Status of Cardiovascular Health in US Adults

Prevalence Estimates From the National Health and Nutrition Examination Surveys (NHANES) 2003–2008

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Background—The American Heart Association's 2020 Strategic Impact Goals define a new concept, cardiovascular (CV) health; however, current prevalence estimates of the status of CV health in US adults according to age, sex, and race/ethnicity have not been published.

Methods and Results—We included 14 515 adults (≥20 years of age) from the 2003 to 2008 National Health and Nutrition Examination Surveys. Participants were stratified by young (20–39 years), middle (40–64 years), and older (≥65 years) ages. CV health behaviors (diet, physical activity, body mass index, smoking) and CV health factors (blood pressure, total cholesterol, fasting blood glucose, smoking) were defined as poor, intermediate, or ideal. Fewer than 1% of adults exhibited ideal CV health for all 7 metrics. For CV health behaviors, nonsmoking was most prevalent (range, 60.2%–90.4%), whereas ideal Healthy Diet Score was least prevalent (range, 0.2%–2.6%) across groups. Prevalences of ideal body mass index (range, 36.5%–45.3%) and ideal physical activity levels (range, 50.2%–58.8%) were higher in young adults compared with middle or older ages. Ideal total cholesterol (range, 23.7%–36.2%), blood pressure (range, 11.9%–16.3%), and fasting blood glucose (range, 31.2%–42.9%) were lower in older adults compared with young and middle-aged adults. Prevalence of poor CV health factors was lowest in young age but higher at middle and older ages. Prevalence estimates by age and sex were consistent across race/ethnic groups.

Conclusions—These prevalence estimates of CV health represent a starting point from which effectiveness of efforts to promote CV health and prevent CV disease can be monitored and compared in US adult populations. **(*Circulation*. 2012;125:45-56.)**

Key Words: cardiovascular diseases ■ diet ■ epidemiology ■ obesity ■ risk factors

The American Heart Association's (AHA's) Strategic Impact Goals for 2020 and Beyond[1] comprise the following objective: "By 2020, to improve the cardiovascular health of all Americans by 20% while reducing deaths from cardiovascular diseases and stroke by 20%." Accompanying these goals was a new concept, "cardiovascular health," along with metrics for defining and monitoring it in the US population. For this purpose, the definition includes criteria for the entire spectrum of cardiovascular (CV) health, including poor, intermediate, and ideal ranges for each of 7 metrics. To achieve overall "ideal CV health," adults must have the simultaneous presence of (1) no clinical CV disease (ie, coronary heart disease, myocardial infarction, angina, stroke, heart failure); (2) ideal CV health behaviors (nonsmoking, body mass index [BMI] <25 kg/m^2, physical activity at recommended goal levels,[2] and dietary intakes consistent with a Dietary Approaches to Stop Hypertension [DASH]–like eating pattern[3]); and (3) ideal CV health factors (nonsmoking [also considered a behavior], untreated total cholesterol <200 mg/dL, untreated blood pressure <120/<80 mm Hg, untreated fasting blood glucose <100 mg/dL). The association between ideal CV health and extremely favorable outcomes over 20 years of follow-up has recently been validated in the Atherosclero-

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Table 1. American Heart Association 2020 Strategic Impact Goals Definition of Poor, Intermediate, and Ideal Cardiovascular Health for Each Goal/Metric for Adults ≥20 Years of Age

	Definitions		
Cardiovascular Health Goals/Metrics	Poor	Intermediate	Ideal
Current smoking	Yes	Former, quit ≤12 mo previously	Never or quit >12 mo previously
Body mass index, kg/m^2	≥30.0	25.0–29.9	<25.0
Physical activity level	None	1–149 min/wk moderate intensity, 1–74 min/wk vigorous intensity, 1–149 min/wk moderate+vigorous*	≥150 min/wk moderate intensity, ≥75 min/wk vigorous intensity, or ≥150 min/wk moderate+vigorous*
Healthy Diet Score components†	0–1	2–3	4–5
Total cholesterol, mg/dL	≥240	200–239 or treated to goal	<200 untreated
Blood pressure, mm Hg	SBP ≥140 or DBP ≥90	SBP 120–139, DBP 80–89, or treated to goal	<120/<80 untreated
Fasting blood glucose, mg/dL	≥126	100–125 or treated to goal	<100 untreated

SBP indicates systolic blood pressure; DBP, diastolic blood pressure. Adapted from Lloyd-Jones et al.[1]

*Minutes of vigorous activity are equal to 2 times the minutes of moderate activity when moderate and vigorous activities are combined.

†Healthy Diet Score components include the following: fruits and vegetables, ≥4.5 cups per day; fish, 2 or more 3.5-oz servings per week; fiber-rich whole grains (≥1.1 g fiber/10 g carbohydrate), 3 or more 1-oz-equivalent servings per day; sodium, ≤1500 mg/d; and sugar-sweetened beverages, ≤450 kcal/wk. Dietary recommendations are scaled according to a 2000-kcal/d diet.

sis Risk in Communities study.[4] Although general prevalence estimates of CV health metrics are available for US adults ≥20 years of age,[1] prevalence estimates by age, sex, and race/ethnicity have not been reported.

Clinical Perspective on p 56

Using a representative sample of US adults examined from 2003 to 2008, we sought to define current age-, sex-, and race/ethnicity-specific prevalence estimates of the individual components of CV health according to poor, intermediate, and ideal levels. Additionally, we detail specific prevalence estimates for adults having 0 to 7 ideal CV health components as identified in the AHA 2020 Strategic Impact Goals.

Methods

Measurements and Sample

This cross-sectional study used 6 years of data from the 2003 to 2008 National Health and Nutrition Examination Surveys (NHANES).[5] NHANES collects data in 2-year cycles, and the sampling methodology used for participant recruitment is designed to ensure that the sample is nationally representative of the civilian, noninstitutionalized US population. To ensure the representative nature of sampling, NHANES data are collected with the use of a complex, multistage, probability design to select participants from strata defined by geography and proportions of minority populations. These strata are mostly single counties or contiguous counties selected with probability proportional to a measure of size. Participants were interviewed at home and were invited to attend a mobile examination center, where they underwent various anthropometric and physiological examinations and provided a blood sample. All data were collected according to standard NHANES protocols across sites. The NHANES questionnaires and protocols are available elsewhere.[6] The total combined sample of NHANES 2003 to 2008 was made up of 30 619 participants. The analysis sample for the present report consisted of 14 515 adults after exclusions for age <20 years (n=14 015), incomplete interview or examination (n=1264), or pregnancy or breastfeeding at the time of examination (n=825). All participants with available CV components were included in prevalence estimates for specific components, whereas participants with complete information for all 7 CV health components were included for prevalence estimates of the number of CV health factors. Written informed consent was given by all participants, and the study design, data collection, and analyses were performed in accordance with ethics standards of the supervising institutional review boards of all centers involved.

Demographic Characteristics

Demographic characteristics (age, sex, race/ethnicity, educational attainment, annual household income) were queried during the home interview. Participants were stratified by age into 3 groups: young age (20–39 years), middle age (40–64 years), or older age (≥65 years). Self-reported race/ethnicity was categorized as non-Hispanic white, non-Hispanic black, Mexican American, other Hispanic, or other according to NHANES protocol. Educational attainment was categorized as less than high school, completion of high school, or more than high school. Annual household income was categorized as below $45 000 or $45 000 and above.

Definition of CV Health

To define the complete spectrum of CV health, all components are categorized as poor, intermediate, or ideal as outlined in the AHA 2020 Strategic Impact Goals.[1] Criteria for CV health components for adults ≥20 years are outlined in Table 1. Ideal CV health is defined by the simultaneous presence of ideal levels of all 7 CV health components.

Assessment of CV Health Behaviors

Smoking status was determined on the basis of responses to questionnaires regarding the use of cigarettes, pipes, and cigars. Height and weight were measured during the clinical examination and used to calculate BMI (kg/m^2). To assess self-reported physical activity, participants were asked to report the frequency and duration of specific moderate-intensity activities, "tasks that caused light sweating or a slight to moderate increase in breathing or heart rate," and vigorous-intensity activities that "cause heavy sweating or large increases in breathing or heart rate" over the past week or month. Transportation and household activities were asked about separately. For assessment of dietary intake, survey respondents provided 2 interviewer-administered 24-hour recalls. From these recalls, the proportion of US adults who met the 5 primary goals of the Healthy Diet Score used to define CV health was assessed. These goals were ≥4.5 cups per day of fruits and vegetables, 2 or more 3.5-oz servings per week of fish, 3 or more 1-oz servings per day of whole grains, <1500 mg/d sodium, and <450 kcal/wk of added sugar in sugar-sweetened beverages. Intakes of fruits, vegetables, fish, and whole grains were scaled to a 2000-kcal/d diet. All dietary factors were calculated with the MyPyramid Equivalents Database according to methodology established by the US Department of Agriculture Center for Nutrition Policy and Promotion.[7]

Assessment of CV Health Factors

Participants were asked to fast for ≥12 hours before clinical examination. Blood samples were obtained and sent to central laboratories for the determination of blood lipids and plasma glucose. Detailed descriptions about blood collection and processing are provided in the NHANES Laboratory/Medical Technologists Procedures Manual (http://www.cdc.gov/nchs/nhanes/nhanes_questionnaires.htm). All blood pressure measurements were taken after the participant had been resting quietly in a sitting position for 5 minutes and the maximum inflation level was determined. Three consecutive blood pressure readings were attempted. If a blood pressure measurement was interrupted or incomplete, a fourth attempt could be made. The average of all blood pressure measurements was used for these analyses. Blood pressure measurements were taken in the mobile examination center, and medical history, including medication use and history of CV disease or diabetes mellitus, was assessed during the home interview.

Definition of Treatment Control for CV Health Factors

Total cholesterol <200 mg/dL, blood pressure ≤140/<90 mm Hg, and fasting blood glucose <130 mg/dL were used as the threshold definitions of controlled treatment in agreement with current clinical practice guidelines.[8–10]

Statistical Analyses

All statistical analyses were performed with SAS 9.1 (SAS institute, Cary, NC). To incorporate the complex, multistage sampling design of the NHANES, the SURVEYFREQ procedure was used. The examination and average laboratory weights were used to estimate the number of noninstitutionalized, nonpregnant, nonlactating US adults ≥20 years of age in each age, sex, and race/ethnicity group as appropriate. Final sampling weights were divided by the number of combined surveys to estimate population average. For prevalence estimates, nonoverlapping 95% confidence intervals indicate statistical significance.

Results

Our final analysis sample included 14 515 NHANES participants, which represents a population of ≈205.6 million noninstitutionalized US adults. The sample was balanced by sex (49.3% women, 50.7% men). Sociodemographic characteristics and prevalence estimates for all components of CV health according to health status (poor, intermediate, ideal) stratified by sex and age group are presented in Tables 2 and 3. Similar estimates for race/ethnic groups are presented in Tables I through VI in the online-only Data Supplement. Men and women of all age groups were predominantly non-Hispanic white, and young and middle-aged men and women frequently had an education level beyond high school. Young and middle-aged adults tended to have an annual household income of $45 000 or higher, whereas an annual income of below $45 000 was most frequently reported for older adults. Compared with non-Hispanic whites, non-Hispanic black and Mexican American men and women less frequently had an education level beyond high school and reported an annual household income of $45 000 or higher.

Prevalence of CV Health Behaviors

The majority of men and women in all age groups reported ideal smoking status; these were the highest prevalence rates among all ideal CV health components. Young non-Hispanic white men exhibited the highest prevalence and older non-Hispanic white men exhibited the lowest prevalence of current smoking (eg, poor smoking status). Fewer than half of young men and women exhibited ideal BMI, and more than two-thirds of middle-aged and older adults were overweight or obese. Non-Hispanic black women exhibited the highest prevalence and non-Hispanic white women exhibited the lowest prevalence of intermediate and poor BMI. Young adults, particularly non-Hispanic black men, most frequently reported ideal physical activity levels, but prevalence was lower across higher age groups. The largest proportion of men and women with poor physical activity levels was in the older age group with the highest prevalence in non-Hispanic white women. Women generally exhibited lower prevalence of ideal physical activity in every age group compared with men.

Ideal Healthy Diet Score was the least prevalent CV health component overall. Greater than 99% of young men were classified as having an intermediate or poor Healthy Diet Score. Zero young men had an ideal Healthy Diet Score. Unlike other health behaviors, the prevalence of adults with ideal Healthy Diet Scores was highest in older age compared with young or middle age.

Prevalence of CV Health Factors

Young adults exhibited the highest prevalence of ideal levels of total cholesterol, blood pressure, and fasting glucose plasma, particularly among non-Hispanic black women, compared with the middle-aged and older groups. Despite these more favorable estimates, between 13.4% and 48.7% of young men and women had CV health factors in the intermediate or poor range (depending on the CV health component examined). Men had lower prevalence of ideal blood pressure and total cholesterol in young adulthood compared with women of similar age. At older age, women had a lower prevalence of ideal blood pressure and total cholesterol compared with men. The highest prevalence of poor and intermediate total cholesterol was observed in older non-Hispanic women, whereas the highest prevalence of poor and intermediate blood pressure was observed in older non-Hispanic black women. Ideal levels of fasting blood glucose were the most prevalent of ideal CV health factor across all groups, particularly in young adults, in whom fewer than one third (from 13.4%–29.4%) were in the poor and intermediate ranges. Women generally exhibited higher prevalence of ideal fasting blood glucose compared with men, whereas the lowest prevalence of ideal fasting blood glucose was observed in non-Hispanic white men.

Number of Ideal CV Behaviors and Factors

Fewer than 1% of all adults exhibited ideal levels of all 7 CV health components. Prevalence estimates for the number of ideal CV health components (0–7) by sex and age groups are presented in Figure 1 and additionally stratified by race/ethnic group in Figures I through VI in the online-only Data Supplement. Young men most frequently had 3 to 4 ideal CV health components; middle-aged men most commonly had 2 to 3 ideal CV health components; and older men most commonly exhibited 2 to 3 ideal CV health components.

Table 2. Characteristics and Prevalence of Cardiovascular Health Behaviors and Factors in US Women by Age Group: National Health and Nutrition Examination Surveys 2003 to 2008

	Young Age, 20–39 y		Middle Age, 40–64 y		Older Age, ≥65 y	
Characteristics	Percent Prevalence (95% CI)	Population Estimate, $\times 10^6$	Percent Prevalence (95% CI)	Population Estimate, $\times 10^6$	Percent Prevalence (95% CI)	Population Estimate, $\times 10^6$
Race/ethnicity, n	2166		3008		1985	
White (non-Hispanic)	64.4 (60.0–68.8)	23.1	72.5 (68.4–76.6)	35.0	82.5 (79.1–85.9)	16.9
Black (non-Hispanic)	14.1 (11.4–16.8)	5.1	12.0 (9.5–14.6)	5.8	8.7 (6.6–10.9)	1.8
Mexican American	10.1 (7.9–12.3)	3.6	5.8 (4.2–7.4)	2.8	3.2 (1.8–4.7)	0.7
Other Hispanics	5.3 (3.9–6.7)	1.8	5.8 (4.2–7.4)	1.9	2.1 (1.1–3.1)	0.7
Other	6.1 (4.6–7.7)	2.2	3.9 (2.6–5.2)	2.8	3.4 (2.3–4.6)	0.4
Educational attainment, n	2165		3007		1974	
Less than high school	16.0 (14.0–18.1)	5.7	15.0 (13.1–16.9)	7.2	30.2 (26.5–34.0)	6.2
High school graduate	21.8 (19.4–24.2)	7.8	25.2 (23.1–27.2)	12.2	32.8 (30.6–35.1)	6.7
Greater than high school	62.2 (59.3–65.0)	22.3	59.8 (56.6–63.0)	28.9	36.9 (33.6–40.2)	7.5
Annual household income, n	1904		2656		1819	
<$45 000	50.9 (47.7–54.1)	15.8	44.2 (40.8–47.6)	17.8	72.9 (69.0–76.9)	13.7
≥$45 000	49.1 (45.9–52.3)	15.2	55.8 (52.4–59.2)	22.5	27.1 (23.1–31.0)	5.1
Smoking status, n	2165		3008		1985	
Poor	27.2 (24.4–29.9)	9.7	22.2 (19.8–24.5)	10.7	8.6 (7.3–10.0)	1.7
Intermediate	3.8 (3.0–4.6)	1.4	2.2 (1.5–2.8)	1.1	1.0 (0.5–1.4)	0.2
Ideal	69.1 (66.1–72.0)	24.7	75.6 (73.3–78.0)	36.5	90.4 (89.0–91.7)	18.5
Body mass index, n	2142		2962		1908	
Poor	31.2 (28.5–34.0)	11.1	39.1 (36.7–41.6)	18.6	30.8 (28.1–33.5)	6.1
Intermediate	23.4 (21.1–25.7)	8.3	27.8 (25.6–30.0)	13.2	35.5 (32.6–38.5)	7.0
Ideal	45.3 (42.1–48.6)	16.1	33.1 (30.6–35.7)	15.8	33.7 (30.6–36.7)	6.7
Physical activity level, n	2166		3008		1985	
Poor	26.6 (24.3–28.9)	9.5	34.3 (31.7–36.9)	16.6	52.0 (48.5–55.5)	10.6
Intermediate	23.2 (20.7–25.6)	8.3	24.3 (22.4–26.2)	11.7	20.9 (18.7–23.1)	4.3
Ideal	50.2 (47.0–53.4)	18.0	41.4 (38.6–44.2)	20.0	27.1 (24.0–30.1)	5.5
Healthy Diet Score, n	1785		2651		1702	
Poor	83.0 (80.9–85.1)	24.8	71.0 (1.6–67.7)	30.8	60.0 (1.4–57.1)	10.8
Intermediate	16.5 (14.4–18.7)	4.9	28.0 (1.6–24.8)	12.1	37.3 (1.4–34.6)	6.7
Ideal	0.5 (0.0–0.9)	0.1	1.1 (0.2–0.7)	0.5	2.6 (0.4–1.8)	0.5
Total cholesterol, n	2001		2851		1833	
Poor	8.2 (6.8–9.6)	2.7	20.3 (18.4–22.3)	9.4	21.7 (19.4–23.9)	4.1
Intermediate	23.1 (21.2–25.1)	7.7	44.2 (42.4–46.0)	20.5	54.6 (52.3–57.0)	10.5
Ideal	68.7 (66.5–70.9)	22.8	35.5 (32.9–38.0)	16.4	23.7 (21.4–26.0)	4.5
Blood pressure, n	1963		2719		1776	
Poor	2.2 (1.5–2.8)	0.7	17.2 (15.5–19.0)	7.5	41.4 (38.8–43.9)	7.6
Intermediate	19.0 (16.7–21.3)	6.2	45.4 (43.2–47.6)	19.9	46.7 (44.2–49.3)	8.6
Ideal	78.8 (76.5–81.1)	25.8	37.4 (34.7–40.1)	16.4	11.9 (9.7–14.0)	2.2
Fasting blood glucose, n	525		766		483	
Poor	1.6 (0.6–2.7)	0.4	6.7 (4.6–8.8)	2.2	17.5 (13.2–21.8)	2.2
Intermediate	11.8 (9.0–14.6)	2.7	31.0 (26.2–35.8)	10.1	39.6 (34.2–44.9)	5.0
Ideal	86.6 (83.6–89.5)	20.1	62.3 (57.0–67.6)	20.2	42.9 (37.7–48.1)	5.4

CI indicates confidence interval. Percentages may not total 100 because of rounding. Population estimates for may not be equal across individual variables owing to varying sample sizes.

Table 3. Characteristics and Prevalence of Cardiovascular Health Behaviors and Factors in US Men by Age Group: National Health and Nutrition Examination Surveys 2003 to 2008

	Young Age, 20–39 y		Middle Age, 40–64 y		Older Age, ≥65 y	
Characteristics	Percent Prevalence (95% CI)	Population Estimate, $\times 10^6$	Percent Prevalence (95% CI)	Population Estimate, $\times 10^6$	Percent Prevalence (95% CI)	Population Estimate, $\times 10^6$
Race/ethnicity, n	2476		2900		1980	
White (non-Hispanic)	62.5 (58.0–67.1)	24.9	74.6 (70.7–78.4)	34.2	83.4 (80.0–86.7)	12.8
Black (non-Hispanic)	11.6 (9.4–13.9)	4.6	10.4 (8.4–12.5)	4.8	7.6 (5.7–9.5)	1.2
Mexican American	13.8 (11.3–16.3)	5.5	6.4 (4.8–8.0)	2.9	3.4 (1.9–4.9)	0.5
Other Hispanic	5.3 (3.6–7.0)	2.1	3.1 (2.1–4.0)	1.4	2.6 (1.4–3.9)	0.4
Other	6.8 (5.1–8.4)	2.7	5.5 (4.1–6.9)	2.5	3.0 (1.8–4.2)	0.5
Educational attainment, n	2475		2898		1974	
<High school	19.8 (17.6–22.1)	7.9	16.7 (14.5–18.9)	7.6	27.3 (23.9–30.7)	4.2
High school graduate	27.4 (24.8–30.1)	10.9	26.0 (23.8–28.1)	11.9	26.1 (22.6–29.7)	4.0
≥High school	52.7 (49.3–56.2)	21.0	57.4 (54.2–60.5)	26.3	46.6 (41.7–51.4)	7.1
Annual household income, n	2153		1174		1810	
<$45,000	47.7 (44.5–50.9)	16.4	38.5 (35.0–42.1)	14.5	64.7 (60.9–68.5)	9.0
≥$45,000	52.3 (49.1–55.5)	18.0	61.5 (57.9–65.0)	23.1	35.3 (31.5–39.1)	5.0
Smoking status, n	2476		2900		1947	
Poor	34.4 (32.1–36.7)	13.7	28.0 (25.4–30.5)	12.8	9.2 (7.5–11.0)	1.4
Intermediate	5.4 (4.3–6.5)	2.2	2.2 (1.5–2.9)	1.0	1.8 (1.0–2.6)	0.3
Ideal	60.2 (58.0–62.4)	24.0	69.8 (67.2–72.3)	32.0	89.0 (87.0–90.9)	13.7
Body mass index, n	2445		2862		1917	
Poor	27.5 (24.8–30.2)	10.8	36.2 (33.3–39.2)	16.4	30.5 (27.9–33.2)	4.6
Intermediate	36.0 (33.7–38.3)	14.1	42.2 (39.5–44.9)	19.1	43.5 (40.1–46.9)	6.5
Ideal	36.5 (34.2–38.8)	14.4	21.5 (19.3–23.8)	9.7	26.0 (23.6–28.3)	3.9
Physical activity level, n	2476		2900		1980	
Poor	22.0 (19.7–24.4)	8.8	32.1 (29.2–35.0)	14.7	42.6 (39.9–45.2)	6.5
Intermediate	19.2 (17.3–21.0)	7.6	19.0 (16.9–21.1)	8.7	16.5 (14.3–18.7)	2.5
Ideal	58.8 (56.0–61.6)	23.4	48.9 (46.4–51.5)	22.4	41.0 (37.7–44.3)	6.3
Healthy Diet Score, n	1958		2450		1705	
Poor	92.0 (90.0–94.0)	29.6	82.7 (80.8–84.5)	32.5	69.4 (67.1–71.6)	9.5
Intermediate	7.8 (5.8–9.7)	2.5	16.7 (15.0–18.5)	6.6	29.5 (27.4–31.6)	4.0
Ideal	0.2 (0.0–0.5)	0.1	0.6 (0.2–0.9)	0.2	1.1 (0.5–1.8)	0.2
Total cholesterol, n	2301		2751		1883	
Poor	10.9 (9.2–12.7)	4.1	19.6 (17.8–21.4)	8.6	9.3 (8.1–10.6)	1.4
Intermediate	28.2 (25.9–30.5)	10.5	44.4 (41.8–47.0)	19.6	54.4 (51.5–57.3)	8.0
Ideal	60.8 (58.5–63.1)	22.6	36.0 (33.3–38.7)	15.9	36.2 (33.4–39.1)	5.3
Blood pressure, n	2271		2692		1871	
Poor	7.6 (6.1–9.1)	2.8	19.4 (17.4–21.5)	8.3	31.7 (28.8–34.5)	4.5
Intermediate	41.1 (38.6–43.7)	15.0	51.2 (48.5–53.9)	21.8	52.0 (49.6–54.5)	7.4
Ideal	51.3 (48.3–54.3)	18.7	29.4 (27.0–31.8)	12.5	16.3 (13.6–19.1)	2.3
Fasting blood glucose, n	645		726		538	
Poor	2.4 (1.2–3.6)	0.6	9.5 (6.4–12.5)	2.8	17.0 (12.8–21.3)	1.7
Intermediate	27.0 (23.1–30.9)	7.2	43.9 (37.0–50.8)	12.9	51.8 (46.3–57.2)	5.2
Ideal	70.6 (66.8–74.4)	18.9	46.6 (40.3–53.0)	13.7	31.2 (27.0–35.4)	3.1

CI indicates confidence interval. Percentages may not total 100 as a result of rounding. Population estimates for may not be equal across individual variables owing to varying sample sizes.

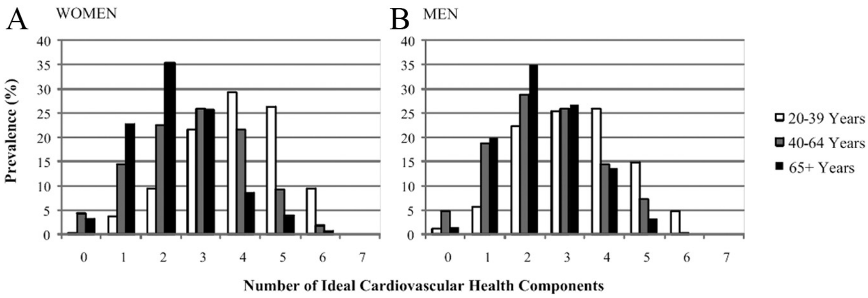

Figure 1. Number of ideal cardiovascular health components in US adults ≥20 years by age and sex group (**A** and **B**): National Health and Nutrition Examination Surveys 2003 to 2008.

Young women most frequently met ideal criteria for 4 to 5 ideal CV health components; middle-aged women most commonly exhibited ≈3 ideal CV health components; and older women exhibited 2 to 3 ideal CV health components. The distribution of the number of ideal CV health components according to age was similar when examined across race/ethnic groups; however, young non-Hispanic white women exhibited the highest number of ideal CV health

Table 4. Distribution of Cardiovascular Health Behaviors and Factors According to Cardiovascular Health Status in US Women by Age Group: National Health and Nutrition Examination Surveys 2003 to 2008

	Median (Interquartile Range)		
Characteristics	Young Age, 20–39 y (n=2166)	Middle Age, 40–64 y (n=3008)	Older Age, ≥65 y (n=1985)
Body mass index, n	2142	2962	1908
Poor, kg/m^2	35.3 (32.3–39.6)	35.0 (32.2–39.2)	33.5 (31.6–37.0)
Intermediate, kg/m^2	27.2 (26.1–28.5)	27.4 (26.2–28.8)	27.4 (26.2–28.6)
Ideal, kg/m^2	21.9 (20.2–23.5)	22.5 (21.0–23.9)	22.7 (21.1–23.9)
Physical activity level, n	2166	3008	1985
Intermediate, min			
Vigorous activity	9.3 (0.0–30.4)	0.0 (0.0–21.0)	0.0 (0.0–0.0)
Moderate activity	56.1 (28.0–90.0)	60.0 (28.0–98.1)	63.1 (35.0–100.0)
Total activity*	84.1 (60.0–120.0)	90.0 (56.1–120.0)	80.0 (40.0–120.0)
Ideal, min			
Vigorous activity	126.2 (30.0–294.4)	105.1 (0.0–240.0)	0.0 (0.0–159.1)
Moderate activity	238.3 (120.0–600.0)	276.9 (154.2–600.0)	300.0 (210.0–510.0)
Total activity*	620.0 (332.9–1200.0)	600.0 (315.4–1200.0)	480.0 (287.4–900.0)
Total cholesterol, n	2001	2851	1833
Poor, mg/dL	258.5 (247.0–274.0)	260.0 (249.0–280.0)	261.0 (249.0–281.0)
Intermediate, mg/dL	214.0 (206.0–224.0)	213.0 (203.0–225.0)	208.0 (182.0–222.0)
Ideal, mg/dL	168.0 (151.0–182.0)	178.0 (162.0–189.0)	177.0 (161.0–189.0)
Blood pressure, n	1963	2719	1776
Poor, mm Hg			
Systolic blood pressure	141.0 (134.0–149.0)	150.0 (143.0–159.0)	157.0 (147.0–171.0)
Diastolic blood pressure	91.0 (87.0–95.0)	82.0 (74.0–91.0)	70.0 (59.0–78.0)
Intermediate, mm Hg			
Systolic blood pressure	123.0 (120.0–127.0)	124.5 (120.0–131.0)	127.0 (120.0–134.0)
Diastolic blood pressure	76.0 (69.0–82.0)	74.0 (68.0–80.0)	63.0 (55.0–71.0)
Ideal, mm Hg			
Systolic blood pressure	107.0 (101.0–112.0)	109.0 (103.0–114.0)	112.0 (106.0–116.0)
Diastolic blood pressure	65.0 (60.0–71.0)	68.0 (62.0–73.0)	62.0 (55.0–68.0)
Fasting blood glucose, n	525	766	483
Poor, mg/dL	145.5 (137.0–248.8)	172.0 (141.0–234.0)	146.5 (134.0–174.0)
Intermediate, mg/dL	104.0 (101.0–108.0)	105.0 (102.0–111.9)	107.0 (103.0–114.0)
Ideal, mg/dL	90.0 (85.0–94.0)	92.3 (87.8–96.0)	93.0 (88.4–96.8)

*Minutes of vigorous activity are equal to 2 times the minutes of moderate activity when moderate and vigorous activities are combined.

Table 5. Distribution of Cardiovascular Health Behaviors and Factors and Treatment According to Category of Cardiovascular Health in US Men by Age Group: National Health and Nutrition Examination Surveys 2003 to 2008

	Median (Interquartile Range)		
Characteristics	Young Age, 20–39 y (n=2476)	Middle Age, 40–64 y (n=2900)	Older Age, ≥65 y (n=1980)
Body mass index, n	2445	2862	1917
Poor, kg/m^2	33.4 (31.4–37.0)	33.4 (31.4–36.6)	32.9 (31.3–35.7)
Intermediate, kg/m^2	27.4 (26.1–28.5)	27.5 (26.4–28.8)	27.4 (26.2–28.7)
Ideal, kg/m^2	22.8 (21.1–23.9)	23.0 (21.5–24.0)	23.0 (21.4–24.2)
Physical activity level, n	2476	2900	1980
Intermediate, min			
Vigorous activity	17.5 (4.7–37.4)	5.8 (0.0–28.0)	0.0 (0.0–14.0)
Moderate activity	42.1 (18.7–84.1)	60.0 (28.0–105.0)	70.0 (31.5–105.0)
Total activity*	86.4 (56.1–120.0)	90.0 (50.0–120.0)	90 (60.0–120.0)
Ideal, min			
Vigorous activity	240.0 (105.1–660)	168.2 (51.4–420.6)	70.1 (0.0–300)
Moderate activity	300.1 (122.7–853.4)	300.0 (150.0–720.0)	353.4 (210.3–600.0)
Total activity*	960.0 (469.6–2281.5)	799.5 (385.5–1860.0)	654.2 (350.5–1200.0)
Total cholesterol, n	2301	2751	1883
Poor, mg/dL	261.0 (248.0–277.0)	261.0 (249.0–279.0)	259.0 (248.0–278.0)
Intermediate, mg/dL	214.0 (205.0–225.0)	210.0 (199.0–224.0)	195.0 (162.0–214.0)
Ideal, mg/dL	169.0 (150.0–184.0)	177.0 (162.0–189.0)	168.0 (150.0–185.0)
Blood pressure, n	2271	2692	1871
Poor, mm Hg			
Systolic blood pressure	141.0 (132.0–145.0)	147.0 (141.0–155.0)	152.0 (145.0–163.0)
Diastolic blood pressure	91.0 (78.0–95.0)	88.0 (78.0–94.0)	74.0 (63.0–82.0)
Intermediate, mm Hg			
Systolic blood pressure	125.0 (121.0–129.0)	124.0 (120.0–131.0)	127.0 (120.0–133.0)
Diastolic blood pressure	74.0 (65.0–81.0)	76.0 (70.0–82.0)	65.0 (57.0–73.0)
Ideal, mm Hg			
Systolic blood pressure	112.0 (107.0–116.0)	112.0 (106.0–116.0)	111.0 (105.0–116.0)
Diastolic blood pressure	66.0 (59.0–72.0)	70.0 (65.0–74.0)	62.0 (56.0–68.0)
Fasting blood glucose, n	645	726	538
Poor, mg/dL	149.0 (132.0–250.0)	162.5 (134.0–236.0)	150.0 (135.0–182.0)
Intermediate, mg/dL	104.0 (101.0–108.0)	107.0 (103.0–113.0)	109.0 (103.0–115.0)
Ideal, mg/dL	92.0 (88.0–96.0)	94.0 (90.0–97.0)	94.0 (91.0–97.0)

*Minutes of vigorous activity are equal to 2 times the minutes of moderate activity when moderate and vigorous activities are combined.

factors (4–5 ideal components). No older non-Hispanic black men exhibited >4 ideal CV health components.

Distribution of CV Health Components

The distribution of CV health components according to age, sex, and CV health status is displayed in Tables 4 and 5. For intermediate BMI, the lowest 25th percentile of adults are <1.5 U (kg/m^2) from being classified as ideal BMI, whereas adults in the lowest 25th percentile of the poor BMI category are <2.0 (kg/m^2) from reaching intermediate levels. For adults with intermediate physical activity levels, 75% are >30 min/wk from reaching ideal levels. Median values for intermediate total cholesterol ranges are <15 mg/dL from ideal levels; older adults with intermediate total cholesterol have ranges closest to ideal levels. Greater than 75% of adults with intermediate blood pressure have elevated systolic blood pressure (≥120 mm Hg). Young adults with poor blood pressure have a higher prevalence of elevated diastolic blood pressure (≥80 mm Hg) compared with middle and older ages. For intermediate fasting blood glucose, the lowest 25th percentile of adults are <3 mg/dL from reaching ideal levels, whereas the lowest 25th percentile of adults in the poor category are <15 mg/dL from reaching intermediate levels.

The proportion of adults who meet goal levels for individual components of the Healthy Diet Score according to poor, intermediate, and ideal Healthy Diet Score is displayed by age and sex in Figure 2. Across all categories of Healthy Diet Score, sodium and whole grain recommendations are the least

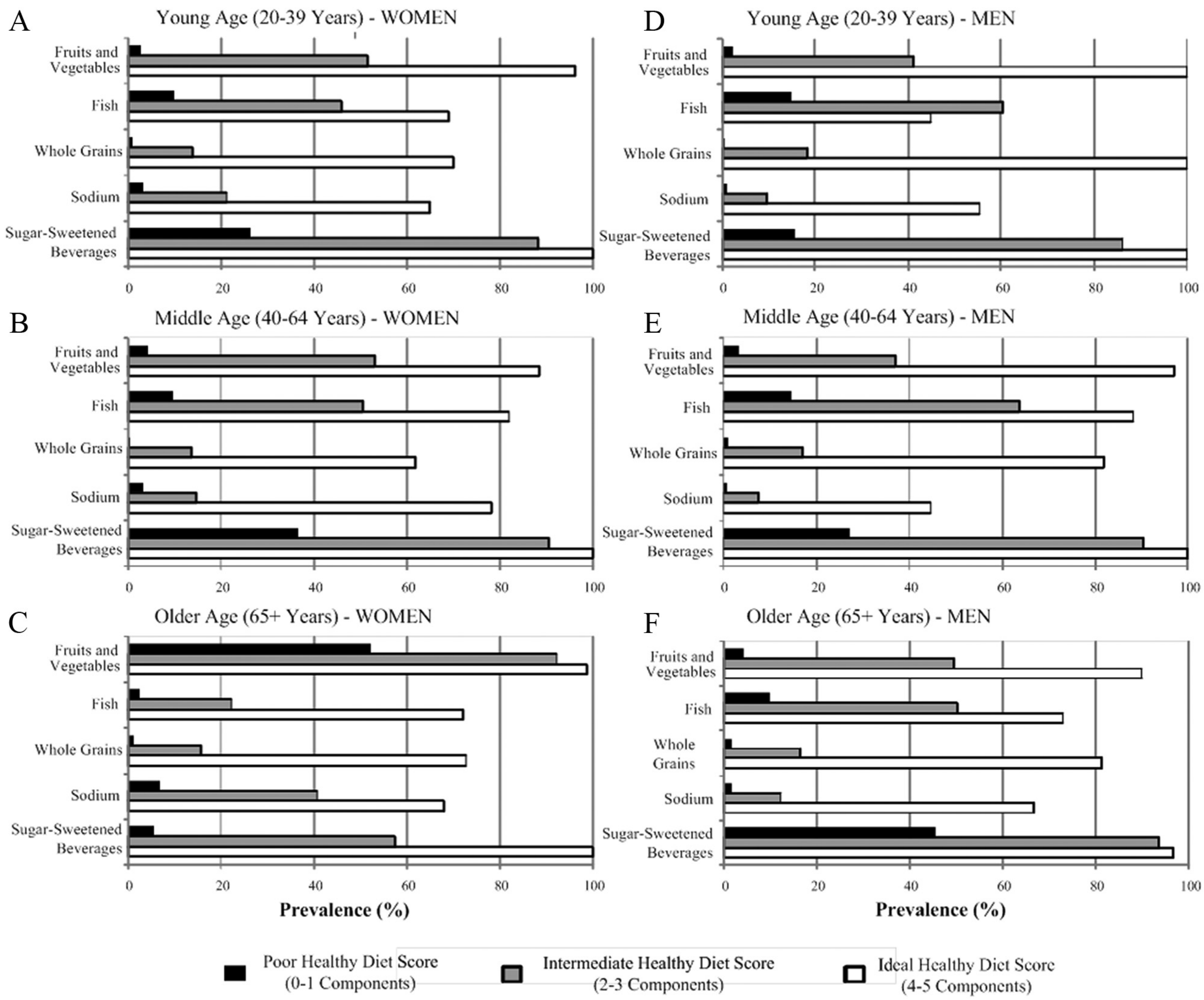

Figure 2. Prevalence of attaining individual components of the Healthy Diet Score in US adults ≥20 years of age according to poor, intermediate, and ideal Healthy Diet Score category by age and sex (**A** through **F**): National Health and Nutrition Examination Surveys 2003 to 2008.

commonly achieved goals, whereas the sugar-sweetened beverages goal is most commonly met. A lower proportion of male participants meet the sodium and fruit and vegetable goal compared with women in all categories; however, men more consistently meet goals for fish intake.

Treatment of CV Health Factors

The proportions of adults who are untreated, treated (uncontrolled), and treated (controlled) for individual CV health factors (ie, blood pressure, total cholesterol, and fasting blood glucose) are displayed according to age and sex in Figure 3. The proportion of adults reporting treatment was generally higher across increasing age groups. The proportion of adults receiving treatment in all age groups was similar between men and women except in young adults with poor blood pressure, in whom treatment was more prevalent in women. Prevalence of cholesterol treatment was the lowest of all CV health factors, particularly in young adults. For fasting blood glucose, men in poor categories were more commonly treated compared with women, yet small proportions of adults in intermediate categories reported treatment. Among adults receiving treatment, total cholesterol was the least frequent CV health factor treated to controlled levels.

Discussion

These prevalence estimates of poor, intermediate, and ideal levels quantify the current status of the full spectrum of CV health in the US adult population and important subgroups and provide a critical baseline for monitoring progress toward achievement of the AHA 2020 Strategic Impact Goals. The AHA 2020 goals are focused on improving the CV health of all Americans by reducing the prevalence of poor levels (through treatment and lifestyle) while increasing the prevalence of ideal levels (with lifestyle change) of CV health behaviors and health factors. The concept is based on the notion proposed by Rose[11] that shifting the population mean and distribution of behaviors and factors (even slightly) toward healthier levels can have dramatic benefits in health promotion and disease prevention.[11–13] Whereas ideal CV health is just that, "ideal," this profile is unlikely to be

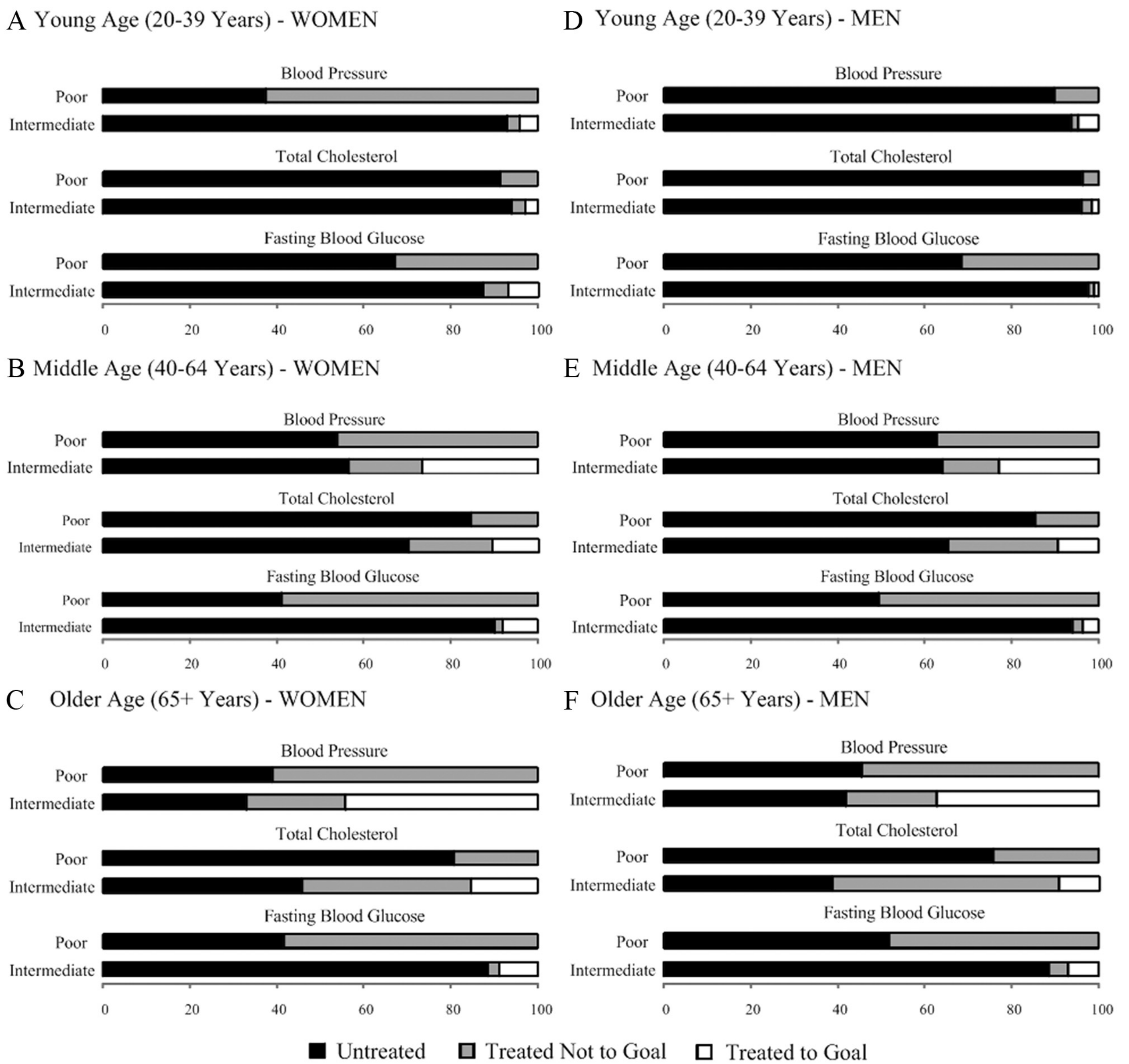

Figure 3. Treatment status for poor and intermediate cardiovascular health factors (blood pressure, total cholesterol, fasting blood glucose) in US adults ≥20 years by age and sex (**A** through **F**): National Health and Nutrition Examination Surveys 2003 to 2008.

achieved by large proportions of the US population for the foreseeable future. Therefore, clinical and public health programs focused on shifting the entire distribution of CV health toward more favorable levels are needed, particularly among minority populations.

Our data indicate that <1% of US adults have ideal levels of all 7 CV health components; these prevalence estimates are even lower in non-Hispanic black and Mexican American adults. Although alarming, these estimates are consistent with recent reports from a middle-aged community-based study population in which only 0.1% of participants exhibited overall ideal CV health.[14] Although CV health behaviors and factors are equally weighted in the current AHA definition, it is important to emphasize the direct causal association between adverse CV behaviors (ie, physical inactivity, poor dietary intake, obesity, smoking) and CV factors (ie, blood pressure, blood lipids, blood glucose).[15–25] Because >90% of US adults report intermediate or poor Healthy Diet Scores, more than two thirds exhibit intermediate or poor BMI, and fewer than half report physical activity at goal levels, it is likely that these unfavorable CV behaviors are substantially responsible for the coinciding unfavorable state of CV health factors in the US adult population. More important, improvements in even a single health behavior such as improvements achieved through weight loss can result in improvements in multiple CV health factors. This strong interrelationship between CV health behaviors and factors is an important reminder that individual components of CV health do not exist in a physiological vacuum and this concept should be strongly considered when determining specific target populations and strategic interventions for the improvement of CV health from a population approach.

Large proportions of US adults with poor and intermediate CV disease health factors (ie, blood pressure, total cholesterol, and blood glucose) are untreated or are receiving treatment but remain uncontrolled. These individuals represent a substantial target population in which increases in prevalence and effectiveness of pharmacological treatment may be an effective approach for improving CV health. Although treated adults cannot be (by definition) categorized as having ideal CV health, substantial improvements in poor and intermediate CV health factors could be achieved with effective treatment. For example, in adults with intermediate blood pressure (a group representing a significant proportion of the US adult population) mean treated systolic blood pressure was ≈10 mm Hg lower than untreated systolic blood pressure. These current estimates indicate reasonable blood pressure control with treatment and it is therefore alarming that the majority of adults with intermediate CV health factors are not receiving any pharmacological treatment. Considering these findings, a substantial need exists for interventions aimed at increasing the prevalence of treatment in adults with intermediate and poor CV health factors. Furthermore, young adults constitute the greatest proportions of untreated adults with poor and intermediate CV health factors, which is an indication that significant public health action is needed to increase the prevalence of treatment for CV health factors exists in this age group. Among adults with treated CV health factors, a substantial need also exists for improvements in the prevalence of those treated to goal levels. Although lifestyle modification is often a preferred option for initial treatment of unfavorable clinical CV risk factors, adjunct lifestyle and drug treatment at earlier ages could reduce the duration of exposure to CV risk and would likely result in lower CV disease/coronary heart disease event rates in middle and older ages.

Because many past voluntary and individual-level efforts to improve aspects of CV health in the US population—particularly efforts for behavioral change—have been unsuccessful, public health policy changes may be a more effective approach to assist in choosing healthier options. Examples of successful programs include indoor smoking bans[26,27] and state-regulated seat belt laws.[28,29] The strikingly low prevalence of ideal Healthy Diet Scores is an indication that this CV health component requires direct targeting efforts. The extensive evidence of a direct causal association between dietary intake and CV disease risk[13,30,31] further supports the concept that population-based improvements in dietary quality are a promising strategy to achieve progress toward the AHA 2020 Strategic Impact Goals. Broad population-level dietary strategies have great potential for affecting large numbers of people and targeting specific aspects of dietary intake, which will directly influence CV risk. Recently proposed strategies include the institution of progressive modification toward more favorable levels of nutrients and foods, including sodium, whole grains, and potassium;[32] these nutrients and foods are shown in the present study to be the least prevalent components of the AHA's Healthy Diet Score for adults in all age groups to achieve. In 2003, this approach was implemented in the United Kingdom, where independent government agencies responsible for food safety initiated changes in the sodium content of certain foods through direct cooperation with food manufacturers. Such efforts have resulted in an average reduction in sodium intake by 360 mg/d in a 4-year period.[33] Relatively gradual adjustments to the nutrient content of target items in the food supply could result in changes that are nearly imperceptible to consumers but would have a major impact on CV risk at the population level. If sodium intake could be gradually reduced by 1200 mg/d in the US population, such a reduction would have a beneficial influence on major CV disease risk factors, especially blood pressure, and is estimated to result in a 50% reduction in the annual number of new cases of coronary heart disease, a 48.5% reduction in stroke cases, a 54.5% reduction in myocardial infarction cases, and a 47.8% reduction in annual number of deaths resulting from any cause.[34]

Our findings should be interpreted in light of some limitations. Although NHANES is a complex, multistage probability sample of the civilian noninstitutionalized population of the United States, these data are cross-sectional and do not represent changes in single individuals over time. The NHANES measures of physical activity, smoking, and dietary consumption examined for the present investigation were self-reported; thus, the possibility of misclassification exists. Physical activity and dietary questionnaires have been shown to be valuable in indicating conditions in which an improvement would be beneficial and in monitoring population prevalence.[35]

It is also important to note that only participants with complete data for all 7 components of CV health were included in prevalence estimates for the number of ideal CV health factors. According to NHANES protocols, fasting blood glucose is selected from a random subsample of participants, and although proper sampling methodology is used to ensure national representation, fewer than one third of participants have information for this CV health component. Despite attempts to ensure unbiased sampling, participants with incomplete interview or examination data tended to be younger and more frequently non-Hispanic black and exhibited higher systolic blood pressure and total cholesterol, and these characteristics that may have biased these specific prevalence estimates toward apparent health.

Finally, because of the low prevalence of ideal CV health and many of its individual components, participant data from multiple NHANES examinations were combined for this report, which raises the possibility that changes in the prevalence rates may have occurred over the 6-year time period examined. Although it was necessary to combine multiple cycles of NHANES examinations to increase the nationally representative nature of the prevalence estimates and to have sufficient numbers of participants to estimate prevalence of all CV health components, we acknowledge that subtle indications of changes over time were observed. Most notable was the significantly higher prevalence of ideal physical activity levels in 2007 to 2008 compared with earlier examination years. Although assessment of self-reported moderate and vigorous physical activity was performed in all cycles examined, the differences in physical activity levels across cycles may be due in part to improvements in the instruments used in the 2007 to 2008 NHANES questionnaires. For other CV components, prevalence estimates for Healthy Diet Scores and blood pressure remained stable, prevalence estimates for adults with ideal smoking status increased slightly, and ideal levels of BMI, total cholesterol, and blood glucose decreased slightly across examinations. These subtle changes may indicate worsening trends in obesity, dysglycemia, and hypercholesterolemia but are accompanied by favorable trends in physical activity levels and smoking, influences that (when combined) would likely have little influence on the prevalence estimates of overall ideal CV health.

Conclusions

The prevalence of ideal levels of CV health behaviors and factors as recommended by the AHA 2020 Strategic Impact Goals is low and inversely associated with age, whereas the corresponding levels of poor and intermediate health are unacceptably high. These estimates represent a starting point for the current prevalence of CV health from which the effectiveness of programs guided by the AHA 2020 Strategic Impact Goals and their influence on population rates of CV disease can be monitored and compared. The fact that all components of CV health are modifiable through treatment and lifestyle should generate optimism for the new strategic directions for the AHA in its research, clinical, public health, and advocacy programs for CV health promotion and disease prevention.

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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Disclosures

None.

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CLINICAL PERSPECTIVE

The American Heart Association has committed to the goal of improving the cardiovascular health of all Americans by 20% by the year 2020. In this article, we estimate the current status of cardiovascular health in the United States according to age, sex, and race/ethnicity groups. These data highlight the very high prevalence of unfavorable lifestyle (eg, adverse diet and physical activity trends contributing to epidemic obesity, ongoing smoking) and environmental factors (eg, excess sodium in the food supply) in the United States and the resulting adverse distributions of key health factors such as blood glucose, total cholesterol, and blood pressure. Clearly, both public health policy initiatives and renewed emphasis on individual patient behavior change are needed to improve the adverse levels of cardiovascular health. These estimates may assist clinicians and policymakers in identifying components of cardiovascular health that currently need improvement in specific patient populations. Data suggest that improvements in even a single component (such as through weight loss or modest increases in physical activity) can result in enhancements in multiple other aspects of cardiovascular health. Thus, clinical emphasis on taking components of cardiovascular health 1 step forward from poor to intermediate health through lifestyle and/or medication use or from intermediate to ideal health through lifestyle can result in important benefits for the individual and substantial shifts in the population burden of disease resulting in greater achievement of healthy longevity. Clinicians and patients can assess their personal cardiovascular health and receive advice on improving it from the American Heart Association at www.mylifecheck.org.

Circulation

Status of Cardiovascular Health in US Adults: Prevalence Estimates From the National Health and Nutrition Examination Surveys (NHANES) 2003–2008

Christina M. Shay, Hongyan Ning, Norrina B. Allen, Mercedes R. Carnethon, Stephanie E. Chiuve, Kurt J. Greenlund, Martha L. Daviglus and Donald M. Lloyd-Jones

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SUPPLEMENTAL MATERIALS

STATUS OF CARDIOVASCULAR HEALTH IN U.S. ADULTS: PREVALENCE ESTIMATES FROM THE NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEYS (NHANES) 2003-2008

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SUPPLEMENTAL TABLES

Supplemental Table 1. Characteristics and Prevalence of Cardiovascular Health Behaviors and Factors in Non-Hispanic White U.S. WOMEN by Age Group: National Health and Nutrition Examination Surveys 2003-2008

Supplemental Table 2. Characteristics and Prevalence of Cardiovascular Health Behaviors and Factors in Non-Hispanic Black U.S. WOMEN by Age Group: National Health and Nutrition Examination Surveys 2003-2008

Supplemental Table 3. Characteristics and Prevalence of Cardiovascular Health Behaviors and Factors in Mexican American U.S. WOMEN by Age Group: National Health and Nutrition Examination Surveys 2003-2008

Supplemental Table 4. Characteristics and Prevalence of Cardiovascular Health Behaviors and Factors in Non-Hispanic White U.S. MEN by Age Group: National Health and Nutrition Examination Surveys 2003-2008

Supplemental Table 5. Characteristics and Prevalence of Cardiovascular Health Behaviors and Factors in Non-Hispanic Black U.S. MEN by Age Group: National Health and Nutrition Examination Surveys 2003-2008

Supplemental Table 6. Characteristics and Prevalence of Cardiovascular Health Behaviors and Factors in Mexican American U.S. MEN by Age Group: National Health and Nutrition Examination Surveys 2003-2008

SUPPLEMENTAL FIGURES

Supplemental Figure 1. Number of Ideal Cardiovascular Health Components in Non-Hispanic White U.S. WOMEN by ≥ 20 Years by Age Group: National Health and Nutrition Examination Surveys 2003-2008

Supplemental Figure 2. Number of Ideal Cardiovascular Health Components in Non-Hispanic Black U.S. WOMEN ≥ 20 Years by Age Group: National Health and Nutrition Examination Surveys 2003-2008

Supplemental Figure 3. Number of Ideal Cardiovascular Health Components in Mexican American U.S. WOMEN $\geq$ 20 Years by Age Group: National Health and Nutrition Examination Surveys 2003-2008

Supplemental Figure 4. Number of Ideal Cardiovascular Health Components in Non-Hispanic White U.S. MEN by $\geq$ 20 Years by Age Group: National Health and Nutrition Examination Surveys 2003-2008

Supplemental Figure 5. Number of Ideal Cardiovascular Health Components in Non-Hispanic Black U.S. MEN $\geq$ 20 Years by Age Group: National Health and Nutrition Examination Surveys 2003-2008

Supplemental Figure 6. Number of Ideal Cardiovascular Health Components in Mexican American U.S. MEN $\geq$ 20 Years by Age Group: National Health and Nutrition Examination Surveys 2003-2008

Supplemental Table 1. Characteristics and Prevalence of Cardiovascular Health Behaviors and Factors in Non-Hispanic White U.S. WOMEN by Age Group: National Health and Nutrition Examination Surveys 2003-2008

Characteristics	**Young Age 20-39 years (n=925)**		**Middle Age 40-64 years (n=1,375)**		**Older Age 65+ years (n=1,230)**	
	Percent Prevalence (95% C.I.)	Population Estimates (millions)	Percent Prevalence (95% C.I.)	Population Estimates (millions)	Percent Prevalence (95% C.I.)	Population Estimates (millions)
Educational Attainment						
<High school	9.8 (7.0-12.6)	2.3	9.4 (6.6-12.1)	3.3	24.8 (20.2-29.4)	4.2
High school graduate	21.7 (18.2-25.2)	5.0	26.5 (23.7-29.3)	9.3	35.7 (33.1-38.4)	6.0
≥ High school	68.5 (64.0-72.9)	15.8	64.1 (59.9-68.3)	22.4	39.5 (35.4-43.5)	6.7
Annual income						
<$45,000	43.8 (39.8-47.8)	8.6	38.4 (33.8-42.9)	11.0	72.3 (67.7-76.8)	11.2
≥ $45,000	56.2 (52.2-60.2)	11.0	61.6 (57.1-66.2)	17.7	27.7 (23.2-32.3)	4.3
Smoking Status	**(n=925)**		**(n=1,375)**		**(n=1,230)**	

Poor	32.4 (28.8-36.1)	7.5	22.6 (19.7-25.5)	7.9	8.7 (7.1-10.2)	1.5
Intermediate	4.7 (3.5-5.8)	1.1	2.3 (1.5-3.2)	0.8	1.0 (0.5-1.6)	0.2
Ideal	62.9 (58.9-66.9)	14.5	75.1 (72.2-77.9)	26.3	90.3 (88.8-91.9)	15.3
Body Mass Index	**(n=917)**		**(n=1,352)**		**(n=1,193)**	
Poor	27.5 (23.2-31.7)	6.3	37.3 (34.4-40.3)	12.9	28.7 (26.0-31.5)	4.7
Intermediate	22.0 (19.0-24.9)	5.0	27.1 (24.1-30.1)	9.3	36.9 (33.4-40.3)	6.0
Ideal	50.6 (45.6-55.6)	11.6	35.5 (31.9-39.1)	12.2	34.4 (31.0-37.9)	5.6
Physical Activity Level	**(n=925)**		**(n=1,375)**		**(n=1,230)**	
Poor	21.2 (18.2-24.3)	4.9	29.5 (25.9-33.1)	10.3	49.7 (45.7-53.6)	8.4
Intermediate	23.8 (20.4-27.2)	5.5	25.4 (22.8-28.0)	8.9	22.0 (19.4-24.6)	3.7
Ideal	55.0 (50.4-59.6)	12.7	45.1 (41.4-48.8)	15.8	28.4 (24.7-32.0)	4.8
Healthy Diet Score	**(n=925)**		**(n=1,375)**		**(n=1,230)**	
Poor	83.1 (80.4-85.7)	16.1	70.5 (66.3-74.7)	22.6	61.1 (58.0-64.2)	9.2
Intermediate	16.6 (13.9-19.3)	3.2	28.7 (24.5-32.9)	9.2	36.5 (33.6-39.4)	5.5
Ideal	0.3 (0.0-0.7)	<0.1	0.8 (0.4-1.3)	0.3	2.4 (1.6-3.3)	0.4
Total Cholesterol	**(n=857)**		**(n=1,329)**		**(n=1,152)**	

Poor	9.2 (7.4-11.0)	2.0	21.3 (18.9-23.7)	7.2	22.2 (19.4-25.0)	3.5
Intermediate	23.0 (20.2-25.8)	4.9	43.9 (41.6-46.2)	14.9	55.3 (52.7-58.0)	8.8
Ideal	67.8 (64.6-71.0)	14.5	34.8 (31.7-37.8)	11.8	22.5 (20.0-24.9)	3.6
Blood Pressure	**(n=838)**		**(n=1,263)**		**(n=1,110)**	
Poor	1.3 (0.5-2.1)	0.3	15.5 (13.6-17.3)	4.9	40.4 (37.3-43.4)	6.2
Intermediate	19.0 (15.4-22.6)	4.0	45.8 (43.1-48.4)	14.6	47.2 (44.0-50.4)	7.3
Ideal	79.7 (76.1-83.3)	16.8	38.8 (35.8-41.8)	12.4	12.5 (9.9-15.0)	1.9
Fasting Blood Glucose	**(n=237)**		**(n=374)**		**(n=310)**	
Poor	1.2 (0.0-2.7)	0.2	4.2 (2.3-6.1)	1.0	16.6 (11.8-21.4)	1.7
Intermediate	10.9 (7.1-14.8)	1.6	29.3 (23.5-35.1)	7.0	40.3 (34.0-46.5)	4.2
Ideal	87.8 (83.6-92.1)	13.1	66.5 (60.2-72.7)	15.8	43.1 (37.0-49.3)	4.5

Percentages may not equal 100% due to rounding. Population estimates may not be equal across groups due to unavailable data.

Supplemental Table 2. Characteristics and Prevalence of Cardiovascular Health Behaviors and Factors in Non-Hispanic Black U.S. WOMEN by Age Group: National Health and Nutrition Examination Surveys 2003-2008

Characteristics	**Young Age 20-39 years (n=514)**		**Middle Age 40-64 years (n=728)**		**Older Age 65+ years (n=331)**	
	Percent Prevalence (95% C.I.)	Population Estimates (millions)	Percent Prevalence (95% C.I.)	Population Estimates (millions)	Percent Prevalence (95% C.I.)	Population Estimates (millions)
Educational Attainment						
<High school	20.4 (16.5-24.2)	1.0	23.9 (20.0-27.8)	1.4	54.5 (48.6-60.4)	1.0
High school graduate	23.1 (19.3-26.9)	1.2	22.8 (19.3-26.4)	1.3	19.4 (15.1-23.6)	0.3
≥ High school	56.6 (51.4-61.7)	2.9	53.2 (49.2-57.2)	3.1	26.1 (21.5-30.8)	0.5
Annual income						
<$45,000	65.2 (59.9-70.6)	3.0	59.4 (53.0-65.7)	3.0	78.5 (72.0-85.0)	1.3
≥ $45,000	34.8 (29.4-40.1)	1.6	40.6 (34.3-47.0)	2.1	21.5 (15.0-28.0)	0.4
Smoking Status	**(n=514)**		**(n=728)**		**(n=331)**	

Poor	20.7 (16.9-24.6)	1.0	24.7 (20.6-28.8)	1.4	8.4 (5.3-11.5)	0.1
Intermediate	1.4 (0.3-2.6)	0.1	2.3 (1.2-3.3)	0.1	1.5 (0.1-2.9)	0.0
Ideal	77.8 (73.9-81.8)	3.9	73.1 (69.0-77.2)	4.2	90.1 (86.8-93.4)	1.6
Body Mass Index	**(n=508)**		**(n=718)**		**(n=309)**	
Poor	48.5 (44.5-52.5)	2.4	54.3 (50.8-57.8)	3.1	52.7 (47.4-58.1)	0.9
Intermediate	26.6 (22.9-30.3)	1.3	28.4 (25.0-31.8)	1.6	25.7 (21.0-30.3)	0.4
Ideal	24.9 (21.4-28.3)	1.2	17.3 (14.5-20.1)	1.0	21.6 (17.5-25.7)	0.4
Physical Activity Level	**(n=514)**		**(n=728)**		**(n=331)**	
Poor	37.0 (32.9-41.1)	1.9	46.5 (43.1-49.8)	2.7	64.5 (58.4-70.6)	1.2
Intermediate	20.9 (16.8-24.9)	1.1	22.3 (19.4-25.2)	1.3	16.6 (11.6-21.6)	0.3
Ideal	42.1 (37.4-46.8)	2.1	31.2 (27.7-34.7)	1.8	18.9 (14.3-23.6)	0.3
Healthy Diet Score	**(n=514)**		**(n=728)**		**(n=331)**	
Poor	88.9 (85.4-92.3)	3.7	80.2 (76.8-83.6)	4.0	57.6 (51.7-63.6)	0.8
Intermediate	10.9 (7.4-14.3)	0.5	18.2 (14.8-21.5)	0.9	40.4 (34.3-46.5)	0.6
Ideal	0.2 (0.2-0.3)	<0.1	1.6 (0.8-2.5)	0.1	2.0 (0.5-3.4)	<0.1
Total Cholesterol	**(n=458)**		**(n=653)**		**(n=228)**	

Poor	5.2 (2.8-7.7)	0.2	15.8 (13.4-18.3)	0.8	21.8 (16.3-27.3)	0.3
Intermediate	22.2 (18.6-25.8)	1.0	40.3 (37.3-43.2)	2.1	46.7 (39.5-53.9)	0.7
Ideal	72.6 (68.2-77.0)	3.3	43.9 (40.7-47.0)	2.3	31.5 (25.0-38.0)	0.5
Blood Pressure	**(n=458)**		**(n=643)**		**(n=287)**	
Poor	6.7 (4.3-9.2)	0.3	27.6 (24.4-30.8)	1.4	46.5 (39.5-53.5)	0.7
Intermediate	26.2 (22.5-29.8)	1.2	47.3 (42.9-51.7)	2.4	49.1 (41.2-56.9)	0.7
Ideal	67.1 (63.0-71.2)	3.0	25.2 (20.6-29.7)	1.3	4.4 (2.1-6.8)	0.1
Fasting Blood Glucose	**(n=134)**		**(n=176)**		**(n=78)**	
Poor	1.1 (0.0-3.3)	0.0	10.9 (6.5-15.3)	0.4	19.3 (12.3-26.3)	0.2
Intermediate	14.7 (7.6-21.7)	0.5	35.9 (29.7-42.2)	1.3	39.6 (29.0-50.2)	0.5
Ideal	84.3 (76.4-92.1)	2.7	53.2 (46.0-60.3)	2.0	41.1 (31.3-50.9)	0.5

Percentages may not equal 100% due to rounding. Population estimates may not be equal across groups due to unavailable data.

Supplemental Table 3. Characteristics and Prevalence of Cardiovascular Health Behaviors and Factors in Mexican American U.S. WOMEN by Age Group: National Health and Nutrition Examination Surveys 2003-2008

Characteristics	**Young Age 20-39 years (n=458)**		**Middle Age 40-64 years (n=558)**		**Older Age 65+ years (n=274)**	
	Percent Prevalence (95% C.I.)	Population Estimates (millions)	Percent Prevalence (95% C.I.)	Population Estimates (millions)	Percent Prevalence (95% C.I.)	Population Estimates (millions)
Educational Attainment						
<High school	44.0 (38.4-49.7)	1.6	48.6 (43.3-54.0)	1.4	75.4 (71.0-79.8)	0.5
High school graduate	23.1 (19.4-26.7)	0.8	20.6 (16.0-25.3)	0.6	15.2 (10.7-19.7)	0.1
≥ High school	32.9 (26.6-39.2)	1.2	30.7 (26.6-34.9)	0.9	9.4 (5.4-13.3)	0.1
Annual income						
<$45,000	69.1 (63.3-75.0)	2.3	62.0 (56.8-67.3)	1.5	83.9 (77.0-90.8)	0.5
≥ $45,000	30.9 (25.0-36.7)	1.0	38.0 (32.7-43.2)	0.9	16.1 (9.2-23.0)	0.1
Smoking Status	**(n=457)**		**(n=558)**		**(n=274)**	

Poor	12.3 (9.1-15.5)	0.4	15.2 (12.0-18.4)	0.4	9.5 (5.5-13.5)	0.1
Intermediate	4.0 (2.1-5.9)	0.1	1.7 (0.5-2.8)	0.0	0.0 (0.0-0.0)	0
Ideal	83.7 (79.8-87.6)	3.0	83.1 (79.7-86.5)	2.3	90.5 (86.5-94.5)	0.6
Body Mass Index	**(n=451)**		**(n=459)**		**(n=260)**	
Poor	37.8 (33.4-42.2)	1.3	49.3 (44.0-54.6)	1.4	37.8 (32.3-43.3)	0.2
Intermediate	31.0 (27.2-34.8)	1.1	31.1 (27.0-35.2)	0.9	35.8 (31.0-40.5)	0.2
Ideal	31.2 (26.4-36.0)	1.1	19.6 (16.1-23.1)	0.5	26.5 (22.0-30.9)	0.2
Physical Activity Level	**(n=458)**		**(n=558)**		**(n=274)**	
Poor	41.3 (34.9-47.7)	1.5	52.8 (46.7-58.9)	1.5	69.8 (63.0-76.6)	0.5
Intermediate	22.2 (16.9-27.6)	0.8	21.2 (17.2-25.2)	0.6	17.4 (11.9-23.0)	0.1
Ideal	36.5 (31.8-41.2)	1.3	26.0 (20.2-31.7)	0.7	12.8 (8.8-16.8)	0.1
Healthy Diet Score	**(n=458)**		**(n=558)**		**(n=274)**	
Poor	83.0 (79.9-86.2)	2.5	69.3 (63.6-74.9)	1.7	60.7 (54.1-67.2)	0.3
Intermediate	16.3 (13.1-19.4)	0.5	29.9 (24.3-35.4)	0.7	35.8 (29.1-42.4)	0.2
Ideal	0.7 (0.0-1.7)	<0.1	0.9 (0.1-1.6)	<0.1	3.6 (0.9-6.2)	<0.1
Total Cholesterol	**(n=436)**		**(n=539)**		**(n=255)**	

Poor	5.3 (3.1-7.6)	0.2	17.9 (14.6-21.1)	0.5	15.3 (8.8-21.8)	0.1
Intermediate	25.0 (20.9-29.1)	0.9	46.0 (43.1-48.9)	1.2	58.1 (51.1-65.2)	0.4
Ideal	69.7 (65.5-73.9)	2.4	36.2 (32.7-39.6)	1.0	26.6 (22.0-31.1)	0.2
Blood Pressure	**(n=423)**		**(n=504)**		**(n=246)**	
Poor	2.5 (0.6-4.4)	0.1	16.2 (12.7-19.7)	0.4	49.9 (41.1-58.8)	0.3
Intermediate	13.1 (9.3-16.9)	0.4	41.5 (36.3-46.7)	1.0	37.2 (31.9-42.4)	0.2
Ideal	84.4 (80.0-88.9)	2.8	42.3 (36.9-47.7)	1.1	12.9 (6.6-19.2)	0.1
Fasting Blood Glucose	**(n=104)**		**(n=148)**		**(n=77)**	
Poor	3.3 (0.0-8.8)	0.1	18.8 (12.3-25.4)	0.3	28.3 (19.3-37.2)	0.1
Intermediate	12.9 (3.6-22.3)	0.3	37.3 (29.3-45.3)	0.7	34.5 (24.1-45.0)	0.1
Ideal	83.8 (72.6-95.1)	1.9	43.8 (35.0-52.7)	0.8	37.2 (28.5-45.9)	0.2

Percentages may not equal 100% due to rounding. Population estimates may not be equal across groups due to unavailable data.

Supplemental Table 4. Characteristics and Prevalence of Cardiovascular Health Behaviors and Factors in Non-Hispanic White U.S. MEN by Age Group: National Health and Nutrition Examination Surveys 2003-2008

Characteristics	Young Age 20-39 years (n=1,057)		Middle Age 40-64 years (n=1,397)		Older Age 65+ years (n=1,273)	
	Percent Prevalence (95% C.I.)	Population Estimates (millions)	Percent Prevalence (95% C.I.)	Population Estimates (millions)	Percent Prevalence (95% C.I.)	Population Estimates (millions)
Educational Attainment						
<High school	10.4 (7.4-13.4)	2.6	11.0 (8.2-13.9)	3.8	22.9 (18.6-27.2)	2.9
High school graduate	29.2 (25.3-33.1)	7.3	27.2 (24.5-29.8)	9.3	27.7 (23.8-31.7)	3.5
≥ High school	60.4 (54.8-66.0)	15.0	61.8 (57.4-66.2)	21.1	49.4 (43.5-55.3)	6.3
Annual income						
<$45,000	39.3 (34.7-43.9)	8.4	32.8 (28.4-37.2)	9.1	63.7 (59.4-68.1)	7.4
≥ $45,000	60.7 (56.1-65.3)	12.9	67.2 (62.8-71.6)	18.6	36.3 (31.9-40.6)	4.2
Smoking Status	**(n=1,057)**		**(n=1,397)**		**(n=1,273)**	

Poor	38.3 (35.0-41.6)	9.6	27.1 (24.0-30.2)	9.3	7.5 (5.8-9.3)	1.0
Intermediate	5.5 (4.1-6.9)	1.4	2.1 (1.2-3.0)	0.7	1.7 (0.8-2.7)	0.2
Ideal	56.2 (53.1-59.2)	14.0	70.8 (67.7-73.9)	24.2	90.7 (88.7-92.8)	11.6
Body Mass Index	**(n=1,047)**		**(n=1,380)**		**(n=1,236)**	
Poor	26.0 (22.5-29.5)	6.4	37.0 (33.6-40.5)	12.5	31.1 (28.2-34.1)	3.9
Intermediate	35.5 (32.2-38.8)	8.8	42.2 (38.8-45.5)	14.2	44.9 (40.9-49.0)	5.6
Ideal	38.5 (35.3-41.8)	9.5	20.8 (18.2-23.4)	7.0	24.0 (21.3-26.6)	3.0
Physical Activity Level	**(n=1,057)**		**(n=1,397)**		**(n=1,273)**	
Poor	17.5 (14.2-20.8)	4.4	29.4 (25.7-33.1)	10.0	40.8 (37.6-44.0)	5.2
Intermediate	21.8 (19.1-24.5)	5.4	19.9 (17.2-22.5)	6.8	16.6 (14.1-19.0)	2.1
Ideal	60.7 (57.0-64.5)	15.1	50.8 (47.1-54.4)	17.3	42.6 (38.6-46.6)	5.5
Healthy Diet Score	**(n=1,057)**		**(n=1,397)**		**(n=1,273)**	
Poor	92.5 (90.2-94.9)	19.2	82.3 (80.0-84.5)	24.8	69.6 (67.1-72.0)	8.1
Intermediate	7.5 (5.1-9.8)	1.5	17.3 (15.1-19.4)	5.2	29.3 (27.1-31.5)	3.4
Ideal	0.0 (0.0-0.0)	0.0	0.5 (0.1-0.9)	0.1	1.1 (0.4-1.9)	0.1
Total Cholesterol	**(n=996)**		**(n=1,348)**		**(n=1,225)**	

Poor	10.8 (8.1-13.5)	2.5	20.1 (17.9-22.3)	6.6	9.1 (7.6-10.6)	1.1
Intermediate	27.6 (24.9-30.4)	6.5	45.0 (42.2-47.7)	14.9	55.0 (51.6-58.3)	6.8
Ideal	61.5 (58.5-64.6)	14.4	34.9 (31.9-38.0)	11.6	35.9 (32.6-39.2)	4.4
Blood Pressure	**(n=979)**		**(n=1,318)**		**(n=1,169)**	
Poor	7.3 (5.2-9.4)	1.7	18.5 (16.1-20.9)	5.9	31.1 (28.0-34.3)	3.7
Intermediate	41.5 (37.9-45.0)	9.6	52.4 (49.2-55.5)	16.8	52.6 (49.9-55.3)	6.3
Ideal	51.2 (47.0-55.5)	11.8	29.2 (26.3-32.0)	9.4	16.3 (13.0-19.5)	1.9
Fasting Blood Glucose	**(n=282)**		**(n=391)**		**(n=348)**	
Poor	1.7 (0.1-3.4)	0.3	7.9 (4.4-11.4)	1.8	16.3 (11.8-20.8)	1.4
Intermediate	25.4 (20.4-30.5)	4.3	44.4 (36.3-52.5)	9.9	53.0 (47.1-58.8)	4.4
Ideal	72.8 (67.6-78.0)	12.4	47.7 (39.8-55.5)	10.7	30.7 (26.2-35.2)	2.6

Percentages may not equal 100% due to rounding. Population estimates may not be equal across groups due to unavailable data.

Supplemental Table 5. Characteristics and Prevalence of Cardiovascular Health Behaviors and Factors in Non-Hispanic Black U.S. MEN by Age Group: National Health and Nutrition Examination Surveys 2003-2008

Characteristics	**Young Age 20-39 years (n=557)**		**Middle Age 40-64 years (n=658)**		**Older Age 65+ years (n=316)**	
	Percent Prevalence (95% C.I.)	Population Estimates (millions)	Percent Prevalence (95% C.I.)	Population Estimates (millions)	Percent Prevalence (95% C.I.)	Population Estimates (millions)
Educational Attainment						
<High school	23.2 (18.9-27.6)	1.1	26.5 (22.6-30.3)	1.3	51.1 (44.0-58.2)	0.6
High school graduate	31.4 (26.9-36.0)	1.5	25.0 (21.6-28.4)	1.2	20.9 (15.2-26.5)	0.2
≥ High school	45.3 (39.8-50.8)	2.1	48.5 (44.2-52.8)	2.3	28.0 (21.6-34.4)	0.3
Annual income						
<$45,000	57.2 (51.4-63.1)	2.4	52.6 (47.5-57.7)	2.2	75.0 (68.0-82.0)	0.8
≥ $45,000	42.8 (36.9-48.6)	1.8	47.4 (42.3-52.5)	2.0	25.0 (18.0-32.0)	0.3
Smoking Status	**(n=557)**		**(n=658)**		**(n=467)**	

Poor	30.0 (26.4-33.6)	1.4	35.8 (31.7-39.9)	1.7	20.7 (15.4-26.0)	0.2
Intermediate	2.8 (1.3-4.3)	0.1	2.5 (1.2-3.7)	0.1	2.4 (0.3-4.4)	0.0
Ideal	67.2 (63.4-71.0)	3.1	61.7 (57.4-66.0)	3.0	77.0 (72.0-81.9)	0.9
Body Mass Index	**(n=457)**		**(n=646)**		**(n=300)**	
Poor	35.5 (31.4-39.6)	1.6	36.7 (32.3-41.0)	1.7	34.9 (28.9-40.8)	0.4
Intermediate	31.2 (27.2-35.1)	1.4	36.5 (33.8-39.2)	1.7	36.1 (30.5-41.8)	0.4
Ideal	33.4 (28.5-38.3)	1.5	26.9 (22.6-31.1)	1.3	29.0 (23.2-34.7)	0.3
Physical Activity Level	**(n=557)**		**(n=658)**		**(n=316)**	
Poor	24.5 (21.0-28.0)	1.1	39.2 (34.8-43.7)	1.9	56.9 (52.5-61.4)	0.7
Intermediate	13.4 (11.1-15.6)	0.6	20.2 (16.8-23.7)	1.0	16.5 (13.2-19.7)	0.2
Ideal	62.1 (57.9-66.4)	2.9	40.6 (36.1-45.0)	1.9	26.6 (21.2-32.0)	0.3
Healthy Diet Score	**(n=557)**		**(n=658)**		**(n=316)**	
Poor	93.4 (91.1-95.7)	3.4	87.3 (83.6-91.0)	3.4	68.8 (62.8-74.8)	0.7
Intermediate	6.6 (4.3-8.9)	0.2	12.1 (8.5-15.6)	0.5	30.2 (24.3-36.1)	0.3
Ideal	0.0 (0.0-0.0)	0.0	0.6 (0.0-1.4)	<0.1	1.0 (0.0-2.4)	<0.1
Total Cholesterol	**(n=497)**		**(n=598)**		**(n=287)**	

Poor	8.2 (5.9-10.5)	0.3	14.0 (10.9-17.1)	0.6	9.5 (6.0-12.9)	0.1
Intermediate	25.5 (22.1-28.8)	1.0	42.5 (38.0-47.1)	1.8	49.5 (43.5-55.5)	0.5
Ideal	66.3 (62.7-70.0)	2.7	43.4 (38.6-48.3)	1.9	41.0 (33.9-48.2)	0.4
Blood Pressure	**(n=509)**		**(n=591)**		**(n=283)**	
Poor	10.5 (8.1-12.9)	0.4	30.0 (26.0-34.0)	1.3	39.0 (34.4-43.6)	0.4
Intermediate	46.0 (41.2-50.8)	2.0	47.3 (42.1-52.4)	2.0	50.9 (45.8-56.1)	0.5
Ideal	43.5 (38.4-48.6)	1.8	22.7 (17.5-27.9)	1.0	10.1 (6.3-13.8)	0.1
Fasting Blood Glucose	**(n=151)**		**(n=141)**		**(n=85)**	
Poor	4.0 (0.6-7.4)	0.1	12.4 (7.2-17.7)	0.3	24.5 (15.4-33.6)	0.2
Intermediate	18.5 (10.1-26.9)	0.6	39.6 (32.2-47.0)	1.1	37.0 (24.7-49.2)	0.3
Ideal	77.6 (70.5-84.7)	2.6	48.0 (40.8-55.2)	1.3	38.6 (26.7-50.5)	0.3

Percentages may not equal 100% due to rounding. Population estimates may not be equal across groups due to unavailable data.

Supplemental Table 6. Characteristics and Prevalence of Cardiovascular Health Behaviors and Factors in Mexican American U.S. MEN by Age Group: National Health and Nutrition Examination Surveys 2003-2008

Characteristics	**Young Age 20-39 years (n=577)**		**Middle Age 40-64 years (n=544)**		**Older Age 65+ years (n=260)**	
	Percent Prevalence (95% C.I.)	Population Estimates (millions)	Percent Prevalence (95% C.I.)	Population Estimates (millions)	Percent Prevalence (95% C.I.)	Population Estimates (millions)
Educational Attainment						
<High school	53.1 (47.9-58.3)	2.9	55.1 (50.3-60.0)	1.6	73.6 (66.0-81.3)	0.4
High school graduate	25.7 (21.8-29.6)	1.4	15.7 (12.9-18.5)	0.5	10.6 (7.8-13.5)	0.1
≥ High school	21.2 (16.4-25.9)	1.2	29.1 (23.3-34.9)	0.9	15.7 (9.0-22.5)	0.1
Annual income						
<$45,000	72.4 (67.6-77.2)	3.5	66.0 (61.7-70.3)	1.7	82.6 (76.4-88.8)	0.4
≥ $45,000	27.6 (22.8-32.4)	1.3	34.0 (29.7-38.3)	0.9	17.4 (11.2-23.6)	0.1
Smoking Status	**(n=577)**		**(n=544)**		**(n=260)**	

Poor	29.2 (26.3-32.2)	1.6	24.8 (21.2-28.5)	0.7	15.3 (12.0-18.7)	0.1
Intermediate	5.9 (4.1-7.7)	0.3	3.8 (2.1-5.4)	0.1	3.0 (0.0-6.0)	0.0
Ideal	64.9 (61.9-67.8)	3.6	71.4 (67.7-75.1)	2.1	81.7 (76.7-86.7)	0.4
Body Mass Index	**(n=570)**		**(n=538)**		**(n=253)**	
Poor	30.1 (25.1-35.1)	1.6	33.2 (28.0-38.4)	1.0	28.9 (22.0-35.8)	0.1
Intermediate	42.4 (38.1-46.8)	2.3	49.2 (45.7-52.7)	1.4	43.9 (37.6-50.2)	0.2
Ideal	27.5 (22.9-32.1)	1.5	17.6 (14.1-21.1)	0.5	27.2 (21.1-33.3)	0.1
Physical Activity Level	**(n=577)**		**(n=544)**		**(n=260)**	
Poor	36.0 (31.1-41.0)	2.0	45.5 (40.1-50.8)	1.3	60.8 (54.3-67.3)	0.3
Intermediate	15.9 (12.8-19.0)	0.9	13.3 (10.7-16.0)	0.4	14.7 (10.9-18.5)	0.1
Ideal	48.1 (42.5-53.7)	2.6	41.2 (36.6-45.8)	1.2	24.5 (18.1-30.8)	0.1
Healthy Diet Score	**(n=577)**		**(n=544)**		**(n=260)**	
Poor	93.2 (90.8-95.5)	3.9	89.6 (86.9-92.4)	2.2	74.3 (68.6-79.9)	0.3
Intermediate	6.8 (4.5-9.2)	0.3	10.2 (7.5-12.9)	0.2	25.3 (19.7-30.8)	0.1
Ideal	0.0 (0.0-0.0)	0	0.2 (0.0-0.5)	<0.1	0.5 (0.0-1.0)	<0.1
Total Cholesterol	**(n=541)**		**(n=522)**		**(n=249)**	

Poor	12.4 (9.7-15.0)	0.6	21.0 (16.8-25.2)	0.6	15.7 (11.0-20.4)	0.1
Intermediate	30.9 (26.9-34.8)	1.6	42.8 (37.7-47.9)	1.2	47.6 (39.9-55.2)	0.2
Ideal	56.8 (52.7-60.8)	2.9	36.1 (31.0-41.3)	1.0	36.7 (29.5-44.0)	0.2
Blood Pressure	**(n=529)**		**(n=510)**		**(n=241)**	
Poor	6.9 (5.4-8.5)	0.3	13.0 (10.4-15.7)	0.4	31.7 (25.4-37.9)	0.2
Intermediate	39.9 (34.6-45.1)	2.0	48.9 (44.0-53.7)	1.3	53.2 (46.8-59.6)	0.3
Ideal	53.2 (47.4-59.0)	2.7	38.1 (32.3-43.8)	1.1	15.1 (10.1-20.1)	0.1
Fasting Blood Glucose	**(n=153)**		**(n=145)**		**(n=83)**	
Poor	4.9 (1.2-8.5)	0.2	17.0 (10.4-23.7)	0.3	23.7 (12.7-34.7)	0.1
Intermediate	31.6 (23.4-39.8)	1.1	40.6 (36.3-45.0)	0.8	38.0 (27.9-48.1)	0.1
Ideal	63.5 (55.0-72.0)	2.3	42.4 (35.2-49.6)	0.8	38.3 (25.9-50.7)	0.1

Percentages may not equal 100% due to rounding. Population estimates may not be equal across groups due to unavailable data.

SUPPLEMENTAL FIGURE LEGENDS

Supplemental Figure 1. Number of Ideal Cardiovascular Health Components in Non-Hispanic White U.S. WOMEN by ≥ 20 Years by Age Group: National Health and Nutrition Examination Surveys 2003-2008

Supplemental Figure 2. Number of Ideal Cardiovascular Health Components in Non-Hispanic Black U.S. WOMEN ≥ 20 Years by Age Group: National Health and Nutrition Examination Surveys 2003-2008

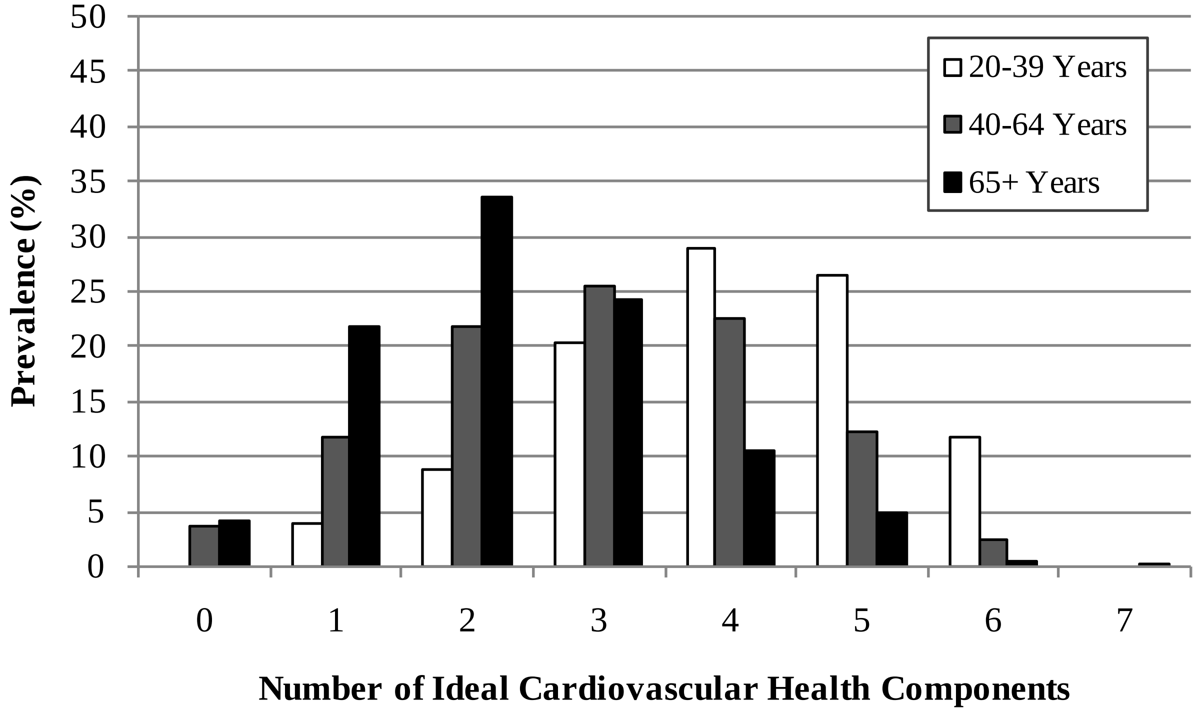
Supplemental Figure 3. Number of Ideal Cardiovascular Health Components in Mexican American U.S. WOMEN ≥ 20 Years by Age Group: National Health and Nutrition Examination Surveys 2003-2008

Supplemental Figure 4. Number of Ideal Cardiovascular Health Components in Non-Hispanic White U.S. MEN by ≥ 20 Years by Age Group: National Health and Nutrition Examination Surveys 2003-2008

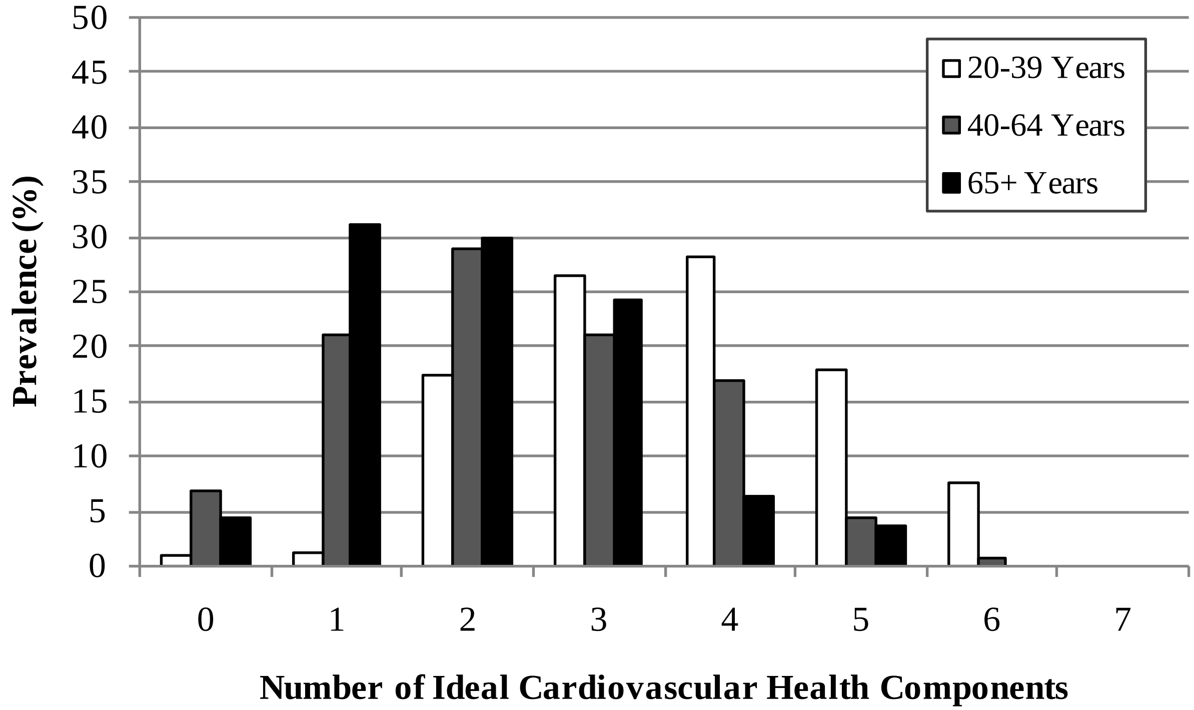
Supplemental Figure 5. Number of Ideal Cardiovascular Health Components in Non-Hispanic Black U.S. MEN ≥ 20 Years by Age Group: National Health and Nutrition Examination Surveys 2003-2008

Supplemental Figure 6. Number of Ideal Cardiovascular Health Components in Mexican American U.S. MEN $\geq$ 20 Years by Age Group: National Health and Nutrition Examination Surveys 2003-2008

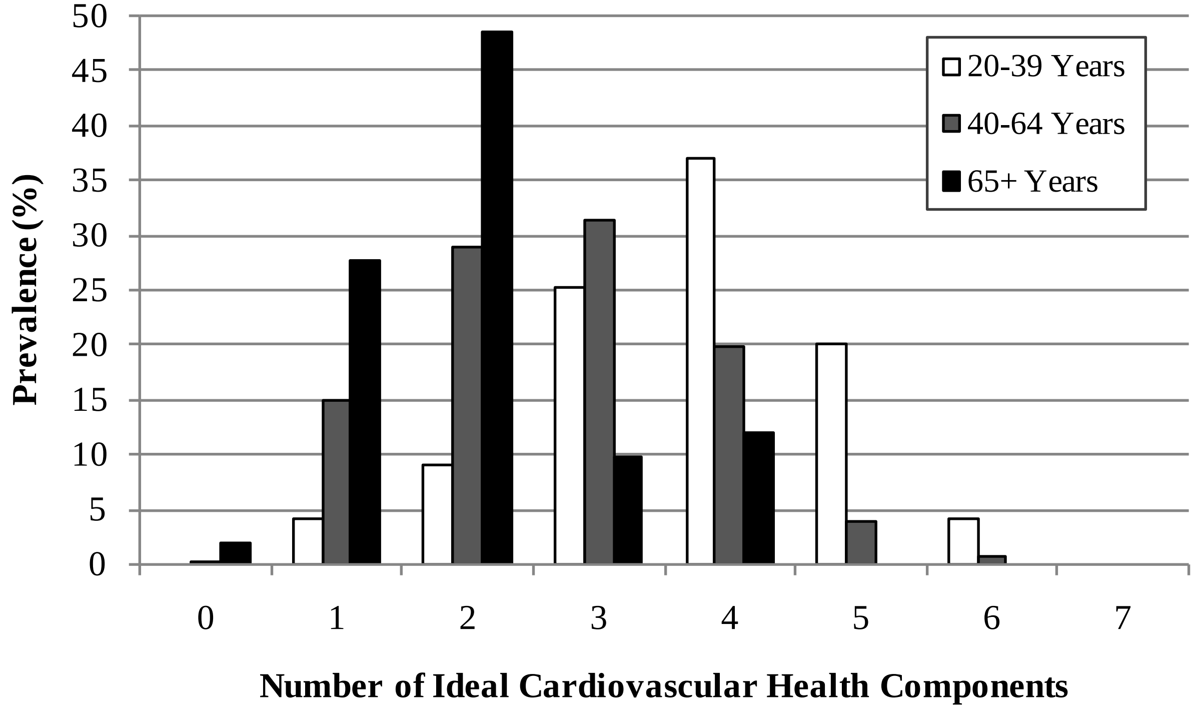
Supplemental Figure 1. Number of Ideal Cardiovascular Health Components in Non-Hispanic White U.S. WOMEN by ≥ 20 Years by Age Group: National Health and Nutrition Examination Surveys 2003-2008



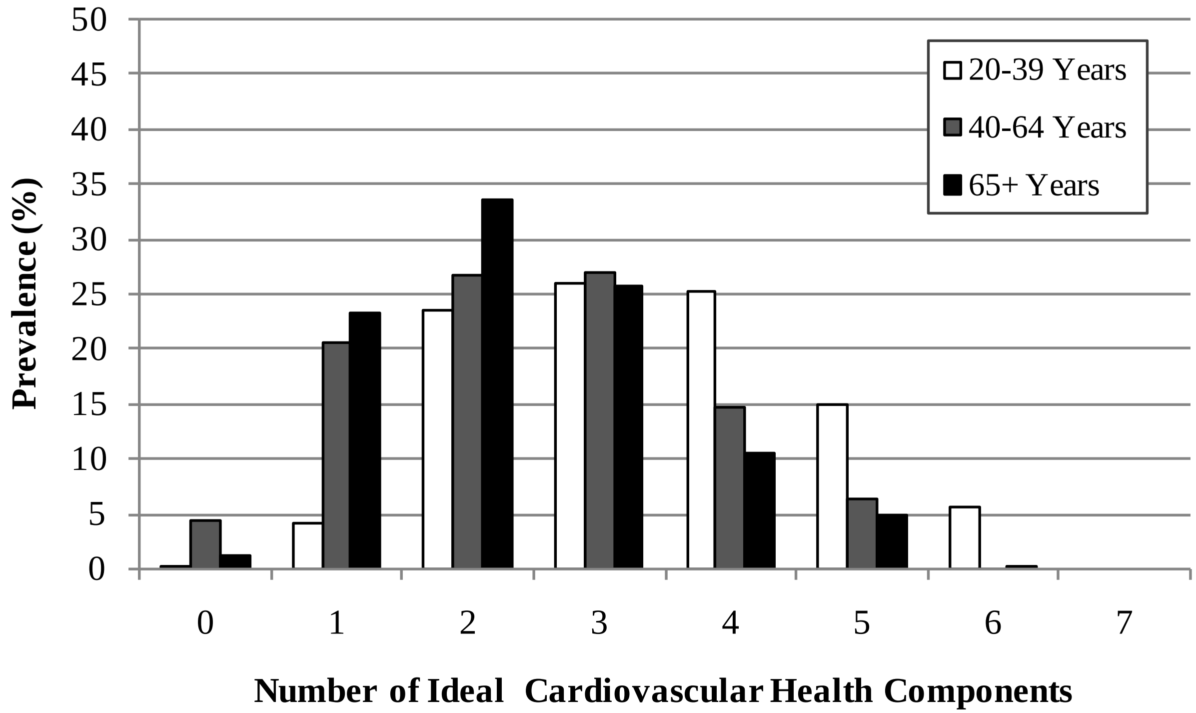
Supplemental Figure 2. Number of Ideal Cardiovascular Health Components in Non-Hispanic Black U.S. WOMEN $\geq$ 20 Years by Age Group: National Health and Nutrition Examination Surveys 2003-2008



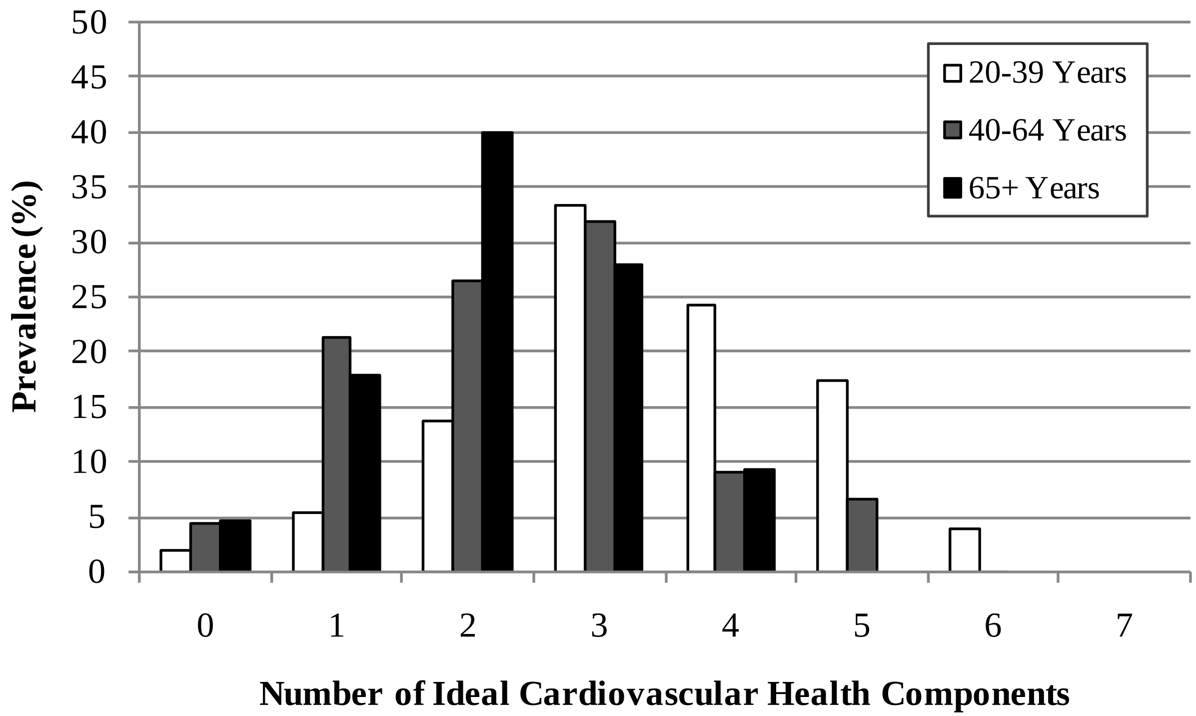
Supplemental Figure 3. Number of Ideal Cardiovascular Health Components in Mexican American U.S. WOMEN $\geq$ 20 Years by Age Group: National Health and Nutrition Examination Surveys 2003-2008



Supplemental Figure 4. Number of Ideal Cardiovascular Health Components in Non-Hispanic White U.S. MEN by ≥ 20 Years by Age Group: National Health and Nutrition Examination Surveys 2003-2008



Supplemental Figure 5. Number of Ideal Cardiovascular Health Components in Non-Hispanic Black U.S. MEN ≥ 20 Years by Age Group: National Health and Nutrition Examination Surveys 2003-2008



Supplemental Figure 6. Number of Ideal Cardiovascular Health Components in Mexican American U.S. MEN $\geq$ 20 Years by Age Group: National Health and Nutrition Examination Surveys 2003-2008