimer Services Utilization (frequency)	15	/	34,438	ND
Cancer Mortality Rate (per 100,000)	218	1	117.5	163.2
Heart Disease Mortality Rate (per 100,000)	195.7	2	114.4	169.8
Diabetes Mortality Rate (per 100,000)	38.8	77	70.5	21.2
Infant Mortality Rate (per 1,000 live births)	16.0	2	8.2	6.0
Suicide Mortality Rate (per 100,000)	0.0	65	6.9	13.0
Health Care Access Profile				
Population Below 100% FPL (%)	43.91	61	45.2	15.6
Population Below 200% FPL (%)	79.37	40	73.5	34.5
Population Uninsured (%)	10.2	5	7.2	14.2
Early Entry Into Prenatal Care (%)	89.5	4	83.4	70.8
Late Entry Into Prenatal Care (%)	0.0	76	1.8	4.1
Low Birth Weight Infants (%)	15.8	4	10.8	8.0
Unvaccinated children (%)	27.5	69	43.6	28.4
Unvaccinated elderly (%)	93.6	8	85.0	ND
Population with a Disability (%)	7.6	78	20.9	12.3
Homeless Population (count)	0.0	/	4,518	ND

ND= No data available

Overall Rank: 1

Socio-Demographic Rank: 41
Health Status Rank: 1
Health Access Rank: 18

Service Area MAP Image:

Health Professional Shortage Area Designations (HPSAs):

- ❖ Primary Care: No
- ❖ Mental Health Care: No
- ❖ Dental Care: No

Strengths:

- ❖ Low unemployment rate
- ❖ Low percent of teen births.
- ❖ Low Diabetes mortality rate.
- ❖ High percent of early entry into prenatal care.
- ❖ No deaths for suicide in 2015.
- ❖ No primary and secondary syphilis incidence

Challenges:

- ❖ High percent of adults without High School Diploma.
- ❖ High heart, cancer, and infant mortality rate.
- ❖ High percent of preterm births.

Highlights:

- ❖ Has a 330 health center.
- ❖ Lowest percent of people with a disability.
- ❖ Highest colon and rectum cancer incidence rate.
- ❖ Highest HIV and total syphilis incidence rate.
- ❖ Lowest overall and female population.
- ❖ No homeless count for the Point in Time Survey.

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Service Area- Guánica				
Core Measures	**Value**	**Rank (1-78)**	**PR**	**U.S.**
Socio-Demographic Profile				
Overall Population	18,627	67	3,638,965	314,107,084
Female Population (%)	51.7	31	52.1	50.8
Male Population (%)	48.3	43	47.9	49.2
Population Under 5 years (%)	5.9	28	5.6	6.4
Elderly Population (%)	18.2	9	16.0	13.7
Median Household Income ($)	13,635	74	19,686	53,482
Unemployment Rate (%)	24.8	3	13.9	6.2
Adults (25 years and over) with No High School Diploma (%)	34.1	24	28.1	13.7
Health Status Profile (Health Outcomes)				
Teenage Births (%)	18.4	10	14.4	24.2
All Cancer Sites Incidence Rate (per 100,000)	260	74	314.4	454.8
Female Breast Cancer Incidence Rate (per 100,000)	73.8	41	80.5	124.3
Colon and Rectum Cancer Incidence Rate (per 100,000)	42.4	15	38.4	42.5
Prostate Cancer Incidence Rate (per 100,000)	93.7	75	141.9	137.9
HIV Incidence Rate (per 100,000)	11.2	41	16.7	ND
Primary and Secondary Syphilis Incidence Rate (per 100,000)	0.0	65	13.4	6.3
Total Syphilis Incidence Rate (per 100,000)	32.7	13	26.6	20.1
Preterm Births Rate (%)	20.3	3	11.8	11.4
Alzheimer Services Utilization (frequency)	183	/	34,438	ND
Cancer Mortality Rate (per 100,000)	108.4	52	117.5	163.2
Heart Disease Mortality Rate (per 100,000)	179	4	114.4	169.8
Diabetes Mortality Rate (per 100,000)	112	3	70.5	21.2
Infant Mortality Rate (per 1,000 live births)	9.3	20	8.2	6.0
Suicide Mortality Rate (per 100,000)	10.7	12	6.9	13.0
Health Care Access Profile				
Population Below 100% FPL (%)	64.36	1	45.2	15.6
Population Below 200% FPL (%)	89.52	1	73.5	34.5
Population Uninsured (%)	6.8	27	7.2	14.2
Early Entry Into Prenatal Care (%)	86	23	83.4	70.8
Late Entry Into Prenatal Care (%)	2.4	15	1.8	4.1
Low Birth Weight Infants (%)	19.8	1	10.8	8.0
Unvaccinated children (%)	26.0	75	43.6	28.4
Unvaccinated elderly (%)	80.2	57	85.0	ND
Population with a Disability (%)	28.5	6	20.9	12.3
Homeless Population (Count)	14	/	4,518	ND
				ND= No data available

Overall Rank: 2

Socio-Demographic Rank: 2
Health Status Rank: 3
Health Access Rank: 1

Service Area MAP Image:

Health Professional Shortage Area Designations (HPSAs):

- ❖ Primary Care: No
- ❖ Mental Health Care: No
- ❖ Dental Care: No

Strengths:

- ❖ Low total cancer incidence.
- ❖ Low prostate cancer incidence.
- ❖ Low percent of unvaccinated children.
- ❖ No primary and secondary syphilis incidence

Challenges:

- ❖ High rate of preterm births.
- ❖ High heart disease and diabetes mortality rate.
- ❖ High percent of population with a disability, especially elderly (58.6%).

Highlights:

- ❖ Has a 330 health center.
- ❖ Highest percent of low birth weight infants.
- ❖ Highest percentage of population below 100% and 200% federal poverty level.
- ❖ Doesn't have a MUA designation.

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Service Area- Maunabo				
Core Measures	Value	Rank (1-78)	PR	U.S.
Socio-Demographic Profile				
Overall Population	11,904	74	3,638,965	314,107,084
Female Population (%)	50.6	67	52.1	50.8
Male Population (%)	49.4	10	47.9	49.2
Population Under 5 years (%)	5.8	38	5.6	6.4
Elderly Population (%)	17.1	18	16.0	13.7
Median Household Income ($)	17,866	33	19,686	53,482
Unemployment Rate (%)	21.4	14	13.9	6.2
Adults (25 years and over) with No High School Diploma (%)	34.9	20	28.1	13.7
Health Status Profile (Health Outcomes)				
Teenage Births (%)	29.8	2	14.4	24.2
All Cancer Sites Incidence Rate (per 100,000)	312.8	30	314.4	454.8
Female Breast Cancer Incidence Rate (per 100,000)	66.7	56	80.5	124.3
Colon and Rectum Cancer Incidence Rate (per 100,000)	34.6	54	38.4	42.5
Prostate Cancer Incidence Rate (per 100,000)	226.9	2	141.9	137.9
HIV Incidence Rate (per 100,000)	43.2	2	16.7	ND
Primary and Secondary Syphilis Incidence Rate (per 100,000)	0.0	65	13.4	6.3
Total Syphilis Incidence Rate (per 100,000)	8.5	67	26.6	20.1
Preterm Births Rate (%)	14.5	15	11.8	11.4
Alzheimer Services Utilization (frequency)	110	/	34,438	ND
Cancer Mortality Rate (per 100,000)	79.3	73	117.5	163.2
Heart Disease Mortality Rate (per 100,000)	145.3	11	114.4	169.8
Diabetes Mortality Rate (per 100,000)	95.2	9	70.5	21.2
Infant Mortality Rate (per 1,000 live births)	12.6	6	8.2	6.0
Suicide Mortality Rate (per 100,000)	8.4	22	6.9	13.0
Health Care Access Profile				
Population Below 100% FPL (%)	56.3	17	45.2	15.6
Population Below 200% FPL (%)	81.28	32	73.5	34.5
Population Uninsured (%)	5.2	55	7.2	14.2
Early Entry Into Prenatal Care (%)	80.9	60	83.4	70.8
Late Entry Into Prenatal Care (%)	2.3	20	1.8	4.1
Low Birth Weight Infants (%)	13	16	10.8	8.0
Unvaccinated children (%)	30	63	43.6	28.4
Unvaccinated elderly (%)	91.9	18	85.0	ND
Population with a Disability (%)	21.2	42	20.9	12.3
Homeless Population (Count)	6	/	4,518	ND
				ND= No data available

Overall Rank: 3

Socio-Demographic Rank: 14
Health Status Rank: 2
Health Access Rank: 35

Service Area MAP Image:
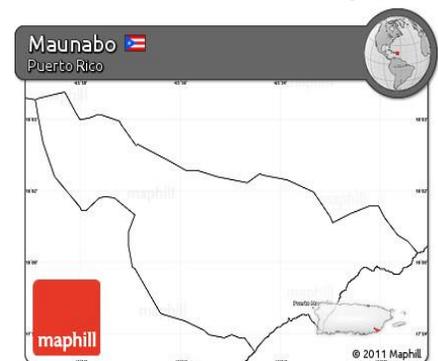
Health Care Professional Shortage Area Designations (HPSAs):

- ❖ Primary Care: Yes
- ❖ Mental Health Care: No
- ❖ Dental Care: No

Strengths:

- ❖ Low cancer mortality rate.
- ❖ No primary and secondary syphilis incidence.

Challenges:

- ❖ High percent of teen births.
- ❖ High prostate cancer incidence rate.
- ❖ High HIV incidence rate.
- ❖ High infant mortality rate.
- ❖ High diabetes mortality rate.

Highlights:

- ❖ Has a 330 health center.
- ❖ Lowering low birth weight and teen births should be a priority.

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Service Area- Yauco

Core Measures	Value	Rank (1-78)	PR	U.S.
Socio-Demographic Profile				
Overall Population	40,391	29	3,638,965	314,107,084
Female Population (%)	51.7	31	52.1	50.8
Male Population (%)	48.3	43	47.9	49.2
Population Under 5 years (%)	5.5	55	5.6	6.4
Elderly Population (%)	16.5	24	16.0	13.7
Median Household Income ($)	15,346	58	19,686	53,482
Unemployment Rate (%)	21.3	15	13.9	6.2
Adults (25 years and over) with No High School Diploma (%)	32.4	30	28.1	13.7
Health Status Profile (Health Outcomes)				
Teenage Births (%)	13.6	50	14.4	24.2
All Cancer Sites Incidence Rate (per 100,000)	298.2	45	314.4	454.8
Female Breast Cancer Incidence Rate (per 100,000)	80.2	24	80.5	124.3
Colon and Rectum Cancer Incidence Rate (per 100,000)	45.1	9	38.4	42.5
Prostate Cancer Incidence Rate (per 100,000)	114.5	61	141.9	137.9
HIV Incidence Rate (per 100,000)	5.2	66	16.7	ND
Primary and Secondary Syphilis Incidence Rate (per 100,000)	0.0	65	13.4	6.3
Total Syphilis Incidence Rate (per 100,000)	0.0	76	26.6	20.1
Preterm Births Rate (%)	23.3	1	11.8	11.4
Alzheimer Services Utilization (frequency)	330	/	34,438	ND
Cancer Mortality Rate (per 100,000)	108.3	54	117.5	163.2
Heart Disease Mortality Rate (per 100,000)	123.5	23	114.4	169.8
Diabetes Mortality Rate (per 100,000)	92.3	11	70.5	21.2
Infant Mortality Rate (per 1,000 live births)	13.7	4	8.2	6.0
Suicide Mortality Rate (per 100,000)	7.4	27	6.9	13.0
Health Care Access Profile				
Population Below 100% FPL (%)	52.12	30	45.2	15.6
Population Below 200% FPL (%)	81.16	33	73.5	34.5
Population Uninsured (%)	4.9	60	7.2	14.2
Early Entry Into Prenatal Care (%)	89.2	6	83.4	70.8
Late Entry Into Prenatal Care (%)	1.9	27	1.8	4.1
Low Birth Weight Infants (%)	16.3	2	10.8	8.0
Unvaccinated children (%)	27.1	70	43.6	28.4
Unvaccinated elderly (%)	91.7	19	85.0	ND
Population with a Disability (%)	24.4	20	20.9	12.3
Homeless Population (Count)	64	/	4,518	ND

ND= No data available

Service Area MAP Image:
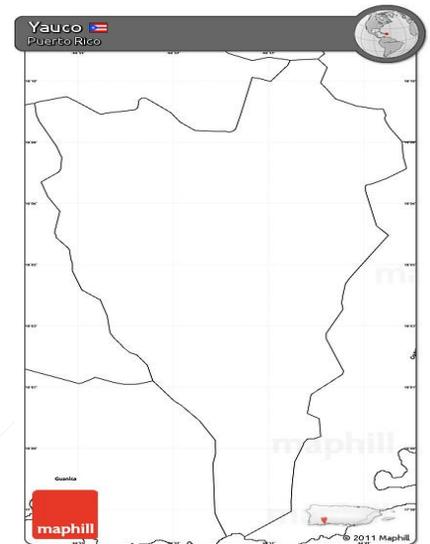
Health Professional Shortage Area Designations (HPSAs):
- ❖ Primary Care: No
- ❖ Mental Health Care: No
- ❖ Dental Care: No

Strengths:
- ❖ No syphilis incidence.
- ❖ High percent of early entry into prenatal care.
- ❖ Low percent of unvaccinated children.

Challenges:
- ❖ High colon and rectum cancer incidence rate.
- ❖ High percent of low birth weight infants
- ❖ High infant mortality rate.

Highlights:
- ❖ Has a 330 health center.
- ❖ Highest preterm births rate.

Service Area- Santa Isabel

Core Measures	Value	Rank (1-78)	PR	U.S.
Socio-Demographic Profile				
Overall Population	23,114	59	3,638,965	314,107,084
Female Population (%)	51.6	37	52.1	50.8
Male Population (%)	48.4	39	47.9	49.2
Population Under 5 years (%)	6.4	3	5.6	6.4
Elderly Population (%)	13.0	68	16.0	13.7
Median Household Income ($)	16,344	49	19,686	53,482
Unemployment Rate (%)	19.7	22	13.9	6.2
Adults (25 years and over) with No High School Diploma (%)	28.9	48	28.1	13.7
Health Status Profile (Health Outcomes)				
Teenage Births (%)	17.7	16	14.4	24.2
All Cancer Sites Incidence Rate (per 100,000)	346	4	314.4	454.8
Female Breast Cancer Incidence Rate (per 100,000)	75.8	32	80.5	124.3
Colon and Rectum Cancer Incidence Rate (per 100,000)	34.6	54	38.4	42.5
Prostate Cancer Incidence Rate (per 100,000)	208.3	3	141.9	137.9
HIV Incidence Rate (per 100,000)	13.1	35	16.7	ND
Primary and Secondary Syphilis Incidence Rate (per 100,000)	12.9	26	13.4	6.3
Total Syphilis Incidence Rate (per 100,000)	25.9	26	26.6	20.1
Preterm Births Rate (%)	12.2	35	11.8	11.4
Alzheimer Services Utilization (frequency)	156	/	34,438	ND
Cancer Mortality Rate (per 100,000)	109.8	48	117.5	163.2
Heart Disease Mortality Rate (per 100,000)	155.4	5	114.4	169.8
Diabetes Mortality Rate (per 100,000)	117.8	2	70.5	21.2
Infant Mortality Rate (per 1,000 live births)	7.4	34	8.2	6.0
Suicide Mortality Rate (per 100,000)	0.0	65	6.9	13.0
Health Care Access Profile				
Population Below 100% FPL (%)	50.8	36	45.2	15.6
Population Below 200% FPL (%)	79.1	43	73.5	34.5
Population Uninsured (%)	7.1	25	7.2	14.2
Early Entry Into Prenatal Care (%)	84.4	38	83.4	70.8
Late Entry Into Prenatal Care (%)	3.8	1	1.8	4.1
Low Birth Weight Infants (%)	11.8	31	10.8	8.0
Unvaccinated children (%)	34.4	44	43.6	28.4
Unvaccinated elderly (%)	93.2	10	85.0	ND
Population with a Disability (%)	26.1	14	20.9	12.3
Homeless Population (Count)	20	/	4,518	ND

ND= No data available

Overall Rank: 5

Socio-Demographic Rank: 28
Health Status Rank: 5
Health Access Rank: 12

Service Area MAP Image:
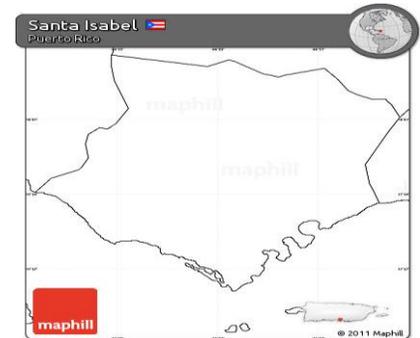
Health Care Professional Shortage Areas (HPSAs):
- ❖ Primary Care: Yes
- ❖ Mental Health Care: No
- ❖ Dental Care: No

Strengths:
- ❖ No deaths for suicide in 2015

Challenges:
- ❖ High all cancer sites and prostate cancer incidence rates.
- ❖ High heart disease and diabetes mortality rates.

Highlights:
- ❖ Has a FQHC satellite clinic.
- ❖ Has a high percent of population under 5 years and low percent of elderly.
- ❖ Highest percent of late entry into prenatal care.

Service Area- Salinas

Core Measures	Value	Rank (1-78)	PR	U.S.
Socio-Demographic Profile				
Overall Population	30,506	43	3,638,965	314,107,084
Female Population (%)	51.4	42	52.1	50.8
Male Population (%)	48.6	36	47.9	49.2
Population Under 5 years (%)	6.2	13	5.6	6.4
Elderly Population (%)	14.8	45	16.0	13.7
Median Household Income ($)	13,871	72	19,686	53,482
Unemployment Rate (%)	26.3	1	13.9	6.2
Adults (25 years and over) with No High School Diploma (%)	31.7	39	28.1	13.7
Health Status Profile (Health Outcomes)				
Teenage Births (%)	14.7	39	14.4	24.2
All Cancer Sites Incidence Rate (per 100,000)	329.2	9	314.4	454.8
Female Breast Cancer Incidence Rate (per 100,000)	66.2	59	80.5	124.3
Colon and Rectum Cancer Incidence Rate (per 100,000)	38	36	38.4	42.5
Prostate Cancer Incidence Rate (per 100,000)	194.5	5	141.9	137.9
HIV Incidence Rate (per 100,000)	16.7	20	16.7	ND
Primary and Secondary Syphilis Incidence Rate (per 100,000)	0.0	65	13.4	6.3
Total Syphilis Incidence Rate (per 100,000)	16.5	49	26.6	20.1
Preterm Births Rate (%)	9.7	69	11.8	11.4
Alzheimer Services Utilization (frequency)	142	/	34,438	ND
Cancer Mortality Rate (per 100,000)	129.4	17	117.5	163.2
Heart Disease Mortality Rate (per 100,000)	114.2	32	114.4	169.8
Diabetes Mortality Rate (per 100,000)	84.4	20	70.5	21.2
Infant Mortality Rate (per 1,000 live births)	9.9	16	8.2	6.0
Suicide Mortality Rate (per 100,000)	6.6	35	6.9	13.0
Health Care Access Profile				
Population Below 100% FPL (%)	58.27	10	45.2	15.6
Population Below 200% FPL (%)	81.59	30	73.5	34.5
Population Uninsured (%)	7.3	21	7.2	14.2
Early Entry Into Prenatal Care (%)	85.3	28	83.4	70.8
Late Entry Into Prenatal Care (%)	0.9	62	1.8	4.1
Low Birth Weight Infants (%)	10.3	50	10.8	8.0
Unvaccinated children (%)	41.6	30	43.6	28.4
Unvaccinated elderly (%)	96.3	2	85.0	ND
Population with a Disability (%)	20.7	44	20.9	12.3
Homeless Population (Count)	5	/	4,518	ND

ND= No data available

Overall Rank: 6
Socio-Demographic Rank: 8
Health Status Rank: 12
Health Access Rank: 14

Service Area MAP Image:
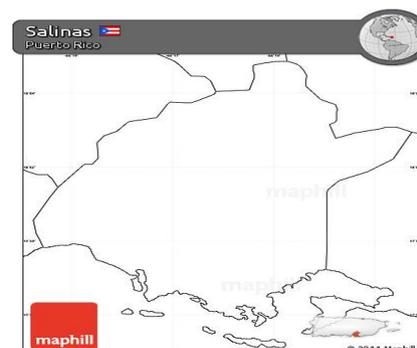
Health Care Professional Shortage Area Designations (HPSAs):
- Primary Care: No
- Mental Health Care: No
- Dental Care: No

Strengths:
- Low percent of preterm births.
- No primary and secondary incidence.

Challenges:
- Low median household income.
- High percent of population below 100% FPL.
- High percent of unvaccinated elderly.
- High all cancer sites and prostate cancer incidence rates.

Highlights:
- Highest unemployment rate.
- Has a 330 health center satellite.

Service Area- Arroyo

Core Measures	Value	Rank (1-78)	PR	U.S.
Socio-Demographic Profile				
Overall Population	19,225	64	3,638,965	314,107,084
Female Population (%)	53.0	5	52.1	50.8
Male Population (%)	47.0	72	47.9	49.2
Population Under 5 years (%)	6.3	8	5.60	6.40
Elderly Population (%)	14.9	42	16.0	13.7
Median Household Income ($)	15,863	53	19,686	53,482
Unemployment Rate (%)	23.2	6	13.9	6.2
Adults (25 years and over) with No High School Diploma (%)	28.0	54	28.1	13.7
Health Status Profile (Health Outcomes)				
Teenage Births (%)	14.0	46	14.4	24.2
All Cancer Sites Incidence Rate (per 100,000)	315.7	25	314.4	454.8
Female Breast Cancer Incidence Rate (per 100,000)	47.6	74	80.5	124.3
Colon and Rectum Cancer Incidence Rate (per 100,000)	33.7	60	38.4	42.4
Prostate Cancer Incidence Rate (per 100,000)	231.1	1	141.9	137.9
HIV Incidence Rate (per 100,000)	10.6	43	16.7	ND
Primary and Secondary Syphilis Incidence Rate (per 100,000)	5.2	56	13.4	6.3
Total Syphilis Incidence Rate (per 100,000)	5.2	72	26.6	20.1
Preterm Births Rate (%)	12.9	24	11.8	11.4
Alzheimer Services Utilization (frequency)	181	/	34,438	ND
Cancer Mortality Rate (per 100,000)	169.1	2	117.5	163.2
Heart Disease Mortality Rate (per 100,000)	180.2	3	114.4	169.8
Diabetes Mortality Rate (per 100,000)	89.2	15	70.5	21.2
Infant Mortality Rate (per 1,000 live births)	10.7	11	8.2	6.0
Suicide Mortality Rate (per 100,000)	0.0	65	6.9	13.0
Health Care Access Profile				
Population Below 100% FPL (%)	51.7	32	45.25	73.45
Population Below 200% FPL (%)	86.9	5	15.59	34.54
Population Uninsured (%)	4.8	63	7.2	14.2
Early Entry Into Prenatal Care (%)	84.8	33	83.4	70.8
Late Entry Into Prenatal Care (%)	1.2	49	1.8	4.1
Low Birth Weight Infants (%)	11.7	32	10.8	8.0
Unvaccinated children (%)	31.3	60	43.6	28.4
Unvaccinated elderly (%)	81.9	53	85.0	ND
Population with a Disability (%)	23.6	23	20.9	12.3
Homeless Population (Count)	6	/	4,518	ND
				ND= No data available

Overall Rank: 7

Socio-Demographic Rank: 16
Health Status Rank: 4
Health Access Rank: 41

Service Area MAP Image:

Health Care Professional Shortage Areas (HPSAs):
- ❖ Primary Care: Yes
- ❖ Mental Health Care: No
- ❖ Dental Care: No

Strengths:
- ❖ Low female breast cancer incidence rate.
- ❖ Low percent of uninsured population.
- ❖ Low total syphilis incidence rate.
- ❖ No deaths for suicide in 2015

Challenges:
- ❖ High heart disease and cancer mortality rates.
- ❖ High unemployment rate and percent of population below 200% FPL.

Highlights:
- ❖ Has a 330 health center.
- ❖ High percent of female population and population under 5 years of age.
- ❖ Highest prostate cancer incidence rate.

2015 Puerto Rico Primary Care Needs Assessment

Service Area- Guayanilla				
Core Measures	**Value**	**Rank (1-78)**	**PR**	**U.S.**
Socio-Demographic Profile				
Overall Population	20,862	61	3,638,965	314,107,084
Female Population (%)	51.7	31	52.1	50.8
Male Population (%)	48.3	43	47.9	49.2
Population Under 5 years (%)	6.0	20	5.6	6.4
Elderly Population (%)	15.8	32	16.0	13.7
Median Household Income ($)	15,483	56	19,686	53,482
Unemployment Rate (%)	21.6	12	13.9	6.2
Adults (25 years and over) with No High School Diploma (%)	31.8	36	28.1	13.7
Health Status Profile (Health Outcomes)				
Teenage Births (%)	13.3	57	14.4	24.2
All Cancer Sites Incidence Rate (per 100,000)	310.2	34	314.4	454.8
Female Breast Cancer Incidence Rate (per 100,000)	78.5	27	80.5	124.3
Colon and Rectum Cancer Incidence Rate (per 100,000)	41.1	23	38.4	42.5
Prostate Cancer Incidence Rate (per 100,000)	127.9	45	141.9	137.9
HIV Incidence Rate (per 100,000)	14.9	26	16.7	ND
Primary and Secondary Syphilis Incidence Rate (per 100,000)	4.8	57	13.4	6.3
Total Syphilis Incidence Rate (per 100,000)	19.4	40	26.6	20.1
Preterm Births Rate (%)	18.1	5	11.8	11.4
Alzheimer Services Utilization (frequency)	156	/	34,438	ND
Cancer Mortality Rate (per 100,000)	150.2	5	117.5	163.2
Heart Disease Mortality Rate (per 100,000)	109.5	41	114.4	169.8
Diabetes Mortality Rate (per 100,000)	122.0	1	70.5	21.2
Infant Mortality Rate (per 1,000 live births)	8.2	27	8.2	6.0
Suicide Mortality Rate (per 100,000)	9.6	18	6.9	13.0
Health Care Access Profile				
Population Below 100% FPL (%)	54.3	21	45.2	15.59
Population Below 200% FPL (%)	82.9	22	73.45	34.54
Population Uninsured (%)	4.5	65	7.2	14.2
Early Entry Into Prenatal Care (%)	88.6	10	83.4	70.8
Late Entry Into Prenatal Care (%)	1.0	58	1.8	4.1
Low Birth Weight Infants (%)	13.8	9	10.8	8.0
Unvaccinated children (%)	23.2	76	43.6	28.4
Unvaccinated elderly (%)	93.1	11	85	ND
Population with a Disability (%)	19.8	50	20.9	12.3
Homeless Population (Count)	30	/	4518	ND

ND= No data available

Overall Rank: 8
Socio-Demographic Rank: 15
Health Status Rank: 8
Health Access Rank: 40

Service Area MAP Image:
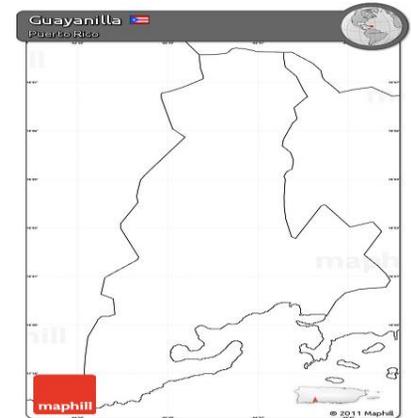
Health Care Professional Shortage Areas (HPSAs):
- ❖ Primary Care: No
- ❖ Mental Health Care: No
- ❖ Dental Care: No

Strengths:
- ❖ Low percent of unvaccinated children.
- ❖ High early entry into prenatal care.

Challenges:
- ❖ High cancer mortality rate.
- ❖ High preterm births rate.
- ❖ High percent of low birth weight births.
- ❖ High unemployment rate.

Highlights:
- ❖ Doesn't have a MUA designation.
- ❖ Highest diabetes mortality rate.

Service Area- Luquillo				
Core Measures	Value	Rank (1-78)	PR	U.S.
Socio-Demographic Profile				
Overall Population	19,731	63	3,638,965	314,107,084
Female Population (%)	52.7	9	52.1	50.8
Male Population (%)	47.3	69	47.9	49.2
Population Under 5 years (%)	5.7	42	5.6	6.4
Elderly Population (%)	16.7	20	16.0	13.7
Median Household Income ($)	18,256	28	19,686	53,482
Unemployment Rate (%)	19.1	23	13.9	6.2
Adults (25 years and over) with No High School Diploma (%)	25.1	66	28.1	13.7
Health Status Profile (Health Outcomes)				
Teenage Births (%)	18.3	12	14.4	24.2
All Cancer Sites Incidence Rate (per 100,000)	322.0	13	314.4	454.8
Female Breast Cancer Incidence Rate (per 100,000)	80.9	21	80.5	124.3
Colon and Rectum Cancer Incidence Rate (per 100,000)	34.2	57	38.4	42.5
Prostate Cancer Incidence Rate (per 100,000)	197.7	4	141.9	137.9
HIV Incidence Rate (per 100,000)	36.0	6	16.7	ND
Primary and Secondary Syphilis Incidence Rate (per 100,000)	15.3	15	13.4	6.3
Total Syphilis Incidence Rate (per 100,000)	40.7	5	26.6	20.1
Preterm Births Rate (%)	12.2	35	11.8	11.4
Alzheimer Services Utilization (frequency)	193	/	34,438	ND
Cancer Mortality Rate (per 100,000)	114.2	41	117.5	163.2
Heart Disease Mortality Rate (per 100,000)	110.8	39	114.4	169.8
Diabetes Mortality Rate (per 100,000)	85.3	19	70.5	21.2
Infant Mortality Rate (per 1,000 live births)	7.6	32	8.2	6.0
Suicide Mortality Rate (per 100,000)	5.1	44	6.9	13.0
Health Care Access Profile				
Population Below 100% FPL (%)	44.7	57	45.2	15.59
Population Below 200% FPL (%)	74.3	62	73.45	34.54
Population Uninsured (%)	7.9	13	7.2	14.2
Early Entry Into Prenatal Care (%)	82.7	49	83.4	70.8
Late Entry Into Prenatal Care (%)	3.0	9	1.8	4.1
Low Birth Weight Infants (%)	11.2	39	10.8	8.0
Unvaccinated children (%)	46.3	20	43.6	28.4
Unvaccinated elderly (%)	95.4	3	85	ND
Population with a Disability (%)	23.0	29	20.9	12.3
Homeless Population (Count)	7	/	4518	ND
				ND= No data available

Overall Rank: 9

Socio-Demographic Rank: 45
Health Status Rank: 7
Health Access Rank: 9

Service Area MAP Image:

Health Care Professional Shortage Areas (HPSAs):

- ❖ Primary Care: No
- ❖ Mental Health Care: No
- ❖ Dental Care: No

Strengths:

- ❖ Low percent of adults without high school diploma.

Challenges:

- ❖ High HIV and Total Syphilis incidence rate.
- ❖ High prostate cancer incidence rate.
- ❖ High late entry into prenatal care.
- ❖ High percent of unvaccinated elderly.

Highlights:

- ❖ High percent of female population.
- ❖ Over a half (59.3%) of the elderly population had a disability for 2010-2014 period.

Service Area- Peñuelas

| Core Measures	Value	Rank (1-78)	PR	U.S.
Socio-Demographic Profile				
Overall Population	23,307	58	3,638,965	314,107,084
Female Population (%)	51.1	53	52.1	50.8
Male Population (%)	48.9	20	47.9	49.2
Population Under 5 years (%)	6.8	1	5.6	6.4
Elderly Population (%)	12.6	72	16.0	13.7
Median Household Income ($)	15,506	55	19,686	53,482
Unemployment Rate (%)	21.0	17	13.9	6.2
Adults (25 years and over) with No High School Diploma (%)	34.0	25	28.1	13.7
Health Status Profile (Health Outcomes)				
Teenage Births (%)	13.7	48	14.4	24.2
All Cancer Sites Incidence Rate (per 100,000)	309.1	36	314.4	454.8
Female Breast Cancer Incidence Rate (per 100,000)	71.7	47	80.5	124.3
Colon and Rectum Cancer Incidence Rate (per 100,000)	42.8	11	38.4	42.5
Prostate Cancer Incidence Rate (per 100,000)	157.6	15	141.9	137.9
HIV Incidence Rate (per 100,000)	4.5	69	16.7	ND
Primary and Secondary Syphilis Incidence Rate (per 100,000)	4.4	58	13.4	6.3
Total Syphilis Incidence Rate (per 100,000)	17.4	47	26.6	20.1
Preterm Births Rate (%)	16.2	9	11.8	11.4
Alzheimer Services Utilization (frequency)	143	/	34,438	ND
Crude Mortality Rate (per 100,000)	655.9	62	797.4	821.5
Cancer Mortality Rate (per 100,000)	99.2	61	117.5	163.2
Heart Disease Mortality Rate (per 100,000)	139.1	12	114.4	169.8
Diabetes Mortality Rate (per 100,000)	82.6	23	70.5	21.2
Infant Mortality Rate (per 1,000 live births)	5.4	59	8.2	6.0
Suicide Mortality Rate (per 100,000)	0.0	65	6.9	13.0
Health Care Access Profile				
Population Below 100% FPL (%)	60.9	3	45.2	15.59
Population Below 200% FPL (%)	86.8	6	73.45	34.54
Population Uninsured (%)	4.3	68	7.2	14.2
Early Entry Into Prenatal Care (%)	79.5	70	83.4	70.8
Late Entry Into Prenatal Care (%)	3.6	2	1.8	4.1
Low Birth Weight Infants (%)	14.4	8	10.8	8.0
Unvaccinated children (%)	32.2	54	43.6	28.4
Unvaccinated elderly (%)	93.8	6	85	33.3
Population with a Disability (%)	17.2	63	20.9	12.3
Homeless Population (Count)	4	/	4518	ND
				ND= No data available

Overall Rank: 10

Socio-Demographic Rank:10
Health Status Rank: 14
Health Access Rank: 25

Service Area MAP Image:
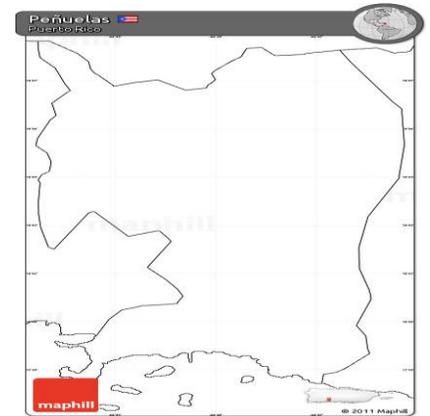
Health Care Professional Shortage Areas (HPSAs):
❖ Primary Care: No
❖ Mental Health Care: No
❖ Dental Care: No

Strengths:
❖ Low HIV incidence rate.
❖ Low homeless population count.
❖ No deaths for suicide in 2015

Challenges:
❖ High preterm births rate.
❖ High percent of population below 100% and 200% FPL.
❖ High percent of late entry into prenatal care and low birth weight infants.
❖ High percent of unvaccinated elderly population.

Highlights:
❖ Has a FQHC satellite clinic.
❖ Highest percent of population aged under 5 years.
❖ Low percent of elderly population.

SECTION 10: Conclusions, Limitations & Recommendations

10.1 Summary of Major Findings and Conclusions

Key Socio-Demographic characteristics of PR population:

- ❖ Puerto Rico is a Commonwealth composed of a large female population (52.1%), similarly to United States.
- ❖ Puerto Rico has a greater percentage of elderly population aged over 65 years compared to United States.
- ❖ The population trend is declining while the median age is increasing.
- ❖ With a median household income of $19,686, significantly lower than the U.S. average, $53,482. Even the municipalities with the higher income had considerably lower income than the U.S.
- ❖ In terms of unemployment rate, PR has more than double percent of people aged 16 and older unemployed than the federal average.
- ❖ As of 2014, 28.1% of adults (population 25 years and over) have not completed high school, including its equivalency.
- ❖ There was a lower observed unemployment rate, higher income and lower percent of adults without high school diploma in the municipalities located in the metropolitan area.
- ❖ Top 5 Municipalities with potentially higher socio-demographic priority or risk were: Las Marías, Guánica, Lajas, San Sebastián and Adjuntas.

Key Health Status Characteristics:

- ❖ PR had a lower all cancer sites incidence rate than U.S.
- ❖ All municipalities had a lower female breast cancer incidence than the U.S. average.
- ❖ The prostate cancer incidence rate was considerably higher than the federal average.
- ❖ The incidence of HIV and STD (specifically Syphilis) exceeded the U.S average.
- ❖ As of 2014, Puerto Rico had a preterm birth rate of 11.8 per each 100 live births and an infant mortality rate of 8.2 deaths per 1,000 live births; higher than the U.S. counterpart.
- ❖ Cancer mortality was the only one which did not exceed U.S. value, even though there were municipalities which surpassed this value.
- ❖ Diabetes mortality within all municipalities in Puerto Rico exceeded the U.S. average. It's important to point out that though Puerto Rico's death rate for Diabetes Mellitus is noticeably higher than the U.S., this could be due to the fact that most of its population is Hispanic therefore have a higher risk for type 2 diabetes. [26]
- ❖ Top 5 Municipalities with potentially higher health status priority or risk were: Culebra, Maunabo, Yauco, Guánica and Santa Isabel.

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[26] CDC National diabetes fact sheet: national estimates and general information on diabetes and pre-diabetes in the U.S., 2011. Retrieved from: http://www.cdc.gov/diabetes/pubs/pdf/ndfs_2011.pdf

Key Health Access Characteristics:

❖ A high percentage of the population is living below the federal poverty level, almost half (45.3%) is living below 100% FPL.

❖ The 78 municipalities had lower percent of uninsured population comparing to the U.S. average.

❖ A low percent of late prenatal care was observed (1.8%); even the municipalities with the higher percent of late prenatal care had lower proportions than the U.S. average.

❖ It was observed a 10.8% of low birth weight infants; which is higher than the U.S average.

❖ When compared to U.S. almost double percent of Puerto Rico population have a disability, 12.3% and 20.9%, respectively. Especially, more than half of the elderly population (51.0%) have a disability in PR for 2010-2014 Census estimates.

❖ Top 5 Municipalities with potentially higher health access priority or risk were: Guánica, Isabela, Canóvanas, Aguas Buenas and Cayey.

Key Survey findings:

❖ All groups of stakeholders (community health centers, non-profit health organizations, professional associations and the academic institutions) agreed that Puerto Rico is facing major health challenges due to health professional's shortage.

❖ Most of them believed that unfair economic remuneration could be the cause of the health professionals' shortage. Also, stakeholders concurred that unfair remuneration is causing a constant exodus of health care professionals seeking better job opportunities.

❖ According to participants, Puerto Rican population usually wait over a week between the day they request an appointment and the date they finally get it, and this waiting time is more frequent for uninsured population.

❖ There was a clear consensus about that collaboration between State partners and other stakeholders is needed to improve and fulfill the primary care and public health needs in PR (See Section 8.4).

Key Barriers and Challenges:

❖ The major identified barriers to primary care services were: access to health services; health insurance coverage; health professionals' shortage; lack of knowledge and health literacy; transportation, mobility and distance to health services; and economic resources and high costs of services.

❖ The top 10 municipalities with potentially higher need for intervention and for primary health care services by the final overall health indicators score were: (listed alphabetically)
   o Arroyo
   o Culebra
   o Guánica
   o Guayanilla
   o Luquillo
   o Maunabo
   o Peñuelas
   o Salinas
   o Santa Isabel
   o Yauco

10.2 Limitations and Lessons Learned

10.2a Limitations

This PCNA is subject to limitations of the methods for prioritization, selection of core indicators and ranking top priorities municipalities. The three categories to which core indicators were assigned are not truly independent of each other, and the scoring system used might not be taking into account others dimensions of health care or different data periods and years available. The number of indicators available for each category varied, so the impact of a given indicator on the final scoring for a category might be greater if fewer indicators and/or comparisons were available. Nonetheless, this PCNA utilized an extensive data set, derived from the best-available and reliable data sources.

Despite, the multiple efforts to obtain a higher response rate from the surveys distributed to CHC's, Non-Profit Health-Related Organizations, Academic Institutions and Professional Associations; it remained between 45-60%.

10.2b Lessons Learned

While there are many areas of needs and improvements, there are also innumerable assets and continuous efforts for collaboration to enhance health in PR. Some of the main lessons learned, resolutions and/or action taken were:

- ❖ To obtain most updated statistics, the PCO contacted and requested data across different sources including PR-DOH programs, non-profit organizations and governmental agencies.
- ❖ For a higher response rate, decrease response time and to expedite the process of organizing data, the surveys for non-profit health-related organizations, professional associations and the academic institutions were administered using an online platform. This enabled the staff to have a better data management and control of the data collection process; to distinguish those who completed the survey and those who answered partially, facilitating the monitoring process during the winter holidays.
- ❖ In addition, the PCO staff sent frequently reminders through follow-ups emails and phone calls and provided technical assistance and support in case of questions or problems completing the surveys.

Regardless of the limitations, this report provides a picture of the health status, unmet primary health care needs and key barriers and challenges to health in PR. Showing that this PCNA report can be a powerful tool not only to ensure provision of essential public health services, but to enhance health planning, identification of geographic health disparities, and deployment and evaluation of health care resources, in an effort to improve the accessibility and quality of care for underserved and vulnerable populations in PR.

10.3 Recommendations

The PCO presents various recommendations and sets priorities by looking for cross-cutting strategic issues that emerged from data analyses. Although the indicators' data provided a good starting point to determine where attention should be focused, the surveys and meetings with the stakeholders offered in depth and breadth on the important topics identified throughout the assessment.

The following are recommendations to address the needs outlined throughout the PCNA taking into account four major identified priority areas: *Collaboration, Health Access, Health Professional Shortages, and Mental Health*.

1. PR-DOH must develop and maintain strategic primary care partnerships to continue fostering collaborative relationships through the outreach and engagement of key stakeholders.
2. Health advocates must develop or improve collaborative agreements between Municipalities, Hospitals, CHC's, among others state partners and stakeholders to ensure continuity of care, to provide transportation services to patients, to educate the population and create awareness on preventive health behavior.
3. Enhance collaborations between health professionals associations, academic institutions and State agencies to improve health workforce recruitment process. Accordingly, develop an innovative plan for recruitment and retention of health professionals in collaboration with Professional Associations and Community Health Centers.
4. Continue the collection, analysis, and dissemination of health related data to leaders and stakeholders for improve information systems available to students, health professionals and support staff.
5. Accordingly, maintain a sustainable database with reliable and updated information related to students and health professionals currently working in the Island. This could be performed through a coalition aimed to monitoring and analyzing the need for health professionals in PR.
6. Provide information and guidance to community health centers, healthcare organizations and other key stakeholders regarding programs directed to increase the health workforce in Puerto Rico such as the NHSC programs and J-1 Visa Waiver/ Conrad 30.
7. Promote opportunities for discussion of issues regarding access to sustainability, affordability and quality of mental care between programs leading mental health services in Puerto Rico, health centers and other stakeholders. As possible issues for discuss:
   o Strengthen mental health services to prevent unnecessary hospitalizations and focusing on the concept of primary care physician. Working with the primary care concept, to identify people with mental health problems and prevent deterioration.
   o Integrate mental health services to preventive services as an integral part of primary care. To recover Puerto Rico's health vision aimed to primary care and the need of prevention, rather than curative medicine.
8. Addressing and reducing health disparities and promoting health equity, affordability of services and health resources in PR, through the identification of where the inequalities are situated. For instance:
   o Increasing Braille language educational material and interpreter services for populations with visual and hearing disabilities.

- o Promote and identify strategies to outreach populations who might not otherwise have access to primary care services such as homeless and immigrant population like pregnant women without health insurance afraid to visit health providers because of their legal status.
9. Develop strategies for addressing low health literacy present on particular populations and increase patient access to health information via email, phone or any other successful method, so they can improve their health literacy and knowledge.
10. Expand preventive and primary health care services in CHC's; including oral health, mental health, behavioral health, pharmacy, and/or enabling services not available at existing health center sites. Also, as a community outreach strategy, expanding Health Professional Shortage Area (HPSA) designations to create new health center sites or satellite clinics and mobile units in medically underserved areas.
11. Establish a clear physician recruitment and retention process, to attract and retain the required physicians and other health care professionals with the expertise to offer the required and needed services in PR.
    - o Support community-based efforts to recruit and retain primary care providers. Community health centers as key community assets for effective interventions and recruitment and reclusion of primary care providers.
12. Increased efforts to promote primary health careers to those professions with higher demand in PR and which are not fully supplied.

10.4 PCO Next Steps & Expectations

The PCO will use the findings from this PCNA to develop a plan for monitoring, evaluating, and implementing activities such as the recruitment and retention of primary care providers and shortage designation coordination. This PCNA report will be review annually and updated as needed, as required by HRSA, including plans to implement activities to address the needs assessed.

After needs were identified, the PCO is developing an implementation plan. The PCO staff plans to focus on certain areas that, as identified in the data collected, need strengthening or follow up. For example, new and existing Loan Repayment Programs and Scholarships for primary care professionals are still not well known by some of the interested parties. Also, one of the identified municipalities with high needs, lacks a MUA designation and most municipalities lack HPSA designation. With this in mind, PCO's next steps are:

❖ **Designations:** Monitor and asses the municipalities to review their compliance with MUA or HPSA designation requirements. Also, the PCO will facilitate the designation process of more eligible sites such as FQHC, Community Mental Health Centers (CMHC), outpatient facilities, Certified Rural Health Clinics (RHC), private practices, school-based clinics and state correctional or detention facilities which meet all the requirements for receiving the designation to be a NHSC site.

❖ **National Health Service Corps Loan Repayment Programs and Scholarships**: Promote NHSCs programs and scholarships, using more efforts focused on the outreach and engagement of primary care providers, impacting a wider range of the higher education student population and graduates.

❖ **J-1 Visa Waiver/Conrad 30:** Coordinate the implementation of J-1, Conrad 30 and other similar programs in Puerto Rico to support qualified primary health care foreigner providers dedicated to working in areas with limited access to care.

Lastly, PR-PCO will serve as a liaison between our different stakeholders to facilitate a close working relationship with people or/and organizations in its continuous efforts for collaboration to enhance health in PR.

Appendix A: Supplementary Tables

Table 6: State and Municipalities Abbreviations Used on the Maps

Municipality/State	Abbreviation
Adjuntas	ADJ
Aguada	AGD
Aguadilla	AGL
Aguas Buenas	ABU
Aibonito	AIB
Añasco	ANA
Arecibo	ARE
Arroyo	ARR
Barceloneta	BCL
Barranquitas	BQT
Bayamón	BAY
Cabo Rojo	CAB
Caguas	CAG
Camuy	CAM
Canóvanas	CAN
Carolina	CAR
Cataño	CAT
Cayey	CAY
Ceiba	CEI
Ciales	CIA
Cidra	CID
Coamo	COA
Comerío	COM
Corozal	COR
Culebra	CUL
Dorado	DOR
Fajardo	FAJ
Florida	FLO
Guánica	GNC
Guayama	GYM
Guayanilla	GYL
Guaynabo	GYB
Gurabo	GUR
Hatillo	HAT
Hormigueros	HOR
Humacao	HUM

Municipality/State	Abbreviation
Isabela	ISA
Jayuya	JAY
Juana Díaz	JUA
Juncos	JUN
Lajas	LAJ
Lares	LAR
Las Marías	LMA
Las Piedras	LPI
Loíza	LOI
Luquillo	LUQ
Manatí	MAN
Maricao	MAR
Maunabo	MAU
Mayagüez	MAY
Moca	MOC
Morovis	MOR
Naguabo	NAG
Naranjito	NAR
Orocovis	ORO
Patillas	PAT
Peñuelas	PEN
Ponce	PON
Quebradillas	QUE
Rincón	RIN
Río Grande	RGR
Sabana Grande	SGR
Salinas	SAL
San Germán	SGE
San Juan	SJU
San Lorenzo	SLO
San Sebastián	SSE
Santa Isabel	SIS
Toa Alta	TAL
Toa Baja	TBA
Trujillo Alto	TRU
Utuado	UTU
Vega Alta	VAL
Vega Baja	VBA
Vieques	VIE
Villalba	VIL

Municipality/State	Abbreviation
Yabucoa	YAB
Yauco	YAU
Puerto Rico	**PR**
Source: P.R. Government Geographic Data Portal. Retrieved from: gis.pr.gov	

Table 7: Service Areas Aggregate Z-Scores by Categories and Total Health Indicators.

Municipality/State	Aggregate Z-Scores			
	Socio-Demographic Indicators (N=5)	Health Status Indicators (N=8)	Health Access Indicators (N=6)	Total Health Indicators (N=19)
Adjuntas	4.52	-0.80	-2.91	0.81
Aguada	-0.49	-4.47	2.23	-2.72
Aguadilla	0.26	0.45	2.96	3.67
Aguas Buenas	0.77	-4.67	3.21	-0.69
Aibonito	-0.30	-1.85	-0.65	-2.80
Añasco	-0.24	0.02	-1.70	-1.92
Arecibo	-0.60	-1.41	-1.49	-3.50
Arroyo	2.41	5.77	0.08	8.25
Barceloneta	1.35	-0.90	1.20	1.66
Barranquitas	1.07	-3.66	-3.14	-5.73
Bayamón	-4.39	0.80	1.11	-2.48
Cabo Rojo	0.53	1.64	-2.57	-0.40
Caguas	-3.88	0.35	2.31	-1.22
Camuy	-1.81	-5.76	-2.87	-10.43
Canóvanas	-1.22	2.58	3.41	4.77
Carolina	-5.93	0.42	0.91	-4.60
Cataño	-1.87	-1.63	1.07	-2.42
Cayey	-2.91	-1.85	3.05	-1.72
Ceiba	-0.13	-2.21	-3.45	-5.79
Ciales	4.11	0.43	-1.17	3.36
Cidra	-4.08	-6.48	2.02	-8.54
Coamo	0.92	-1.32	-0.70	-1.10
Comerío	2.55	-5.27	-2.33	-5.04
Corozal	0.62	-2.57	-4.05	-5.99
Culebra	0.30	24.13	1.72	26.15
Dorado	-5.39	-7.30	-2.91	-15.60
Fajardo	-0.08	2.62	1.33	3.86
Florida	-0.19	-2.01	0.90	-1.30
Guánica	4.83	6.80	4.94	16.58
Guayama	-0.37	1.32	0.30	1.25
Guayanilla	2.47	4.53	0.08	7.08
Guaynabo	-9.53	-1.64	-2.28	-13.46
Gurabo	-6.27	-1.90	-1.74	-9.91
Hatillo	-0.54	-3.90	-3.02	-7.46
Hormigueros	-0.89	1.51	0.41	1.03
Humacao	-1.55	0.34	-1.86	-3.07
Isabela	-0.47	-1.05	3.69	2.17
Jayuya	0.69	-2.54	-0.46	-2.31

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Municipality/State	Aggregate Z-Scores			
	Socio-Demographic Indicators (N=5)	Health Status Indicators (N=8)	Health Access Indicators (N=6)	Total Health Indicators (N=19)
Juana Díaz	-0.27	1.24	-1.79	-0.82
Juncos	-1.85	2.29	0.98	1.42
Lajas	4.76	1.83	-1.10	5.50
Lares	3.98	-4.77	-0.37	-1.15
Las Marías	6.35	-3.20	-2.88	0.27
Las Piedras	-1.97	-1.07	-0.95	-3.99
Loíza	-1.83	-0.81	2.66	0.02
Luquillo	-0.12	4.55	2.65	7.09
Manatí	-0.69	-0.82	1.40	-0.12
Maricao	3.51	-2.00	-3.83	-2.32
Maunabo	2.51	8.50	0.64	11.66
Mayagüez	0.47	-0.84	-0.63	-1.00
Moca	0.62	-3.92	2.32	-0.99
Morovis	0.88	-2.86	-1.46	-3.44
Naguabo	0.48	2.14	-0.54	2.08
Naranjito	-0.12	-0.85	1.02	0.05
Orocovis	1.77	-2.97	-0.38	-1.57
Patillas	2.74	2.07	-2.45	2.36
Peñuelas	3.12	2.41	1.23	6.76
Ponce	0.39	1.84	-0.91	1.32
Quebradillas	0.99	-1.10	1.45	1.34
Rincón	2.33	1.10	-0.96	2.48
Rio Grande	-3.63	1.66	0.87	-1.10
Sabana Grande	2.38	0.46	0.74	3.58
Salinas	3.87	2.41	2.21	8.49
San Germán	2.15	3.92	-2.01	4.07
San Juan	-3.81	1.26	1.59	-0.96
San Lorenzo	-0.55	-0.71	0.02	-1.24
San Sebastián	4.63	-2.09	1.39	3.93
Santa Isabel	1.04	5.71	2.27	9.02
Toa Alta	-7.61	0.24	-1.22	-8.59
Toa Baja	-4.45	1.81	1.42	-1.22
Trujillo Alto	-7.25	-1.95	-0.52	-9.72
Utuado	1.67	-4.07	1.99	-0.41
Vega Alta	1.10	-1.86	-0.73	-1.49
Vega Baja	2.68	-1.56	2.68	3.79
Vieques	0.94	-2.45	-4.42	-5.93
Villalba	1.34	0.03	-2.48	-1.11
Yabucoa	1.50	0.48	0.35	2.33

Municipality/State	Aggregate Z-Scores			
	Socio-Demographic Indicators (N=5)	Health Status Indicators (N=8)	Health Access Indicators (N=6)	Total Health Indicators (N=19)
Yauco	1.67	5.41	2.09	9.16
Puerto Rico	-1.66	-6.83	0.26	-8.23
United States	-12.62	-7.73	-11.13	-31.49
Source: Puerto Rico Primary Care Office (PR-PCO), Department of Health.				
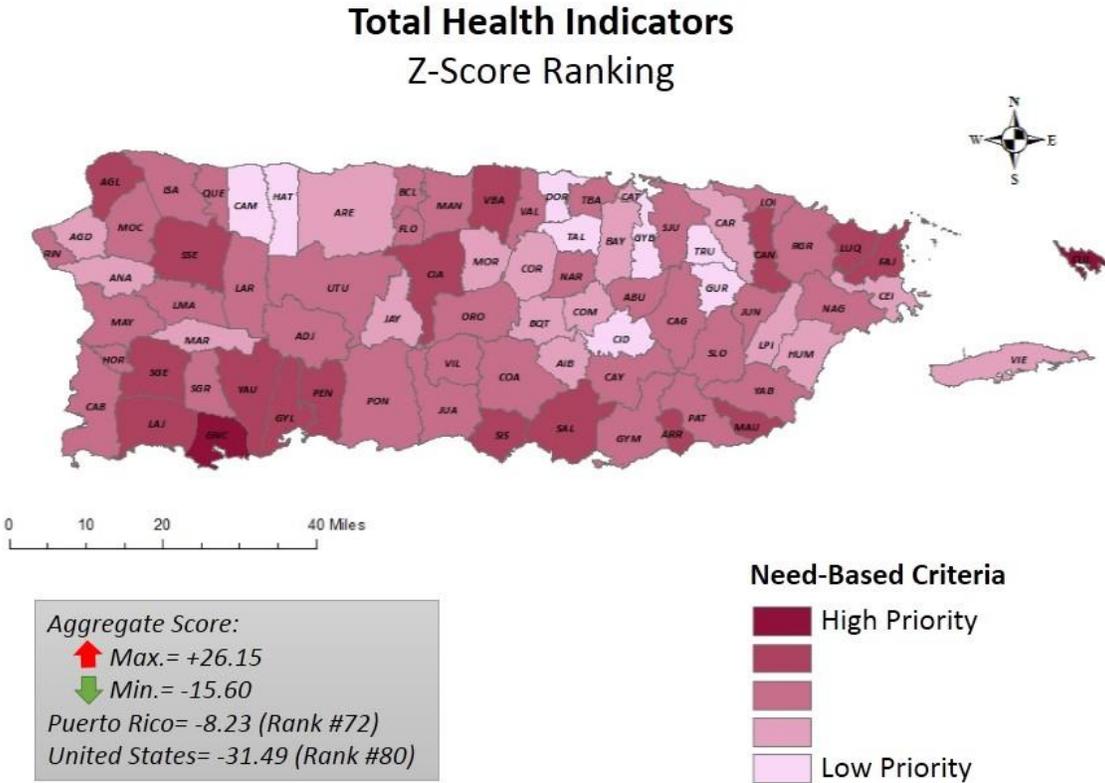
Puerto Rico Primary Care Office (PR-PCO), Department of Health

Figure 47: Service Area Ranking by Aggregate Total Health indicators Score

Appendix B: Supplementary Tables – Socio-Demographic Statistics

Table 8: Total Population and Percentages of Male and Female Population, 2010-2014 Estimates

Municipality	Population Estimates	Male Percent	Female Percent
Adjuntas	19,188	48.9%	51.1%
Aguada	41,176	49.1%	50.9%
Aguadilla	59,068	48.8%	51.2%
Aguas Buenas	28,083	48.9%	51.1%
Aibonito	25,241	48.4%	51.6%
Añasco	28,874	48.7%	51.3%
Arecibo	93,969	48.1%	51.9%
Arroyo	19,255	47.0%	53.0%
Barceloneta	24,908	48.0%	52.0%
Barranquitas	30,045	49.3%	50.7%
Bayamón	201,273	47.6%	52.4%
Cabo Rojo	50,706	47.8%	52.2%
Caguas	140,166	46.9%	53.1%
Camuy	34,438	48.3%	51.7%
Canóvanas	47,655	48.5%	51.5%
Carolina	171,310	46.2%	53.8%
Cataño	27,211	47.5%	52.5%
Cayey	47,252	48.3%	51.7%
Ceiba	13,122	47.2%	52.8%
Ciales	18,242	49.1%	50.9%
Cidra	42,878	48.9%	51.1%
Coamo	40,496	48.7%	51.3%
Comerío	20,533	49.8%	50.2%
Corozal	36,463	48.8%	51.2%
Culebra	1,585	57.8%	42.2%
Dorado	38,305	48.0%	52.0%
Fajardo	35,539	47.0%	53.0%
Florida	12,565	48.0%	52.0%
Guánica	18,627	48.3%	51.7%
Guayama	44,261	49.7%	50.3%
Guayanilla	20,862	48.3%	51.7%
Guaynabo	95,428	47.5%	52.5%
Gurabo	46,460	47.7%	52.3%
Hatillo	41,830	48.3%	51.7%
Hormigueros	17,023	46.5%	53.5%
Humacao	57,181	47.5%	52.5%
Isabela	44,965	48.8%	51.2%
Jayuya	16,183	50.0%	50.0%
Juana Díaz	49,876	48.1%	51.9%
Juncos	40,284	47.8%	52.2%
Lajas	25,117	48.9%	51.1%
Lares	29,426	49.4%	50.6%
Las Marías	9,521	49.5%	50.5%
Las Piedras	38,759	48.4%	51.6%

Municipality	Population Estimates	Male Percent	Female Percent
Loíza	29,054	47.0%	53.0%
Luquillo	19,731	47.3%	52.7%
Manatí	42,900	47.6%	52.4%
Maricao	6,384	49.7%	50.3%
Maunabo	11,904	49.4%	50.6%
Mayagüez	85,425	48.0%	52.0%
Moca	39,349	49.1%	50.9%
Morovis	32,484	49.8%	50.2%
Naguabo	26,881	47.7%	52.3%
Naranjito	30,034	49.4%	50.6%
Orocovis	22,927	50.4%	49.6%
Patillas	18,766	49.3%	50.7%
Peñuelas	23,307	48.9%	51.1%
Ponce	159,660	48.2%	51.8%
Quebradillas	25,512	48.7%	51.3%
Rincón	14,998	48.9%	51.1%
Río Grande	53,628	48.8%	51.2%
Sabana Grande	24,692	47.6%	52.4%
Salinas	30,506	48.6%	51.4%
San Germán	34,725	48.6%	51.4%
San Juan	380,149	46.0%	54.0%
San Lorenzo	40,313	49.1%	50.9%
San Sebastián	41,204	48.8%	51.2%
Santa Isabel	23,114	48.4%	51.6%
Toa Alta	74,688	48.4%	51.6%
Toa Baja	86,873	47.3%	52.7%
Trujillo Alto	73,030	47.4%	52.6%
Utuado	32,086	48.9%	51.1%
Vega Alta	39,670	47.8%	52.2%
Vega Baja	57,915	48.2%	51.8%
Vieques	9,217	51.2%	48.8%
Villalba	25,196	49.0%	51.0%
Yabucoa	36,903	48.7%	51.3%
Yauco	40,391	48.3%	51.7%
Puerto Rico	3,638,965	47.9%	52.1%
United States	314,107,084	49.2%	50.8%
Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates, and PR PCO. Value shown here is the 90 percent margin of error. Table S0101				

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Table 9: Percentage of the Population by Selected Age Categories, 2010-2014 Estimates

Municipality	Overall population	Selected Age Categories (%)					Median age (years)
		Under 5 years	Under 18 years	18 to 64 years	65 years and over	15 to 44 years	
Adjuntas	19,188	5.90	24.20	61.00	14.80	39.50	37.1
Aguada	41,176	5.20	22.10	63.90	14.00	40.40	39.1
Aguadilla	59,068	5.40	22.50	60.30	17.10	39.40	38.8
Aguas Buenas	28,083	5.70	23.80	61.40	14.80	40.00	36.6
Aibonito	25,241	5.70	22.70	61.60	15.60	38.90	38.7
Añasco	28,874	5.20	22.40	61.40	16.10	40.00	40.1
Arecibo	93,969	5.30	21.90	60.30	17.80	39.60	39.9
Arroyo	19,255	6.30	25.40	59.60	14.90	40.50	36.3
Barceloneta	24,908	5.80	24.00	60.40	15.50	41.90	36.5
Barranquitas	30,045	6.70	26.10	62.00	11.90	42.70	33.8
Bayamón	201,273	5.30	21.40	60.80	17.80	40.10	38.9
Cabo Rojo	50,706	5.20	22.20	58.90	18.90	38.50	40.4
Caguas	140,166	5.60	23.00	60.80	16.20	40.30	38.1
Camuy	34,438	5.30	23.00	61.70	15.40	40.50	38.4
Canóvanas	47,655	6.40	25.20	61.50	13.40	41.60	36.7
Carolina	171,310	5.40	21.80	60.50	17.80	40.10	38.9
Cataño	27,211	5.90	24.10	61.20	14.50	40.00	36.2
Cayey	47,252	5.30	22.40	61.60	15.90	40.00	38.9
Ceiba	13,122	5.70	23.10	58.40	18.40	39.20	38.9
Ciales	18,242	6.10	23.90	61.20	14.90	39.20	38.1
Cidra	42,878	5.80	23.60	63.20	13.20	41.40	37.1
Coamo	40,496	6.10	24.80	61.30	13.90	41.00	36.6
Comerío	20,533	6.00	23.90	62.20	13.90	41.30	35.8
Corozal	36,463	6.30	24.60	61.40	14.00	40.90	35.8
Culebra	1,585	6.40	19.80	65.40	14.80	39.20	37.0
Dorado	38,305	6.00	25.30	61.20	13.60	40.80	38.0
Fajardo	35,539	6.00	23.80	58.10	18.20	39.90	38.4
Florida	12,565	6.00	24.70	61.10	14.10	41.70	36.9
Guánica	18,627	5.90	23.30	58.40	18.20	38.60	38.1
Guayama	44,261	5.80	24.60	61.60	13.90	42.30	35.9
Guayanilla	20,862	6.00	24.30	59.90	15.80	39.40	37.3
Guaynabo	95,428	4.80	20.10	62.40	17.50	39.30	40.8
Gurabo	46,460	5.80	24.70	62.80	12.50	42.90	36.3
Hatillo	41,830	5.40	22.80	61.40	15.80	40.60	38.4
Hormigueros	17,023	4.60	20.40	57.20	22.50	36.40	43.0
Humacao	57,181	5.50	22.40	61.20	16.30	39.50	39.4
Isabela	44,965	5.30	22.50	61.40	16.20	40.10	38.9
Jayuya	16,183	6.40	25.70	61.70	12.60	42.20	34.5
Juana Díaz	49,876	6.30	25.60	60.80	13.50	41.60	35.8
Juncos	40,284	6.10	25.10	62.00	12.90	43.60	35.4
Lajas	25,117	5.30	21.70	59.10	19.20	37.50	40.8
Lares	29,426	5.40	22.40	61.20	16.30	39.90	38.5
Las Marías	9,521	6.40	23.40	61.10	15.60	39.50	37.8
Las Piedras	38,759	5.90	24.10	62.40	13.50	42.30	36.5
Loíza	29,054	6.30	25.20	62.40	12.30	41.90	34.9
Luquillo	19,731	5.70	23.90	59.40	16.70	39.60	39.3

Municipality	Overall population	Selected Age Categories (%)					Median age (years)
		Under 5 years	Under 18 years	18 to 64 years	65 years and over	15 to 44 years	
Manatí	42,900	5.80	23.90	59.30	16.70	38.70	38.5
Maricao	6,384	5.70	23.60	61.10	15.10	39.70	38.8
Maunabo	11,904	5.80	22.50	60.40	17.10	38.40	40.3
Mayagüez	85,425	4.90	19.50	61.30	19.20	41.40	38.1
Moca	39,349	5.90	24.50	62.20	13.30	41.30	36.9
Morovis	32,484	6.10	25.90	62.10	12.00	42.80	34.3
Naguabo	26,881	6.30	25.40	60.10	14.40	42.30	35.3
Naranjito	30,034	6.00	23.60	62.10	14.10	40.70	36.4
Orocovis	22,927	6.00	25.30	61.80	12.90	41.50	35.9
Patillas	18,766	5.60	22.60	61.10	16.30	38.10	40.5
Peñuelas	23,307	6.80	26.20	61.30	12.60	41.20	34.5
Ponce	159,660	6.00	23.30	60.00	16.70	39.70	37.9
Quebradillas	25,512	5.70	23.40	61.20	15.50	40.30	38.4
Rincón	14,998	5.20	21.20	59.20	19.60	36.70	41.6
Río Grande	53,628	5.40	23.10	61.50	15.30	41.20	38.1
Sabana Grande	24,692	5.80	23.40	58.60	18.00	38.60	39.0
Salinas	30,506	6.20	25.70	59.50	14.80	41.00	35.9
San Germán	34,725	5.40	21.50	58.80	19.60	38.10	40.9
San Juan	380,149	5.40	20.90	60.70	18.20	39.20	39.9
San Lorenzo	40,313	5.40	22.90	62.80	14.40	40.80	38.0
San Sebastián	41,204	5.50	22.80	59.00	18.20	37.20	40.4
Santa Isabel	23,114	6.40	27.20	59.80	13.00	43.00	35.0
Toa Alta	74,688	5.80	25.60	63.60	10.60	43.70	35.3
Toa Baja	86,873	5.70	23.30	61.90	14.90	41.20	37.0
Trujillo Alto	73,030	5.80	23.70	61.90	14.30	41.00	37.3
Utuado	32,086	5.60	23.10	60.30	16.60	38.20	39.2
Vega Alta	39,670	6.20	24.90	60.80	14.40	41.10	36.2
Vega Baja	57,915	5.70	23.80	60.80	15.70	40.00	37.9
Vieques	9,217	5.50	22.60	58.80	18.50	36.70	42.0
Villalba	25,196	6.20	25.80	61.60	12.70	41.70	35.1
Yabucoa	36,903	5.70	23.50	61.80	14.70	39.40	38.5
Yauco	40,391	5.50	22.80	60.80	16.50	38.50	39.9
Puerto Rico	3,638,965	5.60	23.00	61.00	16.00	40.30	38.1
United States	314,107,084	6.40	23.50	62.80	13.70	40.4	37.4

Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates, and PR PCO.
Value shown here is the 90 percent margin of error. Table S0101

Table 10: Median Household Income in the past 12 months (in 2014 inflation-adjusted dollars)

Municipality	2014 Population Estimates (N)	Annual Median Income (dollars)	90 % Confidence Interval
Adjuntas	19,188	$10,550	(9,192-11,908)
Aguada	41,176	$16,376	(15,407-17,345)
Aguadilla	59,068	$16,767	(15,900-17,634)
Aguas Buenas	28,083	$15,081	(13,842-16,320)
Aibonito	25,241	$16,962	(15,579-18,345)
Añasco	28,874	$17,147	(16,180-18,114)
Arecibo	93,969	$16,997	(16,230-17,764)
Arroyo	19,255	$15,863	(14,382-17,344)
Barceloneta	24,908	$15,228	(13,776-16,680)
Barranquitas	30,045	$15,109	(13,778-16,440)
Bayamón	201,273	$24,597	(23,970-25,224)
Cabo Rojo	50,706	$16,880	(15,638-18,122)
Caguas	140,166	$24,083	(23,316-24,850)
Camuy	34,438	$19,490	(17,997-20,983)
Canóvanas	47,655	$20,494	(19,179-21,809)
Carolina	171,310	$28,660	(27,684-29,636)
Cataño	27,211	$18,625	(16,837-20,413)
Cayey	47,252	$21,058	(19,816-22,300)
Ceiba	13,122	$20,339	(17,815-22,863)
Ciales	18,242	$12,565	(11,441-13,689)
Cidra	42,878	$23,452	(22,268-24,636)
Coamo	40,496	$17,938	(16,878-18,998)
Comerío	20,533	$13,680	(12,066-15,294)
Corozal	36,463	$17,020	(15,581-18,459)
Culebra	1,585	$18,167	(14,260-22,074)
Dorado	38,305	$27,924	(25,178-30,670)
Fajardo	35,539	$20,531	(18,905-22,157)
Florida	12,565	$15,992	(13,372-18,612)
Guánica	18,627	$13,635	(12,642-14,628)
Guayama	44,261	$16,765	(15,774-17,756)
Guayanilla	20,862	$15,483	(14,124-16,842)
Guaynabo	95,428	$34,450	(33,139-35,761)
Gurabo	46,460	$27,909	(25,332-30,486)
Hatillo	41,830	$19,130	(17,905-20,355)
Hormigueros	17,023	$21,323	(19,475-23,171)
Humacao	57,181	$20,251	(19,114-21,388)
Isabela	44,965	$15,740	(14,921-16,559)
Jayuya	16,183	$16,111	(14,185-18,037)
Juana Díaz	49,876	$18,758	(17,775-19,741)
Juncos	40,284	$19,288	(17,949-20,627)
Lajas	25,117	$13,422	(12,092-14,752)
Lares	29,426	$11,929	(11,101-12,757)
Las Marías	9,521	$14,928	(12,932-16,924)
Las Piedras	38,759	$19,929	(17,819-22,039)
Loíza	29,054	$18,456	(17,417-19,495)

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Municipality	2014 Population Estimates (N)	Annual Median Income (dollars)	90 % Confidence Interval
Luquillo	19,731	$18,256	(16,613-19,899)
Manatí	42,900	$18,796	(17,637-19,955)
Maricao	6,384	$14,149	(11,995-16,303)
Maunabo	11,904	$17,866	(15,332-20,400)
Mayagüez	85,425	$15,402	(14,727-16,077)
Moca	39,349	$15,301	(13,967-16,635)
Morovis	32,484	$16,086	(14,615-17,557)
Naguabo	26,881	$18,295	(16,664-19,926)
Naranjito	30,034	$17,478	(16,061-18,895)
Orocovis	22,927	$14,549	(13,282-15,816)
Patillas	18,766	$14,343	(13,032-15,654)
Peñuelas	23,307	$15,506	(14,184-16,828)
Ponce	159,660	$16,807	(16,326-17,288)
Quebradillas	25,512	$15,277	(13,857-16,697)
Rincón	14,998	$16,704	(15,574-17,834)
Río Grande	53,628	$22,372	(20,645-24,099)
Sabana Grande	24,692	$15,054	(13,557-16,551)
Salinas	30,506	$13,871	(12,463-15,279)
San Germán	34,725	$15,091	(13,931-16,251)
San Juan	380,149	$22,266	(21,792-22,740)
San Lorenzo	40,313	$17,116	(16,010-18,222)
San Sebastián	41,204	$14,726	(13,730-15,722)
Santa Isabel	23,114	$16,344	(14,746-17,942)
Toa Alta	74,688	$29,183	(27,660-30,706)
Toa Baja	86,873	$23,642	(22,773-24,511)
Trujillo Alto	73,030	$30,687	(29,198-32,176)
Utuado	32,086	$15,291	(14,345-16,237)
Vega Alta	39,670	$17,944	(16,781-19,107)
Vega Baja	57,915	$16,625	(15,788-17,462)
Vieques	9,217	$18,179	(14,938-21,420)
Villalba	25,196	$17,389	(16,202-18,576)
Yabucoa	36,903	$16,627	(15,105-18,149)
Yauco	40,391	$15,346	(14,445-16,247)
Puerto Rico	3,638,965	$19,686	(19,543-19,829)
United States	314,107,084	$53,482	(53,387-53,577)
Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates. The value shown here is the 90 percent margin of error. Table B19013			

Table 11: Labor Force, Employment and Unemployment Data (2014 Annual Averages)

Municipality	Labor Force	Employed	Unemployed	Unemployment Rate (%)
Adjuntas	4,491	3,504	987	22.0
Aguada	12,120	10,046	2,074	17.1
Aguadilla	15,136	12,665	2,471	16.3
Aguas Buenas	6,978	5,837	1,141	16.4
Aibonito	6,906	5,700	1,206	17.5
Añasco	9,027	7,551	1,476	16.4
Arecibo	24,816	21,005	3,811	15.4
Arroyo	5,349	4,110	1,239	23.2
Barceloneta	6,128	4,902	1,226	20.0
Barranquitas	7,577	6,386	1,191	15.7
Bayamon	68,866	61,808	7,058	10.2
Cabo Rojo	14,490	12,018	2,472	17.1
Caguas	49,141	43,374	5,767	11.7
Camuy	9,789	8,346	1,443	14.7
Canovanas	16,203	14,083	2,120	13.1
Carolina	63,990	57,701	6,289	9.8
Catano	8,284	7,274	1,010	12.2
Cayey	16,499	14,422	2,077	12.6
Ceiba	4,077	3,391	686	16.8
Ciales	4,243	3,268	975	23.0
Cidra	15,907	14,012	1,895	11.9
Coamo	11,018	8,691	2,327	21.1
Comerio	5,343	4,344	999	18.7
Corozal	9,625	8,177	1,448	15.0
Culebra	786	732	54	6.9
Dorado	12,691	11,549	1,142	9.0
Fajardo	12,140	10,024	2,116	17.4
Florida	3,547	2,880	667	18.8
Guanica	4,547	3,418	1,129	24.8
Guayama	12,393	9,869	2,524	20.4
Guayanilla	5,556	4,356	1,200	21.6
Guaynabo	37,504	35,078	2,426	6.5
Gurabo	16,978	15,183	1,795	10.6
Hatillo	13,183	11,062	2,121	16.1
Hormigueros	5,673	4,845	828	14.6
Humacao	18,125	15,007	3,118	17.2
Isabela	12,547	10,661	1,886	15.0
Jayuya	4,230	3,486	744	17.6
Juana Diaz	15,824	13,241	2,583	16.3
Juncos	12,485	10,565	1,920	15.4
Lajas	5,983	4,568	1,415	23.7
Lares	7,732	5,948	1,784	23.1
Las Marias	2,884	2,145	739	25.6
Las Piedras	11,426	9,578	1,848	16.2
Loiza	9,065	7,872	1,193	13.2
Luquillo	6,709	5,426	1,283	19.1
Manati	11,939	10,303	1,636	13.7

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Municipality	Labor Force	Employed	Unemployed	Unemployment Rate (%)
Maricao	1,981	1,566	415	20.9
Maunabo	3,164	2,487	677	21.4
Mayaguez	24,502	20,342	4,160	17.0
Moca	10,886	8,899	1,987	18.3
Morovis	8,471	6,907	1,564	18.5
Naguabo	8,300	7,036	1,264	15.2
Naranjito	7,534	6,282	1,252	16.6
Orocovis	5,452	4,417	1,035	19.0
Patillas	4,954	3,774	1,180	23.8
Penuelas	6,576	5,197	1,379	21.0
Ponce	49,467	41,885	7,582	15.3
Quebradillas	6,226	5,087	1,139	18.3
Rincon	4,726	3,785	941	19.9
Rio Grande	17,349	15,297	2,052	11.8
Sabana Grande	6,583	5,361	1,222	18.6
Salinas	8,388	6,186	2,202	26.3
San German	10,686	8,780	1,906	17.8
San Juan	138,559	127,108	11,451	8.3
San Lorenzo	12,325	10,409	1,916	15.5
San Sebastian	11,168	8,609	2,559	22.9
Santa Isabel	9,959	7,999	1,960	19.7
Toa Alta	25,943	23,526	2,417	9.3
Toa Baja	30,661	27,546	3,115	10.2
Trujillo Alto	27,579	25,387	2,192	7.9
Utuado	7,159	5,836	1,323	18.5
Vega Alta	10,003	8,627	1,376	13.8
Vega Baja	14,349	12,048	2,301	16.0
Vieques	3,198	2,754	444	13.9
Villalba	7,990	6,258	1,732	21.7
Yabucoa	9,739	7,632	2,107	21.6
Yauco	11,162	8,788	2,374	21.3
Puerto Rico	1,145,000	986,000	159,000	13.9
United States	155,922,000	146,305,000	9,617,000	6.2
Source: Labor Force Data by County, 2014 Annual Averages, Bureau of Labor Statistics (BLS), Local Area Unemployment Statistics (LAUS). Last Updated in July 1,2015				

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Table 12: Puerto Rico Unemployment Rates by Month, 2010-2015

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Average
2010	16.1	16.3	16.6	16.9	16.9	16.8	16.6	16.3	16.0	15.9	15.9	16.0	16.4
2011	16.3	16.4	16.5	16.5	16.3	16.0	15.8	15.7	15.6	15.6	15.5	15.4	16.0
2012	15.3	15.1	14.9	14.6	14.4	14.1	14.0	14.0	14.1	14.2	14.3	14.3	14.4
2013	14.2	14.1	13.8	13.6	13.6	13.7	13.9	14.3	14.6	14.8	15.0	15.0	14.2
2014	14.9	14.6	14.2	13.8	13.6	13.5	13.7	13.8	13.9	13.9	13.8	13.7	13.9
2015	12.4	11.6	11.8	12.2	12.4	12.6	11.9	11.6	11.4	12.4	12.5	*	*

*Data Not Available at the moment of the PCNA.
Source: Databases, Tables & Calculators by Subject; Bureau of Labor Statistics (BLS).

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Table 13: Adults (25 years of Age and Older) With No High School Diploma, Puerto Rico 2014

Municipality/State	Total Population 25 years and Over (N)	Number With No High School Diploma (n)	Percent With No High School Diploma (%)
Adjuntas	12,568	5,166	41.1
Aguada	26,970	10,141	37.6
Aguadilla	38,690	12,497	32.3
Aguas Buenas	18,394	6,438	35.0
Aibonito	16,533	4,530	27.4
Añasco	18,912	6,676	35.3
Arecibo	61,550	17,295	28.1
Arroyo	12,612	3,531	28.0
Barceloneta	16,315	4,976	30.5
Barranquitas	19,679	6,199	31.5
Bayamón	131,834	29,794	22.6
Cabo Rojo	33,212	10,263	30.9
Caguas	91,809	21,208	23.1
Camuy	22,557	7,173	31.8
Canóvanas	31,214	8,958	28.7
Carolina	112,208	20,197	18.0
Cataño	17,823	4,901	27.5
Cayey	30,950	8,883	28.7
Ceiba	8,595	2,260	26.3
Ciales	11,949	4,409	36.9
Cidra	28,085	7,358	26.2
Coamo	26,525	8,037	30.3
Comerío	13,449	5,245	39.0
Corozal	23,883	7,714	32.3
Culebra	1,038	407	39.2
Dorado	25,090	6,122	24.4
Fajardo	23,278	5,191	22.3
Florida	8,230	2,041	24.8
Guánica	12,201	4,160	34.1
Guayama	28,991	7,567	26.1
Guayanilla	13,665	4,345	31.8
Guaynabo	62,505	11,251	18.0
Gurabo	30,431	6,938	22.8
Hatillo	27,399	9,480	34.6
Hormigueros	11,150	3,390	30.4
Humacao	37,454	9,626	25.7
Isabela	29,452	9,454	32.1
Jayuya	10,600	3,222	30.4

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Municipality/State	Total Population 25 years and Over (N)	Number With No High School Diploma (n)	Percent With No High School Diploma (%)
Juana Díaz	32,669	9,441	28.9
Juncos	26,386	6,808	25.8
Lajas	16,452	6,696	40.7
Lares	19,274	7,960	41.3
Las Marías	6,236	2,750	44.1
Las Piedras	25,387	6,626	26.1
Loíza	19,030	5,043	26.5
Luquillo	12,924	3,244	25.1
Manatí	28,100	7,924	28.2
Maricao	4,182	1,819	43.5
Maunabo	7,797	2,721	34.9
Mayagüez	55,953	17,961	32.1
Moca	25,774	8,531	33.1
Morovis	21,277	7,724	36.3
Naguabo	17,607	5,599	31.8
Naranjito	19,672	5,961	30.3
Orocovis	15,017	5,676	37.8
Patillas	12,292	4,093	33.3
Peñuelas	15,266	5,190	34.0
Ponce	104,577	28,236	27.0
Quebradillas	16,710	5,364	32.1
Rincón	9,824	3,527	35.9
Río Grande	35,126	9,660	27.5
Sabana Grande	16,173	5,095	31.5
Salinas	19,981	6,334	31.7
San Germán	22,745	7,392	32.5
San Juan	248,998	57,020	22.9
San Lorenzo	26,405	9,611	36.4
San Sebastián	26,989	11,524	42.7
Santa Isabel	15,140	4,375	28.9
Toa Alta	48,921	11,447	23.4
Toa Baja	56,902	13,201	23.2
Trujillo Alto	47,835	9,232	19.3
Utuado	21,016	7,230	34.4
Vega Alta	25,984	9,978	38.4
Vega Baja	37,934	17,753	46.8
Vieques	6,037	2,191	36.3
Villalba	16,503	5,479	33.2
Yabucoa	24,171	8,436	34.9

Municipality/State	Total Population 25 years and Over (N)	Number With No High School Diploma (n)	Percent With No High School Diploma (%)
Yauco	26,456	8,572	32.4
Puerto Rico	2,383,522	669,770	28.1
United States	205,740,140	28,186,399	13.7
Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates, and PR PCO. Value shown here is the 90 percent margin of error. Tables GCT1501 and S0101.			

Appendix C: Supplementary Tables – Health Status Statistics

Table 14: Puerto Rico's Municipalities by Health Regions

Arecibo Region	Bayamón Region	Caguas Region	Mayagüez Region	Metropolitan Region	Ponce Region
Arecibo	Barranquitas	Aguas Buenas	Añasco	Canóvanas	Adjuntas
Barceloneta	Bayamón	Aibonito	Cabo Rojo	Carolina	Arroyo
Camuy	Cataño	Caguas	Hormigueros	Guaynabo	Coamo
Ciales	Comerío	Cayey	Lajas	Loíza	Guánica
Florida	Corozal	Cidra	Las Marías	San Juan	Guayama
Hatillo	Dorado	Gurabo	Maricao	Trujillo Alto	Guayanilla
Lares	Naranjito	Humacao	Mayagüez	**Sub-Region Fajardo**	Jayuya
Manatí	Orocovis	Juncos	Rincón	Fajardo	Juana Díaz
Morovis	Toa Alta	Las Piedras	Sábana Grande	Ceiba	Patillas
Quebradillas	Toa Baja	Maunabo	San Germán	Culebra	Peñuelas
Utuado	Vega Alta	Naguabo	**Sub –Region Aguadilla**	Luquillo	Ponce
Vega Baja		San Lorenzo	Aguadilla	Río Grande	Salinas
		Yabucoa	Aguada	Vieques	Santa Isabel
			Isabela		Villalba
			Moca		Yauco
			San Sebastián		
Source: Puerto Rico Department of Health, as of December 2015.					

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Table 15: Self-Reported Prevalence of Selected Health Conditions/Risk Factors by Regions, 2014

Regions		Diabetes	Heart Attack	Heart Disease	Overweight	Obese	Tobacco Use	Binge Drinking
Aguadilla	%	17.2	3.9	7.1	40.3	24.7	9.4	8.7
	IC 95%	(12.8 - 21.5)	(1.4 - 6.5)	(4.1 - 10.2)	(37.2 - 43.5)	(22.0 - 27.4)	(5.7 - 13.0)	(4.9 - 12.5)
Arecibo	%	17.5	5.5	9.4	39	26.3	11.1	10.9
	IC 95%	(14.4 - 20.6)	(3.7 - 7.3)	(7.2 - 11.7)	(36.9 - 41.2)	(24.3 - 28.3)	(8.0 - 14.1)	(7.8 - 13.9)
Bayamón	%	14.7	4.3	8.5	39.3	28.7	11	10.3
	IC 95%	(12.1 - 17.3)	(2.9 - 5.7)	(6.2 - 10.7)	(37.4 - 41.2)	(26.9 - 30.5)	(8.3 - 13.8)	(7.7 - 12.8)
Metropolitan	%	12.1	5.6	6.6	37.4	25.7	12.1	10
	IC 95%	(10.1 - 14.1)	(3.9 - 7.2)	(4.9 - 8.2)	(35.7 - 39.1)	(24.2 - 27.3)	(9.6 - 14.6)	(7.9 - 12.1)
Fajardo	%	23.9	9.1	8.2	38.4	29.3	11.3	10.3
	IC 95%	(16.7 - 31.1)	(4.1 - 14.0)	(4.5 - 11.8)	(34.4 - 42.4)	(25.5 - 33.0)	(5.9 - 16.6)	(4.1 - 16.5)
Caguas	%	15.6	5.3	10.1	37.6	29.5	10.9	11.5
	IC 95%	(13.0 - 18.3)	(3.7 - 6.9)	(8.0 - 12.2)	(35.7 - 39.4)	(27.7 - 31.3)	(8.3 - 13.6)	(8.8 - 14.1)
Ponce	%	18.4	5.6	9.5	38.9	29.7	11.9	9.6
	IC 95%	(15.3 - 21.5)	(3.9 - 7.5)	(6.9 - 11.9)	(36.9 - 41.0)	(27.7 - 31.6)	(8.9 - 14.9)	(7.3 - 11.9)
Mayagüez	%	16.4	6.3	8.6	37.9	28.3	11.4	10.4
	IC 95%	(12.7 - 20.0)	(3.8 - 8.8)	(5.7 - 11.5)	(35.4 - 40.5)	(25.9 - 30.9)	(7.8 - 15.1)	(7.0 - 13.7)
Source: Puerto Rico Department of Health, Puerto Rico-BRFSS, 2014								

Table 16: Cancer Incidence Rate per 100,000 Population (2008-2012)

Municipality/ State	All Cancer Sites New Cases	All Cancer sites Incidence Rate	Both Sexes Breast Cancer Incidence Rate	Female Breast Cancer Incidence Rate	Male Breast Cancer Incidence Rate	Prostate Cancer Incidence Rate	Colon and Rectum Cancer Incidence
Adjuntas	316	274.9	38.3	71.2	~	98.8	37.4
Aguada	589	245.4	32.3	61.9	~	105.8	26.7
Aguadilla	1,181	301.8	49.1	91.7	~	109	45.7
Aguas Buenas	477	287.5	36	67	~	141.3	30.4
Aibonito	573	364.3	41.6	77.5	~	155.1	42
Añasco	520	288.3	45.8	85.3	~	118.5	41.9
Arecibo	2,008	317.9	48.5	88.5	~	116	36.4
Arroyo	365	315.7	26.2	47.6	~	231.1	33.7
Barceloneta	471	327.0	49.1	90.3	~	116.8	32.4
Barranquitas	482	312.0	26.6	50.1	~	132.2	42.8
Bayamón	4,523	332.4	50.1	88.4	1	139.8	41.6
Cabo Rojo	1,108	310.7	36.7	66.5	~	141.2	45.4
Caguas	2,834	321.6	47.4	83.7	~	134.9	35.6
Camuy	593	284.4	42.1	77.9	~	92.5	35.4
Canóvanas	832	316.1	51.6	96.7	~	143.1	37.8
Carolina	3,657	317.4	49.9	86.7	~	151.8	36.7
Cataño	467	285.6	36	64.7	~	144.6	34.5
Cayey	960	323.9	40.1	74.4	~	170.3	37.1
Ceiba	257	285.8	40.7	73.5	~	151.7	40.5
Ciales	365	335.7	33.9	65.8	~	139	36.9
Cidra	658	271.7	34.5	65.4	~	127.1	25.6
Coamo	732	319.6	46.2	86.1	~	157.6	45.7
Comerío	321	276.7	35.2	65.9	~	119.3	30.2
Corozal	632	302.6	41.7	79.5	~	126.7	36.0
Culebra	38	335.7	~	~	~	*145.2	73.6
Dorado	637	299.2	40.2	73.7	~	125.1	26.9
Fajardo	735	303.9	55.7	99.6	~	131.1	39.1
Florida	250	350.9	40.0	71.2	~	166.2	27.6
Guánica	333	260.0	40.8	73.8	~	93.7	42.4
Guayama	755	300.8	40.3	74.6	~	155.2	41.2
Guayanilla	403	310.2	42.2	78.5	~	127.9	41.1
Guaynabo	2,066	319.1	48.1	85.8	~	146	32.1
Gurabo	686	281.3	39	72.4	~	140.8	30.2
Hatillo	711	283.1	43.3	80.8	~	111.7	35.1

Municipality/State	All Cancer Sites New Cases	All Cancer sites Incidence Rate	Both Sexes Breast Cancer Incidence Rate	Female Breast Cancer Incidence Rate	Male Breast Cancer Incidence Rate	Prostate Cancer Incidence Rate	Colon and Rectum Cancer Incidence
Hormigueros	441	348.9	42.1	74.5	~	169.5	35.4
Humacao	1,104	302.8	41.8	75.7	~	132.4	43.2
Isabela	801	280.9	44.1	82.7	~	107.1	40.7
Jayuya	250	282.6	24.4	47.0	~	161.8	31.7
Juana Díaz	891	320.4	37.4	69.2	~	160.3	42.7
Juncos	663	308.8	37.8	70.6	~	120	42.8
Lajas	506	287.3	31.3	55.4	~	126.4	42.0
Lares	535	284.4	38.8	73.3	~	107.6	31.0
Las Marías	167	280.1	42.4	83.0	~	109.3	33.2
Las Piedras	605	279.8	29.8	55.3	~	120.5	39
Loíza	387	250.0	25.7	46.6	~	174.7	27.5
Luquillo	406	322.0	43.4	80.9	~	197.7	34.2
Manatí	921	336.5	58.8	107.6	~	140.1	35.2
Maricao	88	245.4	*19.7	38.2	~	*108.1	*35.3
Maunabo	247	312.8	33.6	66.7	~	226.9	34.6
Mayagüez	1,923	317.3	46.5	82.5	~	142.4	39.7
Moca	589	267.0	39.1	74.8	~	122.5	33.9
Morovis	491	294.4	32.3	62.7	~	110.4	32.9
Naguabo	429	279.6	34.2	64	~	142.3	39.9
Naranjito	542	312.4	36.2	67.7	~	139.2	32.5
Orocovis	401	318.0	38	74.5	~	110.1	41
Patillas	354	292.0	34.9	64.5	~	173.8	32.2
Peñuelas	393	309.1	37.3	71.7	~	157.6	42.8
Ponce	3,358	321.7	50.9	91.6	1.3	141.8	39.5
Quebradillas	459	294.2	44.3	81.3	~	93.3	49.7
Rincón	321	305.6	38.8	71.7	~	112	46
Río Grande	957	296.9	44.2	82.7	~	158.7	37.3
Sabana Grande	517	313.5	36.6	66	~	146.6	50.4
Salinas	590	329.2	35.5	66.2	~	194.5	38
San Germán	707	285.7	41	76	~	111.7	50.3
San Juan	8,658	324.3	50.8	88.8	1	143.3	35.4
San Lorenzo	753	313.0	42.1	79.1	~	153.9	38.6
San Sebastián	747	264.0	32.7	61.7	~	108.9	38
Santa Isabel	419	346.0	41.2	75.8	~	208.3	34.6

Municipality/ State	All Cancer Sites New Cases	All Cancer sites Incidence Rate	Both Sexes Breast Cancer Incidence Rate	Female Breast Cancer Incidence Rate	Male Breast Cancer Incidence Rate	Prostate Cancer Incidence Rate	Colon and Rectum Cancer Incidence
Toa Alta	1,112	310.1	37.7	70.5	~	148.5	41.4
Toa Baja	1,677	318.8	42.6	75.5	~	155.4	41.6
Trujillo Alto	1,212	281.3	43.5	77.3	~	123.6	34.2
Utuado	577	279.3	35.1	66.6	~	83.4	37.5
Vega Alta	660	291.6	39.7	71.8	~	120.9	40.5
Vega Baja	1,123	314.6	46.8	86.8	~	132.1	31.9
Vieques	157	240.1	*29	56.3	~	124.3	38.5
Villalba	427	313.4	39.5	74.3	~	176.3	40.6
Yabucoa	626	281.4	42.4	80.9	~	126.9	31.5
Yauco	787	298.2	43.3	80.2	~	114.5	45.1
PUERTO RICO	71,997	314.4	44.3	80.5	0.8	141.9	38.4
UNITED STATES	-	454.8 (2008-2012)	-	124.3	-	137.9	42.4
~ Counts/rates are suppressed if 5 or fewer cases were reported in the specified category.							
*Counts < 20 are too few to calculate a stable age-adjusted rate.							
All rates are per 100,000. Rates are age-adjusted to the 2000 PR Standard Population (19 age groups)							
Source: Puerto Rico Cancer Registry, 2008-2012							
United States Statistics Sources: Centers for Disease Control and Prevention							
NIH Surveillance, Epidemiology, and End Results Program							

Table 17: Syphilis and HIV Incidence Rate per 100,000 population, 2014

Municipality/ State	Primary and Secondary Syphilis New Cases	Primary and Secondary Syphilis Incidence Rate	Total Syphilis New Cases	Total Syphilis Incidence Rate	HIV New Cases	HIV Incidence Rate
Adjuntas	0	0.0	2	10.5	1	5.3
Aguada	3	7.3	5	12.2	1	2.5
Aguadilla	7	12.0	13	22.2	5	8.7
Aguas Buenas	3	10.7	7	25.0	4	14.6
Aibonito	2	8.0	3	12.0	1	4.1
Añasco	5	17.4	8	27.8	2	7.0
Arecibo	12	12.8	13	13.9	11	12.0
Arroyo	1	5.2	1	5.2	2	10.6
Barceloneta	9	36.0	10	40.0	10	40.0
Barranquitas	2	6.7	4	13.3	3	10.1
Bayamón	30	15.1	70	35.2	45	23.2
Cabo Rojo	7	13.8	7	13.8	5	9.9
Caguas	26	18.6	47	33.7	24	17.5
Camuy	5	14.6	6	17.5	3	8.9
Canóvanas	6	12.5	14	29.2	12	25.3
Carolina	25	14.7	54	31.8	46	27.7
Cataño	4	14.9	7	26.0	8	30.5
Cayey	6	12.8	12	25.5	6	13.0
Ceiba	2	15.4	7	54.1	1	7.9
Ciales	3	16.6	4	22.1	5	28.2
Cidra	6	14.0	8	18.7	0	0.0
Coamo	0	0.0	1	2.5	4	9.9
Comerío	0	0.0	2	9.7	2	9.9
Corozal	2	5.5	5	13.8	2	5.6
Culebra	0	0.0	3	164.1	2	110.0
Dorado	3	7.8	7	18.2	4	10.5
Fajardo	3	8.6	5	14.3	14	41.0
Florida	0	0.0	2	15.9	2	16.1
Guánica	0	0.0	6	32.7	2	11.2
Guayama	1	2.3	8	18.1	6	13.8
Guayanilla	1	4.8	4	19.4	3	14.9
Guaynabo	16	16.9	31	32.8	20	21.6
Gurabo	6	12.7	12	25.4	4	8.5
Hatillo	3	7.2	7	16.7	3	7.2
Hormigueros	3	17.6	3	17.6	1	6.0
Humacao	8	14.1	16	28.2	8	14.3
Isabela	5	11.2	7	15.6	2	4.5

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Municipality/ State	Primary and Secondary Syphilis New Cases	Primary and Secondary Syphilis Incidence Rate	Total Syphilis New Cases	Total Syphilis Incidence Rate	HIV New Cases	HIV Incidence Rate
Jayuya	0	0.0	1	6.2	0	0.0
Juana Díaz	4	8.0	20	40.2	7	14.3
Juncos	6	14.8	13	32.1	4	10.0
Lajas	1	4.0	2	8.0	4	16.4
Lares	2	6.9	2	6.9	1	3.6
Las Marías	0	0.0	0	0.0	0	0.0
Las Piedras	5	12.8	6	15.4	2	5.2
Loíza	1	3.5	9	31.4	5	17.8
Luquillo	3	15.3	8	40.7	7	36.2
Manatí	10	23.5	13	30.6	3	7.2
Maricao	1	16.4	2	32.8	1	16.6
Maunabo	0	0.0	1	8.5	5	43.2
Mayagüez	9	10.7	17	20.2	11	13.4
Moca	0	0.0	3	7.7	2	5.2
Morovis	4	12.3	4	12.3	2	6.2
Naguabo	2	7.4	5	18.5	6	22.3
Naranjito	1	3.3	6	20.0	7	23.7
Orocovis	1	4.4	2	8.8	3	13.4
Patillas	0	0.0	0	0.0	1	5.5
Peñuelas	1	4.4	4	17.4	1	4.5
Ponce	12	7.6	45	28.6	22	14.3
Quebradillas	6	23.5	6	23.5	1	4.0
Rincón	1	6.7	3	20.1	2	13.5
Río Grande	5	9.3	11	20.5	9	17.1
Sabana Grande	0	0.0	1	4.1	1	4.2
Salinas	0	0.0	5	16.5	5	16.7
San Germán	4	11.7	5	14.6	2	5.9
San Juan	117	31.2	203	54.2	132	36.1
San Lorenzo	6	14.9	8	19.9	3	7.6
San Sebastián	1	2.4	2	4.9	7	17.5
Santa Isabel	3	12.9	6	25.9	3	13.1
Toa Alta	11	14.6	19	25.2	9	12.0
Toa Baja	21	24.4	40	46.5	13	15.5
Trujillo Alto	8	11.0	21	28.9	13	18.3
Utuado	2	6.3	3	9.5	4	12.9
Vega Alta	4	10.1	8	20.1	5	12.7
Vega Baja	10	17.4	19	33.1	9	16.0
Vieques	3	32.5	3	32.5	1	11.0

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Municipality/ State	Primary and Secondary Syphilis New Cases	Primary and Secondary Syphilis Incidence Rate	Total Syphilis New Cases	Total Syphilis Incidence Rate	HIV New Cases	HIV Incidence Rate
Villalba	2	8.0	7	28.1	2	8.2
Yabucoa	2	5.5	6	16.4	3	8.4
Yauco	0	0.0	0	0.0	2	5.2
PUERTO RICO	484	13.4	960	26.6	594	16.7
UNITED STATES		6.3	-	20.1	44,073	13.8
Sources: Puerto Rico Department of Health, HIV/AIDS and STD Surveillance Program (2014) United States Statistics Sources: Centers for Disease Control and Prevention (CDC), Sexually Transmitted Diseases Surveillance 2014						

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Table 18: Infant Mortality Rate, Preterm Birth Rate and Teen Pregnancy

Municipality/State	Infant mortality rate per 1000 live births (2010-2014 average)	Preterm Birth Rate per 100 live births (2014)	Teen Pregnancy (%) 2014
Adjuntas	6.8	17.1	16.1
Aguada	7.8	12.9	11.6
Aguadilla	5.7	12.4	13.4
Aguas Buenas	6.7	10.1	16.5
Aibonito	11.4	6.0	19.1
Añasco	9.5	13.5	14.7
Arecibo	5.1	11.6	14.2
Arroyo	10.7	12.9	14.0
Barceloneta	2.3	13.8	12.2
Barranquitas	4.1	5.7	15.4
Bayamón	5.6	12.9	12.2
Cabo Rojo	14.5	13.0	13.7
Caguas	7.4	11.7	13.6
Camuy	3.0	7.9	12.9
Canóvanas	8.3	11.3	15.7
Carolina	8.4	9.5	11.4
Cataño	8.0	10.0	20.8
Cayey	4.8	10.7	18.4
Ceiba	5.6	7.0	16.7
Ciales	7.9	17.9	17.9
Cidra	5.1	9.3	12.4
Coamo	4.5	12.6	17.5
Comerío	5.4	8.9	19.8
Corozal	4.5	11.9	12.2
Culebra	16.0	15.8	10.5
Dorado	3.3	11.0	10.0
Fajardo	5.7	10.6	14.2
Florida	1.4	14.7	15.4
Guánica	9.3	20.3	18.4
Guayama	5.5	11.4	15.1
Guayanilla	8.2	18.1	13.3
Guaynabo	7.0	9.8	10.6
Gurabo	7.4	9.9	13.5
Hatillo	5.0	10.2	14.6
Hormigueros	16.9	11.6	10.1
Humacao	6.3	13.7	14.0
Isabela	7.0	11.6	12.9

Municipality/State	Infant mortality rate per 1000 live births (2010-2014 average)	Preterm Birth Rate per 100 live births (2014)	Teen Pregnancy (%) 2014
Jayuya	2.0	11.0	17.1
Juana Díaz	6.7	12.5	13.2
Juncos	8.4	12.0	15.4
Lajas	12.0	10.3	10.8
Lares	2.6	11.6	13.5
Las Marías	5.6	19.0	19.0
Las Piedras	11.4	11.5	12.4
Loíza	7.2	11.0	17.8
Luquillo	7.6	12.2	18.3
Manatí	4.2	12.8	20.7
Maricao	9.8	20.4	35.2
Maunabo	12.6	14.5	29.8
Mayagüez	5.6	10.5	15.5
Moca	5.4	11.8	15.5
Morovis	5.3	14.8	16.3
Naguabo	10.1	12.0	16.7
Naranjito	8.1	12.6	13.2
Orocovis	5.0	11.2	20.2
Patillas	8.4	14.4	16.2
Peñuelas	5.4	16.2	13.7
Ponce	8.5	12.3	14.9
Quebradillas	6.1	10.5	10.9
Rincón	10.4	12.8	13.5
Río Grande	9.5	10.5	16.6
Sabana Grande	10.9	15.1	14.2
Salinas	9.9	9.7	14.7
San Germán	10.1	17.2	16.3
San Juan	7.3	10.0	12.8
San Lorenzo	8.8	14.0	15.4
San Sebastián	5.3	9.4	13.4
Santa Isabel	7.4	12.2	17.7
Toa Alta	5.9	12.5	12.5
Toa Baja	5.6	11.6	16.7
Trujillo Alto	5.7	10.6	11.7
Utuado	4.0	11.3	17.7
Vega Alta	5.6	13.0	14.3
Vega Baja	5.4	13.2	18.3
Vieques	10.1	8.2	26.5

Municipality/State	Infant mortality rate per 1000 live births (2010-2014 average)	Preterm Birth Rate per 100 live births (2014)	Teen Pregnancy (%) 2014
Villalba	5.3	10.7	11.7
Yabucoa	13.2	14.8	17.0
Yauco	13.7	23.3	13.6
PUERTO RICO	8.2	11.8	14.4
UNITED STATES	6.0 (2013)	11.4 (2013)	24.2 (per 1,000)
Source: Puerto Rico Department of Health, Mother, child, and adolescent Division, 2014 United States Statistics Source: Centers for Disease Control and Prevention			

Table 19: Estimates of people who received Alzheimer Services, Puerto Rico 2013

Municipality/State	Estimates
Adjuntas	118
Aguada	315
Aguadilla	586
Aguas Buenas	247
Aibonito	257
Añasco	234
Arecibo	723
Arroyo	181
Barceloneta	201
Barranquitas	153
Bayamon	2,606
Cabo Rojo	472
Caguas	1,693
Camuy	205
Canovanas	425
Carolina	1,864
Cataño	231
Cayey	412
Ceiba	137
Ciales	123
Cidra	263
Coamo	237
Comerio	119
Corozal	266
Culebra	15
Dorado	331
Fajardo	364
Florida	100
Guanica	183
Guayama	359
Guayanilla	156
Guaynabo	921
Gurabo	361
Hatillo	215
Hormigueros	217
Humacao	415
Isabela	313
Jayuya	101
Juana Diaz	362

Municipality/State	Estimates
Juncos	315
Lajas	342
Lares	179
Las Marias	44
Las Piedras	265
Loiza	123
Luquillo	193
Manati	359
Maricao	14
Maunabo	110
Mayaguez	808
Moca	289
Morovis	220
Naguabo	187
Naranjito	312
Orocovis	122
Patillas	193
Peñuelas	143
Ponce	1,445
Quebradillas	195
Rincon	162
Rio Grande	508
Sabana Grande	243
Salinas	142
San German	341
San Juan	2,456
San Lorenzo	1,787
San Sebastian	441
Santa Isabel	156
Toa Alta	569
Toa Baja	889
Trujillo Alto	613
Utuado	138
Vega Alta	255
Vega Baja	564
Vieques	49
Villalba	155
Yabucoa	290
Yauco	330
Unknown	2,011

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Municipality/State	Estimates
Puerto Rico	34,438
Outside Puerto Rico	40
Total	34,478
Source: Puerto Rico Department of Health, Auxiliary Secretariat of Planning and Development	

Table 20: Leading 3 Causes of Death Age-Adjusted Mortality Rate, 2013

Municipality/State	Cancer	Heart Disease	Diabetes
Adjuntas	89.5	99.7	91.9
Aguada	111.6	101.0	67.5
Aguadilla	135.7	125.6	89.4
Aguas Buenas	87.0	69.5	45.1
Aibonito	119.0	124.5	45.7
Añasco	71.1	125.4	51.5
Arecibo	125.2	116.1	93.5
Arroyo	169.1	180.2	89.2
Barceloneta	97.5	118.1	53.6
Barranquitas	122.1	111.7	69.8
Bayamón	126.4	103.2	66.7
Cabo Rojo	101.3	83.1	66.3
Caguas	114.4	131.9	64.9
Camuy	135.7	110.0	68.8
Canóvanas	97.1	137.9	83.9
Carolina	127.8	106.0	64.1
Cataño	111.1	91.1	46.0
Cayey	131.5	106.7	47.6
Ceiba	107.7	107.7	39.8
Ciales	88.1	70.3	54.2
Cidra	101.2	105.7	51.2
Coamo	112.2	116.7	52.0
Comerío	117.9	109.4	60.3
Corozal	117.5	113.6	76.7
Culebra	218.0	195.7	38.8
Dorado	93.0	61.9	47.6
Fajardo	129.9	126.0	110.3
Florida	73.6	154.7	44.9
Guánica	108.4	179.0	112.0
Guayama	112.7	136.5	85.4
Guayanilla	150.2	109.5	122.0
Guaynabo	127.1	107.5	54.3
Gurabo	128.5	121.0	71.9
Hatillo	88.3	80.5	87.0
Hormigueros	156.2	90.8	63.8
Humacao	113.0	102.8	68.0
Isabela	89.1	108.5	96.0
Jayuya	74.8	219.9	34.4
Juana Díaz	161.7	112.5	54.5
Juncos	137.3	154.7	81.6

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Municipality/State	Cancer	Heart Disease	Diabetes
Lajas	131.7	101.4	107.2
Lares	117.7	146.9	63.1
Las Marías	129.4	66.3	83.9
Las Piedras	108.5	84.4	78.3
Loíza	96.7	85.3	76.1
Luquillo	114.2	110.8	85.3
Manatí	129.1	117.3	79.3
Maricao	45.4	15.4	45.7
Maunabo	79.3	145.3	95.2
Mayagüez	114.7	134.0	61.5
Moca	125.4	113.1	61.1
Morovis	148.5	97.7	78.7
Naguabo	126.3	106.8	88.7
Naranjito	106.4	118.5	51.5
Orocovis	104.9	119.2	57.8
Patillas	105.7	148.3	97.3
Peñuelas	99.2	139.1	82.6
Ponce	109.2	131.3	76.7
Quebradillas	117.6	120.6	75.8
Rincón	79.3	96.4	81.5
Río Grande	116.7	90.8	103.6
Sabana Grande	119.0	75.3	56.9
Salinas	129.4	114.2	84.4
San Germán	135.8	133.8	89.5
San Juan	119.0	112.3	56.2
San Lorenzo	108.4	97.4	49.0
San Sebastián	130.4	151.5	71.6
Santa Isabel	109.8	155.4	117.8
Toa Alta	122.9	95.8	80.4
Toa Baja	132.0	112.7	77.0
Trujillo Alto	115.7	103.3	71.8
Utuado	94.0	103.4	80.5
Vega Alta	108.8	105.0	58.2
Vega Baja	109.9	91.2	71.8
Vieques	137.9	60.8	70.6
Villalba	116.8	96.2	77.5
Yabucoa	88.3	103.1	76.
Yauco	108.3	123.5	92.3
PUERTO RICO	117.5	114.4	70.5
ESTADOS UNIDOS	163.2	169.8	21.2

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Table 21: Suicide Crude Rate per 100,000 Population, 2015

Municipality/State	Suicide Crude Rate
Adjuntas	20.8
Aguada	2.4
Aguadilla	5.1
Aguas Buenas	3.6
Aibonito	11.9
Añasco	10.4
Arecibo	7.4
Arroyo	0.0
Barceloneta	4.0
Barranquitas	6.7
Bayamón	4.5
Cabo Rojo	5.9
Caguas	7.8
Camuy	20.3
Canóvanas	6.3
Carolina	3.5
Cataño	7.3
Cayey	12.7
Ceiba	0.0
Ciales	5.5
Cidra	11.7
Coamo	9.9
Comerío	0.0
Corozal	11.0
Culebra	0.0
Dorado	0.0
Fajardo	8.4
Florida	23.9
Guánica	10.7
Guayama	6.8
Guayanilla	9.6
Guaynabo	2.1
Gurabo	6.5
Hatillo	7.2
Hormigueros	0.0
Humacao	3.5
Isabela	4.4
Jayuya	6.2
Juana Díaz	12.0

Municipality/State	Suicide Crude Rate
Juncos	7.4
Lajas	0.0
Lares	3.4
Las Marías	0.0
Las Piedras	10.3
Loíza	0.0
Luquillo	5.1
Manatí	9.3
Maricao	0.0
Maunabo	8.4
Mayagüez	5.9
Moca	7.6
Morovis	9.2
Naguabo	3.7
Naranjito	6.7
Orocovis	13.1
Patillas	10.7
Peñuelas	0.0
Ponce	7.5
Quebradillas	3.9
Rincón	0.0
Río Grande	1.9
Sabana Grande	4.0
Salinas	6.6
San Germán	14.4
San Juan	6.8
San Lorenzo	9.9
San Sebastián	4.9
Santa Isabel	0.0
Toa Alta	1.3
Toa Baja	3.5
Trujillo Alto	2.7
Utuado	9.3
Vega Alta	0.0
Vega Baja	13.8
Vieques	10.8
Villalba	4.0
Yabucoa	5.4
Yauco	7.4
PUERTO RICO (adjusted rate)2015	6.5

Municipality/State	Suicide Crude Rate
PUERTO RICO (adjusted rate)2014	6.9
UNITED STATES (adjusted rate)2014	12.6
Frequencies obtained from: Puerto Rico Department of Health, Commission for Suicide Prevention. Rate per 100,000 population by U.S census 2014-2015 annual estimates. Preliminary data February 10, 2016. United States Statistics Source: NCHS data brief, no 229. Hyattsville, MD: National Center for Health Statistics. 2015	

Table 22: Suicide Frequency and Adjusted Mortality Rate by Health Region

Health region/Municipality	Suicide Frequency 2014-2015	Adjusted Mortality Rate by Health Region 2014-2015	Suicide Frequency 2015-2016	Adjusted Mortality Rate by Health Region 2015-2016
Aguadilla Region	20		11	
Aguada	8		1	
Aguadilla	5	9.08	3	5.00
Isabela	2		2	
Moca	1		3	
San Sebastián	4		2	
Arecibo Region	39		42	
Arecibo	11		7	
Barceloneta	1		1	
Camuy	2		7	
Ciales	0		1	
Florida	1		3	
Hatillo	2	8.94	3	9.63
Lares	2		1	
Manatí	1		4	
Morovis	7		3	
Quebradillas	4		1	
Utuado	4		3	
Vega Baja	4		8	
Bayamón Region	38		26	
Barranquitas	6		2	
Bayamón	8		9	
Cataño	2		2	
Comerío	3		0	
Corozal	3		4	
Dorado	2	6.39	0	4.37
Naranjito	0		2	
Orocovis	5		3	
Toa Alta	5		1	
Toa Baja	1		3	
Vega Alta	3		0	
Caguas Region	41	7.15	43	8.03
Aguas Buenas	2		1	
Aibonito	5		3	

Health region/Municipality	Suicide Frequency 2014-2015	Adjusted Mortality Rate by Health Region 2014-2015	Suicide Frequency 2015-2016	Adjusted Mortality Rate by Health Region 2015-2016
Caguas	3		11	
Cayey	7		6	
Cidra	2		5	
Gurabo	3		3	
Humacao	3		2	
Juncos	5		3	
Las Piedras	3		4	
Maunabo	1		1	
Naguabo	3		1	
San Lorenzo	3		4	
Yabucoa	1		2	
Fajardo Region	**5**		**6**	
Ceiba	1		0	
Culebra	0		0	
Fajardo	0	**3.86**	3	**4.63**
Luquillo	1		1	
Río Grande	2		1	
Vieques	1		1	
Mayagüez Region	**22**		**17**	
Añasco	2		3	
Cabo Rojo	2		3	
Hormigueros	1		0	
Lajas	2		0	
Las Marías	1	**7.59**	0	**5.87**
Maricao	3		0	
Mayagüez	8		5	
Rincón	1		0	
Sabana Grande	0		1	
San Germán	2		5	
Metro Region	**38**		**39**	
Canóvanas	1		3	
Carolina	3		6	
Guaynabo	6	**4.93**	2	**5.06**
Loíza	1		0	
San Juan	23		26	
Trujillo Alto	4		2	
Ponce Region	**44**		**42**	

Health region/Municipality	Suicide Frequency 2014-2015	Adjusted Mortality Rate by Health Region 2014-2015	Suicide Frequency 2015-2016	Adjusted Mortality Rate by Health Region 2015-2016
		8.24		**7.86**
			4	
Adjuntas	1			
Arroyo	1		0	
Coamo	5		4	
Guánica	3		2	
Guayama	2		3	
Guayanilla	1		2	
Jayuya	3		1	
Juana Díaz	5		6	
Patillas	1		2	
Peñuelas	0		0	
Ponce	18		12	
Salinas	0		2	
Santa Isabel	0		0	
Villalba	1		1	
Yauco	3		3	
Source: Puerto Rico Department of Health, Commission for Suicide Prevention Preliminary Data February 10, 2016 Adjusted with the 2010-2014 population				

Appendix D: Supplementary Tables – Health Care Access Statistics

Table 23: Population Below the 100% and 200% of the FPL, 2010-2014 Estimates

Municipality/ State	Total Population (For Whom Poverty Status is Determined)	Population Below 100% FPL	Percent Below 100% FPL	Population Below 200% FPL	Percent Below 200% FPL
Adjuntas	19,014	11,802	62.07%	15,837	83.29%
Aguada	41,124	21,910	53.28%	32,816	79.80%
Aguadilla	57,667	28,492	49.41%	43,676	75.74%
Aguas Buenas	27,996	15,135	54.06%	23,882	85.31%
Aibonito	25,220	12,242	48.54%	19,722	78.20%
Añasco	28,796	14,084	48.91%	24,111	83.73%
Arecibo	92,509	44,931	48.57%	69,724	75.37%
Arroyo	19,244	9,951	51.71%	16,721	86.89%
Barceloneta	24,878	13,479	54.18%	20,519	82.48%
Barranquitas	29,732	17,625	59.28%	24,837	83.54%
Bayamón	195,909	69,323	35.39%	130,006	66.36%
Cabo Rojo	50,606	25,754	50.89%	39,106	77.28%
Caguas	139,585	52,281	37.45%	93,662	67.10%
Camuy	34,385	15,178	44.14%	27,518	80.03%
Canóvanas	47,488	20,946	44.11%	35,634	75.04%
Carolina	170,590	51,302	30.07%	103,515	60.68%
Cataño	27,184	13,492	49.63%	19,791	72.80%
Cayey	47,215	19,496	41.29%	34,114	72.25%
Ceiba	13,067	5,728	43.84%	10,188	77.97%
Ciales	18,170	10,844	59.68%	15,739	86.62%
Cidra	42,696	16,620	38.93%	30,502	71.44%
Coamo	40,367	20,196	50.03%	31,410	77.81%
Comerío	20,469	11,736	57.34%	16,949	82.80%
Corozal	36,341	19,157	52.71%	30,338	83.48%
Culebra	1,585	696	43.91%	1,258	79.37%
Dorado	38,176	13,785	36.11%	23,551	61.69%
Fajardo	35,277	15,643	44.34%	25,925	73.49%
Florida	12,554	6,857	54.62%	11,146	88.78%
Guánica	18,590	11,965	64.36%	16,641	89.52%
Guayama	42,237	21,111	49.98%	33,481	79.27%
Guayanilla	20,796	11,290	54.29%	17,246	82.93%
Guaynabo	95,017	26,318	27.70%	47,499	49.99%
Gurabo	46,227	16,059	34.74%	27,665	59.85%
Hatillo	41,782	19,270	46.12%	32,017	76.63%
Hormigueros	16,859	6,039	35.82%	12,694	75.30%
Humacao	56,586	24,531	43.35%	42,740	75.53%
Isabela	44,638	24,718	55.37%	36,436	81.63%
Jayuya	16,146	9,149	56.66%	13,742	85.11%
Juana Díaz	49,359	24,992	50.63%	39,299	79.62%

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Municipality/ State	Total Population (For Whom Poverty Status is Determined)	Population Below 100% FPL	Percent Below 100% FPL	Population Below 200% FPL	Percent Below 200% FPL
Juncos	40,221	18,507	46.01%	30,438	75.68%
Lajas	25,066	15,266	60.90%	21,598	86.16%
Lares	29,050	17,330	59.66%	24,668	84.92%
Las Marías	9,439	5,356	56.74%	7,910	83.80%
Las Piedras	38,589	18,371	47.61%	30,003	77.75%
Loíza	28,997	13,899	47.93%	23,493	81.02%
Luquillo	19,681	8,793	44.68%	14,621	74.29%
Manatí	42,398	19,212	45.31%	30,559	72.08%
Maricao	6,384	3,763	58.94%	5,573	87.30%
Maunabo	11,869	6,682	56.30%	9,647	81.28%
Mayagüez	84,124	42,329	50.32%	65,609	77.99%
Moca	39,111	20,746	53.04%	32,502	83.10%
Morovis	32,391	17,926	55.34%	27,243	84.11%
Naguabo	26,792	14,331	53.49%	21,238	79.27%
Naranjito	29,868	14,859	49.75%	24,223	81.10%
Orocovis	22,787	13,494	59.22%	19,835	87.05%
Patillas	18,750	10,592	56.49%	15,506	82.70%
Peñuelas	23,188	14,121	60.90%	20,124	86.79%
Ponce	156,582	80,561	51.45%	119,742	76.47%
Quebradillas	25,417	14,510	57.09%	21,702	85.38%
Rincón	14,978	7,557	50.45%	12,279	81.98%
Río Grande	52,583	21,398	40.69%	37,471	71.26%
Sabana Grande	24,587	12,430	50.56%	19,436	79.05%
Salinas	30,158	17,573	58.27%	24,606	81.59%
San Germán	34,137	16,532	48.43%	27,271	79.89%
San Juan	374,313	153,228	40.94%	243,391	65.02%
San Lorenzo	40,066	19,750	49.29%	31,435	78.46%
San Sebastián	40,992	23,247	56.71%	34,835	84.98%
Santa Isabel	23,114	11,750	50.83%	18,278	79.08%
Toa Alta	74,515	24,514	32.90%	45,321	60.82%
Toa Baja	86,650	32,728	37.77%	59,521	68.69%
Trujillo Alto	72,489	22,336	30.81%	43,362	59.82%
Utuado	32,054	17,320	54.03%	26,130	81.52%
Vega Alta	38,951	19,825	50.90%	30,783	79.03%
Vega Baja	57,456	28,937	50.36%	44,491	77.43%
Vieques	9,162	3,807	41.55%	7,557	82.48%
Villalba	24,999	13,455	53.82%	20,527	82.11%
Yabucoa	36,722	18,995	51.73%	30,775	83.81%
Yauco	39,926	20,808	52.12%	32,402	81.16%
Puerto Rico	3,604,637	1,630,965	45.25%	2,647,762	73.45%
United States	306,226,394	47,755,606	15.59%	105,773,407	34.54%
Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates, Table C17002, and PR PCO.					

Municipality/ State	Total civilian non-institutionalized population	Estimate uninsured population	Percent of uninsured population
Adjuntas	19,146	1,763	9.2
Aguada	41,138	2,508	6.1
Aguadilla	57,624	3,450	6.0
Aguas Buenas	27,996	1,702	6.1
Aibonito	25,220	1,057	4.2
Añasco	28,819	835	2.9
Arecibo	92,614	6,332	6.8
Arroyo	19,244	923	4.8
Barceloneta	24,878	1,551	6.2
Barranquitas	29,982	828	2.8
Bayamón	196,070	14,845	7.6
Cabo Rojo	50,616	3,064	6.1
Caguas	139,706	10,706	7.7
Camuy	34,413	1,953	5.7
Canóvanas	47,623	4,912	10.3
Carolina	170,724	16,135	9.5
Cataño	27,207	2,239	8.2
Cayey	47,219	3,673	7.8
Ceiba	13,107	698	5.3
Ciales	18,228	783	4.3
Cidra	42,730	2,800	6.6
Coamo	40,400	2,379	5.9
Comerío	20,532	1,238	6.0
Corozal	36,341	1,392	3.8
Culebra	1,585	161	10.2
Dorado	38,200	2,229	5.8
Fajardo	35,321	2,600	7.4
Florida	12,554	740	5.9
Guánica	18,619	1,262	6.8
Guayama	42,241	2,073	4.9
Guayanilla	20,822	934	4.5
Guaynabo	95,076	7,363	7.7
Gurabo	46,298	3,105	6.7
Hatillo	41,788	2,504	6.0
Hormigueros	16,883	901	5.3
Humacao	56,730	3,367	5.9
Isabela	44,731	3,270	7.3
Jayuya	16,146	359	2.2

Municipality/ State	Total civilian non-institutionalized population	Estimate uninsured population	Percent of uninsured population
Juana Díaz	49,440	2,163	4.4
Juncos	40,223	3,070	7.6
Lajas	25,084	1,258	5.0
Lares	29,232	3,342	11.4
Las Marías	9,460	336	3.6
Las Piedras	38,678	2,027	5.2
Loíza	29,032	3,324	11.4
Luquillo	19,704	1,548	7.9
Manatí	42,512	3,512	8.3
Maricao	6,384	313	4.9
Maunabo	11,898	619	5.2
Mayagüez	84,788	5,745	6.8
Moca	39,157	2,161	5.5
Morovis	32,470	1,653	5.1
Naguabo	26,837	1,348	5.0
Naranjito	29,986	1,683	5.6
Orocovis	22,823	773	3.4
Patillas	18,766	1,018	5.4
Peñuelas	23,292	1,004	4.3
Ponce	156,901	9,418	6.0
Quebradillas	25,504	1,047	4.1
Rincón	14,978	652	4.4
Río Grande	52,613	3,934	7.5
Sabana Grande	24,611	1,429	5.8
Salinas	30,347	2,214	7.3
San Germán	34,649	1,588	4.6
San Juan	376,140	43,413	11.5
San Lorenzo	40,219	2,218	5.5
San Sebastián	41,099	2,830	6.9
Santa Isabel	23,091	1,640	7.1
Toa Alta	74,577	5,956	8.0
Toa Baja	86,669	7,182	8.3
Trujillo Alto	72,637	5,290	7.3
Utuado	32,067	2,748	8.6
Vega Alta	39,029	2,560	6.6
Vega Baja	57,757	4,154	7.2
Vieques	9,217	619	6.7
Villalba	25,012	791	3.2
Yabucoa	36,830	1,962	5.3

Municipality/ State	Total civilian non-institutionalized population	Estimate uninsured population	Percent of uninsured population
Yauco	40,180	1,981	4.9
Puerto Rico	**3,612,464**	**259,157**	**7.2**
United States	**309,082,258**	**43,878,131**	**14.2**
Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates, and PR-PCO.			

Table 25: Prenatal Care in First and Third Trimester, 2014

Municipality/ State	Births	Percent of births whose mothers began prenatal care in first trimester	Percent of births whose mothers began prenatal care in third trimester
Adjuntas	205	81.0	2.9
Aguada	372	88.7	1.1
Aguadilla	501	88.0	0.6
Aguas Buenas	237	82.3	1.3
Aibonito	267	77.9	3.4
Añasco	251	88.0	1.2
Arecibo	838	81.3	2.1
Arroyo	171	84.8	1.2
Barceloneta	254	90.2	2.4
Barranquitas	384	80.7	2.6
Bayamón	1794	80.9	1.8
Cabo Rojo	415	87.7	1.9
Caguas	1255	85.3	1.8
Camuy	280	82.5	2.1
Canovanas	541	84.3	1.3
Carolina	1599	83.1	1.8
Cataño	289	77.5	3.1
Cayey	441	82.3	1.8
Ceiba	114	79.8	1.8
Ciales	223	89.2	0.9
Cidra	410	84.6	1.2
Coamo	389	87.1	0.8
Comerio	202	83.7	1.5
Corozal	394	85.3	0.8
Culebra	19	89.5	0.0
Dorado	409	81.2	1.2
Fajardo	360	84.7	1.4
Florida	143	85.3	2.8
Guanica	207	86.0	2.4
Guayama	438	77.9	3.2
Guayanilla	210	88.6	1.0
Guaynabo	824	86.2	1.7
Gurabo	415	88.2	0.7
Hatillo	322	86.0	2.2
Hormigueros	129	89.9	0.0
Humacao	570	87.7	1.6
Isabela	372	86.0	1.1
Jayuya	181	84.5	1.1
Juana Díaz	559	89.1	0.5
Juncos	435	87.8	0.2
Lajas	194	82.0	0.5
Lares	275	84.4	1.5

Municipality/ State	Births	Percent of births whose mothers began prenatal care in first trimester	Percent of births whose mothers began prenatal care in third trimester
Las Marías	84	79.8	2.4
Las Piedras	356	86.2	2.2
Loíza	236	80.9	0.8
Luquillo	197	82.7	3.0
Manati	421	83.4	3.1
Maricao	54	66.7	1.9
Maunabo	131	80.9	2.3
Mayagüez	677	83.0	1.0
Moca	380	89.7	0.5
Morovis	338	85.5	1.8
Naguabo	234	81.6	1.7
Naranjito	342	83.0	2.0
Orocovis	258	78.3	3.5
Patillas	167	79.6	2.4
Peñuelas	278	79.5	3.6
Ponce	1,717	83.3	1.6
Quebradillas	238	83.6	1.3
Rincón	133	86.5	0.0
Rio Grande	457	81.8	2.4
Sabana Grande	232	84.5	0.4
Salinas	319	85.3	0.9
San Germán	337	85.8	0.9
San Juan	3557	81.2	2.8
San Lorenzo	350	88.0	1.7
San Sebastian	352	89.5	2.0
Santa Isabel	237	84.4	3.8
Toa ALta	682	79.9	1.0
Toa Baja	831	78.8	1.1
Trujillo Alto	625	84.3	1.1
Utuado	310	80.3	1.3
Vega Alta	378	79.1	1.9
Vega Baja	552	79.7	3.3
Vieques	98	73.5	1.0
Villalba	281	87.5	0.4
Yabucoa	324	84.9	2.5
Yauco	369	89.2	1.9
Puerto Rico	**34,493**	**83.4**	**1.8**
United States	**3,988,076**	**70.8**	**4.1**
Source: Certificate of Birth and Death 2014; Vital Statistics Office, Puerto Rico Department of Health and PR PCO. US Data Source: US Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Division of Vital Statistics, Nativity public-use data 2007-2014			

Table 26: Low Birth Weight (<2,500g) Births, 2014

Municipality/ State	Number of births	Low birthweight births	Percent of Low Birth Weight (<2500g) Births
Adjuntas	205	22	10.7
Aguada	372	46	12.4
Aguadilla	501	63	12.6
Aguas Buenas	237	29	12.2
Aibonito	267	26	9.7
Añasco	251	32	12.7
Arecibo	838	68	8.1
Arroyo	171	20	11.7
Barceloneta	254	18	7.1
Barranquitas	384	35	9.1
Bayamón	1,794	189	10.5
Cabo Rojo	415	50	12.0
Caguas	1,255	160	12.7
Camuy	280	15	5.4
Canóvanas	541	58	10.7
Carolina	1,599	136	8.5
Cataño	289	29	10.0
Cayey	441	35	7.9
Ceiba	114	7	6.1
Ciales	223	36	16.1
Cidra	410	47	11.5
Coamo	389	37	9.5
Comerío	202	19	9.4
Corozal	394	35	8.9
Culebra	19	3	15.8
Dorado	409	36	8.8
Fajardo	360	42	11.7
Florida	143	11	7.7
Guánica	207	41	19.8
Guayama	438	48	11.0
Guayanilla	210	29	13.8
Guaynabo	824	73	8.9
Gurabo	415	46	11.1
Hatillo	322	28	8.7
Hormigueros	129	17	13.2
Humacao	570	83	14.6
Isabela	372	41	11.0
Jayuya	181	16	8.8
Juana Díaz	559	57	10.2

Municipality/ State	Number of births	Low birthweight births	Percent of Low Birth Weight (<2500g) Births
Juncos	435	58	13.3
Lajas	194	22	11.3
Lares	275	27	9.8
Las Marías	84	11	13.1
Las Piedras	356	39	11.0
Loíza	236	31	13.1
Luquillo	197	22	11.2
Manatí	421	37	8.8
Maricao	54	7	13.0
Maunabo	131	17	13.0
Mayagüez	677	72	10.6
Moca	380	48	12.6
Morovis	338	26	7.7
Naguabo	234	29	12.4
Naranjito	342	50	14.6
Orocovis	258	27	10.5
Patillas	167	21	12.6
Peñuelas	278	40	14.4
Ponce	1,717	204	11.9
Quebradillas	238	29	12.2
Rincón	133	16	12.0
Río Grande	457	44	9.6
Sabana Grande	232	29	12.5
Salinas	319	33	10.3
San Germán	337	45	13.4
San Juan	3,557	343	9.6
San Lorenzo	350	47	13.4
San Sebastián	352	41	11.6
Santa Isabel	237	28	11.8
Toa Alta	682	62	9.1
Toa Baja	831	83	10.0
Trujillo Alto	625	59	9.4
Utuado	310	34	11.0
Vega Alta	378	43	11.4
Vega Baja	552	56	10.1
Vieques	98	9	9.2
Villalba	281	32	11.4
Yabucoa	324	50	15.4
Yauco	369	60	16.3
Puerto Rico	**34,493**	**3,725**	**10.8**

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Municipality/ State	Number of births	Low birthweight births	Percent of Low Birth Weight (<2500g) Births
United States	**3,988,076**	**318,847**	**8.0**
Source: Certificate of Birth and Death 2014; Vital Statistics Office, Puerto Rico Department of Health. US Data Source: CDC National Vital Statistics System (NVSS), Births 2014.			

Table 27: Children (19 to 35 month old) Immunization Coverage, 2014

Municipality/ State	19-35 month old population	Vaccinated population	Vaccinated percent	Not Vaccinated population	Not vaccinated percent
Adjuntas	360	265	73.6	95	26.4
Aguada	591	386	65.3	205	34.7
Aguadilla	857	423	49.4	434	50.6
Aguas Buenas	415	208	50.1	207	49.9
Aibonito	436	213	48.9	223	51.1
Añasco	373	254	68.1	119	31.9
Arecibo	1,371	740	54.0	631	46.0
Arroyo	297	204	68.7	93	31.3
Barceloneta	413	244	59.1	169	40.9
Barranquitas	555	380	68.5	175	31.5
Bayamón	2,937	1,286	43.8	1,651	56.2
Cabo Rojo	615	449	73.0	166	27.0
Caguas	2,077	982	47.3	1,095	52.7
Camuy	491	318	64.8	173	35.2
Canóvanas	895	420	46.9	475	53.1
Carolina	2,514	1,061	42.2	1,453	57.8
Cataño	481	223	46.4	258	53.6
Cayey	743	339	45.6	404	54.4
Ceiba	201	138	68.7	63	31.3
Ciales	369	253	68.6	116	31.4
Cidra	631	271	42.9	360	57.1
Coamo	595	347	58.3	248	41.7
Comerío	331	238	71.9	93	28.1
Corozal	617	379	61.4	238	38.6
Culebra	40	29	72.5	11	27.5
Dorado	624	273	43.8	351	56.3
Fajardo	623	368	59.1	255	40.9
Florida	248	143	57.7	105	42.3
Guánica	338	250	74.0	88	26.0
Guayama	702	429	61.1	273	38.9
Guayanilla	340	261	76.8	79	23.2
Guaynabo	1,300	598	46.0	702	54.0
Gurabo	592	348	58.8	244	41.2
Hatillo	505	277	54.9	228	45.1
Hormigueros	221	144	65.2	77	34.8
Humacao	914	593	64.9	321	35.1
Isabela	564	316	56.0	248	44.0
Jayuya	295	197	66.8	98	33.2
Juana Díaz	786	536	68.2	250	31.8
Juncos	602	347	57.6	255	42.4
Lajas	360	249	69.2	111	30.8

Municipality/ State	19-35 month old population	Vaccinated population	Vaccinated percent	Not Vaccinated population	Not vaccinated percent
Lares	433	293	67.7	140	32.3
Las Marías	159	117	73.6	42	26.4
Las Piedras	550	336	61.1	214	38.9
Loíza	443	299	67.5	144	32.5
Luquillo	307	165	53.7	142	46.3
Manatí	696	308	44.3	388	55.7
Maricao	100	80	80.0	20	20.0
Maunabo	220	154	70.0	66	30.0
Mayagüez	1,301	858	65.9	443	34.1
Moca	560	312	55.7	248	44.3
Morovis	578	385	66.6	193	33.4
Naguabo	361	204	56.5	157	43.5
Naranjito	543	356	65.6	187	34.4
Orocovis	391	279	71.4	112	28.6
Patillas	304	246	80.9	58	19.1
Peñuelas	419	284	67.8	135	32.2
Ponce	2,938	1,946	66.2	992	33.8
Quebradillas	441	288	65.3	153	34.7
Rincón	183	122	66.7	61	33.3
Río Grande	834	422	50.6	412	49.4
Sabana Grande	406	270	66.5	136	33.5
Salinas	527	308	58.4	219	41.6
San Germán	503	371	73.8	132	26.2
San Juan	6,085	3,044	50.0	3,041	50.0
San Lorenzo	618	390	63.1	228	36.9
San Sebastián	638	449	70.4	189	29.6
Santa Isabel	393	258	65.6	135	34.4
Toa Alta	989	490	49.5	499	50.5
Toa Baja	1,312	608	46.3	704	53.7
Trujillo Alto	938	414	44.1	524	55.9
Utuado	477	284	59.5	193	40.5
Vega Alta	679	369	54.3	310	45.7
Vega Baja	936	362	38.7	574	61.3
Vieques	194	138	71.1	56	28.9
Villalba	466	331	71.0	135	29.0
Yabucoa	561	381	67.9	180	32.1
Yauco	632	461	72.9	171	27.1
Puerto Rico	**56,334**	**31,761**	**56.4**	24,573	**43.6**

Municipality/ State	19-35 month old population	Vaccinated population	Vaccinated percent	Not Vaccinated population	Not vaccinated percent
United States	**-**	**-**	**71.6**	-	**28.4**
Source: Puerto Rico Immunization Registry, 2014. US Data Source: National Immunization Survey (NIS), 2014.					

Table 28: Elderly (>65 years) Flu Shot Vaccination Coverage for August 2014 to June 2015

Municipality/ State	>65 year old population	Elderly Vaccination coverage %	Non-vaccinated elderly %
Adjuntas	1,071	47.4	52.6
Aguada	1,376	6.9	93.1
Aguadilla	2,844	4.6	95.4
Aguas Buenas	661	14.5	85.5
Aibonito	638	27.9	72.1
Añasco	1,196	17.3	82.7
Arecibo	3,786	13.7	86.3
Arroyo	873	18.1	81.9
Barceloneta	729	16.2	83.8
Barranquitas	1,357	20.3	79.7
Bayamón	7,910	15.9	84.1
Cabo Rojo	2,122	23.2	76.8
Caguas	4,195	7.7	92.3
Camuy	1,085	11.9	88.1
Canóvanas	1,840	7.2	92.8
Carolina	7,658	9.1	90.9
Cataño	709	12.6	87.4
Cayey	1,780	6.2	93.8
Ceiba	733	3.1	96.9
Ciales	1,001	28.0	72.0
Cidra	1,321	21.8	78.2
Coamo	1,375	24.2	75.8
Comerío	1,142	32.5	67.5
Corozal	1,600	34.3	65.7
Culebra	188	6.4	93.6
Dorado	1,004	19.6	80.4
Fajardo	1,984	9.0	91.0
Florida	409	16.4	83.6
Guánica	777	19.8	80.2
Guayama	2,010	7.9	92.1
Guayanilla	686	6.9	93.1
Guaynabo	4,361	7.6	92.4
Gurabo	865	14.7	85.3
Hatillo	1,470	16.1	83.9
Hormigueros	1,196	15.1	84.9
Humacao	2,513	22.5	77.5
Isabela	1,948	4.8	95.2
Jayuya	660	6.7	93.3
Juana Díaz	1,468	16.3	83.7
Juncos	909	19.7	80.3

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Municipality/ State	>65 year old population	Elderly Vaccination coverage %	Non-vaccinated elderly %
Lajas	911	18.7	81.3
Lares	2,318	41.1	58.9
Las Marías	485	12.8	87.2
Las Piedras	1,213	16.0	84.0
Loíza	1,021	15.5	84.5
Luquillo	776	4.6	95.4
Manatí	1,159	10.4	89.6
Maricao	261	28.0	72.0
Maunabo	469	8.1	91.9
Mayagüez	5,618	21.1	78.9
Moca	1,584	10.7	89.3
Morovis	568	18.0	82.0
Naguabo	628	8.6	91.4
Naranjito	1,079	17.6	82.4
Orocovis	782	25.7	74.3
Patillas	1,557	30.9	69.1
Peñuelas	780	6.2	93.8
Ponce	7,663	15.4	84.6
Quebradillas	1,067	11.7	88.3
Rincón	873	34.8	65.2
Río Grande	2,123	12.6	87.4
Sabana Grande	1,230	17.0	83.0
Salinas	1,037	3.7	96.3
San Germán	1,615	8.9	91.1
San Juan	16,173	11.5	88.5
San Lorenzo	1,048	21.3	78.7
San Sebastián	3,080	17.6	82.4
Santa Isabel	556	6.8	93.2
Toa Alta	1,589	16.3	83.7
Toa Baja	2,645	12.7	87.3
Trujillo Alto	2,373	7.4	92.6
Utuado	982	9.6	90.4
Vega Alta	1,516	25.7	74.3
Vega Baja	1,491	10.3	89.7
Vieques	352	27.8	72.2
Villalba	781	22.2	77.8
Yabucoa	1,452	26.7	73.3
Yauco	1,496	8.3	91.7
Puerto Rico*	**143,801**	**15.0**	**85.0**

Data corresponding to August 2014 to June 2015.
Source: Puerto Rico Immunization Registry

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Table 29: Population with a Disability, 2010-2014 Estimates

Municipality/ State	Total civilian non-institutionalized population	Percent with a Disability	Population < 5 years	Population 5-17 years	Population 18-64 years	Population 65+
Adjuntas	19,146	19.90%	0.00%	5.90%	19.90%	45.50%
Aguada	41,138	26.80%	2.90%	5.40%	24.90%	70.50%
Aguadilla	57,624	23.50%	4.50%	5.60%	20.50%	57.50%
Aguas Buenas	27,996	25.00%	1.20%	8.70%	23.60%	60.50%
Aibonito	25,220	27.60%	0.00%	12.90%	26.60%	57.60%
Añasco	28,819	18.00%	0.00%	13.60%	14.30%	42.90%
Arecibo	92,614	14.80%	1.50%	6.10%	11.40%	38.30%
Arroyo	19,244	23.60%	0.00%	17.40%	22.00%	47.80%
Barceloneta	24,878	33.60%	1.20%	13.50%	33.70%	69.30%
Barranquitas	29,982	20.90%	1.50%	15.20%	17.60%	58.30%
Bayamón	196,070	24.10%	1.40%	12.80%	19.70%	56.30%
Cabo Rojo	50,616	16.60%	2.60%	8.90%	12.20%	41.20%
Caguas	139,706	21.60%	0.20%	10.40%	18.00%	54.90%
Camuy	34,413	18.00%	1.10%	6.50%	16.00%	45.60%
Canóvanas	47,623	18.50%	0.90%	9.60%	15.90%	51.70%
Carolina	170,724	21.30%	1.00%	13.10%	17.40%	48.30%
Cataño	27,207	17.80%	0.40%	11.60%	13.60%	50.10%
Cayey	47,219	31.30%	4.20%	20.80%	28.30%	63.30%
Ceiba	13,107	12.10%	0.00%	3.40%	8.50%	35.70%
Ciales	18,228	13.70%	2.30%	4.70%	13.30%	31.10%
Cidra	42,730	29.70%	3.10%	16.50%	27.70%	68.80%
Coamo	40,400	26.00%	2.90%	12.00%	24.70%	61.20%
Comerío	20,532	25.80%	0.00%	16.30%	22.30%	64.70%
Corozal	36,341	18.40%	1.80%	11.80%	14.80%	50.70%
Culebra	1,585	7.60%	0.00%	0.00%	5.30%	27.80%
Dorado	38,200	16.30%	2.10%	6.20%	14.40%	45.80%
Fajardo	35,321	22.10%	0.80%	11.60%	17.70%	53.70%
Florida	12,554	25.90%	2.30%	9.10%	26.30%	57.00%
Guánica	18,619	28.50%	0.00%	11.20%	27.10%	58.60%
Guayama	42,241	21.30%	0.00%	11.20%	19.40%	51.90%
Guayanilla	20,822	19.80%	1.70%	5.10%	19.00%	46.40%
Guaynabo	95,076	16.60%	0.60%	8.00%	11.60%	46.30%
Gurabo	46,298	21.60%	3.00%	8.40%	21.50%	51.30%
Hatillo	41,788	8.10%	1.10%	2.90%	6.10%	23.80%
Hormigueros	16,883	25.40%	0.00%	18.90%	17.80%	54.70%
Humacao	56,730	11.60%	0.00%	4.00%	9.50%	31.60%
Isabela	44,731	26.90%	3.60%	6.90%	25.80%	60.40%
Jayuya	16,146	28.00%	1.70%	18.30%	27.10%	60.90%
Juana Díaz	49,440	21.60%	0.60%	13.80%	18.80%	55.50%
Juncos	40,223	19.90%	0.80%	6.70%	19.00%	53.20%
Lajas	25,084	18.30%	0.00%	5.50%	15.30%	43.40%
Lares	29,232	21.60%	1.20%	14.80%	18.30%	48.60%

Municipality/ State	Total civilian non-institutionalized population	Percent with a Disability	Population < 5 years	Population 5-17 years	Population 18-64 years	Population 65+
Las Marías	9,460	8.40%	0.00%	1.20%	8.10%	21.40%
Las Piedras	38,678	19.50%	0.80%	8.20%	18.80%	46.20%
Loíza	29,032	17.60%	0.00%	6.00%	15.70%	53.90%
Luquillo	19,704	23.00%	0.00%	12.60%	18.20%	59.30%
Manatí	42,512	20.30%	2.30%	8.30%	16.30%	54.70%
Maricao	6,384	10.10%	0.00%	1.60%	9.10%	28.20%
Maunabo	11,898	21.20%	0.00%	2.80%	19.50%	52.50%
Mayagüez	84,788	23.20%	0.40%	17.10%	17.60%	51.30%
Moca	39,157	23.10%	0.00%	9.20%	22.30%	56.60%
Morovis	32,470	24.20%	0.00%	17.80%	22.60%	55.80%
Naguabo	26,837	10.60%	1.20%	3.60%	8.40%	33.20%
Naranjito	29,986	22.00%	5.90%	16.00%	17.90%	54.70%
Orocovis	22,823	34.30%	1.60%	19.90%	34.20%	72.40%
Patillas	18,766	23.40%	0.00%	10.70%	21.10%	53.30%
Peñuelas	23,292	17.20%	0.70%	8.50%	14.80%	51.40%
Ponce	156,901	18.70%	0.60%	10.20%	15.20%	46.60%
Quebradillas	25,504	27.60%	0.00%	7.10%	27.00%	63.20%
Rincón	14,978	31.30%	0.00%	9.10%	27.50%	69.50%
Río Grande	52,613	23.20%	1.00%	10.70%	20.10%	57.90%
Sabana Grande	24,611	26.50%	0.00%	10.90%	24.20%	58.10%
Salinas	30,347	20.70%	0.00%	9.00%	18.40%	53.60%
San Germán	34,649	10.40%	1.10%	2.20%	8.60%	25.20%
San Juan	376,140	19.10%	1.00%	9.40%	14.40%	49.00%
San Lorenzo	40,219	22.40%	0.00%	7.40%	21.30%	53.70%
San Sebastián	41,099	27.10%	1.60%	13.00%	24.90%	55.20%
Santa Isabel	23,091	26.10%	2.20%	11.20%	26.20%	61.40%
Toa Alta	74,577	20.60%	2.70%	13.10%	19.10%	54.30%
Toa Baja	86,669	22.80%	1.10%	12.50%	19.90%	55.30%
Trujillo Alto	72,637	17.90%	0.00%	9.90%	14.10%	52.00%
Utuado	32,067	18.50%	2.70%	7.40%	16.30%	43.90%
Vega Alta	39,029	17.10%	0.80%	10.20%	14.00%	46.20%
Vega Baja	57,757	20.50%	0.00%	6.90%	18.20%	53.00%
Vieques	9,217	9.00%	0.00%	3.70%	7.90%	20.20%
Villalba	25,012	21.90%	0.00%	11.30%	19.00%	62.80%
Yabucoa	36,830	22.20%	1.30%	8.00%	21.70%	49.70%
Yauco	40,180	24.40%	0.00%	11.20%	20.30%	62.30%
Puerto Rico	3,612,464	20.90%	1.10%	10.30%	17.90%	51.00%
United States	309,082,258	12.30%	0.80%	5.30%	10.20%	36.30%
Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates, Table S1810.						

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Table 30: Homeless Population Count, 2015

Municipality	Homeless population count
Adjuntas	2
Aguada	27
Aguadilla	93
Aguas Buenas	10
Aibonito	7
Añasco	33
Arecibo	162
Arroyo	6
Barceloneta	13
Barranquitas	10
Bayamón	131
Cabo Rojo	13
Caguas	248
Camuy	22
Canóvanas	16
Carolina	110
Cataño	27
Cayey	37
Ceiba	3
Ciales	3
Cidra	39
Coamo	17
Comerío	43
Corozal	6
Culebra	0
Dorado	1
Fajardo	15
Florida	3
Guánica	14
Guayama	117
Guayanilla	30
Guaynabo	73
Gurabo	32
Hatillo	2
Hormigueros	5
Humacao	69
Isabela	6
Jayuya	27
Juana Díaz	5
Juncos	48
Lajas	6
Lares	3
Las Marías	13

Municipality	Homeless population count
Las Piedras	28
Loiza	38
Luquillo	7
Manatí	21
Maricao	1
Maunabo	6
Mayagüez	158
Moca	19
Morovis	1
Naguabo	14
Naranjito	46
Orocovis	3
Patillas	3
Peñuelas	4
Ponce	303
Quebradillas	1
Rincón	2
Río Grande	13
Sabana Grande	10
Salinas	5
San Germán	13
San Juan	1,317
San Lorenzo	33
San Sebastián	13
Santa Isabel	20
Toa Alta	25
Toa Baja	35
Trujillo Alto	73
Utuado	17
Vega Alta	71
Vega Baja	153
Vieques	6
Villalba	1
Yabucoa	31
Yauco	64
Puerto Rico	**4,518**
Source: Point in time survey (PIT) by Continuums of Care 502 and 503 Homeless Population Programs and US Department of Housing and Urban Development, 2015.	

Additional References

2010 Primary Care Needs Assessment . (2011, October). Retrieved from Maryland Department of Health and Mental Hygiene: http://phpa.dhmh.maryland.gov/opca/docs/PCO-NeedsAssessment.pdf

Alzheimer's Association. (2013). *2013 Alzheimer's Disease Facts and Figures.* Retrieved from https://www.alz.org/downloads/facts_figures_2013.pdf

Auxiliary Secretariat of Planning and Development. (2015). *Informe de la Salud en Puerto Rico, 2015.* Retrieved from Puerto Rico Departmet of Health : http://www.salud.gov.pr/Estadisticas-Registros-y-Publicaciones/Publicaciones/Informe%20de%20la%20Salud%20en%20Puerto%20Rico%202015_FINAL.pdf

Bellevue Hospital Center. (2013). *2013 Community Health Needs Assessment and Implementation Strategy.* Retrieved from New York City Health and Hospitals Corporation: http://www.nyc.gov/html/hhc/downloads/pdf/community-assessment/hhc-chna-bellevue.pdf

Bureau of Primary Health Care. (2014). *NFA Data Resource Guide.* Retrieved from Health Resources and Services Administration (HRSA): http://bphc.hrsa.gov/programopportunities/fundingopportunities/NAP/dataresourceguide.pdf

Campbell, David J. T.; O'Neill, Braden G.; Gibson, Katherine; Thurston, Wilfreda E. (2015). *Primary healthcare needs and barriers to care among Calgary's homeless populations.* Retrieved from BioMed Central: http://bmcfampract.biomedcentral.com/articles/10.1186/s12875-015-0361-3

Division of Public Health Statistics and Performance Management. (2012). *State Health Assessment: Executive Summary.* Retrieved from Florida Department of Health: http://www.floridahealth.gov/about-the-department-of-health/about-us/state-and-community-health-assessment/state-health-assmt/_documents/ExecSum.pdf

Family Health Services Division . (2010, January). *State of Hawaii Primary Care Needs Assessment Data Book 2009.* Retrieved from Hawaii Department of Health : http://health.hawaii.gov/about/files/2013/06/pcna2009databook1.pdf

Family Health Services Division . (2012, July). *State of Hawaii Primary Care Needs Assessment Data Book 2012.* Retrieved from Hawaii Department of Health : http://health.hawaii.gov/about/files/2013/06/pcna2012databook.pdf

Global Reference List of 100 Core Health Indicators, 2015. (2015). Retrieved from World Health Organization : http://www.who.int/healthinfo/indicators/2015/en/

Healthcare Association of Hawaii. (2013, July 3). *State of Hawaii Community Health Needs Assessment.* Retrieved from http://hah.org/wp-content/uploads/2013/12/2013_state_chna.pdf

Johnson City Medical Center. (2015). *2015 Community Health Needs Assessment.* Retrieved from Mountain States Health Alliance: https://www.mountainstateshealth.com/sites/default/files/documents/FY2015%20Community%20Health%20Needs%20Assessment%20JCMC.pdf

Kauai's Community Health Needs Assessment . (2013, July). Retrieved from Hawaii Department of Health : http://health.hawaii.gov/kauai/files/2013/07/KAUAI-CHNA-July-2013.pdf

Kindersley Primary Health Care Service Needs Assessment Final Report . (2015). Retrieved from https://imageserv11.team-logic.com/mediaLibrary/568/FINAL_REPORT_Consolidated_-_June_2015.pdf

Locke, Dexter; Grove, J. Morgan; Lu, Jacqueline W.T.; Troy, Austin; O'Neil-Dunne, Jarlath P.M.; Beck, Brian. (2010). *Prioritizing preferable locations for increasing urban tree canopy in New York City.* Retrieved from U.S. Department of Agriculture: http://www.nrs.fs.fed.us/pubs/37293

MCH Needs Assessment and its Uses in Program Planning: Promising Approaches and Challenges . (2004). Retrieved from Health Resources and Service Administration : http://mchb.hrsa.gov/publications/needsassesssept2004.pdf

Office of Rural Health and Primary Care. (2015). *2015 Arkansas Primary Care Needs Assessment* . Retrieved from Arkansas Department of Health: http://www.healthy.arkansas.gov/programsServices/hometownHealth/ORHPC/Documents/PCO NeedsAssessment.pdf

Pieh-Holder, KL; Callahan, C.; Young, P. (2012). *Qualitative needs assessment: healthcare experiences of underserved populations in Montgomery County, Virginia, USA. .* Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/22812680

Shea, Judith ; Jones-Santos, Jennifer ; Byrnes, Pamela. (2012). *Community Needs Assessment and Data-Supported Decision Making: Keys to Building Responsive and Effective Health Centers.* Retrieved from National Association of Community Health Centers: http://www.nachc.com/client/documents/2012%20Data%20Supported%20Decision%20Making .pdf

Skillman, Susan M.; Fordyce, Meredith A. ; Yen, Wei ; Mounts, Thea . (2012, August). *Washington State Primary Care Provider Survey, 2011-2012: Summary of Findings.* Retrieved from University of Washington: http://depts.washington.edu/uwrhrc/uploads/OFM_Report_Skillman.pdf

The University of Arizona. (2012, March). *Pima County Community Health Needs Assessment.* Retrieved from The University of Arizona Mel & Enid Zuckerman College of Public Health: http://crh.arizona.edu/sites/default/files/pdf/FINALPima%20County%20Community%20Health %20Needs%20Assessment_S.pdf

Watkins, Ryan; West Meiers, Maurya; Visser, Yusra Laila. (2012). *A Guide to Assessing Needs : Essential Tools for Collecting Information, Making Decisions, and Achieving Development Results.* Retrieved from https://openknowledge.worldbank.org/handle/10986/2231