# Fifteen-Year Trends in Awareness of Heart Disease in Women: Results of a 2012 American Heart Association National Survey

Lori Mosca, Gmerice Hammond, Heidi Mochari-Greenberger, Amytis Towfighi and Michelle A. Albert

on behalf of the American Heart Association Cardiovascular Disease and Stroke in Women and Special Populations Committee of the Council on Clinical Cardiology, Council on Epidemiology and Prevention, Council on Cardiovascular Nursing, Council on High Blood Pressure Research, and Council on Nutrition, Physical Activity and Metabolism

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AHA Special Report

# Fifteen-Year Trends in Awareness of Heart Disease in Women

## Results of a 2012 American Heart Association National Survey

WRITING COMMITTEE

Lori Mosca, MD, MPH, PhD, Chair; Gmerice Hammond, MD; Heidi Mochari-Greenberger, PhD, MPH, RD; Amytis Towfighi, MD; Michelle A. Albert, MD, MPH; on behalf of the American Heart Association Cardiovascular Disease and Stroke in Women and Special Populations Committee of the Council on Clinical Cardiology, Council on Epidemiology and Prevention, Council on Cardiovascular Nursing, Council on High Blood Pressure Research, and Council on Nutrition, Physical Activity and Metabolism

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Lori Mosca, MD, MPH, PhD, Chair; Michelle A. Albert, MD, MPH; Gmerice Hammond, MD; Jean Harvey-Berino, PhD; Jean McSweeney, PhD, RN, FAHA; Heidi Mochari-Greenberger, PhD, MPH, RD; Jane F. Reckelhoff PhD, FAHA; Mathew J. Reeves, BVSc, PhD, FAHA; Amytis Towfighi, MD; Judy L. Bezanson, DSN, CNS, RN, FAHA

***Background***—The purpose of this study was to evaluate trends in awareness of cardiovascular disease (CVD) risk among women between 1997 and 2012 by racial/ethnic and age groups, as well as knowledge of CVD symptoms and preventive behaviors/barriers.

***Methods and Results***—A study of awareness of CVD was conducted by the American Heart Association in 2012 among US women >25 years of age identified through random-digit dialing (n=1205) and Harris Poll Online (n=1227), similar to prior American Heart Association national surveys. Standardized questions on awareness were given to all women; additional questions about preventive behaviors/barriers were given online. Data were weighted, and results were compared with triennial surveys since 1997. Between 1997 and 2012, the rate of awareness of CVD as the leading cause of death nearly doubled (56% versus 30%; $P<0.001$). The rate of awareness among black and Hispanic women in 2012 (36% and 34%, respectively) was similar to that of white women in 1997 (33%). In 1997, women were more likely to cite cancer than CVD as the leading killer (35% versus 30%), but in 2012, the trend reversed (24% versus 56%). Awareness of atypical symptoms of CVD has improved since 1997 but remains low. The most common reasons why women took preventive action were to improve health and to feel better, not to live longer.

***Conclusions***—Awareness of CVD among women has improved in the past 15 years, but a significant racial/ethnic minority gap persists. Continued effort is needed to reach at-risk populations. These data should inform public health campaigns to focus on evidenced-based strategies to prevent CVD and to help target messages that resonate and motivate women to take action. **(*Circulation.* 2013;127:00-00.)**



**Key Words:** AHA Scientific Statements ■ awareness ■ cardiovascular diseases ■ prevention and control ■ risk factors

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In 1997, the American Heart Association (AHA) commissioned a national survey to assess the awareness and knowledge of heart disease risk among women on the basis of statistics that cardiovascular disease (CVD) was their number one killer and concerns that the perception about heart disease risk was not aligned with established risk among women. Results of the survey were presented in Washington, DC, against a backdrop of the Capital building and 500 000 red carnations, representing the number of women who died annually of CVD. In response to the national data showing that only 1 in 3 women correctly identified heart disease as their leading cause of death, the AHA launched a national campaign to raise awareness and to educate the public about the hazards of heart disease in women.[1] Subsequently, the AHA has conducted triennial surveys to monitor national trends in awareness of heart disease among women.[2–5] Several other organizations have also promoted awareness of heart disease in women, including the National Heart, Lung, and Blood Institute Heart Truth campaign, initiated in 2001, and more recently the Department of Health and Human Services Office of Women's Health Make the Call, Don't Miss a Beat campaign, established in 2011 to raise awareness of heart disease symptoms in women and the need to call 9-1-1. The Red Dress has become the national symbol of the heart disease in women movement, and in 2003, the AHA named its national initiative Go Red for Women.

CVD, coronary heart disease in particular, remains the leading cause of death among women in the United States.[6] During the decade after the initial launch of the AHA's national campaign in women, the rate of awareness of heart disease as the leading killer of women nearly doubled.[1,5] During the same time frame, the death rate caused by CVD declined nearly 50% for both men and women.[7] The purpose of this article, on the occasion of the 10-year anniversary of Go Red for Women, is to present the results of the 2012 survey and to compare those results with baseline data from 1997, along with other triennial surveys, to evaluate trends in awareness and to inform ongoing AHA, federal, and other initiatives aimed at reducing the burden of CVD among women.

## Methods

### Study Population and Survey Administration

We conducted a cross-sectional survey of 2432 women in the United States who were at least 25 years of age to assess their awareness, knowledge, and perceptions of CVD risk and prevention. The study was designed to result in a margin of error of ≈2.0%. Potential participants were identified through 2 independent mechanisms: random-digit dialing (n=1205) similar to previous surveys[1–5] and an online survey (n=1227) similar to an approach that began in 2009.[5] All surveys were conducted between August 28 and October 5, 2012, by representatives of Harris Interactive, New York, NY (telephone interviews), or via an online survey conducted through Harris Poll Online, a multimillion-member panel of cooperative online respondents maintained by Harris Interactive. Both telephone and online surveys were administered in English. The telephone survey was ≈10 minutes long; the online survey took ≈20 minutes.

With the use of random-digit dialing, a total of 117 017 landline numbers were called. Of these, 27 685 (24%) were nonworking/disconnected, business/government, or computer tone numbers, and an additional 47 171 calls (40%) were unresolved because of the inability to talk directly with a person. Of the 42 161 calls successfully connected, a total of 20 298 were answered by individuals who declined to speak to an interviewer (48% refusal rate). An additional 2073 calls (5%) were not completed because of language barriers; 4879 (12%) said a respondent was not available; 1555 (4%) asked to be called back for an interview (10% of whom scheduled a specific call-back time); and 339 (1%) quit before qualification. Screening interviews were therefore completed in 13 017 calls, and 8586 of these calls (66%) were deemed not eligible to be included either because no woman ≥25 years of age was in the household or because the respondent refused to allow contact with a woman ≥25 years of age in the household. Of the remaining 4431 women who met the criteria for participation, 1205 (27%) completed the survey.

The online sample was obtained from Harris Poll Online. Harris Poll Online includes several million members recruited from a multitude of sources, including but not limited to coregistration offers on partners' Web sites, targeted e-mails sent by online partners to their audiences, graphical and text banner placement on partners' Web sites (including social media, news, search, and community portals), trade show presentations, targeted postal mail invitations, and telephone recruitment of targeted populations. Each recruitment source was vetted through a rigorous interviewing and testing process and then monitored for response quality on an ongoing basis. The database of respondent information was actively screened and updated along numerous demographic and psychographic variables to allow precision in the online sample we provide. The complete survey is available in the online-only Data Supplement.

All telephone and online participants were asked standardized questions about demographic information. Questions about leading cause of death, warning signs of heart attack, and what to do first if experiencing warning signs of heart attack were unaided, similar to prior survey methodology.[1–5] If someone refused to answer or did not know an answer, the response was coded as "not sure" or "declined to answer." These percentages were not excluded from the analysis. In 2012, aided questions related to barriers to a healthy lifestyle and actions taken in the past year to prevent heart disease were asked only of online participants, and new aided questions about communication with healthcare providers about heart disease and issues of trust and cultural sensitivity were added to the online survey. In the online survey, respondents were not able to move to the next question before providing an answer to the current question.

Survey data were compared with results from similar surveys conducted in 1997, 2000, 2003, 2006, and 2009[1–5] to examine trends in awareness parameters. Characteristics of women surveyed by random-digital dialing were compared with those of women surveyed online. Data were weighted on the basis of age, race, education, income, and region to reflect the composition of the US population of women ≥25 years of age who speak English based on information from the

**Table 1. Demographic Characteristics of the AHA Women's Tracking Survey Telephone Respondents**

| | Overall | | By Racial/Ethnic Group, 2012 | | | |
|---|---|---|---|---|---|---|
| | 1997 (n=1000) | 2012 (n=1205) | White (n=651) | Black (n=205) | Hispanic (n=200) | Other (n=149) |
| Characteristic | | | a | b | c | d |
| Age | | | | | | |
| 25–34 y | 23 | 13* | 11 | 12 | 22[a,b] | 19 |
| 35–44 y | 24 | 20* | 18 | 22 | 31[a] | 23 |
| 45–54 y | 18 | 22* | 22 | 27 | 22 | 19 |
| 55–64 y | 13 | 19* | 21[c] | 19[c] | 10 | 19 |
| >65 y | 21 | 24 | 28[b,c,d] | 18 | 14 | 17 |
| Marital status | | | | | | |
| Single, never married | 16 | 12* | 11 | 20[a] | 13 | 13 |
| Married/cohabitating | 59 | 64* | 65[b] | 46 | 72[b] | 66 |
| Separated/divorced | 11 | 12 | 11 | 19[a,c,d] | 8 | 8 |
| Widowed | 12 | 12 | 12[c] | 12 | 6 | 13 |
| Household income, $ | | | | | | |
| <35 000 | 39 | 25* | 22 | 39[a,d] | 34[a,d] | 18 |
| 35 000–49 999 | 16 | 11* | 11 | 13 | 12 | 6 |
| 50,000–74 999 | 16 | 15 | 14 | 14 | 16 | 16 |
| ≥75 000 | 9 | 28* | 31[b,c] | 17 | 21 | 34[b,c] |
| Refused | 20 | 21 | 22 | 17 | 17 | 26 |
| Health insurance status | | | | | | |
| Medicaid/Medicare/VA | NA | 34 | 36[c] | 37[c] | 25 | 27 |
| Private insurance/self-pay | NA | 66 | 68[b] | 58 | 61 | 74[b,c] |
| Some other type of insurance | NA | 8 | 7 | 7 | 11 | 9 |
| Uninsured | NA | 9 | 9 | 8 | 14[d] | 3 |
| Personal medical history | | | | | | |
| Diabetes mellitus | NA | 14 | 12 | 19[a] | 16 | 19 |
| Heart attack | 3 | 4 | 5 | 5 | 2 | 3 |
| Stroke | 2 | 4* | 4 | 4 | 3 | 3 |
| Family history of heart disease | NA | 52 | 57[a,b,c] | 45 | 43 | 43 |
| Weight ≥20 lb over ideal for your height and weight | NA | 45 | 45[d] | 51[d] | 49[d] | 29 |
| High blood pressure | NA | 35 | 32 | 54[a,c,d] | 32 | 31 |
| Have an inactive lifestyle | NA | 32 | 30 | 36 | 42[a,d] | 28 |
| Depression | NA | 26 | 27 | 20 | 29 | 20 |
| Smoking habit | NA | 19 | 20[d] | 19[d] | 17[d] | 6 |

All values are weighted percentages.

Letters indicate significant differences in columns for racial/ethnic groups at $P<0.05$. AHA indicates American Heart Association; NA, data not asked in 1997; VA, Veterans Affairs.

*Significant differences between 1997 and 2012 survey responses at $P<0.05$.



US Census Bureau's March 2011 Current Population Survey overall and within ethnic strata. Propensity weighting was used for the online survey to adjust for the respondents' propensity to be online. Statistical significance was set at $P<0.05$. No adjustments were made for multiple pairwise comparisons.

## Results

### Characteristics of the Respondents

The demographic characteristics of telephone respondents are listed in Table 1 for 2012 overall compared with 1997 and by racial/ethnic group in 2012. Respondents in 2012 were significantly more likely to be in the age groups of 45 to 54 and 55 to 64 years, to be married/cohabitating, and to have a household income of $75 000 or more compared with 1997 respondents. In 2012, there were more white women than other racial/ethnic minorities who were ≥65 years old; Hispanic women were more likely to be in the youngest age strata compared with white and black women. Personal medical history of respondents revealed a high prevalence of CVD risk factors, consistent with other national data.

Online respondents were more likely than telephone respondents to be in the youngest age group of 25 to 34 years (18% versus 13%; $P=0.011$), to be separated/divorced (16% versus 12%; $P=0.033$), to be uninsured (14% versus 9%; $P=0.004$), to report being 20 lb overweight (52% versus 45%; $P=0.009$), and to have an inactive lifestyle (42% versus 32%; $P<0.0001$).

**Table 2. (Unaided) Awareness of the Leading Cause of Death in 2012 Compared With 1997 Overall and by Racial/Ethnic Group**

| | Overall | | Racial/Ethnic Group | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Survey Year | | White | | Black | | Hispanic | |
| Response (Unaided) | 1997 (n=1000) | 2012 (n=1205) | 1997 (n=658) | 2012 (n=651 ) | 1997 (n=130) | 2012 (n=205) | 1997 (n=126) | 2012 (n=200) |
| Leading cause of death | | | | | | | | |
| Breast cancer | 14 | 8* | 14 | 5* | 18 | 14 | 17 | 11 |
| Cancer (general) | 35 | 24* | 33 | 20* | 41 | 38 | 43 | 36 |
| Heart disease/heart attack | 30 | 56* | 33 | 65* | 15 | 36* | 20 | 34* |
| Other | 10 | 7* | 8 | 5* | 12 | 5* | 9 | 14 |
| Do not know/no answer | 11 | 6* | 12 | 5* | 14 | 8 | 11 | 6 |

All values are weighted percentages for telephone results for comparability between the 1997 and 2012 surveys.
*Statistical significance between survey years within each racial/ethnic group at $P<0.05$.

## Awareness of and Perceptions Related to Heart Disease

Table 2 illustrates the difference in unaided awareness of the leading cause of death overall and by racial/ethnic group in 1997 and 2012 among telephone respondents. In contrast to 1997 when cancer was more frequently cited as the leading cause of death among women compared with heart disease (35% versus 30%), the trend reversed in 2012 (56% of respondents cited heart disease and 24% cited cancer as the leading cause of death). Overall, the rate of awareness that heart disease is the leading cause of death in women was significantly higher in 2012 compared with 1997 (56% versus 30%; $P<0.001$) but was not different from 2009 (54%). The overall rate of awareness among online respondents was 63% in 2012, similar to that in 2009 (65%). In addition, 48% of women in 2012 considered themselves to be very well or well informed about heart disease in women compared with 34% in 1997 ($P<0.001$).

The Figure illustrates trends in awareness of the leading cause of death among women in 6 triennial surveys according to racial/ethnic group among telephone respondents. A trend in greater awareness of heart disease as the leading cause of death across survey years from 1997 through 2006 when awareness reached a plateau overall was observed in all subgroups. The racial/ethnic minority gap in awareness noted in 1997 (33% white, 15% black, 20% Hispanic) persisted in all survey years, including the most recent (65% white, 36% black, 34% Hispanic). Levels of awareness were lower among racial and ethnic minority women in 2012 compared with 2009. Among online respondents in 2012, the racial/ethnic disparity for awareness of heart disease as the leading killer of women was less pronounced (69% of white, 52% of black, 51% of Hispanic women).

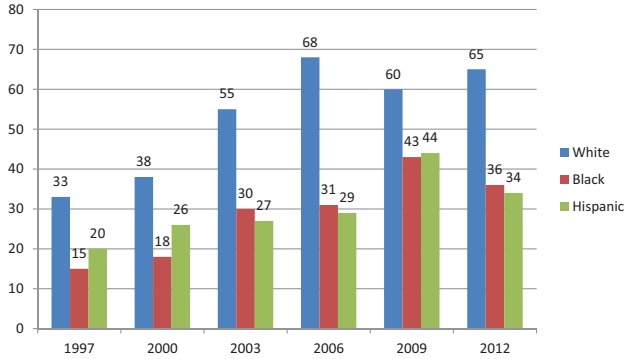


**Figure.** Trends in awareness that heart disease is the leading cause of death in women.

Table 3 illustrates awareness according to age strata in 2012 compared with 1997 among telephone respondents. In contrast to 1997 when more women in the younger age strata (25–34 years) cited cancer as the leading cause of death compared with heart disease (38% versus 16%), in 2012, 44% of women in this age category correctly identified heart disease as the leading cause of death among women compared with 26% citing cancer. In both survey years, women in older age strata were more likely to cite heart disease as the leading killer compared with cancer.

## Knowledge of Warning Signs of Heart Attack and Need to Call 9-1-1

Table 4 shows trends in women's unaided awareness of the warning signs of a heart attack. Among 2012 telephone respondents, awareness of atypical signs of a heart attack such as nausea was greater in 2012 compared with 1997 (18% versus 10%; $P<0.0001$). In contrast, chest pain was less frequently cited as a warning sign of a heart attack in 2012 versus 1997 (56% versus 67%; $P<0.0001$). When asked what they would do first if they thought they were experiencing signs of a heart attack, 65% of women in 2012 reported that they would call 9-1-1 compared with 53% in 2009 (question not asked in 1997). When asked what they would do first if they thought someone else was experiencing signs of a heart attack, 81% of women reported that they would call 9-1-1 (Table 5). Trends were similar across racial and ethnic groups except that Hispanic women were significantly less likely to respond that they would take an aspirin first if they thought they were having a heart attack compared with white and black women (10% versus 22% and 18%, respectively). White women were more likely than black or Hispanic women to advise someone else to take an aspirin first (13% versus 11% versus 6% respectively).

## Communication About Heart Disease

In 2012, 21% of women who were surveyed online (not asked by telephone in 2012) reported that their doctor had

**Table 3. (Unaided) Awareness of the Leading Cause of Death in 2012 Compared With 1997 by Age**

| | Age 25–34 y | | Age 35–44 y | | Age 45–64 y | | Age ≥65 y | |
|---|---|---|---|---|---|---|---|---|
| Response (Unaided) | 1997 (n= 188) | 2012 (n=104) | 1997 (n= 294) | 2012 (n=174) | 1997 (n=308) | 2012 (n=524) | 1997 (n=195) | 2012 (n=380) |
| Leading cause of death | | | | | | | | |
| Breast cancer | 19 | 11 | 17 | 9* | 12 | 7* | 9 | 6 |
| Cancer (general) | 38 | 26* | 33 | 25 | 36 | 21* | 34 | 26* |
| Heart disease/heart attack | 16 | 44* | 28 | 59* | 38 | 62* | 34 | 50* |
| Other | 12 | 10 | 10 | 4* | 7 | 5 | 9 | 9 |
| Don't know/no answer | 15 | 9 | 12 | 3* | 7 | 5 | 14 | 9 |

All values are weighted percentages for telephone results for comparability between the 1997 and 2012 surveys.
*Statistical significance between survey years within each age strata at $P<0.05$.

ever discussed their risk for heart disease when discussing their health; this was lower among Hispanics than whites or blacks (12% versus 22% and 22%, respectively) and lower for younger women compared with older age groups (6% for those 25–34 years of age compared with 16%, 23%, and 33% for those 35–44, 45–64, and ≥65 years of age, respectively). Similarly, women ≥65 years of age were more likely than all other age groups to report that their doctor discussed high blood pressure and cholesterol with them. Black women were more likely to report that their doctors had discussed high blood pressure with them compared with white and Hispanic women (54% versus 36% and 31%, respectively; $P<0.05$). Exercise, weight, and cholesterol management were the top 3 health issues that women report their doctors discussed with them when discussing their health (49%, 47%, and 45%, respectively).

## Perceived Heart Disease Prevention Strategies, Reasons to Take Action, and Barriers to Take Action

Several traditional lifestyle actions (aided) to improve health in the past year were cited by a majority of female online respondents; however, unproven strategies (eg, aromatherapy) similar to prior surveys were also cited (Table 6). When asked what prompted them to take preventive action (aided), the majority of women reported wanting to improve their health and wanting to feel better as reasons to take action. Fewer than half of women cited wanting to live longer as a reason to take preventive action with the exception of 2 subgroups: black women and women >65 years of age.

Table 7 shows barriers to prevention action as reported by online respondents. The most frequent response women gave when provided a list of 20 potential barriers they faced in taking preventive action was, "None of these; I lead a heart-healthy lifestyle" (35%). Nearly half of women ≥65 years of age (48%) gave this response. Of barriers reported, top barriers to leading a "heart-healthy" lifestyle were not having money or insurance coverage to do what needs to be done (16%), lack of confidence in ability to change behavior (14%), and not having time to care for oneself (13%). Women 25 to 34 years of age were more likely to report not having the time to take care of themselves as a barrier to preventive action than older women ($P<0.05$). More women 35 to 44 years of age reported that having family obligations and other people to take care of was a barrier preventing them from leading a heart-healthy lifestyle than women in older age groups (17% versus 10% and 5% for women in the age groups of 45–64 and ≥65 years, respectively; $P<0.05$).

**Table 4. (Unaided) Awareness of Warning Signs of Heart Attack in 2012 Compared With 1997**

| | Survey Year | |
|---|---|---|
| Response (Unaided) | 1997 | 2012 |
| What warning signs would you associate with having a heart attack? | | |
| Chest pain | 67 | 56* |
| Fatigue | 8 | 10 |
| Nausea | 10 | 18* |
| Pain that spreads to shoulders, neck, or arm | NA | 60 |
| Shortness of breath | 33 | 38* |
| Tightness of the chest | 15 | 17 |

All values are weighted percentages for telephone results for comparability between the 1997 and 2012 surveys.
NA indicates response not surveyed in 1997.
*Statistical significance between survey years at $P<0.05$.

**Table 5. (Unaided) Responses to Signs of a Heart Attack in 2012 by Racial/Ethnic Group**

| | | Racial/Ethnic Group | | |
|---|---|---|---|---|
| Response (Unaided) | Overall, 2012 | White (a) | Black (b) | Hispanic (c) |
| If you thought you were experiencing signs of a heart attack, what is the first thing you would do? | | | | |
| Call 9-1-1 | 65 | 63 | 65 | 73 |
| Take an aspirin | 20 | 22[c] | 18[c] | 10 |
| Go to the hospital | 5 | 5 | 8 | 4 |
| Call a family member | 4 | 4 | 2 | 4 |
| Call your doctor | 2 | 1 | 1 | 5[a] |
| If you thought someone else was experiencing signs of a heart attack, what is the first thing you would do? | | | | |
| Call 9-1-1 | 81 | 80 | 78 | 87 |
| Advise him/her to take an aspirin | 11 | 13[c,d] | 11 | 6 |
| Take him/her to the hospital | 1 | 1 | 3 | 2 |
| Tell him/her to call the doctor | 1 | — | — | 2[a] |
| Call his/her spouse or family member | — | … | — | … |

All values are weighted percentages among telephone respondents.
Letters denote significant differences in columns for racial/ethnic and age groups at $P<0.05$.
Dash indicates small base sample <100; ..., empty cell

**Table 6. (Aided) Preventive Actions Taken in the Past Year According to 2012 Online Respondents by Racial/Ethnic and Age Group**

| Response (Aided) | Overall, 2012 (n=1227) | Racial/Ethnic Group | | | | Age Group | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | White (n=672) (a) | Black (n=202) (b) | Hispanic (n=200) (c) | Other (n=153) (d) | 25–34 y (n=168) (e) | 35–44 y (n=192) (f) | 45–64 y (n=587) (g) | ≥65 y (n=280) (h) |
| Preventive action taken | | | | | | | | | |
| Maintain a healthy blood pressure | 78 | 80[c] | 74 | 71 | 75 | 60 | 65 | 86[e,f] | 90[e,f] |
| See the doctor | 78 | 79 | 79 | 70 | 79 | 71 | 58 | 82[e,f] | 93[e,f,g] |
| Increase fiber intake | 66 | 68 | 64 | 60 | 69 | 58 | 53 | 71[e,f] | 77[e,f] |
| Eat foods containing antioxidants | 66 | 68 | 65 | 59 | 69 | 54 | 55 | 72[e,f] | 76[e,f] |
| Maintain a healthy cholesterol level | 66 | 67 | 66 | 63 | 67 | 55 | 47 | 71[e,f] | 84[e,f,g] |
| Get adequate sleep | 61 | 63 | 55 | 58 | 56 | 62[f] | 40 | 63[f] | 74[e,f,g] |
| Floss teeth regularly | 60 | 58 | 62 | 68[a] | 67 | 58 | 54 | 65 | 60 |
| Reduce sodium or salt in the diet | 58 | 55 | 72[a,c] | 57 | 66 | 43 | 45 | 64[e,f] | 72[e,f] |
| Reduce sugar intake | 57 | 56 | 62 | 55 | 64 | 47 | 46 | 58[f] | 74[e,f,g] |
| Eat foods or take supplements that contain fish oil/omega-3 fatty acids | 57 | 58 | 53 | 51 | 61 | 43 | 40 | 64[e,f] | 70[e,f] |
| Get regular physical exercise | 53 | 53 | 60 | 51 | 55 | 58 | 53 | 52 | 52 |
| Reduce dietary cholesterol intake | 53 | 53 | 59[a,d] | 48 | 59 | 34 | 37 | 58[e,f] | 74[e,f,g] |
| Pray or meditate | 53 | 51 | 73[a,c,d] | 50 | 42 | 45 | 41 | 58[e,f] | 61[e,f] |
| Take multivitamin with folic acid | 53 | 54 | 49 | 48 | 52 | 54 | 42 | 53 | 62[f] |
| Lose weight | 49 | 47 | 63[a,c] | 51 | 47 | 46 | 43 | 51 | 56 |
| Reduce stress | 49 | 46 | 59[a] | 55 | 54 | 37 | 40 | 55[e,f] | 55[e,f] |
| Reduce animal protein in the diet (eg, meat, whole milk, butter, and cream) | 44 | 46 | 47 | 39 | 38 | 29 | 32 | 48[e,f] | 62[e,f,g] |
| Take aspirin regularly | 24 | 25 | 24 | 20 | 20 | 6 | 11 | 27[e,f] | 46[e,f,g] |
| Eat plant stanols and sterols | 20 | 20 | 14 | 26[b] | 19 | 22 | 14 | 21 | 22 |
| Aromatherapy | 14 | 13 | 16 | 15 | 10 | 13 | 11 | 17 | 10 |
| Quit smoking | 11 | 11 | 12 | 11 | 9 | 11 | 10 | 11 | 13 |
| Reason to take preventive action | | | | | | | | | |
| I wanted to improve my health | 64 | 64 | 63 | 68 | 59 | 57 | 52 | 70[e,f] | 70[e,f] |
| I wanted to feel better | 61 | 61 | 62 | 61 | 65 | 58 | 53 | 66[f] | 62 |
| I wanted to live longer | 45 | 44 | 52[d] | 48[d] | 32 | 32 | 38 | 46[e] | 59[e,f,g] |
| I wanted to avoid taking medications | 28 | 28 | 30 | 26 | 30 | 22 | 22 | 29 | 36[e,f] |
| I did it for my family | 25 | 25 | 23 | 26 | 26 | 23 | 29 | 23 | 28 |
| My healthcare professional encouraged me to take action | 23 | 21 | 32[a] | 24 | 21 | 9 | 14 | 28[e,f] | 33[e,f] |
| A family member/relative developed heart disease, got sick, or died | 14 | 12 | 18 | 20[a,b] | 19 | 10 | 15 | 15 | 16 |
| I saw, heard, or read information related to heart disease | 14 | 13 | 23[a,c] | 10 | 15 | 10 | 8 | 14 | 22[e,f,g] |
| A family member or relative encouraged me to take action | 11 | 11 | 9 | 9 | 21[a,b,c] | 17[f] | 5 | 12 | 12 |
| I experienced symptoms that were related to heart disease | 8 | 8 | 7 | 8 | 7 | 7 | 6 | 5 | 16[e,f,g] |
| A friend encouraged me to take action | 6 | 5 | 8 | 7 | 9 | 9 | 4 | 6 | 4 |
| A friend developed heart disease, got sick, or died | 5 | 4 | 6 | 8 | 4 | 4 | 2 | 5 | 7 |
| I was encouraged to take action during an event or program at my place of worship (church, mosque, or temple) | 3 | 2 | 7[a,c,d] | 2 | — | 6 | 2 | 2 | 1 |
| I was encouraged to take action during an event or program at my community center | 1 | 1 | 3 | 2 | — | 2 | 1 | 1 | 1 |

Values represent the weighted percent of women surveyed online who reported taking each preventive action to improve their health in the past year.
Letters denote significant differences in columns for racial/ethnic and age groups at $P<0.05$.
Dash indicates small base sample <100.



## Trust/Cultural Sensitivity

Black women were more likely than white and Hispanic women who completed the online survey to agree with the statement, "I trust my healthcare provider so much that I always try to follow her/his advice" (87% versus 78% and 72%; $P<0.05$). Compared with white and Hispanic women, black women were the most likely to report that they trusted their healthcare provider to put their medical needs above all

**Table 7. (Aided) Barriers to Preventive Action According to Racial/Ethnic and Age Group**

| Response (Aided) | Overall, 2012 (n=1227) | Racial/Ethnic Group | | | | Age Group | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | White (n=672) (a) | Black (n=202) (b) | Hispanic (n=200) (c) | Other (n=153) (d) | 25–34 y (n=168) (e) | 35–44 y (n=192) (f) | 45–64 y (n=587) (g) | ≥65 y (n=280) (h) |
| Barriers to prevention | | | | | | | | | |
| I do not have the money or insurance coverage to do what needs to be done | 16 | 15 | 16 | 19 | 17 | 15[h] | 20[h] | 19[h] | 7 |
| I am not confident that I can successfully change my behavior | 14 | 13 | 15 | 15 | 15 | 11 | 10 | 17 | 14 |
| I do not have the time to take care of myself | 13 | 12 | 13 | 12 | 19 | 27[f,g,h] | 15[h] | 10[h] | 4 |
| I am too stressed to do the things that need to be done | 12 | 11 | 15 | 15 | 19[a] | 14[h] | 17[h] | 13[h] | 5 |
| I don't know what I should do | 11 | 11 | 8 | 14 | 7 | 11[h] | 15[h] | 11[h] | 5 |
| I have family obligations and other people to take care of | 11 | 10 | 10 | 14 | 15 | 12 | 17[g,h] | 10 | 5 |
| I do not want to change my lifestyle | 9 | 10[b] | 2 | 11[b] | 19[a,b] | 12 | 6 | 10 | 8 |
| I do not perceive myself to be at risk for heart disease | 9 | 10 | 6 | 7 | 10 | 14[f] | 4 | 8 | 10 |
| I am too depressed to do the things that need to be done | 8 | 8 | 6 | 6 | 14 | 6 | 12[h] | 11[h] | 3 |
| There is too much confusion in the media about what to do | 8 | 8 | 5 | 6 | 10 | 6 | 7 | 10 | 6 |
| I am confused by what I am supposed to do to change my lifestyle | 6 | 7 | 6 | 4 | 5 | 7 | 3 | 7 | 6 |
| I feel the changes required are too complicated | 5 | 5 | 2 | 7 | 5 | 3 | 5 | 7[h] | 3 |
| I do not think changing my behavior will reduce my risk of developing heart disease | 4 | 4 | 2 | 7 | 2 | 7 | 2 | 3 | 5 |
| God or some higher power ultimately determines my health | 4 | 5[c] | 6[c] | 1 | 1 | 1 | 2 | 6[e] | 6[e] |
| My healthcare professional does not explain clearly what I should do | 3 | 4 | 2 | 3 | 1 | 5 | 7[g] | 2 | 2 |
| I am fearful of change | 3 | 3 | 1 | 4 | 5 | 4 | 3 | 3 | 1 |
| My healthcare professional does not think I need to worry about heart disease | 3 | 3 | 1 | 5 | 4 | 5 | 3 | 2 | 2 |
| I am too ill/old to make changes | 2 | 2 | 2 | 2 | 2 | — | 2 | 2 | 3 |
| My healthcare professional does not speak my language | 1 | 1 | 3[a] | … | — | 3[g] | — | — | 1 |
| My family/friends have told me that I do not need to change | — | — | … | … | — | — | … | — | … |
| Other | 7 | 7 | 7 | 10 | 6 | 4 | 7 | 7 | 12[e] |
| None of these; I lead a heart-healthy lifestyle | 35 | 36 | 39 | 30 | 31 | 33 | 31 | 32 | 48[e,f,g] |

Values represent the weighted percent of women surveyed online.
Letters denote significant differences in columns for racial/ethnic and age groups at $P<0.05$.
Dash indicates small base sample <100; ..., empty cell.



other considerations when treating their medical problems and were least likely to agree that their healthcare provider does not care about them as a person. Hispanic women were less likely than white and black women to feel that their healthcare provider is sensitive to their culture when making recommendations about their health care (67% versus 76% versus 77%; $P<0.05$).

## Discussion

Between 1997 and 2012, awareness of heart disease as the leading cause of death in women has essentially doubled but remains suboptimal. However, the rate of awareness among women overall has not changed significantly in the past 6 years, and substantial heart disease awareness gaps persist among racial/ethnic minorities compared with white women. Although the level of awareness among black women has also doubled since 1997, their level of awareness in 2012 is similar to that of white women in 1997. These data suggest that future educational efforts should be targeted to racial and ethnic minorities who have lower rates of awareness and higher rates of CVD mortality and risk factors. These data also suggest that perhaps the traditional outreach methods used by national organizations like the AHA might not be as effective as they could be in educating minority women. A component of awareness and adherence to medical guidelines is dictated by the perception of message priority among other priorities, sociodemographic variables, and trustworthiness and/or commonality between the messenger and the recipient. Furthermore, relatively few data exist on the effectiveness of favorable intervention strategies for chronic diseases such as CVD in different racial/ethnic minority groups.[8]

Insight into one potentially effective strategy for increasing awareness of heart disease among black women relates to our finding that they were more likely to report that they had been prompted to take preventive action at their place of worship and were more likely to report that God or a higher power determines their health. Although there have been longstanding efforts targeting places of worship as primary

partners in CVD education, the provision of the majority of such outreach has come from local/community organizations or minority medical organizations.[9] Nationally organized and funded faith-based interventions will likely be necessary to provide sustainable awareness among racial/ethnic minorities.

Interestingly, these data indicate that black women reported higher levels of trust in their providers compared with white and Hispanic women and were more likely to report taking action on the advice of their healthcare provider. Provider mistrust as a barrier to provision of quality health care and a cause of racial/ethnic cardiovascular health disparities is often touted, but provider trust by black and Hispanic women may be influenced by many factors, including race/ethnicity of the provider-patient pair, perception of discrimination, socioeconomic status, age, and proximity of the provider and his/her facility to the patient's residence. It is important to note that trust in healthcare providers/systems for black and Hispanic women may be influenced by many factors that were not systematically explored in this study. Hispanic women in this study were more likely than white or black women to report that they felt their healthcare provider did not take their culture into account when making recommendations, suggesting that efforts to provide culturally sensitive care are important in this population.

The rate of awareness of heart disease as the leading cause of death was lower among younger women (25–34 years of age), who cited different barriers to prevention than older respondents (ie, time constraints, stress/depression, and lower perception of risk). They were also more likely than their older counterparts to state that their doctor did not talk to them about their heart disease risk. This may represent a missed opportunity, especially because women in the childbearing years may present with novel risk factors for CVD (ie, preeclampsia, gestational diabetes mellitus) that can identify at-risk women earlier in their life course when lifestyle and other preventive efforts may be critical to implement.[10] Recent nationally representative data have shown an increase in the prevalence of stroke and myocardial infarction among middle-aged women.[10,11] This increase has occurred in parallel with steeper increases in obesity and abdominal obesity rates among young women compared with men.[12–14] These findings suggest that future approaches to reduce heart disease risk in younger women should include strategies to overcome age-specific barriers to heart-healthy living and to improve adherence to evidence-based prevention guidelines by women that encourage assessment of pregnancy-related CVD risk and psychosocial factors.[15]

Over the past 15 years, there has been improvement in the recognition of atypical symptoms of heart attack, but overall, awareness remains quite low. Similarly, recognition of the need to call 9-1-1 first if heart attack signs occur has improved, but women are more likely to call emergency services on behalf of someone else compared with themselves. More data are needed to understand the barriers and psychosocial factors that women face to acting on the recognition that they might be having a heart attack if management of acute coronary syndromes in women is to be most effective.

Although this study supports that women are familiar with traditional methods to prevent CVD, there is still substantial misinformation on some strategies (eg, vitamin supplements) that are not evidence based and are not recommended by the AHA.[15] Overall, there was a substantial decrease in the proportion of women citing hormone therapy as a way to prevent heart disease since 1997 (47% of telephone respondents), consistent with the publication of AHA guidelines in 2004 suggesting that hormone therapy should not be used to prevent CVD and may be harmful.[16] Given the widespread publicity surrounding the Women's Health Initiative results, the declining trend in the perception of hormone therapy as a CVD preventive strategy underscores the importance of the media in disseminating health information to women, a point that was underscored by a recent Institute of Medicine Committee on Women's Health Research.[17] It should also be noted that self-reported depression was common (26%) among respondents, previously highlighted by the AHA as a potential barrier to adherence to guidelines for the prevention of CVD among women.[15,16]

There are important limitations to this study that should be considered when the data are used to inform educational efforts. This was a study of English-speaking women who were willing to participate in a telephone or an online survey, so results may not be generalizable to all women. Similarities between these data and known population trends such as higher rates of hypertension among black compared with other women support the external validity of the results. There was no adjustment for multiple comparisons, and some of the significant findings could be attributable to chance. Random-digit dial survey methodology was used to allow comparisons across survey years; bias could have resulted from the increased number of households without landlines in 2012 compared with 1997 if characteristics of cell phone users differ from landline users, but we were not able to evaluate this.



## Conclusions

Heart disease awareness among white, black, and Hispanic women has improved over the 15-year course of this study but remains suboptimal. Gaps in the awareness rates between women of the different racial/ethnic groups have remained relatively constant, suggesting that intensified efforts are needed. More data are needed in diverse racial/ethnic populations of women not highly represented in this study. Future CVD awareness and prevention efforts should focus on incorporating culturally relevant components into messaging and message delivery. An emphasis on how lifestyle and preventive strategies may improve health and energy and help women feel better may resonate with many segments of women more effectively than a focus on longevity. The women and heart disease movement can build on the gains in awareness that heart disease is the leading cause of death to encourage heart-healthy lifestyles as a leading strategy to feel better.

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|---|---|---|---|---|---|---|---|---|
| Lori Mosca | Columbia University | None | None | None | None | None | None | None |
| Michelle A. Albert | Brigham and Women's Hospital/ Harvard Medical School | None | None | None | None | None | None | None |
| Gmerice Hammond | Columbia University Medical Center | None | None | None | None | None | None | None |
| Heidi Mochari-Greenberger | Columbia University Medical Center | None | None | None | None | None | None | None |
| Amytis Towfighi | University of Southern California | None | None | None | None | None | None | None |

This table represents the relationships of writing group members that may be perceived as actual or reasonably perceived conflicts of interest as reported on the Disclosure Questionnaire, which all members of the writing group are required to complete and submit. A relationship is considered to be "significant" if (a) the person receives $10 000 or more during any 12-month period, or 5% or more of the person's gross income; or (b) the person owns 5% or more of the voting stock or share of the entity, or owns $10 000 or more of the fair market value of the entity. A relationship is considered to be "modest" if it is less than "significant" under the preceding definition.

## Steering Committee Disclosures

| Steering Committee Member | Employment | Research Grant | Other Research Support | Speakers' Bureau/ Honoraria | Expert Witness | Ownership Interest | Consultant/ Advisory Board | Other |
|---|---|---|---|---|---|---|---|---|
| Lori Mosca | Columbia University | None | None | None | None | None | None | None |
| Michelle A. Albert | Brigham and Women's Hospital/ Harvard Medical School | None | None | None | None | None | None | None |
| Judy L. Bezanson | American Heart Association | None | None | None | None | None | None | None |
| Gmerice Hammond | Columbia University Medical Center | None | None | None | None | None | None | None |
| Jean Harvey-Berino | University of Vermont | None | None | None | None | None | None | None |
| Jean McSweeney | University of Arkansas for Medical Sciences | None | None | None | None | None | None | None |
| Heidi Mochari-Greenberger | Columbia University Medical Center | None | None | None | None | None | None | None |
| Jane F. Reckelhoff | University of Mississippi Medical Center | None | None | None | None | None | None | None |
| Mathew J. Reeves | Michigan State University | None | None | None | None | None | None | None |
| Amytis Towfighi | University of Southern California | None | None | None | None | None | None | None |

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| Reviewer | Employment | Research Grant | Other Research Support | Speakers' Bureau/Honoraria | Expert Witness | Ownership Interest | Consultant/Advisory Board | Other |
|---|---|---|---|---|---|---|---|---|
| C. Noel Bairey Merz | Cedars-Sinai Medical Center | None | None | Allegheny Hospital*; Brigham and Women's*; Cardiometabolic Congress*; CV Institute of San Diego*; Christiana Health System*; El Camino Hospital*; Expert Exchange*; Mayo Foundation*; Montefiore Medical Center*; SCS Healthcare*; Slocum-Dickson*; Women's Health Congress*; Los Robles Medical Center*; University of Pennsylvania* | None | None | Amarin*; Bristol-Myers Squibb*; Gilead†; Medscape*; NIH*; NHLBI*; Pozen*; Society for Women's Health Research*; Abbott Vascular* | None |
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*Modest.

†Significant.

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# Data Supplement

## Fifteen-Year Trends in Awareness of Heart Disease in Women: Results of a 2012 American Heart Association National Survey

Lori Mosca, MD, MPH, PhD, Chair; Gmerice Hammond, MD; Heidi Mochari-Greenberger, PhD, MPH, RD; Amytis Towfighi, MD; Michelle A. Albert, MD, MPH; on behalf of the American Heart Association Cardiovascular Disease and Stroke in Women and Special Populations Committee of the Council on Clinical Cardiology, Council on Epidemiology and Prevention, Council on Cardiovascular Nursing, Council on High Blood Pressure Research, and Council on Nutrition, Physical Activity and Metabolism

**HARRIS INTERACTIVE**

161 Avenue of the Americas, 6th Floor
**New York, NY 10013**

**41866 AHA Women & Heart Disease 2012**

**Women's Health Study**

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**SECTION 200: SCREENING**

**UNLESS SPECIFICALLY NOTED, QUESTIONS ASKED OF PHONE AND ONLINE RESPONDENTS**

**BASE: PHONE RESPONDENTS**

**Q600** Hello, my name is _____ from Harris Interactive, a nationally known research company. We are talking to women about health issues facing women today. We are not selling anything. The information will be used to develop important health communications for women, and all responses will be kept strictly confidential.

[(INTERVIEWER: IF MALE ANSWERS PHONE, ASK "May I please speak with a woman in your household who is 25 years of age or older?" IF YES, REPEAT INTRO ABOVE AND THEN ASK AGE QUESTION BELOW.]

[INTERVIEWER: IF SPEAKING WITH FEMALE, ASK "Are you 25 years of age or older?"]

| | | |
|---|---|---|
| 1 | Yes, speaking (25+) | |
| 2 | Not available, call back | [THANK AND SET UP AS A CALLBACK] |
| 3 | No female in household, or no female 25+ | THANK AND TERMINATE |
| 4 | Not sure (v) | THANK AND TERMINATE |
| 5 | Refused (v) | THANK AND TERMINATE |

**BASE: ONLINE RESPONDENTS**

**Q605** Thank you for participating in this survey about women's health. Our first few questions are for classification purposes and they enable us to select the questions to ask you later in the survey. They will also help us properly analyze responses to this survey.

**BASE: ONLINE RESPONDENTS**

**Q268** Are you…?

| | | |
|---|---|---|
| 1 | Male | [TERMINATE] |
| 2 | Female | |

**Q270** In what year were you born?

[LIST YEARS TO CHOOSE TO FROM]

**Q410** Which of the following best describes your employment status?

| | |
|---|---|
| 01 | Employed full time |
| 02 | Employed part time |
| 03 | Self-employed |
| 04 | Not employed, but looking for work |
| 05 | Not employed and not looking for work |
| 07 | Not employed, unable to work due to a disability or illness |
| 06 | Retired |
| 08 | Student |
| 09 | Stay-at-home spouse or partner/Housewife/husband |

**Q474** Are you of Spanish or Hispanic origin, such as Latin American, Mexican, Puerto Rican, or Cuban?

1 Yes, of Hispanic origin

2 No, not of Hispanic origin

3 Decline to answer

**Q480** Do you consider yourself…? [IF PHONE INSERT: READ LIST]

1 White

2 Black

3 Asian or Pacific Islander

4 Native American or Alaskan Native

5 Mixed Race

6 Some other race

7 Decline to Answer

## SECTION 1: GENERAL AWARENESS OF WOMEN'S HEALTH ISSUES

**Q800** Our first few questions are about your views on women's health issues today.

What do you think is the one greatest health problem facing women today?

[MANDATORY TEXT BOX – LIST FOR CODING ONLY] [IF PHONE INSERT: [INT: DO NOT READ LIST] [SINGLE RESPONSE]

01 AIDS

02 Alzheimer's

03 Breast cancer

04 Cancer (general)

05 Diabetes

06 Drug addiction/Alcoholism

07 Heart disease/Heart attack

08 Lung cancer

09 Obesity

10 Osteoporosis

11 Smoking

12 Stroke

**Q815** As far as you know, what is the leading cause of death for all women?

[MANDATORY TEXT BOX – LIST FOR CODING ONLY] [IF PHONE INSERT:[INT: DO NOT READ LIST] [SINGLE RESPONSE]

01 Accidental death

02 AIDS

03 Alzheimer's

04 Breast cancer

05 Cancer (general)

06 Diabetes

07 Drug addiction/Alcoholism

08 Heart disease/Heart attack

09 Lung cancer

10 Osteoporosis

11 Smoking

12 Stroke

13 Violent crime

**Q827** Please tell me the extent to which you worry about getting each of the following health conditions. Do you worry a lot about this, worry a little, or do you not worry at all about it?

**Q828**

1. Not at all
2. A little
3. Worry a lot

[RANDOMIZE]

1. Cancer
2. Heart disease or heart attack
3. AIDS
4. Breast cancer
5. Lung cancer
6. Smoking
7. Drug addiction or alcoholism
8. Violent crime
9. Stroke

10. Alzheimer's
11. Diabetes
12. Osteoporosis

**SECTION 2: RESPONDENTS' GENERAL HEALTH SECTION**

[RANDOMIZE ORDER OF Q3000 AND Q3005]

**BASE: ONLINE RESPONDENTS**

**Q3000** In general, would you say your overall outlook on life is…?

1. Poor
2. Fair
3. Good
4. Very good
5. Excellent

**BASE: ONLINE RESPONDENTS**

**Q3005** Which of the following have the biggest impact on your overall outlook on life? Please select the top 2 or 3 things that have the greatest impact.

[RANDOMIZE]

1. My ability to manage my work commitments
2. My ability to manage my family commitments
3. My physical health
4. My emotional health
5. The health of my family
6. Concerns about my financial stability
7. Concerns about not having enough time to do everything I need to do
8. Caring for children, young or old
9. Caring for a disabled or older adult family member
10. My spiritual life
11. My support system, like spouse, friends and family

**Q2015** Which of the following do you currently experience? Please [SELECT/TELL ME] all that apply even if it is controlled or managed by medication.

[RANDOMIZE] [INT: READ LIST]

1. High blood pressure
2. High cholesterol
3. Family history of heart disease or stroke
4. Smoking habit
5. Weigh 20 pounds or more over ideal for your height and build
6. Physical inactivity (i.e., exercising less than 20-30 minutes per day, 5 or more days of the week)
7. Depression
9. None of the above ANCHOR, EXCLUSIVE

**Q2017** Has a doctor, nurse, or other health professional ever told you that you had any of the following?

1. Yes
2. No

[RANDOMIZE]

1. Heart attack
2. Stroke
3. Diabetes

**BASE: ONLINE RESPONDENTS**

**Q3011** Please indicate how much you agree or disagree with the following statements.

1. Strongly disagree
2. Somewhat disagree
3. Somewhat agree
4. Strongly agree

[RANDOMIZE]

1. I don't get enough sleep on a regular basis
2. I am taking care of my health
3. My health is a priority for me
4. I'm so busy taking care of everyone else, I don't take good care of myself
5. I usually follow recommended healthy eating habits (i.e., low sodium intake, low fat intake, eat fruits and vegetables, etc.)
6. When life gets busy, exercising is one of the first things I skip
7. My muscles and joints ache on a regular basis
8. I am concerned about my alcohol intake

[PN: ROTATE ORDER OF Q3015 AND Q3020]

**BASE: ONLINE RESPONDENTS**

**Q3015** In general, would you say your physical health is …

1. Poor
2. Fair
3. Good
4. Very good
5. Excellent

**BASE: ONLINE RESPONDENTS**

**Q3020** In general, would you say your emotional health is …

1. Poor
2. Fair
3. Good
4. Very good
5. Excellent

[PN: ROTATE ORDER OF Q3025 AND Q3030]

**BASE: ONLINE RESPONDENTS**

**Q3025** How much influence does how you feel physically impact how you feel emotionally?

1. Not at all
2. Some
3. Very much
4. A great deal

**BASE: ONLINE RESPONDENT**

**Q3030** How much influence does how you feel emotionally impact how you feel physically?

1. Not at all
2. Some
3. Very much
4. A great deal

**BASE: ONLINE RESPONDENTS**

**Q3036** How often do each of the following statements describe you?

1. None of the time
2. Some of the time
3. Half of the time
4. Most of the time
5 All of the time

[RANDOMIZE]

1. My friends and family are a significant drain on my emotional energy
2. I know how to successfully “recharge my battery” when I am feeling low on energy
3. I feel like I am “running on empty”
4. I take “me time” when I need to recharge my physical and emotional energy
5. My life is chaotic
6. I have too many responsibilities
7. I feel overwhelmed
8. I have so many things to do, I feel like I don’t do anything well
9. I feel good about my life
10. I feel blue or down
11. I feel as if I’m letting others down
12. I consider myself an optimist
13. I feel conflicted between my work and family responsibilities [PN: FOR EMPLOYED RESPONDENTS ONLY]

**BASE: ONLINE RESPONDENTS**

**Q3041** How much do you think your overall outlook on life impacts the following?

1. Not at all
2. Some
3. Very much
4. A great deal

[RANDOMIZE]

1. Your likelihood to develop a serious illness like heart disease
2. Your likelihood to successfully manage a serious illness like heart disease if you develop it

## SECTION 3: AWARENESS OF HEART DISEASE

**Q930** How informed are you about heart disease in women? Would you say you are:

[PHONE - READ LIST] [SINGLE RESPONSE]

1 Very well informed
2 Well informed
3 Moderately informed
4 Not at all informed

**Q935** How informed are you about stroke or "brain attack" in women? Would you say you are:

[IF PHONE: READ LIST] [SINGLE RESPONSE]

1 Very well informed
2 Well informed
3 Moderately informed
4 Not at all informed

## SECTION 4: SPECIFIC UNDERSTANDING OF HEART ATTACKS AND STROKE

**Q1000** Based on what you know what warning signs do you associate with having a heart attack?

[LARGE MANDATORY TEXT BOX – LIST FOR CODING ONLY] [MULTIPLE RESPONSES]

01 Chest pain

02 Fatigue

03 Nausea

04 Pain that spreads to the shoulders, neck, or arms

05 Shortness of breath

06 Tightness of the chest

**Q3527:** If you thought **someone** was having a heart attack, what is the first thing **you** would do?

[MANDATORY TEXT BOX – LIST FOR CODING ONLY] [IF PHONE INSERT: [INT: DO NOT READ LIST] [SINGLE RESPONSE]

1 Take them to the hospital

2 Tell them to call their doctor

3 Call 911

4 Call their spouse or family member

**Q3045** If you thought **you** were experiencing signs of a heart attack, what is the first thing **you** would do?

[MANDATORY TEXT BOX – LIST FOR CODING ONLY] [IF PHONE INSERT: [INT: DO NOT READ LIST] [SINGLE RESPONSE]

1 Take an aspirin

2 Call your doctor

3 Call a family member

4 Call 911

5 Go to the hospital

**Q1040** Based on what you know what warning signs do you associate with having a stroke or "brain attack"?

[MANDATORY TEXT BOX – LIST FOR CODING ONLY] [IF PHONE INSERT: [INT: DO NOT READ LIST] [MULTIPLE RESPONSES]

01 Loss of/trouble talking or trouble understanding speech

02 Sudden dimness/loss of vision, often in one eye

03 Sudden, severe headache

04 Sudden weakness/numbness of face or limb on one side

05 Unexplained dizziness

**Q1044** If you thought someone were experiencing signs of a stroke or "brain attack," what is the first thing you would do?

[MANDATORY TEXT BOX – LIST FOR CODING ONLY] [IF PHONE INSERT: [INT: DO NOT READ LIST] [SINGLE RESPONSE]

1 Take them to the hospital

2 Tell them to call their doctor

3 Call 911

4 Call their spouse or family member

**Q1046** If you thought you were experiencing signs of a stroke or "brain attack," what is the first thing you would do?

[MANDATORY TEXT BOX – LIST FOR CODING ONLY] [IF PHONE INSERT: [INT: DO NOT READ LIST] [SINGLE RESPONSE]

1 Go to the hospital

2 Call your doctor

3 Call 911

4 Call your spouse or family

**BASE: ONLINE RESPONDENTS**

**Q3520** Based on what you know, what are the major causes of heart disease?

[MANDATORY TEXT BOX] [CODE LIST – FOR CODING, DO NOT DISPLAY]

01 A family history of heart disease

02 Aging

03 Being overweight

04 Diabetes

05 Drinking alcohol

06 High blood pressure

07 High cholesterol

08 High triglycerides

09 Low levels of estrogen

10 Menopause

11 Not exercising

12 Smoking

13 Stress

14 Stroke

15 Your racial heritage

## SECTION 5: COMMUNICATING ABOUT HEART DISEASE

**BASE: ONLINE RESPONDENTS**

**Q2000** Do you have a health care professional who you see on a regular basis?

1. Yes
2. No

**BASE: ONLINE RESPONDENTS**

**Q925** Have any of your doctors ever discussed the following with you when discussing your health? Please select all that apply. [RANDOMIZE LIST]

1. High blood pressure
2. Cholesterol
3. Family history of heart disease
4. Your risk for heart disease
5. Your risk for stroke
6. Weight
7. Stopping smoking
8. Appropriate heart healthy diet and nutrition
9. Exercise
10. None of these [ANCHOR]

**BASE: ONLINE RESPONDENT**

**Q3071** For each of the following, please indicate how much you agree or disagree. [RANDOMIZE LIST]

1 Strongly disagree
2 Somewhat disagree
3 Somewhat agree
4 Strongly agree

[RANDOMIZE LIST]

01 Women are as likely as men to participate in medical (or clinical) research related to the treatment and prevention of heart disease.

02 What is good for my heart is good for my brain.

03 The care I receive from my health care provider treats the whole person, not just my disease or symptoms.

04 My health care provider takes my lifestyle habits into account when making recommendations about my health care.

05 My health care provider is sensitive to my culture when making recommendations about my health care.

06 My health care providers do not communicate with each other enough about my health care.

07 My health care provider considers cost saving options when managing my health care.

08 I trust my health care provider so much that I always try to follow her/his advice.

09 I don't think my health care provider cares about me as a person.

10 I trust my doctor to put my medical needs above all other considerations when treating my medical problems.

**BASE: ONLINE RESPONDENTS**

**Q2026** Who have you talked to about your family's medical history as it relates to heart disease?

1. Have talked to
2. Have not talked to
3. Not applicable

[RANDOMIZE LIST]

1. My parent(s)
2. Siblings
3. Children
4. Other relatives

**SECTION 6: BEHAVIORS ASSOCIATED WITH PREVENTION**

**BASE: ONLINE RESPONDENTS**

**Q2232** Have you done any of the following things to monitor or improve your health in the last year?

1. Yes
2. No
3. N/A

[RANDOMIZE] [DISPLAY GRID HEADERS AT TOP, MIDDLE AND BOTTOM OF LIST]

1. Quit smoking
2. Get regular physical exercise
3. Take special vitamins like E, C or A
4. Lose weight
5. Reduce dietary cholesterol intake
6. Reduce stress
7. Take multivitamins with folic acid
8. Take hormone-replacement therapy
9. Reduce sodium or salt in the diet
10. Reduce animal products in my diet (such as meat, whole milk, butter and cream)
11. Aromatherapy
12. Take aspirin regularly
13. Maintain a healthy blood pressure
14. Maintain a healthy cholesterol level
15. Eat foods or take supplements that contain fish oil/Omega 3 fatty acids
16. Increase fiber intake
17. Eat foods containing antioxidants
18. Eat plant stanols and sterols

19. Floss my teeth regularly
20. Pray or meditate
21. Get adequate sleep
22. A doctor's visit
23. Reduce my sugar intake

**BASE: ONLINE RESPONDENTS**

**Q638** Thinking about the things *you* have done to improve *your own* health, please tell us if any of the following prompted you to take action.

[RANDOMIZE] [MULTIPLE RESPONSE]

| | | |
|---|---|---|
| 1 | I saw, heard, or read information related to heart disease | |
| 2 | My health care professional encouraged me to take action | |
| 3 | A family member or relative encouraged me to take action | |
| 4 | A friend encouraged me to take action | |
| 5 | A family member/relative developed heart disease, got sick, or died | |
| 6 | A friend developed heart disease, got sick, or died | |
| 7 | I experienced symptoms that I thought were related to heart disease | |
| 8 | I wanted to feel better | |
| 9 | I wanted to avoid taking medications | |
| 10 | I wanted to improve my health | |
| 11 | I wanted to live longer | |
| 12 | I did it for my family | |
| 13 | I was encouraged to take action during an event or program at my place of worship (church, mosque, or temple) | |
| 14 | I was encouraged to take action during an event or program at my community center | |
| 15 | Something else | ANCHOR |
| 16 | I have not done anything to improve my health | ANCHOR, EXCLUSIVE |

**BASE: ONLINE RESPONDENTS**

**Q639** Thinking about the following activities, are you doing these more often, less often or about the same amount of time as you did one year ago?

1. More often
2. Less often
3. About the same amount of time

[RANDOMIZE]

1. Getting at least 20-30 minutes of vigorous exercise daily where you are winded, that is you can still talk, but not sing
2. Eating meals away from home at restaurants, fast food, quick serve, etc.
3. Cooking meals at home with fresh ingredients
4. Eating prepackaged boxed, refrigerated or frozen meals
5. Drinking sugar-sweetened beverages (i.e., non diet beverages)

**BASE: ONLINE RESPONDENTS**

**Q640** Which of the following are the biggest barriers preventing you from leading a heart healthy lifestyle?

[RANDOMIZE] [PN: ONLY ALLOW RESPONDENTS TO SELECT FIVE OPTIONS. IF THEY PICK MORE THAN FIVE, PLEASE DISPLAY THE ERROR MESSAGE 'You have selected more than five options. Please try to limit yourself to five options on the list.']

1 I don't perceive myself to be at risk for heart disease
2 I don't want to change my lifestyle
3 I don't think changing my behavior will reduce my risk of developing heart disease
4 I'm fearful of change
5 I'm not confident that I can successfully change my behavior
6 I am too stressed to do the things that need to be done
7 I am too depressed to do the things that need to be done

| | | |
|---|---|---|
| 8 | I am too ill/old to make changes | |
| 9 | I don't have the money or insurance coverage to do what needs to be done | |
| 10 | I have family obligations and other people to take care of | |
| 11 | My family/friends have told me that I don't need to change | |
| 12 | I don't have the time to take care of myself | |
| 13 | My health care professional doesn't think I need to worry about heart disease | |
| 14 | My health care professional doesn't speak my language | |
| 15 | I am confused by what I'm supposed to do to change my lifestyle | |
| 16 | I feel the changes required are too complicated | |
| 17 | I don't know what I should do | |
| 18 | There is too much confusion in the media about what to do | |
| 19 | My health care professional doesn't explain clearly what I should do | |
| 20 | God or some higher power ultimately determines my health | |
| 21 | Other | ANCHOR |
| 22 | None of these, I lead a heart healthy lifestyle | ANCHOR, EXCLUSIVE |

## SECTION 7: MOTIVATION TO CHANGE

**BASE: ONLINE RESPONDENTS**

**Q2199** How likely are you to become involved with "heart health" as an issue if the following kinds of programs existed?

1. Definitely would not
2. Probably would not
3. Might or might not
4. Probably would
5. Definitely would

[RANDOMIZE]

01 A medical research program to ensure that the ways in which women experience heart disease are adequately addressed

02 A program to educate women that heart health is an issue all women should pay attention to

03 A program to educate women about how to navigate the health care system to get the best care possible

04 A program to educate women about how to evaluate their health care provider's ability to treat them if they have heart disease

**BASE: ONLINE RESPONDENTS**

**Q2099** What would you need to know or learn to believe that heart health is an issue for all women?

[MANDATORY TEXT BOX]

**BASE: ONLINE RESPONDENTS**

**Q1545** Earlier you mentioned you thought [INSERT RESPONSE FROM Q815] was the leading cause of death for all women in the US. The leading cause of death for women in the US is heart disease. Knowing that information, which of the following are you likely to do?

[MULTIPLE RESPONSE] [RANDOMIZE]

1. Go to the doctor to assess my risk for heart disease
2. Get more information about heart disease
3. Research ways to improve my heart health
4. Talk to my family about our medical history
5. Talk to my friends about heart disease
6. Get involved with an organization to help raise awareness about heart disease
7. Make lifestyle and behavior changes
8. Other [SPECIFY: SMALL TEXT BOX] [ANCHOR]
9. Nothing [ANCHOR, EXCLUSIVE]

## SECTION 8: CUSTOM DEMOGRAPHICS

**BASE: ONLINE RESPONDENTS**

**Q615** Which of the following currently live in your household?

1 Parents/in-laws
2 Siblings/in-laws
3 Grandparents/in-laws
4 Children under 18
5 Children over 18
6 Other relatives over 18
7 Other relatives under 18
8 None of the above

**BASE: ONLINE RESPONDENTS**

**Q620** Do you currently care for a disabled, chronically ill, or aging family member?

1. Yes
2. No

**BASE: ONLINE RESPONDENT**

**Q625** Which of the following best describes you? For the purpose of this question please use the following definitions:

[DISPLAY DEFINITIONS IN MIDDLE OF SCREEN]

- Perimenopause: the years prior to a woman's last menstrual period, which can be characterized primarily by erratic/irregular menstrual cycles, but may also include PMS-like symptoms, hot flashes or night sweats, sleep disturbance, decreased sex drive and changes in mood.
- Menopause: process by which menstruation and fertility permanently end; it is defined as not having a menstrual period in 12 consecutive months, and can be accompanied by hot flashes and night sweats, sleep disturbances, vaginal itching and dryness. Menopause is considered completed when a woman has been without her period for one full year. Menopause may also be induced by surgery such as a hysterectomy, and can also be referred to as “surgical menopause”.

1 I am pre-menopausal and have not experienced symptoms of menopause yet.

2 I am in perimenopause.

4 I am post-menopausal.

**SECTION 100: CLASSIFICATION DATA**

**Q1305** In total, how many generations currently live in your household?

For example, if you live alone or only with a spouse or roommate, that would be one generation. If you live with your parents or your children, that would be two generations. If you live with your parents and your children, that would be three generations.

[MANDATORY NUMERIC BOX, ONE DIGIT LENGTH] [__] RANGE: 1-5

**Q1310** Next, I have a few more general questions.

Which of the following types of health insurance, if any, do you currently have?

[PHONE: READ LIST BEFORE ACCEPTING RESPONSES] [RANDOMIZE] [MULTIPLE RESPONSE]

| | | |
|---|---|---|
| 1 | Health insurance provided by [PHONE: your WEB: my] employer or school | |
| 2 | Health insurance through a family member's employer or school | |
| 3 | Private insurance coverage that you pay for out-of-pocket | |
| 4 | Medicare | |
| 5 | Medicaid or other public insurance | |
| 6 | Veteran's Affairs (VA) | |
| 7 | Some other type of insurance | ANCHOR |
| 8 | No insurance coverage | ANCHOR, E |
| 9 | Don't know (VOL) [DISPLAY IF PHONE (Q149/2)] | ANCHOR, E |
| 10 | Refused (VOL) [DISPLAY IF PHONE (Q149/2)] | ANCHOR, E |

**Q1315** What is your current height?

[NON MANDATORY]

|_| feet |_|_| inches

**Q1320** What is your current weight?

[NON MANDATORY]

|_|_|_| pounds

Thank you for your participation in this survey!

We appreciate your time and thank you for your opinions.