Chronic Disease
in Puerto Rico
2021

Presented by
Noncommunicable Chronic Disease Surveillance System
Dic | 2022
Objectives

01 • Discuss the top seven causes of death in Puerto Rico

02 • Describe the epidemiological profile of hypertension, high cholesterol, arthritis, diabetes, depression, asthma and heart disease in Puerto Rico.

03 • Describe the modifiable risk factors in Puerto Rico.
CHRONIC DISEASE

Chronic diseases are defined as conditions of long duration and usually slow progression, resulting from a combination of risk factors.
MORTALITY
First causes of total deaths in Puerto Rico, 2021

- Heart Diseases: 96.1
- Cancer: 97.3
- Diabetes Mellitus: 95.1
- Alzheimer Disease: 44.7
- Accidents (unintentional injury): 43.4
- COVID-19: 30.5
- Cerebrovascular Disease: 22.8

Age-adjusted mortality rates (per 100,000)

Source - Department of Health, Puerto Rico Demographic Registry
Analysis: Secretaria Auxiliar de Planificación y Desarrollo, División de Análisis Estadísticos, 2022
CHRONIC DISEASE
Non-communicable
Adults 18+
In Puerto Rico, 68% of adultos living with at least one chronic disease (1,857,960).
Chronic Disease Comorbidities in adults of Puerto Rico, 2021

- Diabetes, Asma, Hipertensión, Colesterol Elevado, COPD, Artritis, Depresión, Cerebrovascular, Enfermedades Coronarias, Ataque Cardíaco & Enfermedad Renal.

Percentage (%): 32% for 0, 25% for 1, 16% for 2, 12% for 3, 15% for 4 or more.
Prevalence of Non Transmissible Chronic Disease in adult of Puerto Rico, 2021

- Hypertension: 41.7%
- High Cholesterol: 41.1%
- Arthritis: 20.9%
- Diabetes: 16.8%
- Depression: 15.3%
- Asthma: 11.4%
- Coronary Heart Disease: 8.4%
- Heart Attack: 5.5%
- EPOC: 5.2%
- Kidney Disease: 3.9%
- Stroke: 2.5%

Source – BRFSS 2021
HIPERTENSION

Adults 18+
2 of 5 Adults in PR living with hypertension (41.7%)

~1,142,379

Common characteristics:
- Elderly (65+): 73.3%
- Less Education (<12mo): 50.2%
- Less Income (<$15,000): 53.9%
- Arecibo & Caguas Region: 44.3%
- Widowed: 77.9%
- Retired/Disabled: 70.5%
- Physically Inactive: 52.3%
- Overweight & Obesity: 82.1%
Trend in Prevalence of Hypertension in Puerto Rico vs. United States in adults (18+), 2011-2021
HIGH CHOLESTEROL
Adults 18+
2 of 5 Adults in PR living with high cholesterol (41.1%) ~1,040,302

Common characteristics:
- Adults (55-64) 56.4%
- Less Education (<12mo) 41.1%
- Less Income (<$15,000) 42.1%
- Ponce Region 44.8%
- Widowed 52.5%
- Retired/Disabled 54.1%
- Physically Inactive 55.1%
- Overweight & Obesity 76.8%

PR-BRFSS, 2021
Trend in Prevalence of High Cholesterol in Puerto Rico vs. United States in adults (18+), 2011-2021
Common characteristics:

- Women 26.6%
- Elderly (65+)
  - 38.7%
- Less Education (<=12mo)
  - 27.5%
- Less Income (<$15,000)
  - 30.6%
- Arecibo Region
  - 28.4%
- Widowed
  - 44.2%
- Retired/Disabled
  - 42.5%
- Physically Inactive
  - 53.3%
- Overweight & Obesity
  - 79.3%

1 of 5 adults in PR living with arthritis (20.9%) ~567,175

*No ajustado por edad
Trend in Prevalence of Arthritis in Puerto Rico vs. United States in adults (18+), 2011-2021
DIABETES
Adults 18+
Common characteristics:

- Elderly (65+)
  - 35.0%
- Less Education
  - \(<=12\text{mo}\)
  - 22.3%
- Less Income
  - \(<$15,000\)
  - 23.7%
- Ponce Region
  - 20.2%
- Widowed
  - 34.7%
- Retired/Disabled
  - 34.4%
- Physically Inactive
  - 56.9%
- Overweight & Obesity
  - 82.9%

Adults in PR living with diabetes (16.8%)

\~456,640

*No ajustado por edad
Trend in Prevalence of Diabetes in Puerto Rico vs. United States in adults (18+), 2011-2021
DEPRESSION

Adults 18+
Adults in PR living with depression (15.3%) ~418,464

Common characteristics:

- Women: 17.7%
- 55-64 years: 26.1%
- Less Education (<=12mo): 16.9%
- Less Income (<$15,000): 21.7%
- Arecibo Region: 19.3%
- Divorced / Separated: 20.0%
- Widowed: 20.2%
- Retired/ Disabled: 24.8%
- Physically Inactive: 52.9%
- Overweight & Obesity: 75.2%

PR-BRFSS, 2021
Trend in Prevalence of Depression in Puerto Rico vs. United States in adults (18+), 2011-2021
CURRENT ASTHMA
Adults 18+
1 of 10 Adults in PR living with current asthma (11.4%) ~312,101

Common characteristics:

- Women: 14.3%
- 55-64 years: 14.2%
- Less Income (<$15,000): 15.2%
- Arecibo & Caguas Region: 12%
- Widowed: 15.5%
- Retired/Disabled: 13.6%
- Housekeeper: 13.3%
- Physically Inactive: 57.4%
- Overweight & Obesity: 83.1%
Trend in Prevalence of Current Asthma in Puerto Rico vs. United States in adults (18+), 2011-2021
HEART DISEASE

Adults 18+

Include Hearth Attack & Coronary Hearth Disease
Adults in PR living with heart disease

~230,381
Trend in Prevalence of Heart Disease in Puerto Rico vs. United States in adults (18+), 2011-2021
CANCER

Adults 18+
Incidence and mortality by cancer in Puerto Rico, 2014-2018

**Figure 2. Top ten cancer sites (incidence) by sex: Puerto Rico, 2014-2018**

<table>
<thead>
<tr>
<th>Category</th>
<th>% Male (N = 38,224)</th>
<th>APC&lt;sup&gt;2000-2018&lt;/sup&gt;</th>
<th>% Female (N = 34,911)</th>
<th>APC&lt;sup&gt;2000-2018&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prostate</td>
<td>37.3</td>
<td>-0.2</td>
<td>28.9</td>
<td>1.6*</td>
</tr>
<tr>
<td>Colon and rectum</td>
<td>12.0</td>
<td>0.1</td>
<td>11.2</td>
<td>-0.1</td>
</tr>
<tr>
<td>Lung and bronchus</td>
<td>5.6</td>
<td>-0.9*</td>
<td>11.0</td>
<td>10.1*</td>
</tr>
<tr>
<td>Urinary bladder</td>
<td>4.1</td>
<td>0.1</td>
<td>9.0</td>
<td>4.7*</td>
</tr>
<tr>
<td>Non-Hodgkin Lymphoma</td>
<td>4.1</td>
<td>2.5*</td>
<td>4.0</td>
<td>0.5</td>
</tr>
<tr>
<td>Oral cavity and pharynx</td>
<td>3.8</td>
<td>-0.7*</td>
<td>3.9</td>
<td>2.5*</td>
</tr>
<tr>
<td>Liver and bile duct</td>
<td>3.3</td>
<td>1.9*</td>
<td>3.1</td>
<td>1.8*</td>
</tr>
<tr>
<td>Kidney and renal pelvis</td>
<td>3.0</td>
<td>4.2*</td>
<td>2.5</td>
<td>2.9*</td>
</tr>
<tr>
<td>Leukemia</td>
<td>2.9</td>
<td>2.3*</td>
<td>2.4</td>
<td>1.0*</td>
</tr>
<tr>
<td>Thyroid</td>
<td>2.5</td>
<td>10.3*</td>
<td>2.3</td>
<td>3.0*</td>
</tr>
<tr>
<td>Other sites</td>
<td>21.4</td>
<td></td>
<td>21.9</td>
<td></td>
</tr>
</tbody>
</table>

Statistics were generated for malignant tumors only; includes urinary bladder cancer in situ. Data Source: Incidence Case File from the Puerto Rico Central Cancer Registry, March 23, 2021.

**Figure 3. Top ten cancer sites (mortality) by sex: Puerto Rico, 2014-2018**

<table>
<thead>
<tr>
<th>Category</th>
<th>% Male (N = 14,497)</th>
<th>APC&lt;sup&gt;2000-2018&lt;/sup&gt;</th>
<th>% Female (N = 11,544)</th>
<th>APC&lt;sup&gt;2000-2018&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prostate</td>
<td>16.7</td>
<td>-3.1*</td>
<td>18.9</td>
<td>-0.4</td>
</tr>
<tr>
<td>Colon and rectum</td>
<td>13.6</td>
<td>-0.5</td>
<td>13.3</td>
<td>-1.2*</td>
</tr>
<tr>
<td>Lung and bronchus</td>
<td>12.3</td>
<td>-2.3*</td>
<td>9.2</td>
<td>-1.5*</td>
</tr>
<tr>
<td>Liver and bile duct</td>
<td>7.4</td>
<td>0.0</td>
<td>6.0</td>
<td>0.9</td>
</tr>
<tr>
<td>Pancreas</td>
<td>5.9</td>
<td>1.6*</td>
<td>5.3</td>
<td>0.7</td>
</tr>
<tr>
<td>Stomach</td>
<td>3.8</td>
<td>-5.0*</td>
<td>4.7</td>
<td>-1.5*</td>
</tr>
<tr>
<td>Leukemia</td>
<td>3.5</td>
<td>-1.3*</td>
<td>4.5</td>
<td>-0.2</td>
</tr>
<tr>
<td>Oral cavity and pharynx</td>
<td>3.4</td>
<td>-2.9*</td>
<td>3.7</td>
<td>-1.3*</td>
</tr>
<tr>
<td>Non-Hodgkin Lymphoma</td>
<td>3.1</td>
<td>-1.3*</td>
<td>3.4</td>
<td>-4.3*</td>
</tr>
<tr>
<td>Esophagus</td>
<td>3.0</td>
<td>-4.3*</td>
<td>2.8</td>
<td>-0.5</td>
</tr>
<tr>
<td>Other sites</td>
<td>27.2</td>
<td></td>
<td>28.2</td>
<td></td>
</tr>
</tbody>
</table>

Data Source: Mortality Case File provided by the Demographic Registry of Puerto Rico, October, 2019.
RISK FACTORS
Modifiable

Adults 18+
Overweight and Obese
adults (18+) in PR, 2021

According to WHO:

Obesity and overweight: defined as the excessive or abnormal accumulation of fat in the body, which may result in impairment of health.

- Overweight: BMI 25.0 to 29.9
- Obesity: BMI at least 30.0

Adults in PR living with overweight or obese (69.5%)

~ 1,902,152
Trend in Prevalence of Overweight and Obese in Puerto Rico vs. United States in adults (18+), 2011-2021

PR-BRFSS, 2011-2021
Physical inactivity is the term used to identify people who do not perform the recommended level of physical activity.

Physical activity: if during the past 30 days, the person has not participated in any physical activity or exercise such as running, calisthenics, golf, mowing the lawn, walking or other exercise activity.

Adults in PR are physically inactive (46.0%)

~1,260,150

Physical inactivity of Adults (18+) in PR, 2021
Trend in Prevalence of Physical Inactivity in Puerto Rico vs. United States in adults (18+), 2011-2021
1 of 2

Adults in PR eat less than one fruit per day (48.9%)

~1,267,645
Adults in PR eat less than one vegetable per day (46.6%)

~1,197,753
Tobacco Use
Adults (18+) in PR, 2021

Main preventable risk factor associated with mortality and disease.

1 of 10

Adults smoke in PR (9.1%)
~245,545

Reported use of 100 cigarettes during their lifetime and currently smoked

PR-BRFSS, 2021
Trend in Prevalence of Tobacco Use
adults (18+) in Puerto Rico vs. United States, 2011-2021
Prevalence trend of Regular and Electronic cigarette in Youth (9th-12th) in Puerto Rico, 2007-2019
Conclusion

- For more than three decades, chronic diseases have been the leading causes of death in PR.

- More than half (58%) of adults in PR live with at least one chronic disease.

- A large part of the population of Puerto Rico is inactive and overweight or obese. They are at risk of developing chronic diseases and/or limiting the management and control of these diseases.

- Importance of addressing new public health challenges (increase in electronic cigarettes, COVID-19) and social determinants of health (lower income, lower education, etc.).

- Due to the significant burden of chronic noncommunicable diseases in Puerto Rico, it is necessary to implement evidence-based strategies that promote and facilitate the adoption of healthy lifestyles.
Department of Health Initiative

- Diabetes Self-Management Program
- Chronic Disease Self-Management Program
- Prevent T2 Program
- Asthma Home Visiting Program (Vias)
- Open Airways for School
- School Base Sealant Program
- PR Quitline - !Déjalo Ya!
- Public Policies (Ej. Act 63, ordenanzas, Act 40, Arbitrios)
- Stress Busting Program
- Tobacco Brief Interventions
- Educational Campaigns
- Quality Improvement Projects
- Alliance & Coalitions
Surveillance Products