



Body Mass Index Surveillance Report

California Tribal Epidemiology Center

September 2020

Key Highlights

The following are highlights from this report related to body mass index (BMI) among American Indian and Alaska Natives (AIAN) throughout the state and within Indian Health Programs (IHP) in California:

- **A majority of adult AIANs in California are within the weight classification of overweight or obese.**
- **All California IHP service regions have a higher percentage of obese AIAN adults compared to California adults and U.S. adults.**
- **The California IHP service regions that are most impacted by obesity include: Central Coast, Central Valley, Greater Los Angeles Area, Inland Desert, North Coast and Cascades, and San Francisco Bay Area.**
- **The mean BMI for adult AIANs throughout California ranged from 25.8–26.3, placing them within the overweight classification.**

Overview

This surveillance report presents data from the Indian Health Service (IHS) about the frequency of Body Mass Index (BMI) among California American Indian and Alaska Native (AIAN) adults aged 18 years and older. The data used to create this report originates from the Epidemiology Data Mart (EDM) provided by IHS. The EDM was developed to provide IHS data to Tribal Epidemiology Centers and is maintained by the Division of Epidemiology and Disease Prevention (DEDP) within the Office of Public Health Support (Health and Human Services, IHS, 2018).

The data reports patient visits to a California Indian Health Program (IHP) or clinic site during 2003–2018. A patient's height and weight measurements from the most recent visit in each year between 2003–2018 were used to calculate the mean BMI and percent distribution of BMI among adult AIANs. The

California IHPs included in the surveillance report are Tribal and Urban IHPs and their associated clinics. For this surveillance report, IHPs have been grouped into seven service regions throughout California which include: Central Coast, Central Valley, Delta and Gold Country, Greater Los Angeles Area, Inland Desert, North Coast and Cascades, and San Francisco Bay Area (Figure 1).

In addition to the seven California service regions, this report also includes a non-service unit. AIANs classified under the non-service unit do not reside within any California Contract Health Service Delivery Area (CHSDA) and are therefore not counted in the IHS user population. However, they do meet the IHS eligibility criteria for health services provided at Tribal or Urban IHPs in California (Figure 9).

Defining Body Mass Index

An individual's BMI is a measure of their weight and height and is interpreted using four standard weight classification categories (Table 1). Although it is not a direct measure of body fat, BMI weight classification is sometimes used to identify adults who are overweight or obese and/or those who might have excess body fat. BMI is also used to screen for weight categories that may lead to various chronic health problems such as heart disease, type 2 diabetes, sleep apnea, bone and joint problems, and certain cancers (Centers for Disease Control and Prevention, 2020; HHS Office of Mental Health, 2020).

Figure 1

Map of Indian Health Programs Grouped in Seven California Service Regions

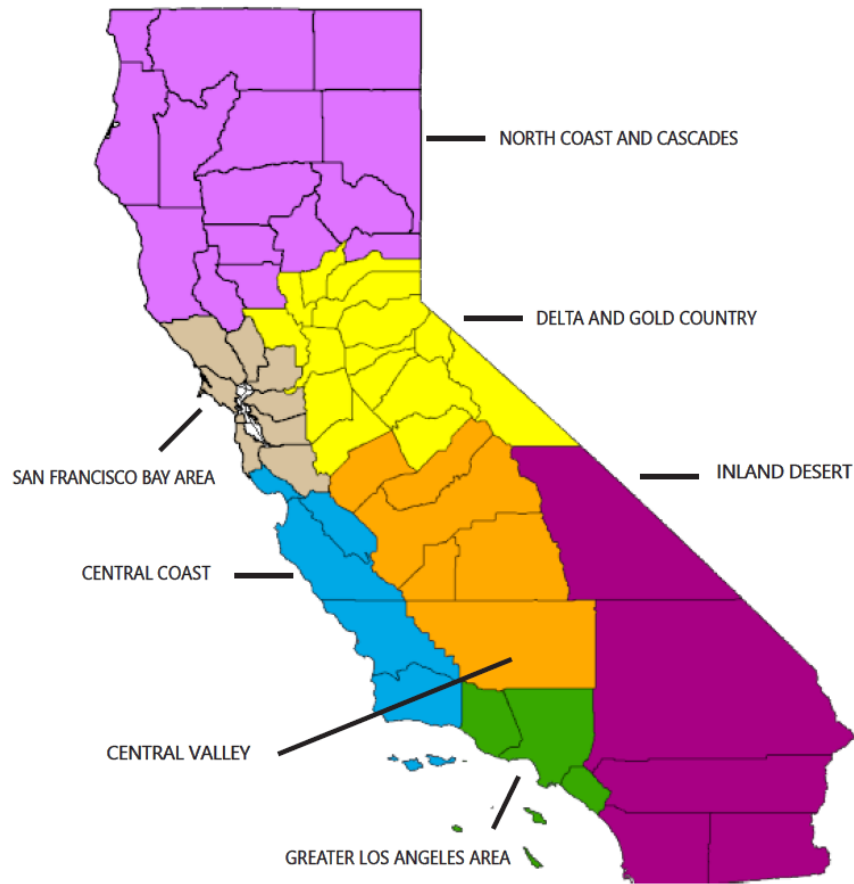


Table 1

Standard Adult BMI Score Range and Associated Weight Classification Categories

BMI Score	Weight Classification
< 18.5	Underweight
18.5–24.9	Healthy Weight
25.0–29.9	Overweight
≥ 30.0	Obese

Data source: Centers for Disease Control and Prevention

Body Mass Index Data

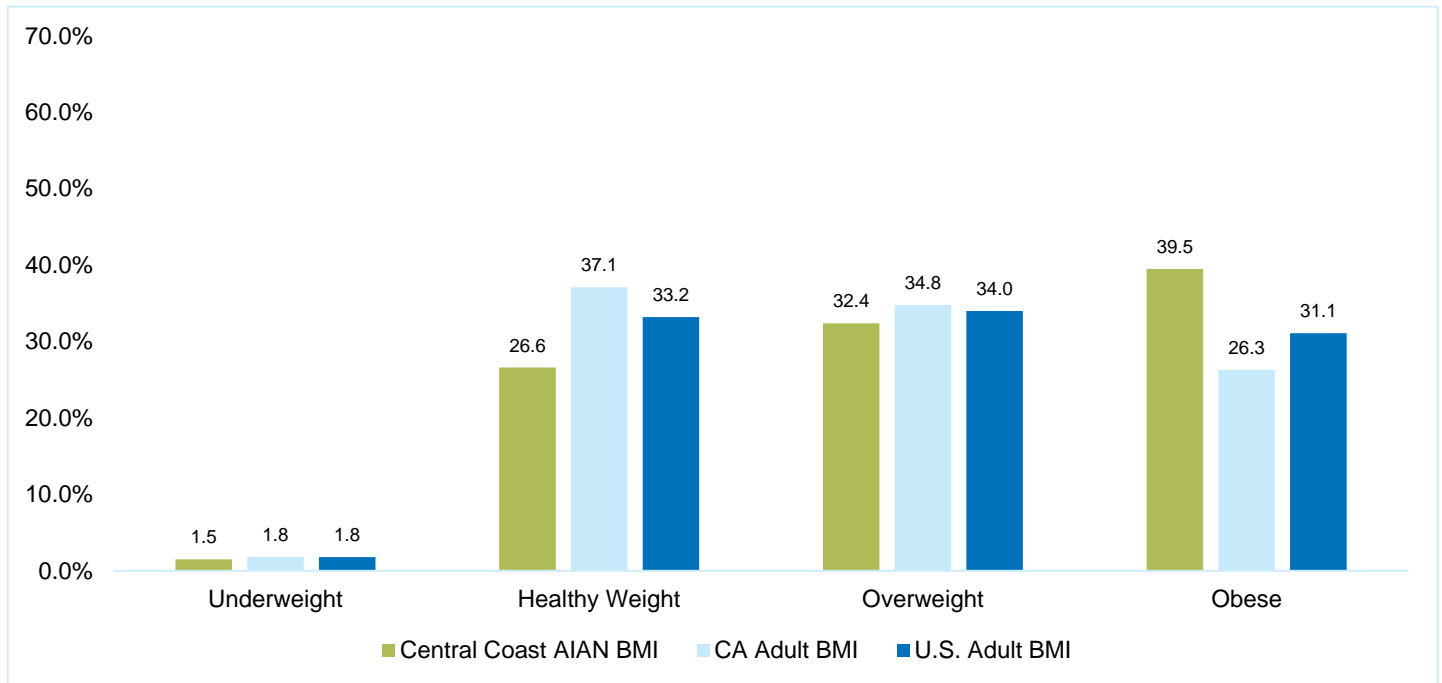
According to the Centers for Disease Control and Prevention (CDC) data from 2018, 33.2% of U.S. adults were identified as being healthy and 33.1% were identified as obese (CDC, 2018). In addition, the California Health Interview Survey (CHIS) indicates that in 2018 about 37.1% of adults were identified as being healthy and 26.3% were obese. IHS data from 2003–2018 show that AIAN adults throughout California and within each IHP service region reported higher percentage of obesity (ranging from 39.5% to 57.7%) and lower percentage of healthy weight (ranging from 16.0% to 26.6%) compared to the national and state estimates (Figure 3–9; Table 2–3).

The percent distribution among each IHP service region also shows that more than 50% of AIANs in the Central Coast, Central Valley, Greater Los Angeles Area, Inland Desert, North Coast and Cascades, and San Francisco Bay Area fell within the BMI weight classification of obese. Among all IHP service regions, the mean BMI ranges from 25.8 to 26.3, placing AIAN adults within the overweight classification (Figure 10).

The Healthy People 2020 objective is to increase the proportion of healthy weight adults to 33.9% and decrease the proportion of obese adults to 30.5%. Throughout the state of California, only 20.4% of AIAN adults are healthy and greater than 50.3% are obese (Table 3). This indicates that a significant improvement is needed in the California AIAN population to achieve the Healthy People 2020 goals. A full breakdown of the percent distribution of BMI in AIAN adults and associated (n) values for the state and each IHP service region can be found in Table 2–3. In this report, (n) refers to the number of AIAN adults who visited IHPs during the study period.

Figure 2

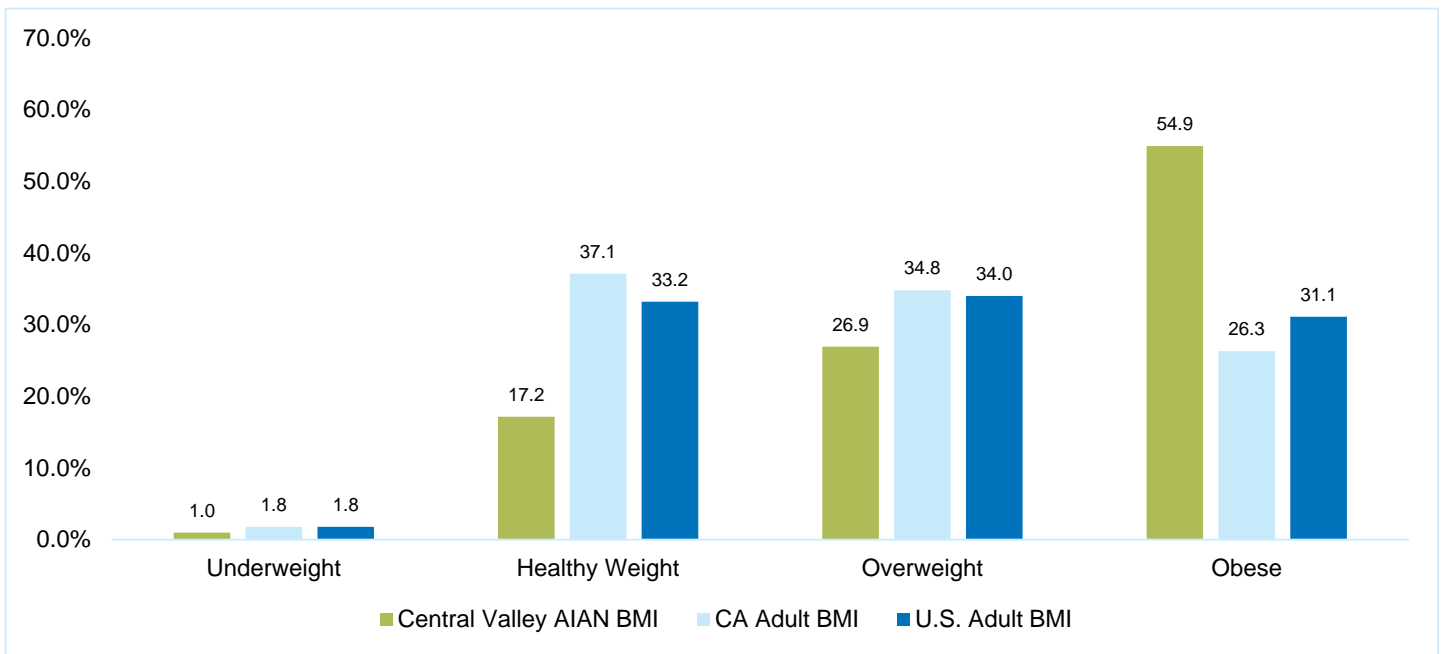
Percent Distribution of Body Mass Index Among Adult AIANs in Central Coast IHP Service Region Compared to U.S. and California Adult BMI, 2013–2018 (n=49,558)



Data source: Epidemiology Data Mart, Indian Health Service; 2018 California Health Interview Survey; CDC

Figure 3

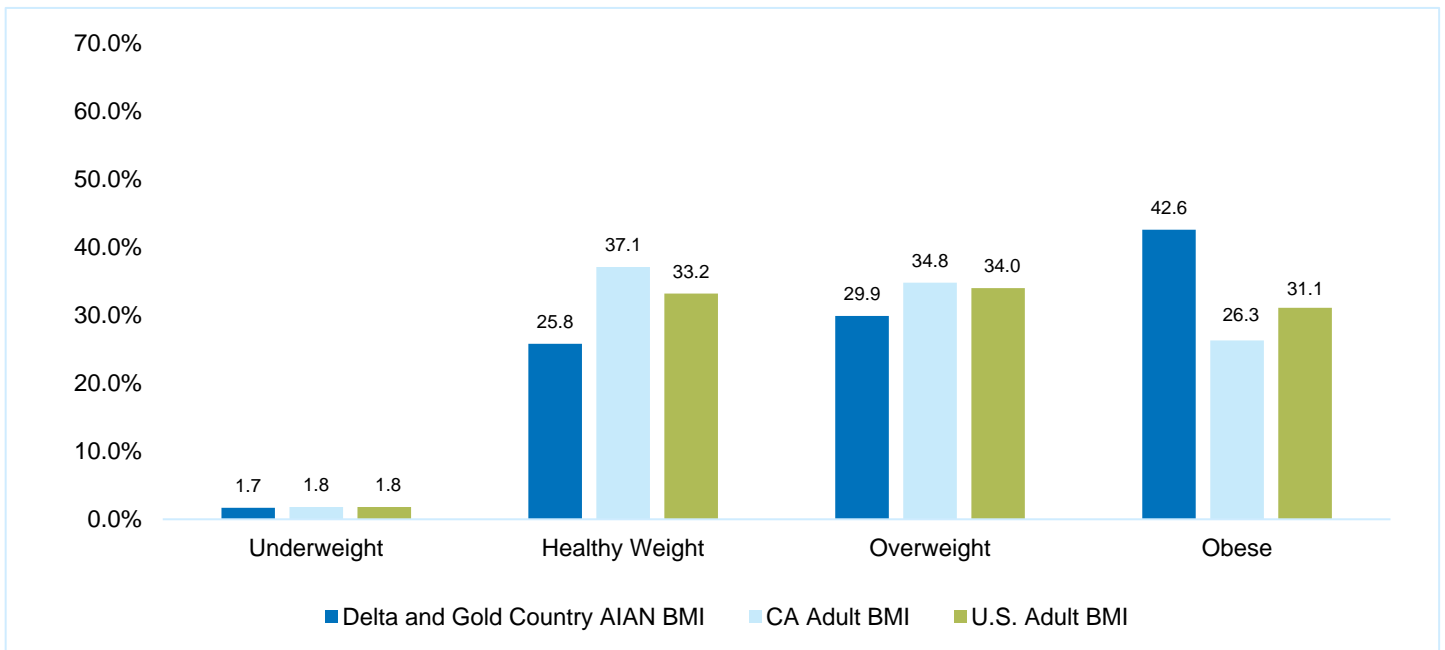
Percent Distribution of Body Mass Index Among Adult AIANs in Central Valley IHP Service Region Compared to U.S. and California Adult BMI, 2013–2018 (n=92,953)



Data source: Epidemiology Data Mart, Indian Health Service; 2018 California Health Interview Survey; CDC

Figure 4

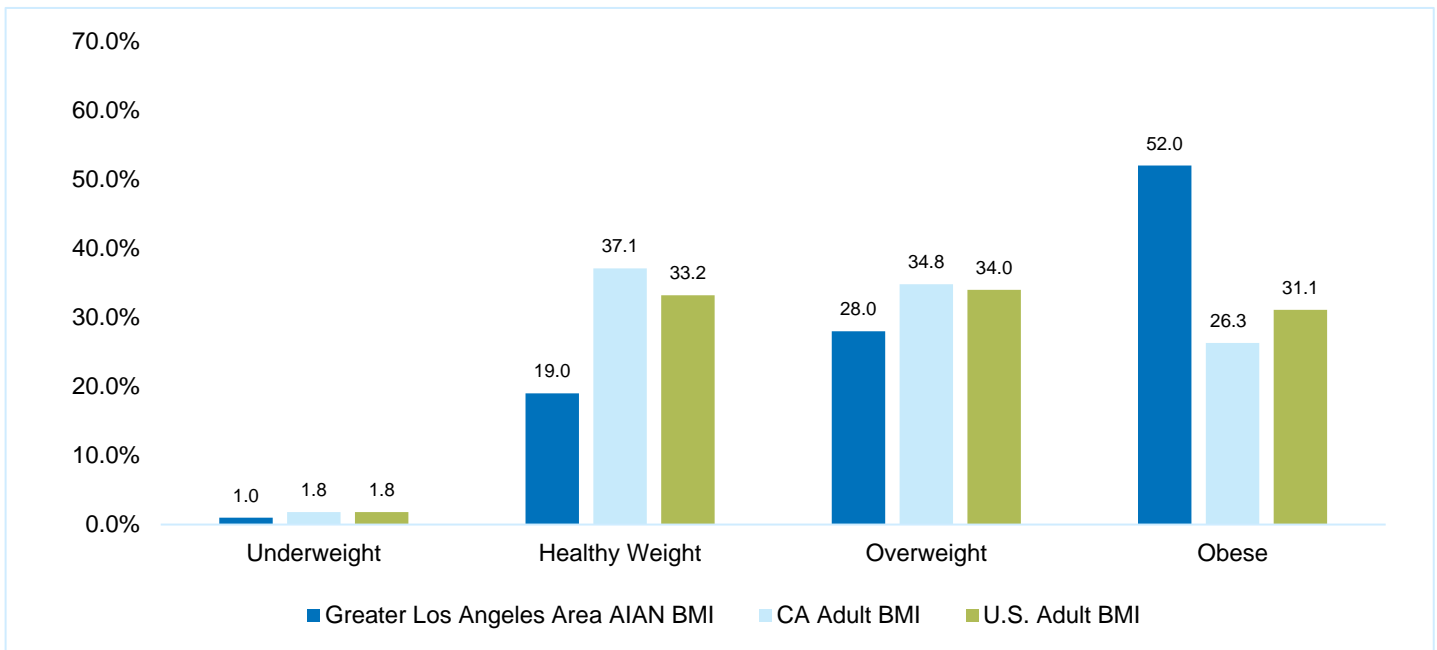
Percent Distribution of Body Mass Index Among Adult AIANs in Delta and Gold Country IHP Service Region Compared to U.S. and California Adult BMI, 2013–2018 (n=208,160)



Data source: Epidemiology Data Mart, Indian Health Service; 2018 California Health Interview Survey; CDC

Figure 5

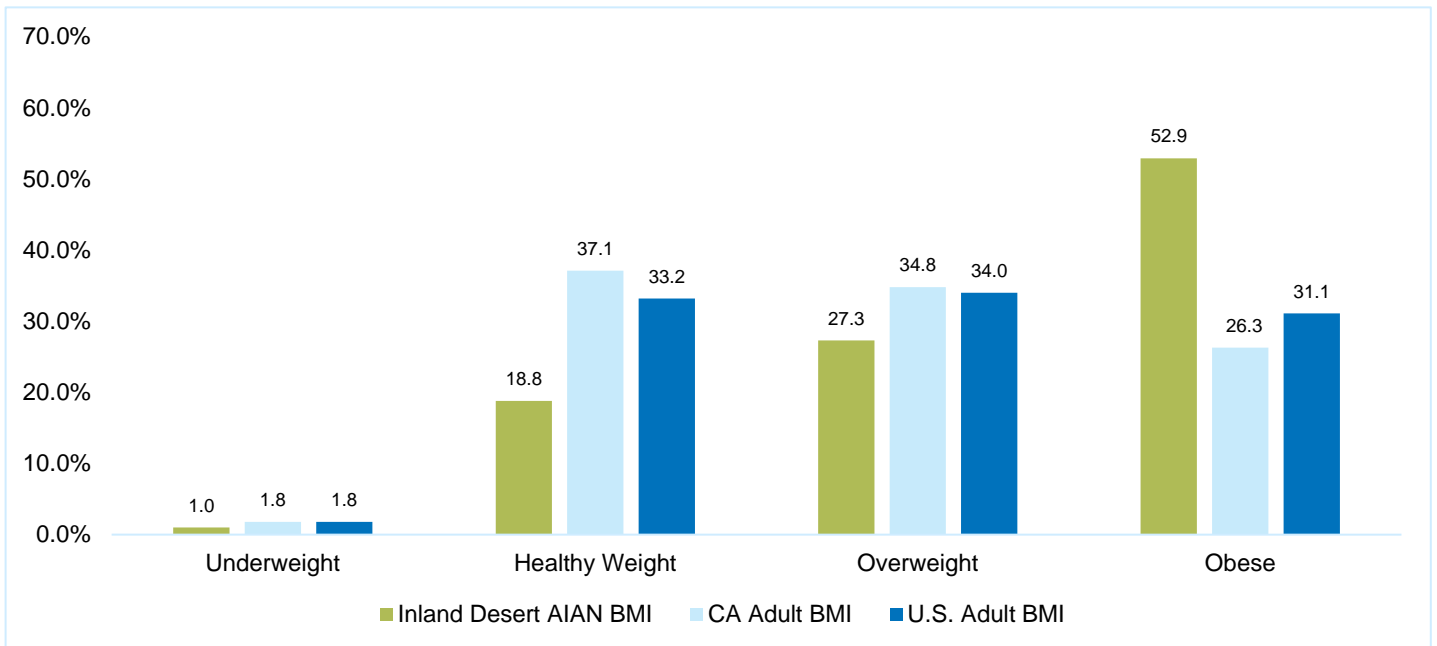
Percent Distribution of Body Mass Index Among Adult AIANs in Greater Los Angeles Area IHP Service Region Compared to U.S. and California Adult BMI, 2013–2018 (n=9,015)



Data source: Epidemiology Data Mart, Indian Health Service; 2018 California Health Interview Survey; CDC

Figure 6

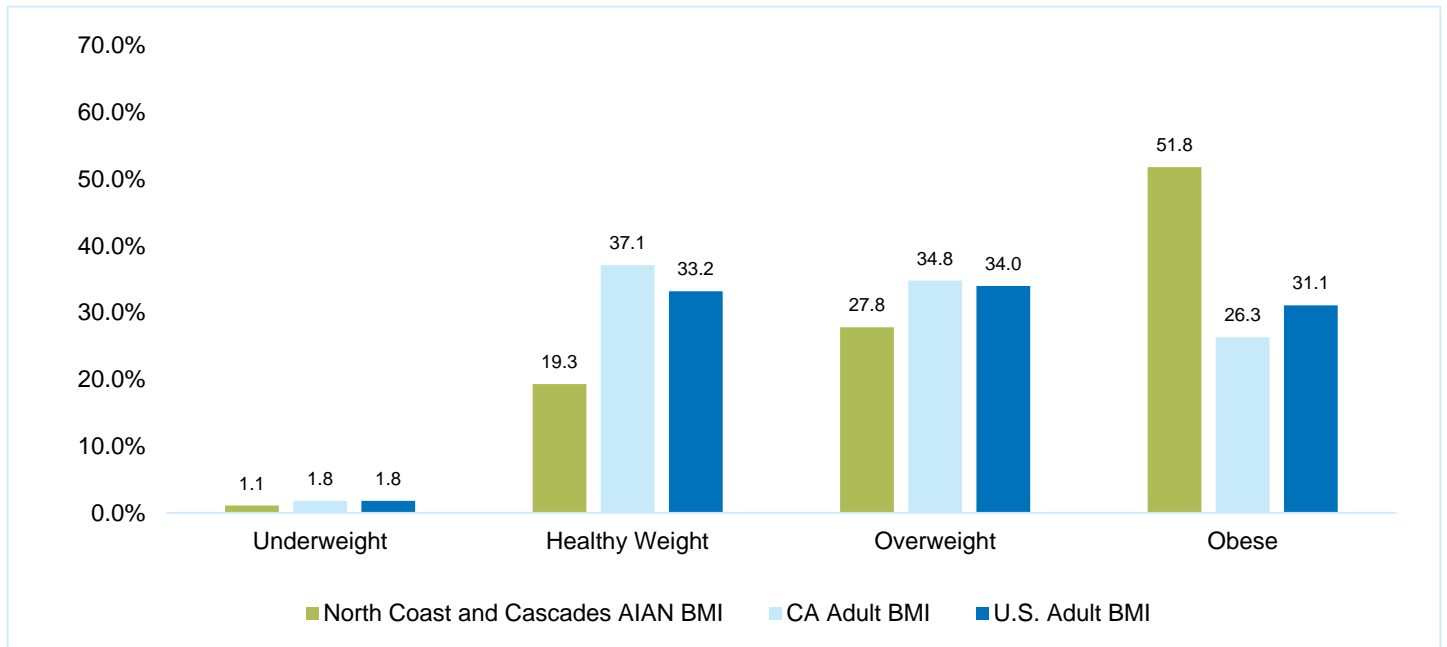
Percent Distribution of Body Mass Index Among Adult AIANs in Inland Desert IHP Service Region Compared to U.S. and California Adult BMI, 2013–2018 (n=244,626)



Data source: Epidemiology Data Mart, Indian Health Service; 2018 California Health Interview Survey; CDC

Figure 7

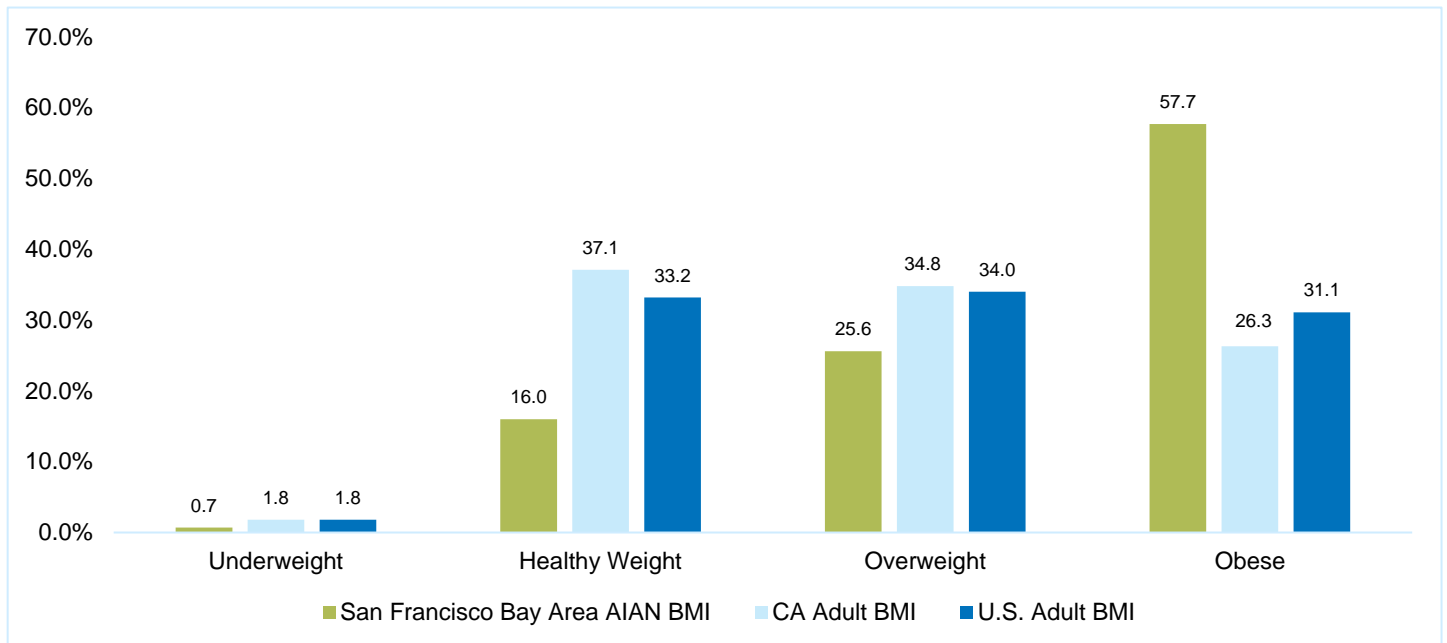
Percent Distribution of Body Mass Index Among Adult AIANs in North Coast and Cascades IHP Service Region Compared to U.S. and California Adult BMI, 2013–2018 (n=301,538)



Data source: Epidemiology Data Mart, Indian Health Service; 2018 California Health Interview Survey; CDC

Figure 8

Percent Distribution of Body Mass Index Among Adult AIANs in San Francisco Bay Area IHP Service Region Compared to U.S. and California Adult BMI, 2013–2018 (n=76,952)



Data source: Epidemiology Data Mart, Indian Health Service; 2018 California Health Interview Survey; CDC

Figure 9

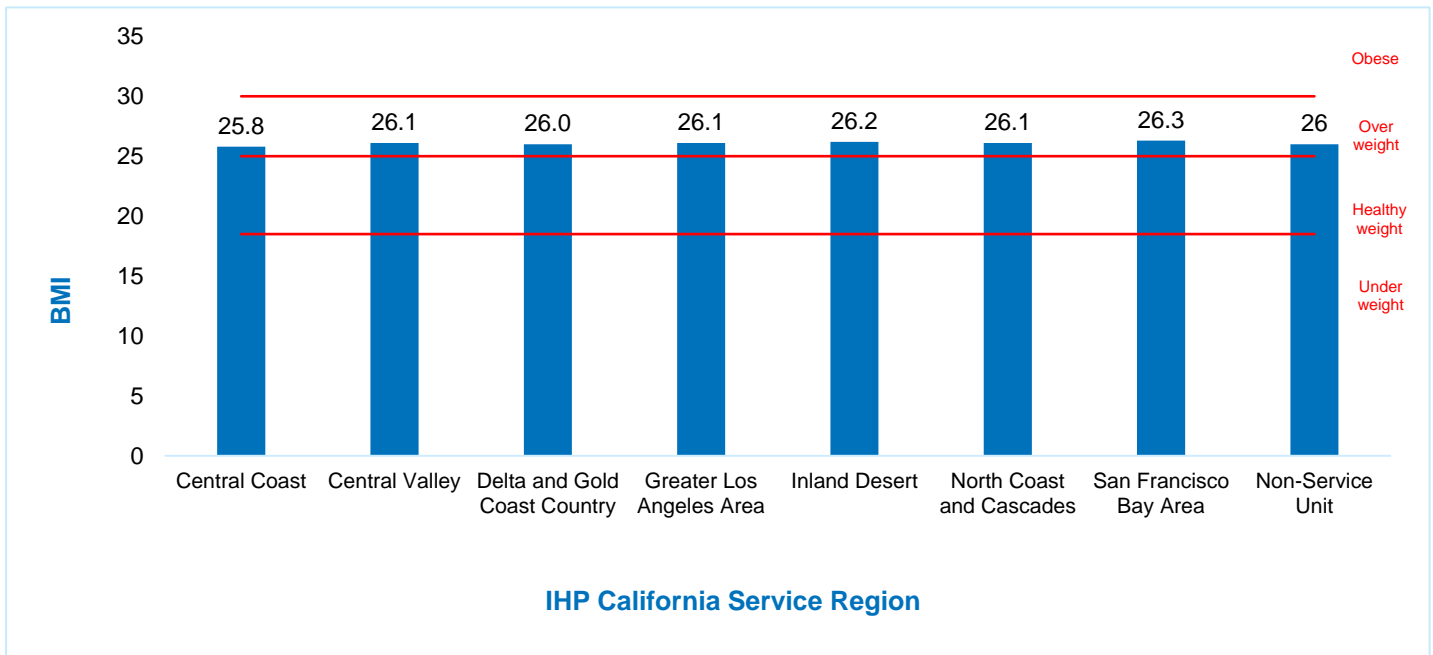
Percent Distribution of Body Mass Index Among Adult AIANs in Non-Service Unit Compared to U.S. and California Adult BMI, 2013–2018 (n=10,655)



Data source: Epidemiology Data Mart, Indian Health Service; 2018 California Health Interview Survey; CDC

Figure 10

Mean BMI Among AIAN Adults, Age 18 Years or Older, by California IHP Service Region, 2003–2018



Data source: Epidemiology Data Mart, Indian Health Service

Table 2

Percent Distribution and Associated (n) Values of AIAN Adults, Age 18 Years and Older, in Each California IHP Service Region, 2003–2018

California IHP Service Region	Underweight % (n)	Healthy Weight % (n)	Overweight % (n)	Obese % (n)
Central Coast	1.5 (764)	26.6 (13,174)	32.4 (16,064)	39.5 (19,556)
Central Valley	1.0 (909)	17.2 (15,942)	26.9 (25,041)	54.9 (51,061)
Delta and Gold Country	1.6 (3,386)	25.8 (53,626)	30.0 (62,400)	42.6 (88,748)
Greater Los Angeles Area	1.0 (87)	19.0 (1,709)	28.2 (2,543)	51.9 (1,709)
Inland Desert	0.9 (2,305)	18.8 (45,961)	27.3 (66,805)	53.0 (129,555)
North Coast and Cascades	1.1 (3,292)	19.3 (58,267)	27.8 (83,702)	51.8 (156,277)
San Francisco Bay Area	0.7 (529)	16.0 (12,737)	25.6 (20,419)	57.7 (45,967)
Non-Service Unit	0.8 (87)	20.1 (2,138)	29.3 (3,119)	49.8 (5,311)

Data source: Epidemiology Data Mart, Indian Health Service

Table 3

Percent Distribution and Associated (n) Values of AIAN Adults, Age 18 Years and Older, Throughout California, 2003–2018

California IHP Service Region	Underweight % (n)	Healthy Weight % (n)	Overweight % (n)	Obese % (n)
Central Coast	0.08 (764)	1.33 (13,174)	1.61 (16,064)	1.97 (19,556)
Central Valley	0.08 (909)	1.61 (15,942)	2.51 (25,041)	5.12 (51,061)
Delta and Gold Country	0.34 (3,386)	5.38 (53,626)	6.27 (62,400)	8.91 (88,748)
Greater Los Angeles Area	0.01 (87)	0.17 (1,709)	0.25 (2,543)	0.46 (1,709)
Inland Desert	0.23 (2,305)	4.61 (45,961)	6.72 (66,805)	13.01 (129,555)
North Coast and Cascades	0.34 (3,292)	5.84 (58,267)	8.39 (83,702)	15.71 (156,277)
San Francisco Bay Area	0.05 (529)	1.28 (12,737)	2.05 (20,419)	4.61 (45,967)
Non-Service Unit	0.01 (87)	0.21 (2,138)	0.31 (3,119)	0.53 (5,311)
CA AIAN Total	1.14 (11,359)	20.43 (203,554)	28.12 (2,800,093)	50.31 (501,151)

Data source: Epidemiology Data Mart, Indian Health Service, 2018 California Health Interview Survey

Implications

Obesity has become a major health problem among AIAN communities. Environmental influences such as the lack of sidewalks, parks, trails, affordable gyms, and safe places for recreation can lead to less physical activity, which may increase the risk for higher BMI scores and overweight or obese BMI weight classifications. In addition, a diet that consists of large portion sizes of refined carbohydrates and little variety of fruits and vegetables may also lead to AIAN adults having higher BMI scores. Intervention programs are urgently needed in California Tribal communities to encourage physical activity and healthy eating habits. To be effective, interventions must be culturally sensitive, grounded in cultural traditions and values that promote health and well-being and developed with full participation of Tribal communities.

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