Supplemental Online Content

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eTable 1. Age-Sex-Adjusted and Age-Adjusted Means or Percentage (95% Confidence Intervals) of Cardiovascular Risk Factors in the US Adults Aged ≥20 Years, NHANES 1999-2018[a]

Cardiovascular risk factors	1999-2000 (n=4158)	2001-2002 (n=4685)	2003-2004 (n=4486)	2005-2006 (n=4410)	2007-2008 (n=5619)	2009-2010 (n=5960)	2011-2012 (n=5239)	2013-2014 (n=5484)	2015-2016 (n=5360)	2017-2018 (n=5170)	*P* for linear trend	*P* for non-linear trend[b]
Body mass index												
Overall	28.0 (27.5-28.5)	28.0 (27.7-28.3)	28.2 (27.8-28.5)	28.5 (28.0-29.0)	28.5 (28.2-28.9)	28.7 (28.4-28.9)	28.7 (28.2-29.1)	29.2 (28.8-29.6)	29.4 (28.8-29.9)	29.8 (29.2-30.4)	<.001	
Men[c]	27.8 (27.3-28.3)	27.9 (27.6-28.2)	28.1 (27.8-28.4)	28.6 (28.1-29.0)	28.5 (28.1-28.8)	28.7 (28.3-29.1)	28.5 (28.0-28.9)	28.8 (28.5-29.2)	29.1 (28.5-29.7)	29.7 (29.1-30.3)	<.001	
Women[c]	28.3 (27.7-28.9)	28.1 (27.7-28.5)	28.2 (27.6-28.8)	28.4 (27.8-29.0)	28.6 (28.2-29.1)	28.7 (28.4-28.9)	28.9 (28.4-29.4)	29.5 (28.9-30.1)	29.6 (29.0-30.3)	29.9 (29.1-30.7)	<.001	
Non-cardiovascular disease	28.0 (27.5-28.5)	27.9 (27.6-28.2)	28.1 (27.7-28.4)	28.4 (27.9-28.8)	28.4 (28.1-28.8)	28.5 (28.2-28.8)	28.6 (28.1-29.0)	29.0 (28.6-29.4)	29.2 (28.6-29.8)	29.7 (29.1-30.3)	<.001	
History of cardiovascular disease	30.6 (28.9-32.4)	29.9 (28.3-31.5)	29.9 (27.6-32.2)	31.1 (25.7-36.5)	30.9 (28.6-33.1)	31.1 (29.6-32.7)	30.2 (29.1-31.3)	31.7 (29.0-34.5)	31.9 (29.2-34.6)	33.8 (31.2-36.5)	<.001	
Systolic blood pressure, mmHg												
Overall	123.5 (122.2-124.8)	123.0 (122.2-123.9)	122.6 (121.4-123.8)	122.2 (121.2-123.3)	121.7 (121.0-122.4)	120.5 (119.6-121.3)	121.3 (120.0-122.6)	121.2 (120.6-121.9)	122.8 (122.0-123.7)	122.8 (121.7-123.8)		<.001
Men[c]	124.9 (123.4-126.4)	123.6 (122.4-124.8)	124.1 (122.7-125.4)	124.0 (122.9-125.1)	123.7 (122.9-124.6)	122.9 (122.2-123.5)	123.2 (121.8-124.6)	123.4 (122.3-124.4)	124.7 (123.5-125.9)	124.6 (123.4-125.8)		.01
Women[c]	122.1 (120.7-123.5)	122.4 (121.4-123.4)	121.3 (120.0-122.6)	120.5 (119.4-121.7)	119.8 (119.0-120.6)	118.1 (116.9-119.4)	119.4 (118.0-120.8)	119.3 (118.6-119.9)	121.0 (120.0-122.0)	121.1 (119.9-122.2)		<.001
Non-cardiovascular disease	123.5 (122.1-124.7)	123.0 (122.1-123.9)	124.3 (121.5-127.1)	122.2 (121.1-123.3)	121.6 (121.0-122.3)	120.5 (119.6-121.4)	121.0 (119.7-122.4)	121.4 (120.7-122.0)	122.8 (121.8-123.7)	122.5 (121.6-123.5)		<.001

Cardiovascular risk factors	1999-2000 (n=4158)	2001-2002 (n=4685)	2003-2004 (n=4486)	2005-2006 (n=4410)	2007-2008 (n=5619)	2009-2010 (n=5960)	2011-2012 (n=5239)	2013-2014 (n=5484)	2015-2016 (n=5360)	2017-2018 (n=5170)	P for linear trend	P for non-linear trend[b]
History of cardiovascular disease	119.1 (115.1-123.1)	124.3 (121.5-127.1)	123.5 (122.1-125.0)	121.5 (119.4-123.6)	122.0 (119.1-124.8)	123.1 (117.9-128.2)	124.0 (119.1-129.0)	123.3 (120.9-125.7)	126.0 (121.9-130.1)	124.9 (121.0-128.8)		.002
Hemoglobin A1c, %												
Overall	5.42 (5.33-5.51)	5.49 (5.45-5.54)	5.49 (5.46-5.53)	5.44 (5.40-5.49)	5.58 (5.52-5.63)	5.61 (5.58-5.65)	5.63 (5.58-5.67)	5.59 (5.56-5.63)	5.65 (5.58-5.71)	5.66 (5.62-5.69)	<.001	
Men[c]	5.46 (5.37-5.56)	5.55 (5.48-5.62)	5.55 (5.50-5.59)	5.47 (5.42-5.52)	5.61 (5.55-5.67)	5.66 (5.61-5.70)	5.66 (5.60-5.73)	5.63 (5.58-5.68)	5.70 (5.61-5.79)	5.69 (5.64-5.75)	<.001	
Women[c]	5.39 (5.29-5.49)	5.45 (5.40-5.50)	5.45 (5.41-5.49)	5.43 (5.39-5.48)	5.56 (5.49-5.62)	5.58 (5.54-5.61)	5.60 (5.56-5.65)	5.57 (5.54-5.61)	5.61 (5.55-5.66)	5.63 (5.59-5.68)	<.001	
Non-cardiovascular disease	5.39 (5.29-5.49)	5.48 (5.43-5.53)	5.47 (5.44-5.51)	5.42 (5.38-5.47)	5.55 (5.50-5.60)	5.59 (5.56-5.63)	5.60 (5.56-5.64)	5.57 (5.54-5.60)	5.62 (5.55-5.69)	5.63 (5.59-5.66)	<.001	
History of cardiovascular disease	5.60 (5.46-5.75)	5.83 (5.39-6.26)	5.67 (5.55-5.78)	5.58 (5.49-5.67)	5.90 (5.72-6.09)	5.82 (5.69-5.94)	6.00 (5.83-6.17)	5.97 (5.76-6.17)	6.09 (5.65-6.52)	6.02 (5.69-6.35)	<.001	
Total cholesterol, mg/dL												
Overall	203.3 (200.9-205.8)	201.6 (199.1-204.0)	200.9 (199.5-202.3)	197.8 (196.2-199.4)	196.5 (194.7-198.3)	195.3 (193.3-197.4)	194.3 (192.4-196.2)	188.9 (187.3-190.6)	191.8 (189.2-194.3)	188.5 (185.2-191.9)	<.001	
Men[c]	203.0 (200.1-205.9)	201.1 (197.0-205.3)	200.3 (198.8-201.8)	195.4 (193.3-197.5)	194.1 (191.5-196.6)	193.8 (191.4-196.2)	190.7 (188.2-193.2)	186.1 (183.4-188.7)	189.7 (186.7-192.7)	185.6 (181.6-189.6)	<.001	
Women[c]	203.5 (200.7-206.2)	201.7 (199.5-203.8)	201.2 (198.9-203.6)	199.7 (197.8-201.5)	198.3 (196.0-200.6)	196.5 (193.9-199.0)	197.4 (195.4-199.3)	191.3 (189.8-192.9)	193.3 (190.5-196.1)	190.9 (187.4-194.4)	<.001	
Non-cardiovascular disease	204.0 (201.2-206.9)	202.3 (199.8-204.9)	201.5 (200.0-203.0)	199.3 (197.3-201.2)	197.7 (195.9-199.5)	196.8 (194.7-198.9)	195.5 (193.5-197.4)	190.2 (188.5-191.9)	193.2 (190.7-195.8)	189.7 (186.3-193.2)	<.001	

Cardiovascular risk factors	1999-2000 (n=4158)	2001-2002 (n=4685)	2003-2004 (n=4486)	2005-2006 (n=4410)	2007-2008 (n=5619)	2009-2010 (n=5960)	2011-2012 (n=5239)	2013-2014 (n=5484)	2015-2016 (n=5360)	2017-2018 (n=5170)	P for linear trend	P for non-linear trend[b]
History of cardiovascular disease	193.7 (188.3-199.0)	197.5 (187.0-207.9)	198.7 (189.6-207.9)	184.1 (167.4-200.8)	189.6 (183.8-195.5)	181.2 (171.2-191.1)	185.2 (180.1-190.2)	187.8 (178.3-197.4)	180.4 (172.0-188.8)	182.9 (172.2-193.5)	<.001	
Current smoking, %												
Overall	24.8 (21.8-27.7)	25.1 (22.6-27.6)	26.2 (23.9-28.4)	24.4 (21.6-27.3)	23.4 (20.4-26.3)	20.9 (19.0-22.7)	20.3 (17.8-22.9)	20.8 (18.5-23.1)	19.1 (17.0-21.2)	18.1 (15.4-20.8)	<.001	
Men[c]	27.3 (23.8-30.8)	26.9 (24.1-29.8)	28.8 (26.1-31.4)	27.3 (23.6-31.1)	26.0 (22.7-29.4)	22.3 (20.1-24.4)	24.0 (20.6-27.3)	21.4 (19.0-23.8)	21.4 (18.5-24.3)	19.8 (16.8-22.8)	<.001	
Women[c]	22.2 (18.9-25.4)	23.1 (20.2-25.9)	23.5 (21.0-26.0)	21.4 (18.4-24.4)	20.6 (17.5-23.6)	19.5 (17.1-21.8)	17.0 (14.1-19.9)	20.1 (17.1-23.0)	17.0 (15.0-18.9)	16.5 (13.4-19.5)	<.001	
Non-cardiovascular disease	24.5 (21.7-27.4)	24.8 (22.4-27.1)	25.9 (23.5-28.3)	24.2 (21.3-27.1)	22.8 (19.9-25.7)	20.5 (18.6-22.4)	19.7 (17.4-22.0)	20.1 (17.6-22.6)	18.2 (16.0-20.4)	17.6 (15.1-20.1)	<.001	
History of cardiovascular disease	23.5 (12.2-34.9)	36.1 (27.6-44.5)	39.8 (25.2-54.4)	24.7 (13.5-35.9)	38.9 (29.2-48.7)	33.8 (23.8-43.7)	36.2 (24.9-47.5)	38.7 (24.4-53.0)	38.6 (23.3-54.0)	31.1 (21.3-41.0)	.25	
10-year risk of atherosclerotic cardiovascular disease, %[d]												
Overall	7.6 (6.9-8.2)	7.3 (6.9-7.6)	7.0 (6.5-7.5)	6.9 (6.4-7.4)	6.9 (6.5-7.3)	6.7 (6.4-7.0)	6.5 (6.1-6.8)	6.5 (6.1-6.8)	6.6 (6.1-7.1)	6.6 (6.2-6.9)	<.001	
Men[c]	8.7 (7.9-9.4)	8.5 (8.1-8.9)	8.4 (7.8-9.1)	7.9 (7.4-8.3)	8.3 (7.9-8.7)	8.0 (7.6-8.4)	8.2 (7.6-8.7)	7.8 (7.5-8.2)	8.3 (7.6-9.0)	8.1 (7.8-8.5)	.10	
Women[c]	6.9 (6.0-7.7)	6.4 (6.0-6.8)	6.0 (5.2-6.7)	6.2 (5.5-6.8)	5.9 (5.4-6.3)	5.7 (5.3-6.0)	5.1 (4.8-5.4)	5.5 (5.0-6.1)	5.4 (4.9-5.8)	5.5 (4.9-6.0)	<.001	

[a] Age- and sex-adjusted for the entire US population by the direct standardization method to the US 2000 Census population using the following age and sex categories: 20-39 male, 40-59 male, 60 years or older male, 20-39 female, 40-59 female, and 60 years or older female.

[b] Nonlinear trend was tested first by adding a quadratic term into the regression model. If not significant, linear trend was tested.

[c] Age-adjusted for the entire US population by the direct standardization method to the US 2000 Census population using three age categories: 20-39, 40-59, and 60 years or older.

[d] The 10-year risk of atherosclerotic cardiovascular disease (ASCVD) was calculated using the ACC/AHA Pooled Risk Equations.

eTable 2. Sex-Adjusted Mean and Prevalence (95% Confidence Intervals) of Cardiovascular Risk Factors by Age Groups, NHANES 1999-2018

Cardiovascular risk factors/ age groups	1999-2000 (n=4158)	2001-2002 (n=4685)	2003-2004 (n=4486)	2005-2006 (n=4410)	2007-2008 (n=5619)	2009-2010 (n=5960)	2011-2012 (n=5239)	2013-2014 (n=5484)	2015-2016 (n=5360)	2017-2018 (n=5170)	*P* for linear trend	*P* for non-linear trend[a]
Body mass index, mean (95% CI)												
20-39 years	27.2 (26.8-27.8)	27.2 (26.7-27.6)	27.4 (26.9-27.8)	27.6 (27.0-28.2)	28.0 (27.4-28.6)	28.0 (27.5-28.5)	27.9 (27.3-28.5)	28.7 (28.0-29.3)	28.8 (28.1-29.5)	29.3 (28.4-30.2)	<.001	
40-59 years	28.6 (27.8-29.5)	28.7 (28.1-29.3)	29.0 (28.5-29.5)	29.5 (28.8-30.2)	29.0 (28.6-29.5)	29.0 (28.6-29.4)	29.5 (29.1-30.0)	29.7 (29.0-30.3)	29.9 (29.1-30.7)	30.5 (29.8-31.2)	<.001	
≥60 years	28.2 (27.9-28.6)	28.4 (27.9-28.8)	28.2 (27.9-28.6)	28.5 (28.1-28.8)	28.7 (28.3-29.0)	29.3 (28.9-29.7)	28.7 (28.0-29.4)	29.2 (28.7-29.7)	29.5 (28.9-30.2)	29.6 (29.1-30.1)	<.001	
P for group difference	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.30	
Obesity, %												
20-39 years	25.5 (22.3-28.8)	25.5 (22.6-28.4)	28.4 (25.3-31.5)	28.6 (24.4-32.8)	30.7 (26.3-35.1)	32.6 (28.9-36.3)	30.5 (26.6-34.4)	34.5 (31.2-37.7)	35.8 (31.8-39.8)	40.0 (34.4-45.6)	<.001	
40-59 years	33.3 (26.8-39.7)	33.4 (30.2-36.6)	36.3 (32.4-40.3)	40.0 (35.4-44.6)	36.0 (32.5-39.6)	36.5 (34.3-38.6)	39.5 (36.0-42.9)	41.2 (36.8-45.6)	42.8 (37.4-48.3)	44.8 (40.8-48.9)	<.001	
≥60 years	33.3 (29.8-36.9)	31.8 (28.2-35.3)	30.9 (28.1-33.7)	33.2 (30.8-35.6)	34.9 (32.7-37.1)	39.4 (36.4-42.5)	35.4 (31.2-39.6)	38.5 (35.0-42.0)	41.0 (36.8-45.1)	42.8 (37.5-48.0)	<.001	
P for group difference	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.25	
Systolic blood pressure, mmHg, mean (95% CI)												
20-39 years	115.2 (113.6-116.9)	114.3 (113.6-115.0)	114.7 (113.9-115.6)	115.3 (114.2-116.4)	115.2 (114.3-116.1)	114.6 (113.9-115.3)	114.7 (113.4-116.0)	115.2 (114.2-116.2)	116.6 (115.6-117.5)	115.8 (114.6-117.0)	.05	

Cardiovascular risk factors/ age groups	1999-2000 (n=4158)	2001-2002 (n=4685)	2003-2004 (n=4486)	2005-2006 (n=4410)	2007-2008 (n=5619)	2009-2010 (n=5960)	2011-2012 (n=5239)	2013-2014 (n=5484)	2015-2016 (n=5360)	2017-2018 (n=5170)	P for linear trend	P for non-linear trend[a]
40-59 years	122.7 (121.1-124.2)	122.9 (121.4-124.4)	123.4 (121.8-125.0)	122.9 (121.8-124.0)	121.9 (120.8-123.0)	120.5 (119.1-121.9)	121.9 (120.3-123.5)	121.5 (120.4-122.7)	124.0 (122.6-125.4)	124.0 (122.6-125.4)		<.001
≥60 years	139.7 (137.6-141.8)	138.9 (136.9-140.8)	135.7 (133.0-138.5)	133.9 (131.7-136.1)	133.1 (131.4-134.7)	131.1 (129.7-132.5)	132.0 (130.3-133.7)	131.7 (130.2-133.2)	132.2 (130.2-134.2)	133.3 (131.5-135.0)		<.001
P for group difference	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<.001
Hypertension, %												
20-39 years	25.0 (20.5-29.5)	25.3 (22.0-28.6)	20.1 (17.7-22.6)	20.0 (16.3-23.6)	19.9 (16.6-23.3)	21.3 (19.3-23.3)	21.7 (18.0-25.4)	19.1 (16.5-21.6)	22.3 (18.5-26.1)	24.4 (21.8-27.1)		<.001
40-59 years	52.8 (49.0-56.7)	49.9 (46.2-53.7)	52.8 (46.5-59.0)	52.2 (48.2-56.3)	49.7 (46.7-52.6)	46.3 (40.5-52.1)	51.1 (49.3-52.9)	48.7 (45.0-52.4)	51.8 (48.1-55.5)	54.2 (48.9-59.5)		.04
≥60 years	78.8 (72.8-84.8)	79.1 (75.6-82.5)	76.4 (72.4-80.3)	75.3 (71.0-79.5)	77.6 (74.6-80.5)	76.3 (73.1-79.4)	75.7 (72.5-78.8)	76.3 (73.1-79.6)	72.2 (67.2-77.3)	74.0 (70.7-77.4)	.02	
P for group difference	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001		.02
Hemoglobin A1c, %, mean (95% CI)												
20-39 years	5.12 (5.03-5.21)	5.26 (5.21-5.32)	5.25 (5.21-5.28)	5.18 (5.13-5.23)	5.28 (5.24-5.33)	5.33 (5.29-5.36)	5.34 (5.29-5.40)	5.26 (5.23-5.29)	5.33 (5.28-5.38)	5.34 (5.29-5.38)	<.001	
40-59 years	5.50 (5.38-5.63)	5.54 (5.48-5.60)	5.59 (5.54-5.65)	5.53 (5.47-5.59)	5.67 (5.61-5.73)	5.70 (5.65-5.76)	5.73 (5.65-5.81)	5.73 (5.66-5.80)	5.79 (5.67-5.90)	5.79 (5.72-5.86)	<.001	
≥60 years	5.82 (5.70-5.94)	5.83 (5.77-5.89)	5.78 (5.73-5.84)	5.78 (5.71-5.84)	5.96 (5.84-6.08)	5.97 (5.91-6.03)	5.97 (5.88-6.06)	5.96 (5.93-6.00)	5.98 (5.90-6.06)	6.01 (5.95-6.07)	<.001	
P for group difference	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	

Cardiovascular risk factors/ age groups	1999-2000 (n=4158)	2001-2002 (n=4685)	2003-2004 (n=4486)	2005-2006 (n=4410)	2007-2008 (n=5619)	2009-2010 (n=5960)	2011-2012 (n=5239)	2013-2014 (n=5484)	2015-2016 (n=5360)	2017-2018 (n=5170)	*P* for linear trend	*P* for non-linear trend[a]
Diabetes, %												
20-39 years	1.7 (0.6-2.8)	2.4 (0.9-3.9)	2.4 (1.3-3.5)	2.5 (1.7-3.2)	3.1 (2.4-3.8)	2.6 (1.9-3.3)	3.0 (1.7-4.3)	2.6 (1.9-3.2)	3.7 (2.7-4.7)	3.3 (2.3-4.3)	.009	
40-59 years	8.9 (6.7-11.0)	8.9 (7.0-10.9)	10.2 (8.2-12.1)	9.5 (7.3-11.7)	12.1 (10.3-13.8)	10.8 (8.5-13.1)	12.4 (9.3-15.5)	13.2 (10.6-15.8)	14.7 (11.4-18.0)	14.9 (11.9-17.9)	<.001	
≥60 years	18.9 (16.1-21.8)	19.7 (18.2-21.1)	20.5 (18.0-23.1)	20.3 (18.0-22.6)	24.4 (20.1-28.7)	25.3 (22.9-27.7)	22.1 (19.5-24.7)	23.5 (21.9-25.2)	25.2 (21.7-28.8)	26.2 (23.8-28.6)	<.001	
P for group difference	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.20	
Total cholesterol, mg/dL, mean (95% CI)												
20-39 years	188.8 (186.2-191.5)	188.9 (186.0-191.8)	189.7 (187.4-192.1)	188.9 (186.4-191.5)	187.8 (185.0-190.5)	184.8 (182.8-186.7)	182.7 (180.2-185.2)	180.4 (176.8-184.0)	181.0 (179.0-183.0)	179.0 (175.2-182.9)	<.001	
40-59 years	211.3 (207.0-215.6)	210.8 (206.8-214.8)	209.5 (206.0-212.9)	206.0 (203.1-209.0)	206.2 (203.0-209.4)	205.9 (202.0-209.9)	205.5 (202.7-208.3)	198.6 (196.8-200.4)	203.0 (198.3-207.7)	198.9 (195.1-202.7)	<.001	
≥60 years	216.0 (214.0-218.0)	209.4 (206.2-212.6)	207.1 (204.6-209.5)	200.2 (197.4-203.0)	196.2 (193.8-198.7)	197.0 (193.3-200.7)	196.3 (192.7-200.0)	188.3 (185.2-191.4)	192.4 (189.6-195.2)	188.4 (183.4-193.3)		.001
P for group difference	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001		<.001
High total cholesterol, %												
20-39 years	10.4 (5.0-15.9)	15.1 (12.1-18.0)	14.4 (12.1-16.7)	15.1 (10.4-19.7)	14.5 (11.3-17.8)	12.5 (8.7-16.4)	7.5 (5.9-9.2)	8.6 (6.6-10.7)	8.6 (7.0-10.1)	8.2 (6.3-10.0)		.02
40-59 years	31.6 (27.3-36.0)	30.4 (27.1-33.7)	33.7 (30.5-37.0)	32.5 (27.5-37.6)	34.6 (30.3-38.9)	35.4 (33.2-37.6)	33.6 (30.4-36.7)	29.9 (25.8-33.9)	29.8 (27.0-32.5)	26.4 (23.2-29.5)		<.001

Cardiovascular risk factors/ age groups	1999-2000 (n=4158)	2001-2002 (n=4685)	2003-2004 (n=4486)	2005-2006 (n=4410)	2007-2008 (n=5619)	2009-2010 (n=5960)	2011-2012 (n=5239)	2013-2014 (n=5484)	2015-2016 (n=5360)	2017-2018 (n=5170)	P for linear trend	P for non-linear trend[a]
≥60 years	43.1 (40.5-45.8)	42.2 (39.6-44.8)	50.3 (47.9-52.8)	49.6 (47.0-52.2)	52.1 (49.8-54.5)	52.9 (49.2-56.6)	53.7 (50.2-57.2)	55.5 (52.0-59.1)	53.9 (51.4-56.3)	52.3 (48.7-55.9)		<.001
P for group difference	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001		<.001
Current cigarette smoking, %												
20-39 years	31.7 (26.9-36.5)	32.6 (27.8-37.4)	33.7 (30.4-37.1)	29.6 (25.6-33.6)	29.5 (25.5-33.5)	26.6 (23.2-30.1)	22.5 (18.3-26.7)	24.3 (21.4-27.2)	21.7 (19.2-24.3)	22.3 (17.7-26.8)	<.001	
40-59 years	24.5 (20.2-28.8)	25.0 (21.6-28.4)	27.1 (24.0-30.2)	25.6 (21.1-30.1)	24.8 (19.9-29.6)	21.4 (19.1-23.7)	23.5 (19.7-27.3)	23.3 (19.0-27.5)	20.5 (17.1-24.0)	18.1 (14.7-21.6)	<.001	
≥60 years	13.1 (10.5-15.8)	11.9 (9.6-14.3)	11.4 (9.7-13.1)	13.7 (10.8-16.6)	10.4 (8.4-12.5)	10.0 (8.4-11.7)	11.8 (9.7-13.8)	10.8 (8.7-12.8)	12.4 (9.6-15.2)	11.0 (9.2-12.8)	.27	
P for group difference	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.001	
10-year atherosclerotic cardiovascular disease, mean (95% CI)[b]												
20-39 years	1.8 (1.3-2.4)	1.5 (1.2-1.7)	1.4 (1.1-1.8)	1.3 (1.0-1.6)	1.6 (1.2-2.0)	1.2 (1.1-1.3)	1.0 (0.9-1.2)	1.3 (1.0-1.6)	1.1 (0.9-1.2)	1.1 (0.9-1.3)	<.001	
40-59 years	4.4 (3.8-5.0)	4.3 (3.9-4.6)	4.4 (3.9-4.8)	4.0 (3.7-4.4)	4.5 (4.1-4.8)	4.2 (3.9-4.4)	4.6 (3.8-5.3)	4.3 (4.0-4.6)	4.6 (4.1-5.1)	4.4 (4.1-4.8)	.35	
≥60 years	22.9 (20.8-25.0)	22.5 (21.0-24.0)	21.1 (19.3-22.9)	21.4 (19.8-23.1)	20.2 (19.1-21.3)	20.5 (19.4-21.5)	19.3 (18.2-20.4)	19.4 (18.3-20.5)	19.9 (17.8-22.1)	20.0 (18.6-21.4)		.04
P for group difference	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001		.99

[a] Nonlinear trend was tested first by adding a quadratic term into the regression model. If not significant, linear trend was tested.

[b] The 10-year risk for atherosclerotic cardiovascular disease was estimated using the Pooled Cohort Equations.

eTable 3. Age-Sex-Adjusted or Age-Adjusted Prevalences (95% Confidence Intervals) of Elevated Cardiovascular Risk Factors in US Adults Aged ≥20 Years, NHANES 1999-2018[a]

Elevated cardiovascular risk factors[b]	1999-2000 (n=4158)	2001-2002 (n=4685)	2003-2004 (n=4486)	2005-2006 (n=4410)	2007-2008 (n=5619)	2009-2010 (n=5960)	2011-2012 (n=5239)	2013-2014 (n=5484)	2015-2016 (n=5360)	2017-2018 (n=5170)	*P* for linear trend	*P* for non-linear trend[c]
Obesity, %												
Overall	30.2 (26.9-33.4)	29.9 (27.5-32.2)	31.9 (29.4-34.4)	33.9 (31.0-36.8)	33.6 (31.3-36.0)	35.6 (33.6-37.5)	34.9 (32.0-37.9)	37.9 (35.9-39.9)	39.6 (36.1-43.1)	42.4 (38.6-46.3)	<.001	
Men[d]	26.9 (23.6-30.2)	27.1 (24.8-29.3)	30.8 (28.1-33.5)	32.8 (28.4-37.1)	32.0 (29.1-34.9)	35.2 (31.6-38.9)	33.6 (30.7-36.4)	35.1 (32.8-37.3)	37.9 (33.0-42.7)	43.0 (37.4-48.7)	<.001	
Women[d]	33.4 (29.7-37.2)	32.6 (29.5-35.7)	33.1 (29.5-36.6)	35.1 (32.1-38.0)	35.5 (33.0-37.9)	35.8 (34.0-37.7)	36.2 (32.6-39.9)	40.7 (37.8-43.7)	41.3 (38.0-44.6)	41.9 (37.7-46.0)	<.001	
Non-cardiovascular disease	29.9 (26.7-33.0)	29.2 (27.1-31.3)	31.1 (28.7-33.6)	33.2 (30.4-36.0)	33.0 (30.6-35.4)	34.7 (32.5-36.8)	34.1 (31.2-37.1)	37.2 (35.3-39.2)	38.7 (35.2-42.2)	41.6 (37.9-45.4)	<.001	
History of cardiovascular disease	46.2 (29.4-62.9)	43.0 (29.9-56.2)	46.2 (28.8-63.7)	39.0 (24.8-53.3)	47.6 (35.8-59.4)	46.1 (38.6-53.7)	48.6 (36.4-60.9)	47.4 (40.7-54.0)	53.6 (39.8-67.3)	60.6 (48.3-72.9)	<.001	
Hypertension, %												
Overall	47.3 (44.1-50.5)	46.5 (43.6-49.3)	44.8 (41.4-48.1)	44.1 (41.6-46.6)	43.9 (42.1-45.8)	42.9 (40.5-45.4)	44.7 (42.8-46.6)	42.9 (41.1-44.7)	44.4 (42.1-46.7)	46.5 (43.5-49.5)		.007
Men[d]	53.1 (49.1-57.0)	50.9 (46.5-55.3)	49.4 (45.1-53.8)	48.8 (45.7-51.9)	48.2 (45.9-50.4)	46.8 (43.3-50.2)	49.1 (46.0-52.1)	46.6 (43.7-49.6)	48.3 (44.9-51.8)	52.7 (48.9-56.6)		.002
Women[d]	42.3 (38.8-45.8)	42.5 (39.6-45.4)	40.9 (38.0-43.8)	40.1 (37.3-43.0)	40.3 (38.0-42.5)	39.6 (37.4-41.9)	41.1 (38.7-43.6)	39.9 (37.6-42.2)	40.9 (38.2-43.7)	41.0 (37.8-44.3)	.25	

Elevated cardiovascular risk factors[b]	1999-2000 (n=4158)	2001-2002 (n=4685)	2003-2004 (n=4486)	2005-2006 (n=4410)	2007-2008 (n=5619)	2009-2010 (n=5960)	2011-2012 (n=5239)	2013-2014 (n=5484)	2015-2016 (n=5360)	2017-2018 (n=5170)	P for linear trend	P for non-linear trend[c]
Non-cardiovascular disease	46.9 (43.6-50.2)	45.9 (43.1-48.8)	43.6 (40.1-47.2)	43.3 (40.4-46.1)	43.0 (41.2-44.8)	41.9 (39.4-44.3)	43.6 (41.3-45.8)	42.0 (40.2-43.7)	43.4 (40.9-46.0)	45.3 (42.2-48.4)		.004
History of cardiovascular disease	41.7 (31.3-52.0)	64.3 (50.7-78.0)	59.0 (44.3-73.7)	45.1 (39.3-50.9)	59.8 (50.4-69.3)	64.6 (52.7-76.4)	60.0 (50.8-69.2)	61.3 (50.4-72.1)	63.8 (51.7-75.8)	73.9 (63.4-84.4)	.41	
Diabetes, %												
Overall	8.2 (6.8-9.6)	8.7 (7.3-10.1)	9.4 (8.2-10.5)	9.1 (8.0-10.2)	11.2 (9.6-12.8)	10.7 (9.6-11.9)	10.8 (9.5-12.1)	11.2 (10.2-12.1)	12.6 (10.9-14.3)	12.7 (11.5-14.0)	<.001	
Men[d]	9.5 (7.7-11.4)	10.2 (8.3-12.2)	10.5 (9.0-11.9)	9.7 (8.0-11.3)	12.7 (10.9-14.4)	12.5 (10.4-14.5)	12.2 (10.2-14.3)	12.9 (11.5-14.3)	15.0 (12.3-17.6)	14.7 (12.7-16.7)	<.001	
Women[d]	7.3 (5.7-8.9)	7.6 (6.3-8.8)	8.7 (7.5-9.9)	8.8 (7.4-10.1)	10.3 (8.4-12.2)	9.4 (8.4-10.5)	9.8 (8.3-11.3)	10.1 (9.1-11.0)	10.8 (9.2-12.4)	11.4 (9.0-13.8)	<.001	
Non-cardiovascular disease	7.3 (5.8-8.8)	7.9 (6.5-9.3)	8.3 (7.2-9.4)	8.0 (6.7-9.3)	9.8 (8.5-11.1)	9.8 (8.5-11.1)	9.7 (8.7-10.7)	9.9 (8.9-10.9)	11.6 (9.6-13.5)	11.3 (10.0-12.6)	<.001	
History of cardiovascular disease	15.0 (10.9-19.1)	21.5 (10.6-32.5)	15.4 (11.6-19.2)	16.3 (12.4-20.2)	22.4 (16.5-28.3)	17.1 (13.5-20.7)	22.2 (16.8-27.5)	25.8 (19.3-32.3)	25.8 (15.0-36.6)	25.9 (18.5-33.4)	<.001	
High total cholesterol, %												
Overall	25.7 (22.7-28.7)	26.8 (24.9-28.7)	29.7 (28.2-31.1)	29.4 (26.6-32.1)	30.4 (27.9-32.9)	30.1 (28.0-32.2)	27.6 (25.9-29.4)	27.1 (25.1-29.1)	26.6 (25.4-27.8)	24.8 (23.2-26.5)		<.001
Men[d]	26.7 (23.7-29.7)	29.3 (26.8-31.7)	31.1 (28.6-33.6)	28.6 (24.8-32.4)	31.8 (28.1-35.6)	31.9 (29.3-34.5)	27.4 (25.3-29.6)	28.8 (27.0-30.6)	29.3 (27.0-31.5)	26.6 (23.9-29.3)		.01

Elevated cardiovascular risk factors[b]	1999-2000 (n=4158)	2001-2002 (n=4685)	2003-2004 (n=4486)	2005-2006 (n=4410)	2007-2008 (n=5619)	2009-2010 (n=5960)	2011-2012 (n=5239)	2013-2014 (n=5484)	2015-2016 (n=5360)	2017-2018 (n=5170)	P for linear trend	P for non-linear trend[c]
Women[d]	24.9 (21.1-28.7)	24.3 (21.7-26.9)	28.5 (25.5-31.5)	30.3 (26.6-34.1)	29.5 (26.6-32.3)	28.7 (26.0-31.4)	28.2 (25.9-30.5)	25.9 (23.2-28.7)	24.6 (22.8-26.4)	23.5 (21.1-26.0)		<.001
Non-cardiovascular disease	24.2 (21.1-27.2)	25.3 (23.3-27.3)	28.2 (26.8-29.7)	28.2 (25.5-30.9)	29.3 (26.8-31.8)	29.1 (26.8-31.3)	26.0 (24.1-28.0)	25.4 (23.4-27.5)	24.8 (23.3-26.3)	23.0 (21.0-25.0)		<.001
History of cardiovascular disease	33.1 (27.2-39.0)	49.1 (40.1-58.0)	39.7 (25.0-54.3)	33.6 (28.7-38.6)	59.1 (45.7-72.4)	39.5 (28.1-50.9)	38.8 (33.6-44.1)	50.7 (39.8-61.6)	35.3 (31.1-39.6)	40.8 (35.4-46.1)	<.001	

[a] Age- and sex-adjusted for the entire US population by the direct standardization method to the US 2000 Census population using the following age and sex categories: 20-39 male, 40-59 male, 60 years or older male, 20-39 female, 40-59 female, and 60 years or older female.

[b] Obesity was defined as body mass index ≥30; hypertension as blood pressure ≥130/80 mmHg or use of antihypertensive medications; diabetes as fasting plasma glucose ≥126 mg/dL, hemoglobin A1c ≥6.5%, or use of antidiabetic medications; and high total cholesterol as ≥240 mg/dL or use of lipid-lowering medications.

[c] Nonlinear trend was tested first by adding a quadratic term into the regression model. If not significant, linear trend was tested.

[d] Age-adjusted for the entire US population by the direct standardization method to the US 2000 Census population using three age categories: 20-39, 40-59, and 60 years or older.

eTable 4. Age-Sex-Adjusted and Age-Adjusted Prevalences (95% Confidence Intervals) of Self-Reported History of Cardiovascular Disease and Use of Medications in US Adults Aged ≥20 Years, NHANES 1999-2018[a]

Medical history	1999-2000 (n=4158)	2001-2002 (n=4685)	2003-2004 (n=4486)	2005-2006 (n=4410)	2007-2008 (n=5619)	2009-2010 (n=5960)	2011-2012 (n=5239)	2013-2014 (n=5484)	2015-2016 (n=5360)	2017-2018 (n=5170)	P for linear trend	P for non-linear trend[b]
Use of any antihypertensive medications, %												
Overall	17.2 (15.1-19.3)	17.7 (16.1-19.3)	20.2 (18.1-22.3)	20.3 (18.8-21.8)	21.8 (20.4-23.2)	22.3 (20.5-24.1)	22.0 (20.1-23.8)	22.7 (20.6-24.8)	21.7 (19.8-23.6)	21.1 (19.0-23.3)		<.001
Men[c]	16.4 (13.4-19.5)	15.4 (13.7-17.1)	20.5 (18.5-22.4)	19.1 (17.2-21.1)	21.0 (19.0-23.0)	21.9 (19.7-24.2)	21.2 (18.8-23.5)	22.0 (19.9-24.1)	20.8 (17.9-23.7)	21.9 (19.4-24.4)		.01
Women[c]	18.3 (16.2-20.5)	20.0 (17.6-22.4)	20.4 (17.5-23.2)	21.8 (20.1-23.5)	22.9 (21.2-24.6)	23.1 (21.2-25.0)	23.2 (21.3-25.1)	23.8 (21.2-26.3)	22.8 (20.5-25.2)	20.9 (18.6-23.3)		<.001
Use of any antidiabetic medications, %												
Overall	5.3 (4.1-6.5)	5.7 (4.8-6.6)	6.3 (5.3-7.4)	6.2 (5.5-6.9)	7.2 (5.7-8.8)	7.2 (6.4-7.9)	7.2 (6.4-8.1)	7.7 (6.8-8.6)	8.2 (7.1-9.3)	8.6 (7.5-9.6)	<.001	
Men[c]	5.6 (3.9-7.2)	6.3 (5.1-7.5)	6.6 (5.4-7.7)	6.1 (4.7-7.4)	7.5 (6.2-8.9)	7.9 (6.6-9.2)	8.0 (7.1-8.9)	8.2 (7.1-9.4)	10.2 (8.4-12.1)	10.4 (8.8-12.0)	<.001	
Women[c]	5.2 (3.8-6.6)	5.3 (4.1-6.6)	6.4 (5.2-7.5)	6.4 (5.4-7.5)	7.2 (5.0-9.4)	6.7 (6.0-7.4)	6.8 (5.6-8.0)	7.6 (6.5-8.6)	6.7 (5.4-8.1)	7.2 (5.6-8.9)	.005	
Use of statins, %												
Overall	10.3 (9.1-11.4)	11.6 (10.6-12.5)	15.0 (13.6-16.4)	15.8 (14.2-17.4)	17.9 (16.3-19.5)	18.0 (16.9-19.1)	16.5 (14.8-18.1)	17.6 (15.9-19.2)	15.6 (14.4-16.8)	15.5 (14.0-17.0)		<.001
Men[c]	12.1 (10.0-14.2)	13.6 (11.7-15.5)	17.4 (15.8-18.9)	17.0 (14.8-19.3)	19.6 (17.0-22.3)	20.4 (18.7-22.0)	17.3 (15.5-19.0)	20.1 (18.5-21.7)	18.9 (16.9-20.9)	17.6 (15.5-19.8)		<.001
Women[c]	8.9 (8.1-9.7)	9.8 (8.4-11.2)	13.2 (11.2-15.3)	15.1 (12.4-17.8)	16.9 (14.9-18.9)	16.3 (14.2-18.4)	16.2 (13.8-18.6)	15.8 (13.6-17.9)	13.2 (11.7-14.7)	14.1 (12.2-15.9)		<.001

Medical history	1999-2000 (n=4158)	2001-2002 (n=4685)	2003-2004 (n=4486)	2005-2006 (n=4410)	2007-2008 (n=5619)	2009-2010 (n=5960)	2011-2012 (n=5239)	2013-2014 (n=5484)	2015-2016 (n=5360)	2017-2018 (n=5170)	*P* for linear trend	*P* for non-linear trend[b]
Self-reported cardiovascular disease, %												
Overall	7.2 (5.9-8.6)	7.3 (6.3-8.4)	8.5 (7.0-9.9)	7.8 (6.9-8.8)	7.6 (6.5-8.6)	6.8 (6.0-7.7)	7.0 (6.2-7.8)	7.3 (6.3-8.3)	6.7 (6.0-7.4)	7.3 (6.2-8.5)	.16	
Men[c]	9.4 (7.2-11.5)	8.7 (7.3-10.2)	9.9 (8.0-11.7)	9.3 (8.1-10.5)	9.1 (7.9-10.2)	8.9 (7.7-10.1)	8.1 (7.0-9.2)	8.4 (6.9-9.9)	8.0 (6.8-9.2)	9.0 (7.3-10.8)	.20	
Women[c]	5.6 (4.3-7.0)	6.4 (4.9-7.8)	7.6 (6.1-9.2)	7.0 (5.4-8.6)	6.5 (5.1-8.0)	5.4 (4.2-6.5)	6.3 (5.2-7.5)	6.7 (5.2-8.2)	5.9 (4.9-6.8)	6.2 (4.8-7.6)	.44	

[a] Age- and sex-adjusted for the entire US population by the direct standardization method to the US 2000 Census population using the following age and sex categories: 20-39 male, 40-59 male, 60 years or older male, 20-39 female, 40-59 female, and 60 years or older female.

[b] Nonlinear trend was tested first by adding a quadratic term into the regression model. If not significant, linear trend was tested.

[c] Age-adjusted for the entire US population by the direct standardization method to the US 2000 Census population using three age categories: 20-39, 40-59, and 60 years or older.

eTable 5. Age-Sex-Adjusted Mean (95% Confidence Intervals) Cardiovascular Risk Factors Overall and by Race and Socioeconomic Status, NHANES 1999-2018[a]

Cardiovascular risk factors	1999-2000	2001-2002	2003-2004	2005-2006	2007-2008	2009-2010	2011-2012	2013-2014	2015-2016	2017-2018	*P* for linear trend	*P* for non-linear trend[b]
					Race/ethnicity							
Body mass index, mean (95% CI)												
Non-Hispanic Asian							24.6 (24.1-25.0)	24.8 (24.4-25.2)	25.0 (24.7-25.2)	26.3 (25.9-26.6)	<.001	
Non-Hispanic Black	29.7 (29.1-30.2)	29.1 (28.6-29.6)	30.1 (29.5-30.8)	30.3 (29.7-31.0)	30.1 (29.6-30.6)	30.9 (30.2-31.5)	30.7 (30.1-31.3)	30.7 (30.2-31.3)	30.5 (29.8-31.2)	31.2 (30.6-31.7)	<.001	
Hispanic	28.3 (28.0-28.7)	28.0 (27.3-28.8)	28.7 (28.0-29.4)	28.7 (28.2-29.2)	29.4 (28.8-29.9)	29.3 (28.8-29.8)	29.6 (29.1-30.1)	29.8 (29.2-30.5)	30.6 (30.0-31.3)	30.3 (29.8-30.8)	<.001	
Non-Hispanic White	27.7 (27.0-28.3)	27.8 (27.5-28.2)	27.9 (27.4-28.3)	28.2 (27.7-28.7)	28.3 (27.7-28.9)	28.4 (28.1-28.7)	28.4 (27.8-28.9)	29.0 (28.5-29.5)	29.1 (28.5-29.7)	29.7 (28.8-30.5)	<.001	
P for group difference	<.001	.001	<.001	<.001	.001	<.001	<.001	<.001	<.001	<.001	<.001	
Systolic blood pressure, mmHg, mean (95% CI)												
Non-Hispanic Asian							119.8 (118.7-120.8)	120.3 (119.0-121.6)	121.3 (119.7-122.8)	122.5 (121.0-124.1)	.001	
Non-Hispanic Black	127.6 (126.3-128.8)	128.6 (127.9-129.3)	127.6 (125.2-130.0)	127.1 (125.7-128.5)	125.4 (123.6-127.2)	125.1 (122.9-127.4)	126.1 (123.6-128.7)	126.2 (125.3-127.0)	127.5 (125.9-129.0)	128.5 (127.2-129.8)		<.001
Hispanic	125.2 (122.5-127.9)	122.7 (121.6-123.8)	123.2 (120.6-125.7)	122.2 (120.0-124.5)	122.2 (120.3-124.1)	121.7 (120.4-122.9)	120.5 (118.8-122.1)	121.6 (120.5-122.7)	123.8 (123.1-124.6)	123.1 (121.7-124.5)		.003
Non-Hispanic White	122.5 (121.0-124.0)	122.2 (121.1-123.4)	121.7 (120.4-122.9)	121.6 (120.4-122.8)	121.2 (120.3-122.1)	119.8 (119.0-120.7)	120.8 (119.3-122.3)	120.3 (119.6-121.1)	122.0 (121.0-122.9)	121.9 (120.5-123.2)		.002
P for group difference	<.001	<.001	<.001	<.001	.003	<.001	<.001	<.001	<.001	<.001		.45

Cardiovascular risk factors	1999-2000	2001-2002	2003-2004	2005-2006	2007-2008	2009-2010	2011-2012	2013-2014	2015-2016	2017-2018	*P* for linear trend	*P* for non-linear trend[b]
Hemoglobin A1c, %, mean (95% CI)												
Non-Hispanic Asian							5.73 (5.63-5.83)	5.74 (5.65-5.82)	5.72 (5.64-5.79)	5.81 (5.72-5.90)	.26	
Non-Hispanic Black	5.72 (5.64-5.79)	5.74 (5.64-5.83)	5.71 (5.64-5.79)	5.78 (5.73-5.83)	5.86 (5.76-5.96)	5.84 (5.78-5.89)	5.90 (5.80-6.01)	5.82 (5.78-5.85)	5.91 (5.83-5.98)	5.86 (5.80-5.92)	<.001	
Hispanic	5.62 (5.50-5.73)	5.65 (5.55-5.76)	5.80 (5.70-5.91)	5.75 (5.61-5.88)	5.71 (5.65-5.77)	5.83 (5.72-5.94)	5.85 (5.76-5.94)	5.81 (5.75-5.86)	5.94 (5.80-6.07)	5.80 (5.71-5.88)	<.001	
Non-Hispanic White	5.33 (5.21-5.44)	5.41 (5.38-5.44)	5.41 (5.37-5.46)	5.34 (5.31-5.38)	5.50 (5.42-5.58)	5.52 (5.49-5.55)	5.52 (5.47-5.57)	5.50 (5.47-5.53)	5.52 (5.46-5.58)	5.57 (5.51-5.64)	<.001	
P for group difference	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.004	
Total cholesterol, mg/dL, mean (95% CI)												
Non-Hispanic Asian							191.2 (187.7-194.8)	190.3 (186.6-194.1)	190.7 (186.3-195.2)	192.1 (186.2-198.0)	.76	
Non-Hispanic Black	195.9 (193.3-198.5)	198.8 (193.5-204.1)	196.3 (193.1-199.5)	189.9 (187.4-192.4)	192.5 (189.2-195.9)	189.9 (187.4-192.3)	188.9 (186.5-191.3)	182.7 (179.7-185.8)	185.3 (181.4-189.3)	185.4 (181.3-189.6)	<.001	
Hispanic	202.0 (197.8-206.2)	201.7 (195.6-207.8)	201.6 (198.3-205.0)	201.9 (198.8-205.0)	198.6 (195.9-201.2)	197.1 (194.5-199.7)	195.2 (192.3-198.1)	192.6 (189.1-196.1)	190.6 (188.0-193.3)	188.6 (183.7-193.5)	<.001	
Non-Hispanic White	204.6 (201.4-207.9)	201.6 (198.8-204.4)	201.7 (199.9-203.5)	198.4 (196.4-200.4)	196.9 (194.8-199.1)	195.7 (193.2-198.2)	195.1 (192.4-197.9)	189.5 (187.5-191.5)	192.8 (190.1-195.5)	188.4 (183.9-192.9)	<.001	
P for group difference	.004	.52	.009	<.001	.05	<.001	<.001	.002	<.001	.22	.03	
Current cigarette smoking, %												
Non-Hispanic Asian							10.4 (8.2-12.5)	8.6 (6.3-10.9)	10.0 (5.8-14.1)	7.4 (4.2-10.6)	.16	

Cardiovascular risk factors	1999-2000	2001-2002	2003-2004	2005-2006	2007-2008	2009-2010	2011-2012	2013-2014	2015-2016	2017-2018	*P* for linear trend	*P* for non-linear trend[b]
Non-Hispanic Black	26.4 (22.7-30.1)	28.3 (23.7-32.9)	25.9 (20.4-31.4)	23.8 (19.4-28.2)	26.8 (22.7-30.8)	27.9 (22.8-32.9)	22.7 (18.8-26.7)	27.0 (23.4-30.6)	24.8 (22.0-27.6)	22.1 (17.6-26.6)	.08	
Hispanic	20.8 (15.2-26.3)	26.2 (20.1-32.3)	23.2 (20.3-26.2)	17.7 (14.9-20.5)	18.2 (14.4-22.1)	18.0 (15.5-20.5)	16.4 (13.6-19.2)	13.6 (11.1-16.1)	15.5 (13.3-17.6)	12.6 (8.8-16.4)	<.001	
Non-Hispanic White	25.8 (21.8-29.7)	25.3 (22.0-28.6)	27.4 (25.2-29.6)	26.7 (22.6-30.9)	24.7 (20.7-28.7)	21.3 (18.9-23.6)	21.4 (17.6-25.3)	22.7 (19.2-26.1)	19.5 (16.0-22.9)	19.6 (15.9-23.2)	<.001	
P for group difference	.13	.56	.10	.001	.02	.01	<.001	<.001	<.001	<.001	.009	
10-year risk of atherosclerotic cardiovascular disease, mean (95% CI)[c]												
Non-Hispanic Asian							6.3 (5.7-7.0)	6.0 (5.6-6.5)	6.7 (5.3-8.1)	6.6 (6.0-7.3)	.26	
Non-Hispanic Black	9.1 (8.3-9.8)	7.9 (7.2-8.6)	7.7 (7.1-8.4)	8.1 (7.2-8.9)	7.9 (7.2-8.6)	7.8 (7.1-8.4)	7.9 (7.4-8.4)	7.6 (7.3-8.0)	8.0 (7.2-8.8)	8.3 (7.5-9.0)		.03
Hispanic	7.3 (5.9-8.7)	8.3 (6.5-10.2)	7.5 (6.2-8.8)	6.4 (5.5-7.3)	6.9 (6.2-7.6)	7.1 (6.4-7.8)	6.6 (6.0-7.1)	5.8 (5.4-6.3)	6.7 (5.8-7.5)	6.4 (5.8-6.9)	.02	
Non-Hispanic White	7.5 (6.6-8.4)	7.2 (6.8-7.5)	6.8 (6.3-7.4)	6.8 (6.2-7.4)	6.8 (6.2-7.4)	6.4 (6.0-6.8)	6.3 (5.8-6.7)	6.5 (6.0-7.0)	6.4 (5.8-6.9)	6.3 (5.8-6.8)	<.001	
P for group difference	.04	.002	.04	.005	.02	.004	<.001	<.001	.001	.003		.97
Educational Attainment												
Body mass index, mean (95% CI)												
<High school	28.4 (27.6-29.2)	28.4 (27.8-29.0)	28.4 (27.7-29.1)	28.8 (28.4-29.1)	29.1 (28.6-29.7)	29.1 (28.6-29.7)	29.2 (28.5-29.8)	29.3 (28.8-29.8)	29.6 (29.0-30.3)	29.6 (28.5-30.6)	<.001	
High school graduate	28.5 (27.9-29.0)	28.3 (27.7-29.0)	28.7 (28.2-29.1)	29.1 (28.6-29.7)	28.9 (28.3-29.6)	29.1 (28.7-29.6)	29.6 (28.9-30.3)	29.9 (29.1-30.6)	30.0 (29.1-30.8)	30.3 (29.9-30.8)	<.001	
Some college	28.2 (27.6-28.8)	28.3 (27.7-28.9)	28.3 (27.9-28.8)	29.0 (28.4-29.6)	28.9 (28.4-29.3)	29.2 (28.9-29.6)	29.1 (28.6-29.6)	30.1 (29.5-30.7)	30.1 (29.4-30.7)	30.7 (30.0-31.3)	<.001	

Cardiovascular risk factors	1999-2000	2001-2002	2003-2004	2005-2006	2007-2008	2009-2010	2011-2012	2013-2014	2015-2016	2017-2018	*P* for linear trend	*P* for non-linear trend[b]
≥College graduate	26.6 (25.9-27.3)	27.0 (26.6-27.4)	27.3 (26.5-28.0)	27.2 (26.5-27.9)	27.4 (26.7-28.0)	27.4 (26.8-28.1)	27.5 (26.8-28.2)	27.6 (27.1-28.0)	28.2 (27.5-28.8)	28.6 (27.6-29.6)	<.001	
P for group difference	<.001	.002	.02	<.001	<.001	<.001	<.001	<.001	.002	<.001	.80	
Systolic blood pressure, mmHg, mean (95% CI)												
<High school	125.9 (124.5-127.2)	125.3 (124.0-126.6)	124.7 (123.2-126.1)	123.7 (121.6-125.8)	123.6 (122.3-124.9)	122.5 (121.0-123.9)	123.0 (121.3-124.7)	123.0 (121.4-124.6)	124.9 (123.1-126.6)	125.5 (124.0-127.0)		<.001
High school graduate	123.4 (122.0-124.8)	123.1 (122.2-124.0)	122.8 (121.2-124.4)	123.0 (121.8-124.3)	122.9 (121.8-124.0)	121.3 (120.0-122.7)	122.1 (120.6-123.7)	122.7 (121.3-124.1)	124.3 (122.5-126.1)	124.0 (122.8-125.2)		.003
Some college	123.6 (121.4-125.7)	123.0 (121.5-124.5)	122.7 (121.1-124.3)	122.4 (120.9-123.9)	122.0 (120.9-123.1)	120.7 (119.5-121.9)	121.5 (120.2-122.8)	121.7 (120.9-122.5)	123.1 (121.7-124.6)	123.5 (122.5-124.5)		.001
≥College graduate	120.5 (118.3-122.7)	121.8 (119.7-123.8)	120.3 (118.9-121.7)	119.8 (118.7-120.8)	118.5 (117.3-119.6)	117.8 (116.2-119.3)	119.3 (117.4-121.2)	118.8 (117.7-119.9)	120.7 (119.5-121.9)	119.9 (118.0-121.7)		.02
P for group difference	<.001	.007	<.001	<.001	<.001	<.001	.006	<.001	<.001	<.001		.44
Hemoglobin A1c, %, mean (95% CI)												
<High school	5.64 (5.56-5.71)	5.67 (5.63-5.72)	5.72 (5.61-5.83)	5.66 (5.56-5.76)	5.72 (5.66-5.77)	5.78 (5.70-5.85)	5.82 (5.73-5.90)	5.77 (5.70-5.84)	5.85 (5.74-5.96)	5.81 (5.75-5.88)	<.001	
High school graduate	5.44 (5.35-5.53)	5.48 (5.43-5.52)	5.46 (5.43-5.50)	5.47 (5.39-5.56)	5.64 (5.56-5.72)	5.60 (5.54-5.67)	5.73 (5.65-5.80)	5.64 (5.59-5.68)	5.70 (5.63-5.77)	5.72 (5.65-5.79)	<.001	
Some college	5.39 (5.22-5.55)	5.48 (5.42-5.54)	5.47 (5.41-5.53)	5.43 (5.38-5.48)	5.57 (5.50-5.63)	5.64 (5.60-5.68)	5.60 (5.55-5.66)	5.63 (5.58-5.67)	5.65 (5.56-5.75)	5.64 (5.60-5.68)	<.001	
≥College graduate	5.17 (5.07-5.27)	5.38 (5.31-5.45)	5.40 (5.35-5.46)	5.30 (5.24-5.36)	5.42 (5.36-5.48)	5.47 (5.44-5.50)	5.49 (5.42-5.55)	5.44 (5.38-5.50)	5.51 (5.45-5.57)	5.56 (5.48-5.63)	<.001	
P for group difference	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.33	

Cardiovascular risk factors	1999-2000	2001-2002	2003-2004	2005-2006	2007-2008	2009-2010	2011-2012	2013-2014	2015-2016	2017-2018	P for linear trend	P for non-linear trend[b]
Total cholesterol, mg/dL, mean (95% CI)												
<High school	202.2 (198.4-206.0)	198.6 (195.6-201.5)	203.6 (200.2-207.1)	198.4 (196.1-200.8)	196.7 (193.8-199.6)	196.3 (192.3-200.4)	192.8 (189.6-196.0)	187.4 (184.8-190.0)	188.7 (185.2-192.1)	188.3 (185.0-191.5)	<.001	
High school graduate	208.0 (203.4-212.6)	204.1 (201.0-207.3)	199.3 (196.4-202.2)	198.6 (195.2-202.1)	195.6 (192.4-198.8)	194.9 (192.5-197.3)	193.8 (191.1-196.4)	187.2 (183.5-190.9)	191.4 (187.8-195.0)	187.1 (182.1-192.0)	<.001	
Some college	201.7 (199.3-204.0)	201.7 (197.6-205.7)	202.6 (200.3-204.9)	196.2 (193.3-199.2)	198.5 (195.7-201.3)	195.0 (192.8-197.2)	194.1 (191.7-196.6)	189.6 (186.8-192.4)	192.3 (188.2-196.4)	188.3 (183.8-192.8)	<.001	
≥College graduate	201.4 (197.6-205.2)	201.2 (198.6-203.8)	199.5 (196.9-202.1)	199.5 (194.7-204.2)	196.0 (192.9-199.0)	195.5 (190.9-200.1)	196.0 (192.4-199.5)	190.9 (187.6-194.2)	192.5 (188.6-196.5)	190.4 (186.7-194.1)	<.001	
P for group difference	.03	.02	.01	.63	.19	.99	.26	.20	.18	.24	.001	
Current cigarette smoking, %												
<High school	34.8 (29.5-40.0)	38.9 (35.9-41.9)	35.7 (31.1-40.2)	35.9 (30.3-41.5)	35.4 (30.1-40.6)	33.0 (28.3-37.7)	31.4 (26.9-35.9)	32.0 (27.4-36.7)	27.9 (21.5-34.3)	28.6 (23.3-34.0)	<.001	
High school graduate	32.3 (27.6-37.0)	32.0 (29.6-34.5)	33.2 (29.8-36.5)	31.5 (26.2-36.8)	29.2 (24.6-33.7)	28.8 (25.8-31.7)	27.3 (22.4-32.2)	28.8 (25.5-32.1)	27.8 (24.7-30.8)	26.0 (22.8-29.3)	<.001	
Some college	22.0 (17.3-26.6)	23.6 (20.5-26.7)	25.9 (23.3-28.5)	22.5 (19.7-25.3)	21.6 (19.0-24.1)	20.3 (17.6-22.9)	23.6 (20.0-27.1)	22.1 (18.8-25.3)	20.7 (17.4-24.0)	19.3 (16.5-22.0)	.03	
≥College graduate	11.1 (7.7-14.5)	10.8 (8.2-13.5)	11.9 (9.7-14.2)	12.7 (9.5-15.9)	11.2 (9.1-13.3)	7.6 (5.3-9.8)	7.1 (5.6-8.7)	8.1 (6.4-9.8)	8.7 (6.6-10.7)	6.9 (4.5-9.3)	<.001	
P for group difference	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.31	
10-year risk of atherosclerotic cardiovascular disease, mean (95% CI)[c]												
<High school	9.0 (8.1-10.0)	9.1 (8.3-9.8)	9.3 (8.4-10.2)	8.7 (7.6-9.8)	8.6 (8.2-9.1)	8.4 (7.9-8.9)	8.0 (7.4-8.6)	7.7 (7.2-8.2)	8.1 (6.9-9.3)	8.3 (7.5-9.1)	.004	

Cardiovascular risk factors	1999-2000	2001-2002	2003-2004	2005-2006	2007-2008	2009-2010	2011-2012	2013-2014	2015-2016	2017-2018	P for linear trend	P for non-linear trend[b]
High school graduate	8.1 (7.1-9.1)	7.5 (7.0-8.0)	7.1 (6.7-7.6)	7.2 (6.6-7.8)	7.7 (7.0-8.4)	7.1 (6.5-7.7)	7.2 (6.1-8.2)	7.3 (6.4-8.2)	7.3 (6.6-8.1)	7.1 (6.6-7.6)	.15	
Some college	6.9 (6.2-7.6)	7.5 (6.9-8.1)	6.6 (5.8-7.4)	6.9 (6.2-7.6)	6.7 (6.2-7.2)	6.6 (6.3-7.0)	6.6 (6.3-6.9)	6.7 (6.1-7.4)	6.8 (6.1-7.5)	6.6 (6.2-7.0)	.19	
≥College graduate	5.8 (5.0-6.5)	5.5 (5.0-5.9)	5.6 (4.8-6.5)	5.1 (4.6-5.7)	4.9 (4.3-5.5)	5.0 (4.3-5.8)	4.9 (4.5-5.3)	5.1 (4.6-5.7)	5.4 (4.9-5.9)	5.5 (4.9-6.1)		.01
P for group difference	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001		.08

Family Income

Body mass index, mean (95% CI)

Cardiovascular risk factors	1999-2000	2001-2002	2003-2004	2005-2006	2007-2008	2009-2010	2011-2012	2013-2014	2015-2016	2017-2018	P for linear trend	P for non-linear trend[b]
Income-to-poverty ratio ≤100%	28.3 (27.7-28.9)	28.5 (27.6-29.5)	28.2 (27.6-28.8)	28.9 (28.2-29.6)	28.6 (28.1-29.1)	28.9 (28.3-29.6)	28.9 (28.3-29.4)	29.5 (28.7-30.2)	30.2 (29.6-30.9)	29.8 (28.9-30.7)	<.001	
Income-to-poverty ratio >100-299%	28.6 (27.9-29.3)	28.3 (27.8-28.8)	28.3 (27.9-28.8)	28.9 (28.2-29.6)	29.1 (28.6-29.5)	29.1 (28.6-29.6)	29.5 (28.8-30.1)	30.2 (29.6-30.8)	29.6 (28.8-30.4)	30.2 (29.5-31.0)	<.001	
Income-to-poverty ratio 300-499%	27.9 (27.1-28.7)	27.8 (27.3-28.3)	28.3 (27.8-28.8)	28.4 (27.6-29.2)	28.7 (28.2-29.2)	28.8 (28.1-29.5)	28.6 (27.7-29.4)	28.9 (28.4-29.5)	29.7 (28.8-30.6)	29.9 (29.0-30.9)	<.001	
Income-to-poverty ratio ≥500%	27.2 (26.3-28.1)	27.1 (26.6-27.6)	27.4 (26.7-28.1)	27.8 (27.0-28.6)	27.6 (27.1-28.1)	27.8 (27.2-28.4)	27.4 (26.9-28.0)	27.7 (27.1-28.4)	28.5 (27.6-29.3)	29.1 (28.1-30.1)	<.001	
P for group difference	.11	.006	.047	.006	.009	.01	<.001	<.001	.02	.31	.36	

Systolic blood pressure, mmHg, mean (95% CI)

Cardiovascular risk factors	1999-2000	2001-2002	2003-2004	2005-2006	2007-2008	2009-2010	2011-2012	2013-2014	2015-2016	2017-2018	P for linear trend	P for non-linear trend[b]
Income-to-poverty ratio ≤100%	125.2 (123.2-127.1)	123.5 (121.4-125.5)	123.9 (122.1-125.7)	123.9 (121.9-125.8)	123.0 (121.4-124.6)	122.7 (121.0-124.4)	123.1 (121.4-124.8)	122.8 (121.3-124.3)	124.5 (123.1-125.9)	124.9 (122.6-127.2)		.02
Income-to-poverty ratio >100-299%	124.0 (122.7-125.3)	123.5 (122.0-125.1)	123.4 (121.9-124.8)	123.6 (122.3-125.0)	122.5 (121.6-123.3)	121.2 (120.1-122.3)	122.4 (120.9-124.0)	122.5 (121.5-123.5)	123.6 (122.7-124.6)	124.7 (123.5-125.9)		<.001
Income-to-poverty ratio 300-499%	123.7 (122.3-125.1)	122.9 (121.5-124.2)	122.3 (120.5-124.1)	122.5 (120.7-124.2)	121.4 (120.2-122.6)	120.7 (119.4-122.0)	120.0 (118.9-121.1)	120.2 (119.1-121.4)	121.3 (120.0-122.7)	122.2 (120.0-124.4)		.03

Cardiovascular risk factors	1999-2000	2001-2002	2003-2004	2005-2006	2007-2008	2009-2010	2011-2012	2013-2014	2015-2016	2017-2018	*P* for linear trend	*P* for non-linear trend[b]
Income-to-poverty ratio ≥500%	121.5 (119.5-123.5)	122.7 (120.9-124.6)	121.6 (119.7-123.5)	119.8 (118.5-121.2)	120.3 (119.2-121.3)	118.2 (116.8-119.6)	119.8 (117.8-121.7)	119.8 (118.8-120.8)	121.8 (120.2-123.4)	120.1 (118.6-121.5)		.02
P for group difference	.01	.59	.25	.001	.03	<.001	.002	.002	<.001	<.001		.03
Hemoglobin A1c, %, mean (95% CI)												
Income-to-poverty ratio ≤100%	5.70 (5.54-5.87)	5.60 (5.50-5.69)	5.65 (5.55-5.76)	5.62 (5.50-5.74)	5.70 (5.62-5.78)	5.73 (5.64-5.82)	5.86 (5.76-5.96)	5.77 (5.67-5.87)	5.87 (5.74-6.01)	5.77 (5.71-5.84)	<.001	
Income-to-poverty ratio >100-299%	5.50 (5.40-5.60)	5.55 (5.49-5.61)	5.53 (5.47-5.59)	5.52 (5.46-5.57)	5.63 (5.55-5.71)	5.68 (5.62-5.74)	5.69 (5.61-5.76)	5.64 (5.60-5.69)	5.71 (5.61-5.81)	5.74 (5.68-5.79)	<.001	
Income-to-poverty ratio 300-499%	5.33 (5.20-5.47)	5.47 (5.41-5.53)	5.46 (5.43-5.49)	5.36 (5.31-5.41)	5.55 (5.49-5.62)	5.56 (5.50-5.62)	5.60 (5.51-5.69)	5.59 (5.55-5.63)	5.64 (5.57-5.71)	5.57 (5.49-5.65)	<.001	
Income-to-poverty ratio ≥500%	5.20 (5.12-5.28)	5.36 (5.30-5.42)	5.41 (5.35-5.47)	5.37 (5.31-5.43)	5.43 (5.38-5.48)	5.49 (5.43-5.55)	5.44 (5.39-5.49)	5.47 (5.38-5.55)	5.45 (5.39-5.51)	5.58 (5.49-5.68)	<.001	
P for group difference	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.003	<.001	<.001	.69	
Total cholesterol, mg/dL, mean (95% CI)												
Income-to-poverty ratio ≤100%	200.7 (196.6-204.7)	197.9 (193.5-202.4)	205.3 (201.8-208.8)	197.2 (193.0-201.3)	196.8 (194.0-199.5)	194.1 (190.3-197.9)	194.1 (189.7-198.5)	185.0 (182.1-187.8)	188.2 (183.1-193.2)	185.8 (181.6-189.9)	<.001	
Income-to-poverty ratio >100-299%	204.2 (200.3-208.2)	201.8 (198.2-205.4)	199.7 (196.5-202.9)	197.1 (195.4-198.7)	197.7 (194.9-200.6)	196.5 (193.9-199.1)	193.0 (190.8-195.3)	189.0 (186.3-191.6)	191.6 (188.3-194.9)	187.2 (183.1-191.3)	<.001	
Income-to-poverty ratio 300-499%	203.1 (199.1-207.0)	203.9 (200.3-207.4)	200.9 (197.8-204.0)	196.9 (193.8-199.9)	195.6 (193.6-197.7)	194.4 (190.3-198.5)	193.4 (190.2-196.7)	192.1 (187.9-196.2)	189.3 (185.6-192.9)	189.8 (185.5-194.1)	<.001	
Income-to-poverty ratio ≥500%	202.1 (198.3-205.9)	199.9 (196.1-203.7)	201.3 (197.1-205.5)	201.6 (198.9-204.3)	195.6 (191.6-199.5)	195.5 (189.9-201.0)	198.4 (194.6-202.3)	190.6 (187.5-193.7)	196.6 (192.8-200.5)	191.1 (185.7-196.6)	<.001	
P-values for group difference	.10	.02	.36	.003	.45	.44	.006	.007	.002	.25	.006	

Cardiovascular risk factors	1999-2000	2001-2002	2003-2004	2005-2006	2007-2008	2009-2010	2011-2012	2013-2014	2015-2016	2017-2018	*P* for linear trend	*P* for non-linear trend[b]
Current cigarette smoking, %												
Income-to-poverty ratio ≤100%	35.7 (28.1-43.3)	38.1 (30.3-46.0)	39.4 (33.0-45.8)	35.5 (31.2-39.8)	38.9 (32.1-45.7)	37.3 (32.0-42.6)	32.4 (25.9-38.8)	35.7 (31.5-40.0)	33.2 (28.0-38.4)	35.4 (29.3-41.5)	.15	
Income-to-poverty ratio >100-299%	28.2 (24.2-32.2)	31.3 (27.2-35.3)	28.9 (26.3-31.5)	28.6 (25.0-32.2)	26.3 (23.2-29.4)	22.6 (19.7-25.4)	23.7 (20.3-27.1)	25.6 (21.8-29.5)	21.5 (19.3-23.8)	23.5 (19.9-27.2)	<.001	
Income-to-poverty ratio 300-499%	23.3 (18.4-28.3)	19.2 (14.7-23.8)	23.9 (20.5-27.4)	23.2 (17.6-28.9)	20.1 (15.9-24.2)	19.2 (16.3-22.1)	16.3 (12.0-20.6)	15.9 (11.6-20.3)	14.9 (11.4-18.4)	12.3 (9.7-14.9)	<.001	
Income-to-poverty ratio ≥500%	12.7 (9.3-16.0)	16.3 (11.6-20.9)	16.5 (12.4-20.7)	15.3 (11.7-19.0)	14.8 (11.7-18.0)	11.0 (8.1-13.8)	8.9 (6.1-11.7)	11.1 (8.0-14.3)	9.8 (5.5-14.1)	6.6 (3.4-9.8)	<.001	
P for group difference	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.003	
10-year risk of atherosclerotic cardiovascular disease, mean (95% CI)[c]												
Income-to-poverty ratio ≤100%	10.0 (8.5-11.4)	9.2 (8.6-9.9)	9.4 (8.0-10.8)	8.5 (7.1-9.9)	8.3 (7.5-9.0)	8.2 (7.4-8.9)	8.5 (7.4-9.5)	7.8 (7.3-8.3)	8.2 (7.3-9.2)	7.4 (6.8-8.0)	<.001	
Income-to-poverty ratio >100-299%	8.4 (7.8-9.1)	8.4 (7.6-9.2)	7.5 (6.9-8.1)	7.6 (6.9-8.3)	7.9 (7.5-8.3)	7.6 (7.3-8.0)	7.2 (6.5-7.9)	7.5 (6.9-8.0)	7.6 (6.9-8.3)	7.6 (7.0-8.3)	.02	
Income-to-poverty ratio 300-499%	6.5 (5.6-7.4)	6.7 (6.1-7.2)	6.0 (5.5-6.6)	6.6 (5.7-7.4)	6.5 (6.0-7.0)	6.7 (6.1-7.3)	5.9 (5.2-6.7)	6.1 (5.4-6.8)	5.7 (5.3-6.1)	5.9 (5.2-6.7)	.06	
Income-to-poverty ratio ≥500%	5.9 (5.1-6.8)	5.2 (4.8-5.7)	5.8 (4.7-6.9)	5.3 (4.7-5.8)	5.0 (4.4-5.6)	4.5 (4.2-4.9)	4.8 (4.2-5.4)	5.1 (4.5-5.8)	5.1 (4.6-5.7)	5.3 (4.9-5.8)		.009
P for group difference	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001		.35

[a] Age- and sex-adjusted for the entire US population by the direct standardization method to the US 2000 Census population using the following age and sex categories: 20-39 male, 40-59 male, 60 years or older male, 20-39 female, 40-59 female, and 60 years or older female.

[b] Nonlinear trend was tested first by adding a quadratic term into the regression model. If not significant, linear trend was tested.

[c] The 10-year risk for atherosclerotic cardiovascular disease was estimated using the Pooled Cohort Equations.

eTable 6. Age-Sex-Adjusted Prevalences (95% Confidence Intervals) of Elevated Cardiovascular Risk Factors Overall and by Race and Socioeconomic Status, NHANES 1999-2018[a]

Cardiovascular risk factors	1999-2000	2001-2002	2003-2004	2005-2006	2007-2008	2009-2010	2011-2012	2013-2014	2015-2016	2017-2018	*P* for linear trend	*P* for non-linear trend[b]
Race/ethnicity												
Obesity, %												
Non-Hispanic Asian							10.9 (7.9-13.9)	12.5 (9.4-15.6)	12.6 (10.2-15.0)	17.6 (14.7-20.6)	.002	
Non-Hispanic Black	39.1 (35.7-42.4)	37.8 (33.8-41.7)	43.8 (39.1-48.4)	45.4 (41.5-49.2)	43.4 (39.1-47.7)	48.5 (43.6-53.4)	47.2 (43.6-50.7)	48.0 (43.9-52.0)	46.2 (41.4-51.0)	49.1 (46.1-52.1)	<.001	
Hispanic	31.5 (27.5-35.5)	28.4 (23.4-33.4)	34.8 (29.9-39.6)	33.1 (29.8-36.3)	38.5 (33.1-44.0)	39.0 (35.2-42.9)	42.6 (39.0-46.1)	42.8 (38.2-47.3)	47.2 (42.8-51.6)	44.7 (41.5-48.0)	<.001	
Non-Hispanic White	28.3 (24.4-32.3)	29.5 (26.7-32.3)	30.3 (27.6-33.1)	32.4 (28.9-35.8)	32.2 (28.4-36.1)	34.2 (31.7-36.6)	32.6 (28.9-36.3)	36.5 (34.1-39.0)	38.0 (34.1-41.8)	42.2 (36.7-47.6)	<.001	
P for group difference	<.001	.005	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	
Hypertension, %												
Non-Hispanic Asian							39.4 (35.0-43.8)	37.2 (33.9-40.6)	43.6 (39.4-47.7)	47.9 (44.0-51.7)	<.001	
Non-Hispanic Black	58.1 (53.7-62.5)	59.9 (56.4-63.4)	54.6 (48.5-60.8)	54.7 (51.8-57.5)	52.5 (48.0-57.0)	57.0 (53.8-60.2)	56.9 (53.0-60.8)	55.7 (53.5-57.8)	55.1 (51.9-58.4)	58.1 (54.7-61.5)		.03
Hispanic	45.0 (40.6-49.5)	39.2 (35.9-42.6)	40.6 (35.4-45.7)	38.7 (33.7-43.7)	40.2 (37.1-43.3)	39.5 (35.7-43.2)	40.1 (36.5-43.7)	40.1 (37.4-42.8)	44.1 (41.5-46.7)	44.6 (41.9-47.4)		<.001
Non-Hispanic White	45.9 (41.5-50.2)	45.0 (41.5-48.5)	43.5 (39.9-47.1)	43.4 (40.2-46.7)	43.5 (40.4-46.6)	41.4 (38.5-44.4)	44.2 (41.6-46.7)	41.5 (38.9-44.0)	43.0 (40.1-46.0)	44.8 (40.3-49.4)	.19	
P for group difference	.002	<.001	<.001	<.001	.001	<.001	<.001	<.001	<.001	<.001		.33

Cardiovascular risk factors	1999-2000	2001-2002	2003-2004	2005-2006	2007-2008	2009-2010	2011-2012	2013-2014	2015-2016	2017-2018	*P* for linear trend	*P* for non-linear trend[b]
Diabetes, %												
Non-Hispanic Asian							14.8 (11.8-17.9)	15.5 (12.7-18.3)	13.9 (10.9-17.0)	17.5 (14.8-20.3)	.29	
Non-Hispanic Black	14.0 (11.9-16.1)	14.5 (12.0-16.9)	13.0 (10.2-15.8)	16.3 (13.7-18.8)	19.8 (17.9-21.8)	16.4 (14.8-17.9)	19.0 (15.5-22.6)	15.8 (14.0-17.5)	17.6 (15.5-19.8)	16.9 (14.7-19.2)		.007
Hispanic	11.4 (7.6-15.2)	12.2 (9.6-14.7)	14.9 (11.6-18.2)	16.0 (12.3-19.7)	14.9 (13.7-16.1)	16.9 (14.2-19.6)	16.7 (13.6-19.8)	15.3 (13.6-16.9)	18.3 (14.6-22.1)	16.1 (14.2-18.0)	.006	
Non-Hispanic White	6.8 (5.2-8.4)	6.9 (5.8-8.0)	7.8 (6.5-9.1)	7.2 (6.1-8.4)	9.4 (7.2-11.7)	8.7 (7.3-10.1)	8.0 (6.9-9.2)	9.7 (8.2-11.1)	10.6 (8.7-12.5)	11.0 (9.1-12.9)	<.001	
P for group difference	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<.001
High total cholesterol, %												
Non-Hispanic Asian							25.2 (21.0-29.4)	25.5 (21.0-30.1)	24.6 (19.6-29.6)	27.9 (24.3-31.6)	.41	
Non-Hispanic Black	21.0 (17.9-24.1)	26.8 (20.0-33.7)	25.8 (22.5-29.1)	26.2 (22.2-30.2)	28.4 (23.9-33.0)	27.5 (23.1-32.0)	25.5 (23.0-28.0)	22.9 (19.8-25.9)	24.0 (21.1-26.8)	22.5 (20.1-24.9)		.004
Hispanic	23.9 (18.7-29.1)	24.7 (22.3-27.0)	30.3 (26.0-34.6)	27.2 (20.7-33.7)	30.3 (27.9-32.8)	31.6 (28.6-34.7)	26.7 (24.2-29.2)	23.8 (21.7-25.9)	24.5 (22.3-26.8)	24.8 (21.8-27.9)		.01
Non-Hispanic White	26.5 (23.5-29.5)	26.9 (24.2-29.6)	29.9 (28.5-31.3)	29.9 (26.5-33.3)	30.6 (26.7-34.5)	30.7 (28.1-33.3)	28.4 (26.3-30.4)	28.5 (26.1-30.9)	27.3 (25.6-29.1)	24.4 (22.1-26.7)		<.001
P for group difference	0.04	0.23	0.03	0.27	0.66	0.30	0.16	<0.001	0.06	0.08		.68

Cardiovascular risk factors	1999-2000	2001-2002	2003-2004	2005-2006	2007-2008	2009-2010	2011-2012	2013-2014	2015-2016	2017-2018	P for linear trend	P for non-linear trend[b]
Educational Attainment												
Obesity, %												
<High school	32.3 (27.4-37.2)	31.9 (28.7-35.1)	34.5 (30.1-38.9)	36.3 (33.3-39.3)	38.1 (33.1-43.2)	36.9 (33.7-40.0)	38.0 (35.1-40.9)	41.0 (37.7-44.4)	40.1 (35.8-44.5)	40.8 (36.1-45.5)	<.001	
High school graduate	34.2 (30.7-37.8)	31.3 (26.8-35.8)	34.3 (30.4-38.3)	39.0 (34.9-43.1)	35.5 (31.6-39.4)	38.1 (34.3-41.9)	40.7 (35.5-46.0)	41.8 (36.8-46.8)	43.4 (38.1-48.7)	47.0 (42.8-51.1)	<.001	
Some college	30.0 (25.1-35.0)	32.0 (27.4-36.7)	33.1 (29.8-36.4)	36.2 (32.2-40.1)	37.2 (34.4-40.1)	40.5 (38.1-42.8)	37.8 (33.7-42.0)	43.0 (39.8-46.3)	45.9 (41.5-50.4)	47.7 (43.5-51.9)	<.001	
≥College graduate	21.4 (15.9-26.9)	24.4 (21.5-27.3)	26.1 (21.3-30.9)	25.2 (21.0-29.4)	24.7 (20.4-29.0)	28.0 (23.6-32.4)	27.6 (22.4-32.8)	28.7 (25.7-31.6)	30.9 (26.4-35.4)	33.7 (27.3-40.1)	<.001	
P for group difference	.001	.002	.04	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.90	
Hypertension, %												
<High school	48.9 (44.6-53.2)	52.9 (50.0-55.8)	47.6 (43.8-51.5)	43.0 (38.6-47.4)	46.9 (42.6-51.3)	44.9 (40.3-49.4)	46.7 (43.5-49.9)	46.0 (42.7-49.4)	47.0 (43.4-50.6)	47.2 (41.7-52.6)	.09	
High school graduate	49.9 (44.7-55.2)	48.4 (45.4-51.4)	47.0 (42.4-51.5)	47.6 (43.5-51.8)	45.6 (42.2-49.0)	46.2 (43.0-49.5)	45.0 (41.4-48.7)	47.8 (44.9-50.6)	47.5 (43.8-51.1)	48.2 (45.0-51.5)	.44	
Some college	47.9 (43.0-52.8)	44.6 (41.3-48.0)	44.3 (40.2-48.4)	44.7 (41.0-48.4)	44.7 (41.6-47.8)	44.9 (41.6-48.1)	45.4 (42.4-48.3)	46.2 (42.5-49.9)	46.4 (41.9-51.0)	52.3 (48.7-56.0)		.004
≥College graduate	41.0 (36.9-45.1)	43.7 (38.0-49.4)	40.1 (35.3-44.9)	40.2 (35.6-44.7)	39.2 (36.3-42.1)	36.4 (31.8-41.0)	42.3 (37.6-47.0)	34.3 (31.7-37.0)	39.4 (35.7-43.1)	38.8 (33.3-44.3)	.08	
P for group difference	<.001	<.001	.008	.08	.007	.001	.16	<.001	.001	<.001		.34

Cardiovascular risk factors	1999-2000	2001-2002	2003-2004	2005-2006	2007-2008	2009-2010	2011-2012	2013-2014	2015-2016	2017-2018	*P* for linear trend	*P* for non-linear trend[b]
Diabetes, %												
<High school	11.9 (9.7-14.2)	13.8 (12.0-15.6)	14.4 (12.4-16.5)	13.5 (11.2-15.8)	15.4 (13.4-17.4)	14.7 (13.1-16.3)	16.3 (12.8-19.7)	15.7 (13.7-17.7)	18.0 (15.5-20.5)	18.0 (14.5-21.6)	<.001	
High school graduate	8.8 (6.7-11.0)	8.1 (6.2-10.0)	7.7 (6.7-8.8)	10.1 (7.6-12.7)	12.3 (9.3-15.3)	10.2 (7.7-12.7)	12.5 (9.7-15.3)	11.8 (10.0-13.6)	12.7 (11.2-14.2)	13.5 (10.3-16.7)	<.001	
Some college	7.6 (4.2-11.1)	8.5 (6.4-10.7)	9.2 (7.3-11.1)	8.6 (6.3-10.9)	11.5 (9.5-13.5)	11.1 (9.3-12.9)	10.1 (8.2-11.9)	13.2 (11.0-15.5)	13.3 (10.2-16.4)	12.9 (11.3-14.6)	<.001	
≥College graduate	2.7 (1.5-3.8)	5.2 (2.8-7.6)	7.4 (5.6-9.1)	5.8 (3.9-7.6)	6.1 (4.4-7.7)	7.6 (5.2-10.1)	7.1 (5.1-9.1)	6.3 (4.8-7.8)	9.3 (7.3-11.3)	9.9 (7.3-12.6)	<.001	
P for group difference	<.001	<.001	<.001	<.001	<.001	<.001	.001	<.001	.006	.04	.04	
High total cholesterol, %												
<High school	28.8 (25.2-32.4)	30.6 (26.9-34.2)	35.6 (30.3-40.9)	28.6 (24.8-32.3)	29.5 (25.7-33.2)	34.0 (29.5-38.4)	28.7 (25.6-31.9)	26.1 (22.7-29.4)	25.3 (21.8-28.7)	24.9 (20.8-29.1)		.002
High school graduate	32.9 (27.6-38.2)	29.8 (25.7-33.9)	32.9 (29.4-36.5)	31.7 (27.9-35.4)	34.0 (29.2-38.9)	32.0 (27.6-36.5)	28.6 (25.2-32.0)	25.0 (21.8-28.2)	28.4 (25.4-31.3)	26.3 (23.2-29.4)	.002	
Some college	21.6 (16.4-26.7)	27.5 (24.0-31.0)	30.2 (26.7-33.7)	28.8 (24.4-33.1)	31.8 (27.4-36.3)	28.8 (25.6-32.0)	28.5 (25.7-31.2)	30.3 (27.4-33.2)	26.0 (23.9-28.1)	24.6 (21.4-27.8)		<.001
≥College graduate	21.6 (18.9-24.2)	21.9 (18.7-25.1)	24.7 (21.4-28.0)	29.4 (24.0-34.9)	26.8 (22.7-30.8)	28.4 (23.9-32.9)	25.5 (22.0-29.0)	25.5 (21.8-29.2)	26.6 (24.8-28.4)	23.8 (20.4-27.2)		.007
P for group difference	<.001	.02	<.001	.29	.12	.16	.17	.04	.47	.71		.001

Cardiovascular risk factors	1999-2000	2001-2002	2003-2004	2005-2006	2007-2008	2009-2010	2011-2012	2013-2014	2015-2016	2017-2018	*P* for linear trend	*P* for non-linear trend[b]
Family Income												
Obesity, %												
Income-to-poverty ratio ≤100%	33.0 (28.9-37.2)	31.9 (25.6-38.1)	31.9 (28.6-35.2)	35.2 (31.1-39.3)	35.0 (30.9-39.0)	37.1 (33.1-41.1)	36.7 (32.6-40.9)	39.9 (35.4-44.4)	43.2 (38.1-48.2)	43.9 (38.5-49.4)	<.001	
Income-to-poverty ratio >100-299%	33.6 (28.9-38.3)	32.1 (29.1-35.2)	34.5 (30.1-38.9)	37.5 (33.6-41.3)	36.3 (33.3-39.4)	37.4 (34.3-40.5)	39.3 (35.3-43.3)	44.5 (40.3-48.6)	40.5 (35.3-45.8)	45.4 (41.4-49.3)	<.001	
Income-to-poverty ratio 300-499%	29.9 (22.7-37.1)	29.8 (25.4-34.2)	32.4 (28.2-36.5)	34.8 (29.5-40.2)	34.5 (31.2-37.8)	37.7 (32.9-42.5)	35.7 (31.5-40.0)	36.8 (33.4-40.3)	43.7 (38.7-48.7)	40.5 (33.9-47.1)	<.001	
Income-to-poverty ratio ≥500%	23.3 (17.1-29.5)	24.0 (19.9-28.0)	26.4 (21.6-31.3)	27.6 (23.2-32.1)	27.1 (23.1-31.1)	30.4 (26.0-34.7)	25.8 (21.1-30.4)	29.5 (24.9-34.1)	34.2 (29.1-39.3)	40.0 (32.7-47.3)	<.001	
P for group difference	.03	.005	.03	<.001	.05	.01	<.001	.002	.02	.43	.53	
Hypertension, %												
Income-to-poverty ratio ≤100%	50.1 (44.6-55.6)	49.8 (45.0-54.7)	42.7 (38.3-47.1)	42.3 (36.9-47.6)	44.4 (40.9-48.0)	45.5 (41.2-49.7)	46.9 (44.2-49.5)	46.9 (44.7-49.1)	46.9 (43.1-50.7)	47.4 (41.4-53.4)		.02
Income-to-poverty ratio >100-299%	47.1 (41.3-52.8)	49.0 (46.0-52.1)	47.5 (42.8-52.2)	45.2 (40.6-49.8)	44.5 (41.9-47.1)	46.1 (42.8-49.3)	44.9 (41.9-47.9)	47.6 (45.3-49.9)	45.6 (42.5-48.7)	49.6 (45.5-53.8)		.05
Income-to-poverty ratio 300-499%	47.7 (42.2-53.2)	44.1 (40.5-47.8)	45.0 (40.0-50.0)	45.7 (42.1-49.2)	44.5 (39.9-49.1)	44.5 (40.8-48.3)	45.3 (41.5-49.2)	38.9 (34.4-43.4)	42.9 (37.6-48.3)	47.2 (39.6-54.7)	.27	
Income-to-poverty ratio ≥500%	46.6 (42.5-50.7)	43.9 (39.2-48.6)	43.7 (36.8-50.5)	43.6 (38.6-48.7)	42.8 (40.6-45.0)	36.3 (31.4-41.2)	43.0 (37.4-48.6)	38.7 (35.5-41.8)	42.5 (38.3-46.7)	41.6 (36.7-46.5)	.16	
P for group difference	.22	.009	.32	.54	.54	.01	.26	.001	.17	.08		.11

Cardiovascular risk factors	1999-2000	2001-2002	2003-2004	2005-2006	2007-2008	2009-2010	2011-2012	2013-2014	2015-2016	2017-2018	*P* for linear trend	*P* for non-linear trend[b]
Diabetes %												
Income-to-poverty ratio ≤100%	13.1 (9.9-16.3)	12.7 (9.0-16.3)	13.1 (10.9-15.3)	14.3 (11.2-17.5)	15.1 (12.9-17.3)	13.3 (10.4-16.2)	18.5 (15.5-21.5)	17.0 (14.2-19.7)	19.6 (16.8-22.3)	15.5 (12.2-18.9)	<.001	
Income-to-poverty ratio >100-299%	10.3 (8.2-12.5)	10.1 (8.6-11.7)	10.6 (8.8-12.4)	10.9 (9.5-12.4)	13.1 (11.1-15.1)	12.6 (10.2-15.1)	12.3 (9.5-15.1)	12.6 (10.5-14.8)	13.4 (10.9-16.0)	14.9 (12.9-16.9)	<.001	
Income-to-poverty ratio 300-499%	6.7 (3.6-9.8)	7.8 (5.9-9.6)	7.5 (6.3-8.6)	7.2 (4.8-9.6)	11.3 (9.0-13.6)	10.3 (8.7-12.0)	10.7 (7.5-13.9)	11.7 (9.8-13.7)	13.3 (10.2-16.4)	9.7 (7.0-12.3)	<.001	
Income-to-poverty ratio ≥500%	3.8 (2.0-5.6)	4.8 (3.1-6.5)	7.6 (5.6-9.6)	5.6 (4.3-7.0)	6.6 (4.8-8.4)	7.3 (5.3-9.2)	5.1 (3.4-6.7)	6.8 (4.2-9.3)	8.0 (5.1-10.8)	12.3 (9.1-15.5)	<.001	
P for group difference	<.001	.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.009	.07	
High total cholesterol, %												
Income-to-poverty ratio ≤100%	29.7 (21.4-37.9)	27.9 (21.6-34.3)	34.8 (29.6-40.0)	28.8 (24.3-33.2)	33.5 (28.3-38.6)	29.5 (23.8-35.1)	31.2 (26.5-35.9)	25.8 (22.4-29.1)	25.0 (21.1-29.0)	23.5 (19.5-27.6)		.03
Income-to-poverty ratio >100-299%	27.7 (23.9-31.4)	29.2 (24.8-33.5)	31.4 (27.4-35.4)	29.6 (26.3-33.0)	29.1 (26.3-31.9)	33.9 (30.4-37.3)	26.3 (23.4-29.2)	26.3 (23.9-28.7)	27.0 (24.8-29.2)	24.7 (22.3-27.0)		.001
Income-to-poverty ratio 300-499%	25.4 (21.6-29.1)	25.7 (22.2-29.3)	27.1 (22.8-31.4)	26.9 (23.1-30.6)	31.4 (27.6-35.1)	27.9 (23.3-32.5)	27.8 (25.0-30.5)	27.9 (23.6-32.3)	26.6 (22.2-31.0)	24.5 (19.9-29.0)		.04
Income-to-poverty ratio ≥500%	20.4 (16.4-24.4)	24.1 (20.9-27.3)	28.1 (23.2-33.0)	30.1 (24.5-35.7)	29.6 (24.2-34.9)	28.2 (24.2-32.2)	27.5 (23.6-31.4)	28.4 (25.3-31.6)	28.5 (25.8-31.2)	26.3 (20.3-32.2)		.01
P-values for group difference	.09	.16	.10	.54	.25	.21	.26	.55	.39	.92		.001

[a] Age- and sex-adjusted for the entire US population by the direct standardization method to the US 2000 Census population using the following age and sex categories: 20-39 male, 40-59 male, 60 years or older male, 20-39 female, 40-59 female, and 60 years or older female.

[b] Nonlinear trend was tested first by adding a quadratic term into the regression model. If not significant, linear trend was tested.

eTable 7. Racial and Ethnic Differences in Proportion of Elevated Cardiovascular Risk Factors Adjusting for Social Determinants of Health During 1999-2008 and 2009-2018 [a]

Cardiovascular risk factors and race/ethnicity	NHANES 1999-2008			NHANES 2009-2018		
	No. of participants	Age and sex-adjusted difference	Age, sex, and SDOH-adjusted difference [a]	No. of participants	Age and sex-adjusted difference	Age, sex, and SDOH-adjusted difference [b]
Obesity, %						
Blacks - Whites	4253/10407	11.8 (9.8, 13.7)	11.1 (9.1, 13.1)	5124/9826	11.4 (8.8, 13.9)	10.0 (7.6, 12.4)
Hispanics - White	5280/10407	3.0 (0.0, 5.9)	3.4 (0.5, 6.4)	5677/9826	7.6 (5.4, 9.7)	7.9 (5.6, 10.2)
Hypertension, %						
Blacks - Whites	3516/9100	11.8 (9.1, 14.5)	10.7 (7.9, 13.5)	4831/9409	15.2 (13.3, 17.1)	13.1 (11.2, 14.9)
Hispanics - White	4585/9100	-2.7 (-5.2, -0.2)	-3.4 (-6.2, -0.7)	5375/9409	0.0 (-1.8, 1.8)	-1.5 (-3.2, 03)
Diabetes, %						
Blacks - Whites	3998/10294	7.8 (6.6, 9.1)	6.1 (4.9, 7.4)	4809/9666	8.5 (7.2, 9.7)	6.4 (5.0, 7.8)
Hispanics - White	5211/10294	5.6 (4.2, 6.9)	4.1 (2.7, 5.5)	5535/9666	7.2 (5.6, 8.8)	5.4 (3.8, 7.1)
High total cholesterol, %						
Blacks - Whites	2630/7880	-2.4 (-4.9, 0.0)	-3.5 (-5.9, -1.0)	4426/8917	-2.6 (-4.3, -0.9)	-3.0 (-4.7, -1.4)
Hispanics - White	2904/7880	-1.4 (-3.7, 0.9)	-2.6 (-4.9, -0.4)	4940/8917	-0.8 (-2.5, 0.8)	-0.8 (-2.6, 1.0)
Self-reported history of cardiovascular disease, %						
Blacks - Whites	4369/10582	1.7 (0.8, 2.7)	-0.9 (-1.8, 0.1)	5169/9906	2.1 (1.2, 3.0)	-0.6 (-1.5, 0.3)
Hispanics - White	5372/10582	-1.3 (-2.1, -0.6)	-3.8 (-4.8, -2.9)	5691/9906	-0.6 (-1.4, 0.2)	-2.9 (-3.8, -2.1)

[a] Racial and ethnic differences in proportion of elevated cardiovascular risk factors were defined as proportions in Black participants minus proportions in White participants or proportions in Hispanic participants minus proportions in White participants. NHANES participants with complete data for the cardiovascular risk factor were included in this analysis.

[b] Social determinants of health (SDOH) included education (<high school, high school graduate, some college, or ≥college graduate), family income-to-poverty ratio, home ownership, employment (employed, student, retired, or unemployed), health insurance (private, government, or none), and access to regular healthcare facility.