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Prevalence of Modifiable Cancer Risk Factors Among U.S. Adults Aged 18–44 Years

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Abstract

Introduction—Carcinogen exposure and unhealthy habits acquired in young adulthood can set the stage for the development of cancer at older ages. This study measured the current prevalence of several cancer risk factors among young adults to assess opportunities to intervene to change the prevalence of these risk factors and potentially reduce cancer incidence.

Methods—Using 2015 National Health Interview Survey data (analyzed in 2016), the prevalence of potential cancer risk factors was estimated among U.S. adults aged 18–44 years, based on responses to questions about diet, physical activity, tobacco product use, alcohol, indoor tanning, sleep, human papillomavirus vaccine receipt, and obesity, stratified by sex, age, and race/ethnicity.

Results—The prevalence of some risk factors varied by age and race/ethnicity. Obesity (one in four people) and insufficient sleep (one in three people) were common among men and women. Physical inactivity (one in five men, one in four women); binge drinking (one in four men, one in eight women); cigarette smoking (one in five men, one in seven women); and frequent consumption of red meat (one in four men, one in six women) also were common. More than half of the population of adults aged 18–44 years consumed sugar-sweetened beverages daily and processed meat at least once a week. Most young adults had never had the human papillomavirus vaccine.

Conclusions—Findings can be used to target evidence-based environmental and policy interventions to reduce the prevalence of cancer risk factors among young adults and prevent the development of future cancers.

INTRODUCTION

Most cancers are thought to be caused by a combination of factors operating over a person's lifetime.[1,2] Approaches to cancer prevention need to address the changing exposome of non-genetic exposures over time.[3] Actions to reduce the prevalence of harmful risk factors among young adults could prevent or delay the development of new cancer cases in the future,[4–7] as well as prevent other chronic diseases.[8]

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The 2015 National Health Interview Survey included measures of several factors that could contribute to increased risk for one or more types of cancer. These include indoor tanning[9]; e-cigarette use[10–12]; cigarette smoking[13]; binge drinking[14]; frequent consumption of red and processed meats[15]; obesity[16]; lack of human papillomavirus (HPV) vaccination[17]; insufficient sleep[18,19]; physical inactivity[20,21]; and daily consumption of sugar-sweetened beverages (SSBs).[22,23] Current information on the prevalence of these potentially modifiable factors among young adults is essential for planning and targeting efforts to reduce long-term cancer incidence rates. This study estimated the current prevalence of common cancer risk factors among young adults, aged 18–44 years, stratified by sex, age, and race/ethnicity.

METHODS

Data Sample

Data came from the 2015 National Health Interview Survey, a cross-sectional household survey, conducted in person in English or Spanish and representative of the civilian, non-institutionalized U.S. population.[24] Additional information was collected from a randomly selected adult (aged ≥18 years), and the final response rate for this section was 55.2%, taking household nonresponse into account.[24] Respondents who reported a history of cancer other than non-melanoma skin cancer were excluded (*n*=240), leaving 6,384 men and 7,333 women aged 18–44 years for analysis. Analyses by race/ethnicity were limited to non-Hispanic white, non-Hispanic black, and Hispanic to yield adequate sample sizes for stable subgroup estimates. Prevalence estimates for the HPV vaccine were limited to adults aged 18–26 years.[17,25]

Measures

Variables were treated as dichotomous and sample file recodes used for questionnaire items[24] unless otherwise noted. Obesity was defined as BMI ≥30.[2627,] Current cigarette smokers reported smoking ≥100 cigarettes during their lifetimes and smoking every day or some days; e-cigarette use included both every day and some day. Binge drinking was defined as four or more alcoholic drinks for women or five or more drinks for men on an occasion during the past 30 days.[2228, 29,] Indoor tanning was defined as use of a tanning device during the past 12 months. Never receiving the HPV vaccine was defined as not receiving one or more shots. Insufficient sleep was defined as <7 hours of sleep/24-hour period on average.[19] Physical inactivity was defined as not reporting any activity when queried about light- to moderate-intensity or vigorous-intensity leisure-time physical activity of ≥10 minutes at a time.[30] Consumption of specific foods with a frequency inconsistent with cancer prevention recommendations was defined as daily SSB consumption (one or more times/day), red meat five or more times/week, and processed meat one or more times/week.[29]

Statistical Analysis

Weighted proportions and 95% CIs were calculated for populations by sex, age, and race/ethnicity in 2015, using SAS, version 9.3, with SUDAAN, version 11, to adjust for the complex sampling design.[24]

RESULTS

Obesity (one in four people) and insufficient sleep (one in three people) were prevalent among men (Table 1) and women (Table 2). Other common risk factors included physical inactivity (i.e., no light- to moderate-intensity or vigorous-intensity leisure-time physical activity ≥10 minutes at a time; one in five men, one in four women); binge drinking (one in four men, one in eight women); cigarette smoking (one in five men, one in seven women); and frequent consumption of red meat (one in four men, one in six women). More than half consumed SSBs daily and processed meat at least once a week. The prevalence of some risk factors varied by age and race/ethnicity.

Among adults aged ≤26 years, the proportion who never had the HPV vaccine was 57.9% (95% CI=54.6%, 61.2%) for women aged 18–26 years, 79.0% (95% CI=73.7%, 83.5%) for men aged 18–21 years, and 86.4% (95% CI= 69.7%, 94.7%) for gay or bisexual men aged 22–26 years.

DISCUSSION

Young adulthood is recognized as a period of pivotal life transitions and health vulnerability.[31,32] These data from 2015 on the prevalence of common cancer risk factors can inform and support efforts by healthcare providers and public health professionals to prevent cancer and other chronic diseases in this generation of young adults. Successful prevention strategies include community-wide approaches to reduce risk.[33]

Overall, about one in four young adult men and women are obese; this proportion varied by age and race/ethnicity. Increased cancer risk also has been reported at excess weight levels below this definition of obesity.[34] Recommended strategies to prevent excess weight gain focus on policy and environmental changes such as increasing access to affordable healthy food options and safe opportunities for physical activity.[35]

The prevalence of cigarette smoking and e-cigarette use was higher for men than women. Cigarette smoking has declined by 46.6% over the past decade among young adults aged 18–24 years and by 26.2% among adults aged 25–44 years.[36] Behavioral change is possible with the implementation of approaches that operate at multiple levels and include context-changing interventions, such as tobacco tax increases and indoor air policies.[37]

Binge drinking was reported by one in four men and one in eight women, and was highest among white men aged 25–29 years. Although the risk of cancer tends to be higher among excessive drinkers, cancer risk increases with any alcohol consumption.[14] Adherence to the Dietary Guidelines on alcohol[28] can be improved by implementing evidence-based strategies to prevent excessive alcohol consumption, such as those in the Community Guide.[38,39]

Cancer prevention guidelines recommend limiting SSB consumption to prevent weight gain without specifying a limit.[22,29] These data demonstrate that daily SSB consumption was the norm across all sex, age, and race/ ethnicity groups, and was highest among Hispanic men. High intake of added sugars has been associated with obesity and an increased risk for some types of cancer.[40–42]

Indoor tanning was highest among white women. Indoor tanning has been declining among adults, possibly because of increased awareness about the danger posed by ultraviolet radiation.[43] The recent Surgeon General's Call to Action to Prevent Skin Cancer outlines several strategies to reduce harms from indoor tanning, including organizational policies to discourage indoor tanning by students on college campuses.[44]

Many young men and women reported being physically inactive, a risk factor for some forms of cancer, particularly colon and breast cancers.[21] Adults who are physically inactive and those who are insufficiently active (some activity but not meeting the guideline) can increase health benefits by working toward meeting the aerobic physical activity guideline.[21] *Step it Up! The Surgeon General's Call to Action to Promote Walking and Walkable Communities* outlines several community-based strategies to better support walking and walkability for all people.[45]

Within the recommended age ranges for the HPV vaccine, men were more likely never to have received the HPV vaccine than women. Routine HPV vaccination is recommended at age 11 or 12 years.[17] HPV vaccination is also recommended for women up to age 26 years, men up to age 21 years, and men who have sex with men up to age 26 years who were not previously vaccinated.[25] Even though the HPV vaccine is most effective when administered to young adolescents, many young adults have never received the HPV vaccine and could potentially benefit from catch-up vaccination.

Limitations

Findings are subject to several limitations. All measures are subject to potential reporting bias. The strength of evidence is not equal across risk factors and may vary by cancer type. Many cancer risk factors were not measured. Cut points do not reflect thresholds for cancer risk. Small sample sizes for many strata yielded unstable estimates.

CONCLUSIONS

Many modifiable cancer risk factors are common among young adults in the U.S. The implementation of policy and environmental strategies for these risk factors could prevent future cancers.

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MC White conceptualized the study and led the drafting of the article. ML Shoemaker performed data analysis. All authors contributed to the selection of specific cancer risk measures, interpreted findings, reviewed and edited drafts of the article, and approved the final version.

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Table 1

Prevalence of Cancer Risk Factors Among Young Adult Men in the U.S., 2015

		By age group, % (95% CI)				
Risk factor	**All men, % (95% CI) (*n*=6,384)**	**18–24 years (*n*=1,369)**	**25–29 years (*n*=1,315)**	**30–34 years (*n*=1,301)**	**35–39 years (*n*=1,201)**	**40–44 years (*n*=1,198)**
Obesity (BMI ≥30 kg/m^2)						
Total (*n*=6,277)	26.9 (25.4, 28.4)	18.5 (15.8, 21.6)	26.4 (23.3, 29.8)	29.4 (26.4, 32.6)	30.7 (27.2, 34.5)	33.8 (30.1, 37.7)
NH white (*n*=3,579)	26.3 (24.5, 28.1)	17.2 (13.8, 21.2)	25.1 (21.2, 29.3)	29.1 (25.1, 33.4)	29.6 (25.0, 34.7)	34.9 (30.2, 40.0)
NH black (*n*=704)	32.8 (28.8, 37.0)	21.9 (15.3, 30.3)	30.0 (20.8, 41.2)	36.7 (27.8, 46.5)	37.3 (27.8, 48.0)	45.5 (34.7, 56.7)
Hispanic (*n*=1,380)	30.7 (27.4, 34.2)	23.5 (17.8, 30.3)	30.5 (23.9, 38.1)	33.7 (26.5, 41.8)	36.5 (29.7, 43.8)	33.5 (26.2, 41.7)
Current cigarette smoker[a]						
Total (*n*=6,362)	18.5 (17.2, 19.9)	15.0 (12.7, 17.6)	21.7 (18.6, 25.1)	21.0 (18.6, 25.1)	17.9 (15.4, 20.6)	18.5 (15.7, 21.8)
NH white (*n*=3,606)	20.7 (18.9, 22.7)	16.4 (13.1, 20.4)	23.7 (19.8, 28.1)	22.7 (19.1, 26.7)	20.2 (16.6, 24.2)	22.2 (18.1, 27.0)
NH black (*n*=717)	20.7 (17.1, 24.8)	16.0 (10.2, 24.1)	28.3 (19.9, 38.6)	25.2 (16.7, 36.1)	20.3 (13.4, 29.4)	16.8[j] (10.5, 25.7)
Hispanic (*n*=1,413)	13.2 (11.1, 15.5)	12.5 (8.9, 17.4)	13.6 (9.6, 18.8)	16.1 (11.4, 22.4)	13.2 (9.2, 18.4)	10.5 (6.6, 16.4)
Current e-cigarette smoker[b]						
Total (*n*=5,991)	6.2 (5.4, 7.1)	7.8 (6.1, 10.0)	6.6 (4.9, 8.8)	5.6 (4.0, 7.8)	5.3 (3.9, 7.2)	4.6 (3.1, 6.8)
NH white (*n*=3,419)	7.7 (6.5, 9.0)	8.7 (6.4, 11.9)	7.6 (5.4, 10.6)	7.5 (5.0, 10.9)	7.7 (5.4, 10.7)	6.4 (4.1, 9.7)
NH black (*n*=658)	2.8[j] (1.6, 4.9)	4.81[j,k] (2.0, 11.1)	—[k]	2.5[j,k] (1.0, 5.9)	—[k]	—[k]
Hispanic (*n*=1,332)	4.1 (2.8, 5.8)	7.9[j] (4.9, 12.6)	3.6[j,k] (1.6, 7.8)	3.3[j,k] (1.6, 6.8)	1.6[j,k] (0.6, 4.3)	1.2[j,k] (0.4, 3.4)
Binge drank in last 30 days[c]						
Total (*n*=6,239)	25.2 (23.9, 26.6)	21.4 (18.5, 24.5)	34.0 (30.4, 37.9)	27.4 (24.3, 30.8)	21.8 (19.1, 24.7)	22.5 (19.5, 25.9)
NH white (*n*=3,391)	29.4 (27.4, 31.5)	25.9 (21.3, 31.1)	40.8 (35.9, 45.9)	31.2 (26.9, 35.9)	25.3 (21.5, 29.4)	24.4 (20.3, 29.0)
NH black (*n*=703)	16.0 (12.8, 19.8)	11.5[k] (7.2, 17.6)	26.1 (17.4, 37.3)	13.1[j] (7.7, 21.4)	10.9[j] (6.3, 18.2)	20.7[j] (13.5, 30.2)
Hispanic (*n*=1,372)	22.1 (19.7, 24.7)	16.9 (12.6, 22.4)	23.3 (17.7, 30.1)	28.8 (21.2, 37.8)	21.4 (16.0, 28.0)	23.3 (16.6, 31.8)
Used indoor tanning device in last year[d]						
Total (*n*=5,947)	2.2 (1.7, 2.7)	1.5 (0.9, 2.6)	2.5 (1.6, 3.8)	1.7 (1.0, 2.9)	3.0 (1.9, 4.5)	2.5 (1.6, 3.9)
NH white (*n*=3,391)	3.3 (2.6, 4.1)	2.2[j,k] (1.2, 3.9)	3.9 (2.5, 6.2)	2.6[j,k] (1.4, 4.7)	4.1[j] (2.7, 6.3)	3.9[j] (2.4, 6.3)
NH black (*n*=655)	0.0[j] (0.0, 0.2)	—[l]	—[k]	—[l]	—[l]	—[l]

Risk factor	All men, % (95% CI) (*n*=6,384)	By age group, % (95% CI) 18–24 years (*n*=1,369)	25–29 years (*n*=1,315)	30–34 years (*n*=1,301)	35–39 years (*n*=1,201)	40–44 years (*n*=1,198)
Hispanic (*n*=1,323)	0.9[j,k] (0.5, 1.7)	1.4[j,k] (0.5, 3.8)	—[k]	—[k]	—[k]	—[k]
Insufficient sleep[e]						
Total (*n*=6,154)	32.8 (31.2, 34.4)	23.9 (21.0, 27.0)	32.4 (28.7, 36.2)	37.8 (34.4, 41.4)	36.6 (32.9, 40.5)	38.0 (34.3, 41.8)
NH white (*n*=3,505)	31.3 (29.2, 33.4)	22.9 (18.9, 27.4)	30.4 (25.7, 35.6)	36.0 (31.6, 40.8)	33.7 (29.1, 38.8)	37.4 (32.5, 42.6)
NH black (*n*=679)	42.3 (37.4, 47.3)	29.5 (22.7, 37.4)	42.3 (31.9, 53.5)	54.6 (43.6, 65.1)	44.7 (33.6, 56.4)	49.2 (39.3, 59.2)
Hispanic (*n*=1,373)	31.4 (28.2, 34.8)	21.4 (15.9, 28.2)	31.3 (24.4, 39.1)	36.5 (29.2, 44.5)	38.8 (31.6, 46.5)	35.4 (28.6, 42.8)
Physically inactive[f]						
Total (*n*=6,288)	22.6 (21.2, 24.1)	21.4 (18.5, 24.7)	21.1 (18.3, 24.2)	23.9 (21.0, 27.1)	21.2 (18.5, 24.3)	26.1 (22.8, 29.7)
NH white (*n*=3,562)	18.7 (16.9, 20.7)	18.8 (14.8, 23.6)	15.0 (12.0, 18.6)	21.5 (17.7, 25.8)	16.3 (13.0, 20.4)	22.4 (18.5, 26.9)
NH black (*n*=708)	23.6 (19.9, 27.8)	18.5 (13.0, 25.5)	26.0 (17.8, 36.4)	30.1 (20.5, 41.8)	18.7 (12.1, 27.7)	28.2 (19.5, 38.8)
Hispanic (*n*=1,398)	33.9 (30.6, 37.4)	28.4 (22.6, 35.0)	37.9 (30.8, 45.5)	30.0 (23.7, 37.2)	36.9 (30.5, 43.7)	39.5 (31.5, 48.2)
Daily sugar-sweetened beverage consumption[g]						
Total (*n*=6,006)	60.6 (58.9, 62.4)	57.4 (53.4, 61.2)	62.0 (58.4, 65.5)	61.2 (57.8, 64.5)	63.0 (59.5, 66.3)	61.3 (57.4, 65.1)
NH white (*n*=3,421)	57.8 (55.4, 60.3)	53.3 (47.6, 58.9)	61.4 (56.4, 66.1)	59.2 (54.6, 63.6)	58.7 (53.7, 63.5)	58.4 (53.1, 63.4)
NH black (*n*=658)	58.2 (53.1, 63.1)	59.8 (49.9, 69.0)	55.3 (44.2, 65.9)	66.3 (54.8, 76.2)	58.1 (47.8, 67.7)	51.2 (41.3, 61.0)
Hispanic (*n*=1,342)	70.3 (67.5, 72.9)	65.8 (59.2, 71.9)	71.0 (64.6, 76.6)	67.5 (60.2, 74.0)	77.3 (71.2, 82.4)	72.4 (63.2, 80.1)
Red meat consumption[h]						
Total (*n*=5,997)	24.8 (23.2, 26.5)	27.3 (23.8, 31.0)	26.6 (23.1, 30.3)	24.3 (21.2, 27.6)	22.0 (19.0, 25.3)	22.3 (19.0, 26.0)
NH white (*n*=3,415)	25.8 (23.5, 28.2)	26.4 (21.6, 31.8)	26.9 (22.4, 31.9)	27.5 (23.0, 32.5)	22.8 (19.0, 27.2)	24.9 (20.5, 29.8)
NH black (*n*=658)	24.5 (20.7, 28.8)	24.8 (17.0, 34.6)	33.3 (23.6, 44.7)	23.5 (15.6, 33.9)	21.5 (14.0, 31.5)	19.2 (12.3, 28.6)
Hispanic (*n*=1,342)	22.6 (19.7, 25.9)	27.9 (22.0, 34.7)	25.7 (19.2, 33.3)	16.1 (11.4, 22.2)	19.8 (14.2, 26.8)	19.7 (13.2, 28.3)
Processed meat consumption[i]						
Total (*n*=5,996)	66.2 (64.5, 67.8)	68.2 (64.6, 71.6)	68.4 (64.7, 71.8)	64.0 (60.3, 67.5)	66.3 (62.5, 69.9)	62.7 (58.9, 66.3)
NH white (*n*=3,416)	71.9 (69.8, 73.9)	71.6 (66.2, 76.4)	72.0 (66.7, 76.7)	70.8 (66.3, 75.0)	73.1 (67.9, 77.8)	72.1 (67.3, 76.4)
NH black (*n*=657)	64.9 (60.5, 69.0)	68.1 (59.1, 76.0)	71.7 (60.2, 80.9)	58.3 (47.8, 68.1)	60.5 (49.9, 70.3)	62.9 (53.2, 71.7)
Hispanic (*n*=1,342)	58.6 (54.8, 62.3)	63.4 (56.0, 70.2)	63.1 (55.2, 70.3)	54.7 (46.4, 62.7)	58.8 (51.3, 66.0)	47.9 (39.6, 56.4)

Source: National Health Interview Survey, 2015.

Note: Estimates are weighted to the population.

[a]Current cigarette smokers included respondents who reported smoking ≥100 cigarettes during their lifetimes and, at the time of interview, reported smoking every day or some days.

[b]Current e-cigarette smokers included respondents who reported using e-cigarettes every day or some days.

[c]Binge drinking was defined as ≥4 alcoholic drinks for women and ≥5 drinks for men on an occasion during the past 30 days.

[d]Use of indoor tanning device included respondents who reported use of a sunlamp, sunbed, or tanning booth in the last year.

[e]Insufficient sleep was defined as reporting <7 hours of sleep in a 24-hour period.

[f]Physical inactivity was defined as not reporting any activity when queried about light- to moderate- or vigorous-intensity leisure-time physical activity of at least 10 minutes at a time.

[g]Daily sugar-sweetened beverage consumption included respondents who reported consuming sugar-sweetened drinks, such as regular soda, sweetened fruit drinks, sports and energy drinks, or sweetened coffee or tea, one or more times a day.

[h]Frequent red meat consumption was defined as eating red meat, such as beef, pork, ham, or sausage, five or more times a week.

[i]Frequent processed meat consumption was defined as eating processed meat, such as bacon, lunch meats, or hot dogs, one or more times a week.

[j]n<30, interpret with caution.

[k]Estimates considered unreliable. Data presented have a relative SE (RSE) >30%–≤50% and should be used with caution. Data not shown have an RSE >50%.

[l]Quantity zero.

NH, non-Hispanic.

Table 2

Prevalence of Cancer Risk Factors Among Young Adult Women in the U.S., 2015

Risk factor	All women, % (95% CI) (*n*=7,333)	By age group, % (95% CI) 18–24 years (*n*=1,508)	25–29 years (*n*=1,457)	30–34 years (*n*=1,623)	35–39 years (*n*=1,407)	40–44 years (*n*=1,338)
Obesity (BMI ≥30)						
Total (*n*=6,277)	26.4 (25.0, 27.8)	19.4 (16.8, 22.3)	28.8 (25.8, 31.9)	28.3 (25.5, 31.3)	28.0 (25.3, 31.0)	30.6 (27.6, 33.9)
NH white (*n*=3,651)	24.3 (22.5, 26.2)	17.5 (14.0, 21.5)	27.4 (23.5, 31.7)	26.1 (22.3, 30.3)	26.5 (22.7, 30.8)	27.0 (23.2, 31.3)
NH black (*n*=1,166)	39.1 (35.4, 43.0)	27.3 (20.4, 35.6)	44.9 (36.7, 53.3)	37.9 (31.4, 44.9)	40.2 (32.9, 47.9)	55.5 (46.8, 63.9)
Hispanic (*n*=1,773)	28.4 (25.7, 31.3)	21.1 (16.3, 27.0)	29.4 (23.5, 36.2)	31.8 (25.5, 38.8)	31.8 (26.3, 37.9)	32.3 (25.1, 40.5)
Current cigarette smoker[a]						
Total (*n*=7,312)	14.1 (13.1, 15.2)	10.9 (8.9, 13.3)	14.0 (11.8, 16.5)	15.0 (12.7, 17.7)	15.5 (13.1, 18.1)	16.6 (13.9, 19.7)
NH white (*n*=3,773)	18.2 (16.5, 20.0)	13.5 (10.4, 17.2)	17.5 (14.2, 21.5)	19.9 (16.2, 24.2)	20.5 (16.7, 24.9)	21.6 (17.6, 26.3)
NH black (*n*=1,150)	13.5 (11.0, 16.3)	8.9[j] (5.3, 14.5)	16.2 (10.8, 23.6)	15.3 (10.6, 21.4)	16.8 (10.9, 24.8)	13.0[j] (8.0, 20.4)
Hispanic (*n*=1,744)	6.0 (5.0, 7.3)	4.6[j] (2.9, 7.3)	4.8[j] (3.0, 7.5)	5.7[j] (3.6, 8.8)	8.5 (5.8, 12.2)	7.5[j] (4.9, 11.5)
Current e-cigarette smoker[b]						
Total (*n*=6,892)	3.0 (2.5, 3.5)	2.5 (1.8, 3.5)	2.0[j] (1.2, 3.3)	3.1 (2.1, 4.5)	3.4 (2.3, 5.1)	4.1 (2.9, 6.0)
NH white (*n*=3,584)	3.7 (3.1, 4.5)	3.5 (2.4, 5.0)	2.5[j,k] (1.3, 4.9)	3.3[k] (2.0, 5.4)	4.6[j] (2.8, 7.7)	5.1 (3.2, 7.8)
NH black (*n*=1,062)	2.7 (1.6, 4.3)	1.0[j,k] (0.5, 2.2)	—[k]	5.7[j,k] (2.8, 11.3)	2.5[j,k] (1.0, 6.3)	—[k]
Hispanic (*n*=1,642)	1.5[j] (0.9, 2.4)	1.7[j,k] (0.7, 4.2)	—[k]	—[k]	2.3[j,k] (0.8, 5.9)	2.3[j,k] (0.9, 5.5)
Binge drank in last 30 days[c]						
Total (*n*=7,252)	13.6 (12.5, 14.8)	15.6 (12.8, 18.7)	14.8 (12.6, 17.3)	13.1 (11.2, 15.3)	11.1 (9.2, 13.2)	12.6 (10.3, 15.4)
NH white (*n*=3,734)	17.2 (15.6, 19.0)	20.3 (16.3, 25.1)	18.1 (14.9, 21.9)	16.2 (13.3, 19.6	14.7 (11.8, 18.2)	15.1 (11.8, 19.1)
NH black (*n*=1,142)	9.4 (7.4, 11.9)	10.9[j] (6.6, 17.5)	9.3[j] (5.5, 15.4)	8.6[j] (5.6, 13.0)	5.5[j] (3.1, 9.6)	11.9[j] (6.8, 20.1)
Hispanic (*n*=1,732)	8.5 (7.0, 10.1)	7.3 (5.0, 10.6)	11.1 (8.1, 15.1)	8.3 (5.4, 12.5)	8.3 (5.7, 11.8)	8.0[j,k] (4.3, 14.5)
Used indoor tanning device in last year[d]						
Total (*n*=6,837)	7.9 (7.0, 8.8)	10.9 (8.9, 13.2)	8.7 (6.7, 11.3)	6.2 (5.0, 7.7)	6.6 (5.0, 8.6)	5.6 (3.9, 7.8)
NH white (*n*=3,561)	12.6 (11.2, 14.2)	17.2 (14.0, 21.0)	13.3 (10.2, 17.2)	10.1 (8.1, 12.5)	11.2 (8.5, 14.7)	9.0 (6.3, 12.7)

Risk factor	All women, % (95% CI) (*n*=7,333)	By age group, % (95% CI) 18–24 years (*n*=1,508)	25–29 years (*n*=1,457)	30–34 years (*n*=1,623)	35–39 years (*n*=1,407)	40–44 years (*n*=1,338)
NH black (*n*=1,049)	—[k]	—[k]	—[l]	—[k]	—[l]	—[k]
Hispanic (*n*=1,628)	2.6 (1.7, 3.9)	4.1[j] (2.4, 7.1)	—[k]	1.8[j,k] (0.7, 4.6)	1.7[j,k] (0.7, 4.2)	—[k]
Insufficient sleep[e]						
Total (*n*=7,092)	32.2 (30.6, 33.8)	23.4 (20.5, 26.6)	30.9 (27.5, 34.4)	37.0 (33.9, 40.1)	38.4 (35.1, 41.8)	35.0 (31.5, 38.7)
NH white (*n*=3,678)	30.8 (28.7, 32.9)	20.5 (16.8, 24.9)	28.7 (24.6, 33.2)	37.9 (33.5, 42.5)	38.5 (34.1, 43.1)	33.1 (28.5, 37.9)
NH black (*n*=1,102)	40.9 (36.8, 45.1)	32.4 (23.9, 42.3)	48.6 (39.3, 58.0)	40.7 (34.0, 47.8)	44.6 (36.3, 53.2)	45.0 (36.5, 53.7)
Hispanic (*n*=1,688)	29.8 (27.1, 32.6)	23.9 (19.0, 29.6)	28.5 (22.4, 35.6)	32.8 (26.9, 39.2)	34.1 (28.1, 40.6)	32.9 (27.2, 39.2)
Physically inactive[f]						
Total (*n*=7,225)	26.8 (25.4, 28.3)	28.5 (25.5, 31.8)	24.8 (22.0, 27.7)	27.7 (24.8, 30.7)	26.8 (23.8, 30.0)	25.6 (22.7, 28.7)
NH white (*n*=3,738)	21.6 (19.6, 23.6)	23.8 (19.7, 28.5)	21.7 (18.0, 26.0	20.8 (17.0, 25.1)	19.7 (16.1, 23.9)	20.7 (17.0, 25.0)
NH black (*n*=1,136)	38.4 (34.6, 42.5)	43.2 (35.2, 51.7)	39.0 (31.3, 47.4)	36.5 (29.0, 44.7)	40.0 (32.1, 48.4)	30.0 (22.4, 38.9)
Hispanic (*n*=1,713)	34.7 (32.1, 37.4)	32.2 (27.0, 37.9)	29.2 (23.5, 35.6)	39.1 (33.6, 44.9)	35.1 (29.4, 41.2)	39.2 (32.0, 46.9)
Daily sugar-sweetened beverage consumption[g]						
Total (*n*=6,918)	55.7 (54.0, 57.4)	52.9 (49.4, 56.4)	53.5 (50.2, 56.7)	56.7 (53.4, 59.8)	59.1 (55.5, 62.6)	57.7 (53.9, 61.3)
NH white (*n*=3,596)	55.3 (52.8, 57.7)	53.7 (48.9, 58.5)	55.4 (50.8, 59.8)	55.1 (50.4, 59.8)	58.5 (53.2, 63.6)	54.7 (49.5, 59.9)
NH black (*n*=1,070)	57.0 (53.2, 60.8)	56.8 (46.9, 66.1)	52.6 (44.3, 60.8)	61.4 (54.0, 68.3)	60.3 (51.9, 68.2)	52.6 (44.0, 61.1)
Hispanic (*n*=1,644)	58.1 (54.9, 61.3)	51.6 (44.7, 58.3)	51.7 (44.6, 58.8)	58.3 (52.3, 64.1)	60.3 (53.9, 66.5)	73.6 (66.6, 79.7)
Red meat consumption[h]						
Total (*n*=6,899)	16.4 (15.2, 17.6)	18.0 (15.5, 20.8)	16.0 (13.6, 18.7)	15.7 (13.6, 18.1)	17.3 (14.8, 20.1)	14.2 (11.9, 16.7)
NH white (*n*=3,589)	15.7 (14.2, 17.4)	16.7 (13.3, 20.8)	15.5 (12.3, 19.3)	15.4 (12.5, 18.8)	17.0 (13.5, 21.3)	13.7 (10.6, 17.4)
NH black (*n*=1,066)	18.0 (15.0, 21.4)	18.5 (12.8, 25.9)	21.7 (15.9, 29.0)	18.1 (13.0, 24.5)	17.8 (11.7, 26.3)	13.7[j] (8.9, 20.4)
Hispanic (*n*=1,639)	16.1 (14.1, 18.4)	19.1 (14.8, 24.3)	15.4 (11.2, 20.8)	14.0 (10.5, 18.3)	15.9 (11.8, 21.1)	14.4 (9.9, 20.3)
Processed meat consumption[i]						
Total (*n*=6,898)	52.2 (50.5, 53.9)	53.0 (49.1, 56.9)	48.8 (45.2, 52.4)	53.6 (50.3, 56.9)	52.6 (49.2, 56.0)	52.5 (48.5, 56.4)
NH white (*n*=3,589)	54.6 (52.2, 56.9)	52.2 (46.5, 57.8)	50.7 (45.8, 55.6)	58.0 (53.0, 62.8)	55.0 (49.9, 59.9)	58.4 (53.2, 63.5)
NH black (*n*=1,067)	58.9 (54.5, 63.1)	64.1 (54.8, 72.4)	53.5 (44.9, 61.9)	60.6 (52.9, 67.8)	58.5 (49.8, 66.8)	52.4 (42.5, 62.0)
Hispanic (*n*=1,639)	45.0 (41.8, 48.2)	47.6 (40.9, 54.3)	44.3 (37.3, 51.6)	44.1 (37.4, 51.0)	45.5 (39.2, 51.9)	41.9 (35.0, 49.0)

Source: National Health Interview Survey, 2015.

Note: Estimates are weighted to the population.

[a]Current cigarette smokers included respondents who reported smoking ≥100 cigarettes during their lifetimes and, at the time of interview, reported smoking every day or some days.

[b]Current e-cigarette smokers included respondents who reported using e-cigarettes every day or some days.

[c]Binge drinking was defined as ≥4 alcoholic drinks for women and ≥5 drinks for men on an occasion during the past 30 days.

[d]Use of indoor tanning device included respondents who reported use of a sunlamp, sunbed, or tanning booth in the last year.

[e]Insufficient sleep was defined as reporting <7 hours of sleep in a 24-hour period.

[f]Physical inactivity was defined as not reporting any activity when queried about light- to moderate- or vigorous-intensity leisure-time physical activity of at least 10 minutes at a time.

[g]Daily sugar-sweetened beverage consumption included respondents who reported consuming sugar-sweetened drinks, such as regular soda, sweetened fruit drinks, sports and energy drinks, or sweetened coffee or tea, one or more times a day.

[h]Frequent red meat consumption was defined as eating red meat, such as beef, pork, ham, or sausage, five or more times a week.

[i]Frequent processed meat consumption was defined as eating processed meat, such as bacon, lunch meats, or hot dogs, one or more times a week.

[j]n<30, interpret with caution.

[k]Estimates considered unreliable. Data presented have a relative SE (RSE) >30%–≤50% and should be used with caution. Data not shown have an RSE >50%.

[l]Quantity zero.

NH, non-Hispanic.