

## Supplementary Online Content

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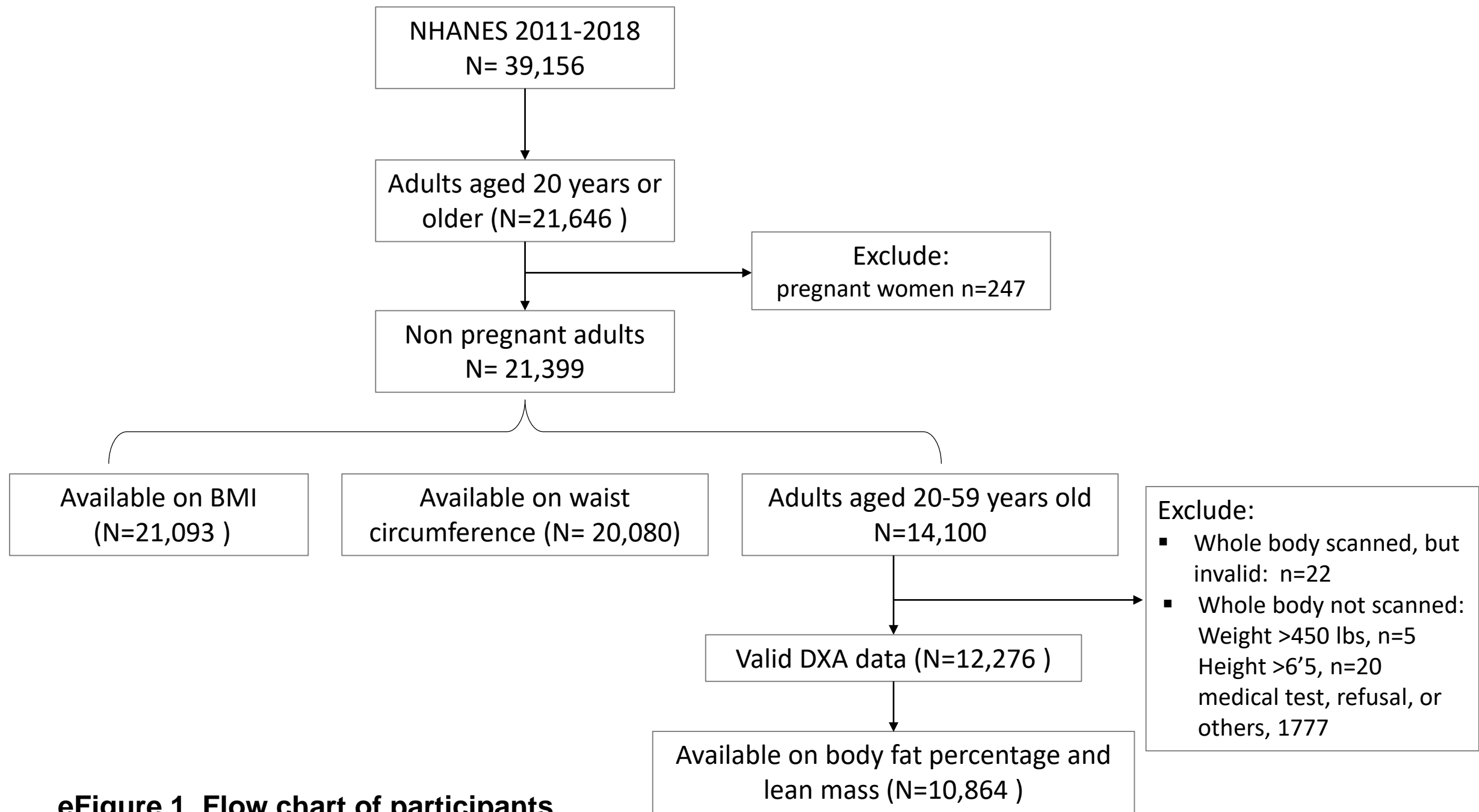
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**eFigure 1. Flow chart of participants**

**Appendix Table 1. Population Characteristics for Adults 20 Years or Older: NHANES, 2011-2018**

Variables	2011-2012		2013-2014		2015-2016		2017-2018	
	Unweighted No. of participants	Weighted percentage (95%CI)	Unweighted No. of participants	Weighted percentage (95%CI)	Unweighted No. of participants	Weighted percentage (95%CI)	Unweighted No. of participants	Weighted percentage (95%CI)
Overall	5181	/	5455	/	5337	/	5120	/
Age, years								
20-39	1808	35.8 (30.9 to 40.6)	1810	35.7 (33.6 to 37.9)	1780	35.5 (32.7 to 38.2)	1523	35.7 (33.1 to 38.3)
40-59	1727	38.4 (35.6 to 41.2)	1896	37.4 (35.6 to 39.2)	1785	36.4 (34.0 to 38.7)	1634	35.2 (32.5 to 37.9)
≥ 60	1646	25.9 (23.3 to 28.4)	1749	26.9 (25.0 to 28.8)	1772	28.2 (25.2 to 31.2)	1963	29.1 (25.9 to 32.4)
Sex								
Men	2585	48.6 (47.0 to 50.3)	2638	48.6 (47.4 to 49.9)	2583	48.5 (47.4 to 49.6)	2493	48.6 (46.9 to 50.4)
Women	2596	51.4 (49.7 to 53.0)	2817	51.4 (50.1 to 52.6)	2754	51.5 (50.4 to 52.6)	2627	51.4 (49.6 to 53.1)
Race/ethnicity								
Hispanic	1037	14.2 (9.3 to 19.2)	1214	14.7 (9.9 to 19.4)	1633	15.2 (10.0 to 20.5)	1153	15.6 (11.7 to 19.4)
Non-Hispanic white	1899	66.6 (58.9 to 74.3)	2343	66.0 (59.5 to 72.5)	1751	64.0 (56.3 to 71.7)	1764	62.5 (57.4 to 67.7)
Non-Hispanic black	1364	11.4 (6.9 to 15.8)	1115	11.3 (8.1 to 14.5)	1126	11.3 (7.0 to 15.6)	1204	11.3 (8.1 to 14.5)
Non-Hispanic Asian	733	5.2 (3.4 to 7.0)	623	5.3 (4.1 to 6.6)	637	5.8 (3.3 to 8.4)	739	5.8 (3.9 to 7.8)
Other	148	2.6 (1.8 to 3.4)	160	2.7 (1.8 to 3.6)	190	3.6 (2.9 to 4.4)	260	4.7 (3.5 to 5.9)

**Appendix Table 2. Unweighted Sample Sizes for Adults 20 Years and Older by Sex, Age Group, and Race/Ethnicity: NHANES 2017-2018**

Age groups, year	No. of Participants by Race/Ethnicity					
	Overall	Hispanic	Non-Hispanic white	Non-Hispanic black	Non-Hispanic Asian	Other race/ethnicity
All participants						
20-39	1523	382	478	340	235	88
40-59	1634	387	475	381	292	99
≥60	1963	384	811	483	212	73
Men						
20-39	729	190	226	158	109	46
40-59	770	169	234	173	137	57
≥60	994	190	419	245	98	42
Women						
20-39	794	192	252	182	126	42
40-59	864	218	241	208	155	42
≥60	969	194	392	238	114	31

**Appendix Table 3. Trends in Unadjusted Mean BMI by Race/Ethnicity: United State, 2011-2018 (N=21,093)**

Variables	Mean of unadjusted BMI, kg/m <sup>2</sup> , mean (95%CI)				P for trend
	2011-2012	2013-2014	2015-2016	2017-2018	
Overall	28.7 (28.3 to 29.2)	29.2 (28.8 to 29.5)	29.4 (28.8 to 29.9)	29.8 (29.2 to 30.4)	0.002
All participants					
Hispanic	29.5 (29.0 to 30.0)	29.8 (29.1 to 30.5)	30.6 (29.9 to 31.3)	30.3 (29.8 to 30.8)	0.008
Non-Hispanic white	28.5 (27.9 to 29.1)	29.1 (28.7 to 29.5)	29.2 (28.7 to 29.8)	29.7 (28.9 to 30.4)	0.008
Non-Hispanic black	30.9 (30.3 to 31.4)	30.9 (30.3 to 31.5)	30.6 (29.9 to 31.3)	31.2 (30.7 to 31.8)	0.48
Non-Hispanic Asian	24.5 (24.0 to 25.0)	24.8 (24.4 to 25.2)	25.0 (24.7 to 25.2)	26.2 (25.9 to 26.6)	<0.001
Other	29.3 (27.4 to 31.3)	29.5 (28.1 to 30.9)	30.5 (29.4 to 31.5)	30.6 (29.2 to 32.0)	0.17
Male					
Hispanic	29.2 (28.6 to 29.8)	29.3 (28.5 to 30.2)	30.1 (29.3 to 30.8)	30.3 (29.6 to 31.0)	0.008
Non-Hispanic white	28.5 (27.9 to 29.0)	29.0 (28.6 to 29.3)	29.2 (28.6 to 29.8)	29.8 (29.1 to 30.5)	0.003
Non-Hispanic black	29.0 (28.4 to 29.5)	28.9 (28.3 to 29.5)	29.0 (28.2 to 29.8)	29.4 (28.7 to 30.0)	0.31
Non-Hispanic Asian	24.9 (24.3 to 25.5)	25.4 (25.0 to 25.8)	25.3 (25.0 to 25.7)	27.0 (26.5 to 27.5)	<0.001
Other	30.5 (26.7 to 34.3)	29.0 (27.1 to 30.8)	30.1 (28.3 to 31.9)	30.2 (28.4 to 31.9)	0.90
Female <sup>c</sup>					
Hispanic	29.8 (29.2 to 30.5)	30.3 (29.3 to 31.2)	31.1 (30.4 to 31.9)	30.3 (29.5 to 31.1)	0.17
Non-Hispanic white	28.5 (27.7 to 29.2)	29.2 (28.6 to 29.7)	29.3 (28.6 to 30.0)	29.6 (28.5 to 30.7)	0.07
Non-Hispanic black	32.4 (31.7 to 33.1)	32.6 (31.8 to 33.3)	31.9 (31.0 to 32.8)	32.8 (31.9 to 33.7)	0.73
Non-Hispanic Asian	24.2 (23.6 to 24.8)	24.3 (23.6 to 25.0)	24.6 (24.1 to 25.1)	25.6 (25.1 to 26.1)	<0.001
Other	28.1 (26.5 to 29.8)	30.2 (28.1 to 32.2)	30.9 (29.6 to 32.1)	31.2 (29.6 to 32.8)	0.01

**Appendix Table 4. Trends in unadjusted Mean Waist Circumference by Race/Ethnicity: United State, 2011-2018 (N=20,080)**

Variables	Mean of unadjusted waist circumference, cm, mean (95%CI)				P for trend
	2011-2012	2013-2014	2015-2016	2017-2018	
Overall	98.7 (97.5 to 99.9)	99.6 (98.9 to 100.2)	100.3 (98.9 to 101.8)	100.8 (99.2 to 102.3)	0.02
All participants					
Hispanic	98.6 (97.1 to 100.0)	99.5 (97.5 to 101.6)	100.8 (99.6 to 102.1)	100.5 (99.3 to 101.7)	0.019
Non-Hispanic white	99.2 (97.8 to 100.7)	100.3 (99.4 to 101.1)	101.1 (99.5 to 102.6)	101.5 (99.6 to 103.5)	0.03
Non-Hispanic black	100.7 (99.4 to 102.0)	100.8 (99.4 to 102.1)	100.7 (98.7 to 102.7)	101.2 (99.9 to 102.5)	0.62
Non-Hispanic Asian	87.1 (85.7 to 88.6)	88.2 (87.1 to 89.3)	88.4 (87.5 to 89.4)	90.6 (89.9 to 91.4)	<0.001
Other	100.0 (94.4 to 105.7)	99.2 (94.9 to 103.4)	102.5 (100.2 to 104.8)	103.4 (100.3 to 106.6)	0.14
Male					
Hispanic	100.5 (98.6 to 102.5)	101.1 (98.5 to 103.6)	101.9 (100.2 to 103.6)	103.0 (101.5 to 104.6)	0.03
Non-Hispanic white	102.2 (100.6 to 103.9)	103.4 (102.3 to 104.5)	103.8 (102.0 to 105.6)	104.7 (102.7 to 106.7)	0.046
Non-Hispanic black	99.1 (97.5 to 100.6)	98.3 (96.4 to 100.2)	99.0 (96.5 to 101.6)	99.4 (97.3 to 101.5)	0.64
Non-Hispanic Asian	89.8 (88.3 to 91.3)	91.0 (89.8 to 92.3)	91.4 (90.1 to 92.8)	94.9 (94.0 to 95.9)	<0.001
Other	105.5 (97.1 to 113.9)	100.3 (95.7 to 105.0)	104.3 (99.7 to 108.8)	105.5 (100.7 to 110.3)	0.65
Female					
Hispanic	96.5 (94.6 to 98.4)	98.0 (95.4 to 100.6)	99.7 (98.4 to 100.9)	97.9 (96.2 to 99.7)	0.16
Non-Hispanic white	96.2 (94.7 to 97.8)	97.3 (96.0 to 98.5)	98.5 (96.7 to 100.2)	98.5 (95.8 to 101.2)	0.08
Non-Hispanic black	102.1 (100.6 to 103.5)	102.9 (101.4 to 104.3)	102.1 (99.6 to 104.6)	102.7 (101.1 to 104.3)	0.73
Non-Hispanic Asian	84.7 (83.1 to 86.4)	85.7 (84.1 to 87.4)	85.7 (84.2 to 87.1)	86.8 (85.7 to 87.9)	0.04
Other	94.2 (89.4 to 99.1)	97.8 (91.7 to 103.9)	100.9 (98.4 to 103.4)	100.9 (97.8 to 103.9)	0.01

**Appendix Table 5. Trends in Unadjusted Body Fat Percentage by Race/Ethnicity: United State, 2011-2018 (N=10,864)<sup>a</sup>**

Variables	Mean of unadjusted body fat percentage, mean (95%CI)				P for trend
	2011-2012	2013-2014	2015-2016	2017-2018	
Overall	32.7 (32.0 to 33.5)	33.1 (32.6 to 33.7)	32.9 (32.3 to 33.5)	33.1 (32.4 to 33.7)	0.59
All participants					
Hispanic	33.5 (32.6 to 34.4)	33.7 (32.8 to 34.7)	33.9 (33.1 to 34.7)	34.0 (33.2 to 34.8)	0.41
Non-Hispanic white	32.8 (31.9 to 33.6)	33.2 (32.5 to 34.0)	32.9 (32.2 to 33.6)	32.9 (32.1 to 33.8)	0.88
Non-Hispanic black	32.6 (31.9 to 33.3)	32.6 (31.9 to 33.4)	32.0 (30.7 to 33.2)	31.8 (30.4 to 33.1)	0.16
Non-Hispanic Asian	30.5 (29.6 to 31.5)	31.7 (31.1 to 32.2)	31.4 (30.7 to 32.0)	32.7 (32.0 to 33.4)	<0.001
Other	31.7 (29.7 to 33.7)	31.9 (29.8 to 34.1)	33.1 (30.3 to 35.8)	33.9 (31.9 to 35.9)	0.08
Male					
Hispanic	27.8 (27.0 to 28.6)	28.0 (27.1 to 28.9)	28.3 (27.5 to 29.2)	28.4 (27.3 to 29.5)	0.31
Non-Hispanic white	27.3 (26.7 to 27.9)	28.1 (27.2 to 28.9)	26.9 (26.1 to 27.6)	27.2 (26.5 to 28.0)	0.33
Non-Hispanic black	25.0 (24.4 to 25.5)	25.0 (24.3 to 25.8)	24.9 (23.6 to 26.1)	25.1 (23.8 to 26.4)	0.91
Non-Hispanic Asian	25.4 (24.5 to 26.4)	26.7 (25.9 to 27.5)	26.8 (26.2 to 27.4)	28.2 (27.6 to 28.7)	<0.001
Other	28.1 (25.7 to 30.5)	26.4 (24.2 to 28.6)	27.0 (23.8 to 30.3)	28.6 (26.8 to 30.5)	0.48
Female					
Hispanic	40.1 (39.3 to 41.0)	40.0 (39.3 to 40.7)	40.2 (39.4 to 40.9)	40.0 (39.3 to 40.8)	0.95
Non-Hispanic white	38.5 (37.7 to 39.3)	38.6 (38.1 to 39.1)	38.5 (37.6 to 39.3)	38.1 (36.6 to 39.6)	0.55
Non-Hispanic black	39.8 (38.8 to 40.7)	39.9 (39.3 to 40.5)	39.0 (38.4 to 39.6)	39.1 (37.9 to 40.4)	0.23
Non-Hispanic Asian	36.1 (34.8 to 37.4)	36.5 (36.0 to 37.1)	36.4 (35.2 to 37.6)	37.1 (35.8 to 38.4)	0.30
Other	35.8 (33.0 to 38.6)	38.2 (36.4 to 39.9)	38.2 (35.9 to 40.4)	39.8 (37.8 to 41.8)	0.02

<sup>a</sup> percent body fat was available among adults aged 20-59 years.

**Appendix Table 6. Trends in Age-Adjusted Total Body Fat by Race/Ethnicity among Adults aged 20-59 years: United State, 2011-2018 (N=10,864)<sup>a</sup>**

Variables	Mean of age-adjusted total body fat, kg, mean (95%CI)				P for trend
	2011-2012	2013-2014	2015-2016	2017-2018	
Overall <sup>b</sup>	27.3 (26.5 to 28.1)	28.0 (27.1 to 28.8)	27.9 (26.9 to 28.8)	27.7 (26.5 to 28.9)	0.61
All participants <sup>c</sup>					
Hispanic	27.4 (26.3 to 28.6)	28.2 (26.5 to 29.8)	28.5 (27.5 to 29.5)	28.2 (26.8 to 29.5)	0.38
Non-Hispanic white	27.3 (26.3 to 28.2)	28.3 (27.0 to 29.6)	28.1 (26.9 to 29.3)	27.7 (26.2 to 29.3)	0.87
Non-Hispanic black	29.8 (28.8 to 30.9)	29.2 (28.0 to 30.4)	28.9 (27.4 to 30.4)	28.8 (27.0 to 30.5)	0.34
Non-Hispanic Asian	20.7 (19.7 to 21.7)	21.3 (20.8 to 21.8)	21.5 (20.8 to 22.2)	23.2 (22.6 to 23.7)	< 0.001
Other	26.7 (22.9 to 30.5)	27.4 (23.6 to 31.3)	28.4 (25.1 to 31.7)	29.9 (27.2 to 32.6)	0.14
Male <sup>d</sup>					
Hispanic	24.6 (23.3 to 25.9)	25.2 (23.3 to 27.2)	25.4 (24.1 to 26.7)	25.8 (24.1 to 27.6)	0.34
Non-Hispanic white	24.9 (23.7 to 26.0)	26.1 (24.4 to 27.9)	24.9 (23.5 to 26.3)	25.0 (23.8 to 26.3)	0.75
Non-Hispanic black	23.6 (22.7 to 24.5)	23.3 (22.0 to 24.6)	23.7 (21.8 to 25.6)	24.3 (22.6 to 26.0)	0.58
Non-Hispanic Asian	19.2 (18.2 to 20.2)	20.3 (19.4 to 21.3)	20.4 (19.8 to 21.1)	23.0 (22.0 to 23.9)	< 0.001
Other	27.6 (22.8 to 32.4)	24.2 (20.1 to 28.2)	25.7 (20.6 to 30.9)	26.8 (22.8 to 30.8)	0.98
Female <sup>d</sup>					
Hispanic	30.6 (29.4 to 31.8)	31.3 (29.6 to 33.0)	31.9 (31.0 to 32.9)	30.7 (29.4 to 31.9)	0.70
Non-Hispanic white	29.9 (28.8 to 31.0)	30.6 (29.2 to 31.9)	31.0 (29.4 to 32.6)	30.2 (27.6 to 32.8)	0.67
Non-Hispanic black	35.7 (34.2 to 37.2)	34.9 (33.2 to 36.6)	33.9 (32.8 to 35.1)	33.7 (31.2 to 36.2)	0.10
Non-Hispanic Asian	22.3 (20.9 to 23.8)	22.3 (21.6 to 23.1)	22.7 (21.4 to 23.9)	23.4 (22.2 to 24.6)	0.18
Other	25.7 (22.5 to 29.0)	31.1 (27.0 to 35.2)	30.6 (27.5 to 33.7)	33.2 (29.8 to 36.5)	0.005



<sup>a</sup> percent body fat was available among adults aged 20-59 years.

<sup>b</sup> P for trend adjusted for age, sex, and race/ethnicity.

<sup>c</sup> P for trend adjusted for age and sex.

<sup>d</sup> P for trend adjusted for age.

**Appendix Table 7. Trends in Age-Adjusted Adiposity Measures among Adults 20-59 years old: United State, 2011-2018**

<b>Variables</b>	<b>2011-2012</b>	<b>2013-2014</b>	<b>2015-2016</b>	<b>2017-2018</b>	<b>P for trend<sup>a</sup></b>
BMI, kg/m <sup>2</sup> , mean (95%CI)	28.7 (28.2 to 29.1)	29.1 (28.6 to 29.7)	29.3 (28.6 to 30.0)	29.9 (29.2 to 30.5)	0.002
Hispanic	29.6 (29.1 to 30.1)	29.9 (29.2 to 30.6)	30.6 (30.0 to 31.3)	30.4 (29.7 to 31.0)	0.02
Non-Hispanic white	28.3 (27.7 to 28.9)	28.9 (28.2 to 29.6)	29.0 (28.2 to 29.7)	29.6 (28.7 to 30.6)	0.02
Non-Hispanic black	30.9 (30.3 to 31.5)	31.0 (30.3 to 31.7)	30.8 (29.9 to 31.6)	31.5 (30.8 to 32.3)	0.25
Non-Hispanic Asian	24.5 (24.0 to 25.0)	24.8 (24.5 to 25.1)	25.0 (24.7 to 25.4)	26.3 (26.0 to 26.7)	< 0.001
Other	29.0 (26.8 to 31.3)	29.9 (28.4 to 31.5)	30.7 (29.1 to 32.2)	31.0 (29.5 to 32.5)	0.10
Waist circumference, cm, mean (95%CI)	97.4 (96.3 to 98.5)	98.3 (97.2 to 99.5)	98.9 (97.2 to 100.6)	99.5 (97.7 to 101.3)	0.02
Hispanic	98.4 (96.8 to 99.9)	99.3 (97.2 to 101.5)	100.4 (99.2 to 101.7)	100.2 (98.6 to 101.7)	0.07
Non-Hispanic white	97.5 (96.1 to 99.0)	98.5 (96.9 to 100.2)	99.1 (97.1 to 101.0)	99.7 (97.3 to 102.2)	0.09
Non-Hispanic black	100.1 (98.8 to 101.5)	99.8 (98.2 to 101.5)	100.1 (97.6 to 102.6)	100.9 (99.1 to 102.6)	0.42
Non-Hispanic Asian	86.5 (85.1 to 87.9)	87.6 (86.9 to 88.4)	88.1 (87.0 to 89.2)	90.0 (89.1 to 90.9)	< 0.001
Other	97.3 (91.5 to 103.0)	99.3 (94.3 to 104.4)	101.8 (98.2 to 105.4)	102.9 (99.3 to 106.4)	0.06
Obesity, % (95%CI)	35.3 (32.3 to 38.2)	38.1 (35.3 to 40.8)	39.9 (35.7 to 44.1)	43.3 (39.8 to 47.0)	0.001
Hispanic	42.4 (38.6 to 46.2)	43.7 (39.2 to 48.2)	47.0 (42.3 to 51.7)	45.2 (40.7 to 49.6)	0.18
Non-Hispanic white	32.2 (28.2 to 36.3)	35.6 (32.1 to 39.1)	37.0 (31.9 to 42.1)	41.5 (35.9 to 47.0)	0.008
Non-Hispanic black	47.6 (43.6 to 51.7)	48.5 (43.8 to 53.2)	47.2 (41.4 to 53.1)	50.6 (47.1 to 54.2)	0.30
Non-Hispanic Asian	21.2 (16.9 to 25.5)	23.8 (20.5 to 27.2)	25.9 (19.7 to 32.2)	36.1 (31.5 to 40.7)	< 0.001
Other	30.7 (18.2 to 43.1)	38.8 (26.8 to 50.8)	52.0 (40.1 to 63.9)	51.6 (38.4 to 64.8)	0.02
Abdominal obesity, % (95%CI)	50.5 (46.7 to 54.2)	52.0 (49.5 to 54.5)	54.5 (49.7 to 59.4)	55.1 (51.3 to 59.0)	0.04
Hispanic	55.7 (51.7 to 59.7)	58.0 (53.2 to 62.8)	58.4 (54.3 to 62.4)	56.7 (52.5 to 60.8)	0.67

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Non-Hispanic white	49.8 (44.8 to 54.9)	51.3 (47.7 to 54.9)	55.5 (49.8 to 61.1)	55.5 (49.9 to 61.2)	0.07
Non-Hispanic black	58.3 (55.0 to 61.6)	59.4 (54.6 to 64.2)	56.0 (50.0 to 62.1)	59.8 (55.9 to 63.6)	0.84
Non-Hispanic Asian	22.1 (18.4 to 25.8)	23.3 (19.7 to 26.8)	24.6 (19.8 to 29.4)	29.3 (26.7 to 31.9)	0.002
Other	49.3 (34.4 to 64.3)	50.4 (37.0 to 63.9)	62.0 (51.1 to 72.8)	65.3 (55.4 to 75.2)	0.03

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<sup>a</sup> P for trend adjusted for age, sex, and race/ethnicity.

**Appendix Table 8. Trends in Unadjusted Lean Mass by Race/Ethnicity: United State, 2011-2018 (N=10,864)<sup>a</sup>**

Variables	Mean of unadjusted lean mass, kg, mean (95%CI)				P for trend
	2011-2012	2013-2014	2015-2016	2017-2018	
Overall	52.7 (52.0 to 53.4)	52.7 (51.8 to 53.6)	52.8 (51.9 to 53.6)	52.1 (51.3 to 52.9)	0.31
All participants					
Hispanic	51.0 (50.1 to 51.8)	51.8 (50.4 to 53.2)	51.6 (50.9 to 52.3)	51.5 (50.6 to 52.5)	0.49
Non-Hispanic white	53.1 (52.1 to 54.2)	53.2 (51.9 to 54.4)	53.3 (52.3 to 54.3)	52.4 (51.3 to 53.5)	0.38
Non-Hispanic black	56.1 (55.2 to 57.0)	55.4 (54.0 to 56.8)	56.2 (55.4 to 56.9)	55.1 (54.3 to 55.9)	0.31
Non-Hispanic Asian	44.6 (43.7 to 45.4)	43.9 (43.0 to 44.8)	44.8 (44.2 to 45.4)	45.6 (44.3 to 46.8)	0.06
Other	53.4 (49.1 to 57.7)	54.5 (50.5 to 58.6)	53.1 (48.9 to 57.2)	54.2 (52.3 to 56.2)	0.89
Male					
Hispanic	58.9 (57.6 to 60.3)	59.9 (58.2 to 61.6)	59.0 (57.8 to 60.1)	60.4 (59.0 to 61.7)	0.26
Non-Hispanic white	61.8 (60.7 to 62.9)	61.8 (60.3 to 63.3)	62.0 (60.4 to 63.6)	61.3 (59.8 to 62.8)	0.74
Non-Hispanic black	63.2 (62.3 to 64.1)	62.8 (61.2 to 64.4)	63.9 (62.3 to 65.5)	62.4 (60.9 to 63.9)	0.70
Non-Hispanic Asian	52.2 (51.0 to 53.3)	52.2 (51.2 to 53.2)	52.3 (51.2 to 53.4)	54.9 (53.1 to 56.6)	0.009
Other	64.3 (59.2 to 69.5)	61.8 (57.2 to 66.5)	62.3 (57.8 to 66.8)	62.0 (57.3 to 66.7)	0.57
Female					
Hispanic	41.8 (41.1 to 42.6)	43.1 (41.7 to 44.5)	43.4 (42.6 to 44.2)	42.1 (41.5 to 42.7)	0.64
Non-Hispanic white	44.0 (43.2 to 44.8)	44.2 (43.0 to 45.4)	45.3 (44.3 to 46.3)	44.3 (43.1 to 45.5)	0.26
Non-Hispanic black	49.4 (48.4 to 50.4)	48.3 (46.9 to 49.7)	48.5 (47.3 to 49.6)	47.1 (45.2 to 49.0)	0.03
Non-Hispanic Asian	36.2 (35.5 to 36.9)	35.8 (34.8 to 36.9)	36.5 (35.4 to 37.7)	36.6 (36.0 to 37.1)	0.22
Other	41.1 (37.6 to 44.5)	46.3 (42.8 to 49.8)	45.2 (43.2 to 47.3)	45.5 (44.0 to 47.0)	0.08

<sup>a</sup> percent body fat was available among adults aged 20-59 years

**Appendix Table 9. Trends in Prevalence of Age-Adjusted General Obesity (BMI  $\geq$ 30 kg/m<sup>2</sup>) among non-Hispanic Asians: United State, 2011-2018**

Non-Hispanic Asians	Prevalence of age adjusted obesity defined by BMI, % (95% CI)				<i>P</i> for trend
	2011-2012	2013-2014	2015-2016	2017-2018	
All Asians	10.8 (7.8 to 13.8)	12.6 (9.8 to 15.4)	12.7 (10.2 to 15.1)	17.4 (14.7 to 20.2)	0.002 <sup>a</sup>
Male	10.0 (6.6 to 13.4)	12.6 (8.8 to 16.4)	10.1 (7.3 to 12.8)	17.5 (12.9 to 22.0)	0.02 <sup>b</sup>
Female	11.4 (6.8 to 16.1)	12.4 (7.9 to 16.8)	14.8 (11.9 to 17.6)	17.2 (14.3 to 20.0)	0.03 <sup>b</sup>

<sup>a</sup> *P* for trend adjusted for age and sex.

<sup>b</sup> *P* for trend adjusted for age.

**Appendix Table 10. The Number of Cases of Obesity by Race/Ethnicity: United State, 2011-2018**

Variables	2011-2012		2013-2014		2015-2016		2017-2018	
	N	Cases	N	Cases	N	Cases	N	Cases
<b>General Obesity defined by BMI (N=21,093)</b>								
Overall (Asian specific cut off points for Asians) <sup>a</sup>	5181	1927	5455	2129	5337	2244	5120	2266
Overall (cut off points for general population) <sup>b</sup>	5181	1855	5455	2060	5337	2159	5120	2142
<b>All participants</b>								
Hispanic	1037	438	1214	513	1633	778	1153	524
Non Hispanic white	1899	653	2343	874	1751	679	1764	772
Non-Hispanic black	1364	640	1115	532	1126	531	1204	600
Non-Hispanic Asian	733	147	623	146	637	160	739	243
Other	148	49	160	64	190	96	260	127
<b>Male</b>								
Hispanic	515	202	573	211	740	317	549	244
Non-Hispanic white	961	311	1130	383	891	338	879	391
Non-Hispanic black	662	247	556	211	530	199	576	232
Non-Hispanic Asian	365	76	300	73	321	83	344	122
Other	82	27	79	31	101	46	145	66
<b>Female</b>								
Hispanic	522	236	641	302	893	461	604	280
Non-Hispanic white	938	342	1213	491	860	341	885	381
Non-Hispanic black	702	393	559	321	596	332	628	368
Non-Hispanic Asian	368	71	323	73	316	77	395	121
Other	66	22	81	33	89	50	115	61
<b>Abdominal obesity defined by waist circumference (N=20,080)</b>								

Overall	4924	2631	5210	2945	5053	2965	4893	2943
All participants								
Hispanic	993	571	1173	718	1566	1032	1095	698
Non-Hispanic white	1809	1047	2233	1338	1674	1043	1697	1120
Non-Hispanic black	1287	779	1054	656	1051	636	1150	739
Non-Hispanic Asian	693	163	595	152	587	148	704	227
Other	142	71	155	81	175	106	247	159
Male								
Hispanic	494	213	557	252	715	353	520	259
Non-Hispanic white	926	447	1084	546	857	461	856	505
Non-Hispanic black	632	266	532	228	504	214	558	258
Non-Hispanic Asian	347	47	289	39	302	44	335	72
Other	80	36	77	31	94	43	140	78
Female								
Hispanic	499	358	616	466	851	679	575	439
Non-Hispanic white	883	600	1149	792	817	582	841	615
Non-Hispanic black	655	513	522	428	547	422	592	481
Non-Hispanic Asian	346	116	306	113	285	104	369	155
Other	62	35	78	50	81	63	107	81

<sup>a</sup> Obesity was defined as BMI  $\geq 27.5$  kg/m<sup>2</sup> for Asians.

<sup>b</sup> Obesity was defined as BMI  $\geq 30$  kg/m<sup>2</sup> for non-Asians

**Appendix Table 11. Trends in Unadjusted Prevalence of Obesity by Race/Ethnicity: United State, 2011-2018**

Variables	Unadjusted Prevalence, % (95%CI)				P for trend
	2011-2012	2013-2014	2015-2016	2017-2018	
<b>General Obesity defined by BMI (N=21,093)</b>					
Overall (Asian specific cut off points for Asians) <sup>a</sup>	35.7 (32.8 to 38.5)	38.5 (36.7 to 40.3)	40.5 (37.3 to 43.7)	43.4 (39.9 to 47.1)	<0.001
Overall (cut off points for general population) <sup>b</sup>	35.1 (32.2 to 38.1)	37.9 (36.1 to 39.7)	39.8 (36.4 to 43.1)	42.5 (38.7 to 46.3)	0.001
<b>All participants</b>					
Hispanic	42.0 (38.2 to 45.7)	42.7 (38.1 to 47.2)	46.8 (42.3 to 51.2)	44.8 (41.1 to 48.6)	0.13
Non-Hispanic white	33.4 (29.6 to 37.2)	37.1 (34.9 to 39.3)	38.7 (35.1 to 42.2)	42.7 (37.4 to 48.1)	0.003
Non-Hispanic black	47.8 (44.3 to 51.4)	48.5 (44.2 to 52.7)	46.8 (42.0 to 51.6)	49.4 (46.4 to 52.4)	0.67
Non-Hispanic Asian	20.7 (17.0 to 24.5)	23.5 (20.2 to 26.8)	25.6 (20.0 to 31.3)	34.1 (29.7 to 38.6)	<0.001
Other	35.0 (22.2 to 47.8)	38.1 (28.4 to 47.8)	51.4 (43.9 to 59.0)	46.7 (35.0 to 58.3)	0.09
<b>Male</b>					
Hispanic	40.7 (35.8 to 45.6)	38.8 (32.9 to 44.7)	43.5 (37.2 to 49.9)	46.0 (41.8 to 50.2)	0.04
Non-Hispanic white	33.1 (30.3 to 35.9)	35.4 (32.2 to 38.6)	38.4 (33.1 to 43.6)	45.1 (37.4 to 52.8)	0.002
Non-Hispanic black	37.0 (33.1 to 40.9)	38.2 (32.8 to 43.5)	36.8 (31.1 to 42.5)	40.5 (35.3 to 45.7)	0.36
Non-Hispanic Asian	21.9 (16.8 to 27.0)	25.5 (19.8 to 31.2)	26.3 (20.6 to 32.0)	37.2 (30.2 to 44.1)	<0.001
Other	40.6 (18.3 to 62.9)	38.1 (24.2 to 52.1)	52.9 (40.4 to 65.4)	40.4 (26.5 to 54.2)	0.85
<b>Female <sup>c</sup></b>					
Hispanic	43.3 (38.4 to 48.1)	46.6 (40.2 to 52.9)	50.0 (45.7 to 54.4)	43.6 (39.1 to 48.1)	0.72
Non-Hispanic white	33.7 (27.8 to 39.5)	38.7 (35.3 to 42.1)	39.0 (34.9 to 43.0)	40.5 (34.4 to 46.6)	0.09
Non-Hispanic black	56.7 (52.3 to 61.1)	57.2 (53.5 to 60.9)	55.0 (50.2 to 59.8)	56.8 (52.8 to 60.9)	0.85
Non-Hispanic Asian	19.7 (15.1 to 24.3)	21.8 (17.0 to 26.6)	25.1 (17.9 to 32.2)	31.6 (26.5 to 36.6)	<0.001
Other	29.3 (17.8 to 40.8)	38.0 (25.4 to 50.6)	50.0 (39.1 to 60.8)	54.5 (41.3 to 67.7)	0.003



<b>Abdominal obesity defined by waist circumference (N=20,080)</b>					
Overall	55.4 (51.3 to 59.4)	57.1 (55.7 to 58.4)	59.4 (54.7 to 64.1)	60.3 (56.8 to 63.8)	0.03
<b>All participants</b>					
Hispanic	55.9 (52.1 to 59.7)	58.8 (54.3 to 63.4)	60.5 (56.6 to 64.4)	58.9 (55.6 to 62.3)	0.18
Non-Hispanic white	56.8 (51.9 to 61.7)	58.6 (56.6 to 60.5)	61.8 (56.4 to 67.2)	62.4 (57.8 to 67.0)	0.049
Non-Hispanic black	60.6 (57.2 to 64.0)	62.0 (58.3 to 65.8)	58.8 (54.1 to 63.5)	61.9 (58.4 to 65.3)	0.91
Non-Hispanic Asian	24.1 (20.5 to 27.7)	25.6 (21.7 to 29.5)	26.6 (22.6 to 30.6)	31.9 (29.3 to 34.4)	<0.001
Other	54.6 (37.7 to 71.5)	51.4 (40.0 to 62.8)	64.4 (54.4 to 74.4)	67.6 (58.2 to 77.0)	0.06
<b>Male</b>					
Hispanic	42.8 (36.7 to 48.8)	44.6 (40.2 to 49.0)	45.7 (40.3 to 51.1)	47.5 (43.7 to 51.4)	0.15
Non-Hispanic white	47.4 (42.8 to 51.9)	50.3 (47.1 to 53.5)	53.0 (46.0 to 59.9)	56.0 (49.6 to 62.5)	0.02
Non-Hispanic black	40.6 (36.7 to 44.4)	40.0 (35.1 to 45.0)	39.8 (33.7 to 45.9)	43.0 (38.4 to 47.6)	0.44
Non-Hispanic Asian	13.8 (10.0 to 17.7)	13.6 (8.4 to 18.7)	15.6 (11.2 to 20.0)	20.9 (17.7 to 24.1)	0.006
Other	47.4 (26.0 to 68.7)	38.7 (23.1 to 54.2)	50.4 (39.6 to 61.3)	57.3 (40.3 to 74.3)	0.24
<b>Female</b>					
Hispanic	69.2 (64.5 to 74.0)	73.4 (66.5 to 80.4)	75.8 (72.6 to 79.1)	70.6 (65.8 to 75.3)	0.61
Non-Hispanic white	66.1 (60.5 to 71.7)	66.6 (63.7 to 69.6)	70.4 (65.3 to 75.4)	68.5 (62.9 to 74.0)	0.35
Non-Hispanic black	77.3 (73.0 to 81.6)	81.3 (78.6 to 84.1)	75.0 (70.8 to 79.2)	78.2 (74.0 to 82.3)	0.69
Non-Hispanic Asian	33.4 (28.3 to 38.5)	36.0 (30.4 to 41.6)	36.8 (32.4 to 41.3)	41.6 (37.3 to 45.9)	0.01
Other	62.2 (42.3 to 82.1)	66.6 (55.3 to 77.9)	77.9 (67.8 to 87.9)	80.5 (73.5 to 87.6)	0.02

<sup>a</sup> Obesity was defined as BMI  $\geq 27.5$  kg/m<sup>2</sup> for Asians.

<sup>b</sup> Obesity was defined as BMI  $\geq 30$  kg/m<sup>2</sup> for non-Asians