



ESTADO LIBRE ASOCIADO DE
PUERTO RICO
Departamento de Salud



PUERTO RICO BRFSS ANNUAL REPORT 2011



Message

The Puerto Rico Department of Health, and the Epidemiology and Research Office presents the Puerto Rico-Behavior Risk Factor Surveillance System Annual Report: 2011. This report includes relevant estimates from the survey conducted during year 2011. The Puerto Rico Behavior Risk Factor Surveillance System collects information related to knowledge, perceptions, attitudes, and behaviors identified as risk factors for chronic and degenerative diseases. Through this publication, we expect to present relevant information to help the decision making process of Puerto Rico residents. As well, we hope that our stakeholders use the this report to plan, implement, and evaluate public health programs focus on health promotion and prevention. Moreover, the PR-BRFSS annual report provides population estimates to support development of public policy focus on chronic and degenerative disease prevention among Puerto Ricans.

Ana C. Ríos Armendáriz, MD
Secretary of Health

Brenda Rivera García, DVM, MPH
Director of the Epidemiology and Research Office

Authors

Ruby Serrano-Rodríguez, MS, DrPH
PR-BRFSS Director & Coordinator

Alejandro Amill-Rosario, MPH
PR-BRFSS Statistical Consultant

PR-BRFSS Team

Pablo Colón
Margarita Cordero
Randall Correa
Carlos Grana
Jennifer Meléndez
Lilliam Morales
Yadira Pereira
Isabel Rodríguez

Luis Roldan
Vivian Santos
Marimer Soto
Juan Valentín
Maria A. Cosme
Doris E. Colón

Special thanks

The Puerto Rico Department of Health thanks Puerto Rico residents that participated in this survey. Their willingness for providing their time allowed us to generate and disseminate this valuable public health information.

This project is supported by cooperative agreement number 5U58SO000043 of the US Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of CDC and the Puerto Rico Department of Health.

Contents

List of Figures	iii
List of Tables	viii
1 Background	1
2 Methods	2
3 Results	5
3.1 General Health	5
3.1.1 Health perception	5
3.1.2 Physical health not good	9
3.1.3 Mental health not good	13
3.1.4 Recent activity limitation because poor physical or mental health	17
3.2 Disability	21
3.2.1 Activity limitation due to health problems	21
3.2.2 Use of special equipment	25
3.3 Health Care Access	29
3.3.1 Health care coverage	29
3.3.2 Think of one person as personal doctor or health care provider	33
3.3.3 Medical cost	37
3.3.4 Last visited a doctor for a routine checkup	41
3.4 Chronic conditions	45
3.4.1 History of any cardiovascular condition	45
3.4.2 Hypertension	49
3.4.3 Hypertension: High blood pressure medication	53
3.4.4 Diabetes	57
3.4.5 Depression	61
3.4.6 Asthma	65
3.4.7 COPD	69
3.4.8 COPD module	73
3.4.9 Cancer	75
3.4.10 Arthritis	79
3.4.11 Kidney disease	83
3.4.12 Multiple chronic condition	87
3.5 Risk factors	92
3.5.1 Tobacco Use	92
3.5.2 Binge drinking	96
3.5.3 Heavy drinking	100
3.5.4 Fruit consumption	104
3.5.5 Vegetable consumption	108
3.5.6 Weight classification by Body Mass Index	112
3.6 Physical activity	117
3.6.1 Physical activity or exercise	117

3.6.2	Aerobic recommendations	121
3.6.3	Muscle strengthening recommendation	125
3.6.4	Aerobic and muscle strengthening recommendations	129
3.7	Prevention practices	133
3.7.1	Seasonal influenza immunization	133
3.7.2	Pneumonia immunization	137
3.7.3	Seat belt use	141
3.7.4	HIV screening test	145
3.7.5	Cholesterol Awareness: blood cholesterol checked within the last five years .	149
3.7.6	Cholesterol Awareness: high cholesterol	153
4	Suggested citation	157
5	References	157
	Appendices	159
	Appendix A Health Regions Map	159
	Appendix B Health Regions Table	159
	Appendix C Demographic characteristics	160

List of Figures

1	Self-reported prevalence of fair or poor health perception, Puerto Rico, 2011	5
2	Self-reported prevalence of fair or poor health perception by demographic characteristics, Puerto Rico 2011	6
3	Self-reported prevalence of fair or poor health perception by health regions, Puerto Rico 2011	8
4	Self-reported prevalence of 14 days or more with physical health not good, Puerto Rico 2011	9
5	Self-reported prevalence of 14 days or more with physical health not good by demographic characteristics, Puerto Rico 2011	10
6	Self-reported prevalence of 14 days or more with physical health not good by health regions, Puerto Rico 2011	12
7	Self-reported prevalence of 14 days or more with mental health not good, Puerto Rico 2011	13
8	Self-reported prevalence of 14 days or more with mental health not good by demographic characteristics, Puerto Rico 2011	14
9	Self-reported prevalence of 14 days or more with mental health not good by health regions, Puerto Rico 2011	16
10	Self-reported prevalence of 14 days or more of activity limitation because of poor physical or mental health, Puerto Rico 2011	17
11	Self-reported prevalence of 14 days or more of activity limitation because of poor physical or mental health by demographic characteristics, Puerto Rico 2011	18
12	Self-reported prevalence of 14 days or more of activity limitation because of poor physical or mental health by health regions, Puerto Rico 2011	20
13	Self-reported prevalence of activity limitation due to health problems, Puerto Rico 2011	21
14	Self-reported prevalence of activity limitation due to health problems by demographic characteristics, Puerto Rico 2011	22
15	Self-reported prevalence of activity limitation due to health problems by health regions, Puerto Rico 2011	24
16	Self-reported prevalence of special equipment use, Puerto Rico 2011	25
17	Self-reported prevalence of special equipment use by demographic characteristics, Puerto Rico 2011	26
18	Self-reported prevalence of special equipment use by health regions, Puerto Rico 2011	28
19	Self-reported prevalence of not having any kind of health care coverage, Puerto Rico 2011	29
20	Self-reported prevalence of not having any kind of health care coverage by demographic characteristics, Puerto Rico 2011	30
21	Self-reported prevalence of not having any kind of health care coverage by health regions, Puerto Rico 2011	32
22	Self-reported prevalence of adults that think of one person as personal doctor or health care provider, Puerto Rico 2011	33
23	Self-reported prevalence of adults that think of one person as personal doctor or health care provider by demographic characteristics, Puerto Rico 2011	34

24	Self-reported prevalence of adults that think of one person as personal doctor or health care provider by health regions, Puerto Rico 2011	36
25	Self-reported prevalence of adults that could not see a doctor because of the cost, Puerto Rico 2011	37
26	Self-reported prevalence of adults that could not see a doctor because of the cost by demographic characteristics, Puerto Rico 2011	38
27	Self-reported prevalence of adults that could not see a doctor because of the cost by health regions, Puerto Rico 2011	40
28	Self-reported prevalence of adults that last visited a doctor for a routine checkup within one year, Puerto Rico 2011	41
29	Self-reported prevalence of adults that last visited a doctor for a routine checkup within one year by demographic characteristics, Puerto Rico 2011	42
30	Self-reported prevalence of adults that last visited a doctor for a routine checkup within one year by health regions, Puerto Rico 2011	44
31	Self-reported prevalence of cardiovascular conditions, Puerto Rico 2011	45
32	Self-reported prevalence of cardiovascular conditions by demographic characteristics, Puerto Rico 2011	46
33	Self-reported prevalence of cardiovascular conditions by health regions, Puerto Rico 2011	48
34	Self-reported prevalence of hypertension, Puerto Rico 2011	49
35	Self-reported prevalence of hypertension by demographic characteristics, Puerto Rico 2011	50
36	Self-reported prevalence of hypertension by health regions, Puerto Rico 2011	52
37	Self-reported prevalence of adults with hypertension currently taking medication for high blood pressure, Puerto Rico 2011	53
38	Self-reported prevalence of adults with hypertension currently taking medication for high blood pressure by demographic characteristics, Puerto Rico 2011	54
39	Self-reported prevalence of adults with hypertension currently taking medication for high blood pressure by health regions, Puerto Rico 2011	56
40	Self-reported prevalence of diabetes, Puerto Rico 2011	57
41	Self-reported prevalence of diabetes by demographic characteristics, Puerto Rico 2011	58
42	Self-reported prevalence of diabetes by health regions, Puerto Rico 2011	60
43	Self-reported prevalence of depression, Puerto Rico 2011	61
44	Self-reported prevalence of depression by demographic characteristics, Puerto Rico 2011	62
45	Self-reported prevalence of depression by health regions, Puerto Rico 2011	64
46	Self-reported prevalence of current asthma, Puerto Rico 2011	65
47	Self-reported prevalence of current asthma by demographic characteristics, Puerto Rico 2011	66
48	Self-reported prevalence of current asthma by health regions, Puerto Rico 2011	68
49	Self-reported prevalence of COPD, Puerto Rico 2011	69
50	Self-reported prevalence of COPD by demographic characteristics, Puerto Rico 2011	70
51	Self-reported prevalence of COPD by health regions, Puerto Rico 2011	72
52	COPD health related indicators in adults with self-reported COPD, Puerto Rico 2011	73
53	Self-reported prevalence of cancer, Puerto Rico 2011	75

54	Self-reported prevalence of cancer by demographic characteristics, Puerto Rico 2011	76
55	Self-reported prevalence of cancer by health regions, Puerto Rico 2011	78
56	Self-reported prevalence of arthritis, Puerto Rico 2011	79
57	Self-reported prevalence of arthritis by demographic characteristics, Puerto Rico 2011	80
58	Self-reported prevalence of arthritis by health regions, Puerto Rico 2011	82
59	Self-reported prevalence of kidney disease, Puerto Rico 2011	83
60	Self-reported prevalence of kidney disease by demographic characteristics, Puerto Rico 2011	84
61	Self-reported prevalence of been diagnosed with one or more chronic conditions, Puerto Rico 2011	87
62	Self-reported prevalence of been diagnosed with one or more chronic condition by demographic characteristics, Puerto Rico 2011	88
63	Self-reported prevalence of being diagnosed with one or more chronic condition by health regions, Puerto Rico 2011	90
64	Self-reported prevalence of multiple chronic conditions, Puerto Rico 2011	91
65	Self-reported prevalence of current smokers, Puerto Rico 2011	92
66	Self-reported prevalence of current smokers by demographic characteristics, Puerto Rico 2011	93
67	Self-reported prevalence of current smokers by health regions, Puerto Rico 2011 . . .	95
68	Self-reported prevalence of binge drinking, Puerto Rico 2011	96
69	Self-reported prevalence of binge drinking by demographic characteristics, Puerto Rico 2011	97
70	Self-reported prevalence of binge drinking by health regions, Puerto Rico 2011	99
71	Self-reported prevalence heavy drinking, Puerto Rico 2011	100
72	Self-reported prevalence of heavy drinking by demographic characteristics, Puerto Rico 2011	101
73	Self-reported prevalence of heavy drinking by health regions, Puerto Rico 2011 . . .	103
74	Self-reported prevalence of adults with less than one fruit intake a day, Puerto Rico 2011	104
75	Self-reported prevalence of adults with less than one fruit intake a day by demographic characteristics, Puerto Rico 2011	105
76	Self-reported prevalence of adults with less than one fruit intake a day by health regions, Puerto Rico 2011	107
77	Self-reported prevalence of less than one vegetable intake a day, Puerto Rico 2011 . .	108
78	Self-reported prevalence of less than one vegetable intake a day by demographic characteristics, Puerto Rico 2011	109
79	Self-reported prevalence of adults with less than one vegetable intake a day by health regions, Puerto Rico 2011	111
80	Self-reported weight classification prevalence, Puerto Rico 2011	112
81	Self-reported prevalence of adults overweight or obese, Puerto Rico 2011	113
82	Self-reported prevalence of overweight or obese adults by demographic characteristics, Puerto Rico 2011	114
83	Self-reported prevalence of overweight or obese adults by health regions, Puerto Rico 2011	116

84	Self-reported prevalence of adults that report doing physical activity or exercise during the past 30 days other than their regular job, Puerto Rico 2011	117
85	Self-reported prevalence of adults that report doing physical activity or exercise during the past 30 days other than their regular job by demographic characteristics, Puerto Rico 2011	118
86	Self-reported prevalence of adults that report doing physical activity or exercise during the past 30 days other than their regular job by health regions, Puerto Rico 2011	120
87	Self-reported prevalence of adults that met the aerobic recommendations, Puerto Rico 2011	121
88	Self-reported prevalence of adults that met the aerobic recommendations by demographic characteristics, Puerto Rico 2011	122
89	Self-reported prevalence of adults that met the aerobic recommendations by health regions, Puerto Rico 2011	124
90	Self-reported prevalence of adults that met the muscle strengthening recommendations, Puerto Rico 2011	125
91	Self-reported prevalence of adults that met the muscle strengthening recommendations by demographic characteristics, Puerto Rico 2011	126
92	Self-reported prevalence of adults that met the muscle strengthening recommendations by health regions, Puerto Rico 2011	128
93	Self-reported prevalence of adults that met both aerobic and muscle strengthening recommendations, Puerto Rico 2011	129
94	Self-reported prevalence of adults that met both aerobic and muscle strengthening recommendations by demographic characteristics, Puerto Rico 2011	130
95	Self-reported prevalence of adults that met both aerobic and muscle strengthening recommendations by health regions, Puerto Rico 2011	132
96	Self-reported prevalence of adults that had seasonal flu shot, Puerto Rico 2011 . . .	133
97	Self-reported prevalence of adults that had seasonal flu shot by demographic characteristics, Puerto Rico 2011	134
98	Self-reported prevalence of adults that had seasonal flu shot by health regions, Puerto Rico 2011	136
99	Self-reported prevalence of lifetime pneumonia shot, Puerto Rico 2011	137
100	Self-reported prevalence of lifetime pneumonia shot by demographic characteristics, Puerto Rico 2011	138
101	Self-reported prevalence of lifetime pneumonia shot by health regions, Puerto Rico 2011	140
102	Self-reported prevalence of adults that always or nearly always wear seat belts, Puerto Rico 2011	141
103	Self-reported prevalence of adults that always or nearly always wear seat belts by demographic characteristics, Puerto Rico 2011	142
104	Self-reported prevalence of adults that always or nearly always wear seat belts by health regions, Puerto Rico 2011	144
105	Self-reported prevalence of adults ever tested for HIV, Puerto Rico 2011	145
106	Self-reported prevalence of adults ever tested for HIV by demographic characteristics, Puerto Rico 2011	146

107 Self-reported prevalence of adults ever tested for HIV by health regions, Puerto Rico 2011 148

108 Self-reported prevalence of adults who had their blood cholesterol checked within the last five years, Puerto Rico 2011 149

109 Self-reported prevalence of adults who had their blood cholesterol checked within the last five years by demographic characteristics, Puerto Rico 2011 150

110 Self-reported prevalence of adults who had their blood cholesterol checked within the last five years by health regions, Puerto Rico 2011 152

111 Self-reported prevalence of adults who have had their blood cholesterol checked and have been told it was high, Puerto Rico 2011 153

112 Self-reported prevalence of adults who have had their blood cholesterol checked and have been told it was high, Puerto Rico 2011 154

113 Self-reported prevalence of adults who have had their blood cholesterol checked and have been told it was high, Puerto Rico 2011 156

114 Puerto Rico Health Regions 159

List of Tables

1	Terms & Definitions for understanding the tables with the estimates	4
2	Self-reported prevalence of fair or poor health perception by demographic characteristics, Puerto Rico 2011	7
3	Self-reported prevalence of fair or poor health perception by health region, Puerto Rico 2011	8
4	Self-reported prevalence of 14 days or more with physical health not good by demographic characteristics, Puerto Rico 2011	11
5	Self-reported prevalence of 14 days or more with physical health not good by health region, Puerto Rico 2011	12
6	Self-reported prevalence of 14 days or more with mental health not good by demographic characteristics, Puerto Rico 2011	15
7	Self-reported prevalence of 14 days or more with mental health not good by health region, Puerto Rico 2011	16
8	Self-reported prevalence of 14 days or more of activity limitation because of poor physical or mental health by demographic characteristics, Puerto Rico 2011	19
9	Self-reported prevalence of 14 days or more of activity limitation because of poor physical or mental health by health region, Puerto Rico 2011	20
10	Self-reported prevalence of activity limitation due to health problems by demographic characteristics, Puerto Rico 2011	23
11	Self-reported prevalence of activity limitation due to health problems by health region, Puerto Rico 2011	24
12	Self-reported prevalence of special equipment use by demographic characteristics, Puerto Rico 2011	27
13	Self-reported prevalence of special equipment use by health region, Puerto Rico 2011	28
14	Self-reported prevalence of not having any kind of health care coverage by demographic characteristics, Puerto Rico 2011	31
15	Self-reported prevalence of not having any kind of health care coverage by health region, Puerto Rico 2011	32
16	Self-reported prevalence of adults that think of one person as personal doctor or health care provider by demographic characteristics, Puerto Rico 2011	35
17	Self-reported prevalence of adults that think of one person as personal doctor or health care provider by health region, Puerto Rico 2011	36
18	Self-reported prevalence of adults that could not see a doctor because of the cost by demographic characteristics, Puerto Rico 2011	39
19	Self-reported prevalence of adults that could not see a doctor because of the cost by health region, Puerto Rico 2011	40
20	Self-reported prevalence of adults that last visited a doctor for a routine checkup within one year by demographic characteristics, Puerto Rico 2011	43
21	Self-reported prevalence of adults that last visited a doctor for a routine checkup within one year by health region, Puerto Rico 2011	44
22	Self-reported prevalence of cardiovascular conditions by demographic characteristics, Puerto Rico 2011	47
23	Self-reported prevalence of cardiovascular conditions by health region, Puerto Rico 2011	48

24	Self-reported prevalence of hypertension by demographic characteristics, Puerto Rico 2011	51
25	Self-reported prevalence of hypertension by health region, Puerto Rico 2011	52
26	Self-reported prevalence of adults with hypertension currently taking medication for high blood pressure by demographic characteristics, Puerto Rico 2011	55
27	Self-reported prevalence of adults with hypertension currently taking medication for high blood pressure by health region, Puerto Rico 2011	56
28	Self-reported prevalence of diabetes by demographic characteristics, Puerto Rico 2011	59
29	Self-reported prevalence of diabetes by health region, Puerto Rico 2011	60
30	Self-reported prevalence of depression by demographic characteristics, Puerto Rico 2011	63
31	Self-reported prevalence of depression by health region, Puerto Rico 2011	64
32	Self-reported prevalence of current asthma by demographic characteristics, Puerto Rico 2011	67
33	Self-reported prevalence of current asthma by health region, Puerto Rico 2011	68
34	Self-reported prevalence of COPD by demographic characteristics, Puerto Rico 2011	71
35	Self-reported prevalence of COPD by health region, Puerto Rico 2011	72
36	COPD health related indicators in adults with self-reported COPD, Puerto Rico 2011	74
37	Self-reported prevalence of cancer by demographic characteristics, Puerto Rico 2011	77
38	Self-reported prevalence of cancer by health region, Puerto Rico 2011	78
39	Self-reported prevalence of arthritis by demographic characteristics, Puerto Rico 2011	81
40	Self-reported prevalence of arthritis by health region, Puerto Rico 2011	82
41	Self-reported prevalence of kidney disease by demographic characteristics, Puerto Rico 2011	85
42	Self-reported prevalence of kidney disease by health region, Puerto Rico 2011	86
43	Self-reported prevalence of being diagnosed with one or more chronic condition by demographic characteristics, Puerto Rico 2011	89
44	Self-reported prevalence of being diagnosed with one or more chronic condition by health region, Puerto Rico 2011	90
45	Self-reported prevalence of number of multiple chronic conditions (MCC), Puerto Rico 2011	91
46	Self-reported prevalence of current smokers by demographic characteristics, Puerto Rico 2011	94
47	Self-reported prevalence of adults current smokers by health region, Puerto Rico 2011	95
48	Self-reported prevalence of binge drinking by demographic characteristics, Puerto Rico 2011	98
49	Self-reported prevalence of binge drinking by health region, Puerto Rico 2011	99
50	Self-reported prevalence of heavy drinking by demographic characteristics, Puerto Rico 2011	102
51	Self-reported prevalence of heavy drinking by health region, Puerto Rico 2011	103
52	Self-reported prevalence of adults with less than one fruit intake a day by demographic characteristics, Puerto Rico 2011	106
53	Self-reported prevalence of adults with less than one fruit intake a day by health region, Puerto Rico 2011	107

54	Self-reported prevalence of less than one vegetable intake a day by demographic characteristics, Puerto Rico 2011	110
55	Self-reported prevalence of adults that consume less than one vegetable a day by health region, Puerto Rico 2011	111
56	Self-reported weight classification prevalence in adults 18 years or older, Puerto Rico 2011	112
57	Self-reported prevalence of overweight or obese adults by demographic characteristics, Puerto Rico 2011	115
58	Self-reported prevalence of overweight or obese adults by health region, Puerto Rico 2011	116
59	Self-reported prevalence of adults that report doing physical activity or exercise during the past 30 days other than their regular job by demographic characteristics, Puerto Rico 2011	119
60	Self-reported prevalence of adults that report doing physical activity or exercise during the past 30 days other than their regular job by health region, Puerto Rico 2011	120
61	Self-reported prevalence of adults that met the aerobic recommendations by demographic characteristics, Puerto Rico 2011	123
62	Self-reported prevalence of adults that met the aerobic recommendations by health region, Puerto Rico 2011	124
63	Self-reported prevalence of adults that met the muscle strengthening recommendations by demographic characteristics, Puerto Rico 2011	127
64	Self-reported prevalence of adults that met the muscle strengthening recommendations by health region, Puerto Rico 2011	128
65	Self-reported prevalence of adults that met both aerobic and muscle strengthening recommendations by demographic characteristics, Puerto Rico 2011	131
66	Self-reported prevalence of adults that met both aerobic and muscle strengthening recommendations by health region, Puerto Rico 2011	132
67	Self-reported prevalence of adults that had seasonal flu shot by demographic characteristics, Puerto Rico 2011	135
68	Self-reported prevalence of adults that had seasonal flu shot by health region, Puerto Rico 2011	136
69	Self-reported prevalence of lifetime pneumonia shot by demographic characteristics, Puerto Rico 2011	139
70	Self-reported prevalence of adults that had either a a pneumonia shot by health region, Puerto Rico 2011	140
71	Self-reported prevalence of adults that always or nearly always wear seat belts by demographic characteristics, Puerto Rico 2011	143
72	Self-reported prevalence of adults that always or nearly always wear seat belts by health region, Puerto Rico 2011	144
73	Self-reported prevalence of adults ever tested for HIV by demographic characteristics, Puerto Rico 2011	147
74	Self-reported prevalence of adults ever tested for HIV by health region, Puerto Rico 2011	148

75 Self-reported prevalence of adults who had their blood cholesterol checked within the last five years by demographic characteristics, Puerto Rico 2011 151

76 Self-reported prevalence of adults who had their blood cholesterol checked within the last five years by health region, Puerto Rico 2011 152

77 Self-reported prevalence of adults who have had their blood cholesterol checked and have been told it was high, Puerto Rico 2011 155

78 Self-reported prevalence of adults who have had their blood cholesterol checked and have been told it was high, Puerto Rico 2011 156

79 BRFSS Puerto Rico health regions, 2011 159

80 BRFSS Puerto Rico demographic estimates, 2011 160

1 Background

The Behavioral Risk Factor Surveillance System (BRFSS) is a collaborative project of the Centers for Disease Control and Prevention (CDC), and U.S. states and territories. The BRFSS, administered and supported by CDC's Behavioral Surveillance Branch, is an ongoing data collection program designed to measure behavioral risk factors in the adult population 18 years of age or older living in households. The BRFSS was initiated in 1984, with 15 states collecting surveillance data on risk behaviors through monthly telephone interviews. The number of states participating in the survey increased, so that by 2001, 50 states, the District of Columbia, Guam, the Virgin Islands, and Puerto Rico were participating in the BRFSS. In this document, the term *state* refers to any area participating in the surveillance system, including the District of Columbia, Guam, the Virgin Islands, and the Commonwealth of Puerto Rico [1].

The Puerto Rico Department of Health (PRDOH), under a cooperative agreement with the CDC, first implemented the BRFSS in 1996. The objective of the BRFSS is to collect uniform, state-specific data on preventive health practices and risk behaviors that are linked to chronic diseases, injuries, and preventable infectious diseases in the adult population. Factors assessed by the BRFSS include tobacco use, health care coverage, HIV/AIDS knowledge or prevention, physical activity, and fruit and vegetable consumption [1]. As well, the PR-BRFSS monitors health related information about diseases considered principal causes of morbidity and mortality in the island. The survey has a questionnaire designed to allow the PRDOH the flexibility to study diverse conditions and risk factors interested by local stakeholders. The continuous survey design component of the BRFSS allows to capture changes in behaviors, health status, and preventative screening measures that accompany demographics changes in the island's population. Therefore, since the BRFSS implementation, public health practitioners, government agencies, universities, and non-governmental organizations, among others, used the survey data to: develop public health intervention programs; measure the progress of programs towards their goals and objectives; for proposals and scientific articles development; and to support the development of health oriented public policy.

The PR-BRFSS Program, with the intention of disseminating health related information and estimates, presents the PR-BRFSS Annual Report 2011. The objective of this publication is to increase awareness and understanding of health determinants, disease, injury and disability of adults living in Puerto Rico.

2 Methods

The BRFSS is an ongoing cross-sectional telephone survey conducted on a calendar year basis. The survey employs a standardized methodology, designed by the CDC, to collect uniform data among all 54 state participants. This is possible through the implementation of CDC guidelines by the state health departments, which are the responsible for the BRFSS field operations [1]. Every state participant contributes in the development of the survey instrument, and conduct the interviews either in-house or by using contractors [1]. The PR-BRFSS is one of the 11 state health departments that collected the data in-house.

The PR-BRFSS used a standardized questionnaire applied in the same form by all states participants. The questionnaire has three parts: the Core, the optional CDC modules, and the state-added questions [1]. The Core, designed by the CDC, includes a standard set of questions asked about demographics, current health-related perceptions, conditions, and behaviors. The optional modules, also design by the CDC, are a set of questions on specific topics that states elect to use on their questionnaire [1]. This report included questions from the Physical activity, and the COPD modules conducted in the 2011 survey. Moreover, the state-added questions are developed and acquired by the BRFSS state participants and their stakeholders, and are not edited or evaluated by the CDC. For 2011, the questionnaire included questions related to folic acid consumption, autism, childhood hpv vaccination, tobacco, and milk consumption.

To conduct the survey, PR-BRFSS sample participants disproportionately from eight strata based on the Epidemiological Regions defined by the PRDOH. This procedure allowed adequate sample sizes for smaller geographically defined populations [1]. The stratas, that grouped the 78 municipalities, are shown in Appendix A. As well, the frequency of participants and the estimated population by health region is included

in Appendix B. Taking the eight stratas into account, CDC generates a sample record with all landline telephone numbers selected for dialing. As well, after the introduction of cell phones in 2011, the BRFSS use an additional sample record for interviews. Cell phone were included as a strategy to increase the participation of younger people, minorities and adults without landlines phones. Hence, a cell phone record is generated from a random sample of telephone numbers based in all cellphone prefixes for Puerto Rico. Afterwards, the telephone numbers from both records are used to carry out the monthly interviews.

PR-BRFSS interviews are conducted in accordance with the CDC guidelines. As part of the procedures to assure the quality of the information, interviewers are trained on seven basic areas: overview of the BRFSS, role descriptions for staff involved in the interviewing process, the questionnaire, sampling, codes and dispositions (four-digit codes indicating the outcome of each call attempts), survey follow-up, and practice sessions [1]. At the end of the calendar year, the collected information is internally cleaned, and check for errors. Subsequently, the data are transmitted to CDC's Office of Surveillance, Epidemiology, and Laboratory Services, Behavioral Risk Factor Surveillance Branch for editing, processing, weighting, and analysis [1].

The collected data from Puerto Rico interviews is weighted to account for the differences in selection, caused by noncoverage and nonresponse of the selection. In addition, the weighting of the data allows to generalize the estimates to the Puerto Rican population of adults 18 years living in households. In 2011, CDC officially changed the BRFSS weighting methodology from post-stratification to iterative proportional fitting, also known as raking. Whereas, post-stratification simultaneously adjust survey respondent data to known proportion of certain characteristics, raking makes adjustments

for each variable individually in a series of interactions [2]. Ranking reduce potential bias and increase representativeness of the estimates through two major features:

- *Allows the incorporation of a phone source variable.* This feature permits to combine information of participants from households with landline or cell phones to generate estimates.
- *Allows the incorporation of more demographic variables.* Previously, with post-stratification, adjustments were made by age (in categories), race/ethnicity, sex, and geographic region. These adjustments were limited by the information available on each characteristic for each region or area. Since ranking does not depends upon information on small geographic areas, additional variables such as educational level, marital status, and renter/owner status are included for adjustments.

Due to the implemented changes in the BRFSS methodology, *estimates generated prior to the implementation of cell phone and raking weighting methodology could not be compared* [2]. As an official statement from the PR-BRFSS, and in accordance with the CDC guidelines, *prevalence estimates comparison will be divided in two waves. The first wave from 1996 to 2010 for those surveyed with landline and weighted through post-stratification; and the second wave starting at 2011 for those surveyed with landline and cell phone, and weighted using raking method.*

During 2011, a total of 6,613 Puerto Rico inhabitants 18 years or older living in households participated in the survey, of which 4,471 were interviewed through landline and 2,142 through cell phone. Response rates were calculated using standards set by the American Association of Public Opinion Research [3]. For 2011, the PR-BRFSS AAPOR cooperation rate was 90.17%, and the AAPOR response rate was 61.7%. Both

measures were among the highest within all BRFSS state participants, and above the median (AAPOR cooperation rate = 73.84%; AAPOR response rate was 49.72%) calculated for US, excluding Guam, Puerto Rico, or the U.S. Virgin Islands (http://www.cdc.gov/brfss/annual_data/2011/response_rates_11.htm#ft3).

Data analysis were conducted using the R environment for statistical computing and graphics Version 3.0.2 [4]; and package *survey* Version 3.29-5 [5] to account for the BRFSS complex sample design. This package uses the Taylor-series linearization as one of the methods for computing standard errors [5,6]. Therefore, R and package *survey* have been recognized to accurately replicate estimates derived by other statistical packages such as SAS, Stata, and SUDAAN [6]. Results were managed using package *Hmisc* [7] for advance table making; and packages *ggplot2* [8], and *gridExtra* [9] for generating and managing plots. In addition, the development, assembly, and editing of this report was possible using RStudio [10], which is an integrated development environment for R, and the document preparation system L^AT_EX [11].

For all selected health indicators in this report, the result section included: the frequency of response, the prevalence, 95% confidence intervals, and population estimates. As shown in Table 1, the aforementioned terms were described to facilitate the interpretation and use of the results by the PR-BRFSS data users and stakeholder.

There are several limitations of the data obtained from the BRFSS survey which data users should take into account when using the population estimates. First, interviewed adults are from households with a landline or a cellular telephone. Henceforth, the survey does not includes information from households that cannot be reached by telephone, a group that can differ in demographic characteristics such as income, education, and could have poorer health [12]. Second, the BRFSS data is subject to memory bias, under report of less acceptable behaviors,

and over report of more socially desirable behaviors. Nonetheless, research showed that the BRFSS reliability and validity continues to support the utility of the data [13].

Table 1: Terms & Definitions for understanding the tables with the estimates

Term	Definition
Frequency	Represents the total number of participant reported a defined risk factor, disease, or condition. The frequency is helpful for identifying specific levels of the indicator by demographic characteristics with responses less than 50. The CDC suggest caution when interpreting responses with a size less than 50.
Prevalence	The weighted proportion of the number of participants that has a defined risk factor, disease, or condition divided by the total number of participants times 100 at a particular point in time.
95% Confidence Interval (CI)	The weighted range within the prevalence values are likely to fall 95% of the time.
Population	The weighted estimate of the total of Puerto Rico inhabitants that has a defined risk factor, disease, or condition.

3 Results

3.1 General Health

3.1.1 Health perception

The health perception indicator was obtained from PR-BRFSS participants when asked: "would you say that in general your health is excellent, very good, good, fair, or poor?". Responses were grouped in two categories: 1) Excellent, very good, or good; and 2) Fair or poor, to obtain the *perceived health status*, in accordance with the CDC Health Related Quality of Life guideline [14]. During 2011, in Puerto Rico approximately 34.5% of the adults 18 years or older perceived their health as fair or poor (Figure 1).

Figure 1: Self-reported prevalence of fair or poor health perception, Puerto Rico, 2011

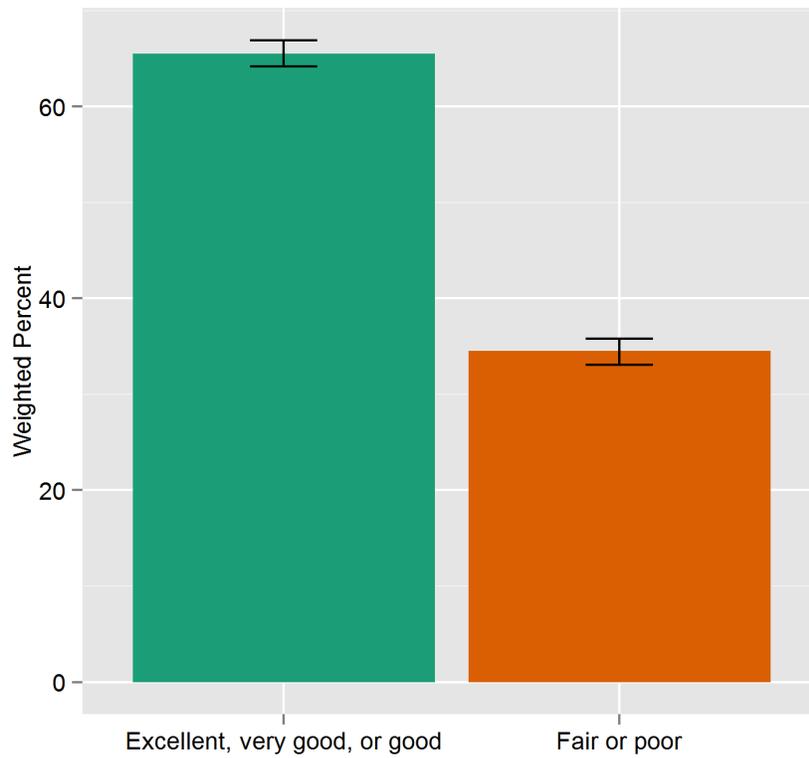
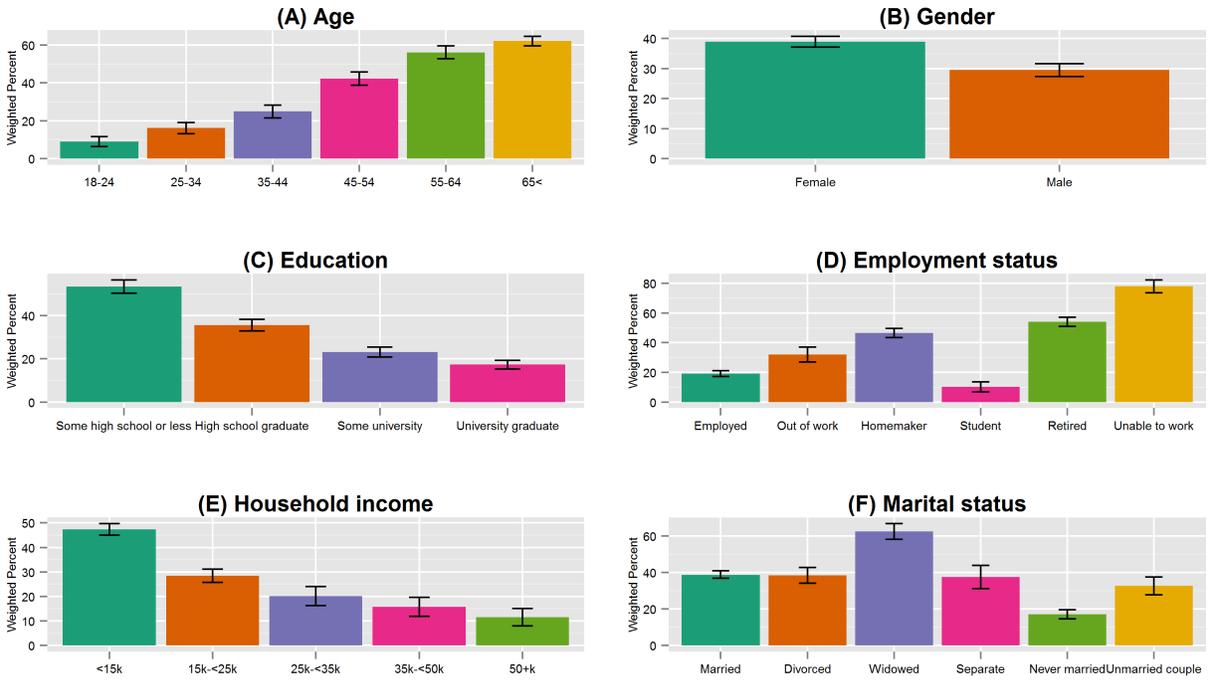


Figure 2: Self-reported prevalence of fair or poor health perception by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of adults that perceived their health as fair or poor by demographic characteristics (Figure 2 and Table 2) suggested the following:

- prevalence estimates increase by age, from 9.0% in those 18 to 24 years of age to 62.2% in adults 65 years or older (panel A)
- females perceived their health as fair or poor more often than males with 38.9% and 29.5% respectively (panel B)
- the self-reported prevalence of a fair or poor health perception decrease as education increase with 53.4% in those with some high school or less to 17.3% in university graduates (panel C)
- participants unable to work, retired, and homemakers seems to report more often a fair or poor health perception with 78.0%, and 54.2% respectively (panel D)
- the self-reported prevalence of fair or poor health perception decrease as household income increase with 47.4% in those with an income lower than \$15,000, to 11.5% in those with income of \$50,000 or more (panel E)
- the prevalence of fair or poor health perception seems higher those widowed (62.4%) than in other marital status groups (panel F).

Table 2: Self-reported prevalence of fair or poor health perception by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	2,697	34.5	(33.1-35.8)	980,641
Age group				
18-24	50	9.0	(6.4-11.6)	37,463
25-34	125	16.1	(13.2-19.0)	88,038
35-44	208	24.9	(21.5-28.2)	130,685
45-54	405	42.3	(38.7-45.9)	203,278
55-64	626	56.2	(52.8-59.5)	226,018
65<	1,283	62.2	(59.7-64.6)	295,160
Gender				
Male	836	29.5	(27.4-31.6)	394,224
Female	1,861	38.9	(37.1-40.7)	586,418
Education				
Some high school or less	1,074	53.4	(50.3-56.5)	462,822
High school graduate	778	35.5	(32.9-38.2)	260,995
Some university	471	23.1	(20.8-25.4)	159,241
University graduate	369	17.3	(15.3-19.3)	95,416
Employment status				
Employ	443	19.2	(17.3-21.2)	222,751
Out of work	152	32.1	(27.1-37.0)	91,965
Homemaker	790	46.5	(43.4-49.6)	259,047
Student	37	10.3	(6.8-13.7)	24,349
Retired	843	54.2	(51.1-57.2)	202,318
Unable to work	428	78.0	(73.7-82.3)	178,950
Household income				
<15k	1,496	47.4	(45.0-49.8)	543,851
15k-<25k	498	28.5	(25.8-31.2)	192,056
25k-<35k	123	20.1	(16.3-24.0)	44,532
35k-<50k	76	15.8	(11.9-19.7)	26,657
50+k	52	11.5	(8.0-15.0)	17,966
Marital status				
Married	1,230	38.7	(36.7-40.8)	442,556
Divorced	375	38.4	(34.1-42.7)	121,534
Widowed	542	62.4	(58.0-66.8)	134,714
Separate	150	37.4	(31.0-43.8)	59,360
Never married	246	17.0	(14.6-19.5)	116,541
Unmarried couple	147	32.6	(27.6-37.5)	103,468

Figure 3: Self-reported prevalence of fair or poor health perception by health regions, Puerto Rico 2011

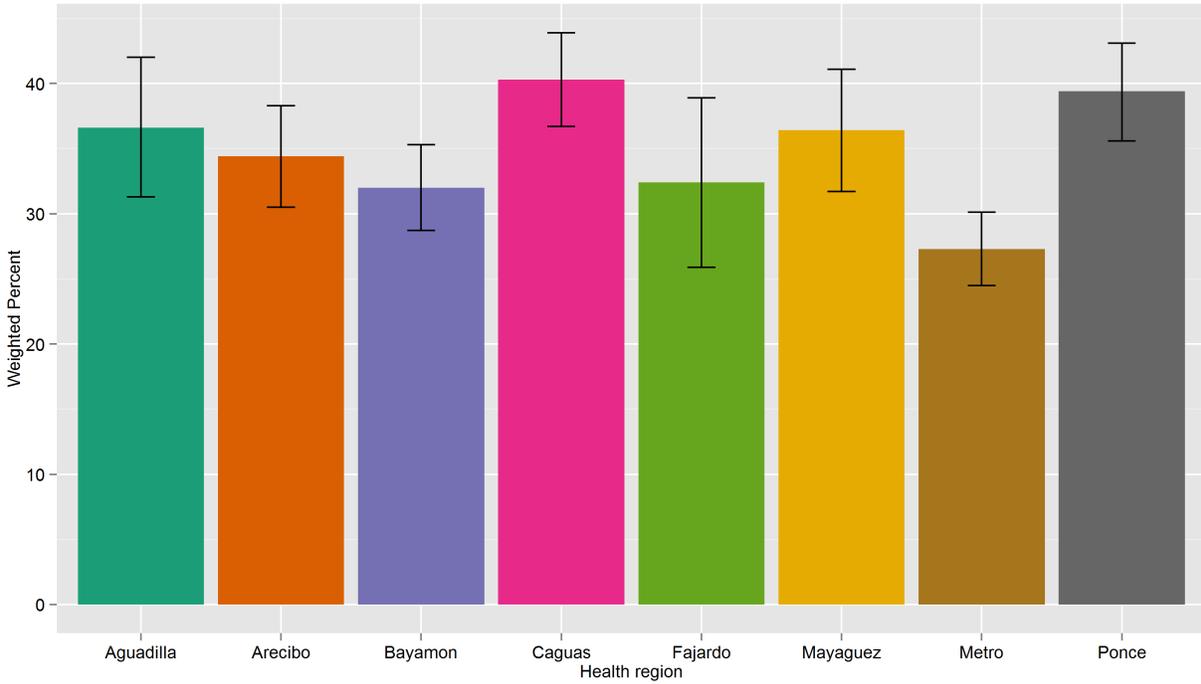


Table 3: Self-reported prevalence of fair or poor health perception by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	200	36.6	(31.3-42.0)	70,364
Arecibo	328	34.4	(30.5-38.3)	125,184
Bayamon	426	32.0	(28.7-35.3)	152,383
Caguas	482	40.3	(36.7-43.9)	174,778
Fajardo	123	32.4	(25.9-38.9)	33,502
Mayaguez	255	36.4	(31.7-41.1)	83,673
Metro	453	27.3	(24.5-30.1)	153,632
Ponce	418	39.4	(35.6-43.1)	180,336

Figure 3 and Table 3 showed the self-reported prevalence of adults that perceived their health as fair or poor by health region. The PR-BRFSS data suggested that the prevalences seems similar across health regions, except for the Caguas health region (40.3%) and Metro health region (27.3%).

3.1.2 Physical health not good

The general health indicator of days of physical health not good was obtained from PR-BRFSS participants when asked: "now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?". Responses were grouped in two categories, 1) 0 to 13 days; and 2) 14 or more days, to obtain the *global measure of recent physical symptoms*, in accordance with the CDC Health Related Quality of Life guidelines [14]. During 2011, in Puerto Rico approximately 12.7% of the adults 18 years or older reported 14 or more days of physical health not good (Figure 4).

Figure 4: Self-reported prevalence of 14 days or more with physical health not good, Puerto Rico 2011

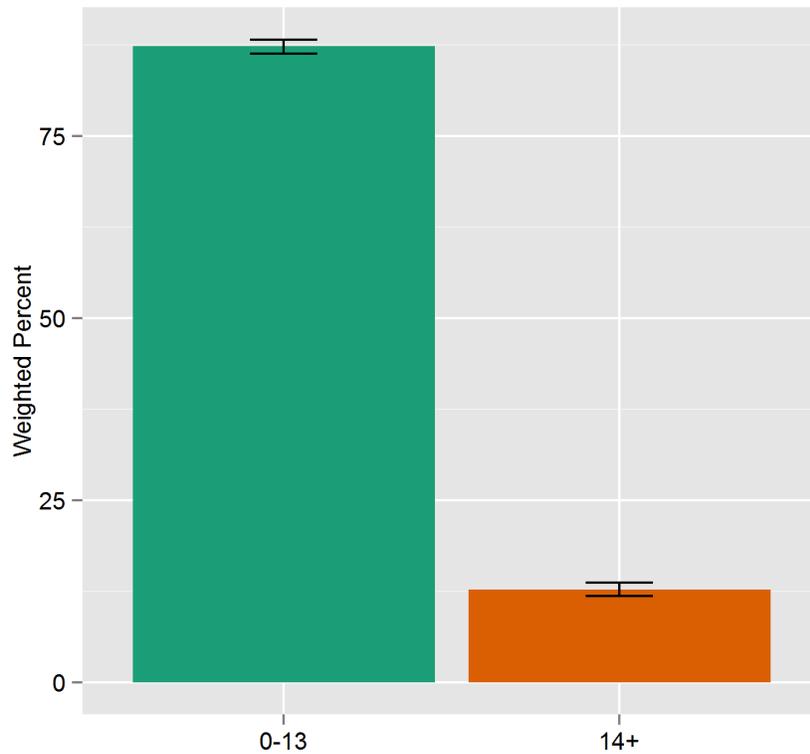
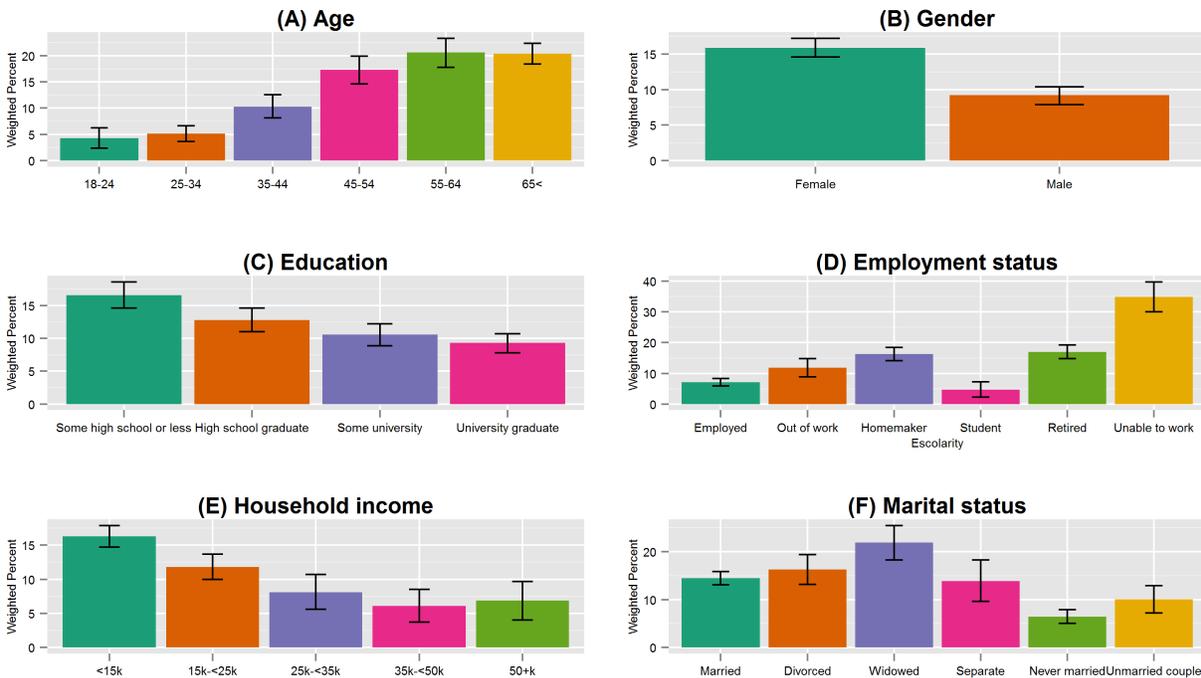


Figure 5: Self-reported prevalence of 14 days or more with physical health not good by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of Puerto Rico residents that have 14 or more days of physical activity not good by demographic characteristics (Figure 5 and Table 4) suggested the following:

- prevalence estimates increase by age from 4.3% in those 18 to 24 years of age to 20.4% in adults 65 years or older (panel A)
- the prevalence differs between males and females with 9.2% and 15.9%, respectively (panel B)
- the self-reported prevalence of 14 days of more days of physical health not good decrease as educational level increase with a 16.6% in those with some high school or

less to 9.3% in university graduates (panel C)

- Puerto Ricans unable to work seems to report more often 14 days or more of physical health not good (34.9%) followed by homemakers (16.3%) (panel D)
- the self-reported prevalence of physical health not good decrease as household income increase with 16.3% in those with an income lower than \$15,000, to 6.9% in those with income of \$50,000 or more (panel E)
- the prevalence of 14 days or more of physical health not good seems lower among those never married (6.4%), and unmarried couples (10.1%) (panel F).

Table 4: Self-reported prevalence of 14 days or more with physical health not good by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	1,017	12.7	(11.8-13.7)	359,870
Age group				
18-24	21	4.3	(2.4-6.2)	17,787
25-34	54	5.1	(3.6-6.6)	27,968
35-44	90	10.3	(8.1-12.6)	53,744
45-54	181	17.3	(14.6-19.9)	82,234
55-64	231	20.6	(17.8-23.3)	81,998
65<	440	20.4	(18.4-22.4)	96,141
Gender				
Male	277	9.2	(7.9-10.4)	121,144
Female	740	15.9	(14.6-17.2)	238,727
Education				
Some high school or less	358	16.6	(14.6-18.6)	143,140
High school graduate	264	12.8	(11.0-14.6)	93,026
Some university	206	10.6	(8.9-12.2)	72,124
University graduate	188	9.3	(7.8-10.7)	50,717
Employment status				
Employ	168	7.1	(5.9-8.3)	81,138
Out of work	70	11.8	(8.8-14.8)	33,763
Homemaker	276	16.3	(14.1-18.5)	89,983
Student	17	4.7	(2.3-7.2)	11,174
Retired	277	17.0	(14.8-19.2)	63,258
Unable to work	206	34.9	(30.1-39.8)	79,338
Household income				
<15k	540	16.3	(14.7-17.9)	186,028
15k-<25k	203	11.8	(10.0-13.7)	79,437
25k-<35k	52	8.1	(5.6-10.7)	17,987
35k-<50k	33	6.1	(3.7-8.5)	10,197
50+k	27	6.9	(4.0-9.7)	10,606
Marital status				
Married	463	14.5	(13.1-15.9)	164,019
Divorced	153	16.3	(13.2-19.4)	51,288
Widowed	193	21.9	(18.3-25.5)	46,849
Separate	57	13.9	(9.6-18.3)	22,020
Never married	95	6.4	(5.0-7.9)	43,812
Unmarried couple	55	10.1	(7.2-12.9)	31,736

Figure 6: Self-reported prevalence of 14 days or more with physical health not good by health regions, Puerto Rico 2011

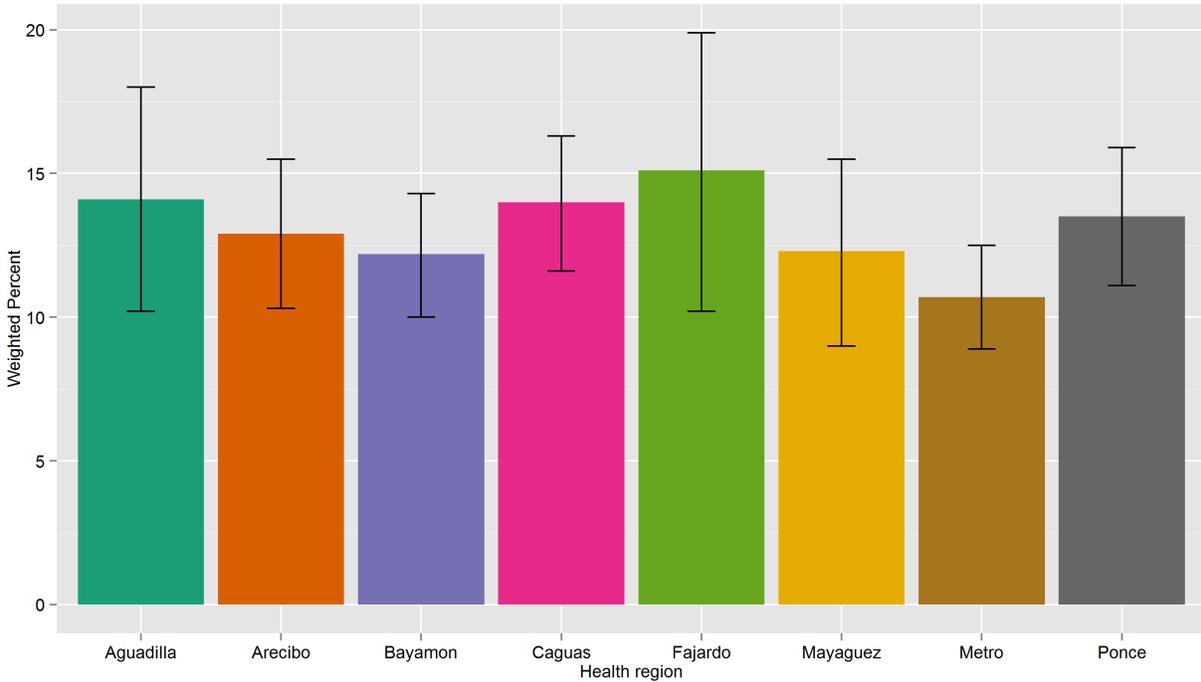


Table 5: Self-reported prevalence of 14 days or more with physical health not good by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	68	14.1	(10.2-18.0)	26,794
Arecibo	125	12.9	(10.3-15.5)	46,639
Bayamon	165	12.2	(10.0-14.3)	57,077
Caguas	181	14.0	(11.6-16.3)	60,226
Fajardo	57	15.1	(10.2-19.9)	15,412
Mayaguez	80	12.3	(9.0-15.5)	28,011
Metro	185	10.7	(8.9-12.5)	59,732
Ponce	149	13.5	(11.1-15.9)	61,893

Figure 6 and Table 5 showed the self-reported prevalence of adults that had 14 or more days with physical health not good by health region. The Puerto Rico data suggested that the prevalences seems similar across health regions, ranging from 10.7% in the Metro health region to 15.1% in the Fajardo health region.

3.1.3 Mental health not good

The general health indicator of days of mental health not good was obtained from PR-BRFSS participants when asked: "now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?". Responses were grouped in two categories: 1) 0 to 13 days; and 2) 14 or more days, to obtain the *global measure of recent mental and emotional distress*, in accordance with the CDC Health Related Quality of Life guidelines [14]. During 2011, in Puerto Rico approximately 12.2% of the adults 18 years or older reported 14 or more days of mental health not good (Figure 7).

Figure 7: Self-reported prevalence of 14 days or more with mental health not good, Puerto Rico 2011

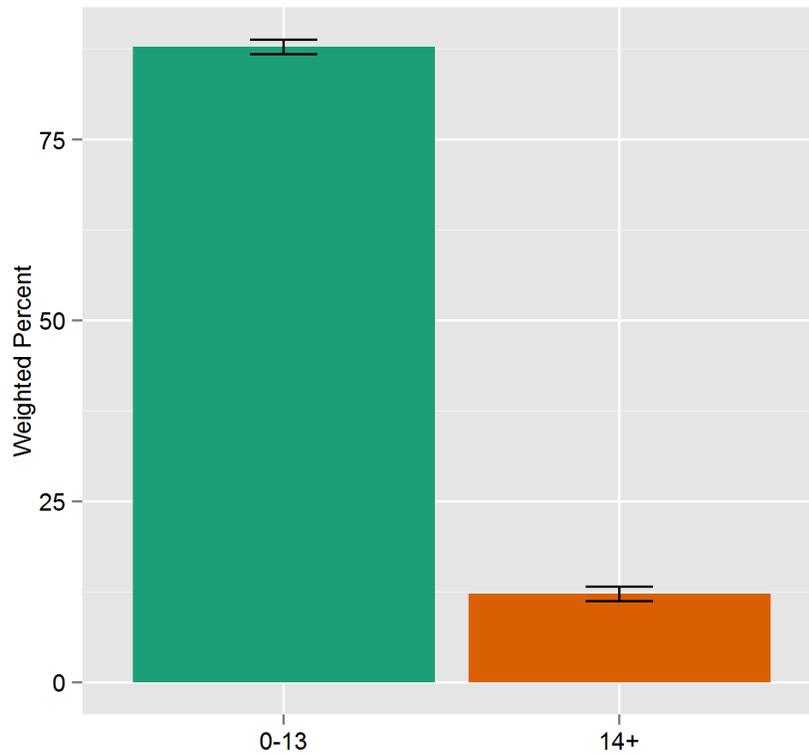
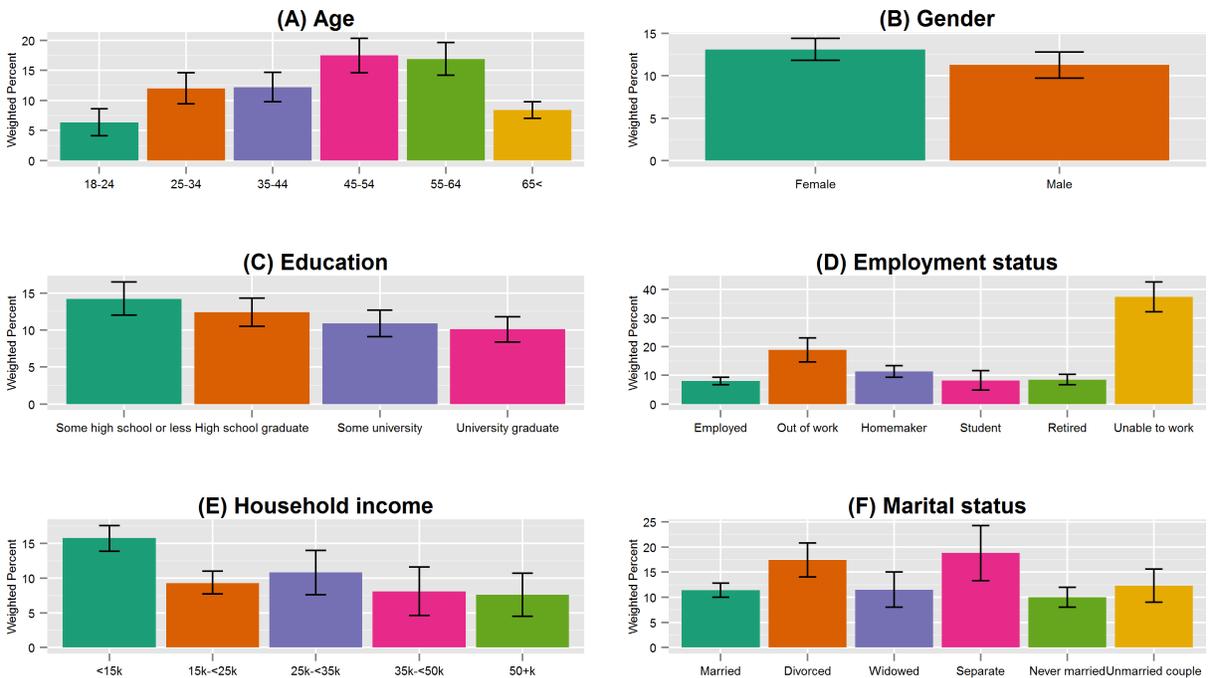


Figure 8: Self-reported prevalence of 14 days or more with mental health not good by demographic characteristics, Puerto Rico 2011



The self-reported prevalence of adults in Puerto Rico that have 14 or more days of mental health not good by demographic characteristics (Figure 8 and Table 6) suggested the following information:

- prevalence estimates were higher in adults 45 to 54 years of age (17.5%), and in adults 55 to 64 years of age (16.9%) (panel A)
- the prevalence was similar between males and females with 11.3% and 13.1% respectively (panel B)
- the self-reported prevalence of 14 days of more of mental health not good decrease as educational level increase with a 14.2%

in those with some high school or less to 10.1% in university graduates (panel C)

- those that reported to be unable to work, and out of work seems to report more often 14 days or more of mental health not good with 37.4%, and 18.9% respectively (panel D)
- the self-reported prevalence of mental health not good was higher in those with a household income lower than \$15,000 with 15.8% (panel E)
- the prevalence seems higher among those that reported their marital status separated (18.8%) and divorced (17.4%) (panel F).

Table 6: Self-reported prevalence of 14 days or more with mental health not good by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	751	12.2	(11.2-13.2)	344,288
Age group				
18-24	33	6.3	(4.1-8.6)	26,089
25-34	95	12.0	(9.4-14.6)	65,221
35-44	107	12.2	(9.8-14.7)	63,186
45-54	164	17.5	(14.6-20.3)	83,354
55-64	180	16.9	(14.2-19.6)	66,985
65<	172	8.4	(7.0-9.8)	39,453
Gender				
Male	253	11.3	(9.7-12.8)	149,292
Female	498	13.1	(11.8-14.4)	194,995
Education				
Some high school or less	209	14.2	(12.0-16.5)	122,509
High school graduate	207	12.4	(10.5-14.3)	89,802
Some university	172	10.9	(9.1-12.7)	74,637
University graduate	160	10.1	(8.4-11.8)	55,313
Employment status				
Employ	169	8.0	(6.7-9.4)	92,035
Out of work	90	18.9	(14.7-23.1)	53,779
Homemaker	163	11.4	(9.4-13.4)	62,587
Student	27	8.2	(4.9-11.6)	19,355
Retired	119	8.5	(6.7-10.3)	31,365
Unable to work	180	37.4	(32.2-42.6)	84,054
Household income				
<15k	373	15.8	(13.9-17.6)	179,123
15k-<25k	147	9.3	(7.7-11.0)	62,593
25k-<35k	51	10.8	(7.6-14.0)	23,826
35k-<50k	26	8.1	(4.6-11.6)	13,516
50+k	28	7.6	(4.5-10.7)	11,782
Marital status				
Married	302	11.4	(10.0-12.8)	129,576
Divorced	136	17.4	(14.0-20.8)	54,057
Widowed	76	11.5	(8.0-15.0)	24,321
Separate	57	18.8	(13.3-24.3)	29,109
Never married	118	10.0	(8.0-12.0)	67,760
Unmarried couple	60	12.3	(9.0-15.6)	38,808

Figure 9: Self-reported prevalence of 14 days or more with mental health not good by health regions, Puerto Rico 2011

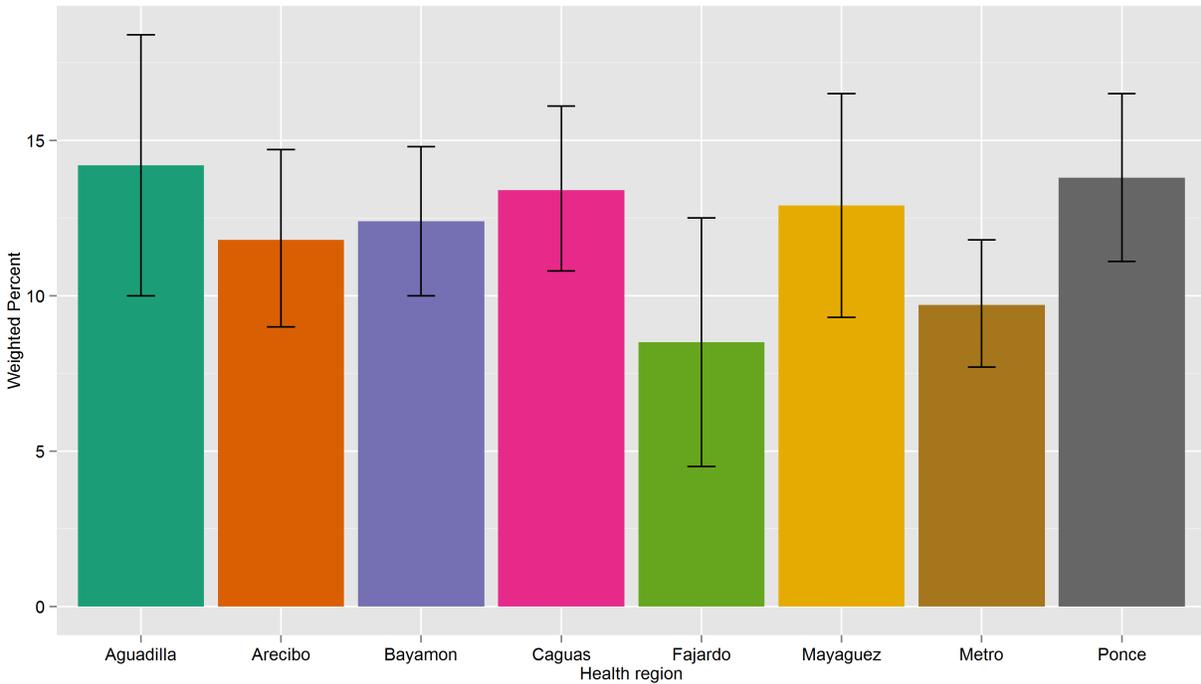


Table 7: Self-reported prevalence of 14 days or more with mental health not good by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	60	14.2	(10.0-18.4)	26,781
Arecibo	88	11.8	(9.0-14.7)	42,840
Bayamon	131	12.4	(10.0-14.8)	58,637
Caguas	127	13.4	(10.8-16.1)	57,502
Fajardo	27	8.5	(4.5-12.5)	8,668
Mayaguez	66	12.9	(9.3-16.5)	29,009
Metro	130	9.7	(7.7-11.8)	54,170
Ponce	116	13.8	(11.1-16.5)	63,170

Figure 9 and Table 7 showed the self-reported prevalence of adults that had 14 or more days of mental health not good by health region. The Puerto Rico data suggested that the prevalences seems similar across health regions, regardless of the gap between the Aguadilla (14.2%) and the Metro (9.7%) health regions.

3.1.4 Recent activity limitation because poor physical or mental health

The general health indicator of recent activity limitation because poor physical or mental health was obtained from PR-BRFSS participants that reported at least one day of physical health, and/or one day of mental health not good. Then they were asked: "during the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?". Responses were grouped in two categories: 1) 0 to 13 days; and 2) 14 or more days), to obtain the *global indicator of perceived disability* in accordance with the CDC Health Related Quality of Life guidelines [14]. During 2011, in Puerto Rico approximately 16.5% of the adults 18 years or older with at least one day of physical or mental health not good, reported 14 or more days that the poor physical or mental health keep them from doing usual activities (Figure 10).

Figure 10: Self-reported prevalence of 14 days or more of activity limitation because of poor physical or mental health, Puerto Rico 2011

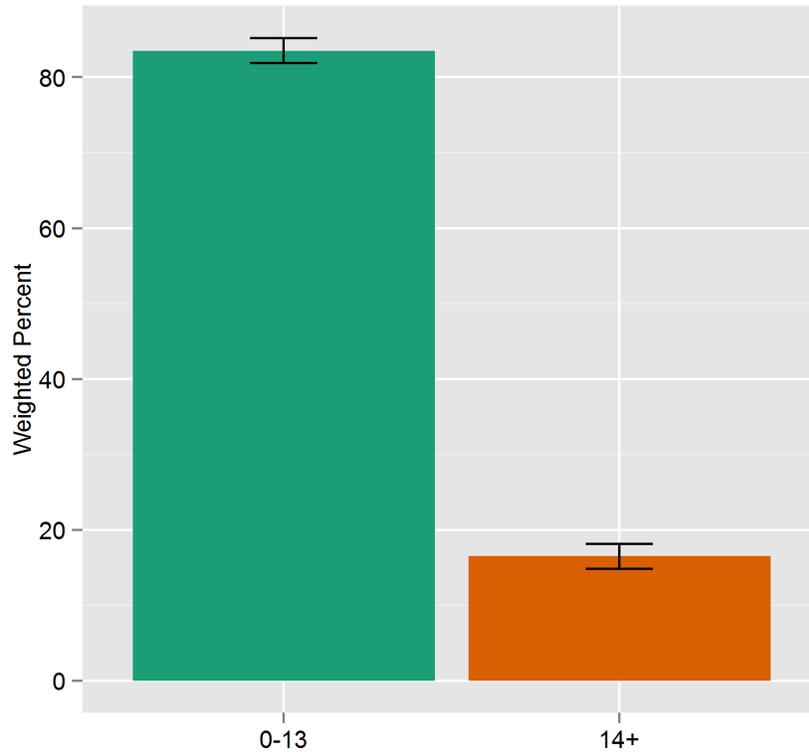
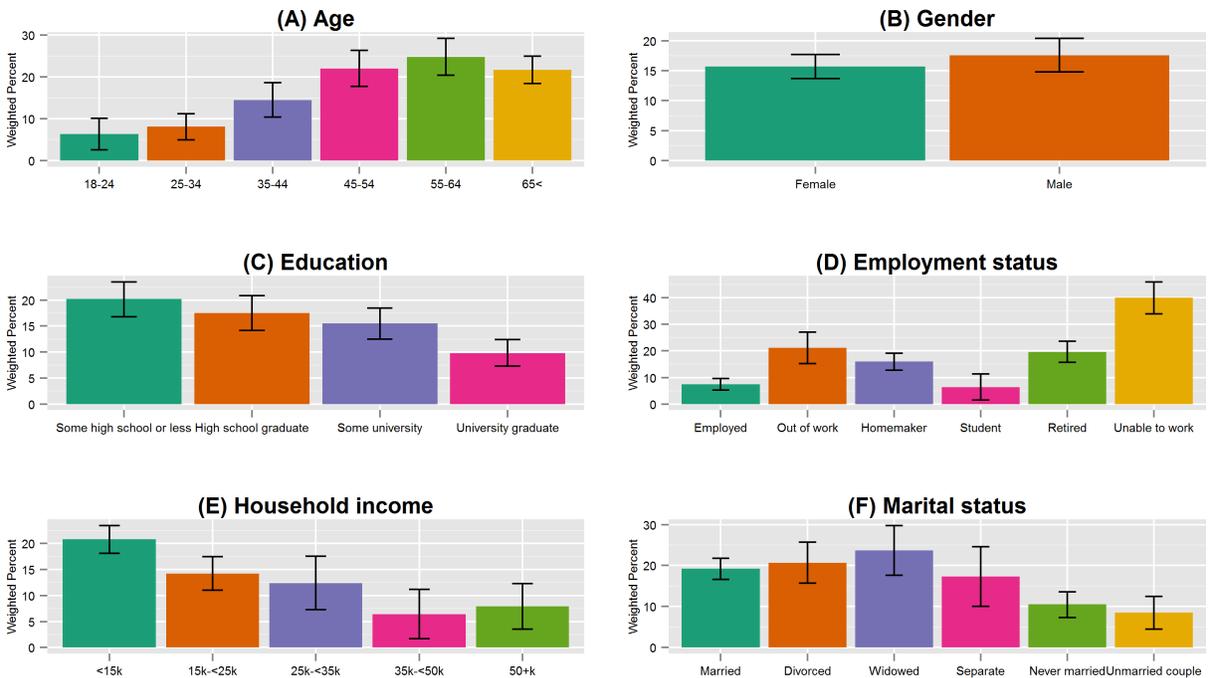


Figure 11: Self-reported prevalence of 14 days or more of activity limitation because of poor physical or mental health by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of 14 days or more of activity limitation because poor physical or mental health in Puerto Rico residents by demographic characteristics (Figure 11 and Table 8) suggested that:

- prevalence estimates increase as age increases with 6.3% in those 18 those 24 years of age to 24.8% in those 55 to 64 years of age (panel A)
- the prevalence was similar between males and females with 17.6% and 15.7% respectively (panel B)
- the self-reported prevalence of 14 days of more of activity limitation because poor

physical or mental health decrease as educational level increase with 20.2% in those with some high school or less to 9.8% in university graduates (panel C)

- those that reported to be unable to work, out of work, retired, homemakers seems to report more often 14 days activity limitation because poor physical or mental health (panel D)
- the self-reported prevalence was higher in those with a household income lower than \$15,000 with 20.8% (panel E)
- the prevalence seems lower among unmarried couples (8.5%), and those never married (10.5%) (panel F).

Table 8: Self-reported prevalence of 14 days or more of activity limitation because of poor physical or mental health by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	501	16.5	(14.8-18.1)	197,645
Age group				
18-24	11	6.3	(2.6-10.1)	10,006
25-34	28	8.1	(4.9-11.2)	17,560
35-44	49	14.5	(10.4-18.6)	31,288
45-54	107	22.0	(17.7-26.3)	49,540
55-64	125	24.8	(20.4-29.2)	48,407
65<	181	21.7	(18.4-25.0)	40,845
Gender				
Male	174	17.6	(14.8-20.4)	84,028
Female	327	15.7	(13.7-17.7)	113,617
Education				
Some high school or less	165	20.2	(16.8-23.5)	77,802
High school graduate	137	17.5	(14.2-20.9)	53,078
Some university	123	15.5	(12.5-18.5)	45,642
University graduate	76	9.8	(7.3-12.4)	21,123
Employment status				
Employ	56	7.5	(5.3-9.6)	31,688
Out of work	53	21.1	(15.2-27.1)	29,161
Homemaker	117	16.0	(12.7-19.2)	39,841
Student	7	6.4	(1.5-11.3)	5,825
Retired	108	19.6	(15.7-23.6)	26,669
Unable to work	158	40.0	(34.0-46.0)	63,755
Household income				
<15k	279	20.8	(18.1-23.5)	111,085
15k-<25k	100	14.2	(11.0-17.5)	39,096
25k-<35k	28	12.4	(7.3-17.6)	11,075
35k-<50k	9	6.4	(1.7-11.2)	3,591
50+k	14	7.9	(3.5-12.3)	4,739
Marital status				
Married	229	19.2	(16.6-21.8)	90,749
Divorced	85	20.7	(15.7-25.7)	31,014
Widowed	80	23.7	(17.6-29.8)	22,654
Separate	29	17.3	(10.0-24.6)	14,305
Never married	56	10.5	(7.3-13.6)	27,411
Unmarried couple	21	8.5	(4.5-12.5)	11,367

Figure 12: Self-reported prevalence of 14 days or more of activity limitation because of poor physical or mental health by health regions, Puerto Rico 2011

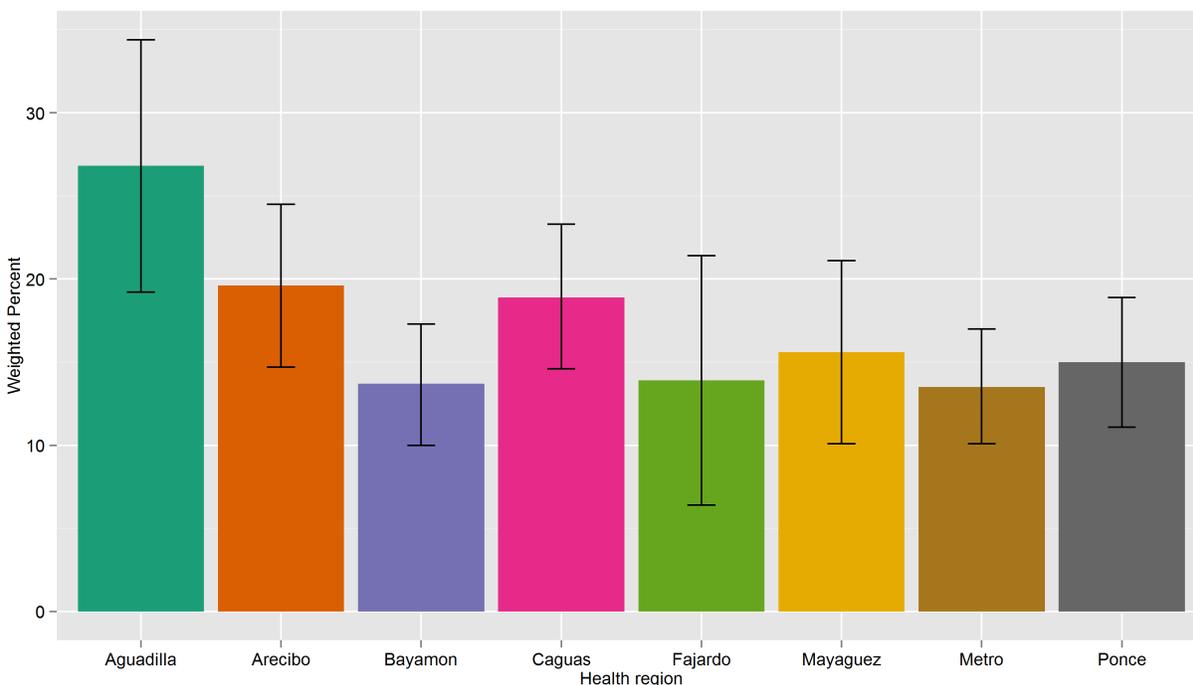


Table 9: Self-reported prevalence of 14 days or more of activity limitation because of poor physical or mental health by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	53	26.8	(19.2-34.4)	22,181
Arcibo	70	19.6	(14.7-24.5)	28,610
Bayamon	71	13.7	(10.0-17.3)	28,623
Caguas	91	18.9	(14.6-23.3)	34,971
Fajardo	19	13.9	(6.4-21.4)	6,292
Mayaguez	42	15.6	(10.1-21.1)	14,958
Metro	84	13.5	(10.1-17.0)	30,458
Ponce	69	15.0	(11.1-18.9)	30,608

Figure 12 and Table 9 showed the self-reported prevalence of 14 days or more of activity limitation because poor physical or mental health in adults by health region. The Puerto Rico data suggested that the prevalence of the Arcibo health region (26.8%) seems higher than the prevalence for the Bayamón (13.7%), Metro (13.5%) and Ponce (15.0%) health regions.

3.2 Disability

3.2.1 Activity limitation due to health problems

The indicator of activity limitation due to health problems was obtained from PR-BRFSS participants when asked: are you limited in any way in any activities because of physical, mental, or emotional problems? For 2011, Figure 13 showed that approximately 18.7% of the adults 18 years or older in Puerto Rico reported activity limitation due to physical, mental, or emotional problems.

Figure 13: Self-reported prevalence of activity limitation due to health problems, Puerto Rico 2011

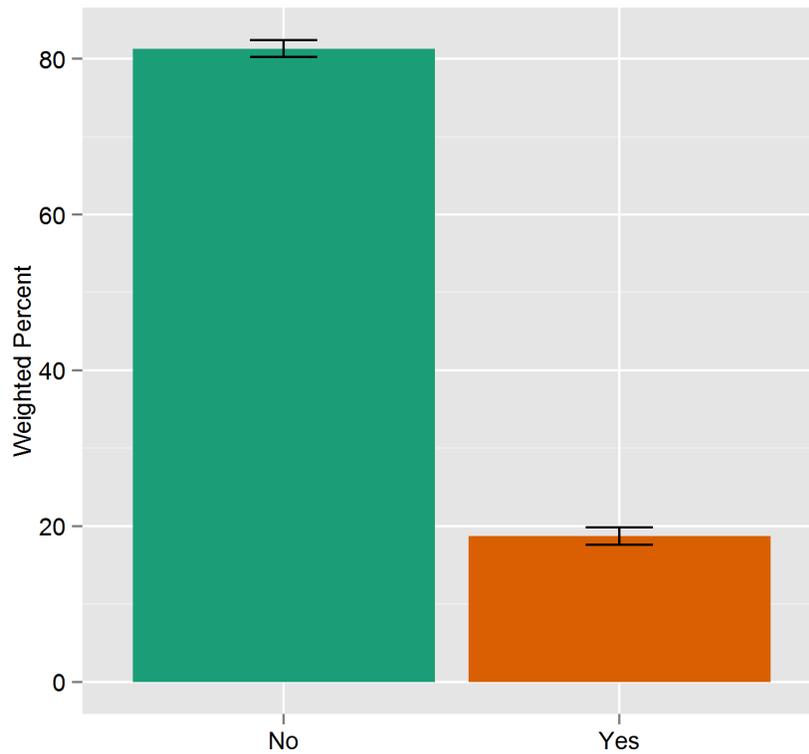
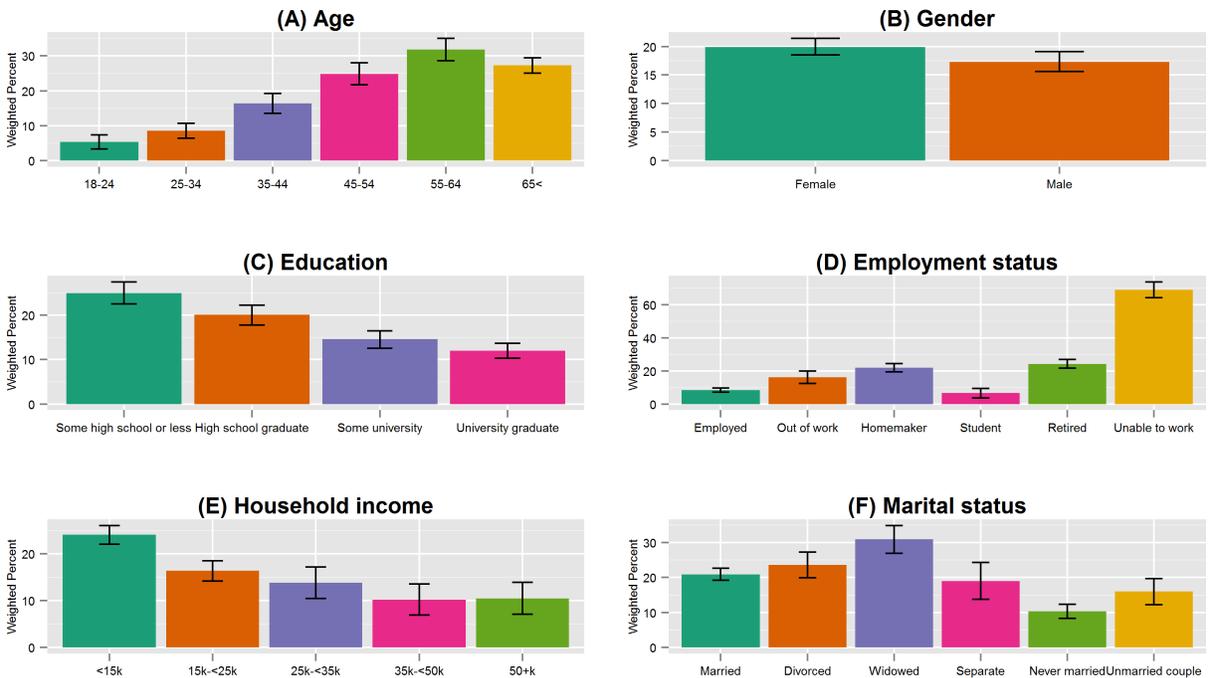


Figure 14: Self-reported prevalence of activity limitation due to health problems by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of activity limitation due to health problems in Puerto Rico residents by demographic characteristics (Figure 14 and Table 10) suggested the following information:

- prevalence estimates increase as age increases with 5.3% in those 18 those 24 years of age to 31.8% in those 55 to 64 years of age (panel A)
- the prevalence was similar between males and females with 17.3% and 19.9% respectively (panel B)
- the self-reported prevalence of activity limitation due to health problems decrease

as educational level increase with 25.0% in those with some high school or less to 12.0% in university graduates (panel C)

- Puerto Rico residents unable to work, retired, or homemakers seems to report more often activity limitation due to health problems with 69.2%, 24.3%, and 21.9% respectively (panel D)
- the self-reported prevalence was higher in those with a household income lower than 15,000 with 24.1% (panel E)
- the prevalence seems higher among married (20.9%), divorced (23.6%) and widowed (30.9%) (panel F).

Table 10: Self-reported prevalence of activity limitation due to health problems by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	1,425	18.7	(17.6-19.8)	528,145
Age group				
18-24	28	5.3	(3.3-7.4)	22,032
25-34	67	8.6	(6.4-10.7)	46,430
35-44	135	16.4	(13.5-19.2)	85,356
45-54	250	24.8	(21.7-28.0)	118,805
55-64	358	31.8	(28.6-35.0)	126,662
65<	587	27.3	(25.1-29.5)	128,861
Gender				
Male	479	17.3	(15.6-19.1)	229,930
Female	946	19.9	(18.5-21.4)	298,216
Education				
Some high school or less	493	25.0	(22.5-27.5)	215,990
High school graduate	390	20.1	(17.8-22.3)	145,412
Some university	289	14.6	(12.6-16.5)	99,844
University graduate	251	12.0	(10.3-13.7)	65,739
Employment status				
Employ	206	8.4	(7.1-9.7)	96,845
Out of work	86	16.2	(12.4-20.0)	45,959
Homemaker	366	21.9	(19.4-24.4)	121,474
Student	20	6.6	(3.7-9.5)	15,510
Retired	383	24.3	(21.7-27.0)	90,019
Unable to work	360	69.2	(64.4-73.9)	156,715
Household income				
<15k	750	24.1	(22.1-26.1)	274,513
15k-<25k	280	16.4	(14.2-18.5)	109,830
25k-<35k	79	13.8	(10.5-17.2)	30,206
35k-<50k	48	10.2	(6.9-13.6)	17,122
50+k	47	10.5	(7.1-13.9)	16,248
Marital status				
Married	635	20.9	(19.2-22.6)	236,454
Divorced	223	23.6	(19.9-27.3)	73,438
Widowed	265	30.9	(26.9-34.9)	66,512
Separate	74	19.0	(13.8-24.3)	29,927
Never married	145	10.3	(8.3-12.3)	69,907
Unmarried couple	78	16.0	(12.2-19.7)	50,890

Figure 15: Self-reported prevalence of activity limitation due to health problems by health regions, Puerto Rico 2011

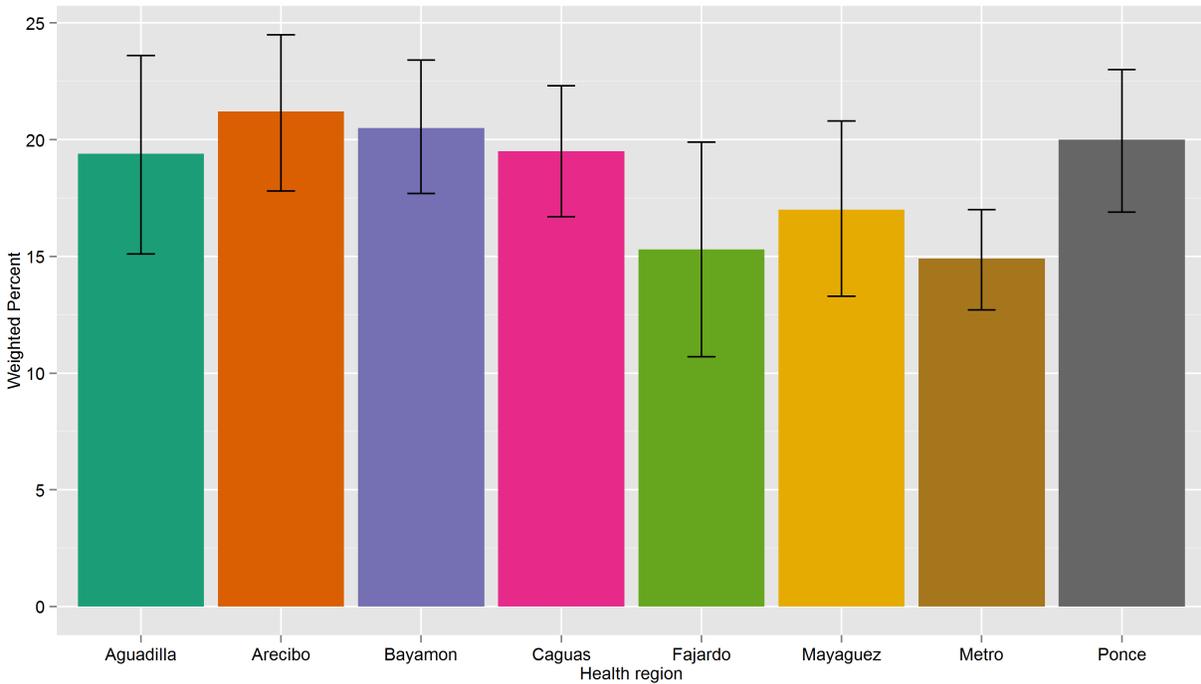


Table 11: Self-reported prevalence of activity limitation due to health problems by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	99	19.4	(15.1-23.6)	36,955
Arecibo	187	21.2	(17.8-24.5)	76,586
Bayamon	250	20.5	(17.7-23.4)	96,782
Caguas	248	19.5	(16.7-22.3)	84,132
Fajardo	63	15.3	(10.7-19.9)	15,704
Mayaguez	104	17.0	(13.3-20.8)	38,993
Metro	263	14.9	(12.7-17.0)	83,135
Ponce	202	20.0	(16.9-23.0)	91,119

Figure 15 and Table 11 showed the self-reported prevalence of activity limitation due to health problems in Puerto Ricans adults by health region. The PR-BRFSS data suggested that the prevalences seems similar across health regions, except for Arcibo (21.2%) and Metro (14.9%) health regions prevalence.

3.2.2 Use of special equipment

The disability indicator of adults with health problems that required use of special equipment was obtained from PR-BRFSS participants when asked: do you now have any health problem that requires you to use special equipment, such as a cane, a wheelchair, a special bed, or a special telephone? The question included answers for occasional use of special equipment, or used in certain circumstances. For 2011, Figure 16 shows that in Puerto Rico approximately 8.1% of the adults 18 years or older with health problems required the use of special equipment.

Figure 16: Self-reported prevalence of special equipment use, Puerto Rico 2011

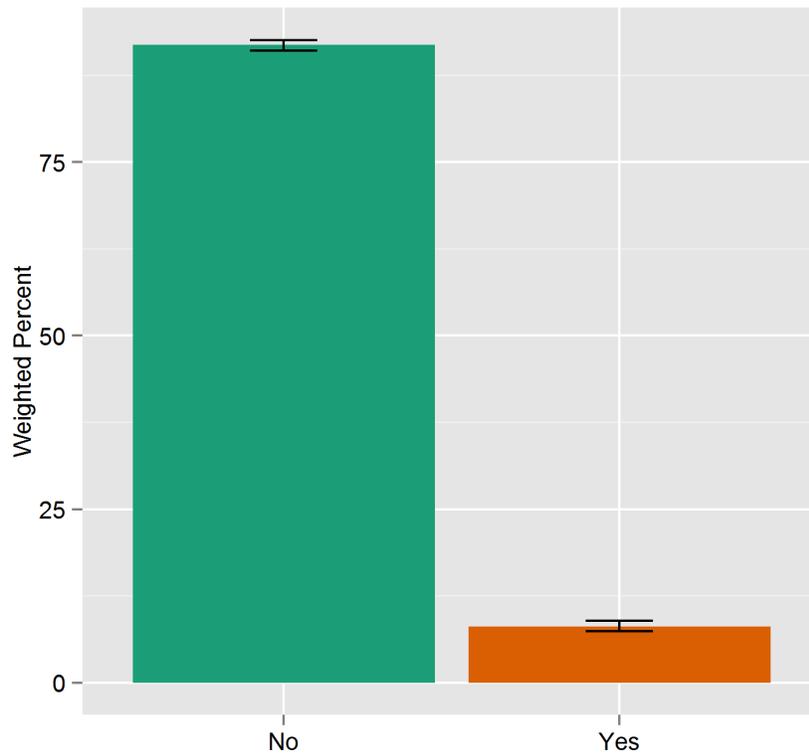
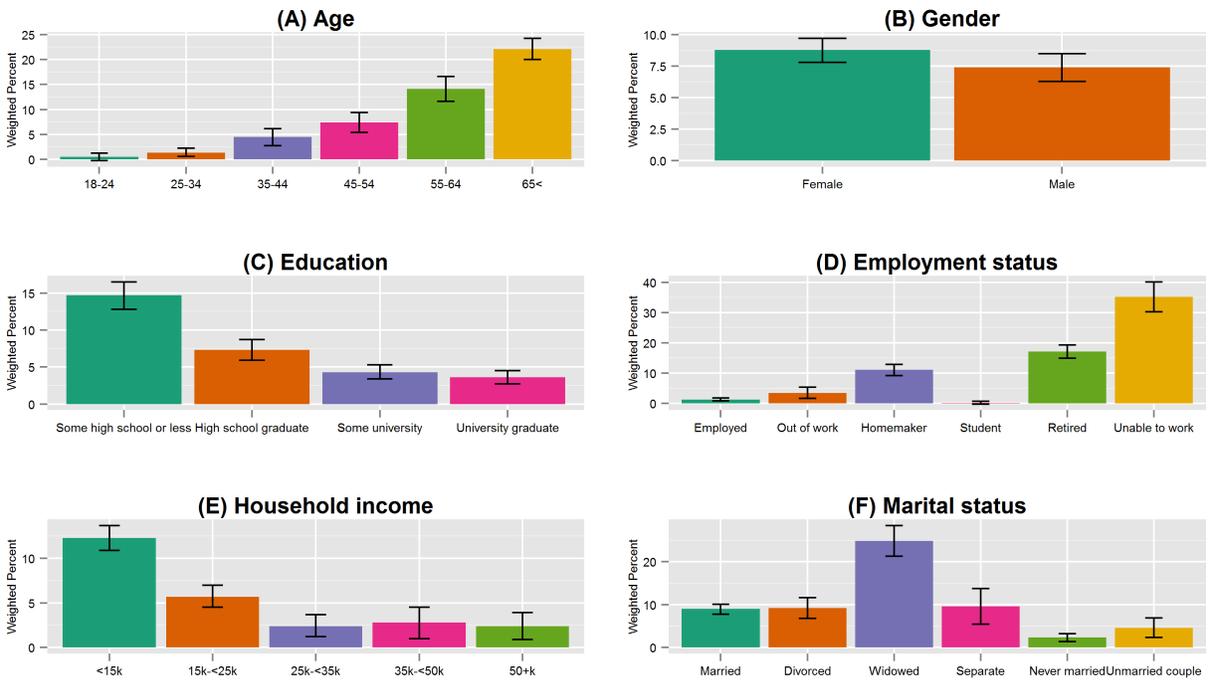


Figure 17: Self-reported prevalence of special equipment use by demographic characteristics, Puerto Rico 2011



The self-reported prevalence of Puerto Rico residents adults with health problems that required the use of special equipment by demographic characteristics (Figure 17 and Table 12) suggested the following information:

- prevalence was higher in those 65 years or older, nevertheless approximately 59,000 adults between the ages of 35 and 54 had health problems that required the use of special equipment (panel A)
- the prevalence was similar between males and females with 7.4% and 8.8% respectively (panel B)
- the self-reported prevalence use of special equipment decrease as educational level de-

crease from 14.7% in those with some high school or less to 3.6% in university graduates (panel C)

- those that reported to be unable to work, retired, or homemakers seems to report more often use of special equipment with 35.1%, 17.1%, and 11.1% respectively (panel D)
- the self-reported prevalence was higher in those with a household income lower than \$15,000 with 12.3% (panel E)
- the prevalence seems higher among those widowed (24.9%) than in the other marital groups (panel F).

Table 12: Self-reported prevalence of special equipment use by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	725	8.1	(7.4-8.9)	229,621
Age group				
18-24	3	-	-	-
25-34	12	1.4	(0.6-2.3)	7,845
35-44	34	4.5	(2.8-6.2)	23,202
45-54	69	7.4	(5.4-9.4)	35,550
55-64	149	14.1	(11.6-16.6)	56,287
65<	458	22.1	(20.0-24.2)	104,489
Gender				
Male	252	7.4	(6.3-8.5)	98,416
Female	473	8.8	(7.8-9.7)	131,206
Education				
Some high school or less	344	14.7	(12.8-16.5)	126,581
High school graduate	172	7.3	(5.9-8.7)	52,830
Some university	111	4.3	(3.4-5.3)	29,630
University graduate	97	3.6	(2.7-4.5)	19,716
Employment status				
Employ	34	1.3	(0.8-1.8)	14,430
Out of work	15	3.5	(1.6-5.4)	9,799
Homemaker	202	11.1	(9.2-12.9)	61,369
Student	1	-	-	-
Retired	276	17.1	(14.9-19.3)	63,278
Unable to work	196	35.1	(30.2-40.1)	79,758
Household income				
<15k	437	12.3	(10.9-13.7)	140,429
15k-<25k	121	5.7	(4.5-7.0)	38,533
25k-<35k	21	2.4	(1.2-3.7)	5,261
35k-<50k	14	2.8	(1.0-4.5)	4,625
50+k	14	2.4	(0.9-3.9)	3,687
Marital status				
Married	292	9.0	(7.8-10.1)	101,641
Divorced	97	9.2	(6.8-11.6)	28,630
Widowed	230	24.9	(21.3-28.5)	53,659
Separate	37	9.6	(5.4-13.8)	15,042
Never married	43	2.3	(1.4-3.2)	15,734
Unmarried couple	25	4.6	(2.3-6.9)	14,643

*Caution should be taken when interpreting prevalence estimates due to a responses frequency less than 50 in some demographic levels.

Figure 18: Self-reported prevalence of special equipment use by health regions, Puerto Rico 2011

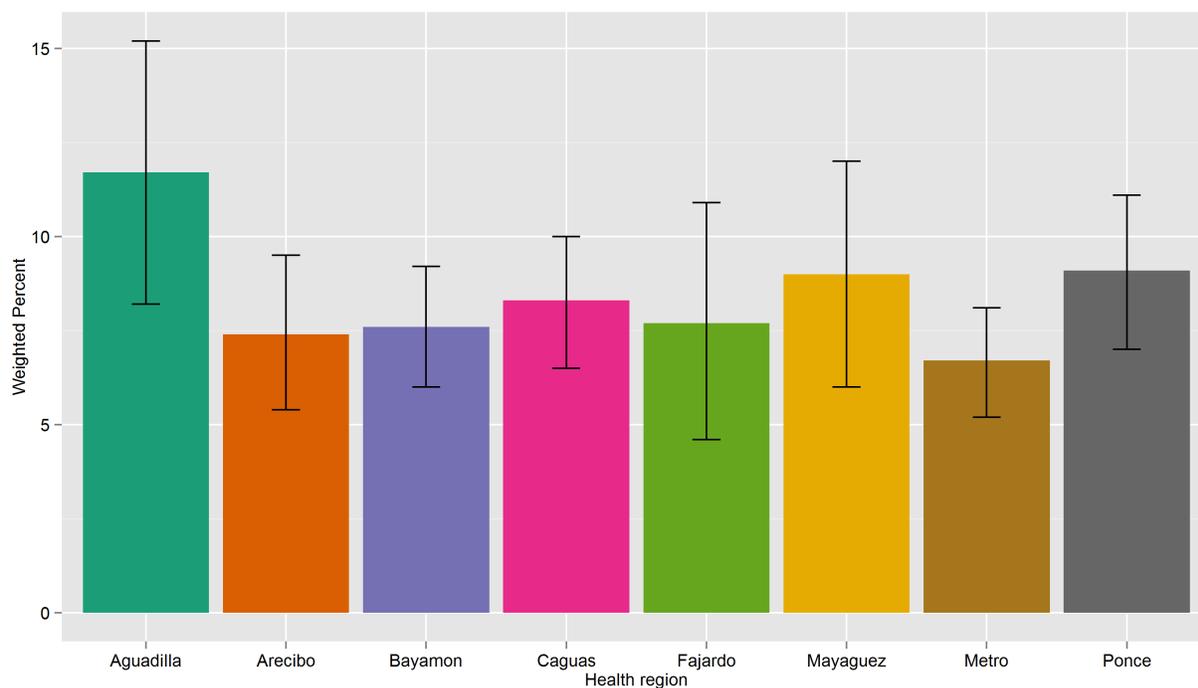


Table 13: Self-reported prevalence of special equipment use by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	61	11.7	(8.2-15.2)	22,330
Arecibo	79	7.4	(5.4-9.5)	26,929
Bayamon	121	7.6	(6.0-9.2)	35,777
Caguas	121	8.3	(6.5-10.0)	35,738
Fajardo	36	7.7	(4.6-10.9)	7,902
Mayaguez	64	9.0	(6.0-12.0)	20,604
Metro	131	6.7	(5.2-8.1)	37,133
Ponce	108	9.1	(7.0-11.1)	41,519

*Caution should be taken when interpreting prevalence estimates due to a responses frequency less than 50 in some demographic levels.

Figure 18 and Table 13 showed the self-reported prevalence of Puerto Rico residents adults with health problems that required the use of special equipment by health region. The Puerto Rico data suggested that the prevalences were similar across health regions, except for the Aguadilla (11.7%), and the Metro (6.7%) health regions.

3.3 Health Care Access

3.3.1 Health care coverage

The health care access indicator of adults without any kind of health care coverage was obtained from PR-BRFSS participants when asked: do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare, or Indian Health Service? The data shows that during 2011, in Puerto Rico there were approximately 9.5% adults 18 years or older that self-reported not having any kind of health care coverage (Figure 19).

Figure 19: Self-reported prevalence of not having any kind of health care coverage, Puerto Rico 2011

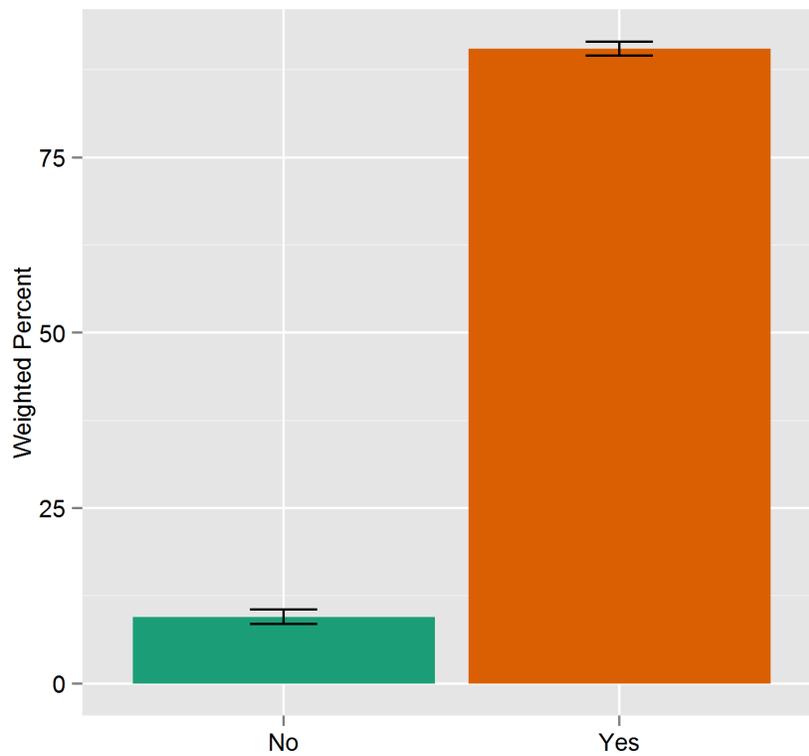
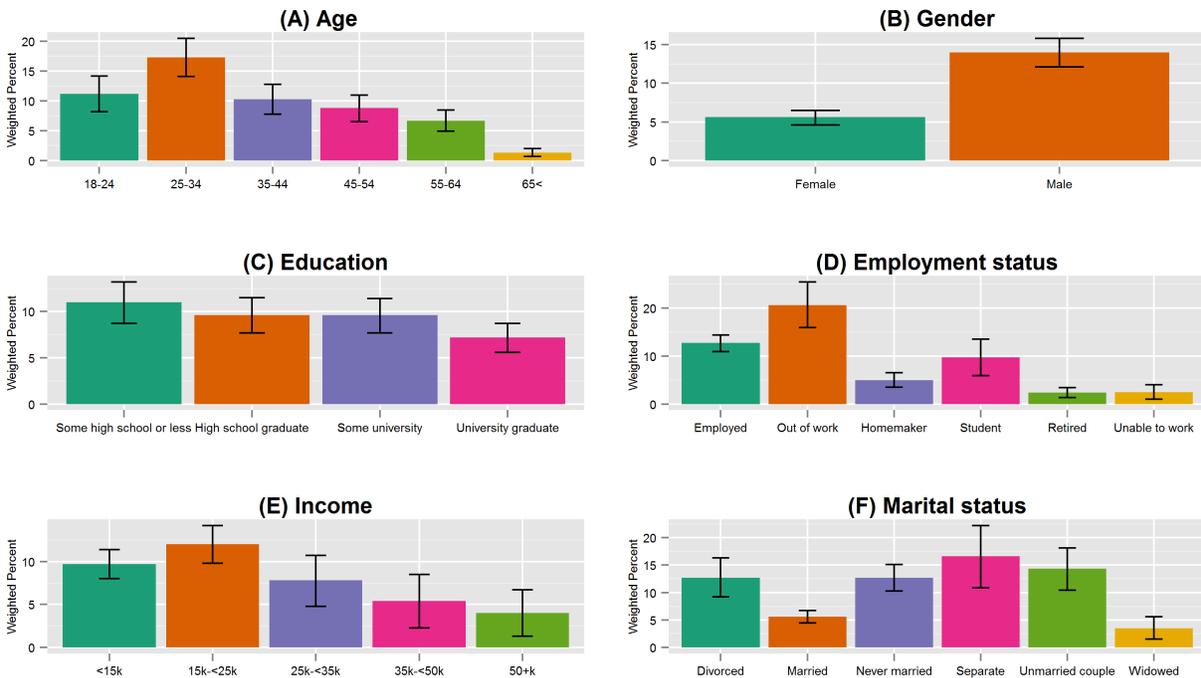


Figure 20: Self-reported prevalence of not having any kind of health care coverage by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of Puerto Rico residents without any kind of health care coverage by demographic characteristics (Figure 20 and Table 14) suggested that:

- the highest prevalence was observed in adults between 25 and 34 years or older with 17.3% reporting not having any kind of health care coverage (panel A)
- the prevalence was different between males and females with 14.0% and 5.6% respectively (panel B)
- the self-reported prevalence use of not having any kind of health care coverage decrease from 11.0% in those with some high school or less to 7.2% in university graduates (panel C)
- Puerto Rico residents that reported to be out of work, employed, and studying seems to report more often not having health care coverage with 20.6%, 12.7%, and 9.7% respectively (panel D)
- approximately 192,000 Puerto Ricans with a household income lower than \$25,000 reported not having any kind of coverage (panel E)
- the prevalence seems lower among those married (5.6%), and widowed (3.5%) than in the other marital groups (panel F).

Table 14: Self-reported prevalence of not having any kind of health care coverage by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	421	9.5	(8.5-10.5)	271,015
Age group				
18-24	55	11.2	(8.2-14.2)	46,459
25-34	117	17.3	(14.1-20.5)	94,972
35-44	81	10.3	(7.8-12.8)	54,155
45-54	72	8.8	(6.5-11.0)	42,163
55-64	70	6.7	(4.9-8.5)	26,903
65<	26	1.3	(0.7-2.0)	6,364
Gender				
Male	237	14.0	(12.1-15.8)	186,564
Female	184	5.6	(4.6-6.5)	84,452
Education				
Some high school or less	99	11.0	(8.7-13.2)	95,293
High school graduate	114	9.6	(7.7-11.5)	70,498
Some university	112	9.6	(7.7-11.4)	65,714
University graduate	96	7.2	(5.6-8.7)	39,510
Employment status				
Employ	213	12.7	(10.9-14.4)	146,737
Out of work	78	20.6	(15.9-25.4)	59,080
Homemaker	58	5.0	(3.5-6.5)	27,682
Student	28	9.7	(5.9-13.5)	22,824
Retired	29	2.4	(1.3-3.4)	8,867
Unable to work	15	2.5	(1.0-4.0)	5,824
Household income				
<15k	164	9.7	(8.0-11.4)	111,675
15k-<25k	129	12.0	(9.8-14.2)	81,095
25k-<35k	28	7.8	(4.8-10.7)	17,189
35k-<50k	16	5.4	(2.3-8.5)	9,140
50+k	10	4.0	(1.3-6.7)	6,218
Marital status				
Married	127	5.6	(4.5-6.7)	64,212
Divorced	59	12.7	(9.2-16.3)	40,313
Widowed	25	3.5	(1.5-5.6)	7,679
Separate	37	16.6	(10.9-22.2)	26,288
Never married	118	12.7	(10.3-15.1)	86,955
Unmarried couple	55	14.3	(10.4-18.1)	45,568

Figure 21: Self-reported prevalence of not having any kind of health care coverage by health regions, Puerto Rico 2011

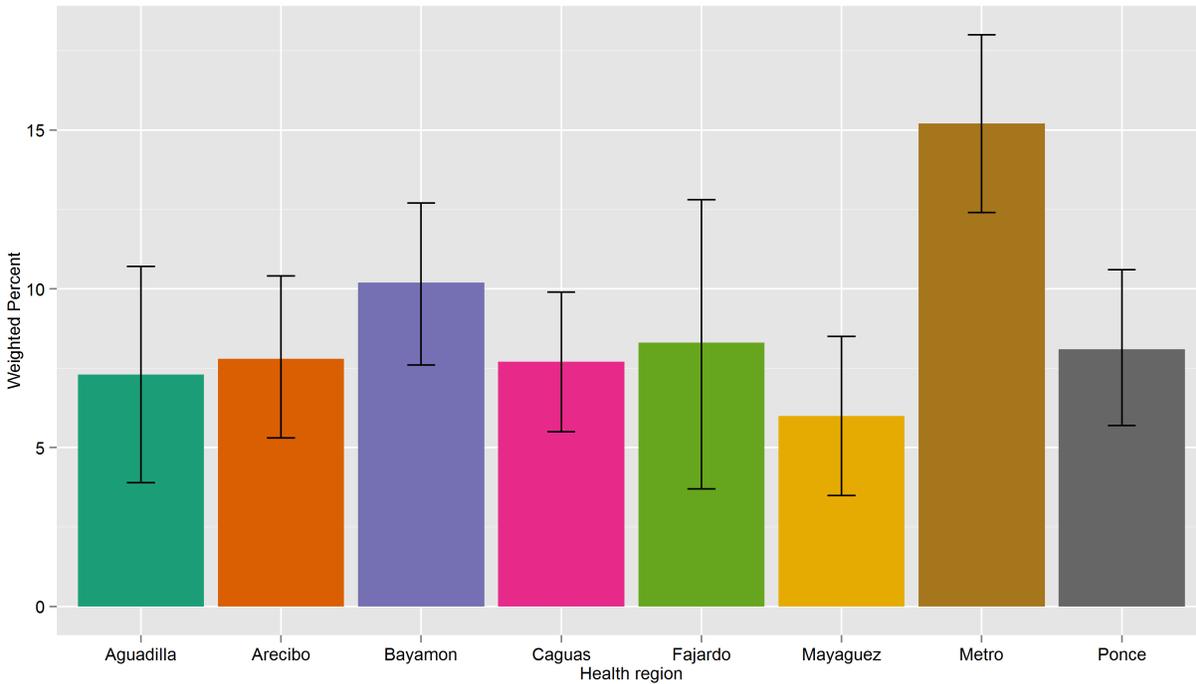


Table 15: Self-reported prevalence of not having any kind of health care coverage by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	23	7.3	(3.9-10.7)	14,037
Arecibo	46	7.8	(5.3-10.4)	28,542
Bayamon	70	10.2	(7.6-12.7)	48,376
Caguas	61	7.7	(5.5-9.9)	33,446
Fajardo	16	8.3	(3.7-12.8)	8,565
Mayaguez	26	6.0	(3.5-8.5)	13,777
Metro	123	15.2	(12.4-18.0)	85,238
Ponce	54	8.1	(5.7-10.6)	37,389

Figure 21 and Table 15 showed the self-reported prevalence not having any kind of health care coverage by health region. The Puerto Rico data suggested that the prevalences were similar across health regions, except for the Metro health region (15.2%) which has the higher prevalence.

3.3.2 Think of one person as personal doctor or health care provider

The health care access indicator of adults that think of one person as personal doctor or health care provider was obtained from PR-BRFSS participants when asked: do you have one person you think of as your personal doctor or health care provider? For 2011, approximately 81.2% of the adults reported having a person they think as a personal doctor or health care provider (Figure 22).

Figure 22: Self-reported prevalence of adults that think of one person as personal doctor or health care provider, Puerto Rico 2011

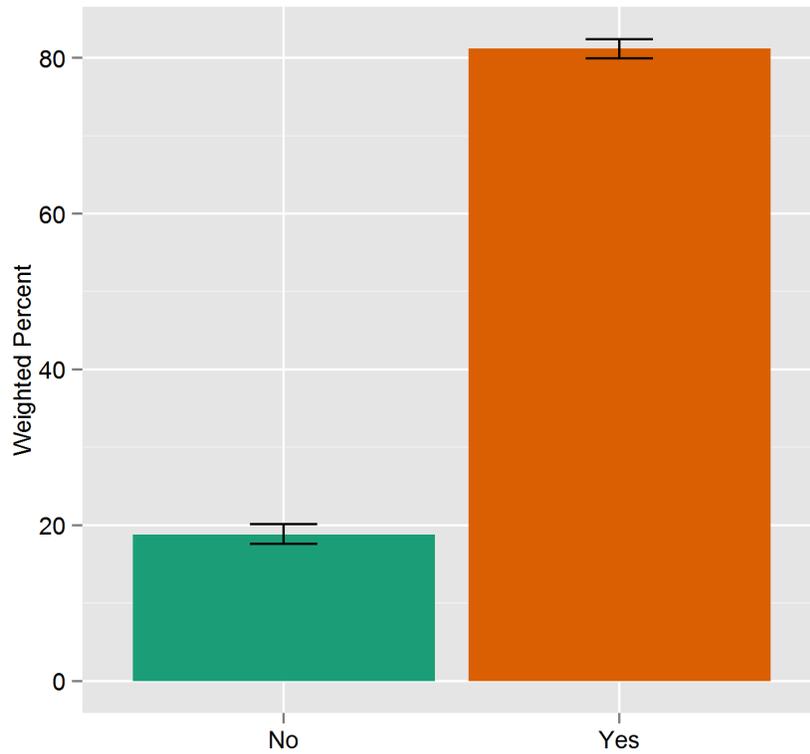
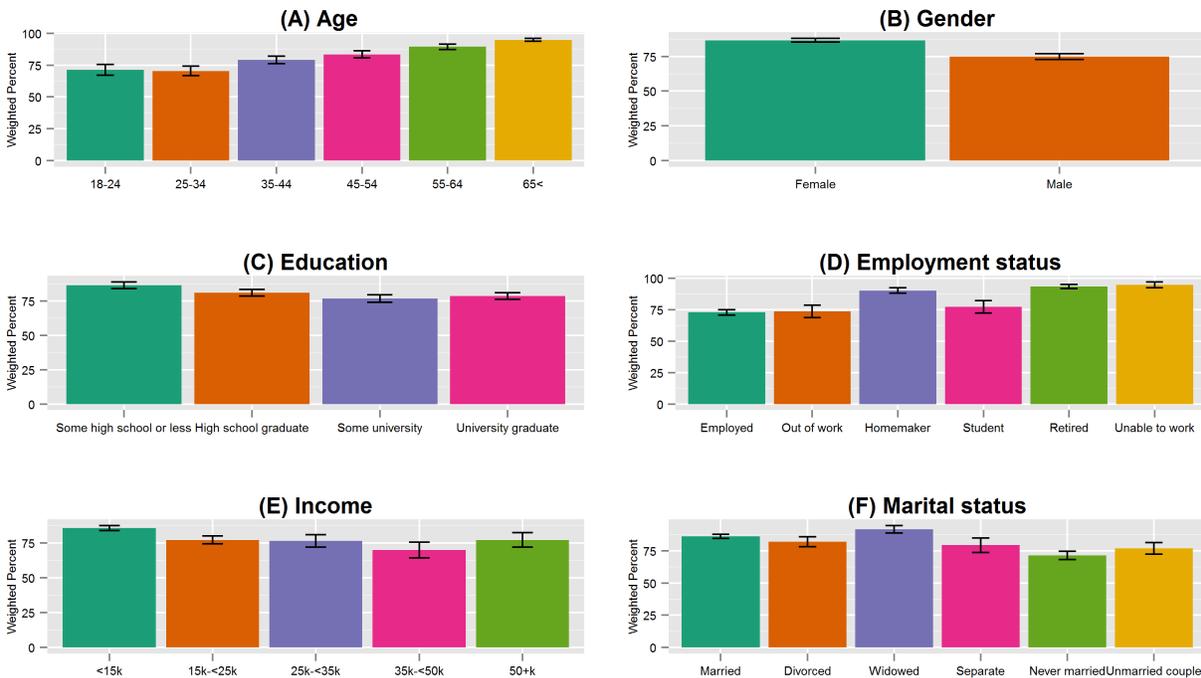


Figure 23: Self-reported prevalence of adults that think of one person as personal doctor or health care provider by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of adults that think of one person as personal doctor or health care provider by demographic characteristics (Figure 23, Table 16) suggested that:

- the prevalence seems to increase as age increase with 71.3% in adults 18 to 24 years of age to 94.8% in those with 65 or more years of age (panel A)
- the prevalence seems lower in males than in females with 74.9% and 86.7% respectively (panel B)
- the self-reported prevalence of having a person considered a personal doctor seems

higher in those with some high school or less (86.5%) than other groups (panel C)

- adults unable to work, retired, or homemakers seems to reported more often having a person considered a personal doctor with 94.7%, 93.2%, and 90.2% respectively (panel D)
- the prevalence seems lower in those with a household income between \$35,000 and less than \$50,000 (panel E)
- a lower prevalence was observed in adults never been married (71.3%) and in unmarried couple (77.0%) (panel F).

Table 16: Self-reported prevalence of adults that think of one person as personal doctor or health care provider by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	5,658	81.2	(79.9-82.4)	2,310,759
Age group				
18-24	394	71.3	(67.2-75.5)	294,604
25-34	600	70.5	(66.9-74.1)	386,356
35-44	720	79.2	(76.2-82.2)	416,793
45-54	856	83.4	(80.7-86.2)	401,075
55-64	1,049	89.5	(87.4-91.6)	360,348
65<	2,039	94.8	(93.7-96.0)	451,582
Gender				
Male	1,935	74.9	(72.8-77.1)	1,000,499
Female	3,723	86.7	(85.3-88.0)	1,310,260
Education				
Some high school or less	1,577	86.5	(84.0-88.9)	752,376
High school graduate	1,504	81.1	(78.7-83.5)	594,424
Some university	1,214	76.7	(74.1-79.4)	528,156
University graduate	1,357	78.5	(76.1-80.9)	433,341
Employment status				
Employ	1,666	72.8	(70.6-75.0)	843,814
Out of work	362	73.6	(68.7-78.6)	210,483
Homemaker	1,378	90.2	(88.1-92.3)	503,414
Student	249	77.3	(72.3-82.3)	183,139
Retired	1,480	93.2	(91.6-94.9)	348,418
Unable to work	514	94.7	(92.3-97.0)	217,717
Household income				
<15k	2,476	85.8	(83.9-87.7)	985,837
15k-<25k	1,232	77.2	(74.5-80.0)	521,363
25k-<35k	403	76.5	(72.1-80.9)	169,342
35k-<50k	295	70.1	(64.4-75.8)	117,920
50+k	320	77.2	(72.0-82.4)	120,218
Marital status				
Married	2,628	86.2	(84.6-87.7)	985,685
Divorced	705	82.1	(78.3-85.9)	259,992
Widowed	830	91.7	(88.7-94.7)	198,638
Separate	276	79.3	(73.8-84.9)	125,923
Never married	831	71.3	(68.2-74.5)	486,735
Unmarried couple	368	77.0	(72.5-81.4)	245,581

Figure 24: Self-reported prevalence of adults that think of one person as personal doctor or health care provider by health regions, Puerto Rico 2011

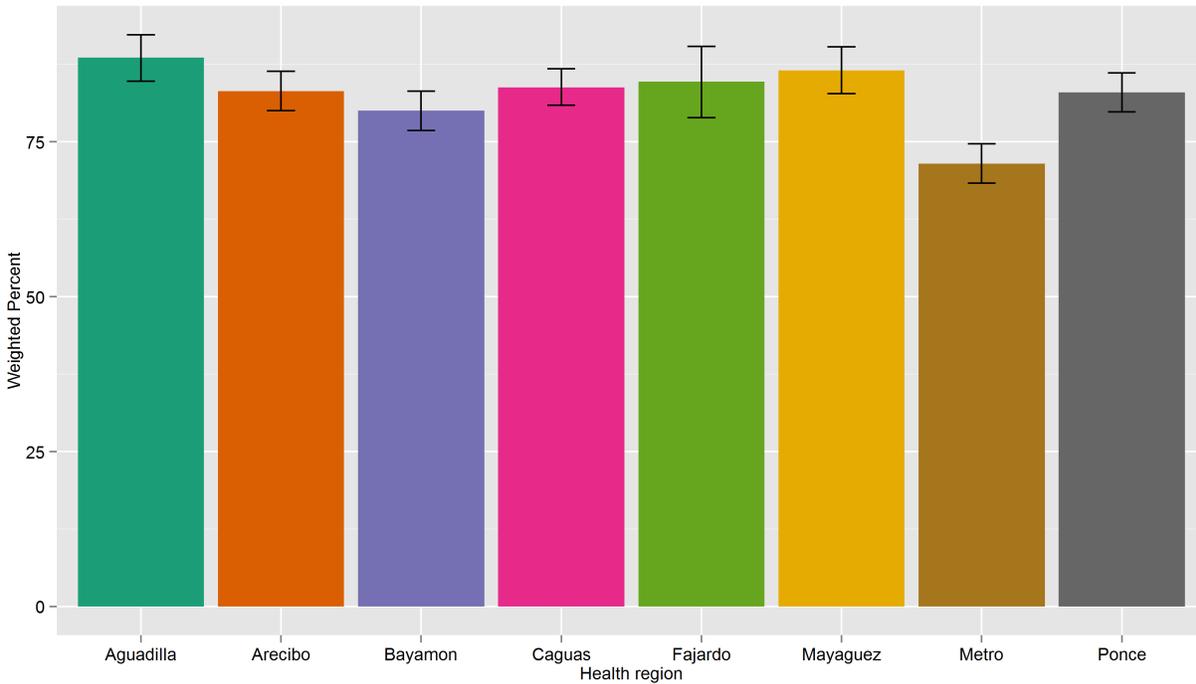


Table 17: Self-reported prevalence of adults that think of one person as personal doctor or health care provider by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	406	88.6	(84.8-92.3)	170,245
Arecibo	704	83.2	(80.0-86.4)	302,894
Bayamon	937	80.0	(76.8-83.2)	380,522
Caguas	918	83.8	(80.9-86.8)	364,096
Fajardo	272	84.7	(78.9-90.4)	87,551
Mayaguez	525	86.5	(82.8-90.3)	199,312
Metro	1,055	71.5	(68.3-74.7)	401,699
Ponce	801	83.0	(79.8-86.1)	381,506

Figure 24 and Table 17 showed the prevalence of adults that have one person they think of as your personal doctor or health care provider by health regions. The Puerto Rico data suggested similar prevalence among health regions, except for the Metro health region (71.5%).

3.3.3 Medical cost

The health care access indicator of medical cost was obtained from PR-BRFSS participants when asked: was there a time in the past 12 months when you needed to see a doctor but could not because of cost? For 2011, in Puerto Rico there were approximately 19.0% of adults 18 years or older could not see a doctor because of the cost (Figure 25).

Figure 25: Self-reported prevalence of adults that could not see a doctor because of the cost, Puerto Rico 2011

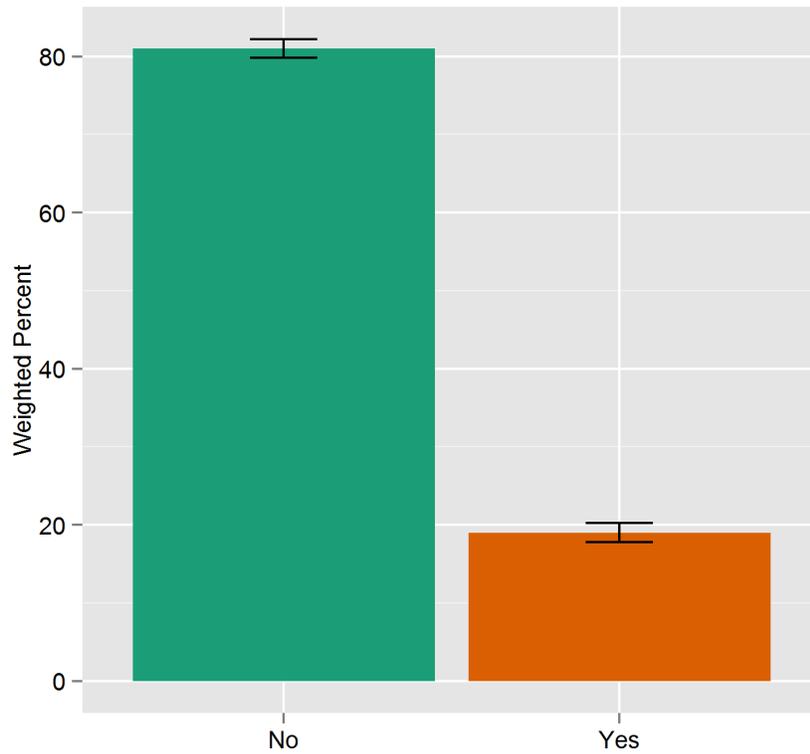
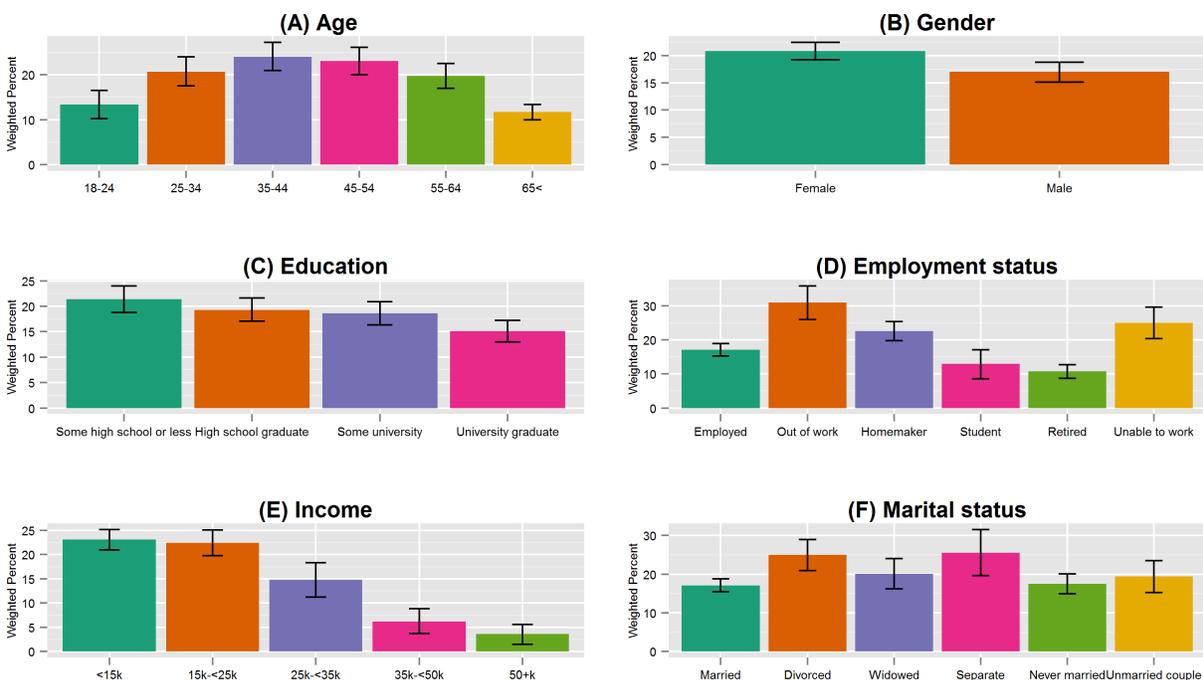


Figure 26: Self-reported prevalence of adults that could not see a doctor because of the cost by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of Puerto Rico residents that could not see a doctor because of the cost by demographic characteristics (Figure 26 and Table 18) suggested the following information:

- the lower prevalence were observed in adults 18 to 24 years old (13.4%), and in adults with 65 years or more (11.7%) (panel A)
- the prevalence estimates were similar between males and females with 17.0% and 20.8% respectively (panel B)
- the self-reported prevalence of not seen a

doctor because of cost decrease from 21.4% in those with some high school or less to 15.1% in university graduates (panel C)

- those that reported to be out of work, and unable to work seems to report more often not seen a doctor because of cost with 30.9%, and 25.0% respectively (panel D)
- the prevalence decrease as the household income increase from 23.1% in those with less than \$15,000 to 3.6% in those with \$50,000 or more (panel E)
- the prevalence seems similar among all marital groups (panel F).

Table 18: Self-reported prevalence of adults that could not see a doctor because of the cost by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	1,120	19.0	(17.8-20.2)	541,105
Age group				
18-24	72	13.4	(10.2-16.5)	55,471
25-34	167	20.7	(17.5-24.0)	113,711
35-44	216	24.0	(20.9-27.2)	126,340
45-54	218	23.1	(20.0-26.1)	110,591
55-64	210	19.7	(17.0-22.5)	79,444
65<	237	11.7	(10.0-13.4)	55,549
Gender				
Male	348	17.0	(15.1-18.8)	226,611
Female	772	20.8	(19.2-22.4)	314,494
Education				
Some high school or less	310	21.4	(18.8-24.0)	186,088
High school graduate	303	19.3	(17.1-21.6)	142,170
Some university	281	18.6	(16.3-20.9)	128,249
University graduate	223	15.1	(13.0-17.2)	83,144
Employment status				
Employ	354	17.1	(15.2-18.9)	197,816
Out of work	144	30.9	(26.0-35.8)	88,489
Homemaker	308	22.6	(19.8-25.3)	125,871
Student	40	12.9	(8.6-17.1)	30,580
Retired	149	10.7	(8.7-12.7)	39,886
Unable to work	123	25.0	(20.4-29.6)	57,262
Household income				
<15k	565	23.1	(21.0-25.2)	265,288
15k-<25k	294	22.4	(19.8-25.1)	151,668
25k-<35k	70	14.8	(11.2-18.3)	32,686
35k-<50k	27	6.2	(3.7-8.8)	10,460
50+k	13	3.6	(1.5-5.6)	5,538
Marital status				
Married	443	17.1	(15.5-18.8)	195,654
Divorced	173	25.0	(20.9-29.0)	79,087
Widowed	137	20.1	(16.2-24.0)	43,366
Separate	80	25.6	(19.6-31.6)	40,626
Never married	193	17.5	(14.9-20.1)	119,589
Unmarried couple	91	19.4	(15.3-23.5)	61,968

Figure 27: Self-reported prevalence of adults that could not see a doctor because of the cost by health regions, Puerto Rico 2011

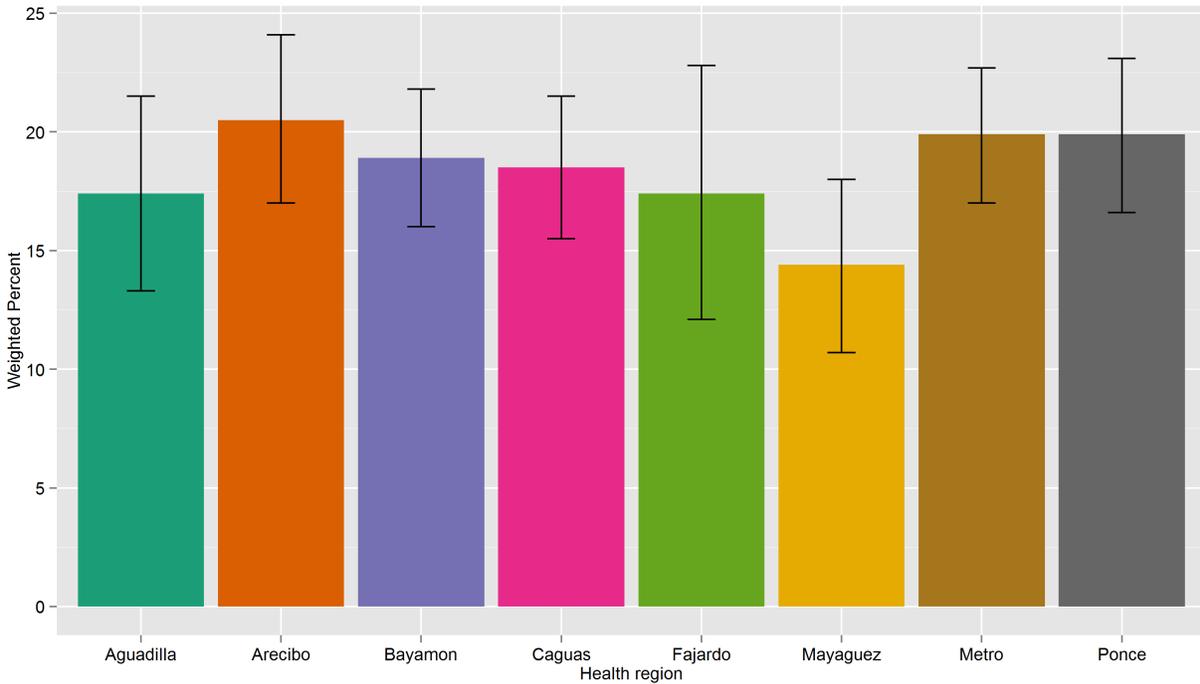


Table 19: Self-reported prevalence of adults that could not see a doctor because of the cost by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	80	17.4	(13.3-21.5)	33,410
Arecibo	152	20.5	(17.0-24.1)	74,641
Bayamon	195	18.9	(16.0-21.8)	89,925
Caguas	169	18.5	(15.5-21.5)	80,330
Fajardo	48	17.4	(12.1-22.8)	18,034
Mayaguez	74	14.4	(10.7-18.0)	33,085
Metro	220	19.9	(17.0-22.7)	111,534
Ponce	166	19.9	(16.6-23.1)	91,402

Figure 27 and Table 19 showed the self-reported prevalence adults that could not see a doctor because of the cost by health regions. The Puerto Rico data suggested that the prevalences were similar across health regions ranging from 14.4% (Mayaguez health region) to 20.5% (Arcibo health region).

3.3.4 Last visited a doctor for a routine checkup

The health care access indicator of recent check up was obtained from PR-BRFSS participants when asked: about how long has it been since you last visited a doctor for a routine checkup? A routine checkup was considered a physical exam, not an exam for a specific injury, illness, or condition. Figure 28 showed that approximately 74.5% of the adults 18 years or older in Puerto Rico reported visiting a doctor for a routine check up within a one year period.

Figure 28: Self-reported prevalence of adults that last visited a doctor for a routine checkup within one year, Puerto Rico 2011

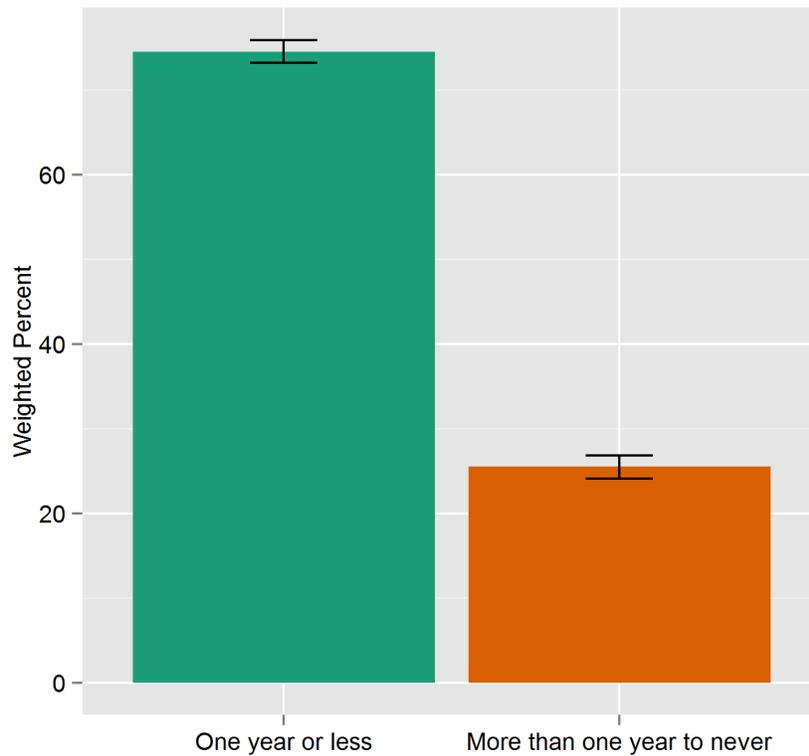
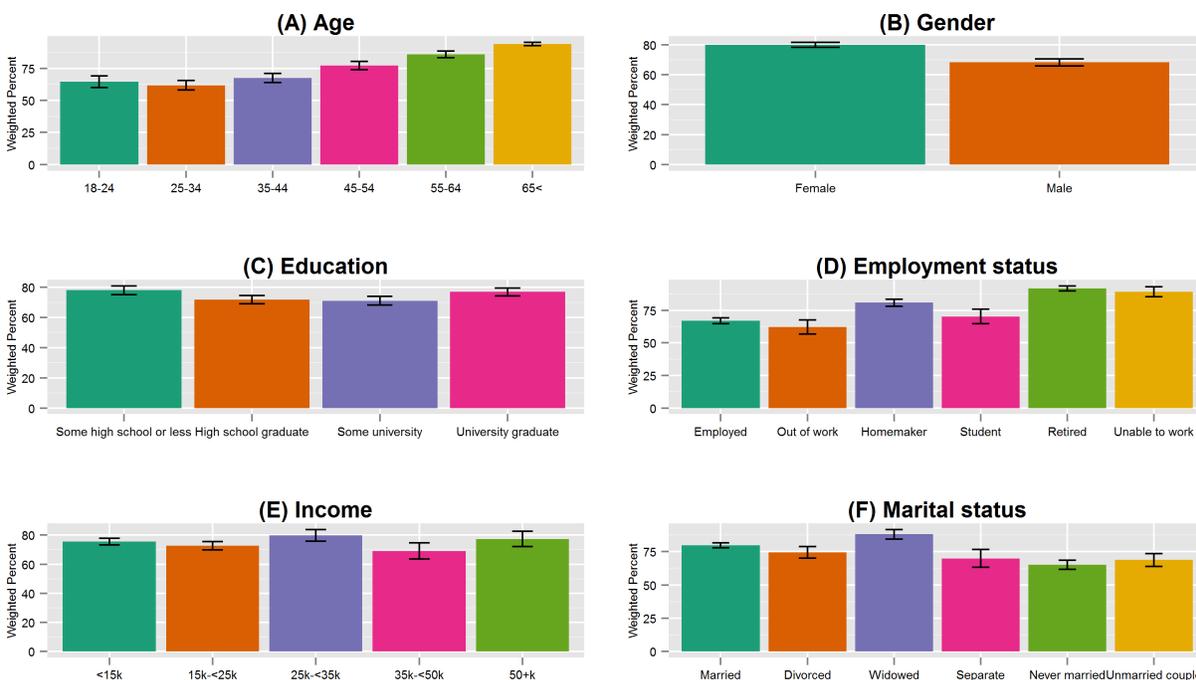


Figure 29: Self-reported prevalence of adults that last visited a doctor for a routine checkup within one year by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of adults that last visited a doctor for a routine checkup within one year by demographic characteristics (Figure 29, Table 20) suggested that:

- the prevalence seems to increase as age increase with 64.5% in adults 18 to 24 years of age to 93.8% in those with 65 or more years of age (panel A)
- the prevalence in males seems lower than in females with 68.3% and 80.0% respectively (panel B)
- the self-reported prevalence of visiting a doctor for a routine checkup within a year seems higher in those with some high school or less (78.0%) than in high school graduates (71.9%) or adults with some university (71.1%) (panel C)
- adults out of work, students, or employed seems to reported less often visiting a doctor for a routine checkup within a year with 62.2%, 70.2%, and 66.9% respectively (panel D)
- the self-reported prevalence was lower in those with a household income between \$35,000 and less than \$50,000 (panel E)
- the prevalence seems higher in widowed (88.0%), and married (79.8%) Puerto Ricans (panel F).

Table 20: Self-reported prevalence of adults that last visited a doctor for a routine checkup within one year by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	5,314	74.5	(73.2-75.9)	2,099,997
Age group				
18-24	338	64.5	(60.1-68.9)	260,249
25-34	521	61.7	(57.9-65.5)	334,007
35-44	627	67.5	(63.9-71.0)	353,823
45-54	812	77.1	(73.8-80.3)	369,014
55-64	1,011	85.7	(83.1-88.3)	341,302
65<	2,005	93.8	(92.5-95.1)	441,602
Gender				
Male	1,800	68.3	(66.0-70.7)	902,201
Female	3,514	80.0	(78.4-81.6)	1,197,796
Education				
Some high school or less	1,469	78.0	(75.2-80.9)	672,712
High school graduate	1,373	71.9	(69.2-74.6)	519,142
Some university	1,122	71.1	(68.3-73.9)	483,642
University graduate	1,346	76.9	(74.4-79.4)	422,573
Employment status				
Employ	1,561	66.9	(64.6-69.3)	769,136
Out of work	313	62.2	(56.9-67.6)	177,088
Homemaker	1,269	80.9	(78.2-83.6)	446,281
Student	215	70.2	(64.6-75.8)	160,989
Retired	1,449	91.8	(89.9-93.7)	338,866
Unable to work	500	89.3	(85.4-93.1)	204,522
Household income				
<15k	2,270	75.4	(73.1-77.7)	860,747
15k-<25k	1,168	72.7	(69.8-75.6)	485,483
25k-<35k	411	79.8	(75.7-83.9)	174,932
35k-<50k	295	69.1	(63.5-74.8)	116,245
50+k	322	77.2	(72.0-82.5)	119,671
Marital status				
Married	2,488	79.8	(78.0-81.6)	906,001
Divorced	655	74.4	(70.1-78.7)	233,547
Widowed	805	88.0	(84.3-91.7)	187,951
Separate	256	69.9	(63.2-76.5)	110,340
Never married	769	65.1	(61.7-68.4)	439,678
Unmarried couple	320	68.7	(63.9-73.6)	213,666

Figure 30: Self-reported prevalence of adults that last visited a doctor for a routine checkup within one year by health regions, Puerto Rico 2011

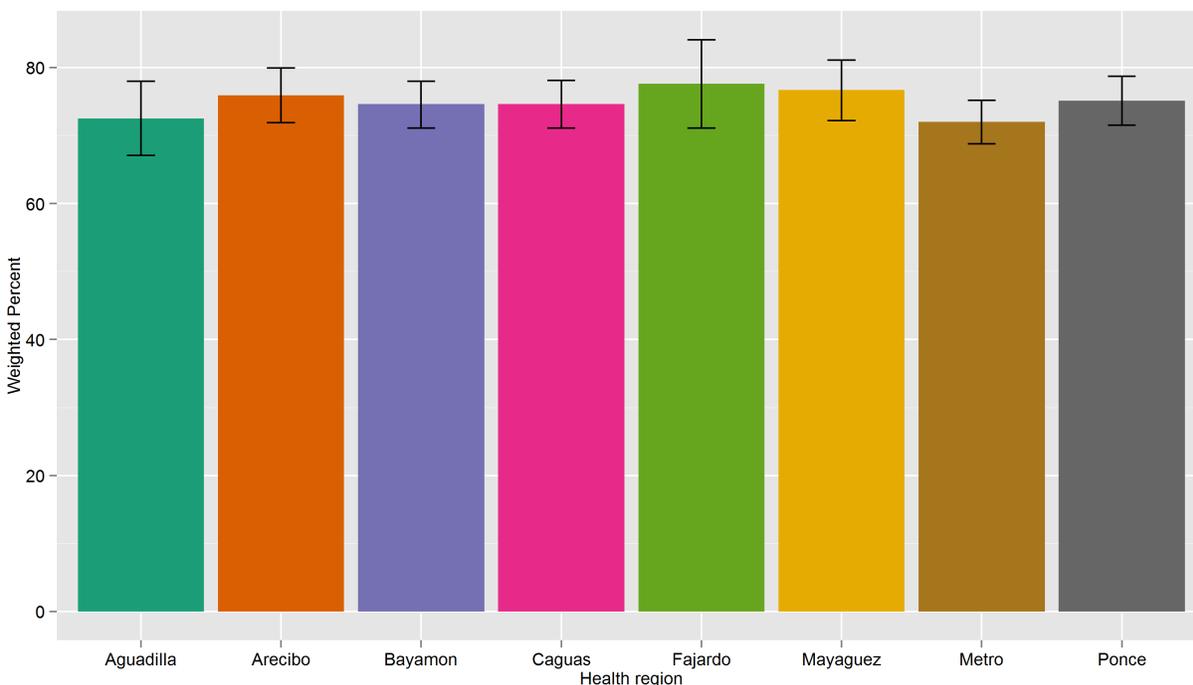


Table 21: Self-reported prevalence of adults that last visited a doctor for a routine checkup within one year by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	354	72.5	(67.1-78.0)	138,192
Arcibo	665	75.9	(71.9-79.9)	273,641
Bayamon	892	74.6	(71.1-78.0)	351,712
Caguas	849	74.6	(71.1-78.1)	319,926
Fajardo	253	77.6	(71.1-84.1)	79,300
Mayaguez	472	76.7	(72.2-81.1)	173,421
Metro	1,051	72.0	(68.8-75.2)	400,628
Ponce	744	75.1	(71.5-78.7)	342,230

Figure 30 and Table 21 showed the prevalence of adults that visited a doctor for a routine checkup within a year by health regions. The Puerto Rico data suggested that the prevalences were similar among health regions, ranging from 72.0% in the Metro health region to 77.5% in the Fajardo health region.

3.4 Chronic conditions

3.4.1 History of any cardiovascular condition

The indicator of history of cardiovascular conditions was obtained from the self-report of participants that responded "Yes" to any of the following questions: (Ever told) you had a heart attack, also called a myocardial infarction?; (Ever told) you had angina or coronary heart disease?; and (Ever told) you had a stroke?. The responses were combined and weighted to generate the history of cardiovascular conditions estimator. As showed in Figure 31, in Puerto Rico approximately 10.3% of the adults 18 years or older reported to ever been told to have at least one cardiovascular condition such as: myocardial infarction, coronary heart disease, or stroke.

Figure 31: Self-reported prevalence of cardiovascular conditions, Puerto Rico 2011

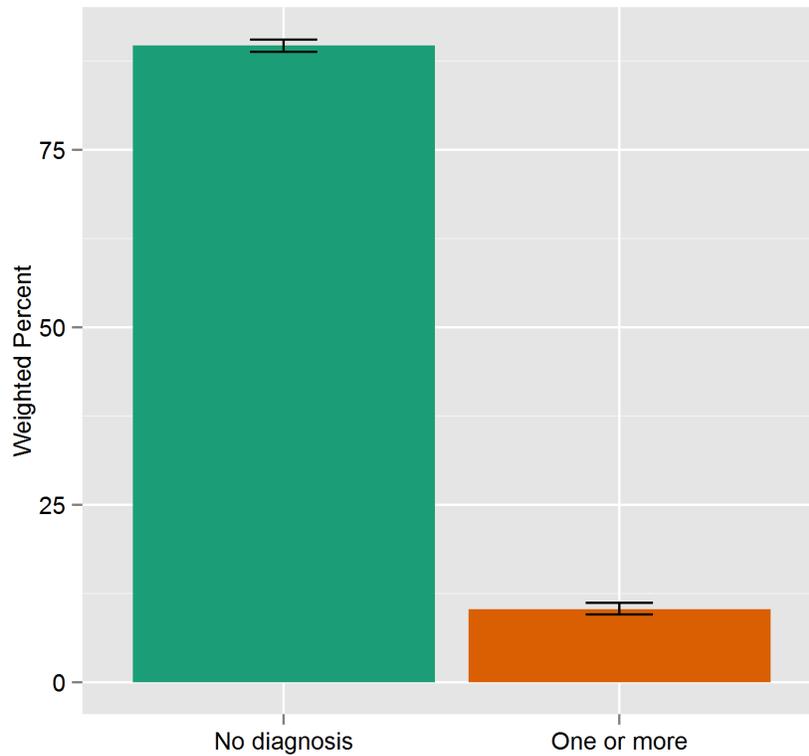
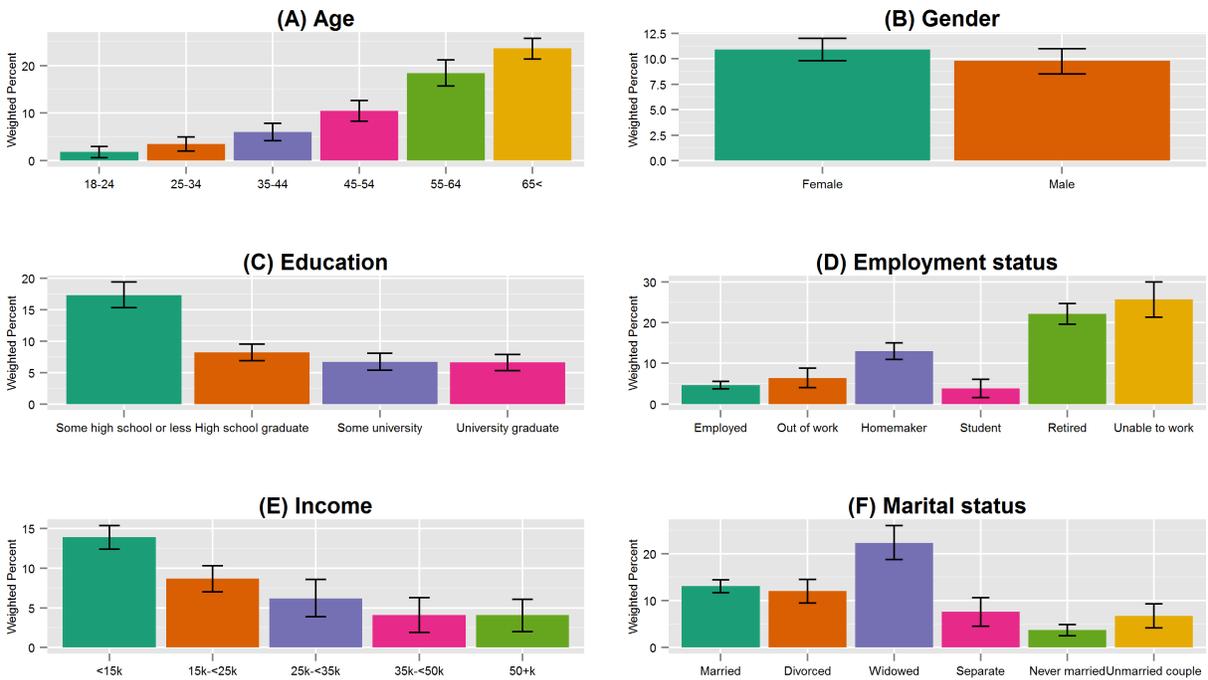


Figure 32: Self-reported prevalence of cardiovascular conditions by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of Puerto Rico residents with history of cardiovascular conditions by demographic characteristics (Figure 32 and Table 22) suggested the following information:

- prevalence estimates increased by age from 6.0% in those 35 to 44 years of age to 23.6% in those 65 years or older (panel A)
- the prevalence was similar between males and females with 9.8% and 10.9% respectively (panel B)
- those that reported an education of some high school or less seems to have higher

prevalence (17.3%) than the other groups (panel C)

- Puerto Rico homemakers, retired, and unable to work seems to report more often diagnosis of cardiovascular conditions with 13.0%, 22.2%, and 25.7% respectively (panel D)
- the prevalence decrease as income increase, from 13.9% in those with income lower than \$15,000 to 4.1% in those with income higher than \$50,000 dollars (panel E)
- the highest prevalence estimates seems to be in those widowed (22.3%) (panel F).

Table 22: Self-reported prevalence of cardiovascular conditions by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	864	10.3	(9.5-11.2)	293,130
Age group				
18-24	9	-	-	-
25-34	27	3.5	(2.0-5.0)	19,286
35-44	51	6.0	(4.2-7.8)	31,448
45-54	106	10.5	(8.3-12.6)	49,765
55-64	191	18.4	(15.7-21.2)	73,712
65<	480	23.6	(21.4-25.7)	111,552
Gender				
Male	323	9.8	(8.5-11.0)	129,748
Female	541	10.9	(9.8-12.0)	163,382
Education				
Some high school or less	367	17.3	(15.3-19.4)	149,182
High school graduate	213	8.2	(6.9-9.5)	59,994
Some university	139	6.7	(5.4-8.1)	46,307
University graduate	143	6.6	(5.3-7.9)	36,488
Employment status				
Employ	112	4.6	(3.7-5.6)	53,659
Out of work	32	6.4	(4.0-8.8)	18,120
Homemaker	224	13.0	(11.0-15.0)	71,920
Student	13	-	-	-
Retired	327	22.2	(19.6-24.7)	82,229
Unable to work	156	25.7	(21.3-30.0)	58,106
Household income				
<15k	481	13.9	(12.4-15.4)	158,775
15k-<25k	160	8.7	(7.0-10.3)	58,357
25k-<35k	37	6.2	(3.9-8.6)	13,830
35k-<50k	20	4.1	(1.9-6.3)	6,883
50+k	20	4.1	(2.0-6.1)	6,323
Marital status				
Married	421	13.1	(11.7-14.4)	148,523
Divorced	117	12.0	(9.5-14.5)	37,931
Widowed	199	22.3	(18.7-26.0)	47,742
Separate	38	7.6	(4.5-10.6)	11,944
Never married	55	3.7	(2.5-4.9)	25,151
Unmarried couple	33	6.7	(4.2-9.3)	21,327

Figure 33: Self-reported prevalence of cardiovascular conditions by health regions, Puerto Rico 2011

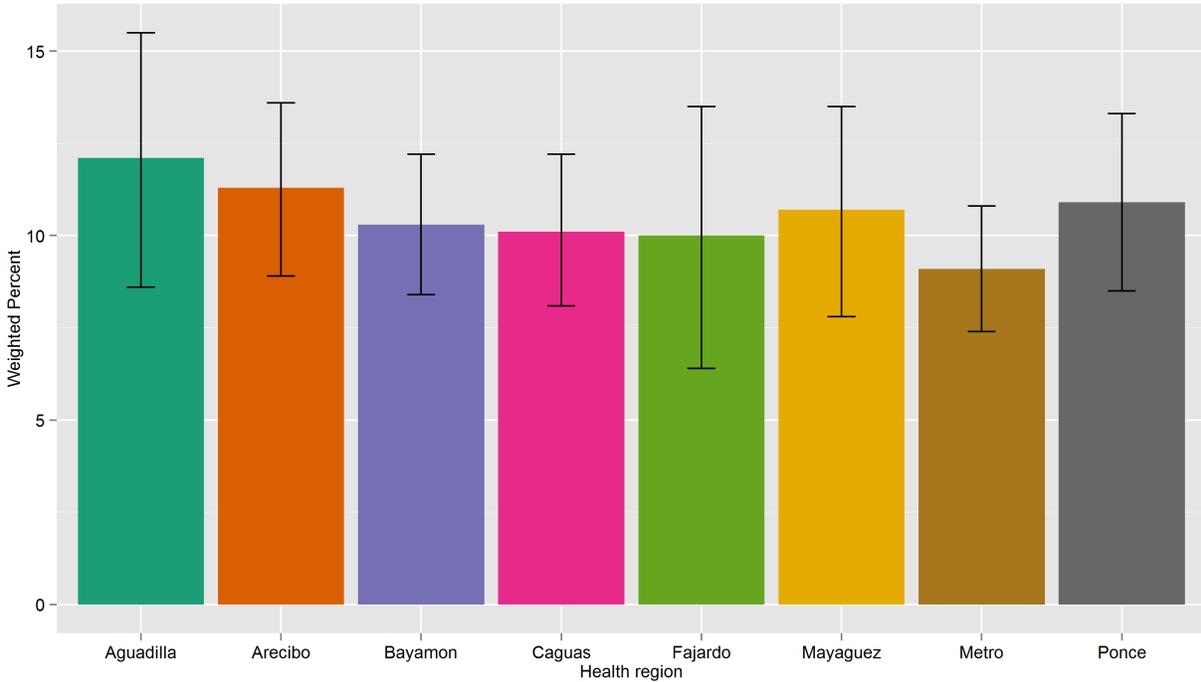


Table 23: Self-reported prevalence of cardiovascular conditions by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	61	12.1	(8.6-15.5)	23,118
Arecibo	112	11.3	(8.9-13.6)	40,976
Bayamon	155	10.3	(8.4-12.2)	48,872
Caguas	135	10.1	(8.1-12.2)	43,787
Fajardo	43	10.0	(6.4-13.5)	10,246
Mayaguez	76	10.7	(7.8-13.5)	24,320
Metro	164	9.1	(7.4-10.8)	50,906
Ponce	116	10.9	(8.5-13.3)	49,910

Figure 33 and Table 23 shows the prevalence estimates of history of cardiovascular conditions in adults by health region. The figure suggested that there was no mayor difference in prevalence of cardiovascular conditions between the health regions. Nevertheless, the highest prevalence reported was in the Aguadilla health region (12.1%), and the lowest in the Metro health region (9.1%).

3.4.2 Hypertension

The hypertension awareness indicator was obtained from PR-BRFSS participants when asked: have you ever been told by a doctor, nurse or other health professional that you have high blood pressure? The self-reported prevalence of hypertension in adults does not include those women diagnosed during pregnancy. During 2011, approximately 36.8% of the adults 18 years or older in Puerto Rico were told by a health professional to have hypertension (Figure 34).

Figure 34: Self-reported prevalence of hypertension, Puerto Rico 2011

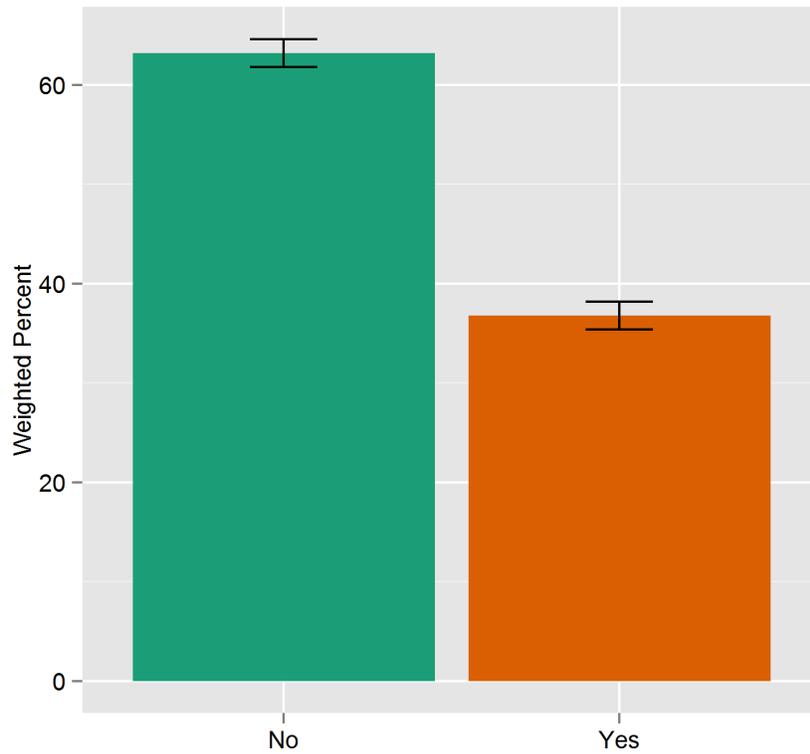
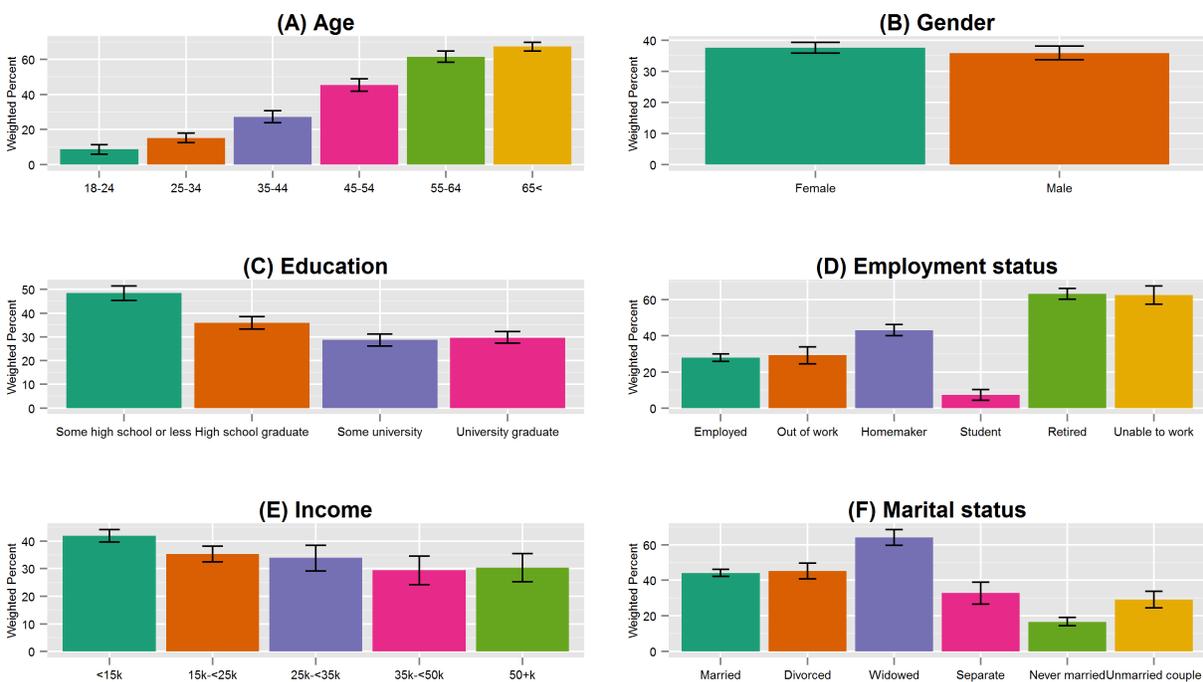


Figure 35: Self-reported prevalence of hypertension by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of Puerto Rican adults with hypertension by demographic characteristics (Figure 35 and Table 24) suggested that:

- estimates increase by age from 8.6% in those 18 to 24 years of age to 67.2% in those 65 years or older (panel A)
- there was a similar proportion of hypertension between males and females with 35.9% and 37.6% respectively (panel B)
- participants that reported an educational level of some high school or less seems to have higher prevalence (48.5%) than the

other groups (panel C)

- participants homemakers, retired, and unable to work seems to report more often hypertension (panel D) with 43.1%, 63.3%, and 62.6% respectively
- the prevalence decrease as income increase, from 41.9% in those with income lower than \$15,000 to 30.3% in those with income higher than \$50,000 (panel E)
- the highest prevalence of hypertension seems to be in those who reported their marital status was widowed (64.1%) (panel F).

Table 24: Self-reported prevalence of hypertension by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	3,018	36.8	(35.4-38.2)	1,045,476
Age group				
18-24	44	8.6	(6.0-11.2)	35,864
25-34	130	15.2	(12.5-17.9)	83,318
35-44	240	27.2	(23.8-30.6)	142,384
45-54	445	45.3	(41.7-48.9)	217,209
55-64	696	61.5	(58.2-64.8)	247,335
65<	1,463	67.2	(64.8-69.6)	319,367
Gender				
Male	1,067	35.9	(33.7-38.1)	478,286
Female	1,951	37.6	(35.8-39.3)	567,189
Education				
Some high school or less	1,007	48.5	(45.4-51.5)	420,363
High school graduate	815	36.0	(33.3-38.6)	263,519
Some university	571	28.7	(26.1-31.2)	197,438
University graduate	624	29.7	(27.3-32.2)	163,860
Employment status				
Employ	698	28.0	(25.9-30.1)	324,410
Out of work	145	29.2	(24.4-34.0)	83,161
Homemaker	768	43.1	(40.1-46.2)	240,593
Student	25	7.3	(4.3-10.3)	17,335
Retired	1,029	63.3	(60.3-66.3)	235,541
Unable to work	350	62.6	(57.5-67.7)	143,357
Household income				
<15k	1,440	41.9	(39.6-44.2)	480,178
15k-<25k	643	35.3	(32.4-38.2)	238,115
25k-<35k	206	33.9	(29.2-38.5)	75,032
35k-<50k	135	29.4	(24.2-34.6)	49,525
50+k	146	30.3	(25.3-35.4)	47,195
Marital status				
Married	1,449	44.1	(42.1-46.2)	503,475
Divorced	413	45.2	(40.7-49.6)	143,002
Widowed	598	64.1	(59.7-68.6)	138,567
Separate	143	32.9	(26.7-39.0)	52,180
Never married	268	16.7	(14.4-19.1)	114,444
Unmarried couple	141	29.1	(24.4-33.8)	92,631

Figure 36: Self-reported prevalence of hypertension by health regions, Puerto Rico 2011

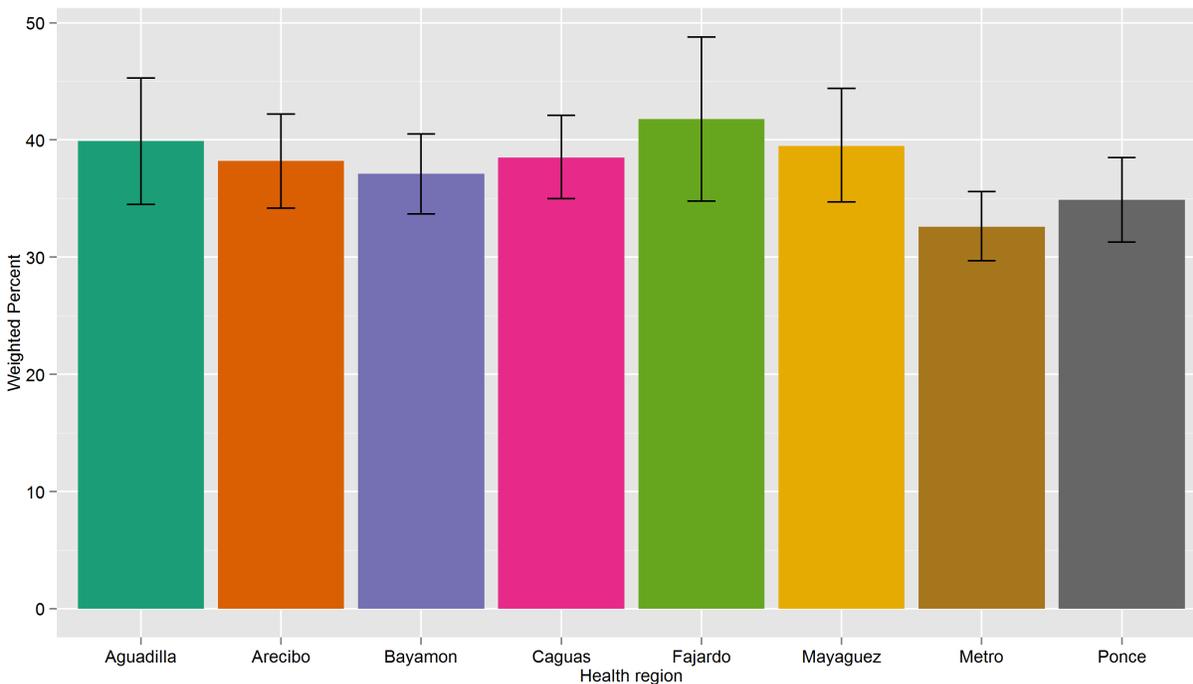


Table 25: Self-reported prevalence of hypertension by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	226	39.9	(34.5-45.3)	76,520
Arcibo	378	38.2	(34.2-42.2)	138,779
Bayamon	508	37.1	(33.7-40.5)	176,785
Caguas	493	38.5	(35.0-42.1)	166,751
Fajardo	153	41.8	(34.8-48.8)	43,227
Mayaguez	281	39.5	(34.7-44.4)	91,062
Metro	575	32.6	(29.7-35.6)	183,457
Ponce	389	34.9	(31.3-38.5)	160,102

Figure 36 and Table 25 shows the self-reported prevalence of hypertension in adults by health region. The PR-BRFSS data suggested that the prevalences were similar across health regions ranging from 41.8% in the Fajardo health region to 32.6% in the Metro health region.

3.4.3 Hypertension: High blood pressure medication

The high blood pressure medication indicator was obtained from BRFSS participants that responded "Yes" to ever been told by a health professional to have high blood pressure. Those participants were asked if they were currently taking medicine for the high blood pressure. For 2011, as showed in Figure 37, in Puerto Rico approximately 75.3% of the adults 18 years or older with hypertension, reported to currently been taking medicine for their high blood pressure.

Figure 37: Self-reported prevalence of adults with hypertension currently taking medication for high blood pressure, Puerto Rico 2011

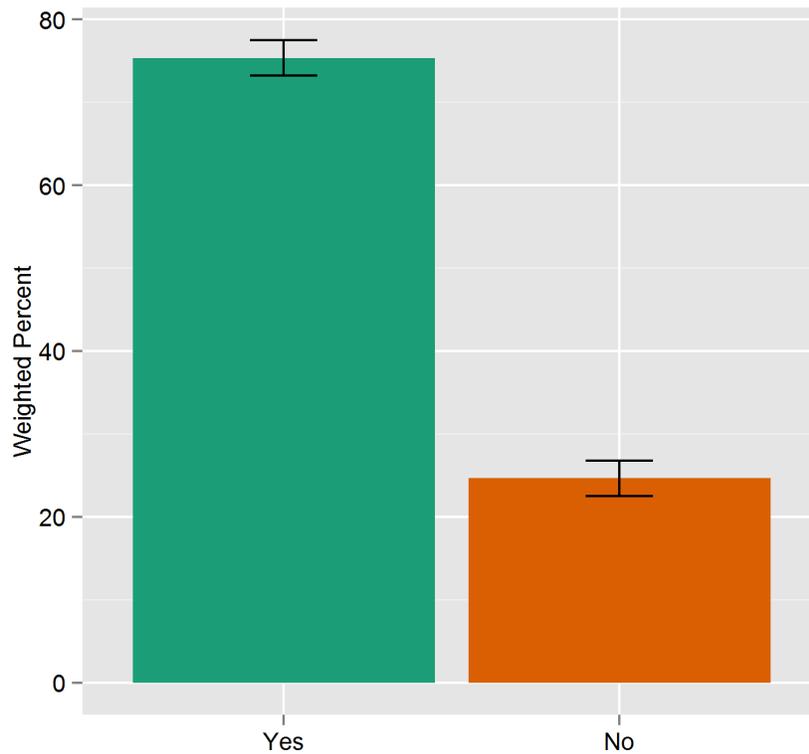
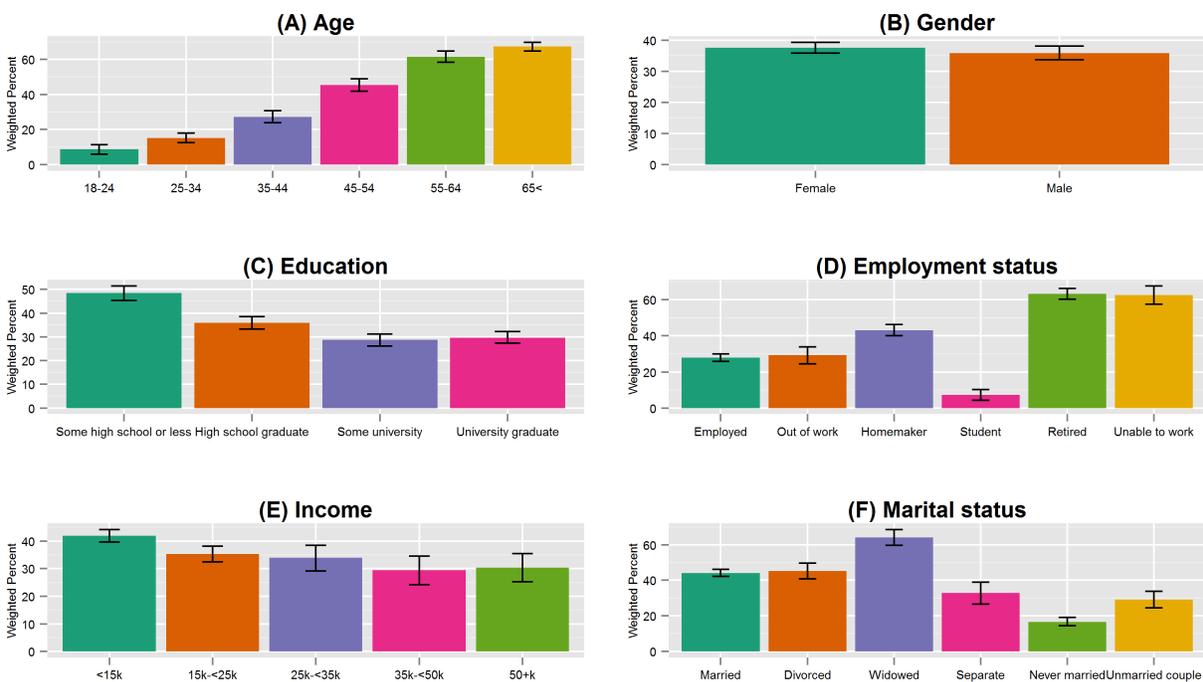


Figure 38: Self-reported prevalence of adults with hypertension currently taking medication for high blood pressure by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of Puerto Rico residents adults with hypertension that take medicines for high blood pressure by demographic characteristics (Figure 38 and Table 26) suggested that:

- estimates increase by age from 35.8% in those 25 to 34 years of age to 95.2% in those 65 years or older (panel A)
- females reported more often the use of medicines for high blood pressure than males with 79.7% and 70.2% respectively (panel B)
- participants that reported and educational

level of some high school or less seems to have higher prevalence (84.5%) than the other groups (panel C)

- Puerto Ricans homemakers, retired, and unable to work seems to report more often use of hypertension medicine with 85.1%, 92.8%, and 85.6% respectively (panel D)
- the prevalence seems higher in those with income lower that \$15,000 than the other groups (panel E)
- the highest prevalence of use of medicines for hypertension seems to be in those widowed (93.3%) (panel F).

Table 26: Self-reported prevalence of adults with hypertension currently taking medication for high blood pressure by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	2,517	75.3	(73.2-77.4)	787,565
Age group				
18-24	4	11.8	(0.4-23.1)	4,216
25-34	49	35.8	(26.7-44.9)	29,802
35-44	128	52.0	(44.7-59.3)	74,065
45-54	337	75.0	(70.3-79.7)	162,865
55-64	605	85.9	(82.7-89.0)	212,440
65<	1,394	95.2	(93.9-96.5)	304,177
Gender				
Male	844	70.2	(66.6-73.7)	335,636
Female	1,673	79.7	(77.2-82.2)	451,929
Education				
Some high school or less	925	84.5	(81.1-88.0)	355,328
High school graduate	677	73.9	(69.8-78.1)	194,807
Some university	428	63.5	(58.4-68.5)	125,291
University graduate	486	68.3	(63.5-73.0)	111,844
Employment status				
Employ	471	59.6	(55.2-64.0)	193,348
Out of work	85	52.5	(42.8-62.2)	43,643
Homemaker	680	85.1	(81.6-88.5)	204,642
Student	7	20.2	(5.0-35.3)	3,495
Retired	962	92.8	(90.9-94.7)	218,661
Unable to work	309	85.6	(80.7-90.5)	122,697
Household income				
<15k	1,269	81.3	(78.3-84.3)	390,358
15k-<25k	494	66.5	(61.6-71.4)	158,406
25k-<35k	164	71.3	(63.6-79.0)	53,505
35k-<50k	101	63.1	(52.6-73.5)	31,229
50+k	113	71.2	(62.0-80.3)	33,590
Marital status				
Married	1,220	78.8	(76.0-81.5)	396,654
Divorced	352	79.5	(74.2-84.8)	113,696
Widowed	567	93.3	(90.3-96.3)	129,288
Separate	114	69.6	(58.3-80.9)	36,310
Never married	174	48.9	(41.4-56.4)	55,947
Unmarried couple	86	59.5	(50.0-69.0)	55,108

Figure 39: Self-reported prevalence of adults with hypertension currently taking medication for high blood pressure by health regions, Puerto Rico 2011

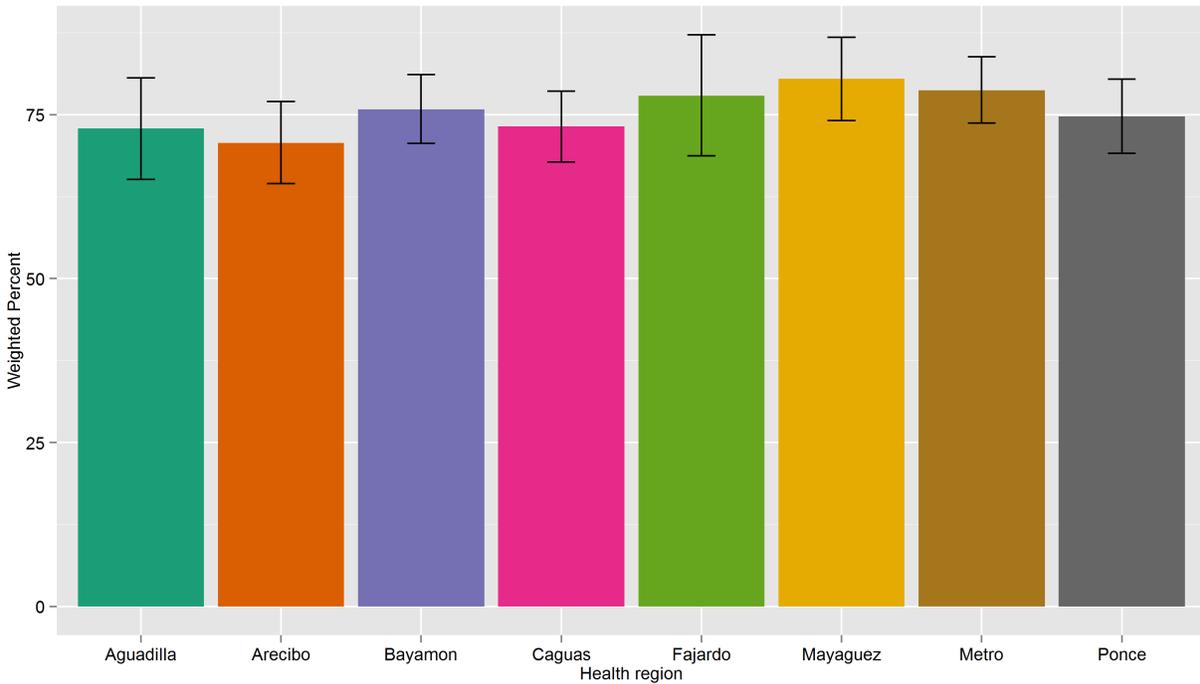


Table 27: Self-reported prevalence of adults with hypertension currently taking medication for high blood pressure by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	184	72.9	(65.2-80.6)	55,771
Arecibo	303	70.7	(64.5-76.9)	98,127
Bayamon	427	75.8	(70.6-81.1)	134,064
Caguas	407	73.2	(67.8-78.6)	122,051
Fajardo	131	77.9	(68.7-87.2)	33,695
Mayaguez	240	80.5	(74.2-86.8)	73,287
Metro	497	78.7	(73.8-83.7)	144,468
Ponce	318	74.7	(69.1-80.4)	119,673

Figure 39 and Table 27 shows the prevalence estimates of adults with hypertension that take medicine for high blood pressure by health region. The Puerto Rico data suggested that the prevalences were similar except for the Mayagüez health region (80.5%), and the Arcibo health region (70.7%).

3.4.4 Diabetes

The diabetes indicator was obtained from PR-BRFSS participants that responded "Yes" when asked if ever been told to have diabetes. During 2011, in Puerto Rico approximately 13.5% of the adults 18 years or older in Puerto Rico were told by a health professional to have diabetes (Figure 40).

Figure 40: Self-reported prevalence of diabetes, Puerto Rico 2011

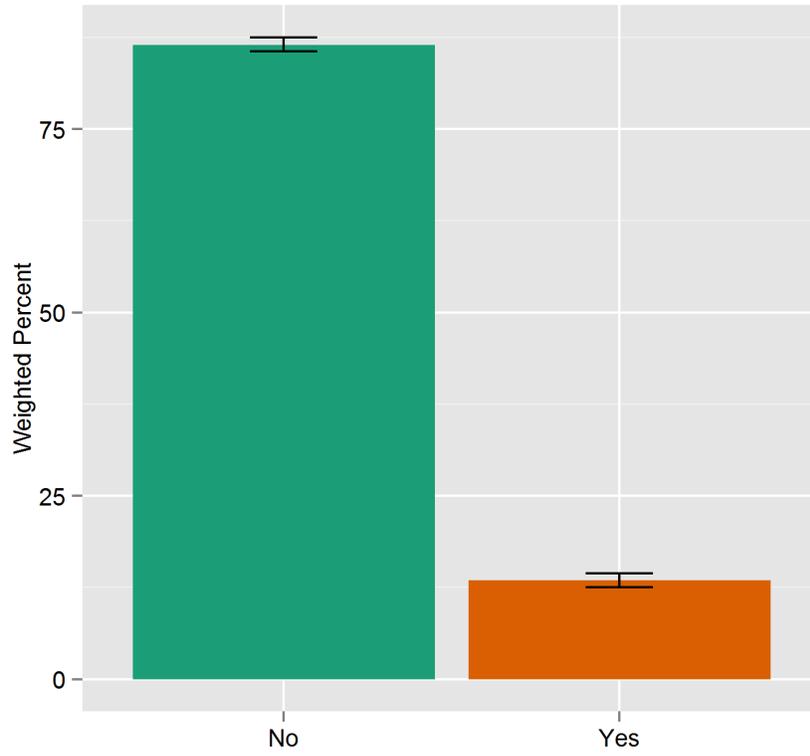
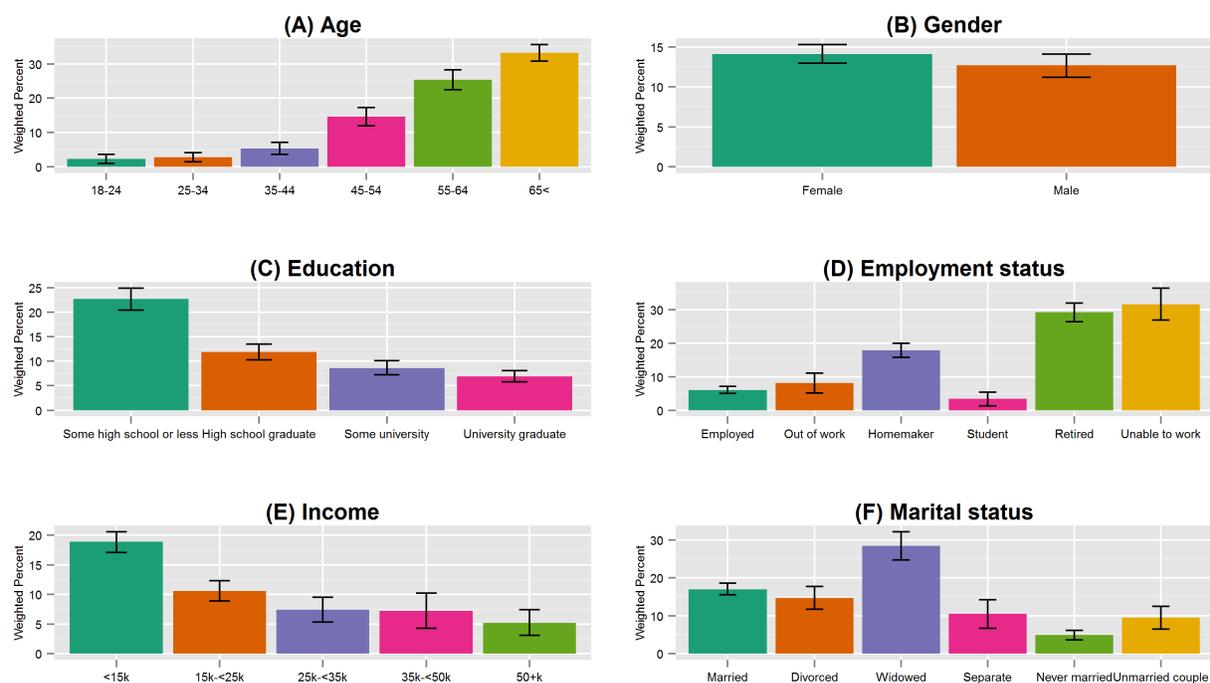


Figure 41: Self-reported prevalence of diabetes by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of Puerto Rico residents with diabetes by demographic characteristics (Figure 41 and Table 28) suggested that:

- estimates of being diagnosed with diabetes increase by age from 2.3% in those 18 to 24 years of age to 33.2% in those 65 years or older (panel A)
- diabetes prevalence seems similar between males and females with 12.7% and 14.1% respectively (panel B)
- participants that reported an educational level of some high school or less seems to

have higher prevalence of diabetes (22.7%) than those with high school diploma or higher (panel C)

- Puerto Ricans homemakers, retired, and unable to work seems to report more often diagnosis of diabetes (panel D)
- the prevalence of diabetes decrease as income increase, from 18.9% in those with income lower than \$15,000 to 5.2% in those with income higher than \$50,000 dollars (panel E)
- the highest prevalence of diabetes seems to be in those widowed (28.3%) (panel F).

Table 28: Self-reported prevalence of diabetes by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	1,191	13.5	(12.5-14.4)	382,505
Age group				
18-24	14	2.3	(1.0-3.6)	9,578
25-34	21	2.8	(1.4-4.1)	15,250
35-44	47	5.3	(3.6-7.1)	27,958
45-54	139	14.6	(12.0-17.3)	70,132
55-64	285	25.3	(22.4-28.3)	101,783
65<	685	33.2	(30.8-35.6)	157,804
Gender				
Male	403	12.7	(11.2-14.1)	169,013
Female	788	14.1	(13.0-15.3)	213,492
Education				
Some high school or less	511	22.7	(20.4-24.9)	196,820
High school graduate	299	11.9	(10.3-13.5)	87,521
Some university	199	8.6	(7.2-10.1)	59,103
University graduate	180	6.9	(5.8-8.1)	38,320
Employment status				
Employ	164	6.0	(5.0-7.1)	69,584
Out of work	37	8.1	(5.1-11.1)	23,164
Homemaker	345	17.9	(15.8-20.0)	99,950
Student	13	3.4	(1.3-5.4)	7,977
Retired	439	29.2	(26.4-32.0)	109,085
Unable to work	192	31.6	(26.9-36.4)	72,696
Household income				
<15k	662	18.9	(17.1-20.6)	216,515
15k-<25k	212	10.6	(8.9-12.3)	71,314
25k-<35k	58	7.4	(5.3-9.5)	16,393
35k-<50k	34	7.2	(4.3-10.2)	12,187
50+k	32	5.2	(3.1-7.4)	8,162
Marital status				
Married	571	17.0	(15.5-18.6)	194,321
Divorced	159	14.7	(11.7-17.7)	46,522
Widowed	270	28.4	(24.7-32.2)	61,611
Separate	47	10.5	(6.7-14.2)	16,526
Never married	93	4.9	(3.6-6.1)	33,365
Unmarried couple	50	9.5	(6.5-12.5)	30,121

*Caution should be taken when interpreting diabetes prevalence estimates in some sociodemographic categories due to a response frequency less than 50.

Figure 42: Self-reported prevalence of diabetes by health regions, Puerto Rico 2011

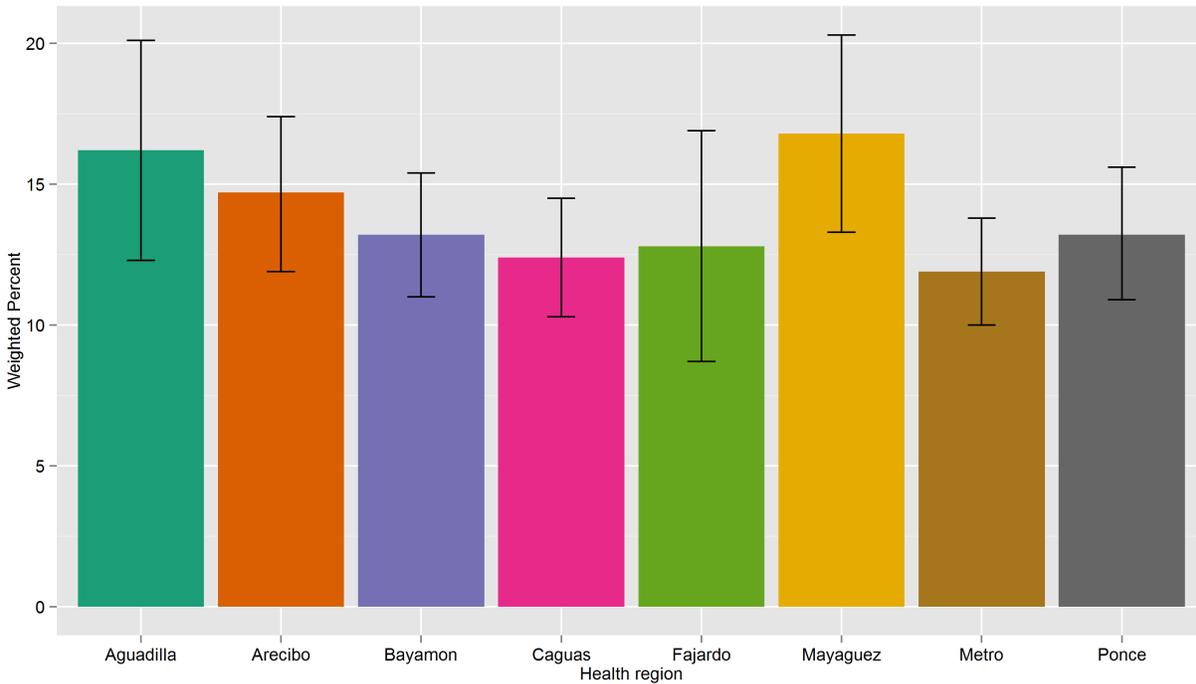


Table 29: Self-reported prevalence of diabetes by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	88	16.2	(12.3-20.1)	31,143
Arcibo	152	14.7	(11.9-17.4)	53,296
Bayamon	200	13.2	(11.0-15.4)	62,917
Caguas	191	12.4	(10.3-14.5)	53,724
Fajardo	61	12.8	(8.7-16.9)	13,112
Mayaguez	118	16.8	(13.3-20.3)	38,687
Metro	207	11.9	(10.0-13.8)	66,473
Ponce	171	13.2	(10.9-15.6)	60,888

Figure 42 and Table 29 shows the prevalence of adults that have been diagnosed with diabetes by health region. The Puerto Rico data suggested that there was no mayor difference in prevalence of diabetes between the health regions, except for the Mayagüez health region (16.8%), and the Metro health region (11.9%).

3.4.5 Depression

The depression health indicator was obtained from PR-BRFSS participants when asked: has a doctor or other health professional ever told you that you have depression, anxiety, or post traumatic stress disorder? For 2011, Figure 43 showed that approximately 16.8% of the adults 18 years or older in Puerto Rico were told by a health professional to had any form of depression.

Figure 43: Self-reported prevalence of depression, Puerto Rico 2011

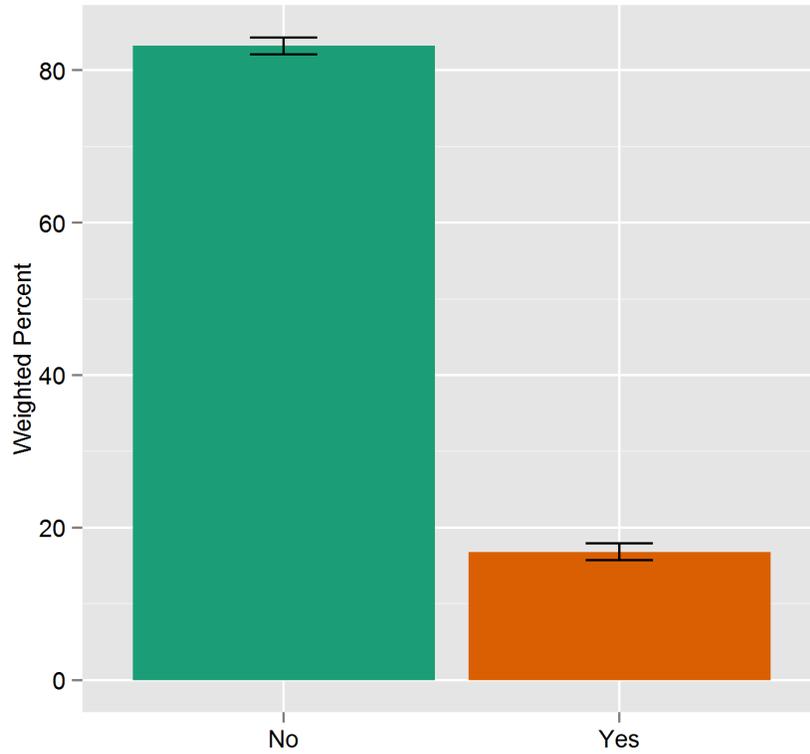
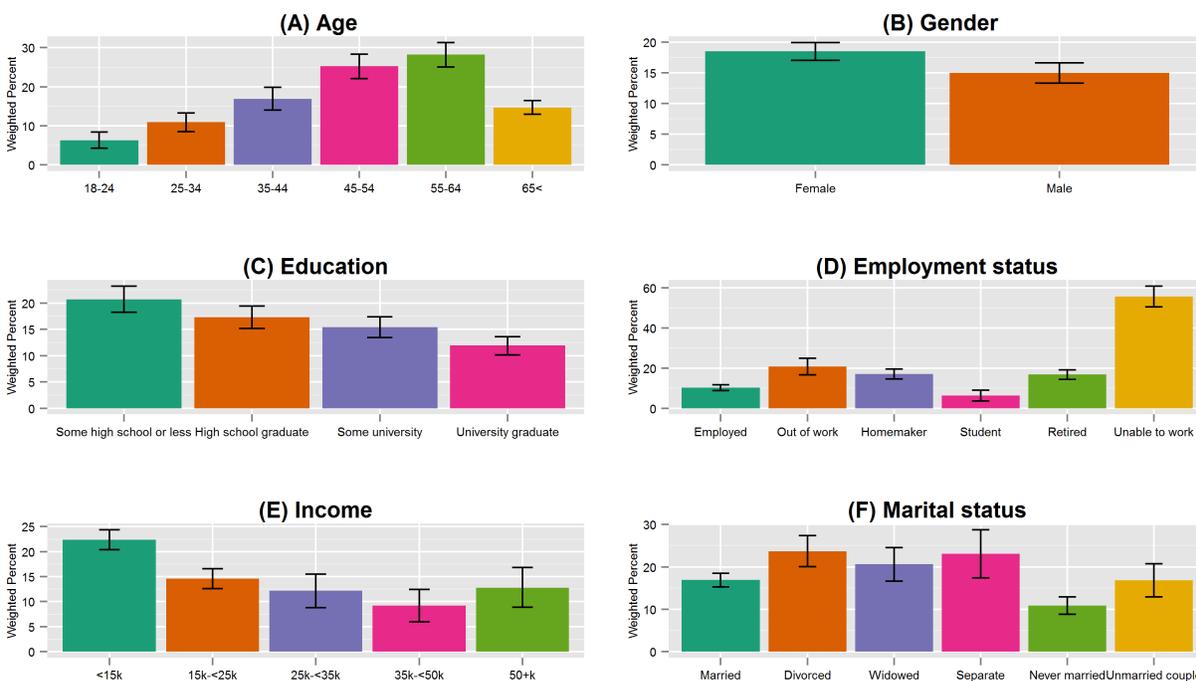


Figure 44: Self-reported prevalence of depression by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of Puerto Rico residents with some form of depression by demographic characteristics (Figure 44 and Table 30) suggested that:

- estimates increase steadily by age from 11.8% in those 18 to 24 years of age to 28.2% in those 55 to 64 years of age, but then the prevalence decrease to 14.7% in the 65 years or older population (panel A)
- females self-report having any form of depression more often than males (panel B)
- participants that reported and educational level of some high school or less seems to

have higher prevalence (20.7%) than those with some university (15.4%) or university graduates (11.9%) (panel C)

- Puerto Rico residents out of work, and unable to work seems to report more often having any form of depression with 20.7%, and 55.7% respectively (panel D)
- the prevalence was higher in those with a household income lower than 15,000 (22.4%) than the other groups (panel E)
- the prevalence of having any form of depression seems higher in divorced (23.7%) than in those married (panel F).

Table 30: Self-reported prevalence of depression by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	1,138	16.8	(15.7-17.9)	479,109
Age group				
18-24	36	6.3	(4.2-8.4)	26,085
25-34	88	10.9	(8.5-13.3)	59,736
35-44	137	16.9	(14.0-19.8)	88,816
45-54	247	25.3	(22.1-28.4)	121,212
55-64	319	28.2	(25.1-31.3)	113,553
65<	311	14.7	(12.9-16.5)	69,707
Gender				
Male	375	15.0	(13.3-16.6)	200,243
Female	763	18.5	(17.0-19.9)	278,866
Education				
Some high school or less	327	20.7	(18.2-23.2)	179,817
High school graduate	311	17.3	(15.2-19.4)	126,872
Some university	278	15.4	(13.4-17.4)	105,995
University graduate	221	11.9	(10.1-13.6)	65,561
Employment status				
Employ	226	10.3	(8.8-11.7)	119,185
Out of work	105	20.7	(16.6-24.9)	59,335
Homemaker	237	17.0	(14.5-19.5)	94,533
Student	23	6.3	(3.6-9.0)	14,968
Retired	246	16.8	(14.4-19.1)	62,732
Unable to work	300	55.7	(50.5-60.9)	127,795
Household income				
<15k	591	22.4	(20.4-24.4)	256,973
15k-<25k	243	14.6	(12.6-16.6)	98,713
25k-<35k	61	12.2	(8.8-15.5)	26,909
35k-<50k	41	9.2	(6.0-12.4)	15,489
50+k	50	12.8	(8.9-16.8)	19,983
Marital status				
Married	486	16.9	(15.3-18.5)	193,187
Divorced	201	23.7	(20.1-27.4)	75,015
Widowed	154	20.6	(16.6-24.6)	44,524
Separate	77	23.1	(17.4-28.8)	36,695
Never married	139	10.9	(8.8-12.9)	74,351
Unmarried couple	78	16.8	(12.9-20.7)	53,503

Figure 45: Self-reported prevalence of depression by health regions, Puerto Rico 2011

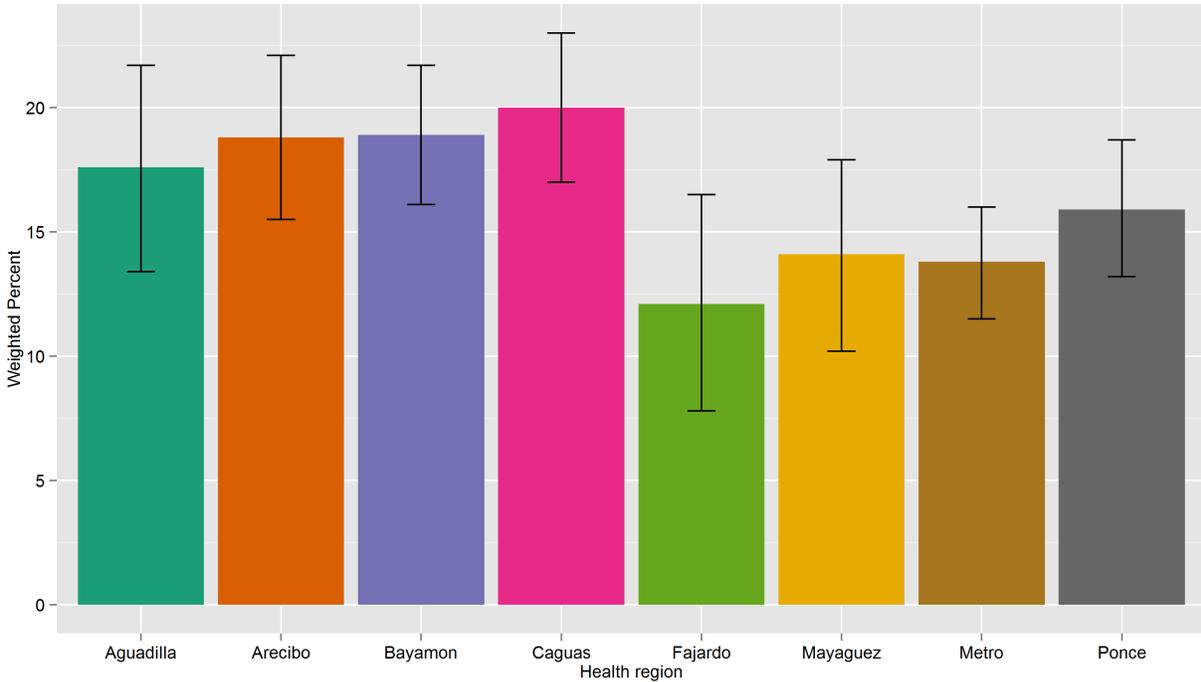


Table 31: Self-reported prevalence of depression by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	87	17.6	(13.4-21.7)	33,658
Arcibo	153	18.8	(15.5-22.1)	68,412
Bayamon	211	18.9	(16.1-21.7)	89,973
Caguas	213	20.0	(17.0-23.0)	86,818
Fajardo	41	12.1	(7.8-16.5)	12,538
Mayaguez	76	14.1	(10.2-17.9)	32,410
Metro	191	13.8	(11.5-16.0)	77,437
Ponce	158	15.9	(13.2-18.7)	73,268

Figure 45 and Table 31 showed the prevalence of adults that have been diagnosed with any form of depression by health region. The Puerto Rico data suggested differences in prevalence of depression between the health regions, between the Caguas health region (20.0%) and Metro (13.8%) and Fajardo (12.1) health regions.

3.4.6 Asthma

The asthma health indicator was obtained when asked two questions. First: ever told by a health professional you have asthma? This question provides the lifetime asthma prevalence. Second: do you still have asthma?, which provides the current asthma prevalence. The current asthma indicator was the one used for estimating the prevalence of asthma in Puerto Rico. Hence, for 2011, in Puerto Rico there were approximately 10.1% adults 18 years or older that currently have asthma (Figure 46).

Figure 46: Self-reported prevalence of current asthma, Puerto Rico 2011

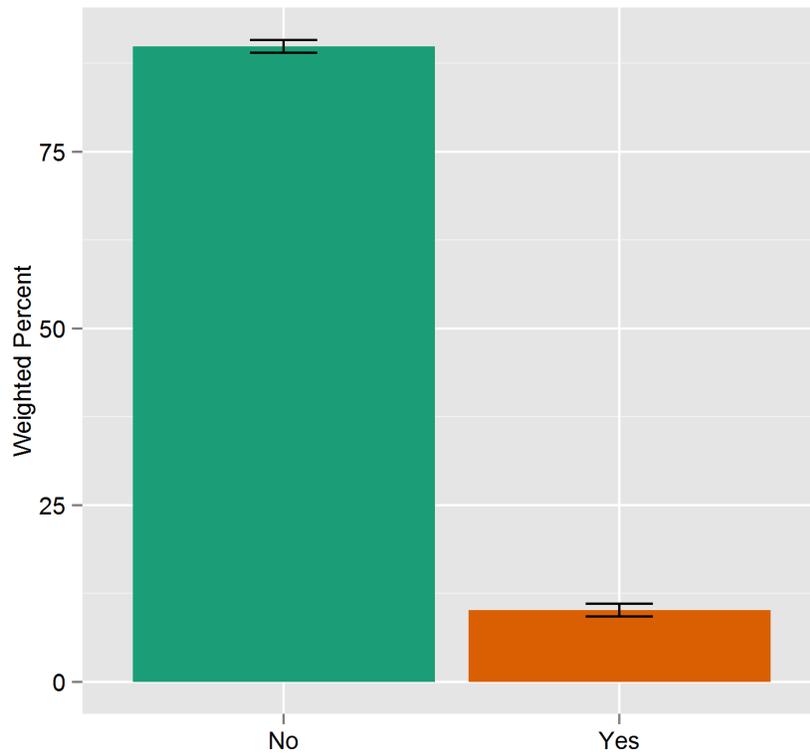
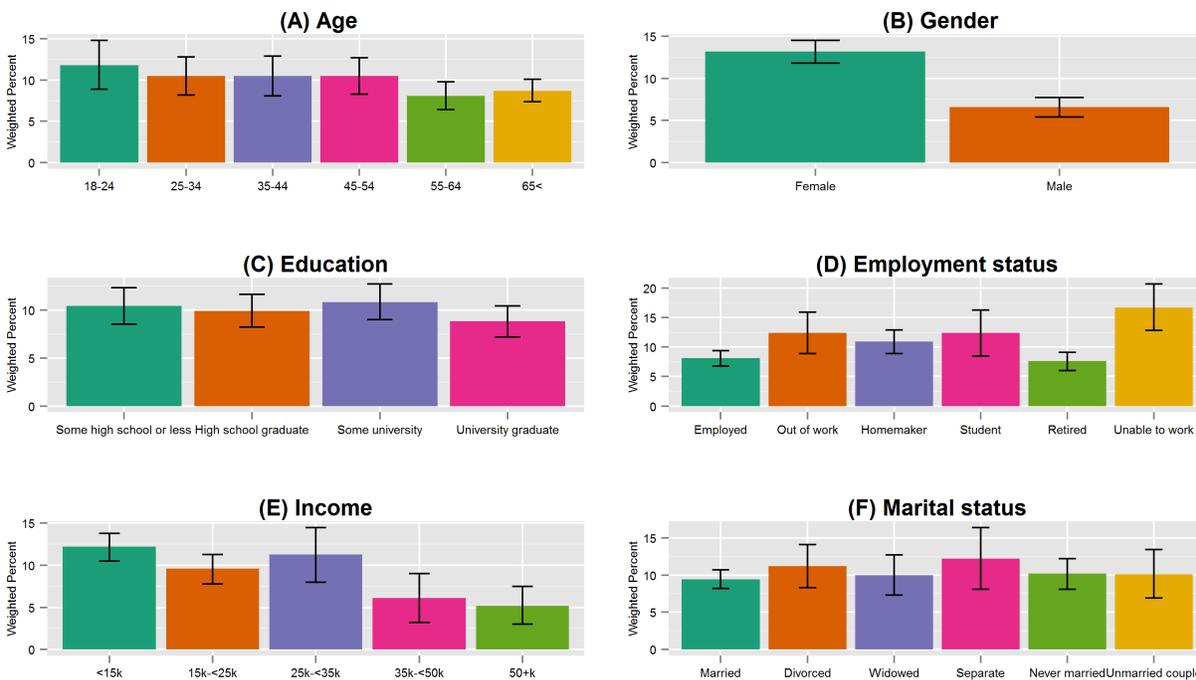


Figure 47: Self-reported prevalence of current asthma by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of Puerto Rico residents with current asthma by demographic characteristics (Figure 47 and Table 32) suggested the following information:

- the prevalence estimates were similar for all age groups except for 18-24 years and 65 years or older age groups. (Panel A)
- males seem to have lower prevalence than females with 6.6% and 13.2% respectively (panel B)
- the self-reported prevalence of current

asthma was similar regardless of the educational level attained (panel C)

- Puerto Rico residents unable to work seem to report more often still having asthma than those retired or employed (panel D)
- the prevalence seems different between persons with a household income lower than \$15,000 (12.2%) and those with \$50,000 or more (5.2%) (panel E)
- the prevalence seems similar among all marital groups (panel F).

Table 32: Self-reported prevalence of current asthma by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	644	10.1	(9.2-11.0)	286,576
Age group				
18-24	62	11.8	(8.9-14.8)	49,214
25-34	87	10.5	(8.2-12.8)	57,507
35-44	87	10.5	(8.1-12.9)	55,269
45-54	111	10.5	(8.3-12.7)	50,325
55-64	107	8.1	(6.4-9.8)	32,750
65<	190	8.7	(7.4-10.1)	41,512
Gender				
Male	152	6.6	(5.4-7.7)	87,796
Female	492	13.2	(11.8-14.5)	198,780
Education				
Some high school or less	182	10.4	(8.5-12.3)	90,384
High school graduate	167	9.9	(8.2-11.6)	72,716
Some university	157	10.8	(9.0-12.7)	74,683
University graduate	137	8.8	(7.2-10.4)	48,322
Employment status				
Employ	177	8.1	(6.8-9.4)	94,015
Out of work	56	12.4	(8.9-15.9)	35,548
Homemaker	159	10.9	(8.9-12.9)	60,905
Student	38	12.4	(8.5-16.3)	29,391
Retired	122	7.6	(6.0-9.1)	28,229
Unable to work	92	16.7	(12.8-20.7)	38,489
Household income				
<15k	311	12.2	(10.5-13.8)	139,765
15k-<25k	144	9.6	(7.8-11.3)	64,395
25k-<35k	54	11.3	(8.0-14.5)	24,964
35k-<50k	20	6.1	(3.2-9.0)	10,254
50+k	26	5.2	(3.0-7.5)	8,145
Marital status				
Married	266	9.4	(8.2-10.7)	107,633
Divorced	89	11.2	(8.3-14.1)	35,359
Widowed	84	10.0	(7.3-12.7)	21,665
Separate	45	12.2	(8.1-16.4)	19,444
Never married	110	10.2	(8.1-12.2)	69,691
Unmarried couple	47	10.1	(6.9-13.4)	32,358

Figure 48: Self-reported prevalence of current asthma by health regions, Puerto Rico 2011

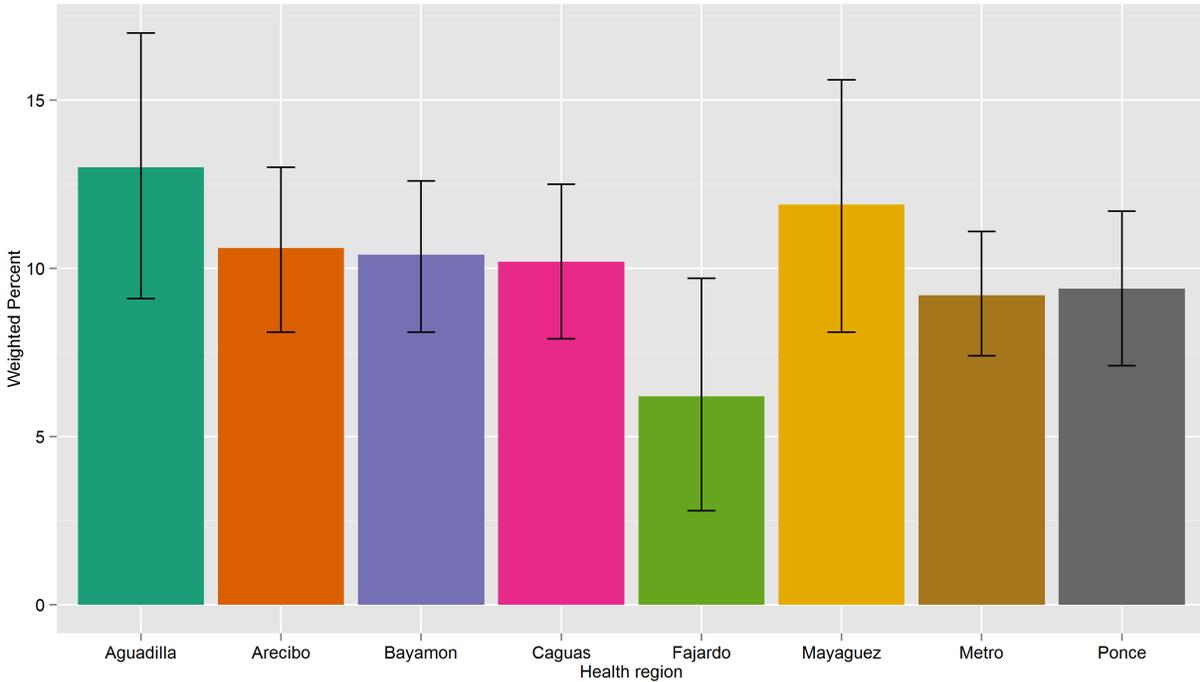


Table 33: Self-reported prevalence of current asthma by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	54	13.0	(9.1-17.0)	25,029
Arecibo	96	10.6	(8.1-13.0)	38,286
Bayamon	113	10.4	(8.1-12.6)	49,355
Caguas	105	10.2	(7.9-12.5)	44,379
Fajardo	18	6.2	(2.8-9.7)	6,429
Mayaguez	58	11.9	(8.1-15.6)	27,344
Metro	120	9.2	(7.4-11.1)	51,896
Ponce	79	9.4	(7.1-11.7)	43,246

Figure 48 and Table 33 showed the self-reported prevalence of adults with current asthma by health region. The PR-BRFSS data suggested that the prevalences were similar across health regions, ranging from 13.0% in the Aguadilla health region to 9.2% in the Metro health region. Even though, the Fajardo health region has the lowest prevalence of current asthma (6.2%), caution should be taken when interpreting the estimate due to the low frequency of responses.

3.4.7 COPD

The chronic obstructive pulmonary disease (COPD) indicator was obtained from PR-BRFSS when asked: ever been told by a doctor, nurse or other health professional that you have chronic obstructive pulmonary disease, emphysema or chronic bronchitis? For 2011, in Puerto Rico approximately 3.1% adults 18 years or older were diagnosed with COPD (Figure 49).

Figure 49: Self-reported prevalence of COPD, Puerto Rico 2011

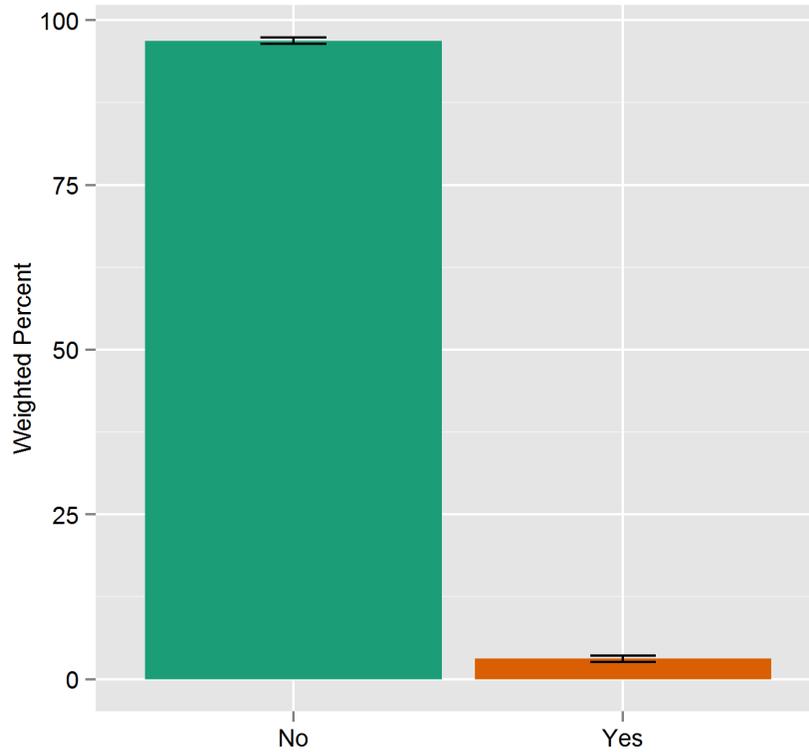
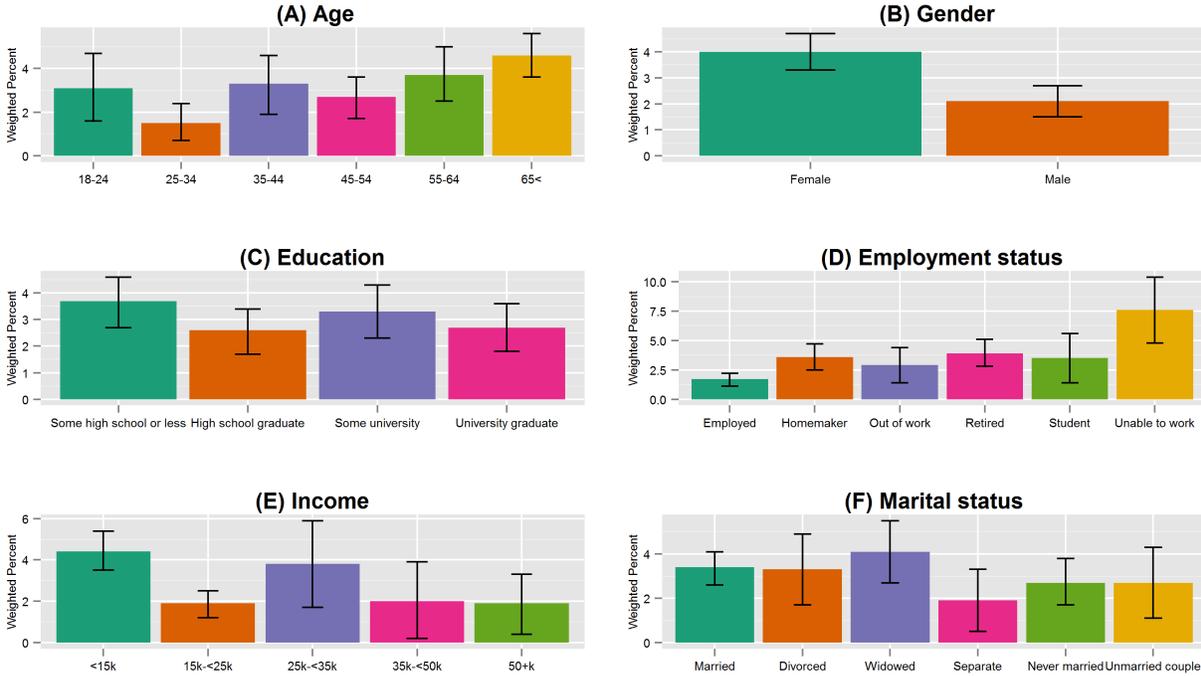


Figure 50: Self-reported prevalence of COPD by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of COPD by demographic characteristics (Figure 50 and Table 34) suggested that:

- the prevalence of COPD was 2.6% in adults 18 to 44 years of age, and 4.0% those 65 to 74 years of age (in this indicator, age groups were defined in accordance with the CDC [15]) (panel A)
- males have lower prevalence than females with 2.1% and 4.0% respectively (panel B)

- the self-reported prevalence of COPD seems similar regardless of the education completed (panel C)
- COPD prevalence in those retired, and homemakers was 3.9%, and 3.6% respectively (panel D)
- approximately 50,924 (4.4%) adults with a household income lower than \$15,000 reported a COPD diagnosis (panel E)
- the prevalence of COPD in married adults was 3.4% (panel F).

Caution should be taken when interpreting COPD prevalence estimates in some sociodemographic categories due to a response frequency less than 50.

Table 34: Self-reported prevalence of COPD by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	244	3.1	(2.6-3.6)	88,115
Age group				
18-44	60	2.6	(1.9-3.3)	38,478
45-54	35	2.7	(1.7-3.7)	12,760
55-64	46	3.8	(2.5-5.1)	14,913
65-74	62	4.0	(2.8-5.2)	11,930
75+	40	5.7	(3.7-7.6)	9,986
Gender				
Male	56	2.1	(1.5-2.7)	27,846
Female	188	4.0	(3.3-4.7)	60,270
Education				
Some high school or less	85	3.7	(2.7-4.6)	31,873
High school graduate	56	2.6	(1.7-3.4)	18,747
Some university	53	3.3	(2.3-4.3)	22,649
University graduate	50	2.7	(1.8-3.6)	14,846
Employment status				
Employ	44	1.7	(1.1-2.2)	19,188
Out of work	18	2.9	(1.4-4.4)	8,383
Homemaker	65	3.6	(2.5-4.7)	20,019
Student	12	3.5	(1.4-5.6)	8,329
Retired	63	3.9	(2.8-5.1)	14,729
Unable to work	42	7.6	(4.8-10.4)	17,467
Household income				
<15k	137	4.4	(3.5-5.4)	50,924
15k-<25k	41	1.9	(1.2-2.5)	12,531
25k-<35k	17	3.8	(1.7-5.9)	8,437
35k-<50k	7	2.0	(0.2-3.9)	3,387
50+k	9	1.9	(0.4-3.3)	2,886
Marital status				
Married	105	3.4	(2.6-4.1)	38,357
Divorced	30	3.3	(1.7-4.9)	10,530
Widowed	46	4.1	(2.7-5.5)	8,899
Separate	11	1.9	(0.5-3.3)	2,996
Never married	36	2.7	(1.7-3.8)	18,732
Unmarried couple	15	2.7	(1.1-4.3)	8,553

Figure 51: Self-reported prevalence of COPD by health regions, Puerto Rico 2011

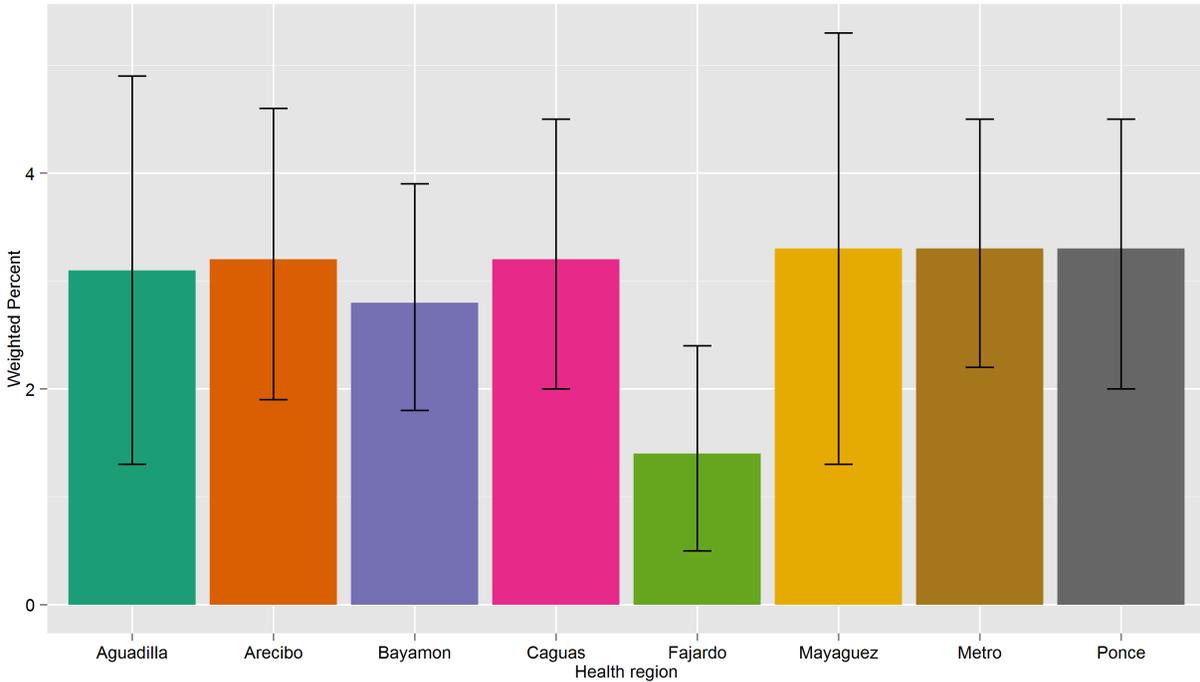


Table 35: Self-reported prevalence of COPD by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	17	3.1	(1.3-4.9)	6,011
Arcibo	32	3.2	(1.9-4.6)	11,761
Bayamon	41	2.8	(1.8-3.9)	13,477
Caguas	41	3.2	(2.0-4.5)	14,102
Fajardo	10	1.4	(0.5-2.4)	1,485
Mayaguez	20	3.3	(1.3-5.3)	7,506
Metro	49	3.3	(2.2-4.5)	18,765
Ponce	34	3.3	(2.0-4.5)	15,008

Figure 51 and Table 35 showed the self-reported prevalence of adults with COPD by health region. The Puerto Rico data suggested that COPD estimates were similar across health regions. Caution should be taken when interpreting COPD prevalence estimates by health regions due to a response frequency less than 50.

3.4.8 COPD module

The COPD module was conducted in PR-BRFSS participants that responded "Yes" to ever told by a health professional to have COPD. The module, included for the first time in the PR-BRFSS questionnaire in 2011 [15], had questions regarding COPD related health-care resources and impact on quality of life to generate five indicators. The indicators generated from the COPD module were: 1) *COPD test* (question: have you ever been given a breathing test to diagnose your COPD, chronic bronchitis, or emphysema?); 2) *Affected quality of life* (question: would you say that shortness of breath affects the quality of your life?); 3) *See a doctor for symptoms* (question: other than a routine visit, have you had to see a doctor in the past 12 months for symptoms related to shortness of breath, bronchitis, or other COPD, or emphysema flare?); 4) *ER or hospital admission* (question: did you have to visit an emergency room or be admitted to the hospital in the past 12 months because of your COPD, chronic bronchitis, or emphysema?); and 5) *Taking medication* (question: how many different medications do you currently take each day to help with your COPD, chronic bronchitis, or emphysema?).

Figure 52: COPD health related indicators in adults with self-reported COPD, Puerto Rico 2011

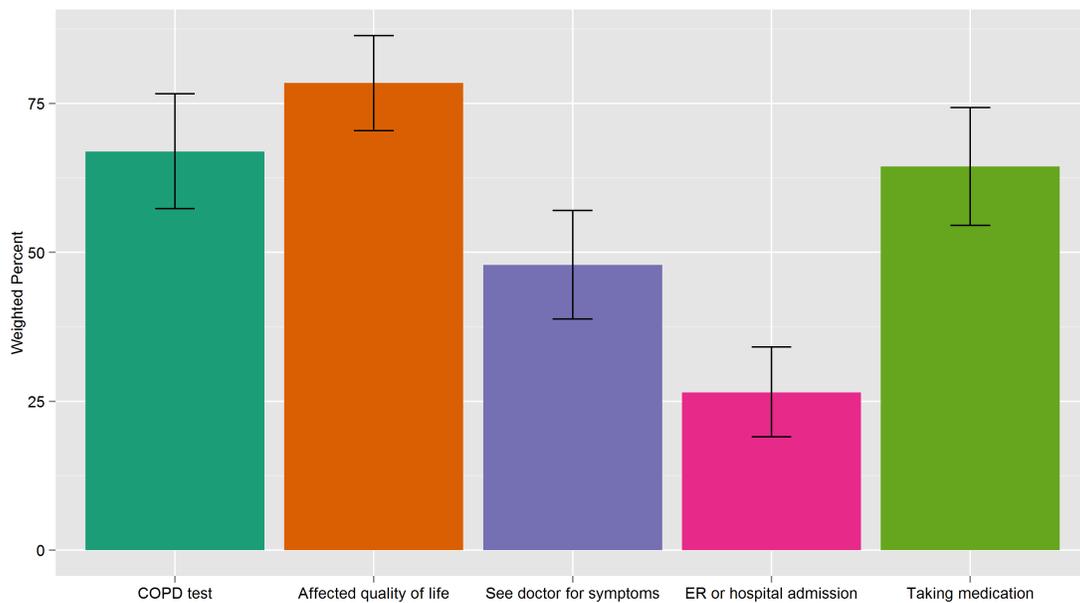


Table 36: COPD health related indicators in adults with self-reported COPD, Puerto Rico 2011

COPD module indicators	Frequency	Weighted estimates	
		Prevalence	95% C.I.
COPD test	135	66.9	(57.4-76.5)
Affected quality of life	145	78.4	(70.3-86.4)
See doctor in the past 12 months for symptoms	99	47.9	(38.7-57.1)
ER or hospital admission	51	26.5	(19.0-34.1)
Taking medication	111	64.4	(54.5-74.3)

In 2011, the prevalence of COPD health indicators obtained from adults with self-reported COPD (Figure 52 and Table 36) suggested the following:

- 66.9% of the adults that self-reported COPD were given a breathing test to diagnose the respiratory chronic condition
- most of the adults with COPD reported that the shortness of breath affects their daily life (78.4%)
- 47.9% of the Puerto Rico residents with COPD reported seeing or visiting a doctor because of symptoms of shortness of breath, bronchitis, or other COPD, or emphysema flare during a 12 month period
- approximately 26.5% of the adults with COPD visited an emergency room, or were admitted to a hospital because of their COPD during a 12 month period
- approximately 33.7% of the adults with COPD do not take daily medication to help the condition.

3.4.9 Cancer

The cancer indicator was obtained from PR-BRFSS participants when asked: ever told by a doctor or a health professional that you had any type of cancer, other than skin cancer? For 2011, in Puerto Rico there were approximately 3.3% adults 18 years or older that self-reported a diagnosis of cancer (Figure 53).

Figure 53: Self-reported prevalence of cancer, Puerto Rico 2011

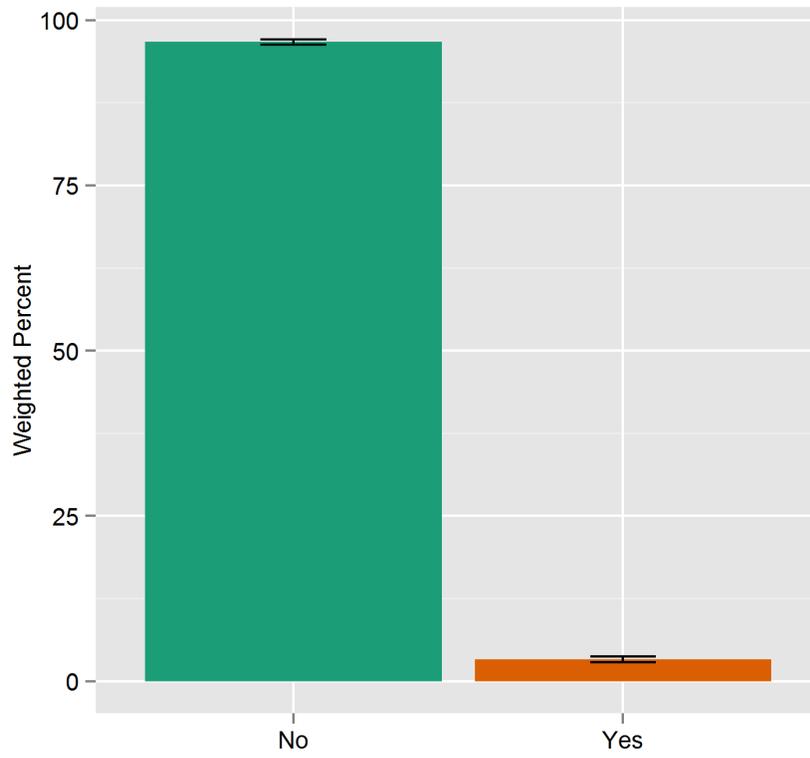
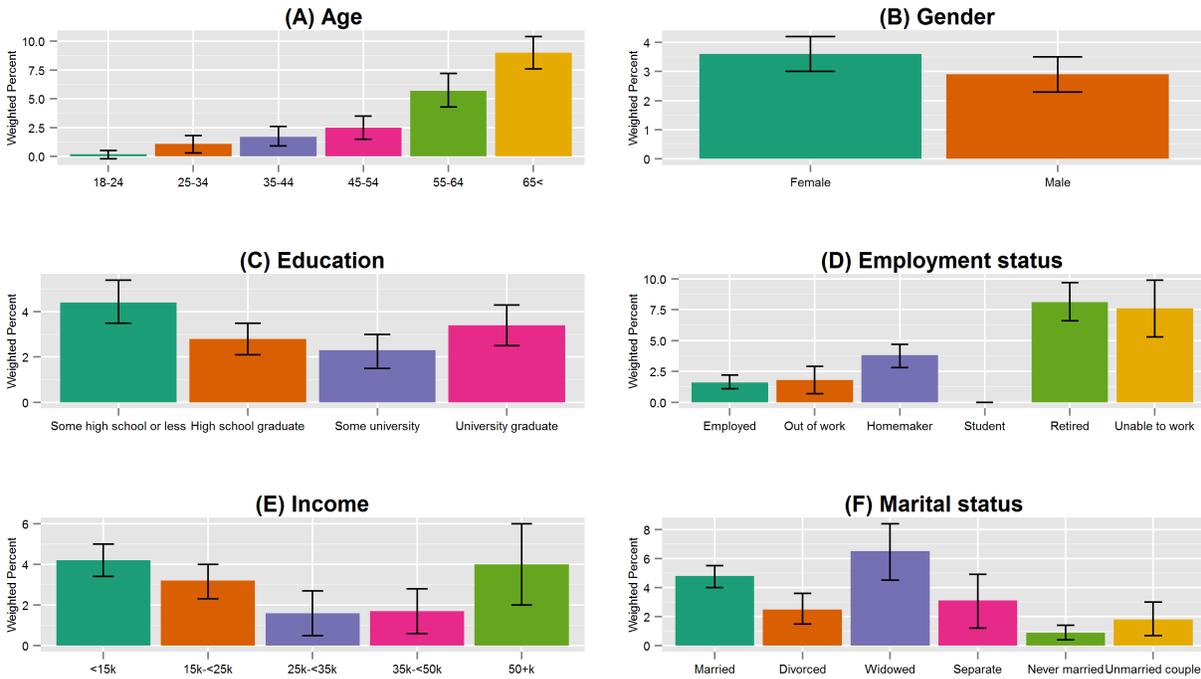


Figure 54: Self-reported prevalence of cancer by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of Puerto Rico residents with cancer by demographic characteristics (Figure 54 and Table 37) suggested that:

- the prevalence of cancer increase with age. The prevalence seems higher in those aged 65 or more than in those 55 to 64 with 9.0% and 5.7%, respectively (panel A)
- the prevalence estimates seems similar between males (2.9%) and females (3.6%) (panel B)
- the self-reported prevalence of cancer was

similar regardless of education completed (panel C)

- Retired, unable to work, and homemakers prevalences were 8.1%, 7.6%, and 3.8% respectively (panel D)
- the prevalence of cancer was similar in those with a household income lower than \$15,000 (4.2%), and between \$15,000 and less than \$25,000 (3.2%) (panel E)
- the prevalence seems higher in married (4.8%) and widowed (6.5%) adults (panel F).

Table 37: Self-reported prevalence of cancer by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	329	3.3	(2.9-3.7)	93,531
Age group				
18-24	1	-	-	-
25-34	10	1.1	(0.3-1.8)	5,800
35-44	18	1.7	(0.9-2.6)	9,068
45-54	30	2.5	(1.5-3.5)	11,960
55-64	74	5.7	(4.3-7.2)	23,096
65<	196	9.0	(7.6-10.4)	42,895
Gender				
Male	122	2.9	(2.3-3.5)	38,931
Female	207	3.6	(3.0-4.2)	54,600
Education				
Some high school or less	107	4.4	(3.5-5.4)	38,649
High school graduate	84	2.8	(2.1-3.5)	20,326
Some university	56	2.3	(1.5-3.0)	15,636
University graduate	82	3.4	(2.5-4.3)	18,920
Employment status				
Employ	46	1.6	(1.1-2.2)	18,791
Out of work	13	1.8	(0.7-2.9)	5,243
Homemaker	83	3.8	(2.8-4.7)	21,038
Student	0	-	-	-
Retired	133	8.1	(6.6-9.7)	30,396
Unable to work	53	7.6	(5.3-9.9)	17,372
Household income				
<15k	161	4.2	(3.4-5.0)	48,175
15k-<25k	78	3.2	(2.3-4.0)	21,498
25k-<35k	14	1.6	(0.5-2.7)	3,598
35k-<50k	12	1.7	(0.6-2.8)	2,903
50+k	21	4.0	(2.0-6.0)	6,240
Marital status				
Married	179	4.8	(4.0-5.5)	54,391
Divorced	35	2.5	(1.5-3.6)	8,010
Widowed	63	6.5	(4.5-8.4)	14,049
Separate	17	3.1	(1.2-4.9)	4,863
Never married	24	0.9	(0.4-1.4)	6,371
Unmarried couple	11	1.8	(0.7-3.0)	5,847

*Caution should be taken when interpreting arthritis prevalence estimates due to a responses frequency less than 50 in some demographic levels.

Figure 55: Self-reported prevalence of cancer by health regions, Puerto Rico 2011

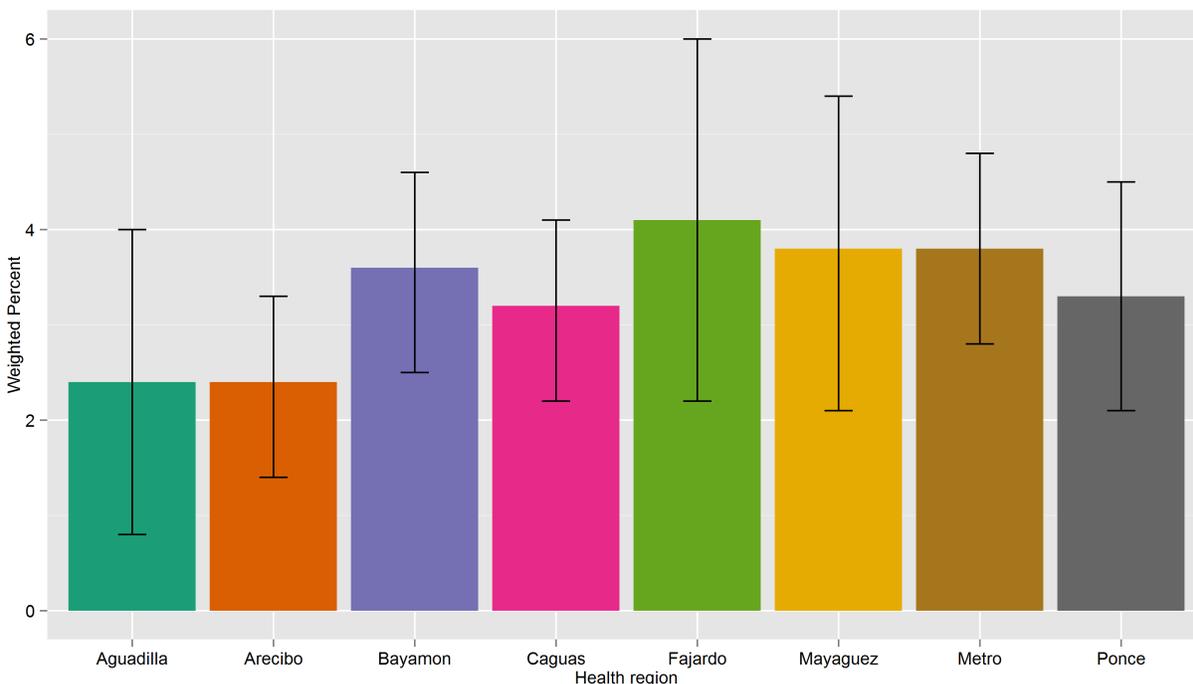


Table 38: Self-reported prevalence of cancer by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	13	2.4	(0.8-4.0)	4,611
Arcibo	31	2.4	(1.4-3.3)	8,596
Bayamon	60	3.6	(2.5-4.6)	17,068
Caguas	53	3.2	(2.2-4.1)	13,710
Fajardo	25	4.1	(2.2-6.0)	4,282
Mayaguez	31	3.8	(2.1-5.4)	8,691
Metro	77	3.8	(2.8-4.8)	21,374
Ponce	39	3.3	(2.1-4.5)	15,199

@ *Caution should be taken when interpreting arthritis prevalence estimates due to a responses frequency less than 50 in some demographic levels.

Figure 55 and Table 38 showed the self-reported prevalence of adults with cancer by health region. The Puerto Rico data suggested that the prevalences Metro health region was 3.8%.

3.4.10 Arthritis

The chronic health condition arthritis indicator was obtained from PR-BRFSS when asked: ever told by a health professional that you have some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia? (Arthritis diagnoses include: rheumatism, polymyalgia rheumatica; osteoarthritis (not osteoporosis); tendonitis, bursitis, bunion, tennis elbow; carpal tunnel syndrome, tarsal tunnel syndrome; joint infection, etc.) During 2011, approximately 558, 025 (19.7%) adults 18 years or older self-reported a diagnosis of arthritis (Figure 56 and Table 39).

Figure 56: Self-reported prevalence of arthritis, Puerto Rico 2011

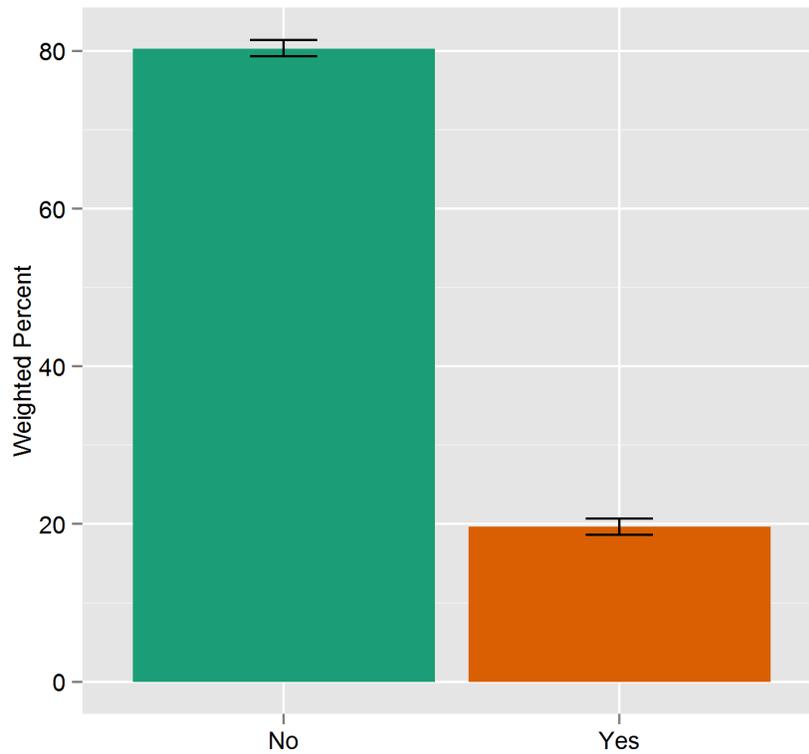
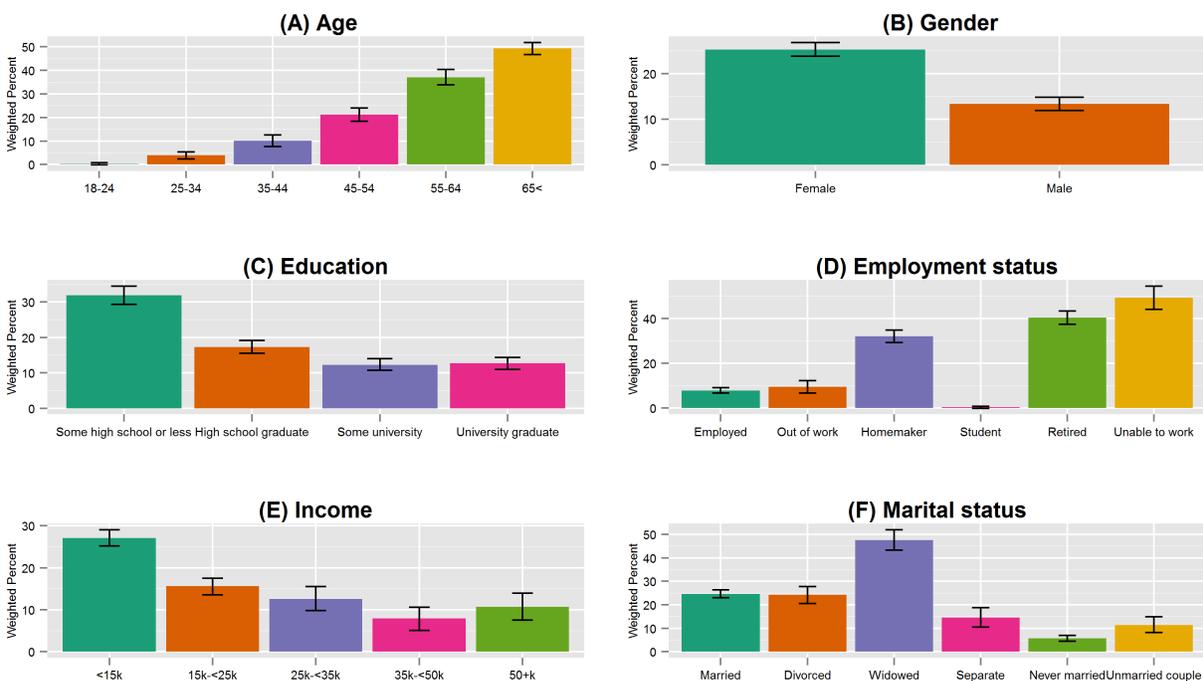


Figure 57: Self-reported prevalence of arthritis by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of adults with arthritis by demographic characteristics (Figure 57 and Table 39) suggested the following:

- the prevalence of arthritis increases as age increases from 10.1% in the 35 to 44 years of age group to 49.3% in the 65 years or more age group (panel A)
- the prevalence was higher in females than in males with 25.3% and 13.4% respectively (panel B)
- the self-reported prevalence of arthritis seems to decrease with an increase in education. It ranges from 31.9% in those with

some high school or less to 12.7% in university graduates (panel C)

- Puerto Ricans unable to work, retired, or homemakers seems to report more often arthritis than other employment status groups (panel D)
- the prevalence of arthritis in Puerto Rico decrease as income increase. It was higher in those with a household income lower than \$15,000 (27.1%) (panel E)
- the prevalence seems higher in married (24.6%), divorced (24.2%), and widowed (47.2%) adults (panel F).

Table 39: Self-reported prevalence of arthritis by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	1,852	19.7	(18.6-20.7)	558,025
Age group				
18-24	2	-	-	-
25-34	34	3.9	(2.4-5.3)	21,230
35-44	83	10.1	(7.7-12.5)	53,056
45-54	236	21.2	(18.4-24.0)	101,540
55-64	425	37.1	(33.8-40.4)	148,592
65<	1,072	49.3	(46.7-51.8)	232,256
Gender				
Male	446	13.4	(11.9-14.8)	177,503
Female	1,406	25.3	(23.8-26.8)	380,522
Education				
Some high school or less	746	31.9	(29.3-34.5)	275,625
High school graduate	475	17.3	(15.5-19.2)	126,958
Some university	311	12.3	(10.7-14.0)	84,476
University graduate	318	12.7	(11.0-14.3)	69,627
Employment status				
Employ	229	7.8	(6.7-9.0)	90,561
Out of work	59	9.4	(6.6-12.2)	26,744
Homemaker	601	32.0	(29.2-34.8)	177,728
Student	3	-	-	-
Retired	661	40.4	(37.5-43.4)	149,724
Unable to work	298	49.3	(44.1-54.5)	112,495
Household income				
<15k	1,007	27.1	(25.2-29.1)	309,977
15k-<25k	352	15.6	(13.6-17.5)	104,665
25k-<35k	98	12.6	(9.8-15.5)	27,947
35k-<50k	45	7.9	(5.1-10.6)	13,229
50+k	56	10.7	(7.5-13.9)	16,693
Marital status				
Married	865	24.6	(22.9-26.3)	279,217
Divorced	265	24.2	(20.6-27.8)	76,395
Widowed	459	47.6	(43.2-52.0)	102,447
Separate	74	14.6	(10.4-18.8)	23,050
Never married	122	5.7	(4.4-7.0)	38,720
Unmarried couple	63	11.4	(8.1-14.8)	36,345

*Caution should be taken when interpreting arthritis prevalence estimates due to a responses frequency less than 50 in some demographic levels.

Figure 58: Self-reported prevalence of arthritis by health regions, Puerto Rico 2011

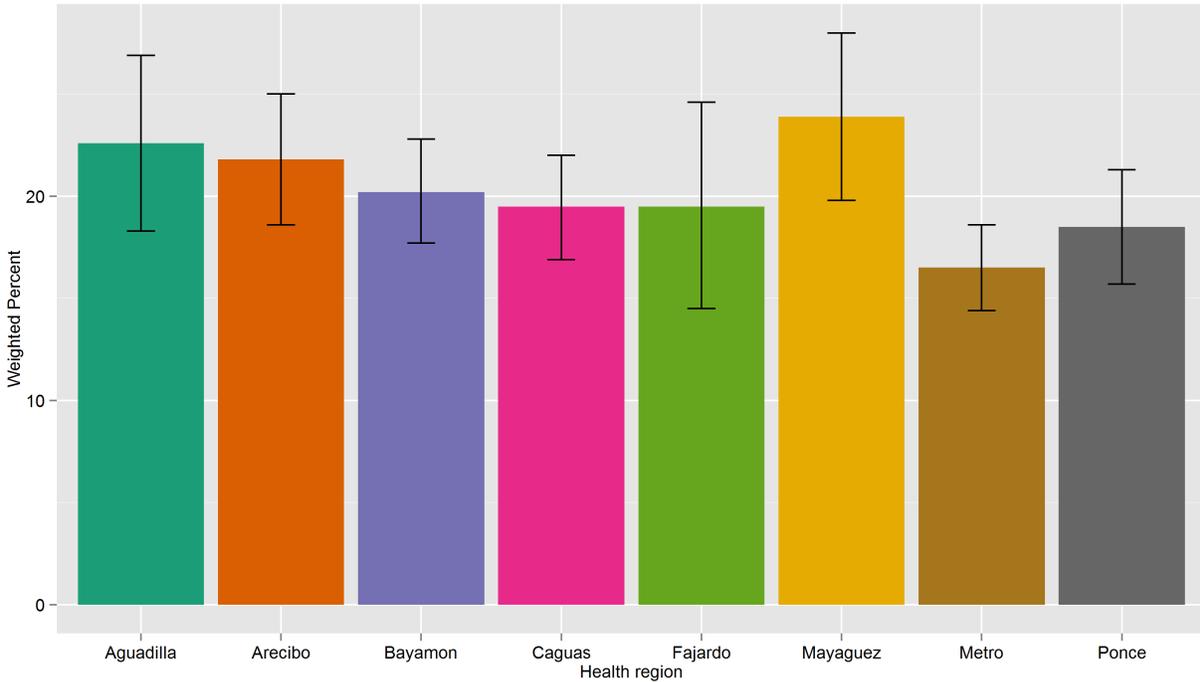


Table 40: Self-reported prevalence of arthritis by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	142	22.6	(18.3-26.9)	43,448
Arcibo	239	21.8	(18.6-25.0)	79,106
Bayamon	327	20.2	(17.7-22.8)	96,195
Caguas	301	19.5	(16.9-22.0)	83,862
Fajardo	85	19.5	(14.5-24.6)	20,101
Mayaguez	185	23.9	(19.8-28.0)	54,660
Metro	331	16.5	(14.4-18.6)	92,425
Ponce	235	18.5	(15.7-21.3)	84,228

Figure 58 and Table 40 showed the self-reported prevalence adults with arthritis by health region. The Puerto Rico data suggested that the prevalences across health regions were similar, except for the Mayagüez (23.9%) and the Metro (16.5%) health regions.

3.4.11 Kidney disease

The chronic condition indicator of kidney disease was obtained from PR-BRFSS when asked: ever told by a health professional that you have kidney disease? Do not include kidney stones, bladder infection or incontinence. The 2011 data shows that approximately 2.0% adults 18 years or older self-reported a diagnosis of kidney disease (Figure 59 and Table 41).

Figure 59: Self-reported prevalence of kidney disease, Puerto Rico 2011

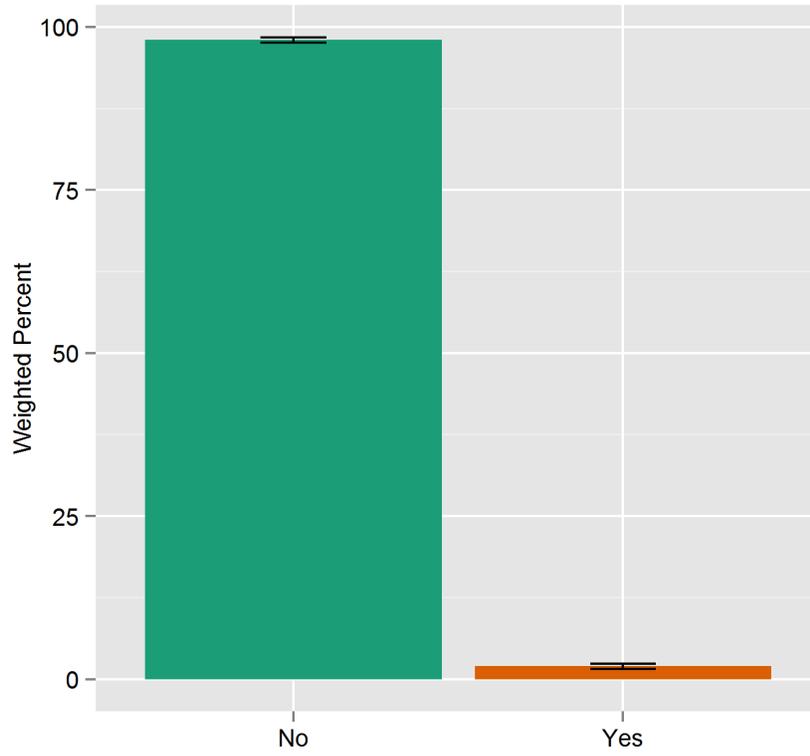
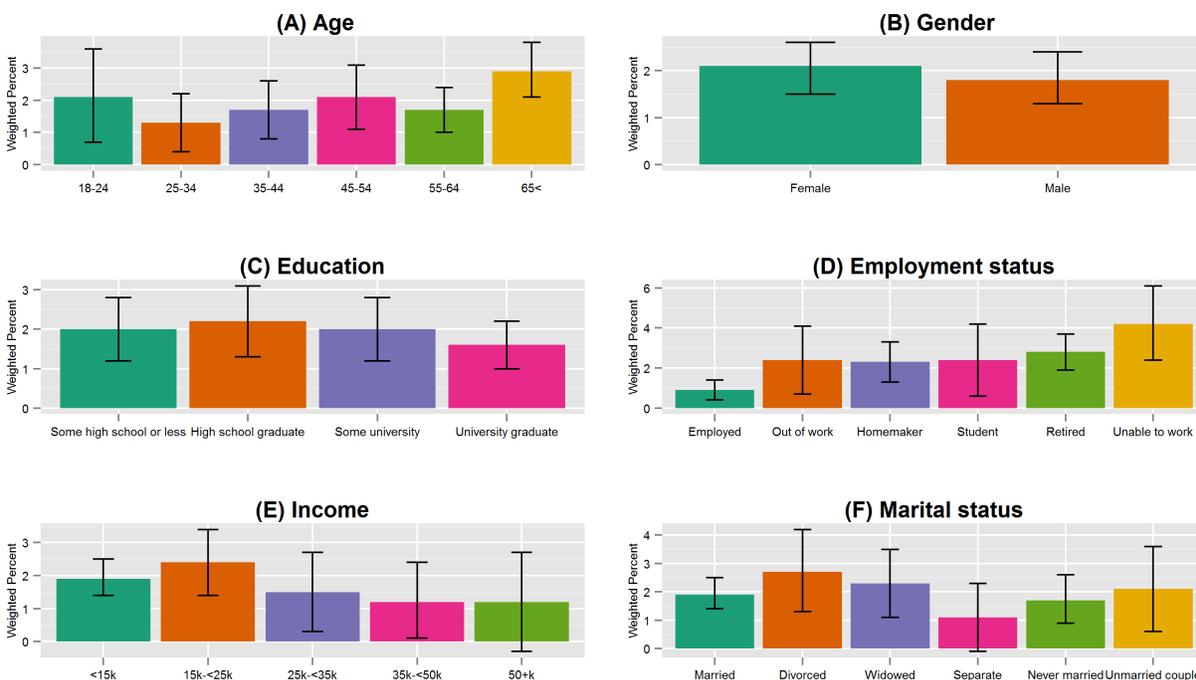


Figure 60: Self-reported prevalence of kidney disease by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of Puerto Ricans adults with a diagnosis of kidney disease by demographic characteristics (Figure 60 and Table 41) suggested that:

- the prevalence was 2.9% in the 65 years or more age group (panel A)
- the prevalence estimates were similar in females and males with 2.1% and 1.8% respectively (panel B)
- the self-reported prevalence of adults with

a diagnosis of kidney disease was similar among all educational groups (panel C)

- 2.8% of the retired Puerto Ricans reported diagnosis of kidney disease (panel D)
- the prevalence in those with a household income lower than \$15,000 was 1.9% (panel E)
- the prevalence of kidney disease was 1.9% in those that reported to be married (panel F).

Caution should be taken when interpreting kidney disease prevalence estimates in some sociodemographic categories due to a response frequency less than 50.

Table 41: Self-reported prevalence of kidney disease by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	142	2.0	(1.6-2.4)	56,043
Age group				
18-24	10	-	-	-
25-34	10	-	-	-
35-44	17	1.7	(0.8-2.6)	9,098
45-54	21	2.1	(1.1-3.1)	10,153
55-64	27	1.7	(1.0-2.4)	6,796
65<	57	2.9	(2.1-3.8)	13,809
Gender				
Male	57	1.8	(1.3-2.4)	24,627
Female	85	2.1	(1.5-2.6)	31,416
Education				
Some high school or less	38	2.0	(1.2-2.8)	17,397
High school graduate	39	2.2	(1.3-3.1)	16,182
Some university	30	2.0	(1.2-2.8)	13,612
University graduate	35	1.6	(1.0-2.2)	8,853
Employment status				
Employ	20	0.9	(0.4-1.4)	10,504
Out of work	12	-	-	-
Homemaker	34	2.3	(1.3-3.3)	12,857
Student	7	-	-	-
Retired	43	2.8	(1.9-3.7)	10,469
Unable to work	26	4.2	(2.4-6.1)	9,677
Household income				
<15k	63	1.9	(1.4-2.5)	22,248
15k-<25k	36	2.4	(1.4-3.4)	16,378
25k-<35k	8	-	-	-
35k-<50k	7	-	-	-
50+k	4	-	-	-
Marital status				
Married	63	1.9	(1.4-2.5)	21,992
Divorced	23	2.7	(1.3-4.2)	8,604
Widowed	18	2.3	(1.1-3.5)	4,966
Separate	4	-	-	1,786
Never married	23	1.7	(0.9-2.6)	11,871
Unmarried couple	11	-	-	6,823

*Caution should be taken when interpreting arthritis prevalence estimates due to a responses frequency less than 50 in some demographic levels.

Table 42: Self-reported prevalence of kidney disease by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	10	-	-	-
Arecibo	12	1.2	(0.3-2.1)	4,392
Bayamon	27	2.6	(1.4-3.7)	12,281
Caguas	27	2.0	(1.1-3.0)	8,826
Fajardo	4	-	-	-
Mayaguez	15	2.5	(0.7-4.2)	5,675
Metro	28	1.9	(1.1-2.8)	10,860
Ponce	18	1.4	(0.7-2.1)	6,529

*Caution should be taken when interpreting arthritis prevalence estimates due to a responses frequency less than 50 in some demographic levels.

Table 42 showed the self-reported prevalence of adults with a diagnosis of kidney disease by health region. The PR-BRFSS data suggested that the prevalence was similar among health regions. Caution should be taken when interpreting kidney disease prevalence estimates by health regions due to a response frequency less than 50.

3.4.12 Multiple chronic condition

The multiple chronic condition (MCC) indicator was obtained from PR-BRFSS by combining for the first time the self-report of cardiovascular conditions, hypertension, diabetes, depression, asthma, COPD, cancer, arthritis, and kidney disease. This indicator was generated due to the increasing concern of the MCC impact on health outcomes, health care needs, and medical cost [16]. For 2011, in Puerto Rico there were approximately 57.4% (1,634,921 estimated population) adults 18 years or older that self-reported a diagnosis of one or more chronic condition(s) (Figure 61 and Table 43).

Figure 61: Self-reported prevalence of been diagnosed with one or more chronic conditions, Puerto Rico 2011

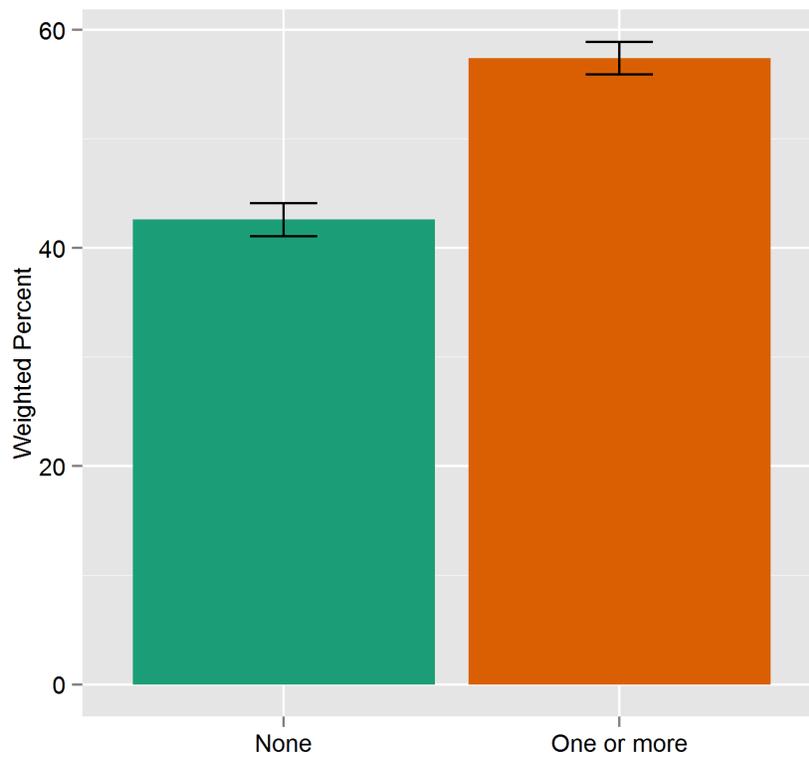
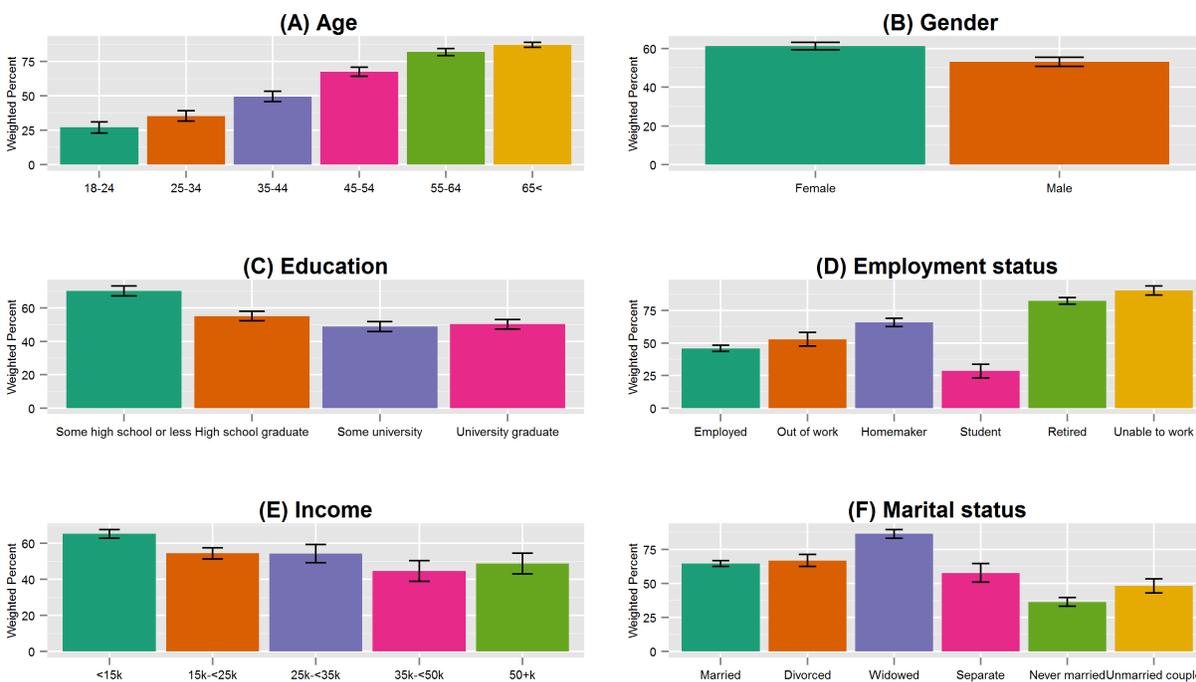


Figure 62: Self-reported prevalence of been diagnosed with one or more chronic condition by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of adults with one or more chronic disease by demographic characteristics (Figure 62 and Table 43) suggested the following information:

- the prevalence estimates increases as age increases from 27.0% in the 18 to 24 age group to 87.0% in the 65 years or more age group (panel A)
- the prevalence was higher in females than in males with 61.2% and 53.1% respectively (panel B)
- the self-reported prevalence of one or more chronic conditions seems higher in those

with some high school or less education (70.3%) (panel C)

- regardless of employment status, the prevalence was high among all groups, ranging from 28.4% in students to 90.4% in those unable to work (panel D)
- the prevalence of one or more chronic diseases seems higher in those with a household income lower than \$15,000 (65.3%) (panel E)
- the prevalence seems higher in widowed (86.3%), and lower in those never married (36.3%) (panel F).

Table 43: Self-reported prevalence of being diagnosed with one or more chronic condition by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	4,381	57.4	(55.9-58.9)	1,634,921
Age group				
18-24	149	27.0	(23.0-30.9)	112,123
25-34	292	35.3	(31.7-39.0)	193,738
35-44	434	49.4	(45.7-53.2)	259,952
45-54	672	67.6	(64.3-70.9)	324,890
55-64	942	81.8	(79.3-84.4)	329,536
65<	1,892	87.0	(85.2-88.8)	414,682
Gender				
Male	1,491	53.1	(50.7-55.4)	709,651
Female	2,890	61.2	(59.3-63.1)	925,270
Education				
Some high school or less	1,377	70.3	(67.2-73.3)	611,627
High school graduate	1,160	55.2	(52.3-58.1)	405,718
Some university	882	49.0	(46.0-52.0)	337,445
University graduate	957	50.3	(47.5-53.2)	277,758
Employment status				
Employ	1,089	45.8	(43.4-48.2)	530,932
Out of work	257	52.9	(47.6-58.3)	151,782
Homemaker	1,093	65.8	(62.6-68.9)	367,042
Student	94	28.4	(23.1-33.6)	67,324
Retired	1,337	82.5	(80.0-85.0)	308,168
Unable to work	506	90.4	(87.0-93.9)	207,983
Household income				
<15k	2,050	65.3	(62.9-67.8)	751,063
15k-<25k	941	54.5	(51.3-57.6)	368,164
25k-<35k	309	54.4	(49.3-59.5)	120,401
35k-<50k	199	44.7	(38.9-50.5)	75,293
50+k	220	48.8	(43.0-54.6)	76,048
Marital status				
Married	2,055	64.6	(62.5-66.6)	738,299
Divorced	597	66.8	(62.3-71.3)	211,531
Widowed	780	86.3	(83.0-89.6)	186,947
Separate	216	57.6	(50.7-64.4)	91,413
Never married	487	36.3	(33.1-39.5)	248,828
Unmarried couple	235	48.1	(43.0-53.3)	153,713

Figure 63: Self-reported prevalence of being diagnosed with one or more chronic condition by health regions, Puerto Rico 2011

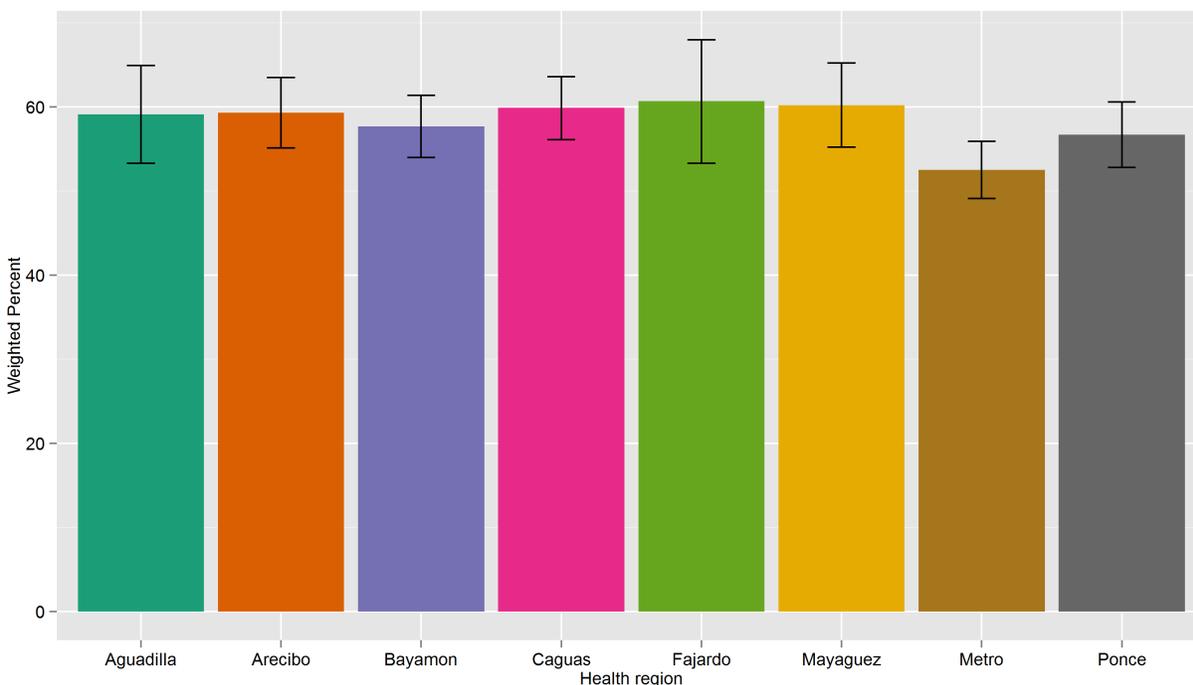


Table 44: Self-reported prevalence of being diagnosed with one or more chronic condition by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	309	59.1	(53.3-64.9)	113,544
Arcibo	540	59.3	(55.1-63.5)	216,297
Bayamon	746	57.7	(54.0-61.4)	275,175
Caguas	720	59.9	(56.1-63.6)	260,064
Fajardo	213	60.7	(53.3-68.0)	62,732
Mayaguez	395	60.2	(55.2-65.2)	138,712
Metro	847	52.5	(49.1-55.9)	295,528
Ponce	591	56.7	(52.8-60.6)	260,948

Figure 63 and Table 44 showed the self-reported prevalence of adults with one or more chronic conditions by health region. The Puerto Rico data suggested that prevalence estimates seems similar across health regions, ranging from 52.5% in the Metro health region to 60.7% in the Fajardo health region.

Figure 64: Self-reported prevalence of multiple chronic conditions, Puerto Rico 2011

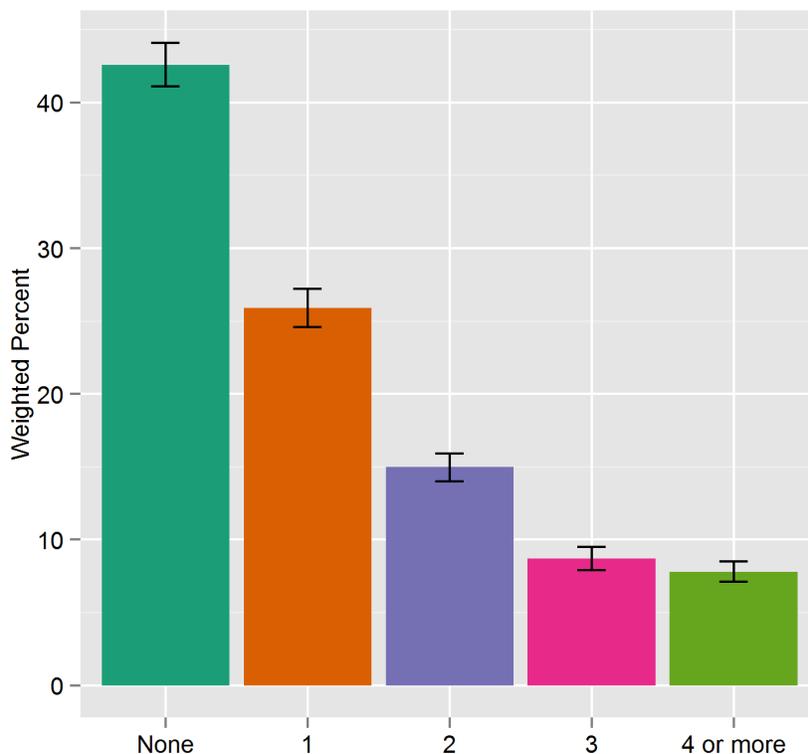


Table 45: Self-reported prevalence of number of multiple chronic conditions (MCC), Puerto Rico 2011

Number of MCC	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
None	2,232	42.6	(41.1-44.1)	1,214,845
1	1,709	25.9	(24.6-27.2)	737,773
2	1,231	15.0	(14.0-15.9)	426,250
3	730	8.7	(7.9-9.5)	247,888
4 or more	711	7.8	(7.1-8.5)	223,009

Figure 64 and Table 45 showed the self-reported prevalence of number of multiple chronic conditions. This indicator was generated to show the distribution of Puerto Rican adults with no chronic disease, with one, two, three, and 4 or more chronic diseases. For 2011, approximately 25.9% or 737,773 Puerto Rico residents were diagnosed with one chronic disease. Moreover, population estimates showed that 426,250 (15.0%) have two chronic conditions, 247,888 (8.7%) have three, and 223,009 (7.8%) were living with four or more chronic conditions.

3.5 Risk factors

3.5.1 Tobacco Use

The tobacco use indicator was obtained from PR-BRFSS participants when asked: have you smoked at least 100 cigarettes in your entire life?; and do you now smoke cigarettes every day, some days, or not at all? Answers to both questions were combined to identify adults who were current smokers. Specifically, those that responded to smoked at least 100 cigarettes in the entire life (question 1), and smoke every days (question 2), were considered current smokers. As well, adults that responded to smoked at least 100 cigarettes in the entire life (questions 1), and smoke some days (questions 2) were also considered current smokers. As shown in Figure 65, approximately 14.8% of the adults 18 years or older were current smokers.

Figure 65: Self-reported prevalence of current smokers, Puerto Rico 2011

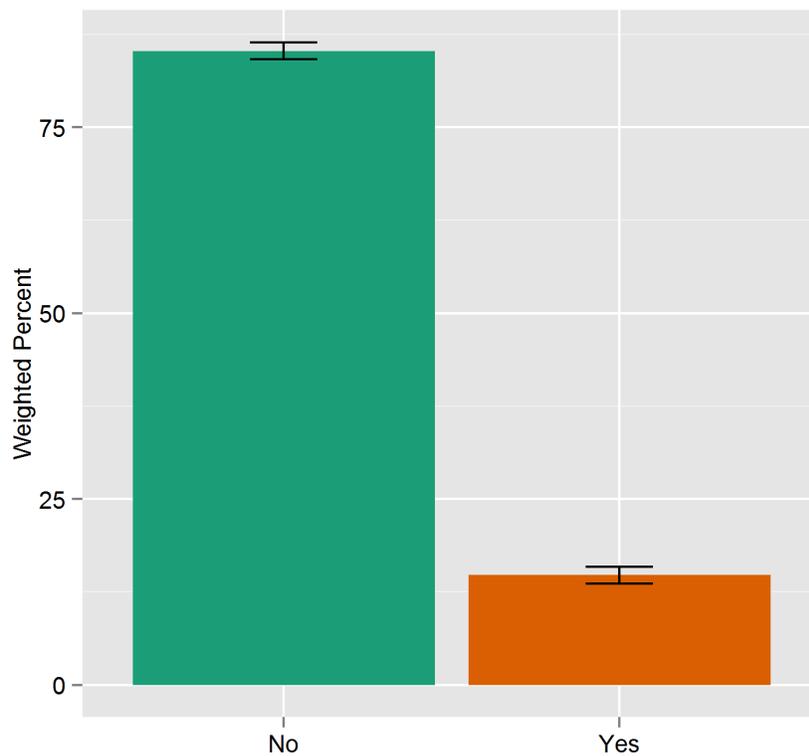
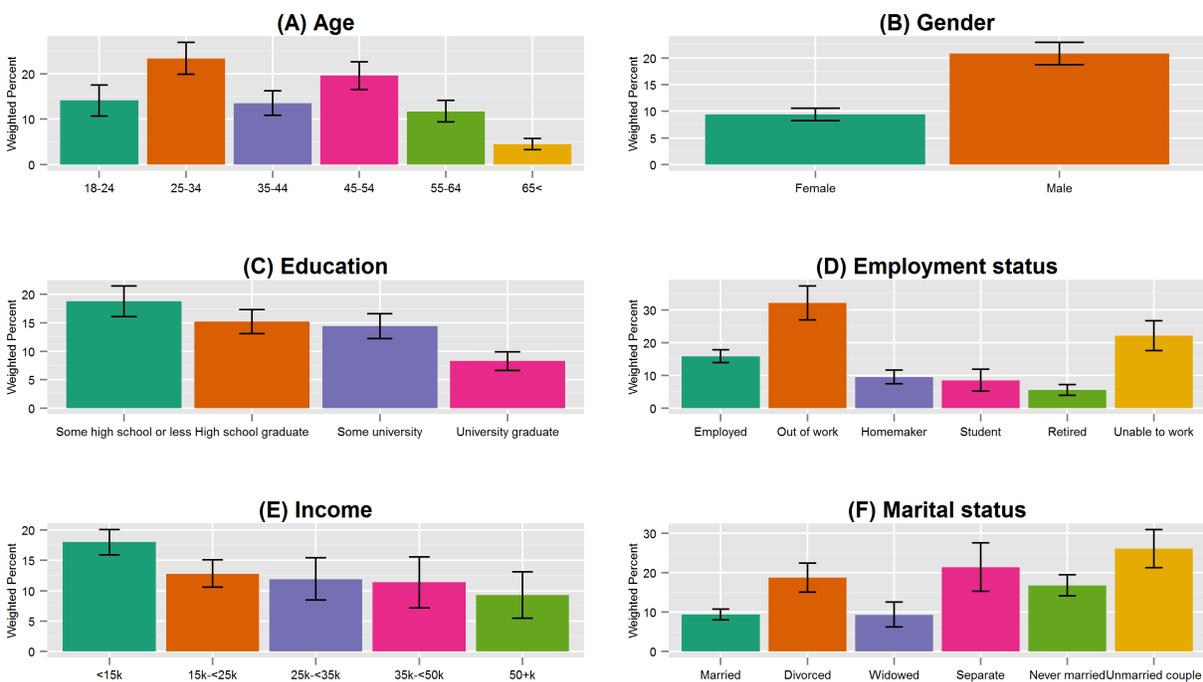


Figure 66: Self-reported prevalence of current smokers by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of Puerto Ricans current smokers by demographic characteristics (Figure 66 and Table 46) suggested that:

- the prevalence decrease as age increases from 14.1% in the 18 to 24 years age group to 4.5% in the 65 years or more age group; the higher prevalence was observed in the 25 to 34 years age group (23.4%) (panel A)
- the prevalence seems higher in males than in females with 20.8% and 9.4% respectively (panel B)
- the self-reported prevalence of current smoking seems higher in those with some high school or less education (18.8%) than

in university graduates (8.3%) (panel C)

- Puerto Ricans out of work, unable to work, and employed seems to have high prevalence of current smoking with 32.1%, 22.1%, and 15.8% respectively (panel D)
- the prevalence of current smoking seems higher in those with a household income lower than \$15,000 (18.0%) than in those with a household income of \$50,000 or more (9.3%) (panel E)
- the prevalence seems higher in unmarried couples (26.1%), separated (21.4%), and divorced (18.7%) marital status groups (panel F).

Table 46: Self-reported prevalence of current smokers by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	689	14.8	(13.6-15.9)	420,375
Age group				
18-24	65	14.1	(10.7-17.5)	58,562
25-34	153	23.4	(19.9-26.9)	128,037
35-44	115	13.5	(10.9-16.2)	71,147
45-54	163	19.6	(16.5-22.6)	94,039
55-64	116	11.7	(9.4-14.1)	47,262
65<	77	4.5	(3.3-5.7)	21,328
Gender				
Male	387	20.8	(18.7-22.9)	278,380
Female	302	9.4	(8.2-10.6)	141,995
Education				
Some high school or less	192	18.8	(16.1-21.5)	163,664
High school graduate	208	15.2	(13.1-17.3)	111,808
Some university	172	14.4	(12.2-16.6)	99,040
University graduate	116	8.3	(6.6-9.9)	45,567
Employment status				
Employ	274	15.8	(13.9-17.8)	183,143
Out of work	125	32.1	(26.9-37.3)	92,104
Homemaker	103	9.5	(7.4-11.6)	52,895
Student	25	8.4	(5.1-11.8)	19,991
Retired	70	5.5	(3.9-7.1)	20,604
Unable to work	90	22.1	(17.5-26.6)	50,720
Household income				
<15k	321	18.0	(15.9-20.1)	206,907
15k-<25k	149	12.8	(10.6-15.1)	86,770
25k-<35k	51	11.9	(8.5-15.4)	26,353
35k-<50k	33	11.4	(7.2-15.6)	19,169
50+k	27	9.3	(5.5-13.1)	14,518
Marital status				
Married	205	9.4	(8.0-10.8)	107,213
Divorced	122	18.7	(15.1-22.4)	59,326
Widowed	51	9.3	(6.2-12.5)	20,164
Separate	50	21.4	(15.3-27.6)	34,016
Never married	157	16.8	(14.1-19.5)	114,851
Unmarried couple	101	26.1	(21.3-31.0)	83,395

Figure 67: Self-reported prevalence of current smokers by health regions, Puerto Rico 2011

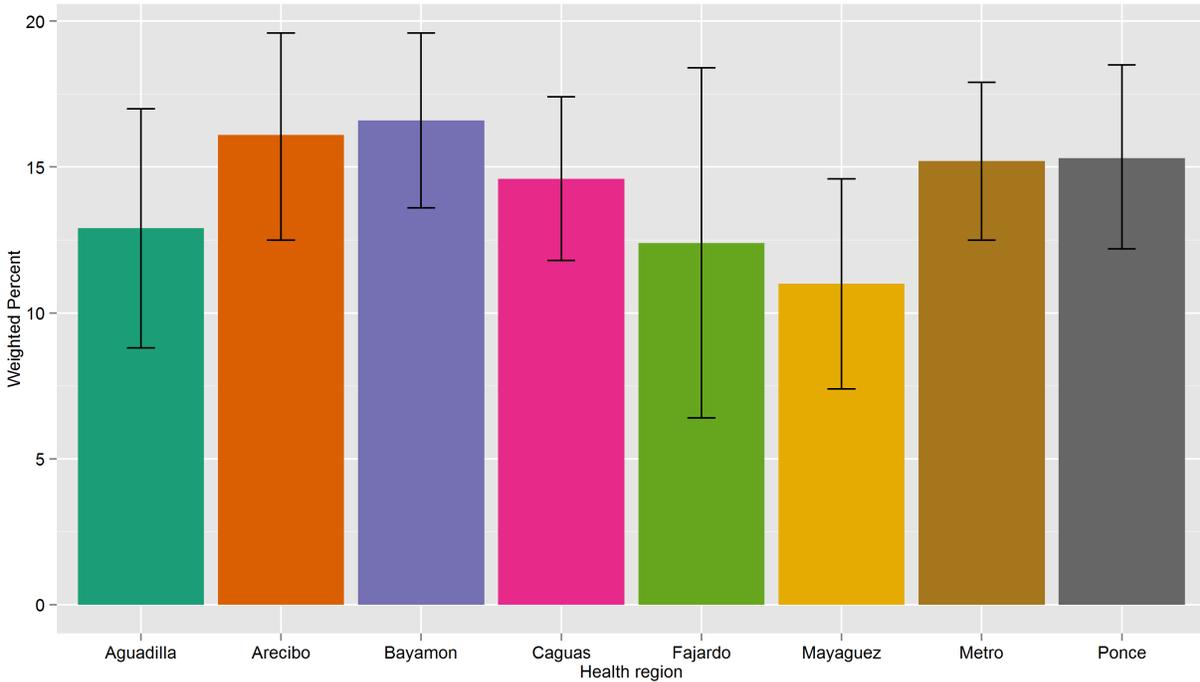


Table 47: Self-reported prevalence of adults current smokers by health region, Puerto Rico 2011

Health Regions	Weighted estimates			
	Frequency	Prevalence	95% C.I.	Population
Aguadilla	43	12.9	(8.8-17.0)	24,792
Arcibo	92	16.1	(12.5-19.6)	58,551
Bayamon	128	16.6	(13.6-19.6)	78,945
Caguas	117	14.6	(11.8-17.4)	63,576
Fajardo	25	12.4	(6.4-18.4)	12,721
Mayaguez	42	11.0	(7.4-14.6)	25,368
Metro	141	15.2	(12.5-17.9)	85,530
Ponce	100	15.3	(12.2-18.5)	70,569

Figure 67 and Table 47 showed the self-reported prevalence of current smokers by health region. The Puerto Rico data suggested that the prevalences were similar across health regions, ranging from 16.6% in the Bayamón health region to 11% in the Mayagüez health region. Caution should be taken when interpreting prevalence estimates of current smokers by health regions due to a response frequency less than 50.

3.5.2 Binge drinking

The binge drinking indicator was obtained from PR-BRFSS participants by combining two questions: 1) during the past 30 days, how many days per week or per month did you have at least one drink of any alcoholic beverage such as beer, wine, a malt beverage or liquor?; and 2) considering all types of alcoholic beverages, how many times during the past 30 days did you have 5 or more drinks for men or 4 or more drinks for women on an occasion? Those that responded to drink at least one day, and that reported 5 or more drinks on one occasion for men or 4 or more drinks on one occasion for women were considered binge drinkers. For 2011, approximately 15.3% of the adults 18 years or older self-reported binge drinking (Figure 68).

Figure 68: Self-reported prevalence of binge drinking, Puerto Rico 2011

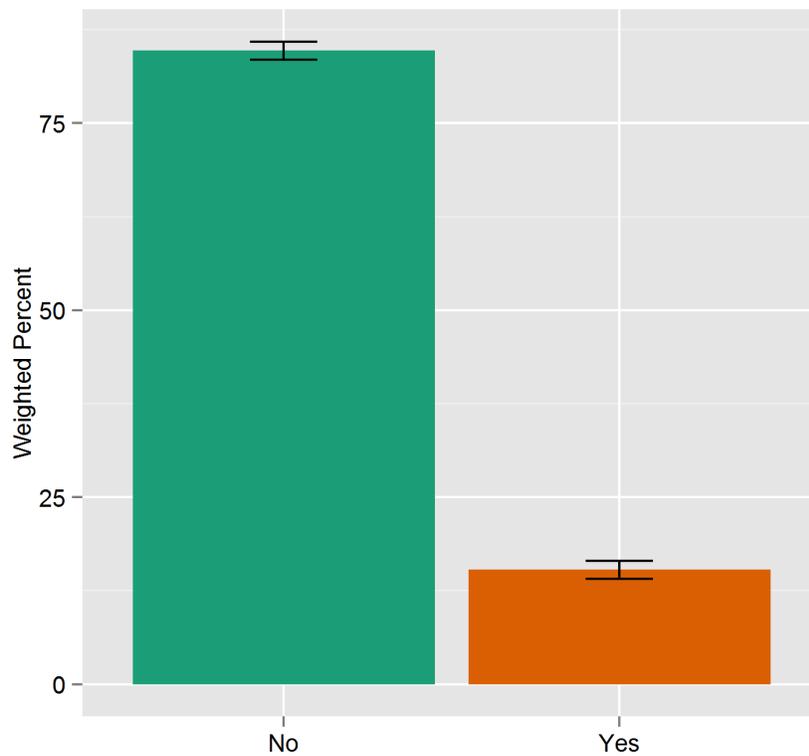
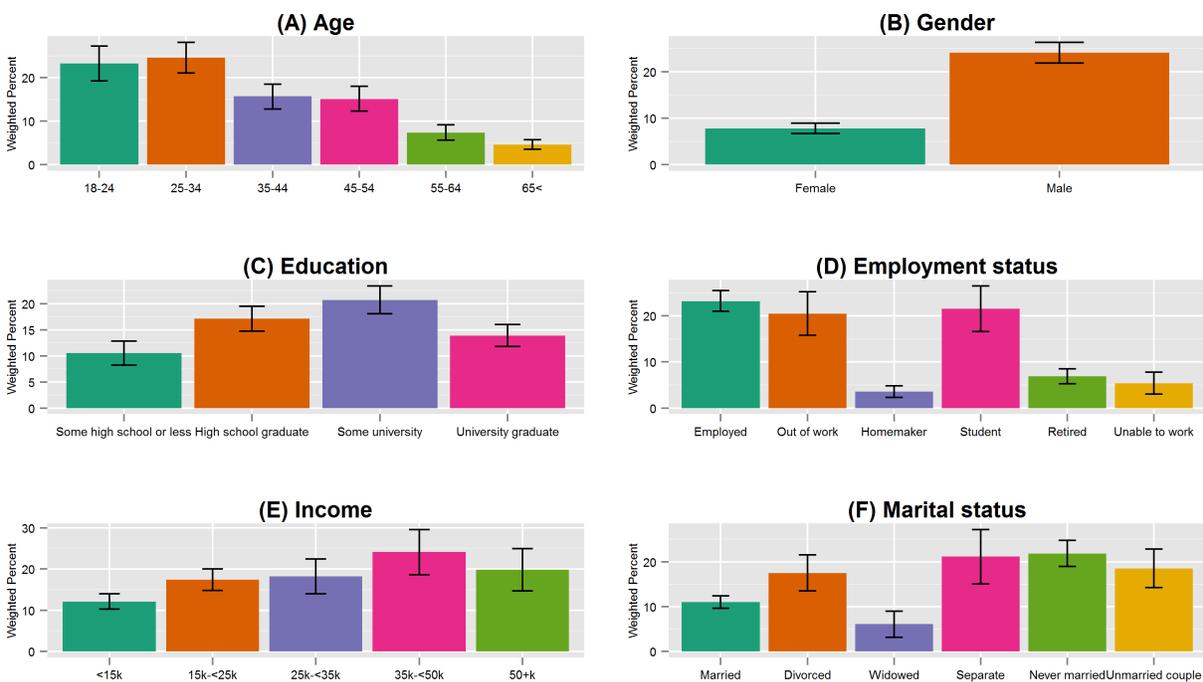


Figure 69: Self-reported prevalence of binge drinking by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence binge drinking by demographic characteristics (Figure 69 and Table 48) suggested the following:

- the prevalence decrease as age increases from 23.3% in the 18 to 24 years age group to 4.6% in the 65 years or more age group; with the highest prevalence in the 25 to 34 years age group (24.6%) (panel A)
- the prevalence was higher in males than in females with 24.1% and 7.8% respectively (panel B)
- the self-reported prevalence of binge drinking seems to be higher in those with some university (20.7%) than in those with some

high school or less education (10.5%) (panel C)

- Puerto Ricans employed, out of work, and students seems to have a high prevalence of binge drinking with 23.3%, 20.5%, and 21.5% respectively (panel D)
- the prevalence of binge drinking seems higher in those with a household income between \$35,000 to less than \$50,000 (24.1%) than those those with a household income lower than \$15,000 (12.1%) (panel E)
- the prevalence seems higher in adults never married (21.8%), and separated (21.2%) (panel F).

Table 48: Self-reported prevalence of binge drinking by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	693	15.3	(14.1-16.5)	422,228
Age group				
18-24	115	23.3	(19.3-27.3)	92,073
25-34	173	24.6	(21.1-28.1)	128,710
35-44	129	15.7	(12.8-18.5)	80,677
45-54	115	15.1	(12.3-18.0)	70,401
55-64	77	7.3	(5.6-9.1)	28,816
65<	84	4.6	(3.5-5.7)	21,551
Gender				
Male	467	24.1	(21.9-26.3)	306,850
Female	226	7.8	(6.7-8.9)	115,379
Education				
Some high school or less	94	10.5	(8.2-12.8)	88,337
High school graduate	210	17.1	(14.7-19.5)	120,405
Some university	215	20.7	(18.1-23.4)	139,027
University graduate	174	13.9	(11.8-16.0)	74,459
Employment status				
Employ	391	23.2	(21.0-25.5)	259,599
Out of work	77	20.5	(15.8-25.2)	55,283
Homemaker	45	3.6	(2.3-4.8)	19,755
Student	65	21.5	(16.6-26.5)	49,178
Retired	90	6.9	(5.3-8.5)	25,121
Unable to work	23	5.4	(3.0-7.8)	11,965
Household income				
<15k	212	12.1	(10.3-14.0)	135,570
15k-<25k	190	17.4	(14.8-20.0)	115,088
25k-<35k	70	18.2	(14.0-22.4)	39,133
35k-<50k	66	24.1	(18.6-29.6)	39,922
50+k	56	19.8	(14.7-24.9)	30,200
Marital status				
Married	264	11.0	(9.6-12.4)	122,462
Divorced	85	17.5	(13.5-21.5)	53,804
Widowed	29	6.1	(3.2-9.0)	13,031
Separate	49	21.2	(15.1-27.2)	32,810
Never married	190	21.8	(18.9-24.8)	142,450
Unmarried couple	74	18.5	(14.2-22.8)	56,380

Figure 70: Self-reported prevalence of binge drinking by health regions, Puerto Rico 2011

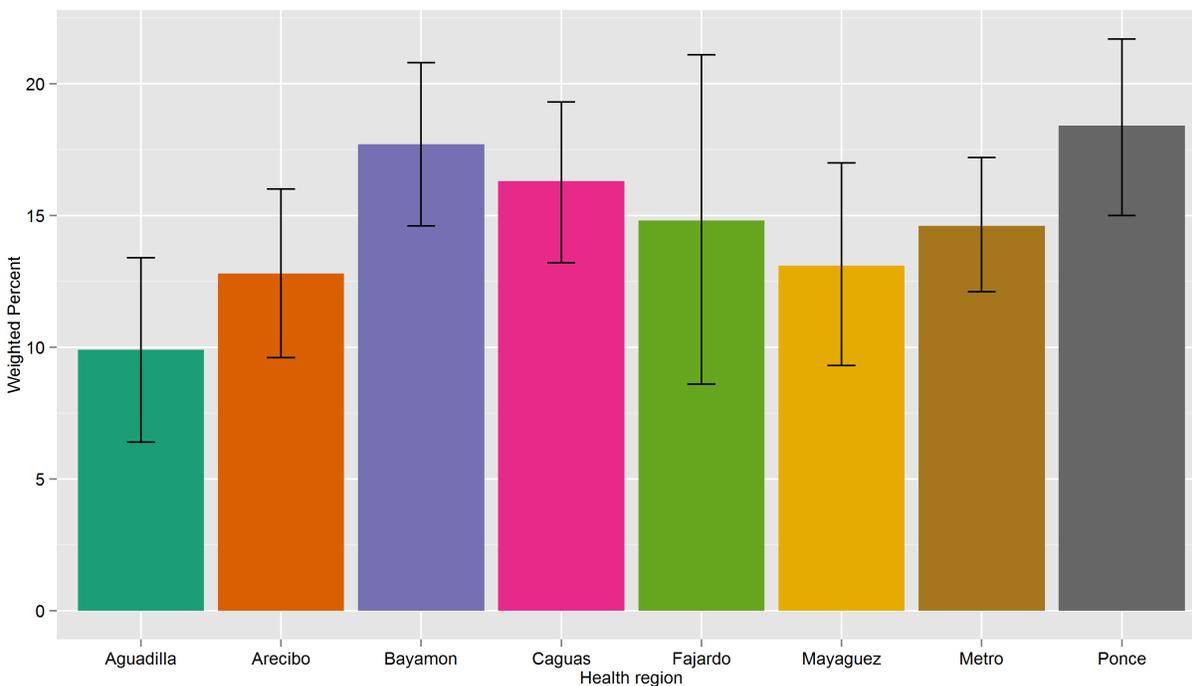


Table 49: Self-reported prevalence of binge drinking by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	34	9.9	(6.4-13.4)	18,661
Arcibo	73	12.8	(9.6-16.0)	44,988
Bayamon	131	17.7	(14.6-20.8)	80,794
Caguas	117	16.3	(13.2-19.3)	68,570
Fajardo	27	14.8	(8.6-21.1)	14,816
Mayaguez	51	13.1	(9.3-17.0)	29,939
Metro	137	14.6	(12.1-17.2)	79,767
Ponce	119	18.4	(15.0-21.7)	81,733

*Caution should be taken when interpreting arthritis prevalence estimates due to a responses frequency less than 50 in some demographic levels.

Figure 70 and Table 49 showed the self-reported prevalence of binge drinking by health region. The PR-BRFSS data suggested that the prevalence of binge drinking seems similar among all health regions. Nevertheless, the highest prevalence was observed in the Ponce health region(18.4%).

3.5.3 Heavy drinking

The heavy drinking indicator was obtained from PR-BRFSS participants by combining two questions: 1) during the past 30 days, how many days per week or per month did you have at least one drink of any alcoholic beverage such as beer, wine, a malt beverage or liquor?; and 2) during the past 30 days, on the days when you drank, about how many drinks did you drink on the average?, were one drink is equivalent to a 12-ounce beer, a 5-ounce glass of wine, or a drink with one shot of liquor, a 40 ounce beer would count as 3 drinks, or a cocktail drink with 2 shots would count as 2 drinks. Hence, adult men having more than two drinks per day and adult women having more than one drink per day were considered heavy drinkers. As shown in Figure 71, approximately 5.3% of Puerto Rico residents 18 years or older self-reported heavy drinking.

Figure 71: Self-reported prevalence heavy drinking, Puerto Rico 2011

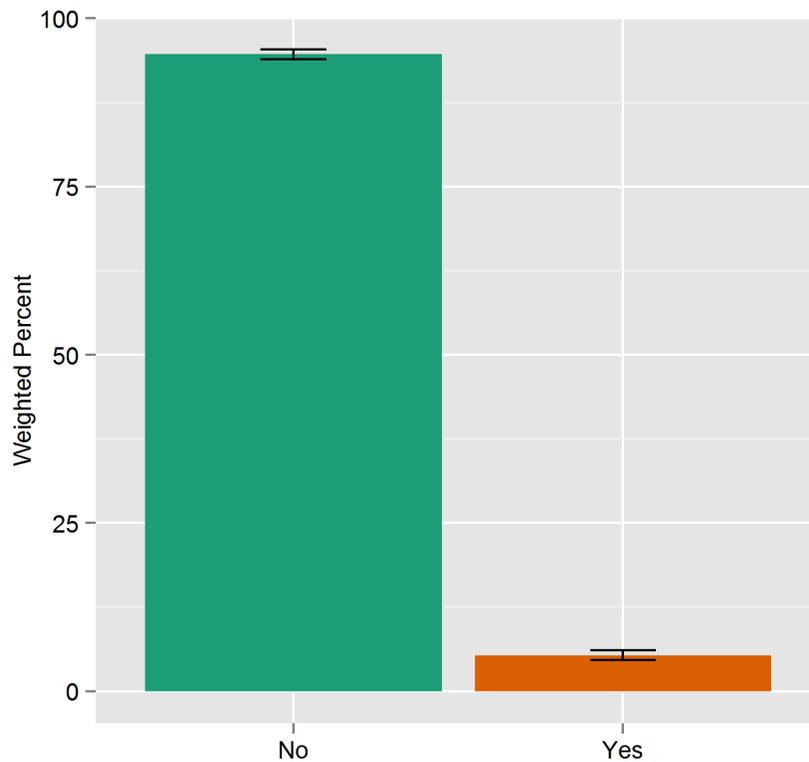
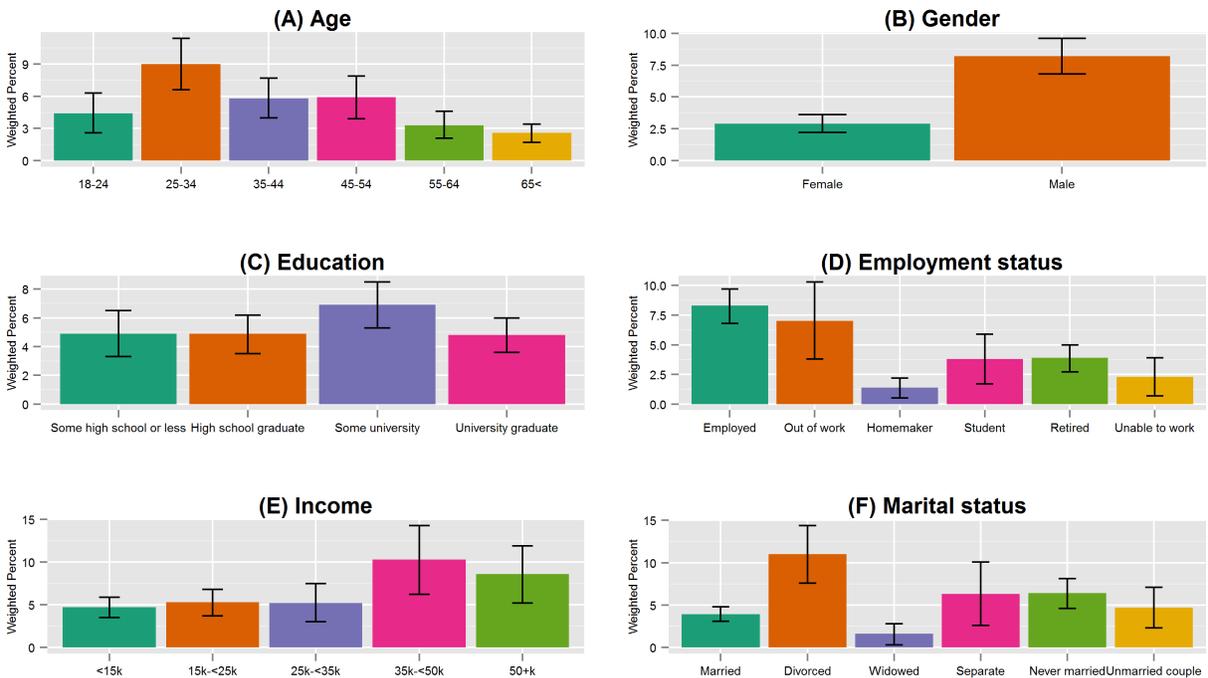


Figure 72: Self-reported prevalence of heavy drinking by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence heavy drinking among Puerto Rico residents by demographic characteristics (Figure 72 and Table 50) suggested the following information:

- the prevalence was higher among younger adults, specifically in those 25 to 34 years of age with 9.0% (panel A)
- prevalence estimates seems higher in males than in females with 8.2% and 2.9% respectively (panel B)
- the self-reported prevalence of heavy drinking seems similar across all educational levels, ranging from 4.8% in those university

graduates to 6.9% in those with some university (panel C)

- Puerto Ricans employed seems to have the highest prevalence of heavy drinking with 8.3% (panel D)
- the prevalence of heavy drinking in those with a household income of less than \$15,000 was 4.7%, and 5.3% in those with \$15,000 to less than \$25,000 (panel E)
- prevalence estimates of heavy drinking in divorced adults was 11.0%, and 6.4% in adults never married (panel F).

Caution should be taken when interpreting prevalence estimates in some sociodemographic categories due to a response frequency less than 50.

Table 50: Self-reported prevalence of heavy drinking by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	257	5.3	(4.6-6.1)	146,554
Age group				
18-24	25	4.4	(2.6-6.3)	17,457
25-34	60	9.0	(6.6-11.4)	46,732
35-44	49	5.8	(4.0-7.7)	29,968
45-54	42	5.9	(3.9-7.9)	27,431
55-64	34	3.3	(2.1-4.6)	12,979
65<	47	2.6	(1.7-3.4)	11,986
Gender				
Male	167	8.2	(6.8-9.6)	104,028
Female	90	2.9	(2.2-3.6)	42,525
Education				
Some high school or less	47	4.9	(3.3-6.5)	40,847
High school graduate	61	4.9	(3.5-6.2)	34,072
Some university	80	6.9	(5.3-8.5)	45,948
University graduate	69	4.8	(3.6-6.0)	25,686
Employment status				
Employ	146	8.3	(6.8-9.7)	92,434
Out of work	23	7.0	(3.8-10.3)	18,729
Homemaker	14	1.4	(0.5-2.2)	7,547
Student	13	3.8	(1.7-5.9)	8,656
Retired	52	3.9	(2.7-5.0)	14,029
Unable to work	9	2.3	(0.7-3.9)	5,159
Household income				
<15k	82	4.7	(3.5-5.9)	52,012
15k-<25k	60	5.3	(3.7-6.8)	34,543
25k-<35k	25	5.2	(3.0-7.5)	11,317
35k-<50k	28	10.3	(6.2-14.3)	16,924
50+k	28	8.6	(5.2-11.9)	13,070
Marital status				
Married	103	3.9	(3.1-4.8)	43,682
Divorced	49	11.0	(7.6-14.4)	33,759
Widowed	11	1.6	(0.3-2.8)	3,302
Separate	16	6.3	(2.6-10.1)	9,812
Never married	60	6.4	(4.6-8.1)	41,589
Unmarried couple	18	4.7	(2.3-7.1)	14,410

*Caution should be taken when interpreting arthritis prevalence estimates due to a responses frequency less than 50 in some demographic levels.

Figure 73: Self-reported prevalence of heavy drinking by health regions, Puerto Rico 2011

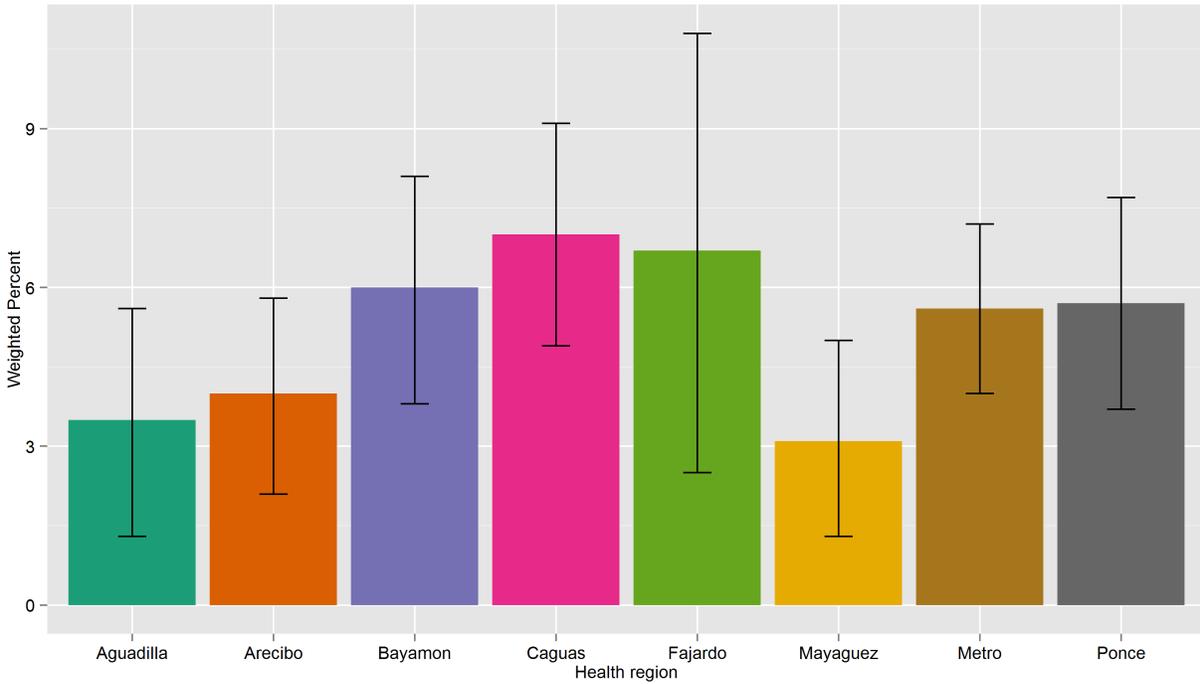


Table 51: Self-reported prevalence of heavy drinking by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	12	3.5	(1.3-5.6)	6,486
Arecibo	26	4.0	(2.1-5.8)	14,114
Bayamon	39	6.0	(3.8-8.1)	27,019
Caguas	55	7.0	(4.9-9.1)	29,586
Fajardo	13	6.7	(2.5-10.8)	6,611
Mayaguez	15	3.1	(1.3-5.0)	7,156
Metro	59	5.6	(4.0-7.2)	30,302
Ponce	38	5.7	(3.7-7.7)	25,279

Figure 73 and Table 51 shown the self-reported prevalence of heavy drinking by health region. The Puerto Rico data suggested that the prevalence of heavy drinking seems higher in the Caguas health region with 7.0%. Caution should be taken when interpreting heavy drinking prevalence estimates in some regions due to a response frequency less than 50.

3.5.4 Fruit consumption

The fruit consumption indicator was obtained from PR-BRFSS participants when asked to report consumption of the following beverages and foods during the past month as times per day, week, or month: 1) 100% PURE fruit juices; 2) fruit, including fresh, frozen, or canned fruit (not counting juice). Based on responses, the percent of adult with a consumption of less than one fruit a day was calculated [17]. As shown in Figure 74, approximately 56.4% of adults 18 years or older self-reported to consume less than one fruit a day.

Figure 74: Self-reported prevalence of adults with less than one fruit intake a day, Puerto Rico 2011

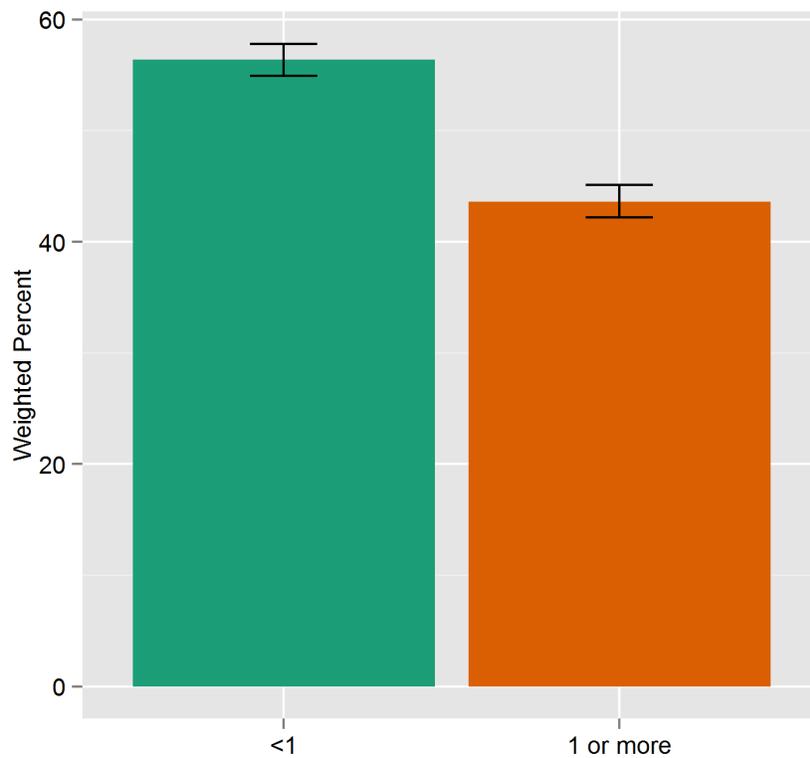
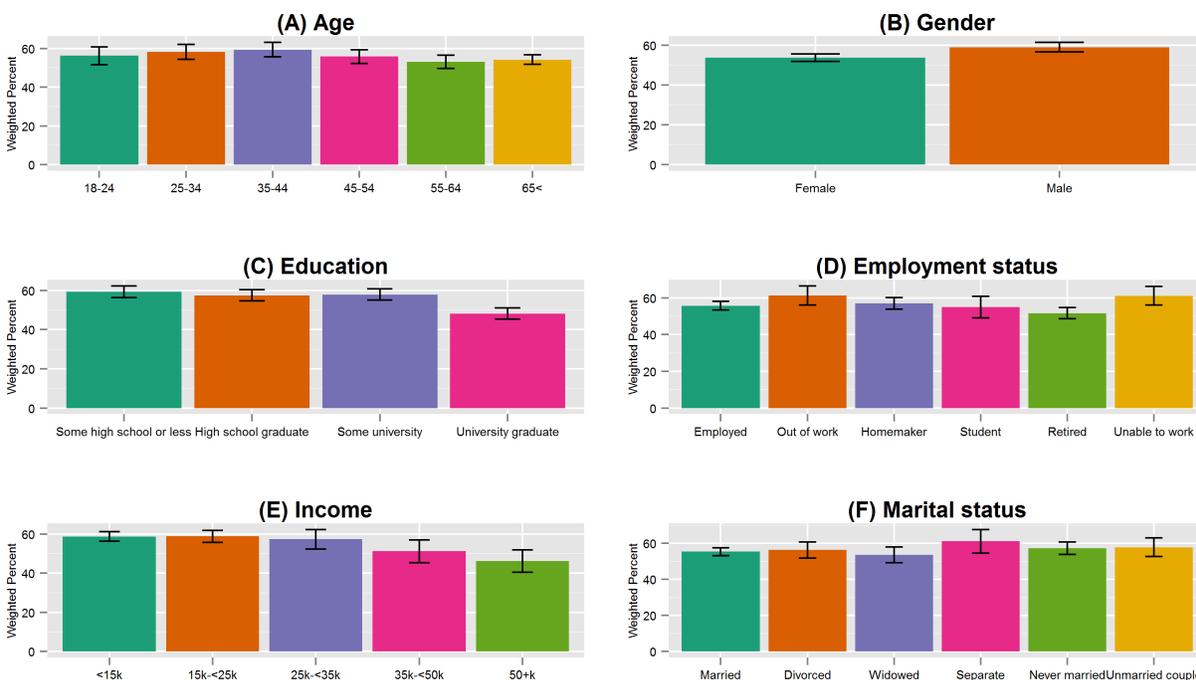


Figure 75: Self-reported prevalence of adults with less than one fruit intake a day by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of Puerto Ricans adults that consume less than one fruit a day by demographic characteristics (Figure 74 and Table 52) suggested the following:

- the prevalence was similar across age groups, ranging from 59.4% in the 35 to 44 years age group to 54.2% in the 65 years or older age group (panel A)
- the prevalence seems higher in males than in females with 59.1% and 53.9% respectively (panel B)
- higher self-reported prevalence of consum-

ing less than one fruit a day was observed in those lower education (panel C)

- Puerto Ricans out of work, and unable to work seems to consume less fruit with 61.3%, and 61.1% respectively (panel D)
- consuming less than one fruit a day seems lower household with less annual income (panel E)
- the prevalence seems similar among marital status groups, ranging from 61.2% in the separated to 53.7% in the widowed (panel F).

Table 52: Self-reported prevalence of adults with less than one fruit intake a day by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	3,494	56.4	(54.9-57.8)	1,590,582
Age group				
18-24	306	56.2	(51.6-60.7)	230,315
25-34	459	58.2	(54.4-62.1)	316,121
35-44	530	59.4	(55.7-63.1)	310,256
45-54	545	55.8	(52.3-59.4)	267,777
55-64	584	53.1	(49.7-56.5)	210,775
65<	1,070	54.2	(51.7-56.7)	255,339
Gender				
Male	1,384	59.1	(56.8-61.5)	783,471
Female	2,110	53.9	(52.0-55.8)	807,111
Education				
Some high school or less	983	59.3	(56.3-62.3)	511,523
High school graduate	965	57.5	(54.7-60.4)	418,633
Some university	808	57.9	(55.0-60.9)	394,434
University graduate	734	48.2	(45.3-51.0)	264,120
Employment status				
Employ	1,186	55.7	(53.3-58.2)	640,858
Out of work	270	61.3	(56.2-66.5)	172,845
Homemaker	800	57.0	(53.9-60.1)	315,960
Student	174	55.0	(49.0-60.9)	129,434
Retired	741	51.6	(48.6-54.7)	191,458
Unable to work	320	61.1	(56.1-66.2)	138,690
Household income				
<15k	1,567	58.8	(56.4-61.2)	670,386
15k-<25k	823	58.9	(55.8-61.9)	395,474
25k-<35k	264	57.4	(52.4-62.4)	126,665
35k-<50k	180	51.3	(45.4-57.1)	86,076
50+k	173	46.2	(40.4-52.0)	71,903
Marital status				
Married	1,570	55.4	(53.3-57.5)	627,337
Divorced	418	56.4	(51.9-60.8)	177,078
Widowed	423	53.7	(49.3-58.0)	114,730
Separate	191	61.2	(54.6-67.8)	96,744
Never married	613	57.3	(53.9-60.7)	387,858
Unmarried couple	269	57.9	(52.7-63.0)	184,135

Figure 76: Self-reported prevalence of adults with less than one fruit intake a day by health regions, Puerto Rico 2011

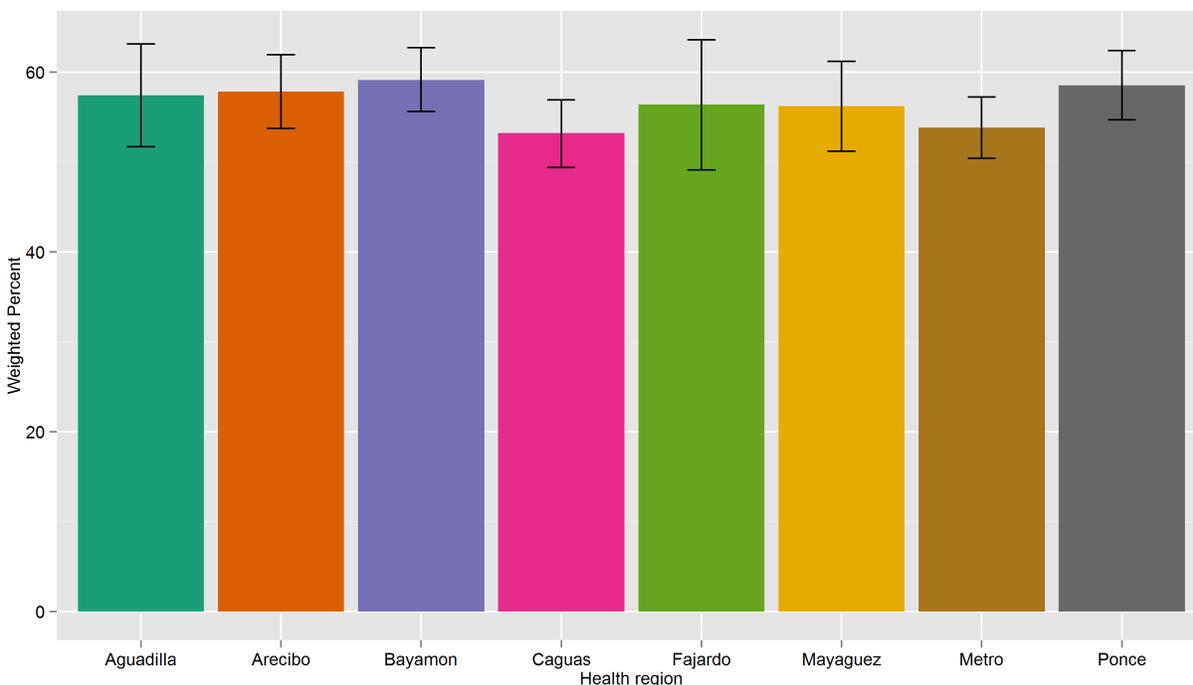


Table 53: Self-reported prevalence of adults with less than one fruit intake a day by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	244	57.4	(51.7-63.1)	108,544
Arecibo	444	57.8	(53.7-61.9)	209,236
Bayamon	616	59.1	(55.6-62.7)	279,766
Caguas	525	53.2	(49.4-56.9)	229,822
Fajardo	165	56.4	(49.1-63.6)	57,279
Mayaguez	307	56.2	(51.2-61.2)	128,643
Metro	658	53.8	(50.4-57.2)	299,683
Ponce	517	58.5	(54.7-62.4)	266,983

Figure 76 and Table 53 showed the self-reported prevalence adults with less than one fruit intake a day by health region. The Puerto Rico data suggested that the prevalences were similar among health regions, ranging from 59.1% in the Bayamón health region to 53.8% in the Metro health region.

3.5.5 Vegetable consumption

The vegetable consumption indicator was obtained from PR-BRFSS participants when asked to report consumption of the following beverages and foods during the past month as times per day, week, or month: 1) cooked or canned beans (not including long green beans); 2) dark green vegetables; 3) orange-colored vegetables; 4) other vegetables (not counting what was reported already). Based on responses, the percent of adult with a consumption of less than one vegetable a day was calculated [17]. In Puerto Rico, approximately 25.9% of the adults 18 years or older reported less than one vegetable intake a day (Figure 77).

Figure 77: Self-reported prevalence of less than one vegetable intake a day, Puerto Rico 2011

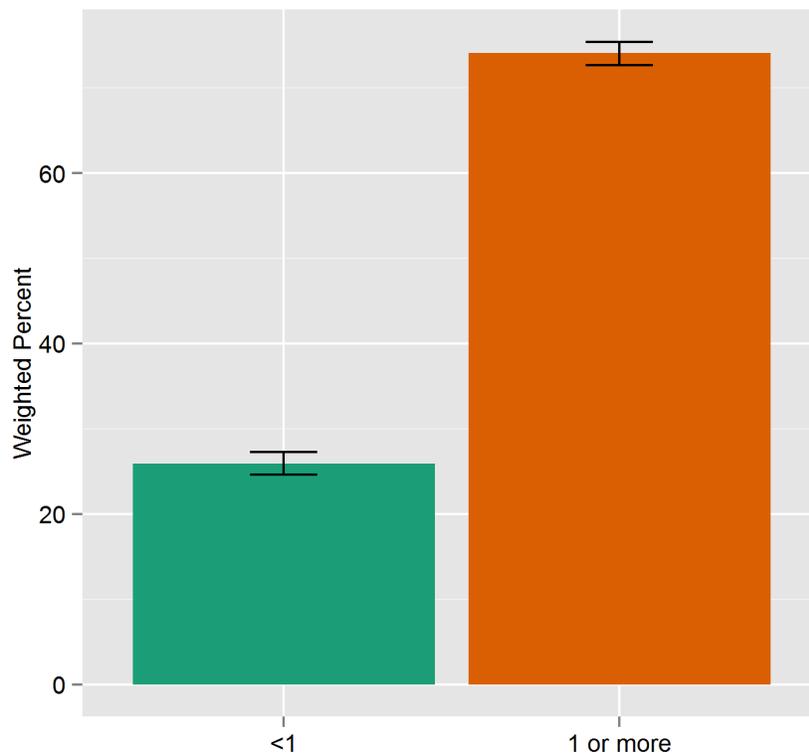
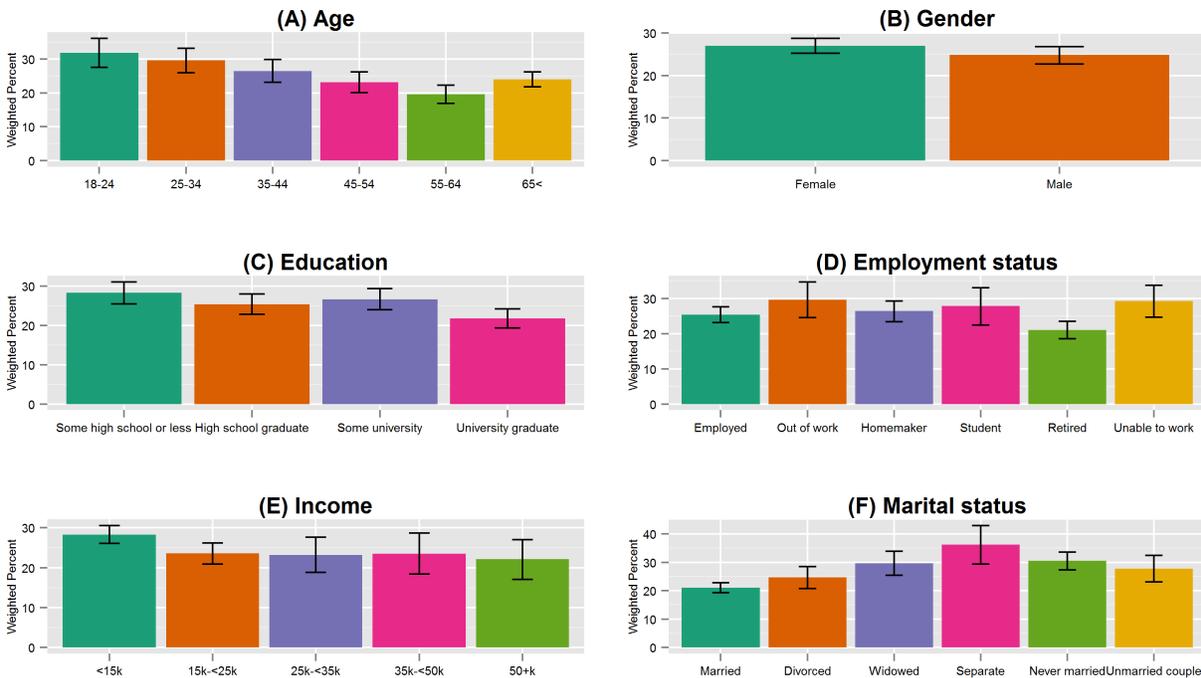


Figure 78: Self-reported prevalence of less than one vegetable intake a day by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of less than one vegetable intake a day by demographic characteristics (Figure 78 and Table 54) suggested that:

- the prevalence was similar across age groups, except for the 55 to 64 age group with 19.6% (panel A)
- the prevalence was similar between males and females with 24.8% and 27.0% respectively (panel B)
- the self-reported prevalence of consuming less than one vegetable a day seems lower in those university graduates (21.8%) and higher in those with some high school or

less (28.3%) (panel C)

- Puerto Ricans out of work, and unable to work seems to have high prevalence with 29.6%, and 29.3% respectively (panel D)
- the prevalence of consuming less than one vegetable a day seems lower in those with a household income of \$50,000 or more with 22.1% than in those with a household income lower than \$15,000 with 28.3% (panel E)
- the prevalence of adults with less than one vegetable intake a day seems higher in separated adults (36.2%) than in the married group (21.1%) (panel F).

Table 54: Self-reported prevalence of less than one vegetable intake a day by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	1,585	25.9	(24.6-27.3)	734,513
Age group				
18-24	171	31.9	(27.6-36.1)	131,872
25-34	228	29.6	(26.0-33.2)	160,964
35-44	236	26.5	(23.2-29.9)	138,892
45-54	230	23.1	(20.1-26.2)	111,103
55-64	232	19.6	(16.9-22.3)	78,132
65<	488	24.0	(21.8-26.2)	113,550
Gender				
Male	561	24.8	(22.7-26.8)	329,233
Female	1,024	27.0	(25.2-28.7)	405,280
Education				
Some high school or less	473	28.3	(25.5-31.1)	244,570
High school graduate	406	25.4	(22.9-28.0)	185,388
Some university	367	26.7	(24.0-29.4)	183,301
University graduate	336	21.8	(19.4-24.2)	119,646
Employment status				
Employ	520	25.4	(23.2-27.6)	293,165
Out of work	123	29.6	(24.6-34.7)	84,525
Homemaker	363	26.4	(23.4-29.3)	146,321
Student	89	27.8	(22.5-33.0)	65,776
Retired	318	21.0	(18.5-23.5)	77,932
Unable to work	171	29.3	(24.7-33.8)	66,284
Household income				
<15k	721	28.3	(26.1-30.6)	324,068
15k-<25k	331	23.6	(20.9-26.2)	158,632
25k-<35k	105	23.2	(18.8-27.6)	50,769
35k-<50k	82	23.5	(18.4-28.7)	39,457
50+k	80	22.1	(17.1-27.0)	34,348
Marital status				
Married	570	21.1	(19.3-22.8)	238,870
Divorced	213	24.7	(20.8-28.5)	77,534
Widowed	235	29.6	(25.4-33.9)	63,934
Separate	106	36.2	(29.4-43.0)	57,353
Never married	333	30.5	(27.3-33.6)	207,535
Unmarried couple	125	27.8	(23.1-32.5)	88,728

Figure 79: Self-reported prevalence of adults with less than one vegetable intake a day by health regions, Puerto Rico 2011

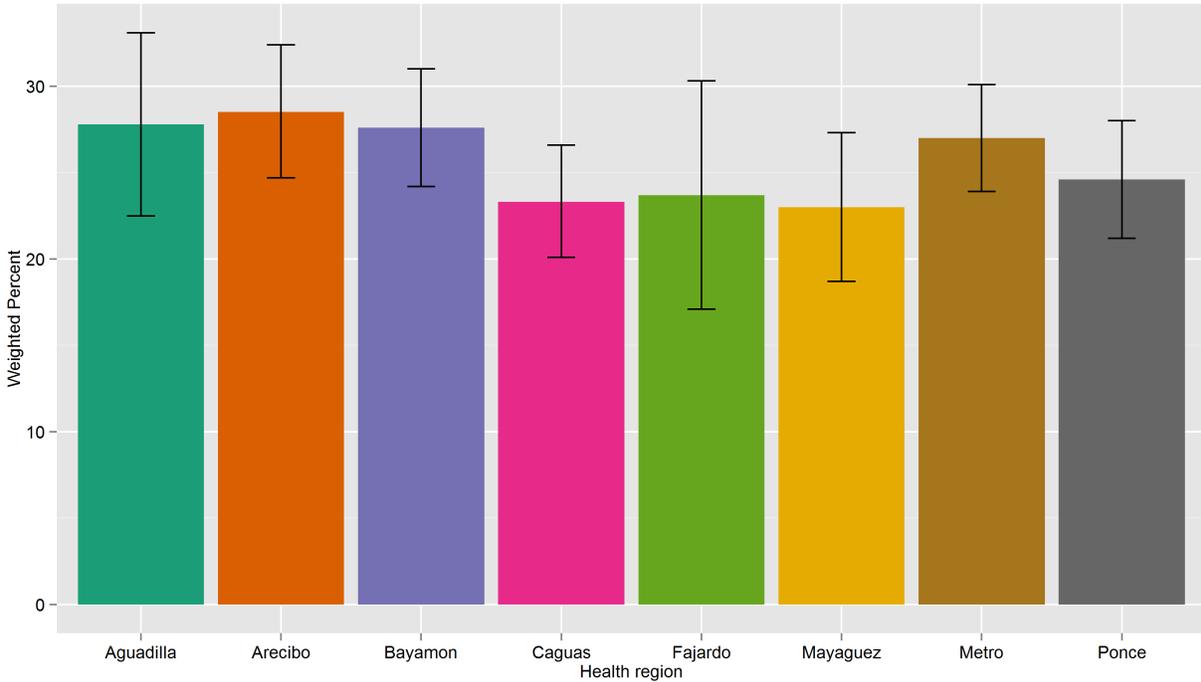


Table 55: Self-reported prevalence of adults that consume less than one vegetable a day by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	113	27.8	(22.5-33.1)	53,164
Arecibo	215	28.5	(24.7-32.4)	103,593
Bayamon	273	27.6	(24.2-31.0)	130,294
Caguas	228	23.3	(20.1-26.6)	101,263
Fajardo	71	23.7	(17.1-30.3)	24,328
Mayaguez	121	23.0	(18.7-27.3)	52,649
Metro	331	27.0	(23.9-30.1)	151,364
Ponce	225	24.6	(21.2-28.0)	112,894

Figure 79 and Table 55 showed the self-reported prevalence adults that consume less than one vegetable a day by health region. The Puerto Rico data suggested that the prevalences rates were similar among health regions, ranging from 23.0% in the Mayagüez health region to 28.5% in the Arcibo health region.

3.5.6 Weight classification by Body Mass Index

Weight classification of participants was done using the Body Mass Index (BMI). The BMI was calculated using responses from two questions: 1) about how much do you weight without shoes?; and 2) about how tall are you without shoes? The formula used was $BMI = \text{kilograms}/(\text{meters}^2)$.

BMI categories were defined in accordance with the *Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults* [18] as follows:

Classification	BMI
Underweight	Less than 18.5
Normal weight	18.5 to 24.99
Overweight	Greater than or equal to 25.00
Obese	Greater than or equal to 30.00

Figure 80: Self-reported weight classification prevalence, Puerto Rico 2011

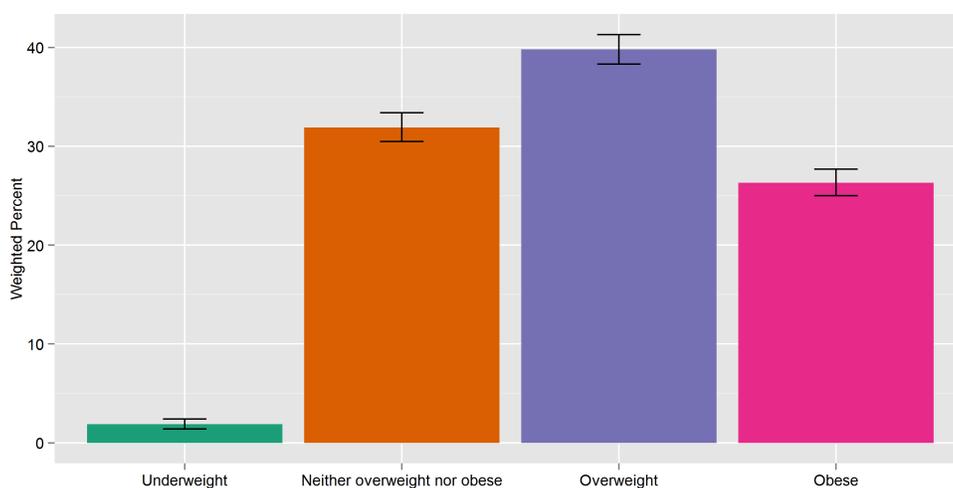
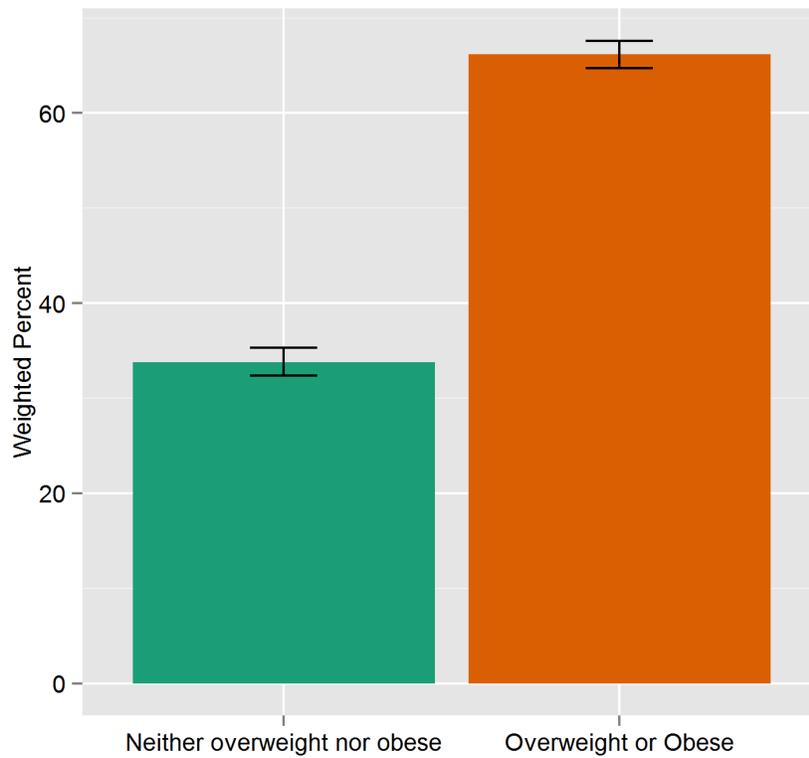


Table 56: Self-reported weight classification prevalence in adults 18 years or older, Puerto Rico 2011

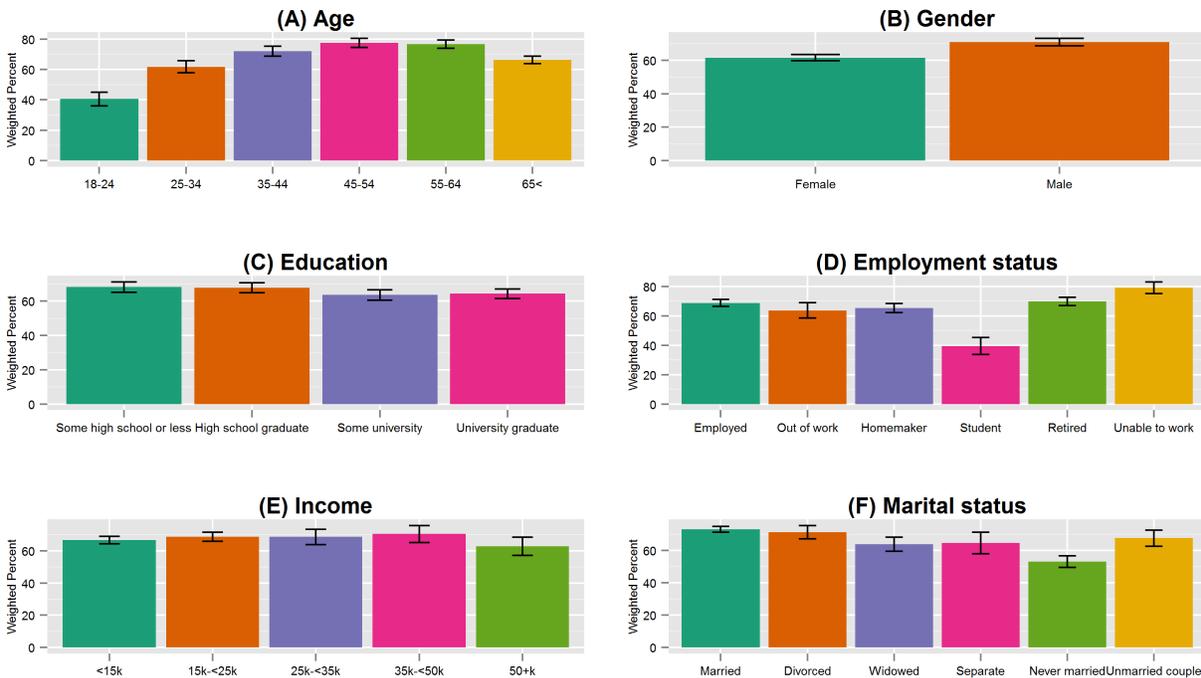
BMI categories	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Underweight	106	1.9	(1.4-2.4)	52,771
Neither overweight nor obese	2,007	31.9	(30.5-33.4)	874,045
Overweight	2,607	39.8	(38.3-41.3)	1,090,469
Obese	1,624	26.3	(25.0-27.7)	720,893

Figure 81: Self-reported prevalence of adults overweight or obese, Puerto Rico 2011



As shown in Figure 80 and Table 56, for 2011 and estimated 39.8% of the adults 18 years or older non-pregnant were overweight and 26.3% were obese based on the BMI. Another, 1.9% were underweight and 31.7% were neither overweight or obese. In addition, for 2011 approximately 66.2% of the adults 18 years were overweight or obese (Figure 82 and Table 57).

Figure 82: Self-reported prevalence of overweight or obese adults by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of overweight or obese adults by demographic characteristics (Figure 82, Table 57) suggested the following:

- the prevalence seems higher in adults with 35 to 44 years of age (72.0%), 45 to 54 years of age (77.4%), and 55 to 64 years of age (76.6%), whereas more than half of the adults 25 to 34 years of age already were overweight or obese (panel A)
- the prevalence seems higher in males than in females with 71.0% and 61.7% respectively (panel B)
- the self-reported prevalence of overweight or obese adults seems similar regardless of

the highest educational completed ranging from 63.6% in those with some years of university to 68.8% in those with some high school or less (panel C)

- adults unable to work seems to have a higher prevalence of overweight or obese with 79.2% (panel D)
- the prevalence seems similar by household income ranging from 62.9% in the \$50,000 or more group to 70.5% in the \$35,000 to less than \$50,000 groups (panel E)
- the prevalence seems higher in married (73.1%), and divorced (71.2%) adults (panel F).

Table 57: Self-reported prevalence of overweight or obese adults by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	4,231	66.2	(64.7-67.6)	1,811,362
Age group				
18-24	214	40.5	(35.9-45.0)	159,083
25-34	476	61.7	(57.9-65.6)	326,131
35-44	612	72.0	(68.6-75.4)	366,080
45-54	754	77.4	(74.5-80.4)	362,755
55-64	855	76.6	(73.8-79.5)	299,014
65<	1,320	66.3	(63.9-68.8)	298,299
Gender				
Male	1,723	71.0	(68.8-73.2)	930,022
Female	2,508	61.7	(59.8-63.6)	881,340
Education				
Some high school or less	1,052	68.2	(65.2-71.2)	555,318
High school graduate	1,171	67.8	(65.0-70.6)	480,373
Some university	946	63.6	(60.6-66.5)	428,229
University graduate	1,061	64.4	(61.6-67.1)	347,174
Employment status				
Employ	1,478	68.8	(66.5-71.1)	781,755
Out of work	301	63.7	(58.4-69.0)	174,050
Homemaker	877	65.3	(62.1-68.4)	331,846
Student	127	39.4	(33.6-45.3)	89,899
Retired	1,048	69.8	(67.0-72.6)	254,763
Unable to work	395	79.2	(75.3-83.1)	177,154
Household income				
<15k	1,760	66.7	(64.3-69.0)	732,069
15k-<25k	1,015	68.7	(65.8-71.7)	456,131
25k-<35k	351	68.7	(63.8-73.5)	149,690
35k-<50k	263	70.5	(65.1-75.8)	116,395
50+k	249	62.9	(57.1-68.6)	96,935
Marital status				
Married	2,069	73.1	(71.2-74.9)	809,640
Divorced	544	71.2	(67.1-75.4)	216,828
Widowed	499	63.8	(59.4-68.2)	127,670
Separate	209	64.6	(58.0-71.2)	100,097
Never married	598	53.0	(49.5-56.5)	352,424
Unmarried couple	301	67.6	(62.6-72.6)	201,055

Figure 83: Self-reported prevalence of overweight or obese adults by health regions, Puerto Rico 2011

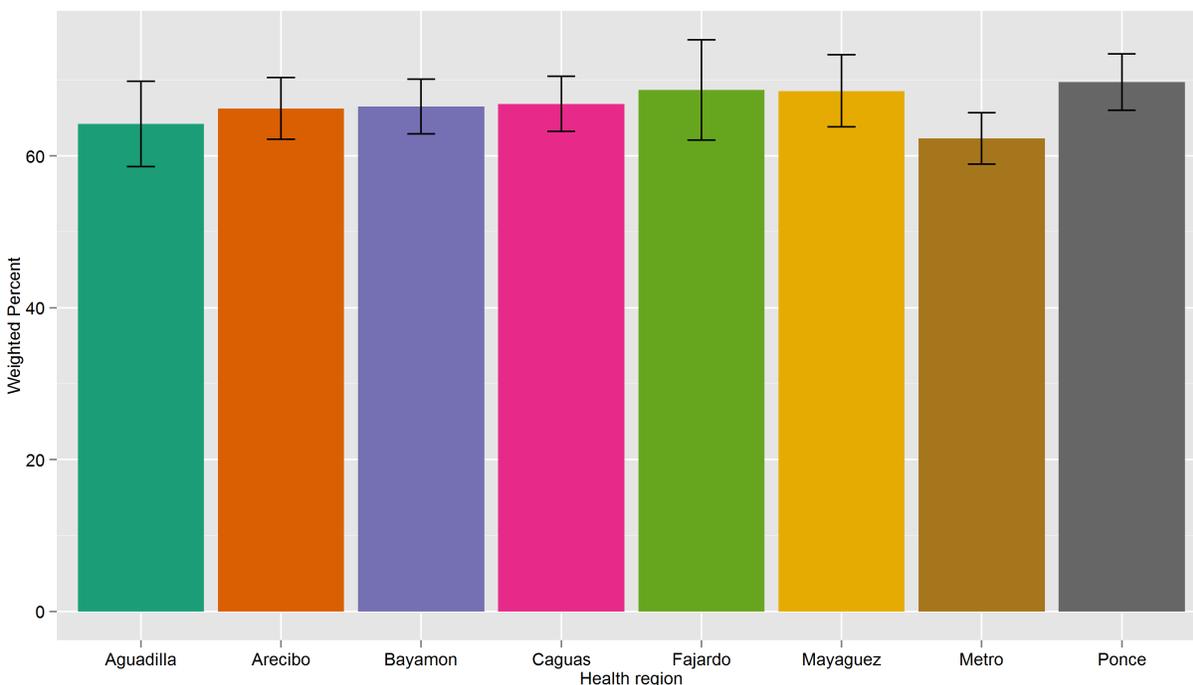


Table 58: Self-reported prevalence of overweight or obese adults by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	279	64.2	(58.6-69.8)	118,829
Arecibo	523	66.2	(62.2-70.3)	235,321
Bayamon	723	66.5	(62.9-70.1)	304,997
Caguas	692	66.8	(63.2-70.5)	280,393
Fajardo	197	68.7	(62.1-75.3)	69,060
Mayaguez	385	68.5	(63.8-73.3)	151,252
Metro	810	62.3	(58.9-65.7)	337,774
Ponce	608	69.7	(66.0-73.4)	305,317

Figure 83 and Table 58 showed the self-reported prevalence of adults overweight or obese by health region. The Puerto Rico data suggested that the prevalence rates were similar among health regions, except for the Metro health region (62.3%), which seems lower than other health regions.

3.6 Physical activity

3.6.1 Physical activity or exercise

The physical activity or exercise indicator was obtained from PR-BRFSS participants when asked: during the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise? For 2011, Figure 84 showed that approximately 52.7% of the adults 18 years or older in Puerto Rico reported participating in any physical activity or exercise other than their regular job in a 30 day period.

Figure 84: Self-reported prevalence of adults that report doing physical activity or exercise during the past 30 days other than their regular job, Puerto Rico 2011

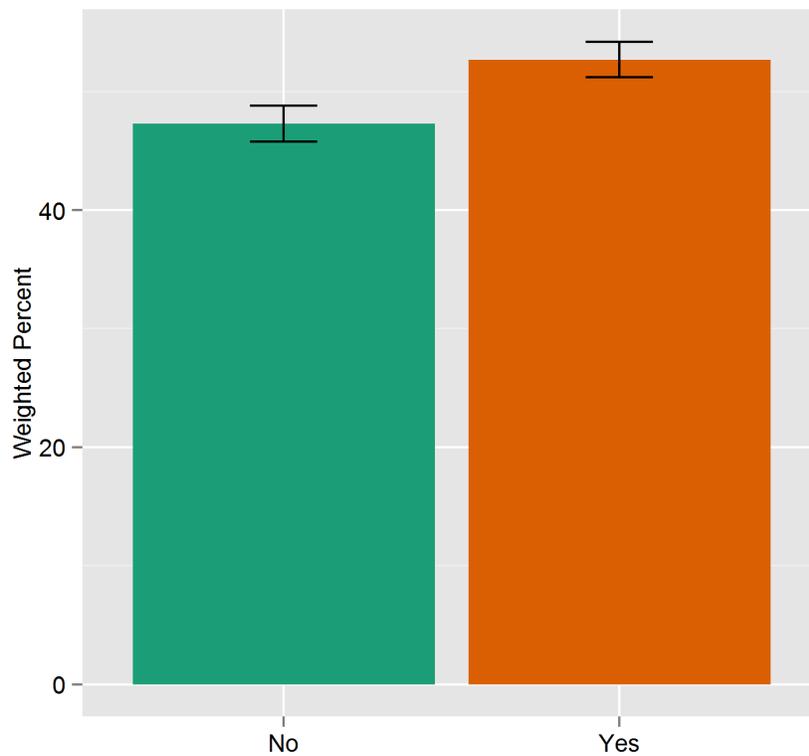
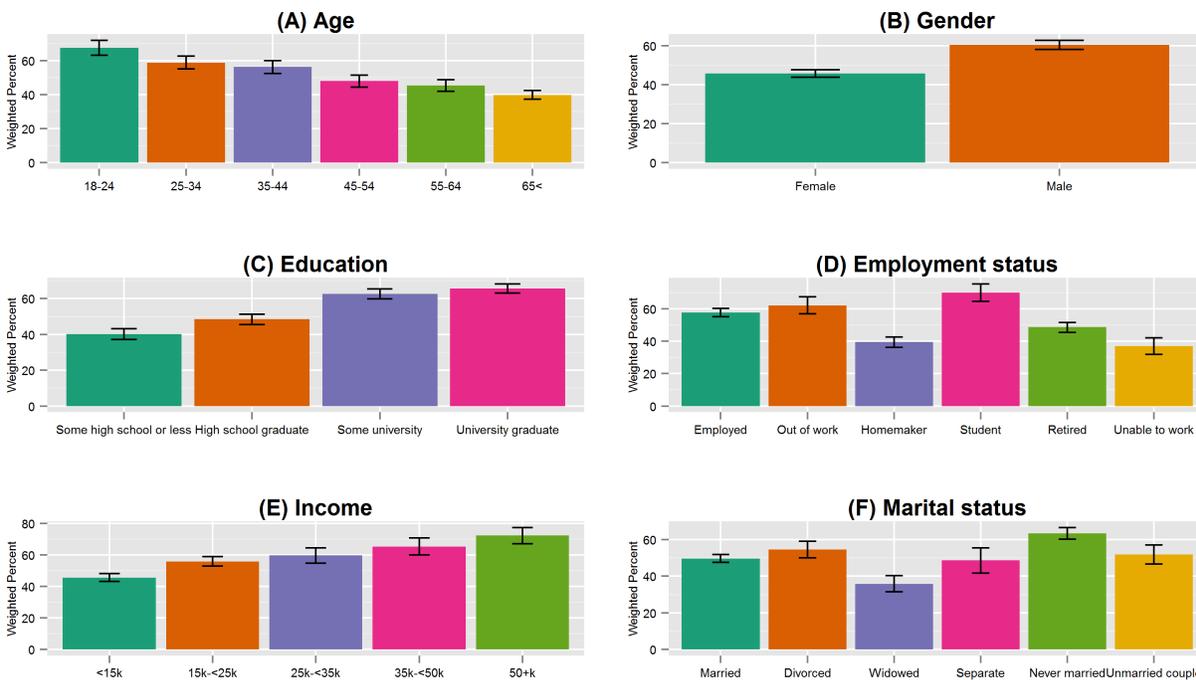


Figure 85: Self-reported prevalence of adults that report doing physical activity or exercise during the past 30 days other than their regular job by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence Puerto Rico residents that participated in any physical activity or exercise other than their regular job in a 30 day period by demographic characteristics (Figure 85 and Table 59) suggested that:

- the prevalence decrease as age increase with 67.5% in those 18 to 24 years to 39.8% in those 65 years or older (panel A)
- the prevalence was higher in males than in females with 60.4% and 45.8% respectively (panel B)
- the self-reported prevalence of participating in any physical activity seems lower in those with some high school or less (40.2%)

and higher in university graduates (65.6%) (panel C)

- those students, out of work, and employed seems to have higher prevalence estimates with 69.9%, 62.1% and 57.9% respectively (panel D)
- the prevalence of participating in any physical activity seems lower in those with a household income lower than \$15,000 with 45.6% than in those with a household income of \$50,000 or more with 72.4% (panel E)
- the prevalence seems higher among never married adults (63.3%) (panel F).

Table 59: Self-reported prevalence of adults that report doing physical activity or exercise during the past 30 days other than their regular job by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	3,231	52.7	(51.2-54.2)	1,488,625
Age group				
18-24	360	67.5	(63.2-71.8)	277,818
25-34	467	58.8	(55.0-62.7)	319,237
35-44	515	56.2	(52.4-59.9)	293,314
45-54	486	48.0	(44.4-51.5)	229,684
55-64	548	45.4	(42.0-48.8)	181,020
65<	855	39.8	(37.3-42.3)	187,553
Gender				
Male	1,421	60.4	(58.1-62.8)	802,532
Female	1,810	45.8	(43.9-47.7)	686,093
Education				
Some high school or less	610	40.2	(37.1-43.2)	347,178
High school graduate	754	48.4	(45.5-51.3)	350,684
Some university	841	62.7	(59.8-65.5)	430,369
University graduate	1,023	65.6	(63.0-68.2)	358,790
Employment status				
Employ	1,249	57.6	(55.2-60.1)	663,234
Out of work	282	62.1	(57.0-67.3)	176,418
Homemaker	545	39.5	(36.3-42.6)	218,792
Student	212	69.9	(64.5-75.3)	164,966
Retired	747	48.6	(45.5-51.6)	179,713
Unable to work	192	37.0	(31.9-42.1)	84,141
Household income				
<15k	1,137	45.6	(43.2-48.1)	520,904
15k-<25k	805	55.8	(52.8-58.9)	374,729
25k-<35k	282	59.7	(54.8-64.6)	130,240
35k-<50k	243	65.4	(59.9-70.8)	109,742
50+k	274	72.4	(67.2-77.5)	112,448
Marital status				
Married	1,444	49.6	(47.5-51.7)	562,520
Divorced	404	54.5	(50.0-59.0)	170,167
Widowed	312	35.8	(31.5-40.2)	77,075
Separate	161	48.6	(41.7-55.4)	76,367
Never married	654	63.3	(60.1-66.6)	430,601
Unmarried couple	241	51.9	(46.7-57.0)	165,607

Figure 86: Self-reported prevalence of adults that report doing physical activity or exercise during the past 30 days other than their regular job by health regions, Puerto Rico 2011

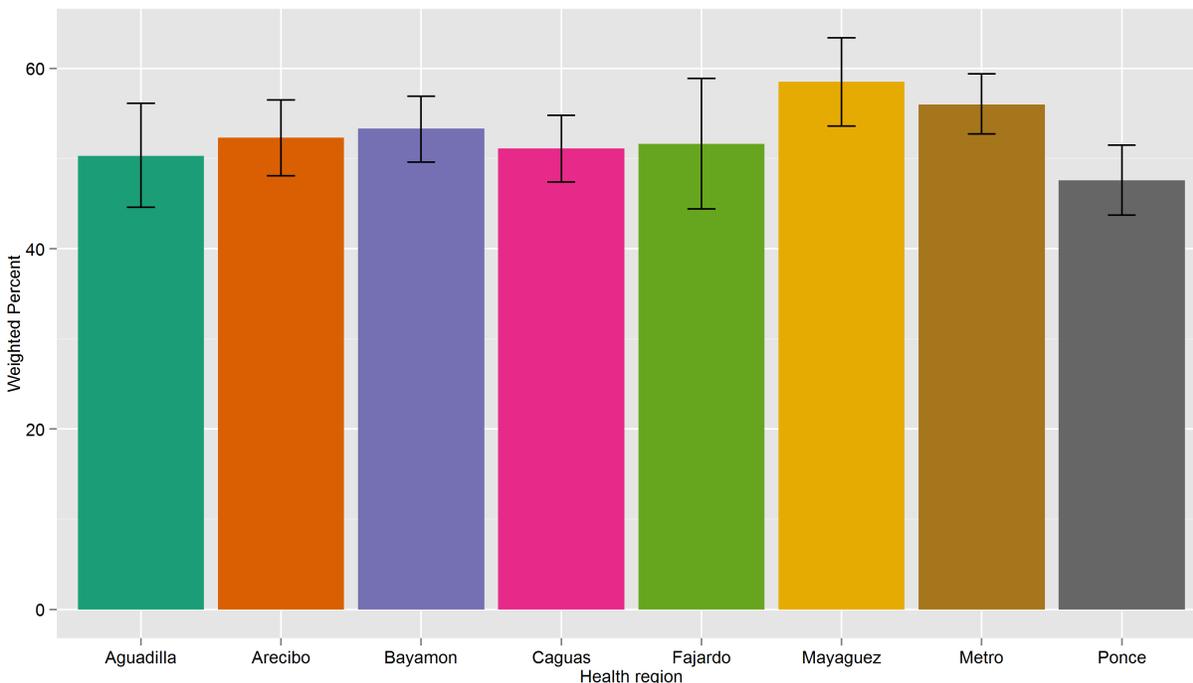


Table 60: Self-reported prevalence of adults that report doing physical activity or exercise during the past 30 days other than their regular job by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	206	50.3	(44.6-56.1)	95,903
Arecibo	382	52.3	(48.1-56.5)	189,360
Bayamon	534	53.3	(49.6-56.9)	250,746
Caguas	482	51.1	(47.4-54.8)	221,380
Fajardo	157	51.6	(44.4-58.9)	52,948
Mayaguez	315	58.5	(53.6-63.4)	133,831
Metro	708	56.0	(52.7-59.4)	313,278
Ponce	424	47.6	(43.7-51.5)	217,812

Figure 86 and Table 60 showed the self-reported prevalence adults that participated in any physical activity or exercise other than their regular job in a 30 day period by health region. The PR-BRFSS data suggested that the prevalence rates were similar among health regions, except for the health regions of Mayagüez (58.5%) and Metro (56.0%) which seems higher than other health regions.

3.6.2 Aerobic recommendations

The indicator of adults that met the *2008 Physical Activity Guidelines for Americans* aerobic recommendations was obtained from PR-BRFSS participants that responded "Yes" to participate in any physical activities or exercises other than their regular job. These participants were asked: "what other type of physical activity gave you the next most exercise during the past month?"; "how many times per week or per month did you take part in this activity during the past month?"; and "when you took part in this activity, for how many minutes or hours did you usually keep at it?". Responses were combined through a complex formula described in the manual "A Data Users Guide to the BRFSS Physical Activity Questions" [19]. Moreover, respondents were considered to meet the aerobic recommendations when engaging in at least 150 minutes per week of moderate-intensity aerobic physical activity or 75 minutes of vigorous-intensity aerobic physical activity per week, or an equivalent combination of moderate- and vigorous-intensity aerobic physical activity [19,20]. For 2011, Figure 87 showed that approximately 33.8% of the adults 18 years or older in Puerto Rico met the aerobic recommendations.

Figure 87: Self-reported prevalence of adults that met the aerobic recommendations, Puerto Rico 2011

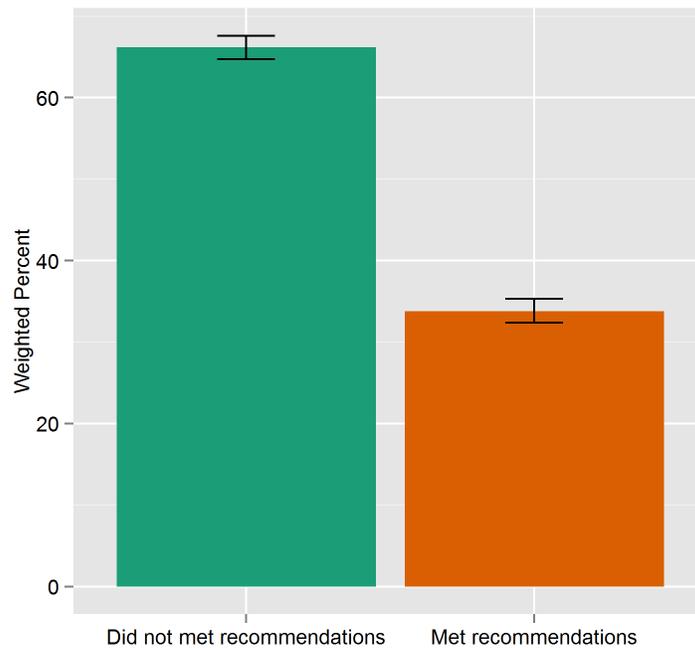
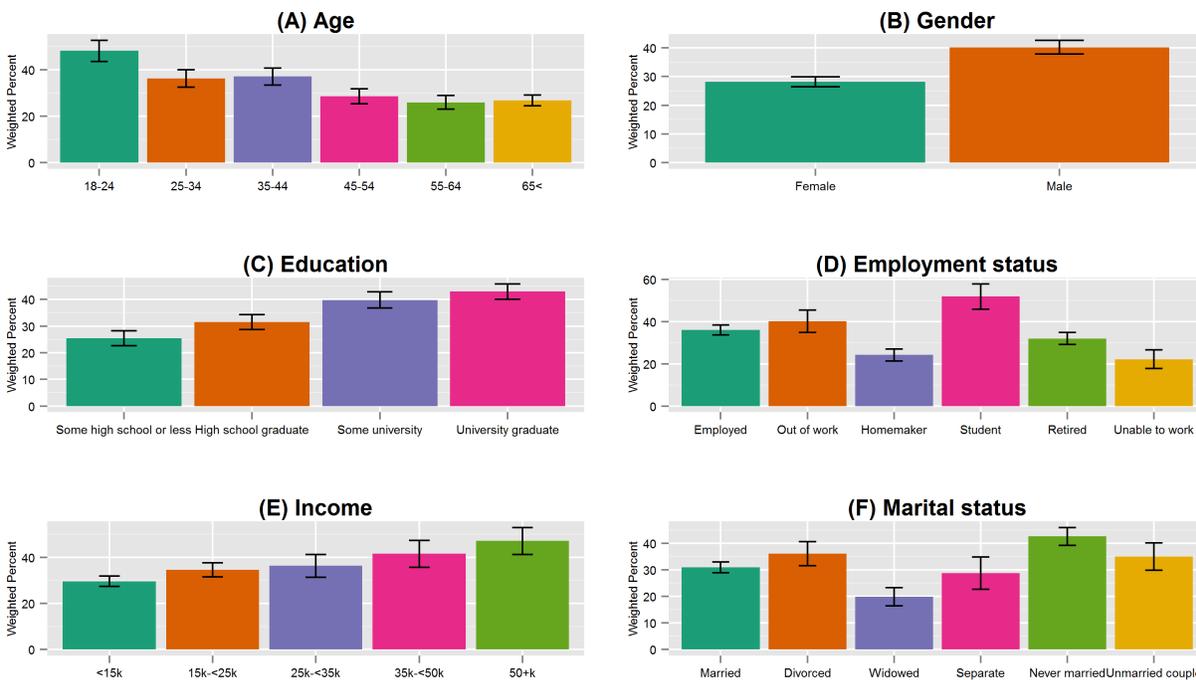


Figure 88: Self-reported prevalence of adults that met the aerobic recommendations by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence adults that met the aerobic recommendations by demographic characteristics (Figure 88 and Table 61) suggested the following:

- the prevalence decrease as age increase with 48.2% in those 18 to 24 years to 26.8% in those 65 years or older (panel A)
- the prevalence was higher in males than in females with 40.2% and 28.2% respectively (panel B)
- the self-reported prevalence of adults that met the aerobic recommendations increase from 25.4% in those with some high school

or less to 43.0% in university graduates (panel C)

- Puerto Rican students, out of work, and employed seems to meet more often the aerobic recommendations with 51.9%, 40.1% and 36.1% respectively (panel D)
- the prevalence of adults that met the aerobic recommendations seems lower in those with a household income lower than \$15,000 (29.6%) than in those with a household income of \$50,000 or more (47.2%) (panel E)
- the prevalence seems higher in adults never married (42.6%) (panel F).

Table 61: Self-reported prevalence of adults that met the aerobic recommendations by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	2,022	33.8	(32.4-35.3)	940,072
Age group				
18-24	256	48.2	(43.6-52.7)	194,496
25-34	283	36.3	(32.6-40.1)	195,549
35-44	321	37.1	(33.4-40.8)	188,620
45-54	290	28.6	(25.3-31.8)	135,119
55-64	312	26.0	(23.1-29.0)	101,639
65<	560	26.8	(24.5-29.1)	124,650
Gender				
Male	938	40.2	(37.9-42.6)	522,835
Female	1,084	28.2	(26.5-29.9)	417,237
Education				
Some high school or less	376	25.4	(22.6-28.2)	216,620
High school graduate	468	31.5	(28.7-34.3)	225,066
Some university	526	39.8	(36.8-42.9)	268,465
University graduate	651	43.0	(40.1-45.8)	229,449
Employment status				
Employ	759	36.1	(33.7-38.5)	407,713
Out of work	179	40.1	(34.8-45.5)	112,474
Homemaker	320	24.3	(21.4-27.1)	133,810
Student	158	51.9	(45.9-57.9)	120,676
Retired	485	31.9	(29.1-34.8)	114,997
Unable to work	120	22.2	(17.8-26.6)	49,586
Household income				
<15k	713	29.6	(27.3-31.9)	332,525
15k-<25k	500	34.6	(31.6-37.6)	228,699
25k-<35k	175	36.3	(31.3-41.3)	77,388
35k-<50k	151	41.6	(35.7-47.4)	69,261
50+k	174	47.2	(41.3-53.0)	72,400
Marital status				
Married	894	30.9	(28.9-32.9)	345,442
Divorced	259	36.1	(31.6-40.6)	110,960
Widowed	187	19.9	(16.4-23.3)	41,815
Separate	93	28.7	(22.6-34.9)	44,420
Never married	431	42.6	(39.2-46.0)	284,494
Unmarried couple	153	35.0	(29.9-40.1)	110,004

Figure 89: Self-reported prevalence of adults that met the aerobic recommendations by health regions, Puerto Rico 2011

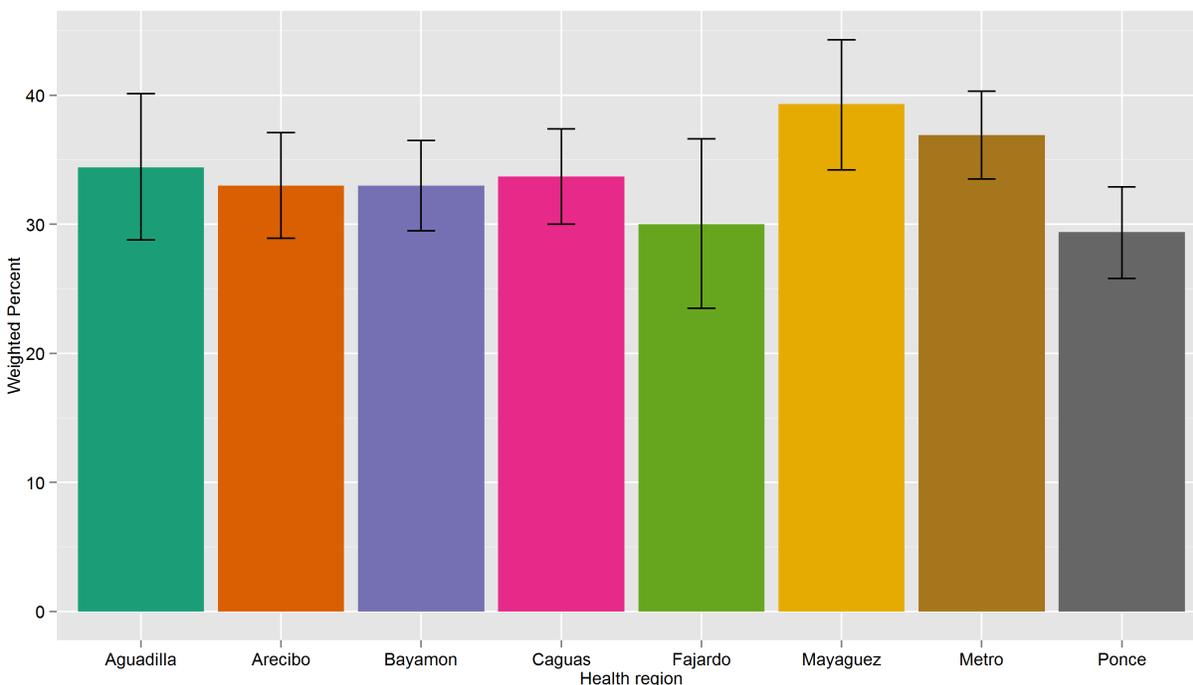


Table 62: Self-reported prevalence of adults that met the aerobic recommendations by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	130	34.4	(28.8-40.1)	65,154
Arecibo	240	33.0	(28.9-37.1)	117,270
Bayamon	327	33.0	(29.5-36.5)	151,782
Caguas	310	33.7	(30.0-37.4)	142,707
Fajardo	94	30.0	(23.5-36.6)	30,555
Mayaguez	203	39.3	(34.2-44.3)	89,271
Metro	447	36.9	(33.5-40.3)	203,029
Ponce	260	29.4	(25.8-32.9)	133,471

Figure 89 and Table 62 showed the self-reported prevalence adults that met the aerobic recommendations by health region. The Puerto Rico data suggested that the prevalence rates were similar among health regions, except for the health regions of Mayagüez (39.3%) and Metro (36.9%) which seems higher than the Ponce health region (29.4%).

3.6.3 Muscle strengthening recommendation

The indicator of adults that met the *2008 Physical Activity Guidelines for Americans* strengthening recommendations was obtained from PR-BRFSS participants that responded "Yes" to participate in any physical activities or exercises other than their regular job. These participants then were asked: "During the past month, how many times per week or per month did you do physical activities or exercises to strengthen your muscles? Do not count aerobic activities like walking, running, or bicycling. Count activities using your own body weight like yoga, sit-ups or push-ups and those using weight machines, free weights, or elastic bands." Responses were combined in accordance with the manual "A Data Users Guide to the BRFSS Physical Activity Questions" [19, 20] where adults were considered to meet the muscle recommendations when reported participating in muscle-strengthening physical activity at least two times per week. During 2011, approximately 12.1% of the adults met the muscle strengthening recommendations (Figure 90).

Figure 90: Self-reported prevalence of adults that met the muscle strengthening recommendations, Puerto Rico 2011

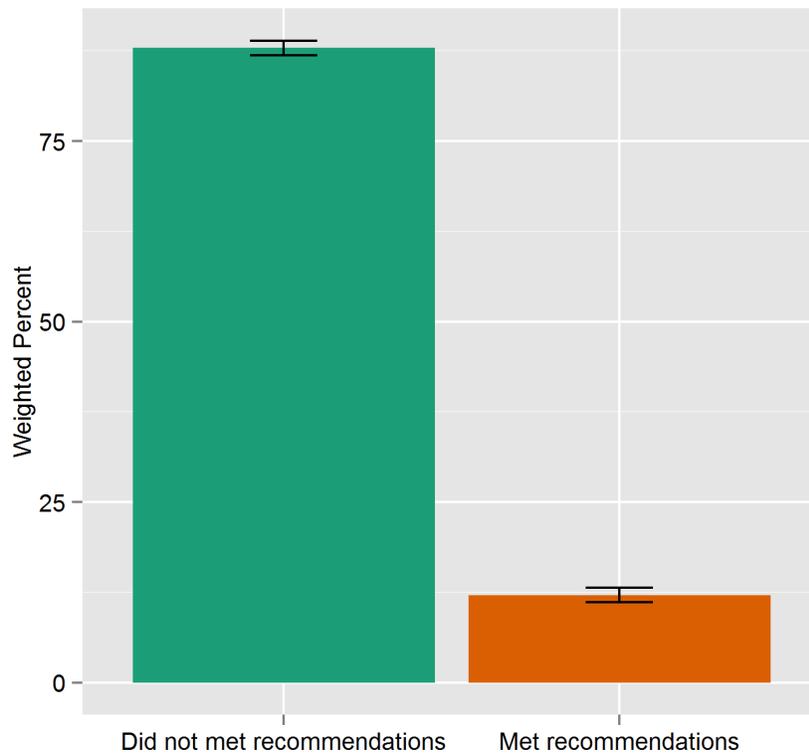
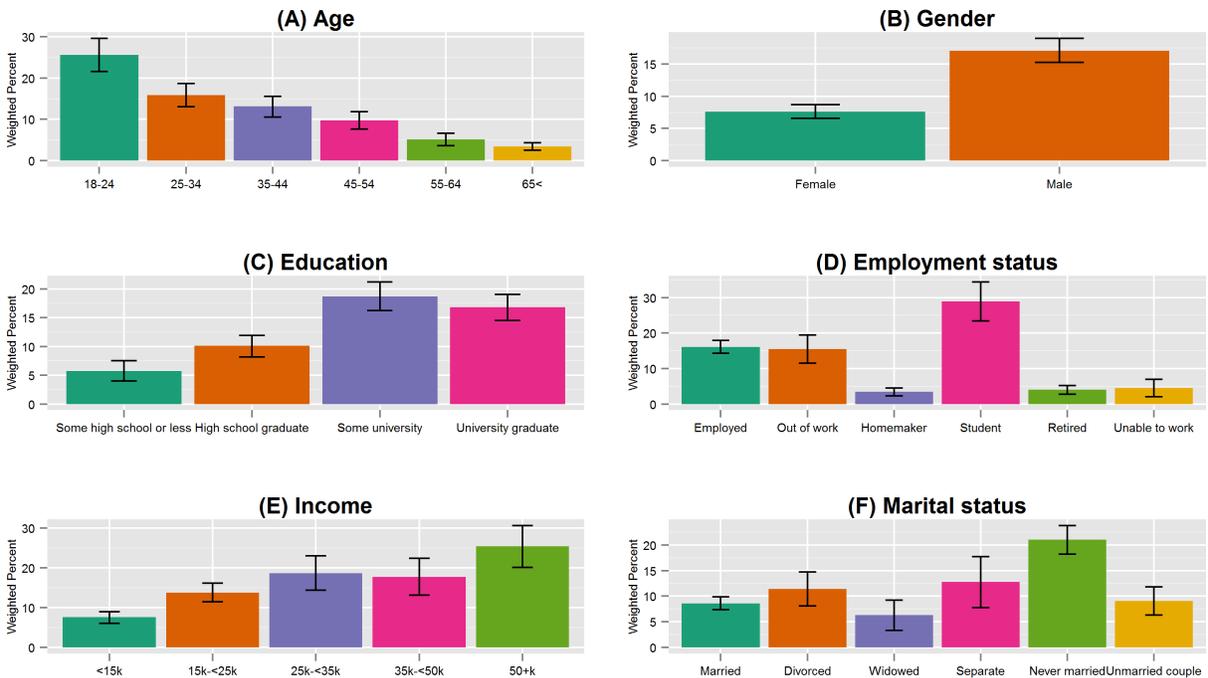


Figure 91: Self-reported prevalence of adults that met the muscle strengthening recommendations by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence Puerto Rican adults that met muscle strengthening recommendations by demographic characteristics (Figure 91 and Table 63) suggested that:

- the prevalence decrease as age increase from 25.6% in adults 18 to 24 years old to 3.4% in those 65 years or older (panel A)
- the prevalence was higher in males than in females with 17.1% and 7.6% respectively (panel B)
- the self-reported prevalence of adults that met the muscle strengthening recommendations seems to increase as the highest educa-

tion completed increase with 5.7% in those with some high school or less to 16.8% in university graduates (panel C)

- those students, out or work, and employed seems to met more often the aerobic recommendations with 28.9%, 15.5% and 16.1% respectively (panel D)
- the prevalence seems lower in those with a household income lower than \$15,000 (7.6%) than in those with a household income of \$50,000 or more (25.4%) (panel E)
- the prevalence seems higher adults never married (21.0%) (panel F).

Table 63: Self-reported prevalence of adults that met the muscle strengthening recommendations by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	612	12.1	(11.1-13.1)	341,443
Age group				
18-24	132	25.6	(21.6-29.6)	104,839
25-34	124	15.9	(13.0-18.7)	86,039
35-44	117	13.1	(10.5-15.6)	67,989
45-54	95	9.7	(7.6-11.8)	46,454
55-64	59	5.1	(3.6-6.6)	20,170
65<	85	3.4	(2.5-4.3)	15,952
Gender				
Male	351	17.1	(15.3-19.0)	227,063
Female	261	7.6	(6.6-8.7)	114,380
Education				
Some high school or less	49	5.7	(4.0-7.5)	49,432
High school graduate	123	10.1	(8.2-11.9)	72,716
Some university	205	18.7	(16.2-21.2)	127,875
University graduate	235	16.8	(14.5-19.0)	91,420
Employment status				
Employ	322	16.1	(14.3-17.9)	184,835
Out of work	66	15.5	(11.5-19.5)	43,886
Homemaker	52	3.4	(2.3-4.5)	18,764
Student	83	28.9	(23.4-34.4)	68,036
Retired	71	4.0	(2.8-5.2)	14,814
Unable to work	17	4.5	(2.1-7.0)	10,291
Household income				
<15k	145	7.6	(6.1-9.0)	86,127
15k-<25k	161	13.8	(11.5-16.2)	92,815
25k-<35k	69	18.7	(14.4-23.0)	40,842
35k-<50k	58	17.7	(13.1-22.4)	29,672
50+k	85	25.4	(20.1-30.7)	39,210
Marital status				
Married	225	8.6	(7.4-9.9)	97,582
Divorced	68	11.4	(8.1-14.7)	35,527
Widowed	32	6.3	(3.3-9.2)	13,487
Separate	33	12.8	(7.8-17.7)	20,011
Never married	202	21.0	(18.2-23.8)	142,590
Unmarried couple	47	9.1	(6.3-11.8)	28,923

Figure 92: Self-reported prevalence of adults that met the muscle strengthening recommendations by health regions, Puerto Rico 2011

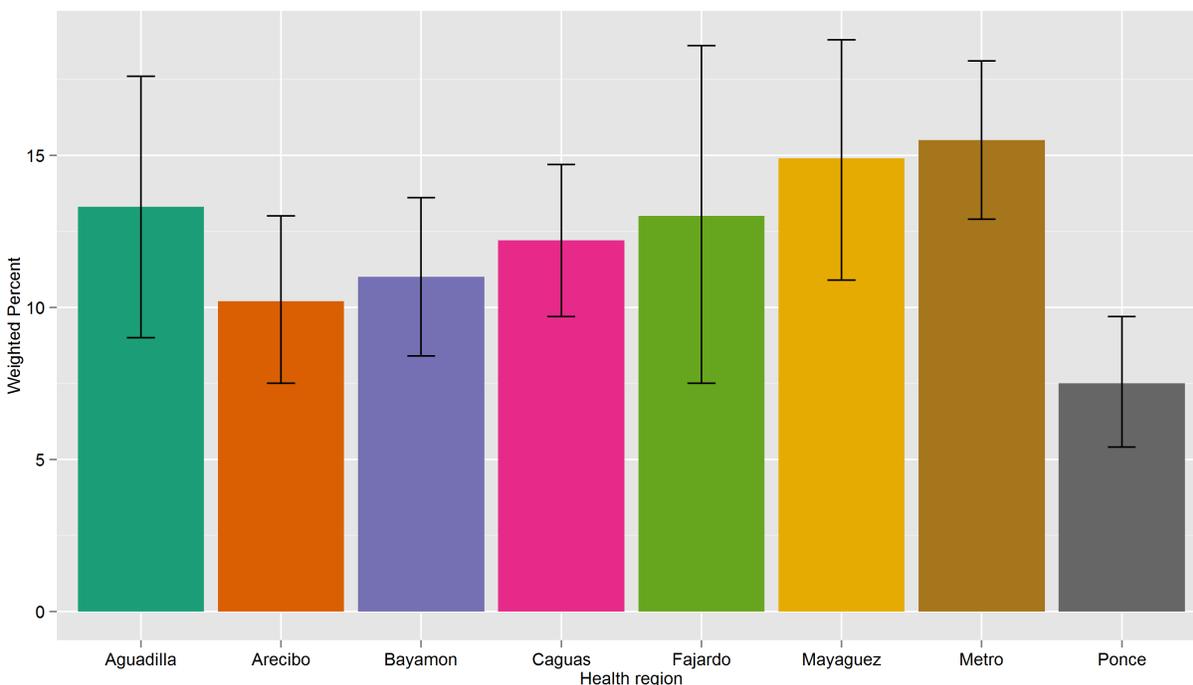


Table 64: Self-reported prevalence of adults that met the muscle strengthening recommendations by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	40	13.3	(9.0-17.6)	25,353
Arecibo	61	10.2	(7.5-13.0)	37,061
Bayamon	89	11.0	(8.4-13.6)	51,791
Caguas	108	12.2	(9.7-14.7)	52,581
Fajardo	29	13.0	(7.5-18.6)	13,204
Mayaguez	56	14.9	(10.9-18.8)	34,030
Metro	162	15.5	(12.9-18.1)	86,528
Ponce	56	7.5	(5.4-9.7)	34,494

Figure 92 and Table 64 showed the self-reported prevalence of adults that met the muscle strengthening recommendations by health region. The Puerto Rico data suggested that the prevalence rates were similar among health regions, except for Ponce, the health region with the lowest prevalence (7.5%).

3.6.4 Aerobic and muscle strengthening recommendations

To meet both the aerobic and muscle-strengthening recommendations, respondents had to report engaging in at least 150 minutes per week of moderate-intensity aerobic physical activity or 75 minutes of vigorous-intensity aerobic physical activity per week, or an equivalent combination of moderate- and vigorous-intensity aerobic physical activity, and participating in muscle-strengthening physical activity at least two times per week [19,20]. For 2011, Figure 93 showed that approximately 8.3% of the adults 18 years or older in Puerto Rico met both the aerobic and muscle strengthening recommendations.

Figure 93: Self-reported prevalence of adults that met both aerobic and muscle strengthening recommendations, Puerto Rico 2011

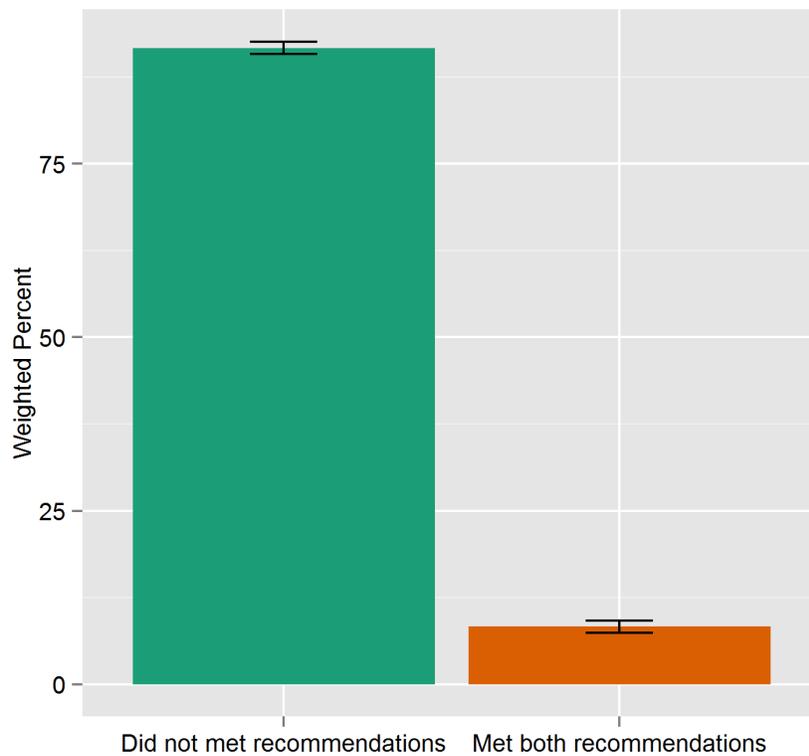
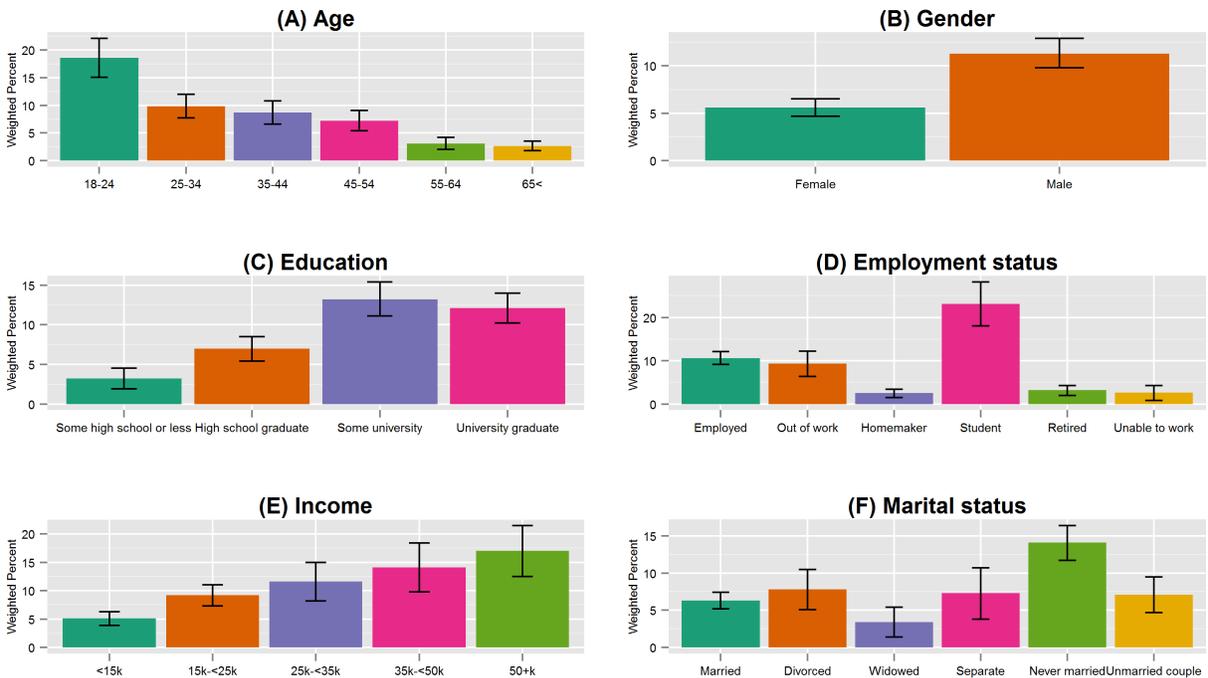


Figure 94: Self-reported prevalence of adults that met both aerobic and muscle strengthening recommendations by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of adults that met both the aerobic and muscle strengthening by demographic characteristics (Figure 94 and Table 65) suggested the following information:

- the prevalence of decreases as age increases from 18.6% in adults 18 to 24 years to 2.6% in those 65 years or more (panel A)
- the prevalence was higher in males than in females with 11.3% and 5.6% respectively (panel B)
- the self-reported prevalence of adults that met both the aerobic and muscle strengthening recommendations increase as the

highest education completed increase with 3.2% in those with some high school or less to 12.1% in university graduates (panel C)

- Puerto Rico residents students, out of work, and employed met more often both aerobic and muscle strengthening recommendations with 23.1%, 9.3% and 10.6% respectively (panel D)
- the prevalence seems lower in those with a household income lower than \$15,000 (5.1%) than in those with a household income of \$50,000 or more (17.0%) (panel E)
- the prevalence seems higher in adults never married(14.1%) (panel F).

Table 65: Self-reported prevalence of adults that met both aerobic and muscle strengthening recommendations by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	434	8.3	(7.4-9.2)	236,838
Age group				
18-24	100	18.6	(15.1-22.1)	77,375
25-34	82	9.8	(7.7-12.0)	53,941
35-44	79	8.7	(6.6-10.8)	45,726
45-54	72	7.2	(5.4-9.1)	34,771
55-64	41	3.1	(2.0-4.2)	12,527
65<	60	2.6	(1.8-3.5)	12,498
Gender				
Male	242	11.3	(9.8-12.9)	151,636
Female	192	5.6	(4.7-6.5)	85,202
Education				
Some high school or less	30	3.2	(1.9-4.5)	27,849
High school graduate	86	7.0	(5.4-8.5)	51,091
Some university	145	13.2	(11.1-15.4)	91,234
University graduate	173	12.1	(10.2-14.0)	66,663
Employment status				
Employ	222	10.6	(9.1-12.1)	122,753
Out of work	45	9.3	(6.4-12.2)	26,727
Homemaker	37	2.5	(1.5-3.4)	13,898
Student	67	23.1	(18.0-28.2)	54,871
Retired	50	3.2	(2.0-4.3)	11,804
Unable to work	12	2.6	(0.8-4.3)	5,969
Household income				
<15k	96	5.1	(3.9-6.3)	58,861
15k-<25k	116	9.2	(7.3-11.0)	62,127
25k-<35k	49	11.6	(8.2-15.0)	25,626
35k-<50k	45	14.1	(9.8-18.4)	23,655
50+k	60	17.0	(12.5-21.5)	26,434
Marital status				
Married	165	6.3	(5.2-7.4)	71,989
Divorced	49	7.8	(5.1-10.5)	24,728
Widowed	20	3.4	(1.4-5.4)	7,346
Separate	20	7.3	(3.8-10.7)	11,537
Never married	139	14.1	(11.7-16.4)	96,383
Unmarried couple	38	7.1	(4.7-9.5)	22,568

Figure 95: Self-reported prevalence of adults that met both aerobic and muscle strengthening recommendations by health regions, Puerto Rico 2011

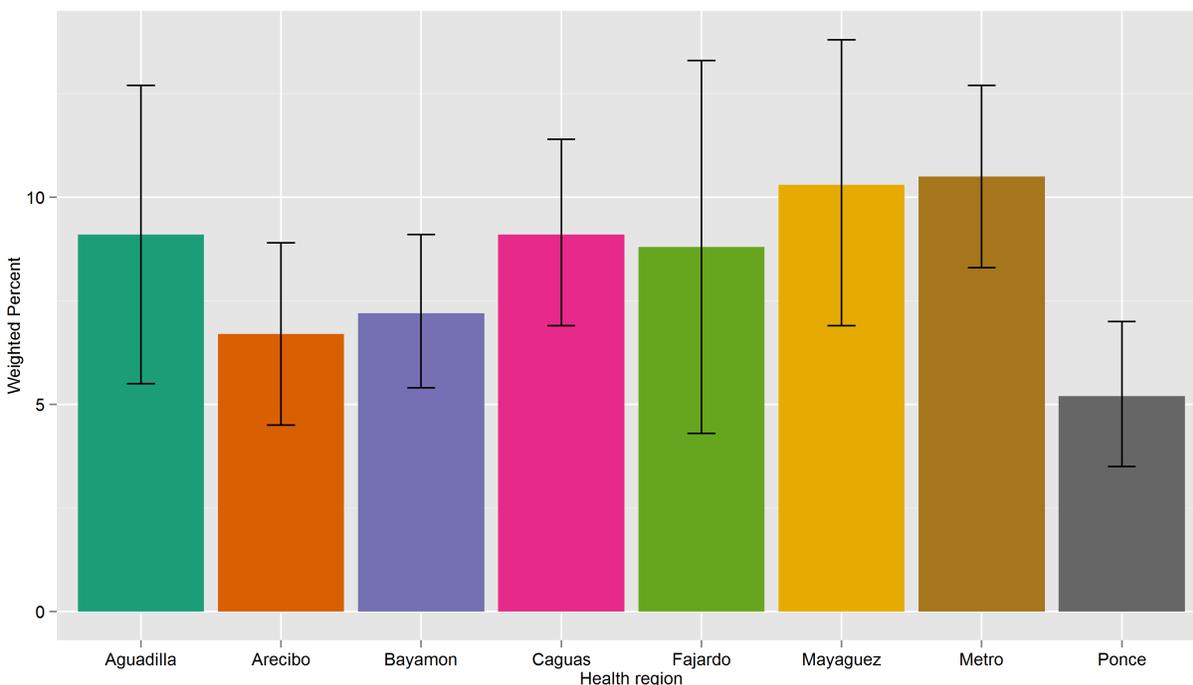


Table 66: Self-reported prevalence of adults that met both aerobic and muscle strengthening recommendations by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	27	9.1	(5.5-12.7)	17,523
Arcibo	42	6.7	(4.5-8.9)	24,560
Bayamon	68	7.2	(5.4-9.1)	34,489
Caguas	81	9.1	(6.9-11.4)	39,687
Fajardo	19	8.8	(4.3-13.3)	9,076
Mayaguez	38	10.3	(6.9-13.8)	23,764
Metro	110	10.5	(8.3-12.7)	59,114
Ponce	42	5.2	(3.5-7.0)	24,116

Figure 95 and Table 66 showed the self-reported prevalence of adults that met both the aerobic and muscle strengthening recommendations by health region. The Puerto Rico data suggested that the prevalence rates were similar among health regions, with the higher prevalence in the Metro health region (10.5%).

3.7 Prevention practices

3.7.1 Seasonal influenza immunization

The seasonal influenza immunization indicator was obtained from PR-BRFSS participants when asked: during the past 12 months, have you had either a seasonal flu shot or a seasonal flu vaccine that was sprayed in your nose? As shown in Figure 96, approximately 18.4% of the adults in Puerto Rico reported having a seasonal flu shot in the past 12 month.

Figure 96: Self-reported prevalence of adults that had seasonal flu shot, Puerto Rico 2011

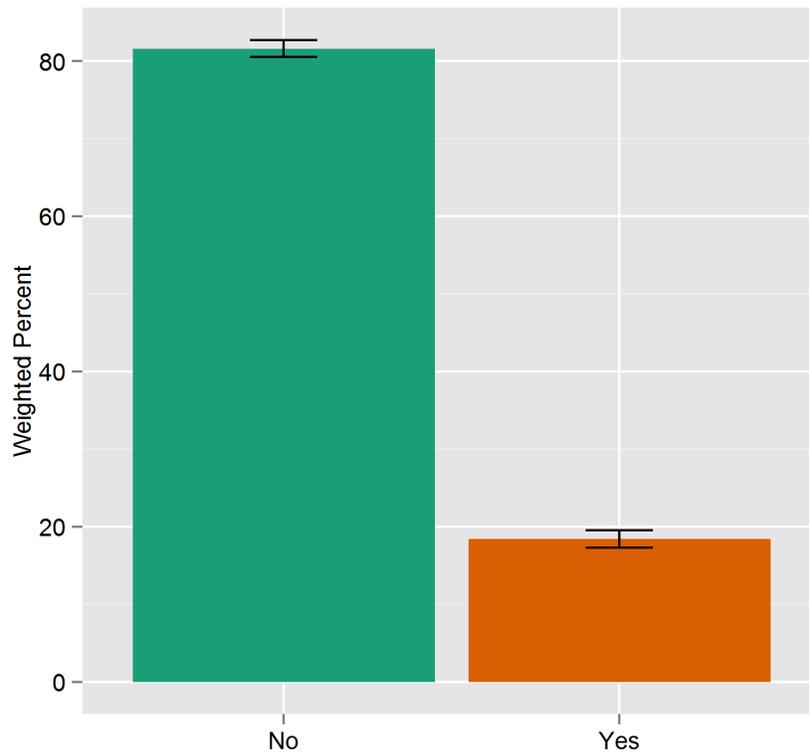
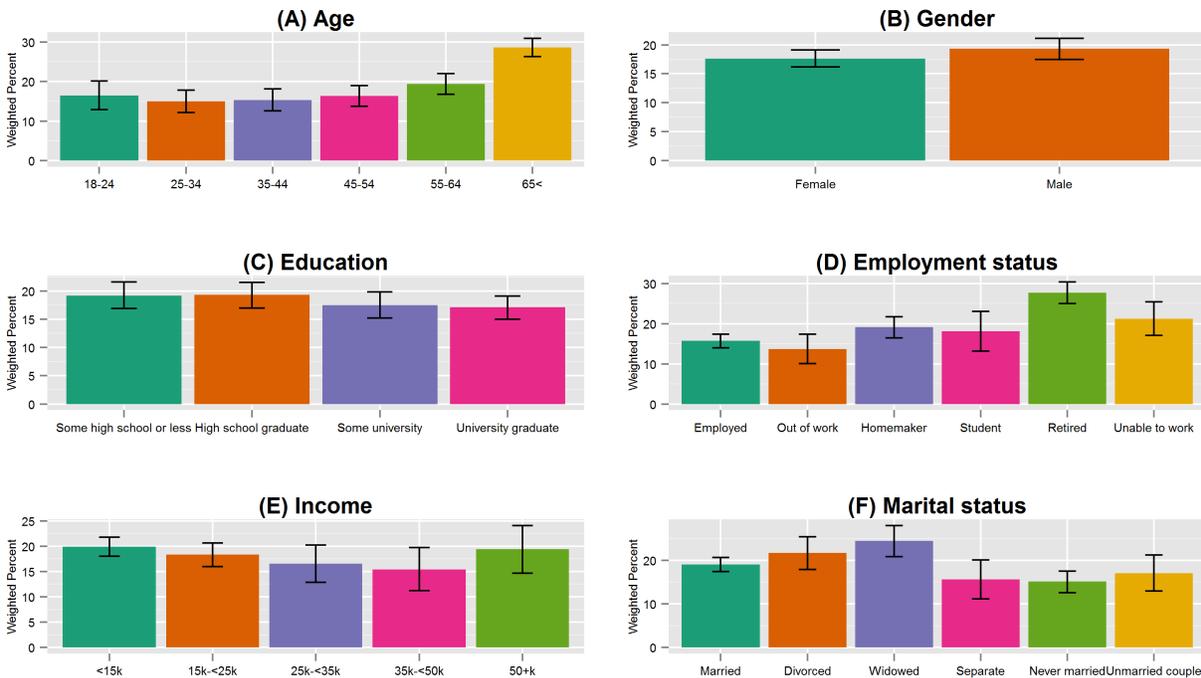


Figure 97: Self-reported prevalence of adults that had seasonal flu shot by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of Puerto Rico residents that reported having a seasonal flu shot in the past 12 month by demographic characteristics (Figure 97, Table 67) suggested that:

- the prevalence was similar across age groups, except for adults 65 years or older, with the highest prevalence (28.6%) (panel A)
- the prevalence seems similar between males and females with 19.3% and 17.6% respectively (panel B)
- the self-reported prevalence of having a seasonal flu shot in the past 12 month were similar by education, ranging from 17.1% in

university graduates to 19.3% in high school graduates (panel C)

- adults unable to work, and retired reported more often having a seasonal flu shot in the past 12 month with 21.2%, and 27.7% respectively (panel D)
- the self-reported prevalence was similar between the different household income groups, ranging from 15.4% in the \$35,000 and less than \$50,000 group, to 19.9% in the less than \$15,000 group (panel E)
- the prevalence seems lower among those that report never been married (15.1%), and unmarried couple (17.0%) (panel F).

Table 67: Self-reported prevalence of adults that had seasonal flu shot by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	1,344	18.4	(17.3-19.5)	514,435
Age group				
18-24	79	16.5	(12.9-20.1)	66,494
25-34	121	15.0	(12.2-17.8)	81,350
35-44	138	15.3	(12.6-18.1)	79,077
45-54	170	16.3	(13.7-19.0)	77,654
55-64	240	19.4	(16.8-22.0)	76,675
65<	596	28.6	(26.3-30.9)	133,185
Gender				
Male	557	19.3	(17.5-21.1)	252,164
Female	787	17.6	(16.2-19.1)	262,271
Education				
Some high school or less	373	19.2	(16.9-21.6)	164,489
High school graduate	374	19.3	(17.0-21.5)	137,888
Some university	281	17.5	(15.2-19.8)	118,605
University graduate	314	17.1	(15.0-19.1)	92,890
Employment status				
Employ	376	15.7	(14.0-17.4)	179,441
Out of work	66	13.7	(10.1-17.4)	38,302
Homemaker	293	19.1	(16.5-21.7)	105,477
Student	51	18.1	(13.2-23.1)	41,790
Retired	430	27.7	(25.0-30.4)	101,410
Unable to work	126	21.2	(17.1-25.4)	47,427
Household income				
<15k	613	19.9	(18.0-21.8)	224,228
15k-<25k	316	18.3	(16.0-20.6)	121,844
25k-<35k	88	16.5	(12.9-20.2)	35,789
35k-<50k	63	15.4	(11.2-19.7)	25,841
50+k	78	19.4	(14.7-24.1)	29,874
Marital status				
Married	615	19.0	(17.4-20.6)	214,138
Divorced	177	21.7	(17.9-25.4)	66,669
Widowed	233	24.4	(20.8-28.0)	51,817
Separate	63	15.6	(11.1-20.1)	24,348
Never married	174	15.1	(12.6-17.5)	100,893
Unmarried couple	75	17.0	(12.9-21.2)	54,036

Figure 98: Self-reported prevalence of adults that had seasonal flu shot by health regions, Puerto Rico 2011

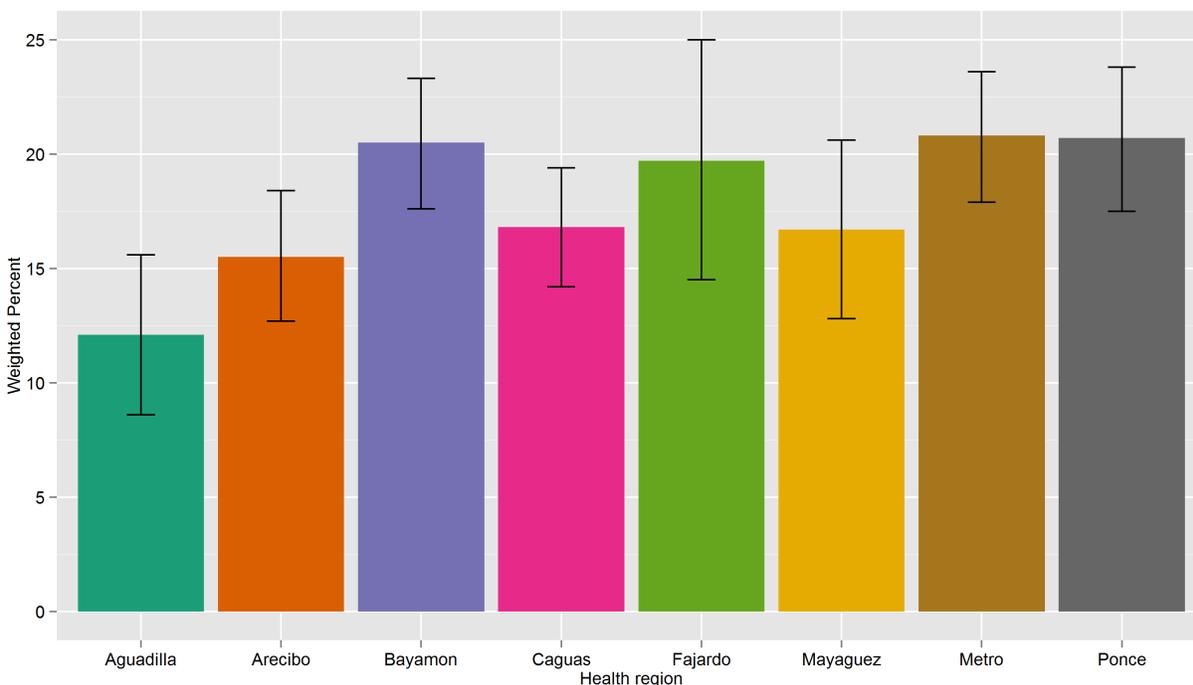


Table 68: Self-reported prevalence of adults that had seasonal flu shot by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	62	12.1	(8.6-15.6)	22,791
Arecibo	147	15.5	(12.7-18.4)	55,593
Bayamon	251	20.5	(17.6-23.3)	95,096
Caguas	218	16.8	(14.2-19.4)	72,092
Fajardo	69	19.7	(14.5-25.0)	20,229
Mayaguez	101	16.7	(12.8-20.6)	37,987
Metro	282	20.8	(17.9-23.6)	114,677
Ponce	210	20.7	(17.5-23.8)	93,603

Figure 98 and Table 68 showed the prevalence of adults that report having a seasonal flu shot in the past 12 month by health regions. The Puerto Rico data suggested that the prevalence were similar among health regions, except for the Aguadilla health region (12.1%) which seems to be lower.

3.7.2 Pneumonia immunization

The pneumonia shot or vaccine immunization indicator was obtained from PR-BRFSS participants when asked: a pneumonia shot or pneumococcal vaccine is usually given only once or twice in a person's lifetime and is different from the flu shot. Have you ever had a pneumonia shot? For 2011, Figure 99 showed that approximately 14.5% of the adults in Puerto Rico reported having a pneumonia shot at least one time in their lifetime.

Figure 99: Self-reported prevalence of lifetime pneumonia shot, Puerto Rico 2011

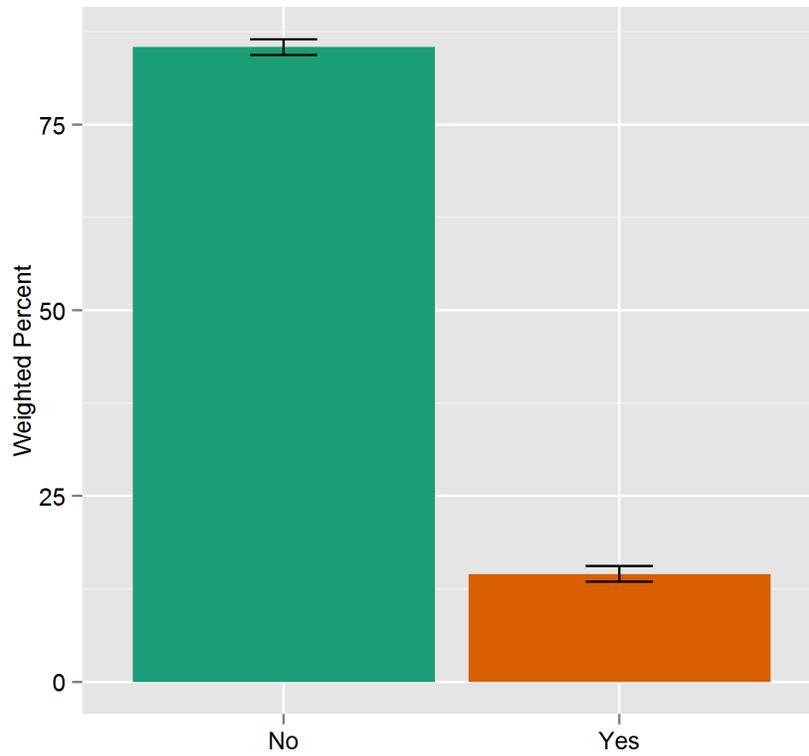
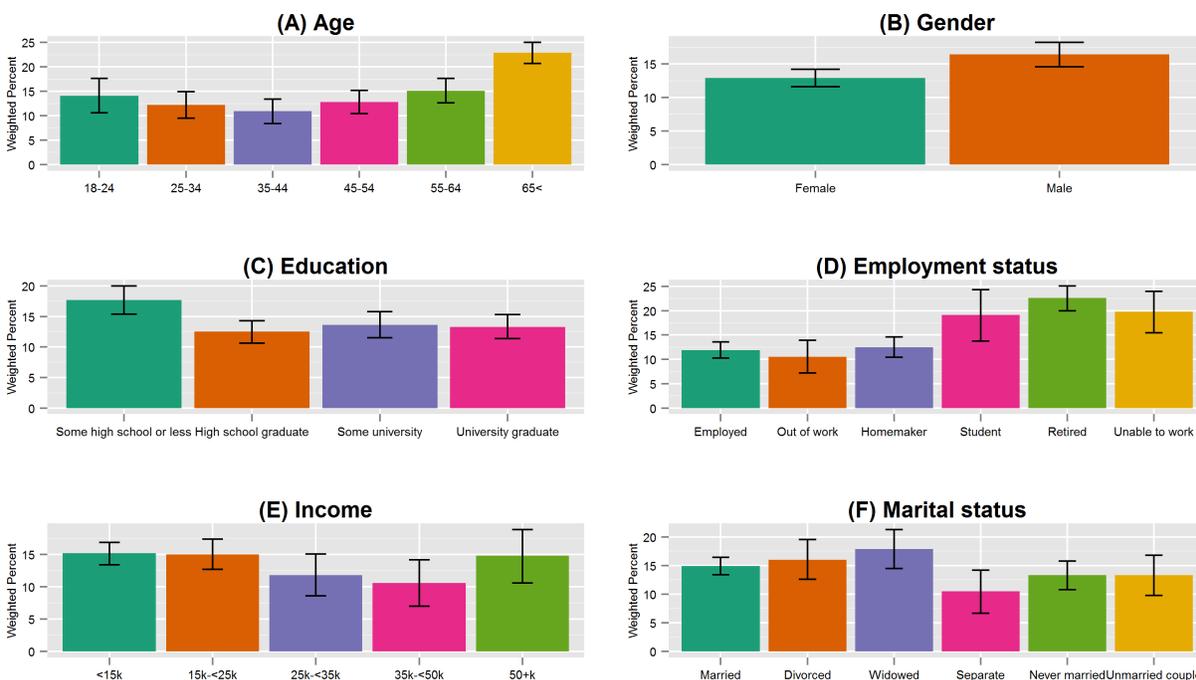


Figure 100: Self-reported prevalence of lifetime pneumonia shot by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of adults that had a pneumonia shot at least one time in their lifetime by demographic characteristics (Figure 100, Table 69) suggested that:

- the prevalence was similar among age groups, except for adults 65 years or older, which has the higher observed prevalence (22.9%) (panel A)
- the prevalence seems higher in males than in females with 16.4% and 12.9% respectively (panel B)
- the self-reported prevalence of having a pneumonia shot seems similar by education, ranging from 13.3% in university graduates

to 17.7% in high school graduates (panel C)

- adults unable to work, and retired reported more often having a pneumonia shot any time in their lifetime with 19.8%, and 22.6% respectively (panel D)
- the self-reported prevalence was similar between the different household income groups, ranging from 10.6% in the \$35,000 and less than \$50,000 group to 15.2% in the less than \$15,000 group (panel E)
- the prevalence seems in lower in adults with marital status separated (10.5%) than in widowed (17.9%) adults (panel F).

Table 69: Self-reported prevalence of lifetime pneumonia shot by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	1,002	14.5	(13.5-15.6)	383,407
Age group				
18-24	62	14.1	(10.6-17.6)	50,967
25-34	86	12.2	(9.5-14.9)	60,861
35-44	93	10.9	(8.4-13.4)	53,725
45-54	124	12.8	(10.4-15.2)	58,901
55-64	170	15.1	(12.6-17.6)	57,520
65<	467	22.9	(20.7-25.0)	101,434
Gender				
Male	418	16.4	(14.6-18.2)	201,840
Female	584	12.9	(11.6-14.2)	181,566
Education				
Some high school or less	313	17.7	(15.4-20.0)	144,540
High school graduate	247	12.5	(10.6-14.3)	84,867
Some university	204	13.6	(11.5-15.8)	85,865
University graduate	237	13.3	(11.4-15.3)	67,868
Employment status				
Employ	257	11.9	(10.3-13.6)	128,578
Out of work	47	10.5	(7.2-13.9)	28,146
Homemaker	194	12.5	(10.4-14.6)	65,490
Student	48	19.1	(13.8-24.3)	38,282
Retired	343	22.6	(20.0-25.1)	79,019
Unable to work	110	19.8	(15.5-24.0)	42,165
Household income				
<15k	438	15.2	(13.4-16.9)	163,180
15k-<25k	230	15.0	(12.7-17.4)	94,848
25k-<35k	65	11.8	(8.6-15.1)	23,969
35k-<50k	44	10.6	(7.0-14.2)	16,341
50+k	58	14.8	(10.6-18.9)	21,596
Marital status				
Married	456	14.9	(13.4-16.4)	159,183
Divorced	139	16.0	(12.6-19.5)	46,938
Widowed	160	17.9	(14.5-21.3)	36,260
Separate	45	10.5	(6.7-14.2)	15,458
Never married	135	13.3	(10.8-15.8)	82,109
Unmarried couple	60	13.3	(9.8-16.8)	39,724

Figure 101: Self-reported prevalence of lifetime pneumonia shot by health regions, Puerto Rico 2011

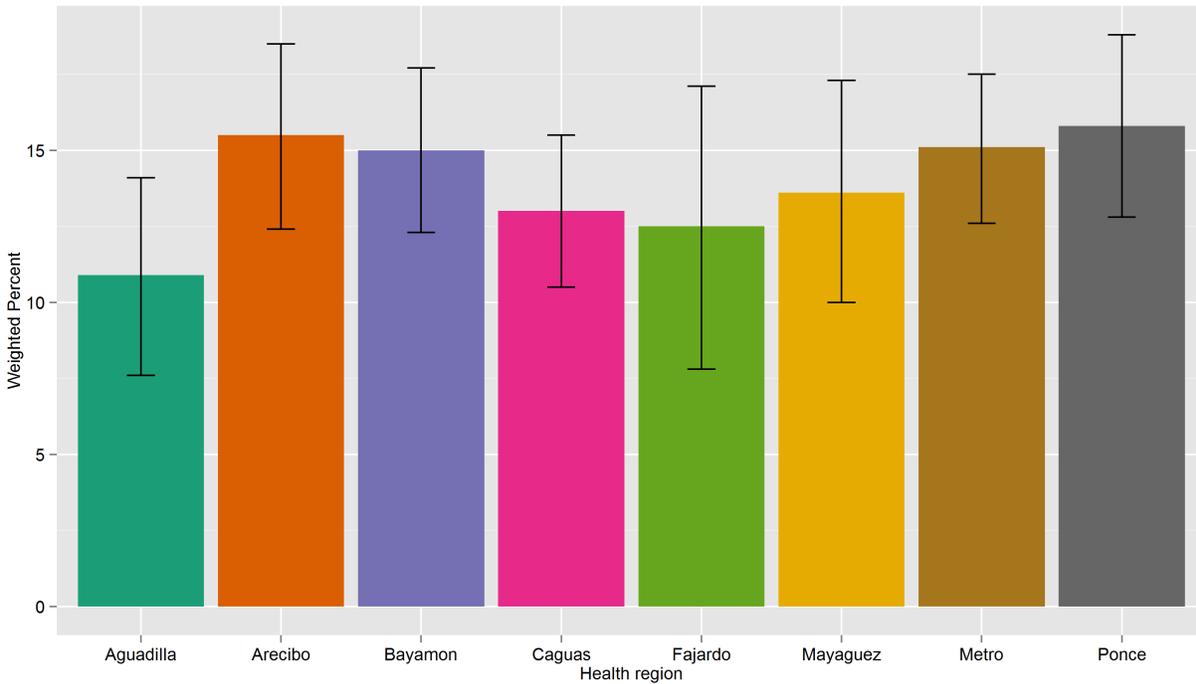


Table 70: Self-reported prevalence of adults that had either a a pneumonia shot by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	58	10.9	(7.6-14.1)	19,463
Arecibo	126	15.5	(12.4-18.5)	52,571
Bayamon	174	15.0	(12.3-17.7)	65,764
Caguas	156	13.0	(10.5-15.5)	52,595
Fajardo	45	12.5	(7.8-17.1)	11,974
Mayaguez	76	13.6	(10.0-17.3)	29,134
Metro	211	15.1	(12.6-17.5)	77,980
Ponce	143	15.8	(12.8-18.8)	67,704

Figure 101 and Table 70 showed the prevalence of Puerto Ricans adults that reported having a having pneumonia shot at least one time in their lifetime by health regions. The Puerto Rico data suggested that the prevalence rates were similar among health regions, ranging from 10.9% in the Aguadilla health region to 15.8% in the Ponce health region.

3.7.3 Seat belt use

The injury indicator, use of seat belt, was obtained from PR-BRFSS participants when asked: how often do you use seat belts when you drive or ride in a car? Responses were grouped to generate the estimate of those that always or nearly always wear the seat belt. For 2011, approximately 94.6% of the adults in Puerto Rico reported always or nearly always wearing the seat belt when drove or rode in a car (Figure 102).

Figure 102: Self-reported prevalence of adults that always or nearly always wear seat belts, Puerto Rico 2011

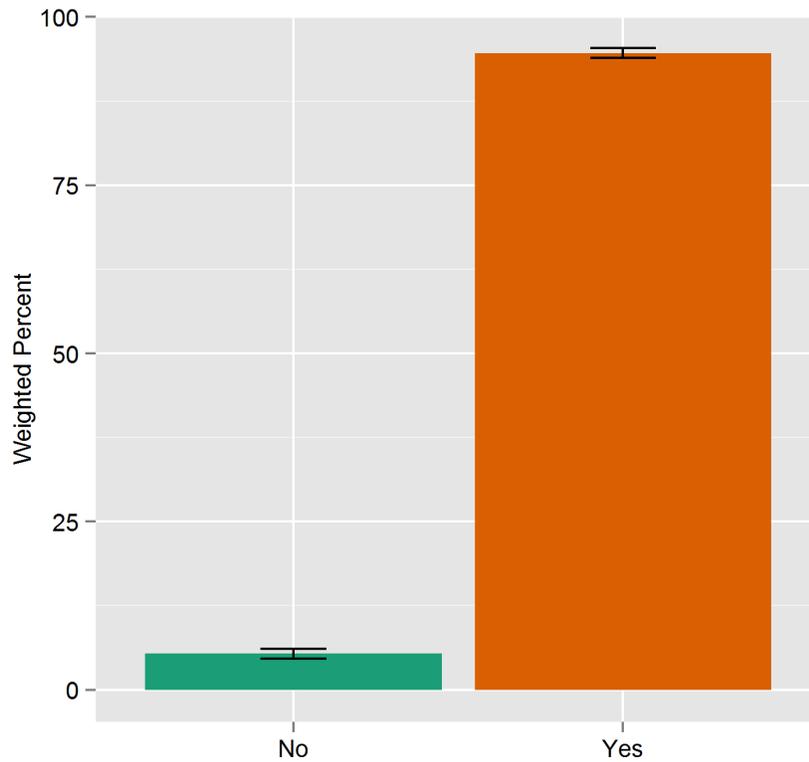
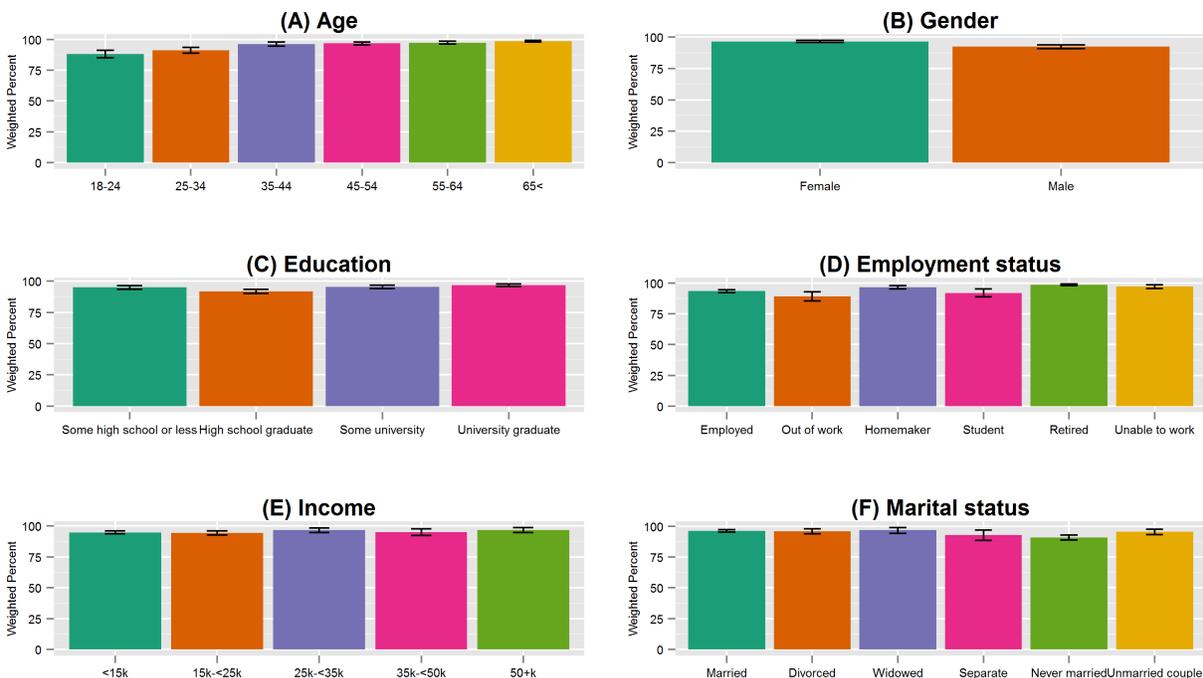


Figure 103: Self-reported prevalence of adults that always or nearly always wear seat belts by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of adults that reported always or nearly always wearing the seat belt by demographic characteristics (Figure 103, Table 71) suggested that:

- the prevalence was lower in adults 18 to 24 years or older with 88.2% (panel A)
- the prevalence seems lower in males than in females with 92.4% and 96.6% respectively (panel B)
- the self-reported prevalence of always or nearly always wearing the seat belt seems lower in high school graduates (91.9%) than in those with some university (95.4%) or than university graduates (96.7%) (panel C)
- adults out of work, students, and employed reported less often always or nearly always wearing the seat belt with 89.4%, 92.2%, and 93.6% respectively (panel D)
- the self-reported prevalence was similar between household income groups, ranging from 94.4% in the \$15,000 and less than \$25,000 group to 96.8% in the less than \$15,000 group (panel E)
- the prevalence seems lower in adults never married (90.8%) (panel F).

Table 71: Self-reported prevalence of adults that always or nearly always wear seat belts by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	6,326	94.6	(93.9-95.4)	2,673,050
Age group				
18-24	481	88.2	(85.1-91.2)	363,094
25-34	754	91.2	(88.8-93.5)	495,095
35-44	872	96.1	(94.4-97.7)	500,192
45-54	974	96.7	(95.5-97.9)	462,324
55-64	1,136	97.2	(96.0-98.4)	387,484
65<	2,109	98.4	(97.8-99.1)	464,860
Gender				
Male	2,271	92.4	(91.0-93.7)	1,226,189
Female	4,055	96.6	(95.8-97.4)	1,446,861
Education				
Some high school or less	1,655	95.0	(93.3-96.6)	820,378
High school graduate	1,634	91.9	(90.1-93.6)	666,252
Some university	1,422	95.4	(94.1-96.8)	654,179
University graduate	1,608	96.7	(95.7-97.8)	528,735
Employment status				
Employ	2,076	93.6	(92.3-94.9)	1,076,461
Out of work	432	89.4	(85.6-93.2)	253,769
Homemaker	1,448	96.6	(95.3-98.0)	535,243
Student	292	92.2	(89.0-95.3)	217,217
Retired	1,550	98.7	(98.0-99.5)	365,657
Unable to work	519	97.3	(95.8-98.8)	220,932
Household income				
<15k	2,634	94.8	(93.6-96.1)	1,081,333
15k-<25k	1,434	94.4	(92.8-96.0)	633,369
25k-<35k	490	96.6	(94.7-98.5)	211,142
35k-<50k	374	95.1	(92.4-97.8)	159,071
50+k	376	96.8	(94.7-98.9)	149,289
Marital status				
Married	2,885	96.3	(95.3-97.2)	1,091,101
Divorced	776	95.8	(93.9-97.8)	297,993
Widowed	860	96.7	(94.3-99.0)	208,186
Separate	318	92.7	(88.4-96.9)	145,689
Never married	1,019	90.8	(88.8-92.9)	617,995
Unmarried couple	447	95.4	(93.3-97.6)	304,418

Figure 104: Self-reported prevalence of adults that always or nearly always wear seat belts by health regions, Puerto Rico 2011

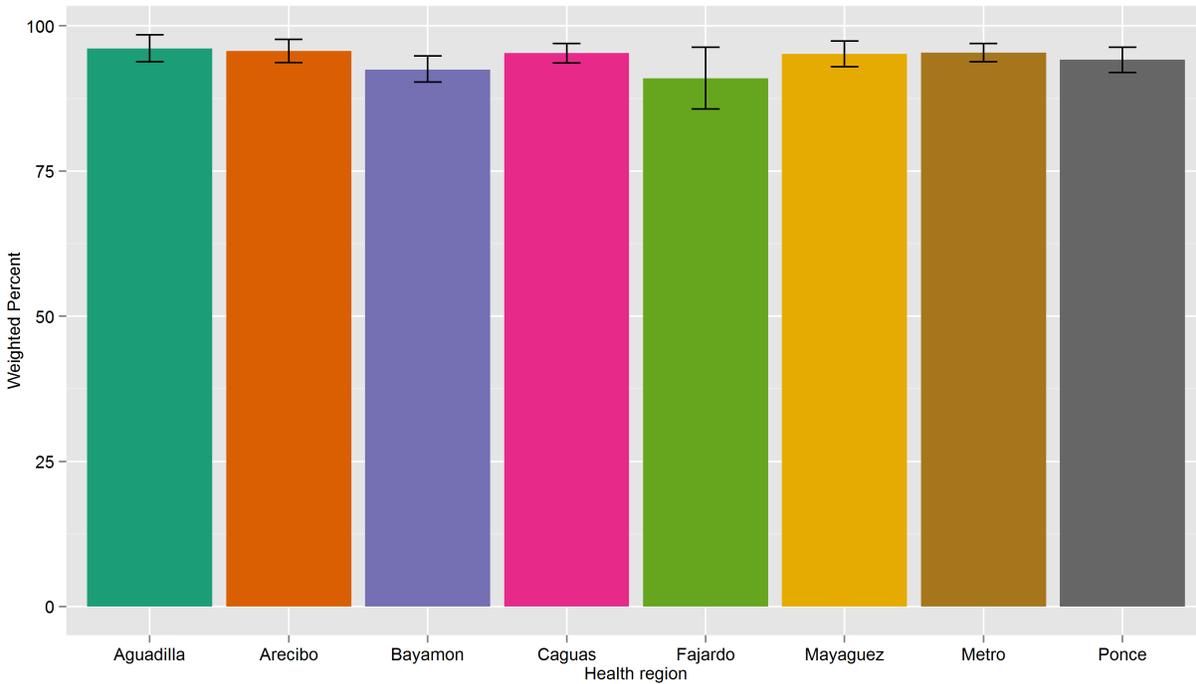


Table 72: Self-reported prevalence of adults that always or nearly always wear seat belts by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	434	96.1	(93.8-98.5)	183,363
Arecibo	783	95.7	(93.7-97.7)	346,108
Bayamon	1,041	92.5	(90.3-94.8)	436,396
Caguas	1,012	95.3	(93.6-97.0)	412,329
Fajardo	294	91.0	(85.7-96.3)	93,295
Mayaguez	558	95.2	(93.0-97.4)	217,852
Metro	1,285	95.4	(93.8-97.0)	532,213
Ponce	883	94.2	(92.0-96.3)	430,835

Figure 104 and Table 72 showed the prevalence of adults that reported always or nearly always wearing the seat belt by health regions. The Puerto Rico data suggested that the prevalence rates were similar among health regions, ranging from 91.0% in the Fajardo health region to 96.1% in the Aguadilla health region.

3.7.4 HIV screening test

The prevention practices indicator of HIV screening, was obtained from PR-BRFSS participants when asked: have you ever been tested for HIV? The question specifies that screening do not count test as part of a blood donation, and includes testing fluid from your mouth. As shown in Figure 105, in year 2011 approximately 42.3% of the adults in Puerto Rico reported ever been tested for HIV.

Figure 105: Self-reported prevalence of adults ever tested for HIV, Puerto Rico 2011

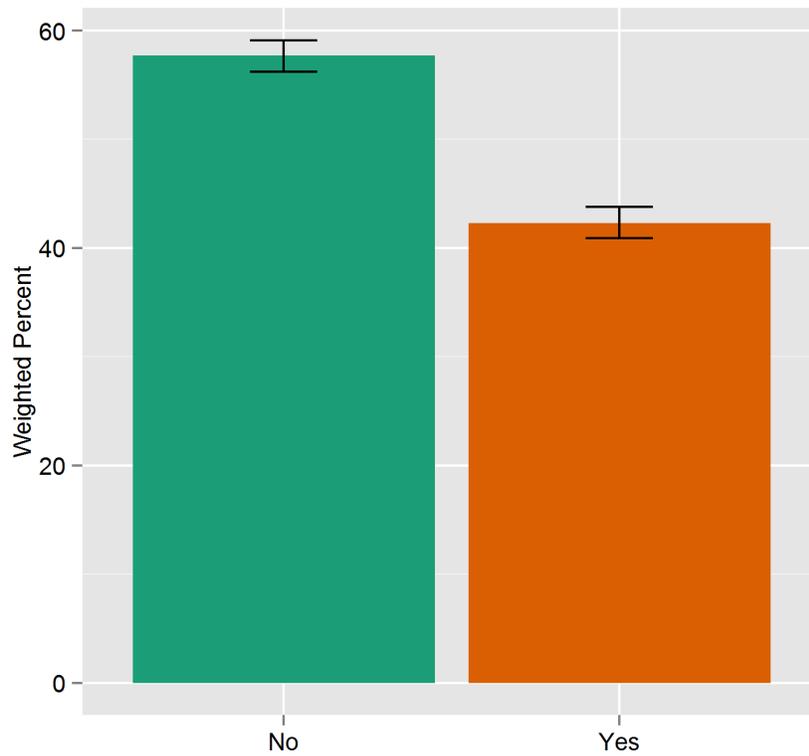
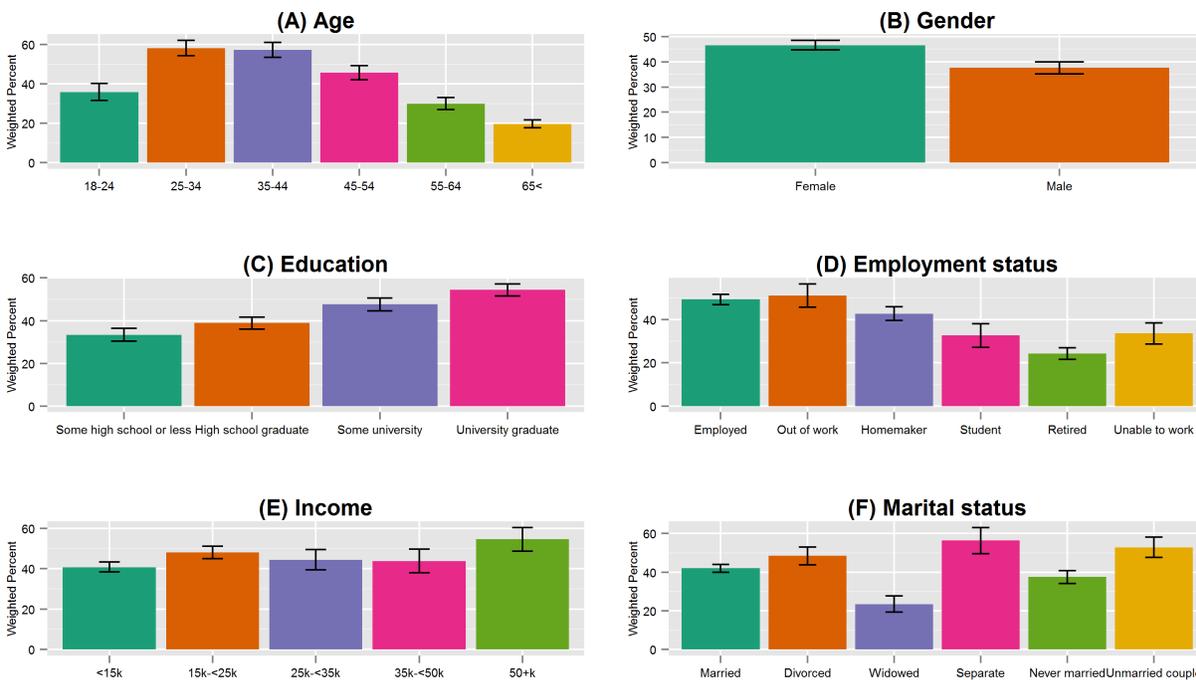


Figure 106: Self-reported prevalence of adults ever tested for HIV by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of Puerto Rico residents ever tested for HIV by demographic characteristics (Figure 106, Table 73) suggested that:

- the prevalence seems higher in age groups 25 to 34 years (58.2%), 35 to 44 years (57.4%), and 45 to 54 years (45.7%) (panel A)
- the prevalence was lower in males than in females with 37.6% and 46.6% respectively (panel B)
- the self-reported prevalence of ever been

tested for HIV seems higher in university graduates (54.4%) (panel C)

- adults out of work, and employed seems that report less often ever been tested for HIV with 51.2%, and 49.6% respectively (panel D)
- the self-reported prevalence was higher in adults with a household income of \$50,000 or higher (54.5%) (panel E)
- the prevalence seems lower in adults with marital status widowed (23.5%), and never married (37.5%) (panel F).

Table 73: Self-reported prevalence of adults ever tested for HIV by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	2,537	42.3	(40.9-43.8)	1,180,369
Age group				
18-24	206	35.9	(31.6-40.2)	147,056
25-34	508	58.2	(54.3-62.1)	314,995
35-44	549	57.4	(53.6-61.2)	294,336
45-54	474	45.7	(42.1-49.3)	215,963
55-64	389	30.0	(27.0-33.0)	118,588
65<	411	19.6	(17.6-21.7)	89,431
Gender				
Male	894	37.6	(35.2-39.9)	492,193
Female	1,643	46.6	(44.7-48.5)	688,176
Education				
Some high school or less	438	33.4	(30.4-36.5)	283,619
High school graduate	611	38.9	(36.1-41.7)	277,905
Some university	678	47.6	(44.6-50.6)	323,890
University graduate	807	54.4	(51.5-57.2)	293,921
Employment status				
Employ	1,121	49.4	(46.9-51.8)	562,304
Out of work	246	51.2	(45.8-56.6)	144,117
Homemaker	512	42.8	(39.6-46.0)	233,857
Student	112	32.7	(27.2-38.2)	76,740
Retired	360	24.3	(21.6-27.0)	87,556
Unable to work	183	33.7	(28.8-38.6)	74,777
Household income				
<15k	932	40.7	(38.3-43.2)	457,805
15k-<25k	660	48.0	(44.9-51.1)	317,982
25k-<35k	219	44.4	(39.4-49.5)	96,376
35k-<50k	188	43.8	(38.0-49.6)	72,580
50+k	206	54.5	(48.6-60.4)	82,794
Marital status				
Married	1,115	42.0	(39.9-44.1)	469,431
Divorced	369	48.5	(43.9-53.1)	149,582
Widowed	166	23.5	(19.3-27.7)	48,829
Separate	182	56.4	(49.6-63.2)	88,097
Never married	438	37.5	(34.2-40.7)	252,683
Unmarried couple	253	52.9	(47.7-58.2)	166,305

Figure 107: Self-reported prevalence of adults ever tested for HIV by health regions, Puerto Rico 2011

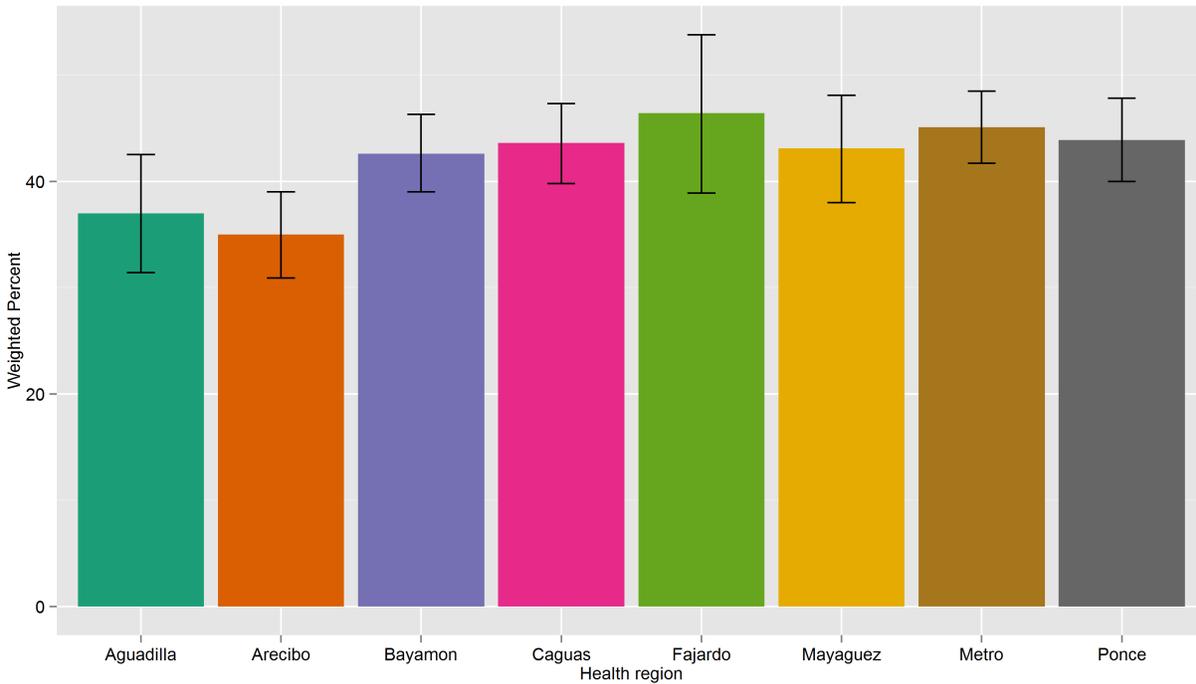


Table 74: Self-reported prevalence of adults ever tested for HIV by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	155	37.0	(31.4-42.5)	70,330
Arecibo	264	35.0	(30.9-39.0)	124,520
Bayamon	428	42.6	(39.0-46.3)	197,226
Caguas	427	43.6	(39.8-47.3)	187,183
Fajardo	119	46.4	(38.9-53.8)	46,511
Mayaguez	216	43.1	(38.0-48.1)	98,019
Metro	544	45.1	(41.7-48.5)	246,968
Ponce	363	43.9	(40.0-47.8)	198,706

Figure 107 and Table 74 showed the prevalence of adults that reported ever been tested for HIV by health regions. The Puerto Rico data suggested that the prevalence rates were similar among health regions, except for the Arecibo health region, with the lowest prevalence (35.0%).

3.7.5 Cholesterol Awareness: blood cholesterol checked within the last five years

The prevention practices indicator cholesterol checked within the past five years was obtained from PR-BRFSS participants when asked: have you ever had your blood cholesterol checked; and how long has it been since you last had your blood cholesterol checked? For 2011, approximately 75.8% of the adults in Puerto Rico reported to have their cholesterol checked at least one time in the last five years (Figure 108).

Figure 108: Self-reported prevalence of adults who had their blood cholesterol checked within the last five years, Puerto Rico 2011

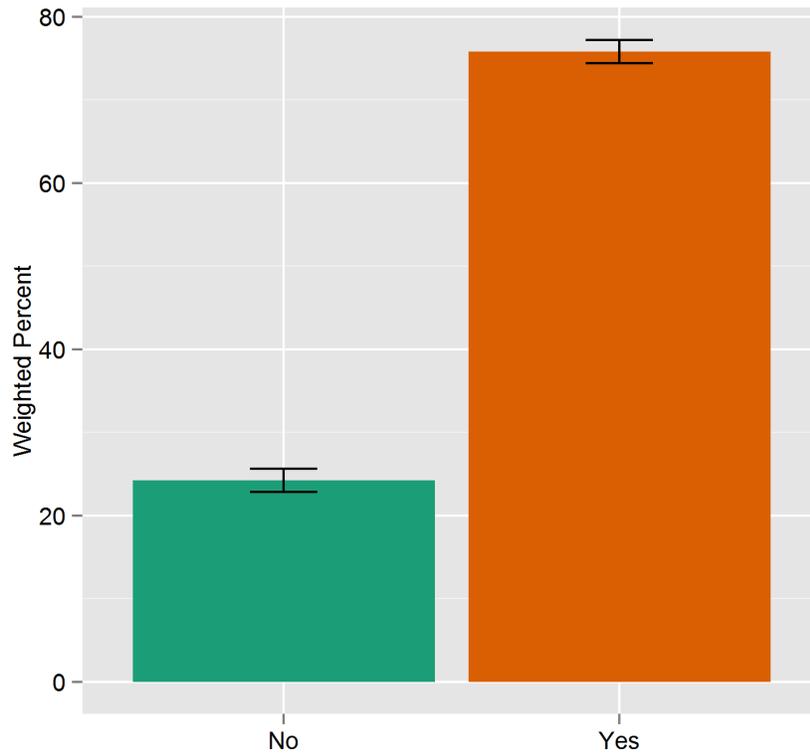
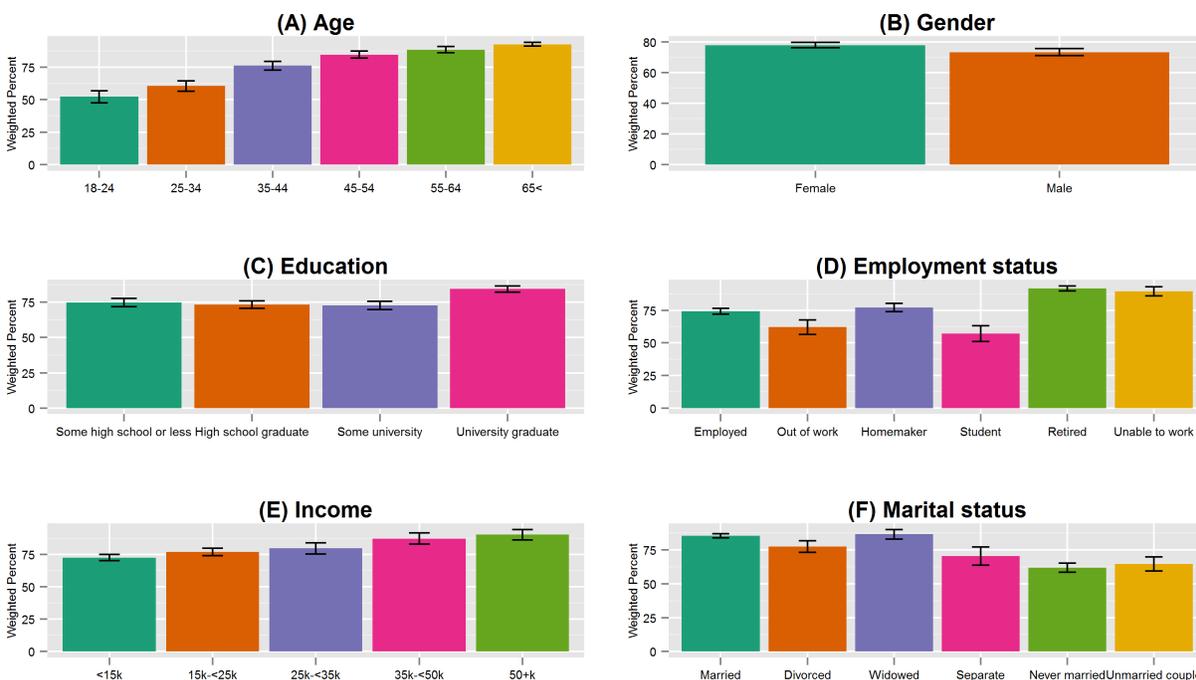


Figure 109: Self-reported prevalence of adults who had their blood cholesterol checked within the last five years by demographic characteristics, Puerto Rico 2011



In 2011, the self-reported prevalence of Puerto Rico residents that had their cholesterol checked in the last five years by demographic characteristics (Figure 109, Table 75) suggested the following:

- the prevalence seems to increase as age increase with 52.2% in adults 18 to 24 year of age to 92.7% in those 65 years or older (panel A)
- the prevalence was lower in males than in females with 73.3% and 78.0% respectively (panel B)
- the self-reported prevalence of having

the cholesterol checked in the last five years seems higher in university graduates (84.4%) (panel C)

- adults unable to work, and retired seems that report more often having the cholesterol checked in the last five years with 89.6%, and 91.8% respectively (panel D)
- the self-reported prevalence was higher in those with a household income of \$50,000 or higher with 90.4% (panel E)
- the prevalence seems lower between those never married (61.9%), and unmarried couples (64.6%) (panel F).

Table 75: Self-reported prevalence of adults who had their blood cholesterol checked within the last five years by demographic characteristics, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	5,388	75.8	(74.4-77.2)	2,101,619
Age group				
18-24	268	52.2	(47.5-56.8)	203,394
25-34	519	60.6	(56.6-64.5)	321,865
35-44	698	76.2	(72.7-79.6)	388,853
45-54	872	84.7	(81.9-87.4)	402,433
55-64	1,049	88.5	(86.1-90.9)	352,348
65<	1,982	92.7	(91.2-94.1)	432,726
Gender				
Male	1,900	73.3	(71.0-75.6)	945,986
Female	3,488	78.0	(76.3-79.7)	1,155,633
Education				
Some high school or less	1,418	74.8	(71.8-77.8)	638,520
High school graduate	1,370	73.3	(70.6-76.1)	521,751
Some university	1,147	72.8	(69.9-75.6)	480,027
University graduate	1,448	84.4	(82.2-86.6)	459,129
Employment status				
Employ	1,715	74.2	(71.9-76.5)	838,727
Out of work	304	62.1	(56.6-67.5)	170,461
Homemaker	1,244	77.2	(74.1-80.3)	423,247
Student	175	57.1	(50.9-63.2)	126,257
Retired	1,461	91.8	(89.8-93.7)	339,058
Unable to work	481	89.6	(86.1-93.1)	200,912
Household income				
<15k	2,198	72.7	(70.4-75.1)	813,143
15k-<25k	1,236	77.1	(74.2-79.9)	510,189
25k-<35k	427	79.8	(75.5-84.1)	173,859
35k-<50k	347	87.4	(83.1-91.7)	142,991
50+k	361	90.4	(86.2-94.5)	137,084
Marital status				
Married	2,609	85.4	(83.8-87.1)	961,001
Divorced	674	77.5	(73.3-81.8)	238,532
Widowed	783	86.7	(83.1-90.2)	183,489
Separate	261	70.5	(63.6-77.3)	110,259
Never married	731	61.9	(58.4-65.3)	404,377
Unmarried couple	315	64.6	(59.4-69.8)	199,857

Figure 110: Self-reported prevalence of adults who had their blood cholesterol checked within the last five years by health regions, Puerto Rico 2011

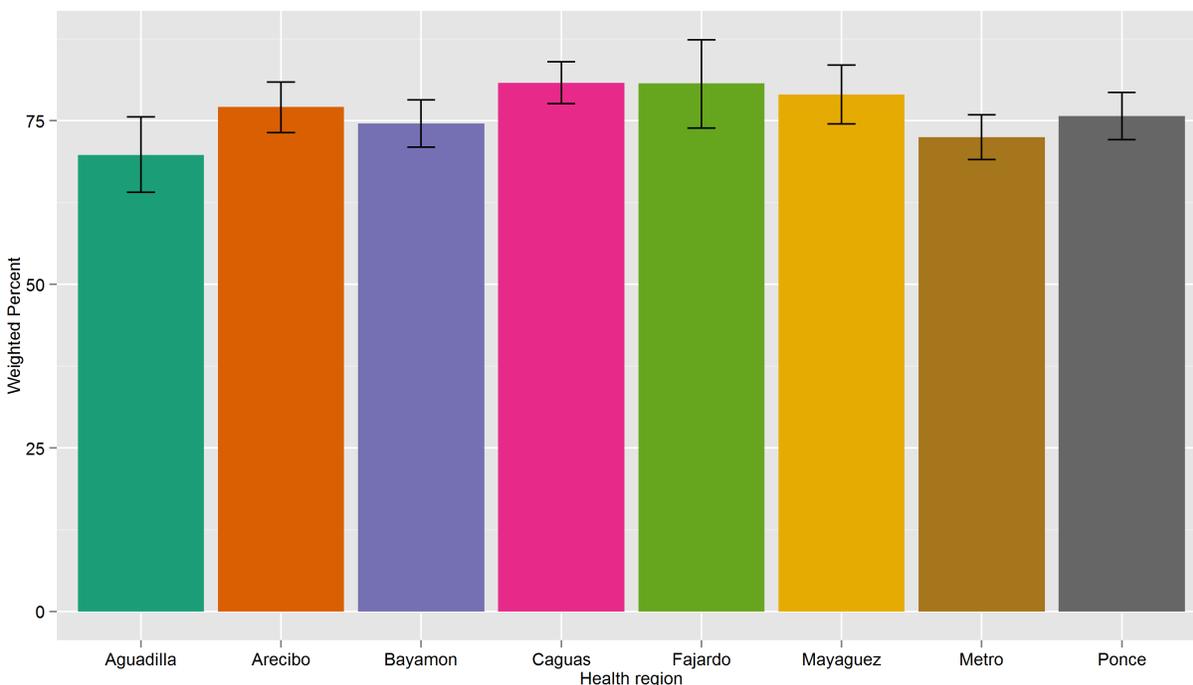


Table 76: Self-reported prevalence of adults who had their blood cholesterol checked within the last five years by health region, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	346	69.8	(64.1-75.6)	131,725
Arecibo	662	77.1	(73.2-80.9)	274,584
Bayamon	897	74.6	(71.0-78.2)	341,187
Caguas	884	80.8	(77.6-84.0)	339,778
Fajardo	259	80.7	(73.9-87.4)	80,153
Mayaguez	489	79.0	(74.5-83.5)	178,354
Metro	1,082	72.5	(69.1-75.9)	401,134
Ponce	740	75.7	(72.1-79.3)	338,438

Figure 110 and Table 76 showed the prevalence of adults that reported having the cholesterol checked in the last five years by health regions. The Puerto Rico data suggested that the prevalence rates were similar among health regions, ranging from 69.8% in the Aguadilla health region to 80.8% in the Caguas health region.

3.7.6 Cholesterol Awareness: high cholesterol

The prevention practices indicator of high cholesterol was obtained from PR-BRFSS participants when asked: have you ever been told by a doctor, nurse or other health professional that your blood cholesterol is high? As shown Figure 111, during 2011 in Puerto Rico approximately 38.2% of the adults 18 years or older reported been told by a health professional their cholesterol was high.

Figure 111: Self-reported prevalence of adults who have had their blood cholesterol checked and have been told it was high, Puerto Rico 2011

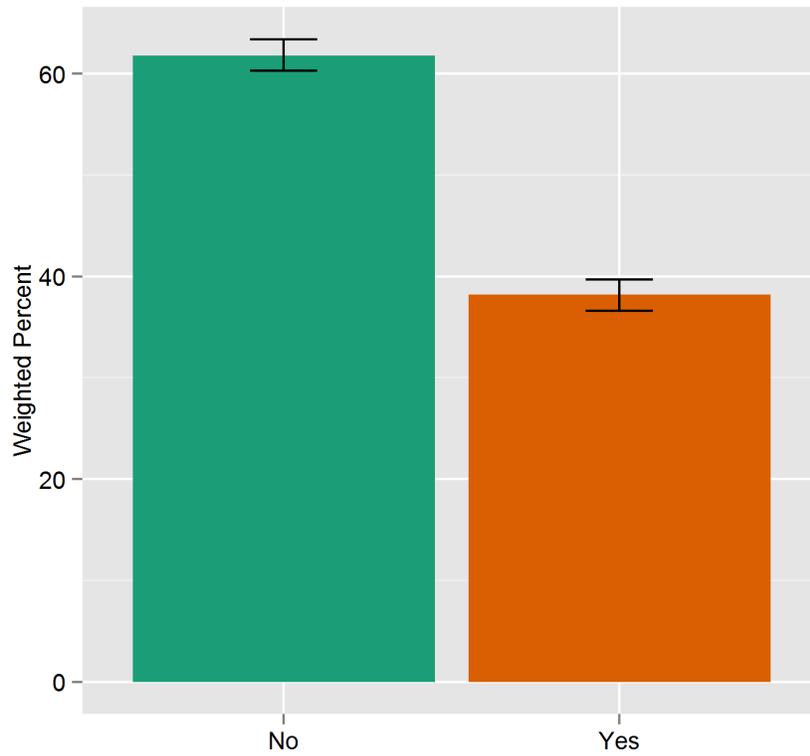
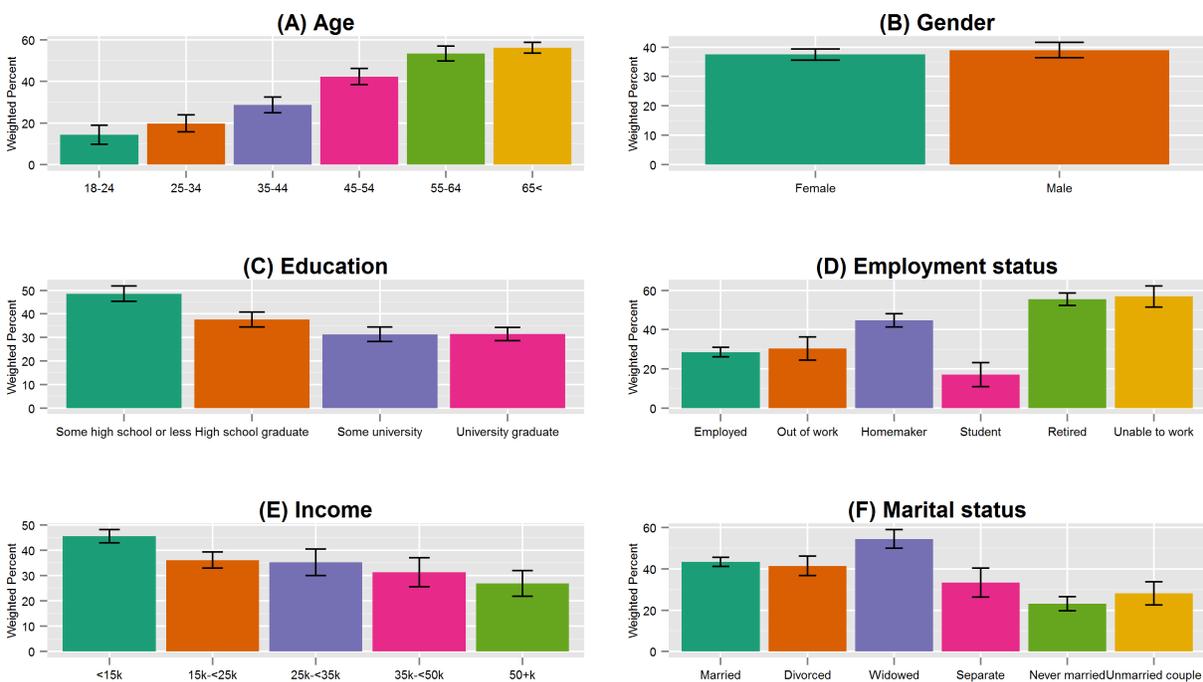


Figure 112: Self-reported prevalence of adults who have had their blood cholesterol checked and have been told it was high, Puerto Rico 2011



In 2011, the self-reported prevalence of adults that reported been told by a health professional their cholesterol was high by demographic characteristics (Figure 112, Table 77) suggested that:

- the prevalence seems to increase as age increase with 19.7% in adults 25 to 34 year of age to 56.1% in those 65 years or older (panel A)
- the prevalence was similar between males and females with 39.0% and 37.5% respectively (panel B)
- the self-reported prevalence of having high cholesterol seems higher in those with some

high school or less (48.6%), and in high school graduates (37.6%) (panel C)

- adults unable to work, and retired reported more often having been told their cholesterol was high with 56.9%, and 55.6% respectively (panel D)
- the prevalence was lower in those with a household income of \$50,000 or higher with 26.9% (panel E)
- the prevalence of high cholesterol seems lower in never married (23.2%), and in unmarried couple (28.2%) (panel F).

Table 77: Self-reported prevalence of adults who have had their blood cholesterol checked and have been told it was high, Puerto Rico 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Total	2,376	38.2	(36.6-39.7)	820,646
Age group				
18-24	35	14.3	(9.7-19.0)	30,501
25-34	90	19.7	(15.7-23.8)	65,053
35-44	198	28.6	(24.9-32.4)	115,086
45-54	362	42.3	(38.5-46.1)	173,664
55-64	583	53.4	(49.8-56.9)	191,279
65<	1,108	56.1	(53.5-58.7)	245,063
Gender				
Male	814	39.0	(36.4-41.6)	378,851
Female	1,562	37.5	(35.6-39.4)	441,795
Education				
Some high school or less	767	48.6	(45.4-51.9)	313,858
High school graduate	631	37.6	(34.5-40.7)	202,813
Some university	438	31.3	(28.3-34.4)	154,912
University graduate	537	31.5	(28.7-34.2)	147,637
Employment status				
Employ	518	28.5	(26.1-31.0)	246,781
Out of work	100	30.3	(24.5-36.2)	53,579
Homemaker	616	44.7	(41.4-48.1)	191,918
Student	28	17.0	(10.8-23.2)	22,589
Retired	813	55.6	(52.4-58.7)	189,313
Unable to work	299	56.9	(51.4-62.3)	115,819
Household income				
<15k	1,135	45.5	(42.9-48.2)	379,161
15k-<25k	511	36.1	(32.9-39.3)	186,914
25k-<35k	166	35.2	(29.9-40.4)	62,573
35k-<50k	117	31.3	(25.5-37.0)	45,664
50+k	114	26.9	(21.8-32.0)	37,468
Marital status				
Married	1,177	43.4	(41.2-45.6)	421,376
Divorced	340	41.4	(36.8-46.1)	102,592
Widowed	440	54.5	(49.9-59.1)	102,532
Separate	106	33.4	(26.4-40.4)	37,730
Never married	212	23.2	(19.7-26.6)	97,699
Unmarried couple	97	28.2	(22.6-33.8)	57,586

*Caution should be taken when interpreting arthritis prevalence estimates due to a responses frequency less than 50 in some demographic levels.

Figure 113: Self-reported prevalence of adults who have had their blood cholesterol checked and have been told it was high, Puerto Rico 2011

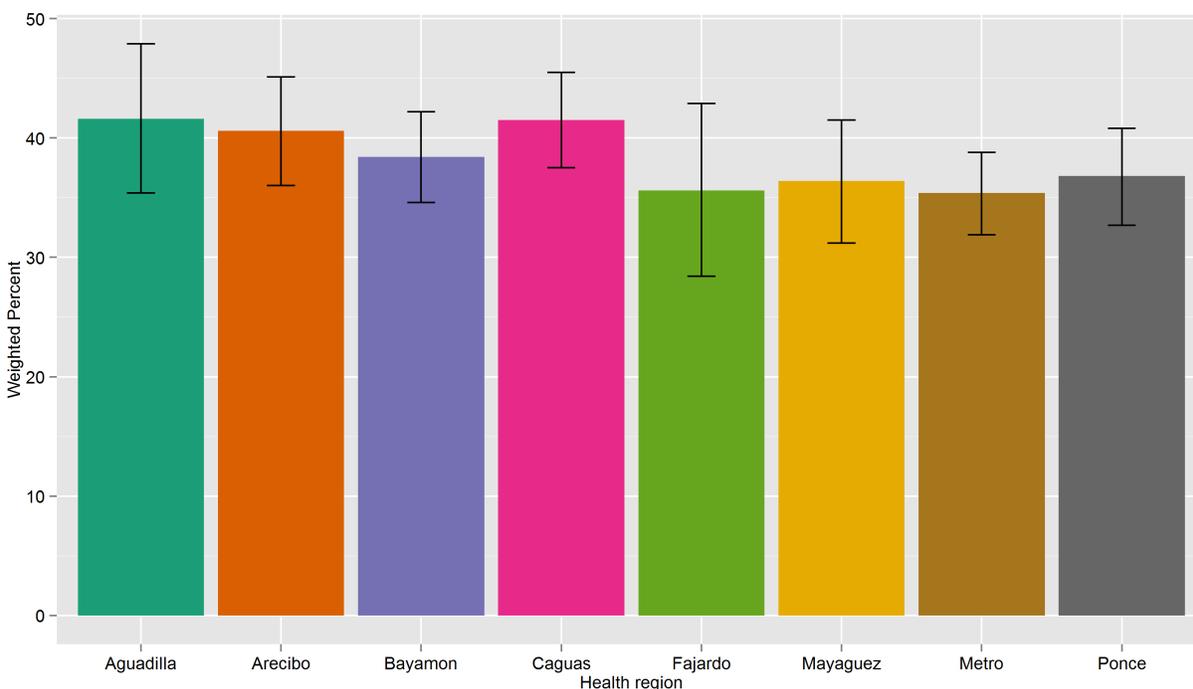


Table 78: Self-reported prevalence of adults who have had their blood cholesterol checked and have been told it was high, Puerto Rico 2011

Health Regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	166	41.6	(35.4-47.9)	56,413
Arecibo	304	40.6	(36.0-45.1)	112,906
Bayamon	412	38.4	(34.6-42.2)	136,555
Caguas	412	41.5	(37.5-45.5)	143,854
Fajardo	105	35.6	(28.4-42.9)	29,234
Mayaguez	210	36.4	(31.2-41.5)	66,013
Metro	437	35.4	(31.9-38.8)	144,936
Ponce	322	36.8	(32.7-40.8)	126,643

Figure 113 and Table 78 showed the prevalence of Puerto Ricans adults that reported been told by a health professional their cholesterol was high by health regions. The Puerto Rico data suggested that the prevalence rates were similar among health regions, ranging from 35.4% in the Metro health region to 41.6% in the Aguadilla health region.

4 Suggested citation

Serrano R, Amill A. (January 2014) Puerto Rico Behavioral Risk Factor Surveillance Survey Annual Report, 2011. *Puerto Rico Behavioral Risk Factor Surveillance System, Puerto Rico Department of Health, Centers for Disease Control and Prevention.*

5 References

- [1] Centers for Disease Control and Prevention. 2011 brfss overview. http://www.cdc.gov/brfss/annual_data/annual_2011.htm, 2012.
- [2] No authors listed. Methodologic changes in the Behavioral Risk Factor Surveillance System in 2011 and potential effects on prevalence estimates. *MMWR Morb. Mortal. Wkly. Rep.*, 61(22):410–413, Jun 2012.
- [3] American Association for Public Opinion Research. Standard definitions: Final dispositions of case codes and outcome rates for surveys. http://www.aapor.org/Standard_Definitions2.htm, 2011.
- [4] R Core Team. *R: A Language and Environment for Statistical Computing*. R Foundation for Statistical Computing, Vienna, Austria, 2013.
- [5] Thomas Lumley. *survey: analysis of complex survey samples*, 2012. R package version 3.28-2.
- [6] Anthony Damico. Transitioning to r: Replicating sas, stata, and sudaan analysis techniques in health policy data. *The R Journal*, 2009.
- [7] Frank E Harrell. *Hmisc: Harrell miscellaneous*, 2013. R package version 3.13-2.
- [8] Hadley Wickham. *ggplot2: elegant graphics for data analysis*, 2012. R package version 0.9.3.1.
- [9] Baptiste Auguie. *gridextra: functions in grid graphics*, 2012. R package version 0.9.1.
- [10] RStudio. *Rstudio: Integrated development environment for r*, 2013. Version 0.97.551.
- [11] L. Lamport. */ – A Document Preparation System*. Addison-Wesley, second edition, 1994. Updated for L^AT_EX 2_ε.
- [12] Centers for Disease Control and Prevention. Comparability of data 2011. http://www.cdc.gov/brfss/annual_data/annual_2011.htm, 2012.
- [13] C. Pierannunzi, S. S. Hu, and L. Balluz. A systematic review of publications assessing reliability and validity of the Behavioral Risk Factor Surveillance System (BRFSS), 2004-2011. *BMC Med Res Methodol*, 13:49, 2013.
- [14] Centers for Disease Control and Prevention. *Measuring Healthy Days*. CDC, Atlanta, Georgia, November 2000.
- [15] Centers for Disease Control and Prevention. Chronic obstructive pulmonary disease among adults—United States, 2011. *MMWR Morb. Mortal. Wkly. Rep.*, 61(46):938–943, Nov 2012.
- [16] B. W. Ward and J. S. Schiller. Prevalence of multiple chronic conditions among US adults: estimates from the National Health Interview Survey, 2010. *Prev Chronic Dis*, 10:E65, 2013.
- [17] Centers for Disease Control and Prevention. *State Indicator Report on Fruits and Vegetables, 2013*. Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, Atlanta, Georgia, 2013.

- [18] No authors listed. Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults: executive summary. Expert Panel on the Identification, Evaluation, and Treatment of Overweight in Adults. *Am. J. Clin. Nutr.*, 68(4):899–917, Oct 1998.
- [19] The Physical Activity, Physical Activity Health Branch Division of Nutrition, and Obesity. *A Data Users Guide to the BRFSS Physical Activity Questions, How to Assess the 2008 Physical Activity Guidelines for Americans*. Centers for Disease Control and Prevention, Atlanta, Georgia, 2013.
- [20] Centers for Disease Control and Prevention. Adult participation in aerobic and muscle-strengthening physical activities—United States, 2011. *MMWR Morb. Mortal. Wkly. Rep.*, 62(17):326–330, May 2013.

A Health Regions Map

Figure 114: Puerto Rico Health Regions



B Health Regions Table

Table 79: BRFSS Puerto Rico health regions, 2011

Health regions	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Aguadilla	451	6.8	(6.2-7.5)	192,255
Arecibo	814	12.9	(12.0-13.8)	364,549
Bayamon	1,101	16.9	(15.9-17.9)	476,575
Caguas	1,052	15.4	(14.4-16.3)	434,294
Fajardo	309	3.7	(3.2-4.1)	103,426
Mayaguez	581	8.2	(7.5-8.8)	230,287
Metro	1,338	19.9	(18.9-21.0)	563,021
Ponce	923	16.3	(15.3-17.3)	460,036

C Demographic characteristics

Table 80: BRFSS Puerto Rico demographic estimates, 2011

Demographic characteristics	Frequency	Weighted estimates		
		Prevalence	95% C.I.	Population
Age group				
18-24	544	14.6	(13.4-15.8)	415,496
25-34	822	19.2	(18.0-20.5)	548,205
35-44	908	18.5	(17.2-19.7)	526,146
45-54	1,015	16.9	(15.8-18.0)	480,633
55-64	1,169	14.1	(13.2-15.0)	402,811
65<	2,155	16.7	(15.9-17.5)	476,475
Gender				
Male	2,427	46.9	(45.4-48.5)	1,337,663
Female	4,186	53.1	(51.5-54.6)	1,512,103
Education				
Some High School or less	1,716	30.6	(29.1-32.1)	870,328
High School Graduate	1,741	25.8	(24.5-27.1)	734,852
Some University	1,487	24.2	(22.9-25.5)	689,015
University Graduate	1,661	19.4	(18.4-20.4)	551,771
Employment status				
Employ	2,205	40.8	(39.3-42.2)	1,159,870
Outwork	467	10.1	(9.1-11.1)	286,673
Homemaker	1,493	19.6	(18.5-20.7)	558,175
Student	320	8.3	(7.4-9.3)	237,456
Retired	1,576	13.1	(12.4-13.9)	373,713
Unablework	542	8.1	(7.3-8.9)	229,961
Household income				
<15k	2,744	48.5	(46.8-50.1)	1,149,332
15k-<25k	1,502	28.5	(27.0-30.0)	676,041
25k-<35k	508	9.3	(8.4-10.2)	221,424
35k-<50k	389	7.1	(6.3-7.9)	168,284
50+k	391	6.6	(5.8-7.3)	155,715
Marital status				
Married	2,981	40.3	(38.9-41.7)	1,143,629
Divorced	809	11.1	(10.2-12.1)	316,643
Widowed	883	7.6	(7.0-8.3)	216,609
Separate	336	5.6	(4.9-6.3)	158,769
Never married	1,113	24.1	(22.7-25.5)	685,074
Unmarried couple	467	11.2	(10.2-12.3)	319,289