

Health Promotion Division

# Chronic Disease *in Puerto Rico*

2021

Presented by

Noncommunicable Chronic Disease Surveillance System

Dic | 2022

DEPARTAMENTO DE  
**SALUD**



# Objectives

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

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

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- 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**.



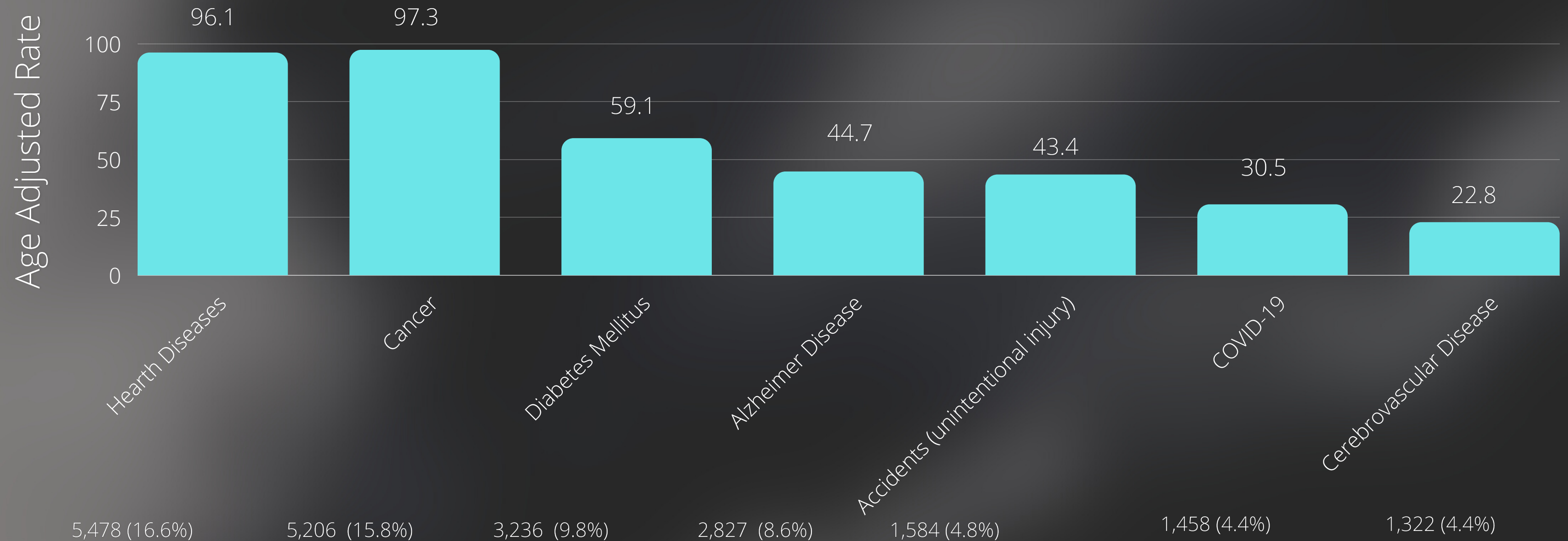
**MORTALITY**



**CHRONIC  
DISEASES**



# First causes of total deaths in Puerto Rico, 2021



Age-adjusted mortality rates (per 100,000)

Source - Department of Health, Puerto Rico Demographic Registry

Analisis: Secretaria Auxiliar de Planificación y Desarrollo, División de Análisis Estadísticos, 2022

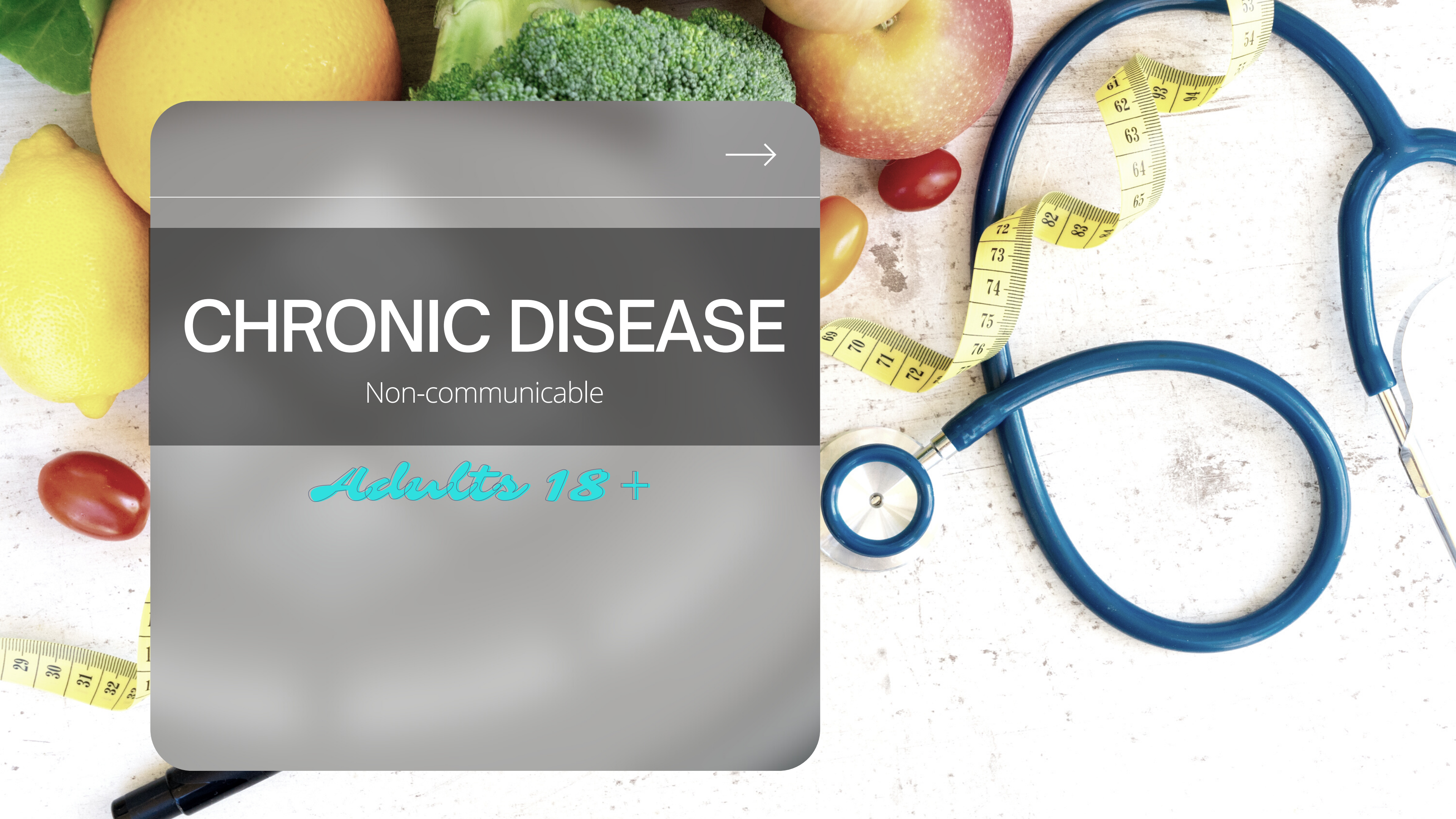




# CHRONIC DISEASE

Non-communicable

*Adults 18+*



In Puerto Rico,

68%

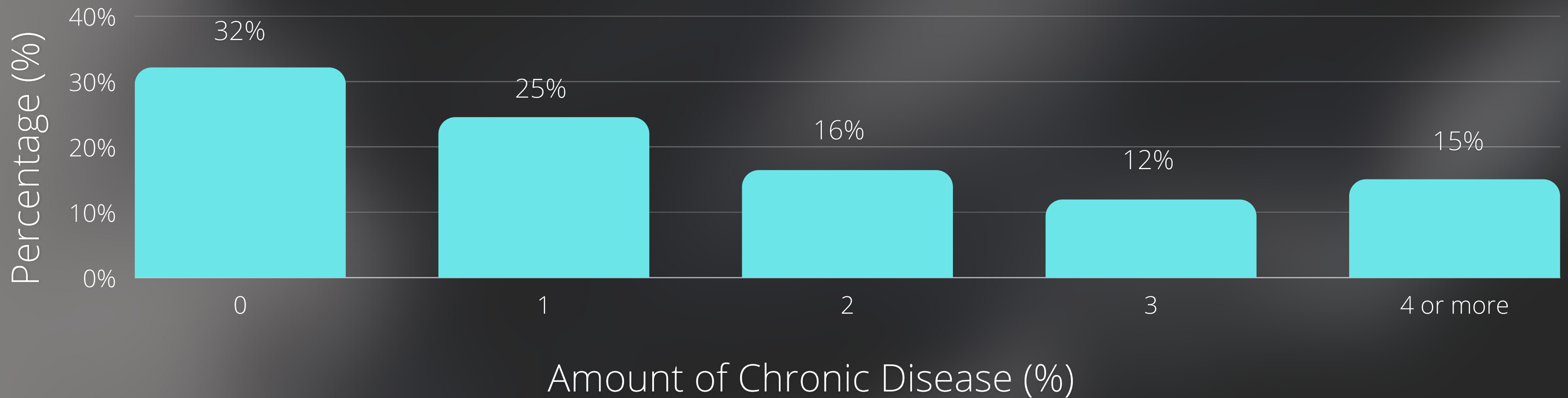
of adultos living with at least one chronic disease (1,857,960).



\*DIABETES, ASMA, HIPERTENSIÓN, COLESTEROL ELEVADO, COPD, ARTRITIS, DEPRESIÓN, CEREBROVASCULAR, ENFERMEDADES CORONARIAS, ATAQUE CARDIACO & ENFERMEDAD RENAL.

# Chronic Disease Comorbidities

in adults of Puerto Rico, 2021

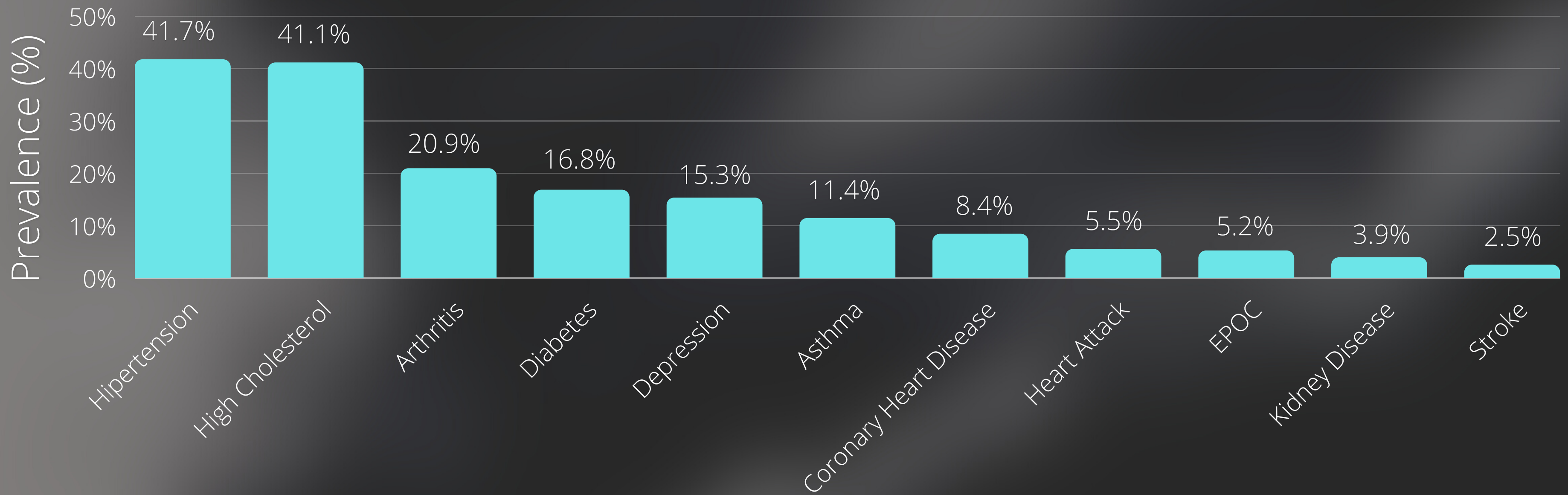


\*DIABETES, ASMA, HIPERTENSIÓN, COLESTEROL ELEVADO, COPD, ARTRITIS, DEPRESIÓN, CEREBROVASCULAR, ENFERMEDADES CORONARIAS, ATAQUE CARDIACO & ENFERMEDAD RENAL.



# Prevalence of Non Transmissible Chronic Disease

in adult of Puerto Rico, 2021



# HIPERTENSION

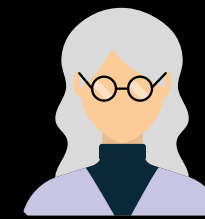
*Adults 18+*



2 of 5

Adults in PR living with hypertension (41.7%)

~1,142,379



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%



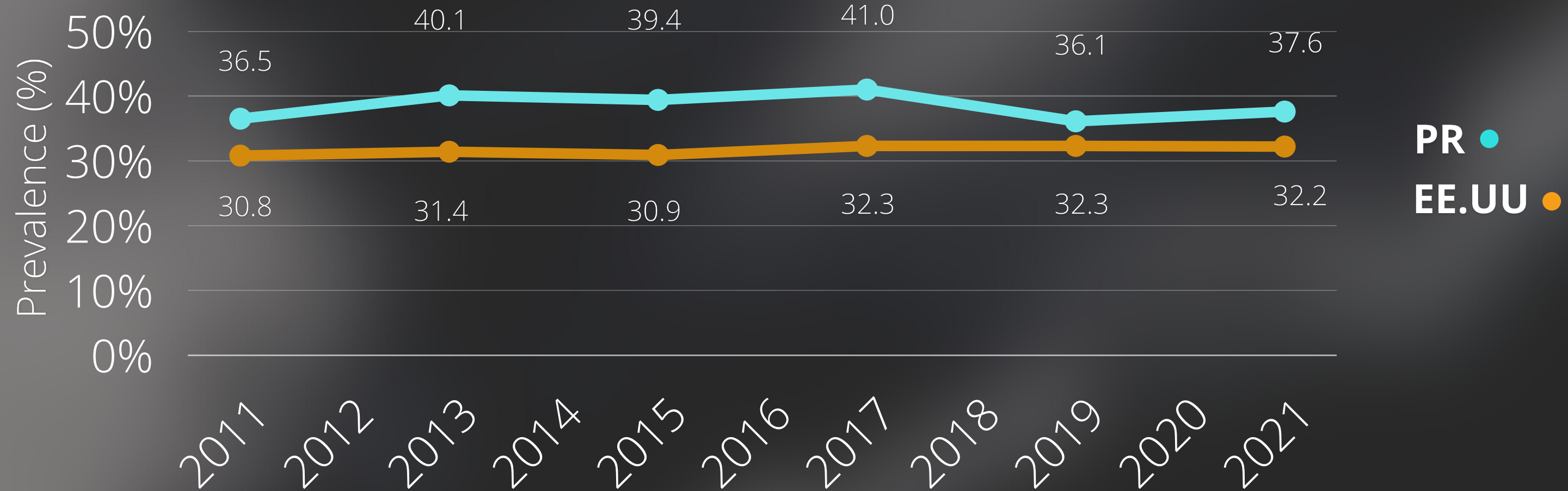
Physically Inactive  
52.3%



Overweight &  
Obesity  
82.1%

Common characteristics:

# Trend in Prevalence of Hypertension in Puerto Rico vs. United States in adults (18+), 2011-2021

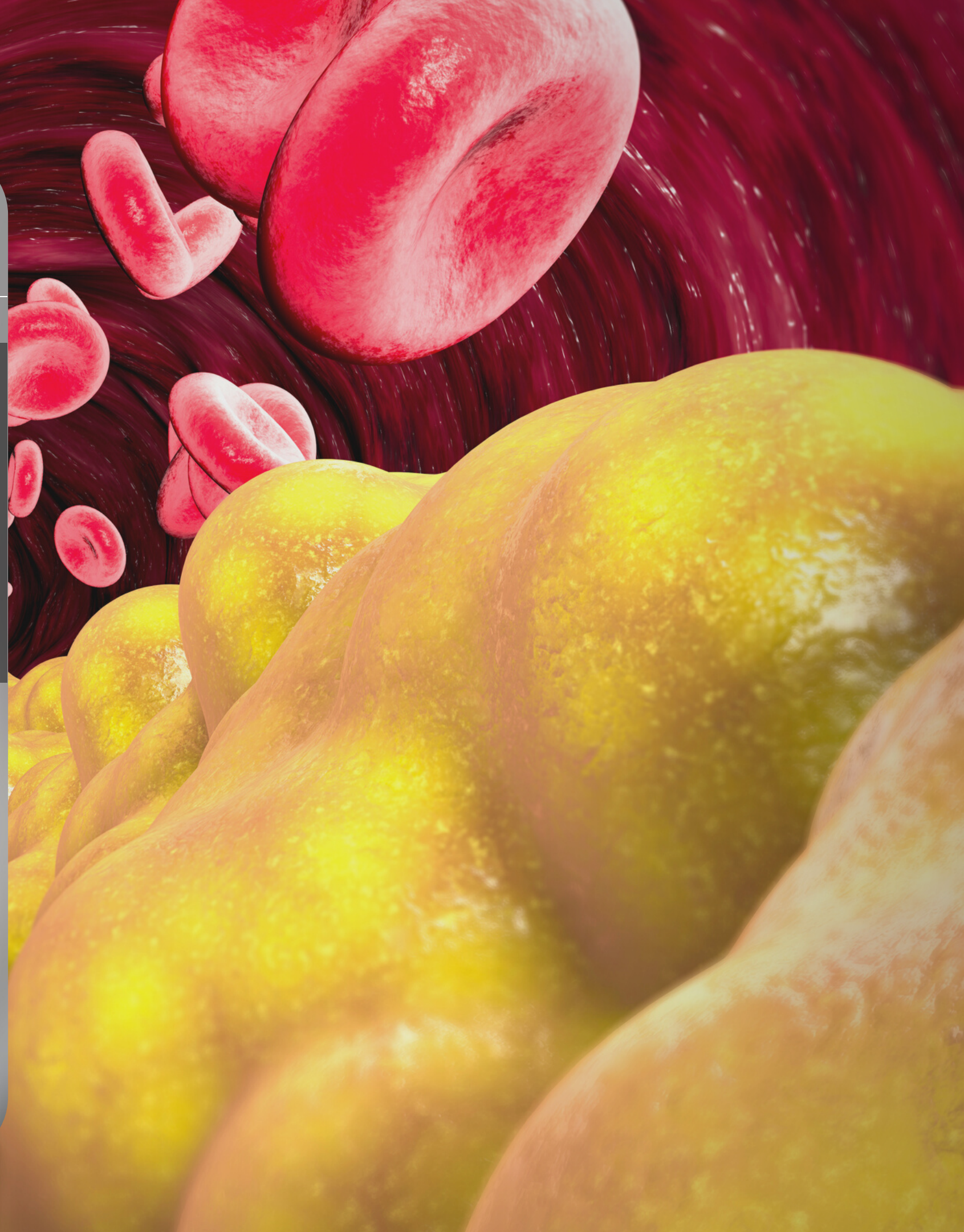


Data collected in odd years.  
\*EE.UU= median  
PR= Age Adjusted



# HIGH CHOLESTEROL

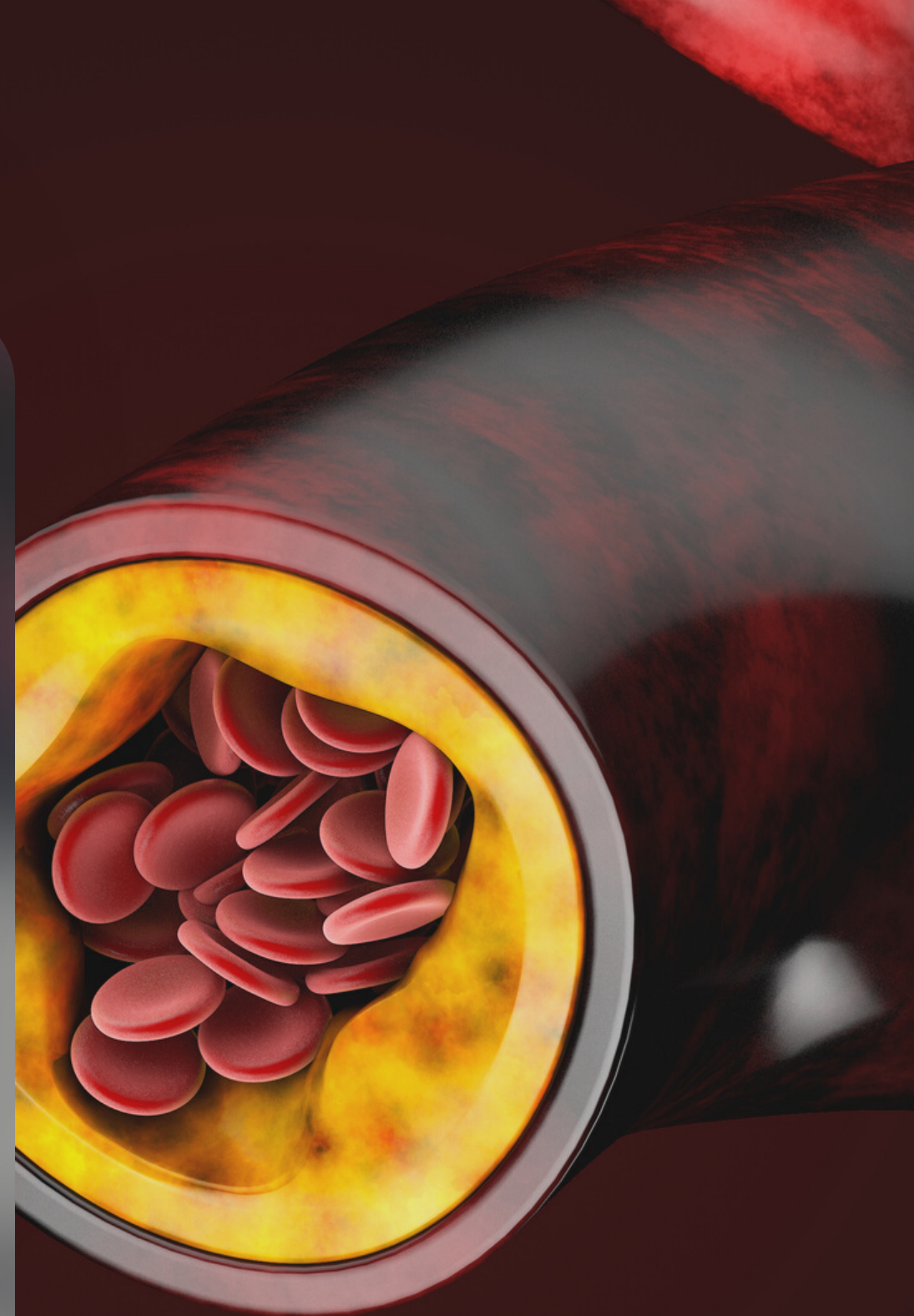
*Adults 18+*



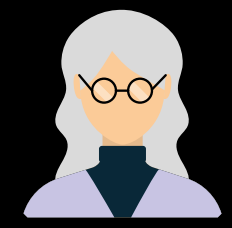
2 of 5

Adults in PR living with high cholesterol (41.1%)

~1,040,302



Common characteristics:



Adults (55-64)  
56.4%



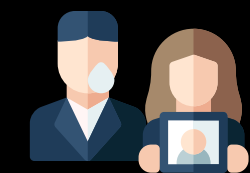
Less Education (<=12mo)  
41.1%



Less Income (<\$15,000)  
42.1%



Ponce Region  
44.8%



Widowed  
52.5%



Retired/Disabled  
54.1%

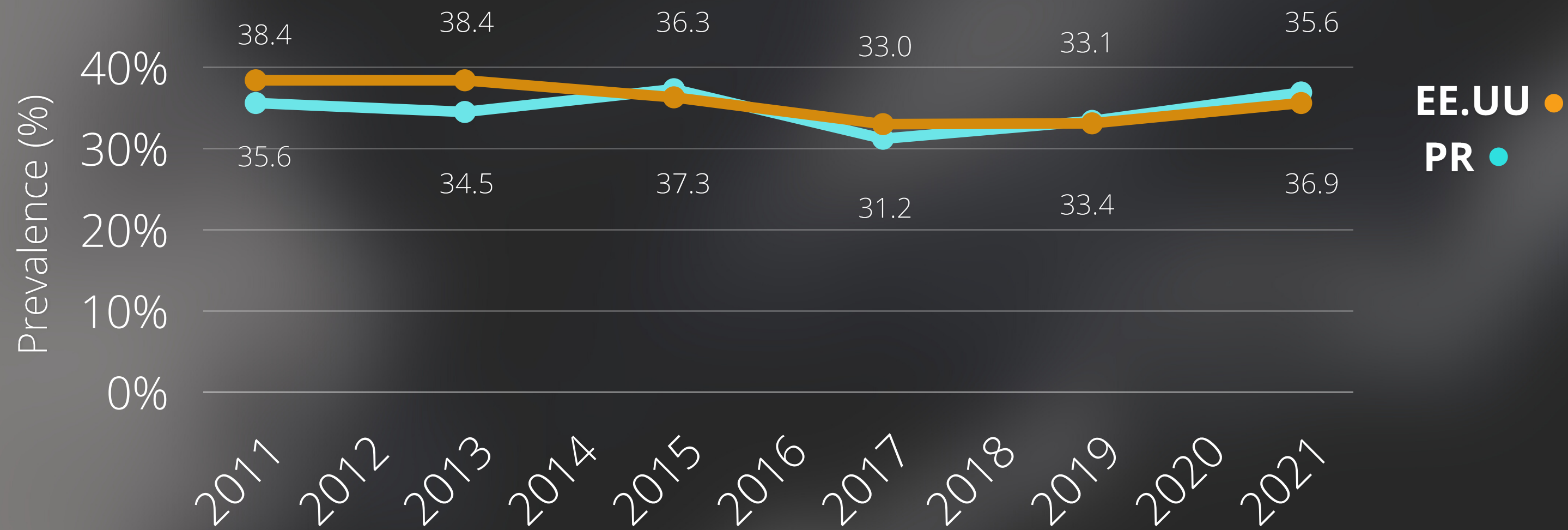


Physically Inactive  
55.1%



Overweight & Obesity  
76.8%

# Trend in Prevalence of High Cholesterol in Puerto Rico vs. United States in adults (18+), 2011-2021



Data collected in odd years.

\*EE.UU= median

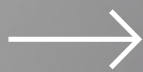
PR= Age Adjusted



PR-BRFSS, 2011-2021

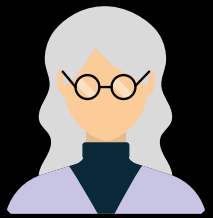


**ARTHRITIS**  
*Adults 18+*





Common characteristics:



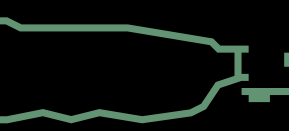
Women  
26.6%



Elderly (65+)  
38.7%

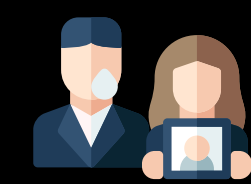


Less Education (<=12mo)  
27.5%



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%



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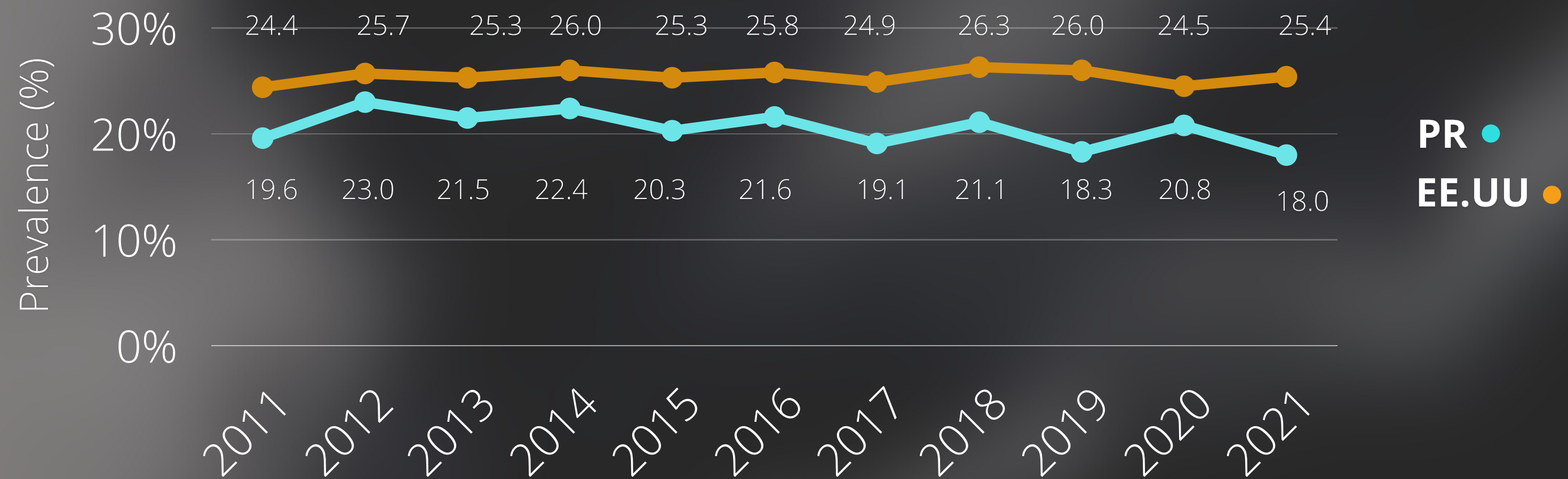
Adults in PR living with  
arthritis (20.9%)

~567,175

\*No ajustado por edad

# Trend in Prevalence of Arthritis

in Puerto Rico vs. United States in adults (18+), 2011-2021



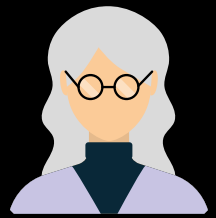
\*EE.UU= mediana  
PR= Ajustada por edad

# DIABETES

*Adults 18+*



Common characteristics:



**Elderly (65+)**  
35.0%



**Less Education (<=12mo)**  
22.3%



**Less Income (<\$15,000)**  
23.7%



**Ponce Region**  
20.2%



**Widowed**  
34.7%



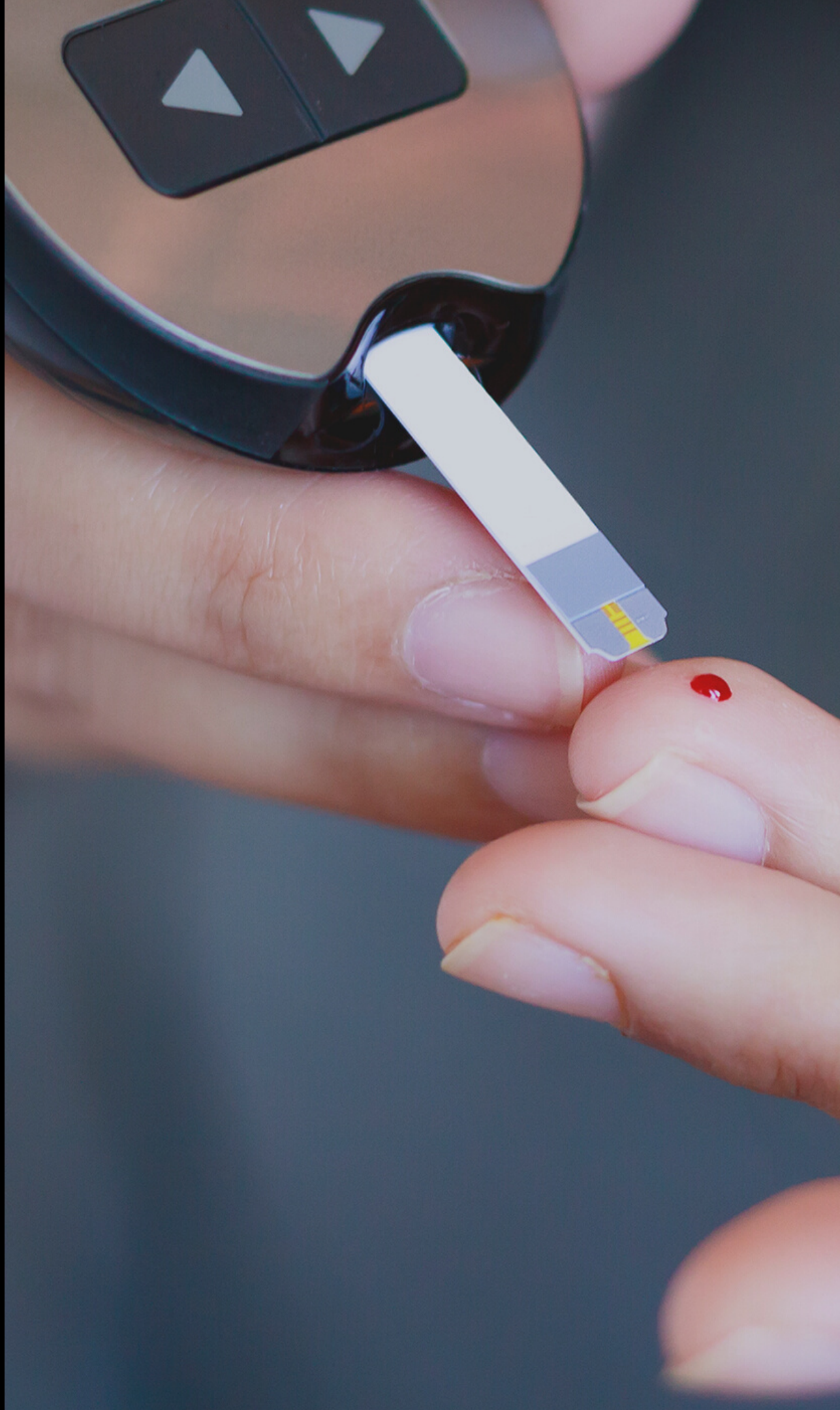
**Retired/ Disabled**  
34.4%



**Physically Inactive**  
56.9%



**Overweight & Obesity**  
82.9%



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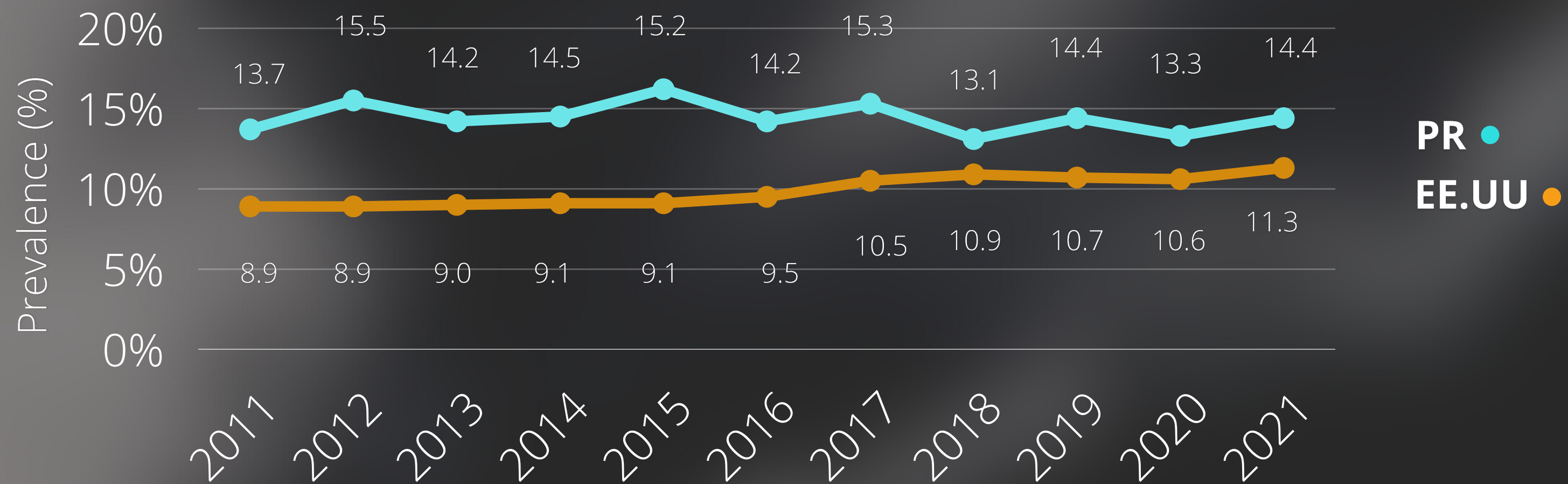
Adults in PR living with diabetes (16.8%)

~456,640

\*No ajustado por edad

# Trend in Prevalence of Diabetes

in Puerto Rico vs. United States in adults (18+), 2011-2021



\*EE.UU= mediana  
PR= Ajustada por edad



# DEPRESSION

*Adults 18+*



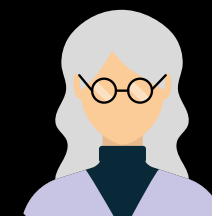
3 of 20

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%



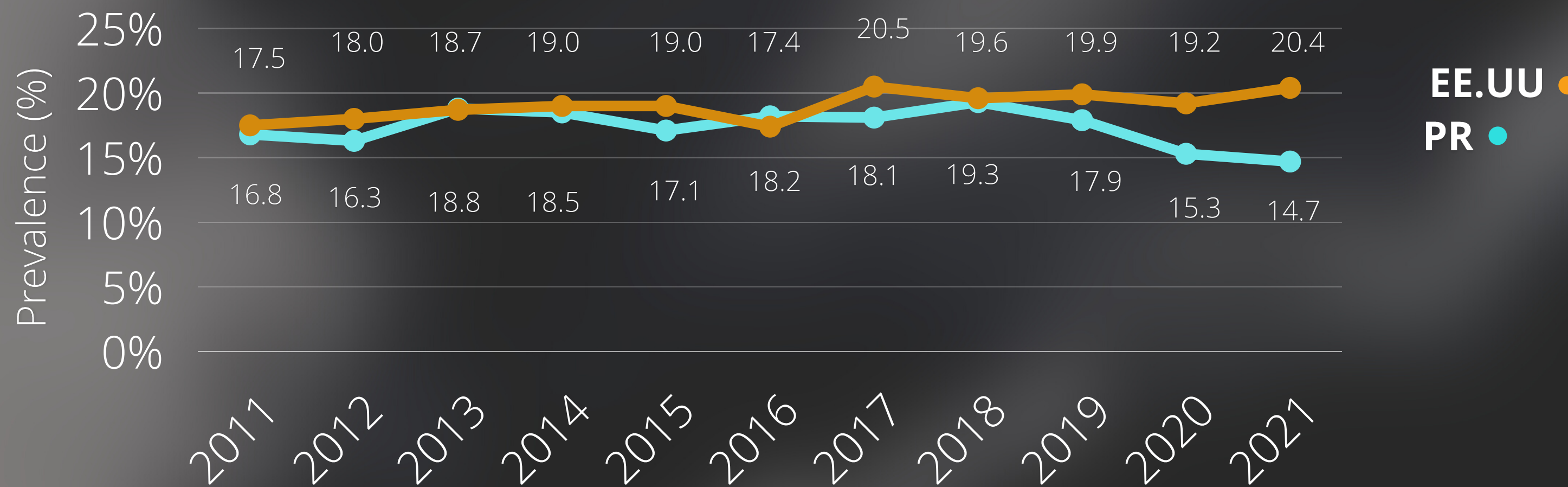
Physically Inactive  
52.9%



Overweight & Obesity  
75.2%

# Trend in Prevalence of Depression

in Puerto Rico vs. United States in adults (18+), 2011-2021



\*EE.UU= median  
PR= Age adjusted



PR-BRFSS, 2011-2021





# CURRENT ASTHMA

*Adults 18+*



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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/  
Disable  
13.6%

Housekeeper  
13.3%



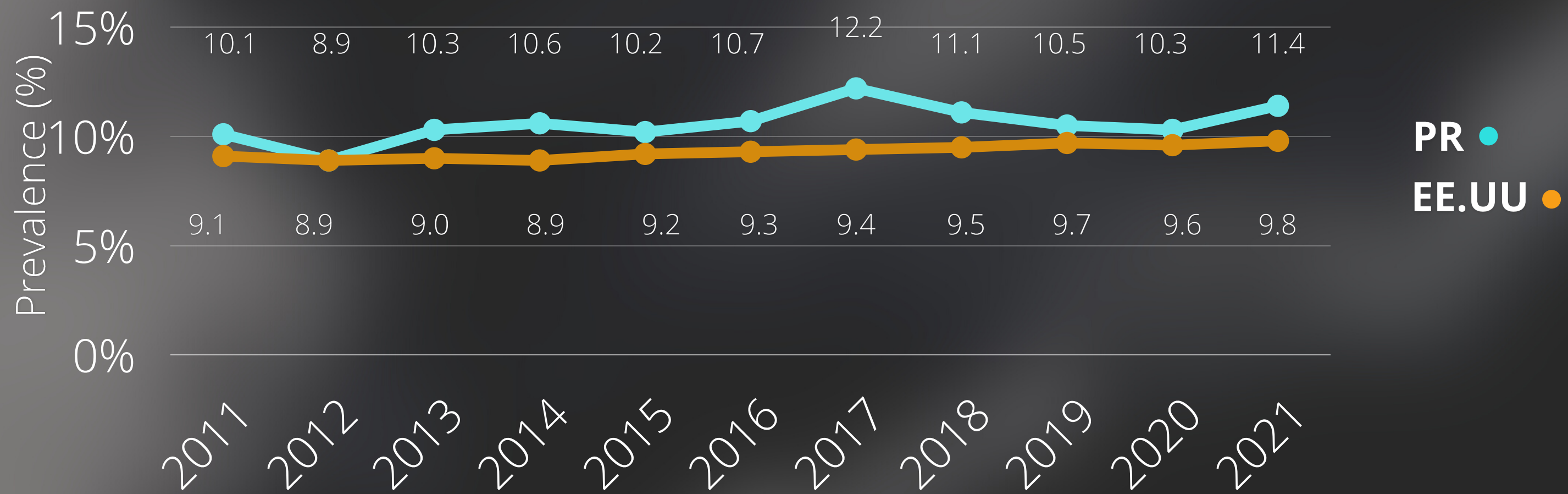
Physically Inactive  
57.4%



Overweight & Obesity  
83.1%

# Trend in Prevalence of Current Asthma

in Puerto Rico vs. United States in adults (18+), 2011-2021



\*EE.UU= median  
PR= Age Adjusted



# HEART DISEASE

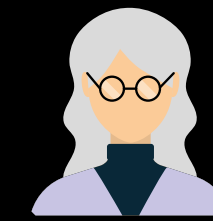
*Adults 18+*

Include Heart Attack &  
Coronary Heart Disease

84%

Adults in PR living with heart disease

~230,381



Elderly (65+)  
17.0%



Less Education (<=12mo)  
11.2%



Less Income (<\$15,000)  
12.5%



Caguas Region  
9.9%



Widowed  
12.9%



Retired/ Disable  
17.5%



Physically Inactive  
53.1%

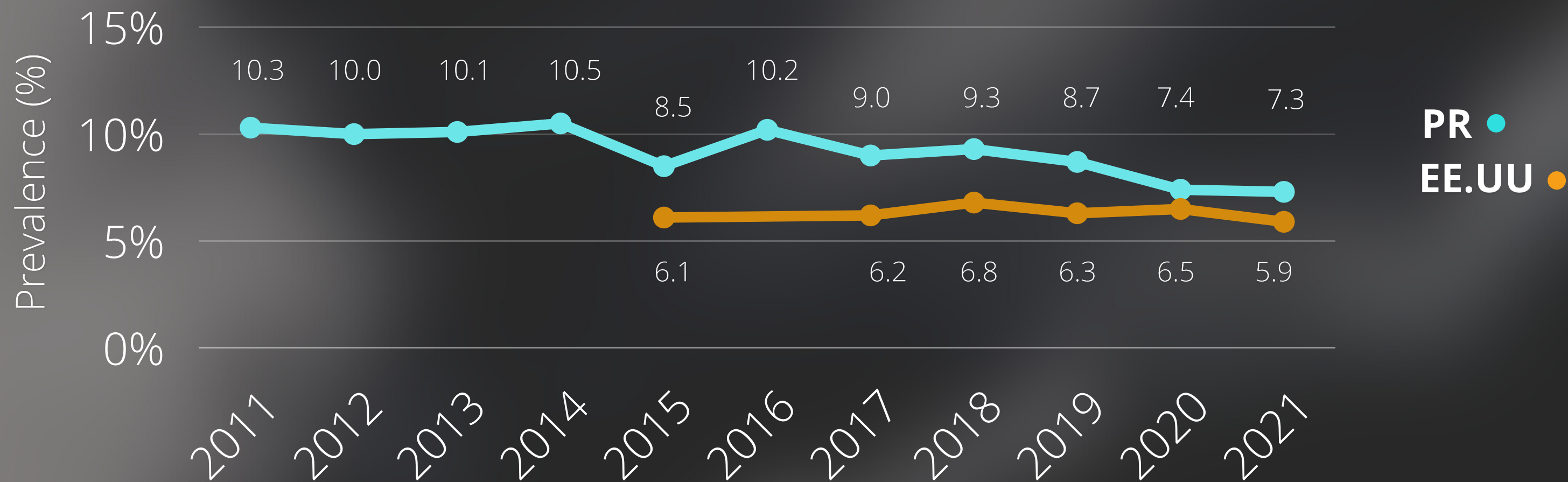


Overweight & Obesity  
81.5%

Common characteristics:

# 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

♂ Male (N = 38,224)	%	APC <sup>2000-2018</sup>	♀ Female (N = 34,911)	%	APC <sup>2000-2018</sup>
Prostate	37.3	-0.2	Breast	28.9	↑ 1.6*
Colon and rectum	12.0	0.1	Colon and rectum	11.2	-0.1
Lung and bronchus	5.6	↓ -0.9*	Thyroid	11.0	↑ 10.1*
Urinary bladder	4.1	0.1	Corpus and uterus, NOS	9.0	↑ 4.7*
Non-Hodgkin Lymphoma	4.1	↑ 2.5*	Lung and bronchus	4.0	0.5
Oral cavity and pharynx	3.8	↓ -0.7*	Non-Hodgkin Lymphoma	3.9	↑ 2.5*
Liver and bile duct	3.3	↑ 1.9*	Cervix uteri	3.1	↑ 1.8*
Kidney and renal pelvis	3.0	↑ 4.2*	Leukemia	2.5	↑ 2.9*
Leukemia	2.9	↑ 2.3*	Ovary	2.4	↑ 1.0*
Thyroid	2.5	↑ 10.3*	Pancreas	2.3	↑ 3.0*
Other sites	21.4		Other sites	21.9	

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

♂ Male (N = 14,497)	%	APC <sup>2000-2018</sup>	♀ Female (N = 11,544)	%	APC <sup>2000-2018</sup>
Prostate	16.7	↓ -3.1*	Breast	18.9	-0.4
Colon and rectum	13.6	-0.5	Colon and rectum	13.3	↓ -1.2*
Lung and bronchus	12.3	↓ -2.3*	Lung and bronchus	9.2	↓ -1.5*
Liver and bile duct	7.4	0.0	Pancreas	6.0	0.9
Pancreas	5.9	↑ 1.6*	Corpus and uterus, NOS	5.3	0.7
Stomach	3.8	↓ -5.0*	Liver and bile duct	4.7	↓ -1.5*
Leukemia	3.5	↓ -1.3*	Ovary	4.5	-0.2
Oral cavity and pharynx	3.4	↓ -2.9*	Leukemia	3.7	↓ -1.3*
Non-Hodgkin Lymphoma	3.1	↓ -1.3*	Stomach	3.4	↓ -4.3*
Esophagus	3.0	↓ -4.3*	Myeloma	2.8	-0.5
Other sites	27.2		Other sites	28.2	

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

2 of 3

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

**~1,902,152**

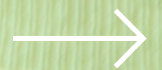


According to WHO:

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 a 29.9
- Obesity: BMI at least 30.0



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



\*EE.UU= mediana  
PR= Ajustada por edad

# Physical inactivity

adults (18+) in PR, 2021

Physical inactivity is the term used to identify people who do not perform the recommended level of physical activity.



Adults in PR are physically inactive (46.0%)

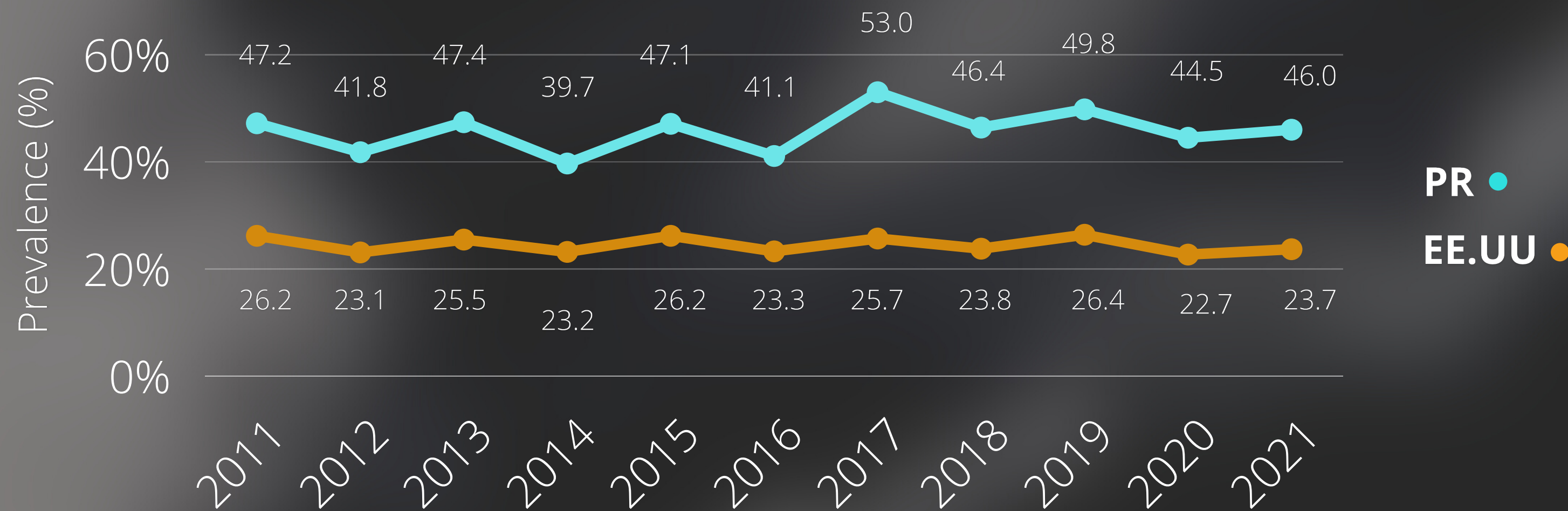
**~1,260,150**

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.



# Trend in Prevalence of Physical Inactivity

in Puerto Rico vs. United States in adults (18+), 2011-2021



\*EE.UU= median  
PR= Age Adjusted

1 of 2

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

~1,267,645



Common characteristics:



18-24 years (59.1%)



Men (52.7%)



High School or more (51.0%)



\$15,000- 24,999 (51.9%)



Never Married (55.3%)



Unemployed (52.5%)



1 of 2

Adults in PR eat less than one vegetable per day (46.6%)

~1,197,753



18-24 years (53.9%)

Women (47.8%)



Low education (52.7%)



Low income (51.3%)



Widowed (54.7%)



Homemaker/student (54.2%)

Common characteristics:

# Tobacco Use

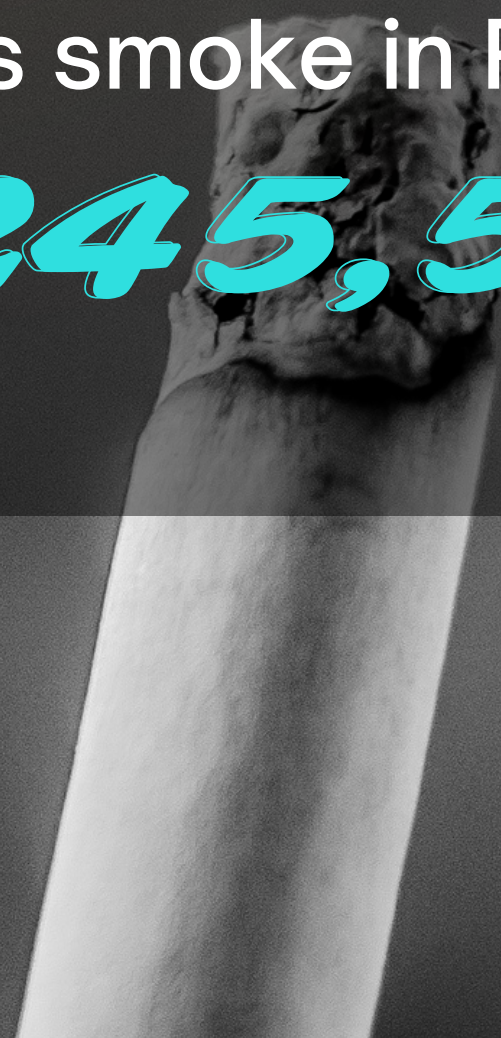
adults (18+) in PR, 2021

1 of 10

Adults smoke in PR (9.1%)

~245,545

Main preventable risk factor associated with mortality and disease.

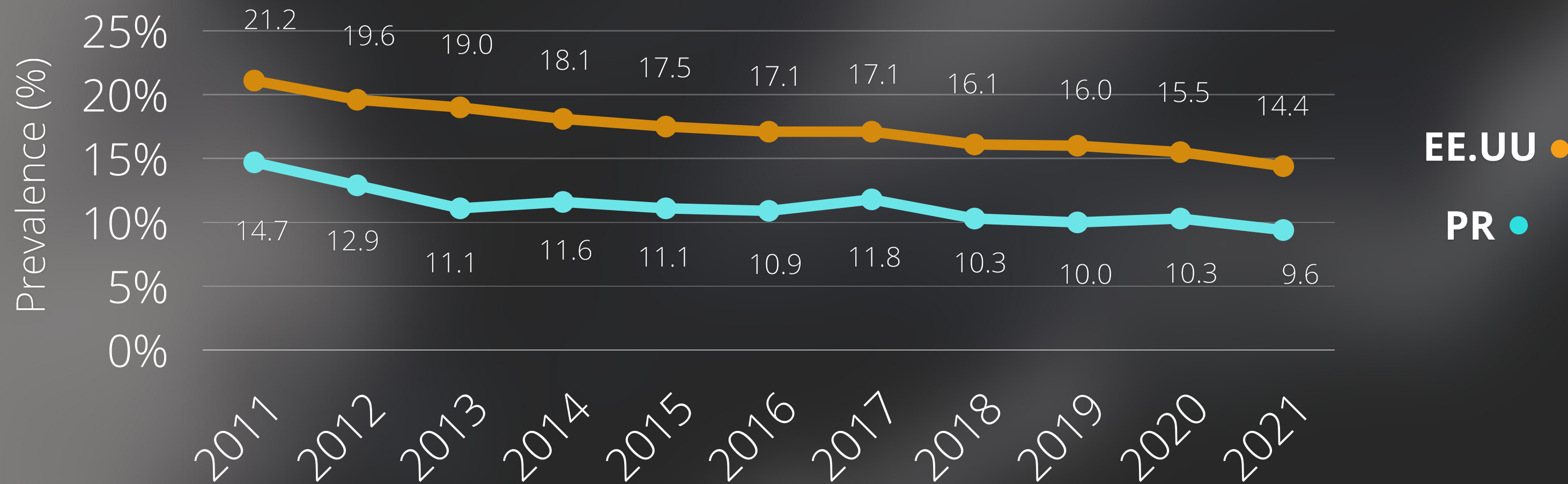


•Reported use of 100 cigarettes during their lifetime and currently smoked



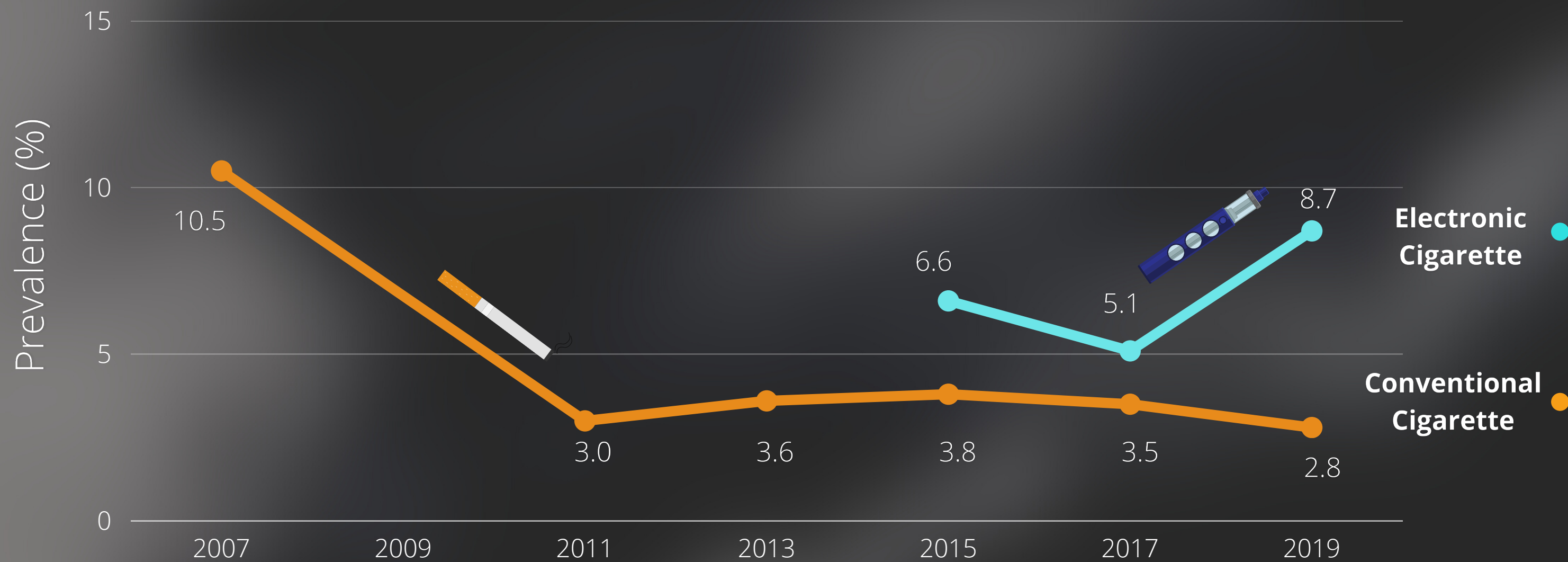
# Trend in Prevalence of Tobacco Use

adults (18+) in Puerto Rico vs. United States, 2011-2021



\*EE.UU= median  
PR= Age Adjusted

# 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

**INFORME DE ENFERMEDADES CRÓNICAS**  
**PUERTO RICO 2016-2017**  
 Departamento de Salud  
 Secretaría Auxiliar para la Promoción de la Salud  
**DPCCD**

**2019-2020**  
**INFORME DE RECLAMACIONES DE SERVICIOS DE DIABETES EN BENEFICIARIOS DEL PLAN DE SALUD DEL GOBIERNO DE PUERTO RICO**  
**Diabetes**  
 Programa para la Prevención y Control de Diabetes  
 División de Promoción de la Salud  
 Secretaría Auxiliar de Salud Familiar  
 Servicios Integrados y Promoción de la Salud  
 DEPARTAMENTO DE SALUD

**DIABETES**  
 PROYECTO MEJORA DE CALIDAD  
**DEPARTAMENTO DE SALUD**  
 ABRIL 2022

**USO DE TABACO**  
 PUERTO RICO, 2020  
**58%** han intentado dejar de fumar  
**1 de cada 10** adultos fuman en Puerto Rico. Esta prevalencia (9.3%) ha ido disminuyendo con los años.  
**≈ 268,515** adultos  
**Características** más comunes de las personas que fuman son:  
 ● Hombres ● 35-44 años  
 ● Divorciado (a) / separado (a) ● Menor ingreso económico  
 ● Menor Nivel Educativo ● Región de Salud de Aguadilla/Horquetas/Desempeñados (a)  
**Enfermedades Crónicas** y factores de riesgo más comunes en las personas que fuman son:  
 ● Hipertensión ● Colesterol elevado ● Arteritis ● Depresión  
 ● Sobrepeso y obesidad ● Inactividad física  
**¡DÉJALO YA! 1-877-335-2567**  
 Fuente: BRFSS 2019 & 2020, CENSA 2019, Censo 2020, Departamento de Salud, Programa del Sistema de Vigilancia de Enfermedades Crónicas, Programa de Control de Tabaco, vigilancia.cronicas@salud.pr.gov

**CONOCE TU POBLACIÓN DE ADULTO MAYOR**  
 PUERTO RICO, 2020  
**81%** de los adultos mayores viven con al menos una **Enfermedad Crónica**  
**31%** de la población en Puerto Rico son adultos mayores de 60 años o más.  
**≈ 880,683**  
**Características** más comunes de la población de adultos mayores son:  
 ● Mujeres ● Casado(a) ● Menor nivel educativo ● Menores ingresos económicos ● Medicare propia  
**Enfermedades Crónicas** y factores de riesgo más comunes en los adultos mayores son:  
 ● Hipertensión ● Depresión ● Colesterol elevado ● Demencia ● Sobrepeso y obesidad ● Inactividad física ● Diabetes  
**7** LAS PRIMERAS CAUSAS DE MUERTE EN PUERTO RICO SON ENFERMEDADES CRÓNICAS (Diabetes, Hipertensión, Colesterol elevado, Arteritis, Depresión, Inactividad física, y Diabetes)  
**¡POR UN ENVEJECIMIENTO SALUDABLE!**  
 Fuente: BRFSS 2019 & 2020, CENSA 2019, Censo 2020, Departamento de Salud, Programa del Sistema de Vigilancia de Enfermedades Crónicas, Programa de Envejecimiento Saludable, vigilancia.cronicas@salud.pr.gov

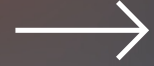
**LO QUE TODOS DEBEN SABER SOBRE EL TABAQUISMO EN PUERTO RICO**  
**2021**  
 PPCEC DEPARTAMENTO DE SALUD

**Alzheimer**  
 Y OTRAS DEMENCIAS EN PUERTO RICO  
**Aumento.**  
**4** es la causa de muerte en Puerto Rico para el 2019, mientras que para el 2009 era la 14ta causa. Esto representa cerca de 2,520 muertes en el 2019.  
**12.5%** de la población de 65 años o más en Puerto Rico vive con Alzheimer.  
**3** personas afectadas por cada persona con la enfermedad.  
**83%** de la fuerza proveedora de familiares, amigos u otros cuidadores no remunerados.  
**\$355** billones costará el Alzheimer y otras demencias a los Estados Unidos en el 2021.  
**\$373,527** el costo total estimado de por vida de la atención de una persona con demencia en los Estados Unidos.  
**¡Visita tu médico!**  
 Un diagnóstico temprano permite un mejor acceso a tratamientos, planificación de cuidados y mejor manejo de la enfermedad.  
 DEPARTAMENTO DE SALUD

**Diabetes**  
 PUERTO RICO, 2020  
**DIABETES MUNDIAL**  
 En el 2020, aproximadamente 537 millones adultos (20-79 años) viven con diabetes en el mundo. Se espera que para el 2030 este número aumente a 645 millones. Sin embargo, 1 de cada 2 adultos con diabetes no están diagnosticados (232 millones); la mayoría de diabetes tipo 2. Más del 50% de los casos de diabetes tipo 2 pueden prevenirse. Por otro lado, dependiendo de la región, hasta el 90% de las personas diagnosticadas con COVID-19 viven con diabetes. (Federación Internacional de Diabetes & IDF Diabetes Atlas)  
**DIABETES PUERTO RICO**  
 En el 2020, se estimó que el 15.8% (429,720) de los adultos de la población de Puerto Rico (PR) viven con diabetes. En otras palabras, aproximadamente 2 de cada 13 adultos tiene diabetes en PR. Al compararlo con los Estados Unidos (EE.UU.) para el 2020, PR tiene una prevalencia (ajustada por edad) de 15.3%, mientras que EE.UU. fue de 10.6% (media de la prevalencia) (PR 2015-2020)  
**MORTALIDAD**  
 A nivel mundial, la diabetes es responsable de aproximadamente 6.7 millones de muertes en el 2020. Las principales causas de muerte en PR son enfermedades crónicas. En el 2019, la diabetes ocupó la tercera causa de muerte en la isla. Lo que representa que, aproximadamente 41 adultos por cada 100,000 habitantes murieron por esta enfermedad. (Registro Demográfico 2019)  
**429,720** adultos en Puerto Rico viven con diabetes (2020)  
**2 de cada 13** adultos en Puerto Rico viven con Diabetes (2020)  
 DEPARTAMENTO DE SALUD

**ORAL HEALTH CLAIMS**  
 IN PUERTO RICO 2016-2019  
**DEPARTAMENTO DE SALUD**  
 ABRIL 2021

**Evaluación de la implementación de la Ley Núm. 63 del 2017 y el impacto en las reclamaciones de servicios de salud oral en la población de 1 a 16 años del Plan de Salud de Gobierno de Puerto Rico.**  
 DEPARTAMENTO DE SALUD  
 EXTRACTO  
 INTRODUCCIÓN  
 METODOLOGÍA  
 CONCLUSIÓN  
 REFERENCIA



# Chronic Disease Surveillance System



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