



Health in Iowa 2017 BRFSS Annual Report

From the Iowa 2017 Annual Behavioral Risk Factor Survey

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Iowa Department of Public Health
Protecting and Improving the Health of Iowans



Iowa Behavioral Risk Factor Surveillance System

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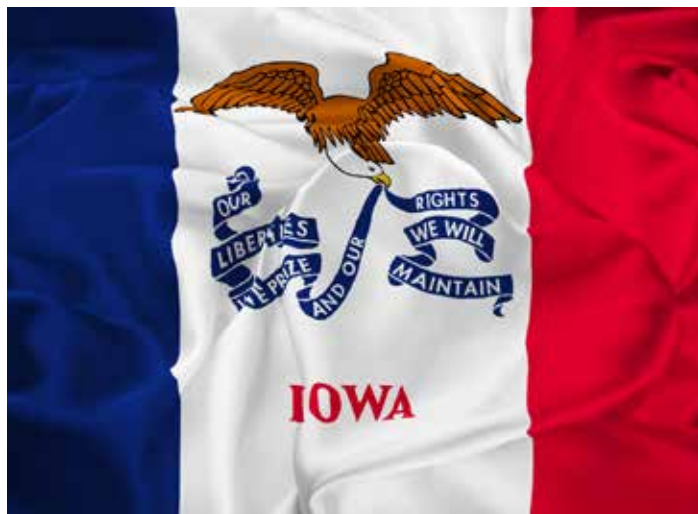
Executive Summary

The Iowa Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing telephone survey conducted in partnership with the State of Iowa and the Centers for Disease Control and Prevention (CDC). In 2017, BRFSS collected 7,699 telephone interviews from residents aged 18 and older living in private residences or college housing. The interview included questions regarding health conditions, health-related behaviors, attitudes and awareness of major contributors to illness, disability and premature death over an average of 27 minutes.

BRFSS also monitors the prevalence of these indicators over time statewide. Health-related issues including general health status, health care access, tobacco use, alcohol consumption, body weight, physical activity, nutrition, diabetes, respiratory conditions, immunizations, cancer screening and HIV/AIDS testing are tracked over time. Comparisons to other states, as well as to Healthy People 2020 and Healthy Iowans goals are important ways the Iowa BRFSS is used to evaluate progress towards the attainment of health across the state.

FACT

BRFSS is the nation's premier state-based system of health-related telephone surveys.



Significant findings for 2017 include:

- The downward trend in the percentage of people without health care coverage leveled off.
- Iowa was one of seven states reporting obesity rates at or above 35%.
- Although the percentage of obese Iowans was steady, the percentage of Iowans above a healthy weight was the highest in six years.
- Cigarette smoking showed a decline, especially in the youngest age group. This is likely due, in part, to a switch to e-cigarettes.
- There were only four states with a higher prevalence of reported binge drinking, and only two states that had a higher percentage reporting driving while intoxicated.
- The percentage of Iowans age 65 and older who received a flu vaccination ranked second among states.
- The prevalence of people receiving a pneumonia shot was the highest in six years for the second year in a row; four out of five Iowans 65+ had ever received the pneumonia vaccine.
- Although Iowans age 65+ reported the lowest percentage of receiving the flu vaccine, Iowa was the fifth highest state for flu vaccination prevalence among this age group.
- There were only two states with a lower percentage than Iowa for people being tested for HIV.
- The percentage of adults reporting being diagnosed with depression was the lowest level found in the past six years, and was a major reversal of the trend from previous years.
- To date, the highest rate of skin cancer among adult Iowans was reported in 2017.
- Over half of Iowans who reported 6 or more ACEs had also been told in their lifetime that they had a depressive disorder, and about 1/3 reported frequent mental distress.
- Fruit and vegetable consumption was the lowest among Iowans with low education and income.
- Only four states had a lower rate of current asthma.

Glossary

95% Confidence Interval: a range of values in which there is a 95% chance of the true value.

Anxiety: excessive worry about everyday events.

Arthritis: a group of over 100 different rheumatic diseases and conditions that result in pain and reduction of functionality in and around the joints.

Asthma: a chronic inflammatory disease of the lungs in which the airways become blocked or narrowed, causing breathing difficulty.

Binge Drinking: drinking too much at one time; five drinks for men or four drinks for women.

Cancer: a group of cells that grows out of control and has the ability to invade normal tissue.

Cervix: the lower part of the uterus (womb).

Coefficient of Variability: a standardized measure of dispersion defined as the ratio of the standard deviation to the mean.

Diastolic Pressure: the bottom number in blood pressure recorded as the heart relaxes between beats.

Depression: a state of low mood and an aversion to activity.

Diabetes Mellitus: a group of diseases characterized by high levels of blood glucose resulting from defects in insulin production, insulin action or both.

Disability: an umbrella term for impairments, activity limitations and participation restrictions.

Frequent Mental Distress: having 14 or more of the last 30 days in which mental health was not good.

Health-Related Quality of Life: an individual's or group's perceived physical and mental health over time.

Hypertension: a chronic medical condition in which the blood pressure in the arteries is constantly elevated.

Influenza or "flu": a contagious respiratory illness caused by viruses that infect the nose, throat and lungs.

Impairment: any loss or abnormality of psychological, physiological or anatomical structure or function.

Partial Complete: an interview that was terminated before it was complete, but sufficient data had been collected to use for most measures.

Pneumonia: a lung disease caused by bacteria, viruses and other infectious agents such as fungi.

Population: the complete set of objects of interest; for instance, all adult lowans would be a population.

Prevalence: the degree to which a characteristic or condition exists during a particular time period, indicating how widespread the characteristic or condition is.

Sample: a set of observations used to represent a larger set of things.

Sampling Frame: a list of all those within a population who can be sampled.

Standard Deviation: a measure of the variability of observations around their mean.

Stratum: a set of things into which a larger set can be divided based on some common characteristic.

Systolic Pressure: the top number in blood pressure recorded as the heart beats.

FACT

BRFSS collects data on health-related risk behaviors, use of clinical preventive practices and health care access related to chronic health conditions and injury.

List of Acronyms

ACEs: Adverse Childhood Experiences
ADLs: Activities of Daily Living
AIDS: Acquired Immunodeficiency Syndrome
ATDs: Assistive Technology Devices
BMI: Body Mass Index
BRFSS: Behavioral Risk Factor Surveillance System
CATI: Computer-Aided Telephone Interviewing
CDC: Centers for Disease Control and Prevention
CHC: Coronary Heart Disease
CI: Confidence Interval
COPD: Chronic Obstructive Pulmonary Disease
CVD: Cardiovascular Disease
DSS: Disproportionate Stratified Sampling
FMD: Frequent Mental Distress
HIV: Human Immunodeficiency Virus
HRQOL: Health-Related Quality Of Life
IDPH: Iowa Department of Public Health
MI: Myocardial Infarction
NRT: Nicotine Replacement Therapy
SHS: Secondhand Smoke
SIDS: Sudden Infant Death Syndrome
TLC: Therapeutic Lifestyle Changes

FACT

Adults 18 years or older are randomly selected to participate in the survey and participation is voluntary.



Introduction

History

In 1984, the Centers for Disease Control and Prevention (CDC) launched the Behavioral Risk Factor Surveillance System (BRFSS), working in an ongoing fashion with several states to assess the health status and health risk behaviors of their citizens. In 1988, Iowa began full participation in BRFSS. The BRFSS is now conducted in all 50 states, the District of Columbia and a few American territories.

Nature of the Survey

The Iowa BRFSS is an ongoing telephone survey. It is financially and technically supported by the CDC with further financial support from public and private sources.

The BRFSS is designed to collect information from residents age 18 and over living in private residences or college housing on health conditions, health-related behaviors, attitudes and awareness. It also monitors the prevalence of these indicators over time. The indicators surveyed are major contributors to illness, disability and premature death.

This report focuses on the data collected during calendar year 2017. Some of the health-related issues discussed are general health status, health care access, cancer screening, tobacco use, alcohol consumption, body weight, physical activity, oral health, diabetes, respiratory conditions, immunizations and HIV/AIDS awareness.

Objectives

The objectives of the BRFSS are:

1. To determine the state specific prevalence of personal health behaviors related to the leading causes of premature death.
2. To develop the capacity of state health departments to conduct credible telephone surveys.
3. To advance the understanding that certain health-related behaviors are critical indicators of health.

Use of BRFSS Data

The CDC developed the BRFSS to help states assess health risks and monitor trends. Comparable surveillance methods are used in all states. This allows for comparisons among states and for the assessment of geographic patterns of risk factor prevalence.

The BRFSS information is used to design, implement and support public health activities. These activities are designed to reduce the premature death and disability of Iowa residents. State public health departments are responsible for planning, implementing and evaluating disease prevention programs.

Many of these programs involve health risk behavior modification. Examples of health risk behavior modification programs in Iowa are the Diabetes Prevention and Control program, nutrition and physical activity campaigns, tobacco cessation and counter-marketing campaigns, campaigns encouraging flu vaccination, and campaigns to increase health screenings and checkups.

One way to assess program effectiveness is to monitor the prevalence of risk factors in the population. Comparing different time periods, demographic groups or geographic areas may be quite useful in developing, implementing and evaluating intervention programs.

FACT

The BRFSS information is used to design, implement and support public health activities to reduce the premature death and disability of Iowa residents.

Questionnaire Design

The BRFSS questionnaire is updated each calendar year by the CDC and by each participating state. The questionnaire consists of three sections: 1) the core questions required of all states participating in BRFSS; 2) a set of standardized modules developed by the CDC which states may opt to include in their survey; and 3) state-added questions which are designed and administered by individual states to address locally identified health problems. Changes in core and optional module questions were discussed and determinations were made whether to offer them at an annual national BRFSS meeting. They have been previously tested. A group of interested individuals from the Iowa Department of Public Health, guided by the state coordinator, met to discuss which optional modules and state-added questions to include in the coming year. The emerging survey plan was reviewed by the Iowa BRFSS Advisory Committee.

Participation by Iowans in the BRFSS survey is random, voluntary, anonymous and confidential. Survey participants are requested to provide demographic information such as sex, race, marital and employment status, annual household income, educational level and location of residence by county and ZIP code. Information that could possibly be used to identify the respondent, such as location, is suppressed in public use data.

Sampling Process

Two sampling frames are used in the BRFSS. One is for landline telephones, while the other is for cell phones. Only adults age 18 years and older are interviewed in both samples. People residing in group homes or institutions are not sampled.

In the landline sample, one residing person per household is interviewed. Households are selected using list-assisted random-digit dialing. This method provides a list of randomly chosen phone numbers from the pool of all existing landline phone numbers. These numbers are not drawn in a simple random fashion, but use what is known as the disproportionate stratified sampling technique (DSS). This sampling methodology is designed to produce a random sample of Iowa telephone numbers, including unlisted numbers and new subscribers, in an efficient fashion.

The DSS method divides landline phone numbers into two strata. The first stratum is residential but unlisted. The second stratum is composed of residential listed numbers. Each stratum is sampled at a different rate. The listed residential numbers are sampled at the highest rate. Some numbers were marked by the list provider as not to be called because they have been predetermined to be nonresidential or nonworking. There was no set number to be sampled per group and completed interviews were not thrown out.

The landline sample is also stratified into six geographic regions. These regions are the same regions used by health resource and emergency planning groups within the state.

The geographic regions in each strata represent the same proportion of their population within the state. A seventh stratum was drawn from census tracts throughout the state containing a relatively high percentage of African American or Hispanic residents in an effort to better represent minority groups in Iowa. There was also an eighth stratum that oversampled counties of special interest to the diabetes program.

Increasingly, many people, including the young, single, ethnic minorities and renters, are opting to use cell phones instead of traditional landline telephone service (AAPOR Cell Phone Task Force 2010; Blumberg & Luke 2017). Therefore, another sampling frame has been added for individuals using cell phones. Iowans are interviewed on whichever phone type they are reached at. The number of cell phone interviews was set large enough that more than 25% of the sample should be users of cell phones only. The cell phone sample was also geographically stratified into the six regions. The oversample strata were not done, since it is not possible to determine such specific geography for cell phones. Since the cell phone is more an individual appliance than a household appliance, the selection of one person per household was not done. College housing was included in the cell phone sample. These respondents were also asked some extra questions; for instance, they were asked if they were doing anything that would make it unsafe to conduct the interview, and not interviewed if they were.

All information collected through BRFSS interviews is confidential. No names or addresses are collected during the interview.

Methodology *continued*

Because of mobility of cell phone use, there were occasions when cell phone interviews were done involving people living in other states. The number of cell phone interviews in our sample is, therefore, larger than the number called by our data collection contractor. Cell phone interviews from other states only contained responses to the core questions, since there was no way for them to know which modules we were using or our state added questions.

Approximately equal numbers of interviews per month were conducted from January through December in 2017 for a total sample size of 7,699. Of these, 3,728 were landline and 3,529 were cell phone. Interviews were conducted in both English and Spanish.

Interviewers made multiple attempts to reach a number to complete an interview before replacing that number. If the person selected to take the survey was not available, an appointment was made to complete the interview at another date and time. If the person was not available during the interview period, or if the person refused to participate, no other person was interviewed at that number. Attempts were made to convert initial refusals into participants.

The Interview Process

The interviews were conducted daytime, evenings and weekends with appointments as needed to schedule or complete interviews. The average time to complete an interview was 25.8 minutes for landline and 23.5 minutes for cell phone. The response rate, defined as completed interviews + partial completes divided by all eligible households called, was 53% for landline and 55% for cell phones. Although the response rates seem rather low and have been declining in recent years, they are better than most states produce.

Not all interviews were fully completed. A partial complete is an interview that was terminated before it was complete, but sufficient data had been collected to use for most measures. This means that results from questions later in the questionnaire are determined from a somewhat smaller sample than earlier questions, even when not restricted to some sub-sample such as a particular age group. See Appendix for the questions and their order.

A Computer Aided Telephone Interviewing (CATI) system is used. The CATI system not only assists interviewers in presenting the questionnaire and recording the responses, it also helps keep track of appointments and callback attempts, and reports statistics of call dispositions.

Iowa had a **70%** landline and **90%** cell phone interview completion rate among eligible respondents in 2017.

Advantages and Limitations

Telephone interviews provide a means to conduct affordable surveys to monitor the prevalence of behavioral risk factors. Surveys based on telephone interviews are much faster to complete than surveys based on in-person interviews. In one hour, an experienced telephone interviewer can handle busy numbers, calls not answered and refusals to participate, and still successfully complete one and one-half interviews. In contrast, in one day of in-person interviewing, many miles of travel may be required with few interviews completed.

Another advantage of telephone surveys is the much higher response rate compared to self-administered surveys, such as mail surveys.

Supervision and administration are simpler for telephone interviews than for in-person interviews. All calls can be made from one central location and supervisors can monitor interviewers for quality control.

One main limitation to telephone surveys is that all Iowans are not reachable by telephone. Some do not live in households, but are in institutions such as nursing homes or prisons. Some households do not have telephones. Persons of low socioeconomic status are less likely than persons of higher socioeconomic status to have uninterrupted telephone service and are therefore under-sampled. Furthermore, the percentage of households with a telephone varies by region. New telephone technology such as caller I.D. and call blockers that block telemarketers also pose problems for telephone surveys.

Furthermore, some inaccuracy is expected from any survey based on self-reported information. For example,

respondents are known to under-report their weight and inaccurately recall socially undesirable habits. People's memories may also fail or play tricks on them. The potential for bias must always be kept in mind when interpreting self-reported data.

Despite these limitations, prevalence estimates from the BRFSS correspond well with findings from surveys based on in-person interviews and actual physical measurements, including studies conducted by the National Center for Health Statistics and the American Heart Association.

Analysis of the data

Unless everyone in the state was asked questions about their health, there would be no way to know exactly what these answers would be. When analyzing BRFSS data, conclusions are to be drawn about the entire adult population of the state of Iowa based on only a sample of randomly chosen people. The true prevalence in the population can only be estimated.

The judgment of the value of prevalence in a population, such as the state based on the prevalence within a sample, always involves educated guesswork. The prevalence values from the survey and the true state population prevalence values may differ by some amount, but a range of state values that are probably true can be determined with a high degree of confidence from the prevalence in the sample.

Most charts and tables in this report will indicate a range of values in which there is a 95% chance of the true Iowa value falling. This range is referred to as a 95% confidence interval (CI). Charts will indicate this by use of a black line at the end of the bars in the chart.

The end of the bar is the sample value, while the value in the population is probably somewhere in the range represented by the line. When the CIs of two or more groups do not overlap, their population values can be considered truly or significantly different.

The data collected in the BRFSS are obtained through a complex sample design. The direct application of standard statistical analysis methods for variance estimation and hypothesis testing may yield misleading results.

An important factor in determining how well we can judge the response of all Iowans from the survey sample is the number of responses to the questions. The smaller the number of responses, the poorer is our ability to draw a conclusion about the whole state. Analyzing the data by such categories as age, sex, income, educational level and especially race/ethnicity means there are a smaller number of interviews in each particular group than in the whole survey. Furthermore, many questions are only answered depending on the answer to previous questions. For instance, a person would only be asked at what age they were diagnosed with diabetes if they answer "yes" to whether they have ever been told they had diabetes. These smaller numbers decrease the ability to determine statistically significant differences. Some data may not be reported as significant solely due to small sample sizes. In general, data in which the number of responses is less than 50 or the variability is too large (coefficient of variability greater than 30%) will not be reported since this data is considered highly unreliable.

Some people refuse to answer select questions, but choose to respond to the majority of the questions. Those interviews were still used in the final count for the total sample size. However, they were not counted on the specific questions they refused. Unless otherwise indicated, prevalence measures do not include those who refused to answer a question or said they did not know.

Weighting of the Data

Generally, the best guess for how many Iowa adults would answer a question a certain way would be the same as how many adults in the sample answer that way. This is true, however, only if everyone in the state had an equal chance of being in the sample. This is not the case. The number of adults per household and the number of phone numbers per household influence a person's likelihood of being included in the survey. Furthermore, certain demographic groups may be over or under-represented in the sample based on their ease of being reached and willingness to respond. For instance, about half the adult Iowa population is male, but typically only about 40% of the sample interviewed is male. To solve these problems, the data in the sample is weighted to the state population. That means several of the above factors are used to give each interview a weight that represents a certain distinct number of people in the state population.

A large number of factors are considered in the weighting process. Age, gender, race/ethnicity, marital status, education level, home ownership, geographic region and cell vs. landline telephone are all considered. Preliminary weights from the ratio of sampled phone numbers to all numbers are adjusted recursively by these factors until a stable weight is produced.

A landline telephone is seen as a household appliance, while a cell phone is more frequently seen as an individual possession. This means adults per household and phone numbers per household become irrelevant for cell phones. These two factors are not used in determining weights for cell phone interviews.

This weighting method, known as iterative proportional fitting (IPF), has been in place since 2011. Five-year trend information in this report will only be determined from 2012 forward. Comparisons of pre-2011 data against post-2011 may be unsound data due to the change in data collection methodology for Core section of the questionnaire. For optional module and state added questions, 2012 was the first year cell phone interviews were included in the research design.

References:

1. AAPOR Cell Phone Task Force. New Considerations for Survey Researchers When Planning and Conducting RDD Telephone Surveys in the U.S. with Respondents Reached via Cell Phone Numbers. 2010.
2. Blumberg SJ. and Luke JV. Wireless Substitution: Early Release of Estimates from the National Health Interview Survey: July–December 2016. 2017.

FACT

Since 2011, the BRFSS has used iterative proportional fitting (IPF), also known as raking, to weight data.



Demographics

Demographics of the BRFSS Respondents

In 2017, 7,699 respondents including 3,650 males and 4,043 females of ages 18 years or older completed the BRFSS survey interview. The following tables present the distribution of this respondent sample by

- 1) age and gender;
- 2) race/ethnicity;
- 3) level of education; and
- 4) annual household income.

Table 3.1: Distribution of Iowa survey respondents by age and gender for survey year 2017

Age	Male		Female		Total	
	#	%	#	%	#	%
18 - 24	295	3.8	210	2.7	505	6.6
25 - 34	464	6.0	397	5.2	862	11.2
35 - 44	450	5.8	483	6.3	933	12.1
45 - 54	618	8.0	558	7.3	1,177	15.3
55 - 64	740	9.6	823	10.7	1,564	20.3
65 - 74	672	8.7	839	10.9	1,514	19.7
75+	378	4.9	676	8.8	1,054	13.7
Unknown ¹	33	0.4	57	0.7	90	1.2
Total	3,650	47.4	4,043	52.7	7,699	100.0

¹ Unknown includes participants who responded with "Don't Know" or refused to answer

Table 3.2: Distribution of Iowa survey respondents by race/ethnicity for survey year 2017

Race/Ethnicity ²	# of Total Respondents	% of Total Respondents
White/Non-Hispanic	6,937	90.1
Black/Non-Hispanic	122	1.6
Other/Non-Hispanic ³	225	2.9
Hispanic	295	3.8
Unknown/Refused	120	1.6
Total	7,699	100.0

² Since 2013, the race and ethnicity class has been broken down into much finer categories for use in the BRFSS. Due to small numbers in various racial and ethnic groups in Iowa, we continue to display the same categories used in the past.

³ Multiracial is combined with Other/Non-Hispanic.

Table 3.3: Distribution of Iowa survey respondents by level of education for survey year 2017

Level of Education	# of Total Respondents	% of Total Respondents
Less than High School	369	4.8
High School Grad. or GED	2,451	31.8
Some College/Tech. School	2,264	29.4
College Graduate	2,586	33.6
Unknown/Refused	29	0.4
Total	7,699	100.0

Table 3.4: Distribution of Iowa survey respondents by annual household income for survey year 2017

Household Income	# of Total Respondents	% of Total Respondents ²
Less than \$15,000	480	6.26
\$15,000 - \$24,999	951	12.41
\$25,000 - \$34,999	691	9.02
\$35,000 - \$49,999	1,036	13.52
\$50,000 - \$74,999	1,178	15.37
\$75,000+	2,210	28.84
Unknown/Refused	1,153	14.57
Total	7,699	100.0



General Health Status and Health-Related Quality of Life

Background

General health status, defined by responses to a single question such as “How is your health, in general?,” has been found to be a significant predictor of mortality. Additional studies that controlled for objective health status, age, sex, life satisfaction, income, residence and other factors continue to find that the risk of mortality is two to six times greater for those individuals who had reported earlier that their health was bad or poor, compared to those who had reported their health as excellent (DeSalvo, Bloser, Reynolds, He, & Muntner, 2006). The risk associated with poor self-rated health was actually higher than the risks associated with poor health status assessments by a physician.

The Centers for Disease Control and Prevention (CDC) has defined health-related quality of life (HRQOL) as “an individual’s or group’s perceived physical and mental health over time” (Centers for Disease Control, 2016). Tracking health-related quality of life in different populations can identify subgroups with poor physical or mental health, and can help guide policies or interventions to improve their health.

General Health Status Results

In 2017, when asked how their health was in general, 16.0% of lowans reported that it was excellent, which was a decline from the previous year’s rate of 17.8%. Another 35.2% rated their health as very good. Additionally, 33.5% of lowans reported their health to be good, while 15.4% rated their health as fair or poor, an increase from 2016, when 13.0% of lowans rated their health as fair or poor (see Figure 4.1).

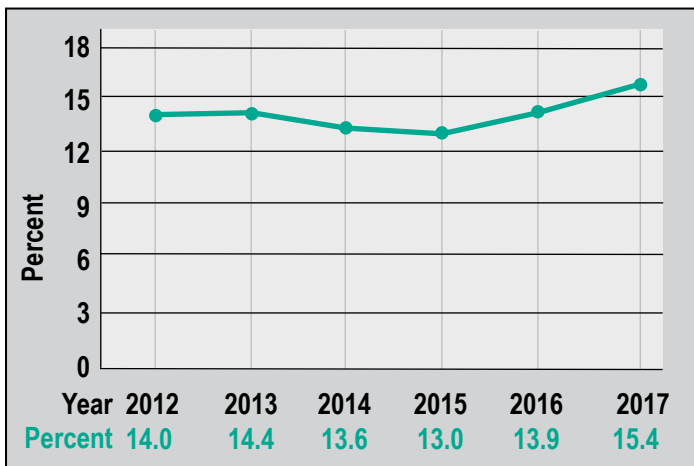
Age, education, household income and race/ethnicity all had a significant impact on reported health status (see Table 4.1). While 5.8% of those from households earning \$75,000 or more per year reported fair or poor health, 40.4% of those from households earning less than \$15,000 per year did so. Other respondents who tended to report having fair or poor health were those with less than a high school education. Hispanics reported the highest rates of fair to poor general health status at 24.5%.

Table 4.1: Percentage of Self-Reported General Health Status, 2017

General Health Status				
Demographic Groups	Good or Better		Fair or Poor	
	Prevalence Rate (%)	C.I. (95%)	Prevalence Rate (%)	C.I. (95%)
Total	84.6	(83.6-85.6)	15.4	(14.4-16.4)
Sex				
Male	85.9	(84.5-87.3)	14.1	(12.7-15.5)
Female	83.4	(82.0-84.8)	16.6	(15.2-18.0)
Race/Ethnicity				
White/Non-Hisp.	85.4	(84.4-86.4)	14.6	(13.6 -15.6)
Black/Non-Hisp.	79.7	(71.4-88.1)	20.3	(12.0-28.6)
Other/Non-Hisp.	84.4	(78.3-90.4)	15.6	(9.6-21.7)
Hispanic	75.5	(69.7-81.3)	24.5	(18.6 -30.3)
Age				
18 - 24	88.9	(85.6-92.2)	11.1	(7.8-14.4)
25 - 34	90.5	(88.3-92.7)	9.5	(7.3-11.7)
35 - 44	87.6	(85.2-90.0)	12.4	(10.0-14.8)
45 - 54	85.3	(82.9-87.7)	14.7	(12.3-17.1)
55 - 64	81.3	(79.1-83.5)	18.7	(16.5-20.9)
65 - 74	81.2	(79.0-83.4)	18.8	(16.6-21.0)
75+	73.1	(69.8-76.4)	26.9	(23.6-30.2)
Education				
Less than H.S.	66.0	(60.5-71.5)	34.0	(24.6-36.0)
H.S. or G.E.D.	81.7	(79.9-83.5)	18.3	(15.8-19.4)
Some Post-H.S.	85.4	(83.8-87.0)	14.6	(10.0-13.2)
College Graduate	93.6	(92.6-94.6)	6.4	(5.2-7.2)
Household Income				
Less than \$15,000	59.6	(54.1-65.1)	40.4	(33.4-45.6)
\$15,000 - 24,999	72.7	(69.4-76.0)	27.3	(21.6-29.0)
\$25,000 - 34,999	81.4	(77.9-84.9)	18.6	(13.7-21.5)
\$35,000 - 49,999	86.8	(84.4-89.2)	13.2	(8.8-13.6)
\$50,000 - 74,999	89.9	(87.9-91.9)	10.1	(5.6-9.2)
\$75,000+	94.2	(93.0-95.4)	5.8	(4.2-7.0)

General Health Status and Health-Related Quality of Life *continued*

Figure 4.1: Iowans reporting Fair or Poor Health Status, 2017



Poor Self-Reported Health

Since January 1993, the BRFSS questionnaire has included four health-related quality-of-life (HRQOL) questions. Four measures of poor health – low general health, frequent physical distress, frequent mental distress and frequent activity limitation are derived from data collected through these questions.

In answer to the question asking how many out of the past 30 days their physical health was not good, 10.3% of Iowans reported experiencing 14 or more days of poor physical health. Approximately 27.1% of Iowans with household incomes less than \$15,000 reported having 14 or more bad physical health days, while 5.1% of those with household incomes of \$75,000 or more reported experiencing 14 or more days of bad physical health in the 30 days preceding the interview. As shown in Table 4.2, more females, Iowans over 65, those with lower education and those with lower income reported 14 or more bad physical health days.

In answer to the general mental health question, “Now thinking about your mental health, which includes stress, depression and problems with emotions, for how many days during the past 30 days was your mental health not good?”, persons who reported that their mental health was not good for greater than or equal to 14 of the preceding 30 days were defined as having frequent mental distress (FMD). In 2017, 10.8% of Iowans reported experiencing FMD, which was similar to the 2016 rate of 10.0%. Men, older people, those with high education and those with high income had a lower prevalence of FMD.

Table 4.2: Percentage of Self-Reported days of Poor Physical and Mental Health in past 30 days, 2017

Demographic Groups	14 - 30 Days of Poor Physical Health		14 - 30 Days of Poor Mental Health	
	Prevalence Rate (%)	C.I. (95%)	Prevalence Rate (%)	C.I. (95%)
Total	10.3	(9.5-11.1)	10.8	(10.0-11.6)
Sex				
Male	8.8	(7.8-9.8)	8.1	(6.9- 9.3)
Female	11.8	(10.6-13.0)	13.4	(12.0-14.8)
Race/Ethnicity				
White/Non-Hisp.	10.0	(9.2-10.8)	10.5	(9.5-11.5)
Black/Non-Hisp.	9.0	(2.3-15.7)	10.4	(3.1-17.7)
Other/Non-Hisp.	15.6	(9.0-22.3)	9.9	(5.7-14.0)
Hispanic	10.5	(5.9-15.0)	15.5	(10.4-20.6)
Age Group				
18 - 24	5.8	(3.1-8.5)	17.5	(13.8-21.2)
25 - 34	5.2	(3.4-7.0)	11.1	(8.7-13.5)
35 - 44	8.8	(6.8-10.8)	11.3	(9.1-13.5)
45 - 54	12.5	(10.3-14.7)	12.1	(9.9-14.3)
55 - 64	13.5	(11.5-15.5)	10.5	(8.7-12.3)
65 - 74	12.4	(10.5-14.2)	6.1	(4.7-7.5)
75+	15.7	(12.9-18.4)	4.3	(2.9-5.7)
Education				
Less than H.S.	19.4	(14.9-23.9)	18.0	(13.3-22.7)
H.S. or G.E.D.	10.7	(9.3-12.1)	9.7	(8.3-11.1)
Some Post-H.S.	11.1	(9.5-12.7)	12.8	(11.2-14.4)
College Grad.	5.6	(4.6- 6.6)	6.8	(5.6-8.0)
Household Income				
Less than \$15,000	27.1	(22.2-32.0)	28.1	(23.0-33.2)
\$15,000 - 24,999	16.5	(13.4-19.6)	18.6	(15.5-21.7)
\$25,000 - 34,999	11.3	(8.6-14.0)	12.5	(9.6-15.4)
\$35,000 - 49,999	10.5	(8.3-12.7)	10.2	(7.8-12.6)
\$50,000 - 74,999	5.8	(4.2- 7.4)	6.6	(4.8- 8.4)
\$75,000+	5.1	(4.1- 6.1)	5.5	(4.3- 6.7)

References

- Centers for Disease Control and Prevention (2017). Health Related Quality of Life (HRQOL). Available at <http://www.cdc.gov/hrqol>.
- DeSalvo, K. B., Bloser, N, Reynolds, K., He J., and Muntner, P. (2006). Mortality prediction with a single general self-rated health question: A meta-analysis. *Journal of General Internal Medicine*, 21(3). doi: 10.1111/j.1525-1497.2005.00291.x

Insurance Coverage and Access to Health Care

Background

Access to comprehensive, quality health care services is important for promoting and maintaining health, preventing and managing disease, reducing unnecessary disability and premature death and achieving health equity for all people (Office of Disease Prevention and Health Promotion, 2020). Access to health services means the timely use of personal health services to achieve the best health outcomes. Access to health care usually requires distinct steps:

- Entry into the health care system usually through insurance coverage
- Identifying a primary health care provider whom the patient trusts and can communicate with effectively on an ongoing basis
- The ability to access health care services as soon as they are needed in a viable geographic location

Access to health care impacts one's overall physical, social and mental health status as well as quality of life. Americans experience variable access to care based on race, ethnicity, socioeconomic status, age, sex, disability status, sexual orientation, gender identity and residential location. Barriers to health services such as the cost, lack of available services or culturally knowledgeable care or inadequate/no insurance coverage can lead to unmet health needs, financial burdens, the inability to receive preventative care and delays in receiving the appropriate kind of care (Office of Disease Prevention and Health Promotion, 2020).

Insurance Coverage and Access to Health Care Results

The percentage of people without health insurance coverage plummeted after the Affordable Care Act took effect in 2010. For adult lowans aged 18 to 99, in 2016, this downward trend shifted: there was an increasing number of people who indicated that they were not covered by any type of health insurance. This trend continued for 2017 when 7.2% of all adult lowans (aged 18 to 99) reported they did not have health insurance.

For adult lowans aged 18 to 64 years old, the percentage of uninsured individuals has decreased since 2012 and remained stable for the past two years at 7.8%, but started to climb in 2017 (see Figure 5.1). In 2017, 8.6% of lowans between age 18 and 64 years of age indicated that they were not covered by any type of health insurance, which is

the highest percentage since 2014. All remaining findings for coverage are for this age group, since almost everyone 65 years and older is covered by Medicare.

**Figure 5.1: No Health Insurance Trend 2012 – 2017
Iowans Age 18-64**

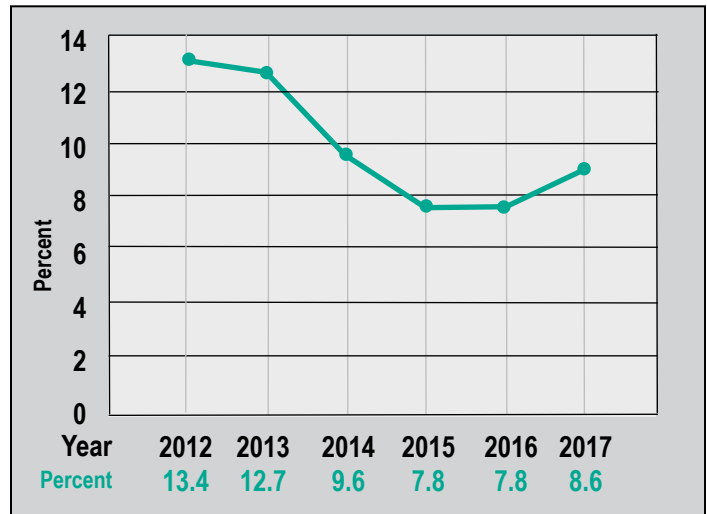


Table 5.1 shows that for people between ages 18 and 64 years old, those without health care coverage tended to be male, young, less educated and have a lower household income. Additionally, Hispanic lowans lacked health care coverage at the highest rate (27.5%) compared to those who were White/Non-Hispanic, Black/Non-Hispanic and Other/Non-Hispanic. People with less than a high school education and those who were Hispanic had the highest percentages of individuals without health care coverage (28.1% and 27.5% respectively). College graduates had fewer than 3.0% having no coverage, which was a lower rate than any other education level (see Table 5.1).



Insurance Coverage and Access to Health Care *continued*

Table 5.1: Percentage of uninsured lowans age 18-64, 2017

Demographic Groups	Prevalence Rate (%)	C.I. (95%)
Total	8.6	(7.6-9.5)
Sex		
Male	9.7	(8.3-11.1)
Female	7.4	(6.1-8.7)
Race/Ethnicity		
White/Non-Hispanic	7.0	(6.1-7.9)
Black/Non-Hispanic	12.8	(5.6-20.0)
Other/Non-Hispanic	7.7	(3.2-12.2)
Hispanic	27.5	(21.2-33.7)
Age Group		
18-24	9.7	(6.7-12.7)
25-34	10.8	(8.5-13.1)
35-44	10.0	(7.8-12.1)
45-54	7.7	(5.9-9.5)
55-64	5.1	(3.8-6.4)
Education		
Less Than H.S.	28.1	(21.5-34.7)
H.S. or G.E.D.	10.0	(8.2-11.7)
Some Post-H.S.	7.2	(5.8-8.6)
College Graduate	2.5	(1.7-3.3)
Household Income		
Less than \$15,000	12.9	(8-17.7.0)
\$15,000- 24,999	19.4	(15.5-23.2)
\$25,000- 34,999	13.7	(9.8-17.6)
\$35,000- 49,999	9.0	(6.1-11.9)
\$50,000- 74,999	6.4	(4.4-8.4)
\$75,000+	3.2	(2.1-4.3)

Two other demographic variables that had an impact on health care coverage for those under the age of 65 were employment status and marital status. In 2017, 14.4% of unemployed lowans reported not being covered by health insurance, while 7.4% of employed or self-employed individuals reported not being covered. Unemployed excludes people who are retired or unable to work. People who were married tended to be covered by health care insurance at higher rates compared to those who were not. For example, 11.6% of unmarried respondents were uninsured, while 5.8% of married respondents lacked coverage.

When asked if there was a time in the past 12 months when they needed to see a doctor but could not because of the cost, 7.9% of all adult lowans said that there was (see Table 5.2). The percentage was higher for younger people, people with less education, people with lower incomes and racial and ethnic minorities. The lowest percentages were reported by people with annual household incomes of \$75,000 or more, lowans aged 65 years or older and college graduates. These groups had between 2.7% and 4.4% not covered. The highest percentages were found among Black/Non-Hispanic and Hispanic adult lowans at 17.7% and 18.9%, respectively, not seeking care due to the cost. From 2016 to 2017, the percentage of Hispanic lowans who needed to see a doctor but could not because of cost remained stable (19.0% in 2016 vs. 18.9% in 2017), which indicates no significant improvement among this population. More Black/Non-Hispanic lowans were unable to afford to seek medical care due to the cost in 2017 than in 2016 (17.7% and 12.4% respectively). In 2017, a lower percentage of adult lowans of Other/Non-Hispanic race and ethnicity reported not being able to access care due to cost than in 2016 (12.4% in 2017 vs. 20.8% in 2016), indicating an improvement among this population of lowans.



FACT

The percentage of uninsured lowans age 18 to 64 has continued to increase since 2015.

Insurance Coverage and Access to Health Care *continued*

Table 5.2: Percentage of responses to health care access related questions in Iowa, 2017

Demographic Groups	Time Couldn't Afford Care		Have One Person as Health Provider		Had Checkup in Past Year	
	%	C.I. (95%)	%	C.I. (95%)	%	C.I. (95%)
Total	7.9	(7.1-8.7)	73.3	(72.0-74.5)	70.4	(69.1-71.6)
Sex						
Male	7.5	(6.5-8.5)	68.1	(66.3-69.9)	64.0	(62.1-65.8)
Female	8.2	(7.1-9.3)	78.3	(76.6-80.0)	76.5	(74.8-78.1)
Race/Ethnicity						
White/Non-Hispanic	6.6	(5.9-7.4)	74.8	(73.5-76.0)	70.3	(69.0-71.6)
Black/Non-Hispanic	17.7	(9.8-25.6)	70.3	(60.4-80.1)	84.3	(76.0-92.6)
Other/Non-Hispanic	12.4	(6.5-18.3)	61.7	(53.2-70.1)	67.0	(58.9-75.0)
Hispanic	18.9	(13.5-24.3)	58.7	(52.2-65.2)	63.9	(57.6-70.3)
Age Group						
18-24	9.9	(6.9-12.8)	61.3	(56.5-66.2)	59.7	(54.9-64.5)
25-34	10.8	(8.5-13.1)	59.4	(55.8-63.0)	56.3	(52.6-59.9)
35-44	8.7	(6.7-10.7)	71.3	(68.2-74.5)	61.7	(58.2-65.1)
45-54	10.5	(8.5-12.6)	78.9	(76.3-81.4)	70.8	(67.9-73.7)
55-64	6.7	(5.3-8.2)	79.3	(77.1-81.6)	78.0	(75.7-80.2)
65+	2.7	(2.0-3.4)	83.2	(81.6-84.9)	86.9	(85.5-88.4)
Education						
Less Than H.S.	13.3	(9.3-17.3)	61.9	(55.9-67.8)	72.7	(67.2-78.1)
H.S. or G.E.D.	7.8	(6.6-9.1)	72.2	(70.1-74.3)	70.7	(68.5-72.8)
Some Post-H.S.	9.2	(7.7-10.6)	74.3	(72.2-76.5)	69.4	(67.2-71.7)
College Graduate	4.4	(3.5-5.3)	77.2	(75.3-79.0)	70.3	(68.2-72.3)
Household Income						
Less than \$15,000	13.2	(9.3-17.2)	69.2	(63.9-74.4)	78.5	(73.8-83.1)
\$15,000- 24,999	15.0	(12.2-17.8)	67.4	(63.6-71.3)	72.7	(69.1-76.2)
\$25,000- 34,999	12.3	(9.3-15.4)	69.5	(65.3-73.8)	66.8	(62.4-71.1)
\$35,000- 49,999	8.8	(6.8-10.9)	71.9	(68.4-75.5)	69.5	(65.9-73.1)
\$50,000- 74,999	6.2	(4.5-7.9)	74.2	(71.2-77.2)	69.2	(66.1-72.4)
\$75,000+	3.5	(2.4-4.5)	77.2	(75.1-79.3)	67.5	(65.2-69.8)



FACT

Over 70% of adult Iowans had one regular health care provider in 2017.

Insurance Coverage and Access to Health Care *continued*

Since it is important that care be coordinated, respondents were asked if they had one person they thought of as their personal doctor or health care provider. A positive reply was given by 73.3% of adult Iowans, which was about a 4% decrease from 2016. Women, Non-Hispanic Whites, older people, people with more education and people with higher household incomes reported a higher prevalence of having one regular provider. Hispanic Iowans and those aged 25-34 years old had the lowest rates of having one regular provider (58.7% and 59.4% respectively), while those age 65 years old and older had the highest rate (83.2%).

When asked how long it had been since their last regular checkup, 70.4% said within the past year, which was a decrease from the 71.6% who indicated this in 2016. On the other end, 1.2% of adult Iowans indicated that they had never had a checkup, which was a slight increase from the percentage reported in 2016. More females than males reported having a checkup within the past year. Iowans aged 65 years or older reported the highest rates of having a recent checkup, while those aged 25-34 reported the lowest rate of having a recent checkup. Black/Non-Hispanic Iowans had significantly higher rates of a recent checkup in the past year compared to Non-Hispanic Whites, Hispanics, and those who were Non-Hispanic and reported a different race. From 2016 to 2017, Non-Hispanic Blacks as well as Iowans who indicated being Non-Hispanic and of another race indicated they had received a checkup within the past 12 months, though increases for both of these populations were not statistically different from each other, indicating similar trends over the two years. In 2016, fewer than three out of five Iowans of Other/Non-Hispanic race and ethnicity reported having a checkup within the last year, while in 2017, this increased to over three in five (67.0%). The percentage of Non-Hispanic Black Iowans reporting a recent checkup increased from 75.9% to 84.3%.

Comparison with Other States

In the 50 states and District of Columbia, the percentage of those under age 65 without health insurance ranged widely from 5.9% to 28.4%. Iowa had 8.6% of respondents under age 65 reporting not having any health insurance. Only five states had a lower percentage of individuals without health insurance than Iowa, including Hawaii and states in the northeastern region of the United States. The median for the 50 states and the District of Columbia was 12.7%, which was slightly higher than the median in 2016 (12.3%).

Health Objectives for Iowa and the Nation

The Healthy People 2020 and Healthy Iowans goals for health insurance coverage are to see increases in the proportion of people who are covered by health insurance so that all people will be covered by some form of health insurance. In Iowa, 91.4% of adults aged 18 to 64 reported coverage in 2017. For all adults (aged 18 to 99) the figure was 92.8%. Both percentages are lower than in 2016, indicating a trend in the opposite direction than the proposed goals and ultimately falling short.

There are separate Healthy People goals for people age 18 to 64 and people 65 and over in terms of having a specific source of ongoing care. The goal for 18 to 64 is 89.4%, while the goal for age 65 and over is 100%. The results for Iowans indicating they had one person as a health provider were 70.4% (18-64 year olds) and 83.2% (65 years and older). The Healthy Iowans goal for all adults was 82.0%. The obtained prevalence for all Iowans of 73.3% also falls short.

Healthy Iowans also has a goal of decreasing the percentage of adults who are not able to see a doctor because of the cost to 7%. With 7.9% of adult Iowans indicating they could not afford to see a doctor due to the cost, the state has not yet reached the goal. Healthy Iowans also has a goal of increasing the percentage of adults who have had a routine check-up in the past year to 76%. Again, Iowa has fallen short of the goal with only 70.4% of adults having one in the past year.

References

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FACT

Iowa is the 6th leading state for the percentage of insured adults but is moving in the opposite direction of state and national goals.

Hypertension Awareness

Background

Blood pressure is the force of blood against the walls of arteries. If this pressure rises and stays high over time, it can damage the body in many ways. High blood pressure (HBP), also known as hypertension, is a serious condition that can lead to coronary heart disease, heart failure, stroke, kidney failure and other health problems if not controlled or lowered (Centers for Disease Control and Prevention, 2020; National Heart, Lung, and Blood Institute, 2020).

Blood pressure is typically recorded as two numbers – the systolic pressure (as the heart beats) over the diastolic pressure (as the heart relaxes between beats). High blood pressure is defined as a consistent reading of systolic blood pressure at or above 130 millimeters of mercury (mm Hg) or diastolic blood pressure at or above 80 mm Hg. Those with systolic blood pressure of 120-129 mm Hg or diastolic blood pressure of less than 80 mm Hg are now classified as pre-hypertensive, requiring health-promoting lifestyle modifications to prevent cardiovascular disease (Centers for Disease Control and Prevention, 2020).

High blood pressure, which often has no symptoms, is a major risk factor for heart disease and stroke. Almost 500,000 deaths in the United States are linked to HBP as either a primary or a contributing cause (Centers for Disease Control and Prevention, 2020). Epidemiological data suggest that if we could lower the average systolic blood pressure among Americans by 5 mm Hg, we'd see a 14.0% decrease in deaths from stroke, a 9.0% drop in heart disease deaths, and a 7.0% drop in overall mortality. A reduction as small as 2 mm Hg in the average American's systolic blood pressure could save more than 70,000 lives per year (Havas, Roccella, & Lenfant, 2004).

People who have high blood pressure can take steps to control it and reduce their risks for related health problems. The population-based lifestyle intervention recommendations are weight loss, dietary sodium restrictions, increased physical activity, smoking cessation, moderation of alcohol consumption, adequate good quality sleep, stress management, and a heart-healthy diet rich in fiber, with increased potassium from fruit and vegetables and low in saturated and total fat (National Heart, Lung, and Blood Institute, 2020). Other key steps include taking medication and following the treatment plan that your doctor may prescribe.

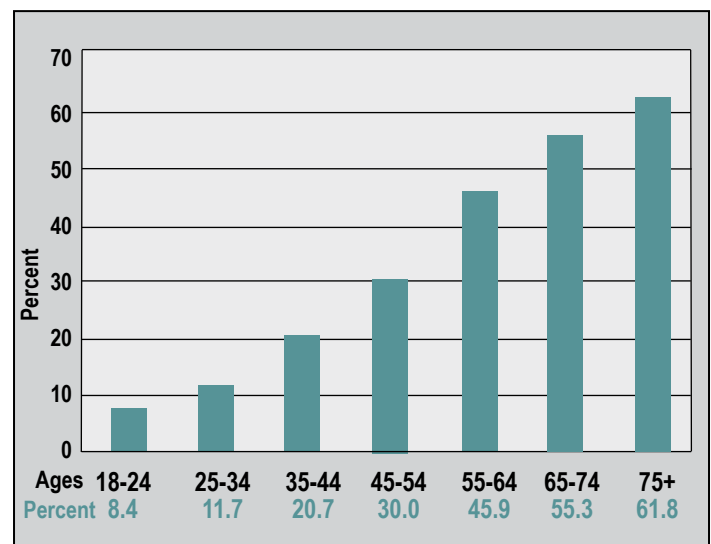
Hypertension Awareness Results

In 2017, 31.5%, or approximately 762,404, of adult lowans reported ever being told they had high blood pressure. An additional 0.9% (21,753 adult lowans) reported being told they had borderline or pre-hypertension.

The prevalence of reporting a high blood pressure diagnosis was higher among adult lowans with lower levels of education and with lower levels of household income. Non-Hispanic Whites reported higher rates of high blood pressure than adult lowans of Other/Non-Hispanic or Hispanic race and ethnicity (see Table 6.1). Rates among Non-Hispanic Whites (and Non-Hispanic Blacks) were above 30%, while rates for lowans of Other/Non-Hispanic or Hispanic race and ethnicity were well under 30% (22.1% and 21.4% respectively).

Age had the greatest impact on the percentage of respondents reporting high blood pressure. The highest percentage of high blood pressure was reported among respondents age 75 years and older (60.5%; three out of five lowans). The lowest percentage was reported among those age 18 to 24 (8.4%; see Figure 6.1). Though, the trend for high blood pressure among 18 to 24 year olds has increased, as 4.2% in this age group had ever been told they had high blood pressure in 2015.

Figure 6.1: lowans Ever Told Blood Pressure is High by Age, 2017



Hypertension Awareness *continued*

Of those reporting high blood pressure, 77.5% reported taking medication for their condition. Like high blood pressure, this percentage increases steadily with age reaching a high of 94.4% among those 75 years old and older. More females with high blood pressure took blood pressure medicine than males (81.8% versus 73.5%). Education and income showed no systematic relation to use of blood pressure medication.

Comparison with Other States

Among all 50 states and the District of Columbia, prevalence of reported hypertension ranged from 27.9% to 39.7%. The prevalence among Iowans (31.5%) was better than the national median of 33.0%.

Health Objectives for Iowa and the Nation

According to Healthy People 2020, the objective for high blood pressure is that only 26.9% of the adult population should report having high blood pressure. Iowa fails to meet this goal, as of 2017, with a rate of 31.5%. Another Healthy People 2020 goal is for 77.4% of people with high blood pressure to be taking medication to lower it. The Healthy Iowans goal for this is a rate of 75%. Iowa's figure was 77.5%. Iowa meets the Healthy People 2020 and Healthy Iowans goals for taking blood pressure medication to manage high blood pressure.

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Table 6.1: Percentage of Iowans Told Blood Pressure Is High, 2017

Demographic Groups	Prevalence Rate (%)	C.I. (95%)
Total	31.5	(30.3-32.6)
Sex		
Male	32.7	(31.0-34.4)
Female	30.3	(28.7-31.9)
Race/Ethnicity		
White/Non-Hispanic	32.4	(31.2-33.7)
Black/Non-Hispanic	30.2	(21.3-39.0)
Other/Non-Hispanic	22.1	(15.9-28.2)
Hispanic	21.4	(16.0-26.8)
Age Group		
18-24	5.8	(3.6-8.0)
25-34	11.9	(9.5-14.3)
35-44	19.0	(16.2-21.7)
45-54	31.5	(28.5-34.4)
55-64	45.7	(43.0-48.5)
65-74	58.0	(55.2-60.7)
75+	60.5	(57.0-64.0)
Education		
Less than H.S.	37.6	(32.0-43.3)
H.S. or G.E.D.	35.8	(33.7-37.9)
Some Post-H.S.	30.5	(28.4-32.5)
College Graduate	25.3	(23.6-27.1)
Household Income		
Less than \$15,000	40.0	(34.7-45.3)
\$15,000- 24,999	37.3	(33.7-40.9)
\$25,000- 34,999	32.7	(28.7-36.6)
\$35,000- 49,999	35.2	(31.8-38.6)
\$50,000- 74,999	30.6	(27.7-33.4)
\$75,000	25.0	(23.1-27.0)



Cholesterol Awareness

Background

High blood cholesterol is one of the major risk factors for heart disease. The higher your blood cholesterol level, the greater your risk is for developing heart disease or having a heart attack.

Cholesterol is a waxy, fat-like substance that is found in all cells of the body. Cholesterol travels through your blood within small packages called lipoproteins. When there is too much cholesterol, it builds up in the walls of your arteries. Over time, this buildup causes “hardening of the arteries” so that arteries become narrowed and blood flow to the heart is slowed down or blocked. The blood carries oxygen to the heart, and if enough blood and oxygen cannot reach your heart, you may suffer chest pain. If the blood supply to a portion of the heart is completely cut off by a blockage, the result is a heart attack (National Heart, Lung, and Blood Institute, 2021).

High blood cholesterol itself does not cause symptoms; so many people are unaware that their cholesterol level is too high. It is important to find out what your cholesterol numbers are because lowering cholesterol levels that are too high lessens the risk for developing heart disease and reduces the chance of a heart attack or dying of heart disease, even if you already have it.

Lowering cholesterol is important for everyone: younger, middle-aged, and older adults; women and men; and people with or without heart disease. Everyone aged 20 and older should have their cholesterol measured at least once every 5 years.

High cholesterol means a total cholesterol level greater than or equal to 200 milligrams per deciliter (mg/dl). Not all cholesterol increases the risk of heart disease. The cholesterol carried by low-density lipoproteins (LDL), “bad cholesterol”, increases the risk; levels of LDL should be less than 100 mg/dl. The cholesterol carried by high-density lipoproteins (HDL), “good cholesterol”, lowers the risk and is beneficial; levels of HDL are recommended to be greater than or equal to 60 mg/dl. Cholesterol standards are more stringent for those people at high risk of heart attack due to other factors such as diabetes or coronary heart disease (Centers for Disease Control and Prevention, 2020).

The main goal of cholesterol-lowering prevention and treatment is to lower your LDL (bad) cholesterol level enough to reduce your risk of developing heart disease or having a heart attack. Methods include:

- DASH Eating Plan: a flexible and balanced eating plan that creates a heart-healthy eating style for life that recommends eating vegetables, fruits, and whole grains, including fat-free or low-fat dairy products, fish, poultry, nuts, beans, and vegetable oils, limiting food foods that are high in saturated fats and limiting sugar-sweetened beverages and sweets (National Heart, Lung, and Blood Institute, 2021).
- Maintaining a healthy weight
- Getting regular physical activity
- Smoking cessation
- Limiting the consumption of alcohol
- Checking your cholesterol regularly
- Medication: if cholesterol-lowering medicines are needed, they should be used as directed along with healthy lifestyle changes (Centers for Disease Control and Prevention, 2017)

Cholesterol Awareness Results

In 2017, when asked whether they had their blood cholesterol checked during the past five years, 84.4% of respondents reported having done so. Women, respondents in older age groups, people with more education and higher household income had higher prevalence rates of having a blood cholesterol test within the last five years. Hispanic lowans had lower rates of having their blood cholesterol checked in the past five years than White Non-Hispanic lowans (see Table 7.1).

Of the respondents who had their cholesterol tested in the past five years, 34.1% reported that they had ever been told by a doctor or other health professional that their blood cholesterol was high. Non-Hispanic Whites had a higher rate (35.0%) compared to Hispanic lowans. Adult lowans who were college graduates reported high cholesterol at a lower rate than those with a high school diploma/G.E.D. or some post high school education. A similar trend was seen within household income, with those earning a higher income reporting high cholesterol at lower rates. For example, 38.1% of adult lowans earning less than \$15,000 per year reported high cholesterol, while 28.5% of adult lowans

Cholesterol Awareness *continued*

Table 7.1: Blood Cholesterol in Iowans, 2017

Demographic Groups	Had Blood Cholesterol Checked in Past Five Years		Ever Been Told Blood Cholesterol High	
	%	C.I. (95%)	%	C.I. (95%)
Total	84.4	(83.3-85.5)	34.1	(32.8-35.4)
Sex				
Male	81.4	(79.8-83.0)	34.2	(32.3-36.0)
Female	87.3	(85.7-88.8)	34.0	(32.2-35.8)
Race/Ethnicity				
White/Non-Hisp.	85.3	(84.2-86.4)	35.0	(33.6-36.3)
Black/Non-Hisp.	83.6	(75.5-91.7)	29.1	(18.7-39.5)
Other/Non-Hisp.	77.4	(70.0-84.8)	29.3	(21.2-37.5)
Hispanic	77.7	(71.9-83.5)	22.1	(15.9-28.4)
Age Group				
18-24	59.9	(54.2-65.6)	6.7	(2.6-10.9)
25-34	71.8	(68.3-75.2)	11.6	(8.9-14.4)
35-44	80.5	(77.7-83.4)	17.2	(14.2-20.2)
45-54	87.8	(85.7-89.9)	34.1	(30.9-37.3)
55-64	94.4	(93.2-95.7)	46.3	(43.5-49.1)
65-74	96.5	(95.4-97.6)	56.3	(53.5-59.1)
75+	96.2	(94.7-97.8)	51.6	(47.9-55.3)
Education				
Less than H.S.	77.4	(71.7-83.1)	39.4	(33.0-45.9)
H.S. or G.E.D.	84.0	(82.0-85.9)	37.6	(35.3-39.9)
Some Post-H.S.	83.0	(81.1-85.0)	32.3	(30.0-34.5)
College Graduate	89.3	(87.8-90.8)	30.7	(28.7-32.7)
Household Income				
Less than \$15,000	78.8	(73.8-83.8)	38.1	(31.9-44.3)
\$15,000- 24,999	82.7	(79.5-85.9)	34.8	(31.0-38.6)
\$25,000- 34,999	80.1	(76.1-84.0)	36.7	(32.2-41.2)
\$35,000- 49,999	84.4	(81.1-87.6)	39.3	(35.6-42.9)
\$50,000- 74,999	84.0	(81.3-86.7)	33.1	(29.9-36.2)
\$75,000+	87.8	(86.0-89.6)	28.5	(26.4-30.7)



earning \$75,000 or more reported high cholesterol. Age made a considerable difference in reported high cholesterol. Among 18 to 24 year olds, 6.7% reported high cholesterol, while 56.3% of those age 65 to 74 reported high cholesterol (see Table 7.1).

Comparison with Other States

The percentage of people having their cholesterol checked within the past five years among all 50 states and the District of Columbia ranged from 75.1% to 91.4%. Iowa's rate of 84.4% was below the national median of 85.9%.

Of those tested, the range being told their cholesterol was high was from 27.9% to 39.7%. Iowa's rate of 34.1% was higher than the national median of 33.0%.

Health Objectives for the Nation

Based on the national health objectives, by the year 2020, 82.1% of adults should have their blood cholesterol checked within the past five years. In 2017, 84.4% of Iowans age 18 and older had their blood cholesterol checked within the past five years, which meets and exceeds this goal. High cholesterol should be experienced by only 13.5% of all people over age 20 according to the Healthy People 2020 goal. Iowa is nowhere near meeting this goal, with the rate more than doubling that amount at 34.7% of Iowans aged 20 years and older reporting high cholesterol.

References

1. National Heart, Lung, and Blood Institute. (2021). Blood Cholesterol. Available at <https://www.nhlbi.nih.gov/health-topics/blood-cholesterol>.
2. Centers for Disease Control and Prevention. (2020). Getting Your Cholesterol Checked. Available at https://www.cdc.gov/cholesterol/cholesterol_screening.htm.
3. National Heart, Lung, and Blood Institute. (2021). DASH Eating Plan. Available at <https://www.nhlbi.nih.gov/health-topics/dash-eating-plan>.
4. Centers for Disease Control and Prevention. (2017). Managing High Cholesterol. Available at <https://www.cdc.gov/cholesterol/managing-cholesterol.htm>.

Overweight and Obesity

Background

Overweight and obesity status reflect both individual and society-level aspects that consist of inherited, environmental, cultural and socioeconomic factors. Contributing individual factors include behavior and genetics, as well as dietary patterns, physical activity and inactivity, medication use and other exposures. Community level factors such as food and physical activity environment; education and skills; and food marketing and promotion play an important role in overweight and obesity prevalence rates (Centers for Disease Control and Prevention, 2021).

Obesity is a serious public health concern as it is linked to an increase in risk factors for heart disease, cancer and stroke, which are all leading causes of death. It is also associated with Type II diabetes, atherosclerosis (hardening of the arteries), gout, asthma, hypertension, sleep apnea and osteoarthritis (Centers for Disease Control and Prevention, 2021) as well as poorer mental health outcomes and reduced quality of life (Centers for Disease Control and Prevention, 2021).

Strategies to combat obesity would seek to advance policies that:

- Increase the availability of affordable healthy foods in all communities;
- Improve access to safe and healthy places to live, work, learn and play;
- Increase the frequency, intensity and duration of physical activity;
- Limit screen time; and
- Encourage employers to provide workplace wellness programs.

Overweight and obesity status are often estimated from weight standards that are adjusted for body frame. Carefully measured weight and height remain the most easily performed and useful means to determine nutritional status and to predict mortality for the general population (Centers for Disease Control and Prevention, 2021).

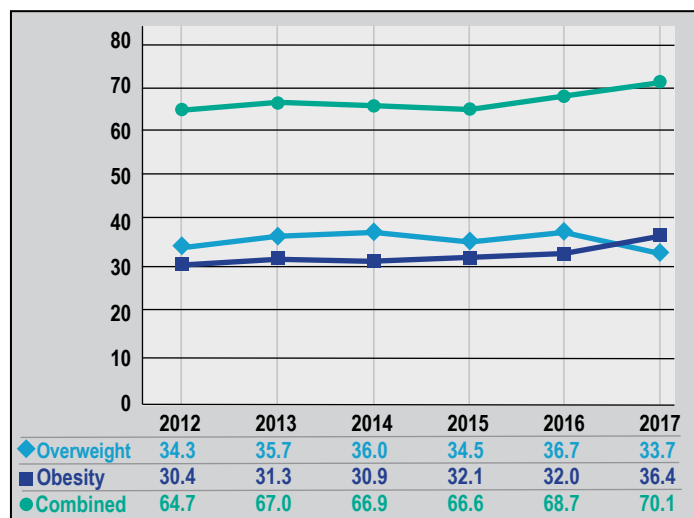
Body mass index (BMI) is the most frequently used measure to determine the appropriateness of weight for a person's height. BMI is defined as a person's body weight in kilograms divided by their height in meters squared [weight (kg)/height (m²)]. Estimations of the prevalence of overweight and obesity in this report are based on BMI determined from self-reported weight and height. In adults,

overweight is considered to be a BMI value greater than or equal to 25 and less than 30, while obesity is considered to be a BMI greater than or equal to 30. This self-report method is likely to result in an underestimation of the actual extent of obesity. However, comparisons among demographic groups, states and years are likely to be valid. Furthermore, this is the only measure of overweight and obesity available on the state level.

Overweight and Obesity Results

In 2017, 33.7% of non-pregnant adult lowans were overweight and 36.4% were obese, based on BMI. The combined percentage of individuals who were overweight or obese was 70.1%, which was higher than the combined prevalence in 2016 of 68.7%. Likewise, the rate of obesity in the state of Iowa significantly increased over the 2016 rate of 32%, and was the highest reported rate in the last six years (see Figure 8.1).

Figure 8.1: Overweight and Obesity by Year, 2012-2017



An analysis by demographic factors shows an increase in obesity rates in females over males based on self-reported weights from 2016 to 2017. Prevalence of overweight increases steadily with age, while a decline is seen in obesity rates after age 65. In 2017, rates of obesity for females surpassed those of males between the ages of 18 and 34. From the age of 35, males had higher rates of obesity than females, especially from ages 75 and older (see Figure 8.2).

The effects of education and income are different for overweight and obesity as well. Obesity prevalence was lowest among college graduates. Adults without a high school diploma and those with a high school diploma or equivalent

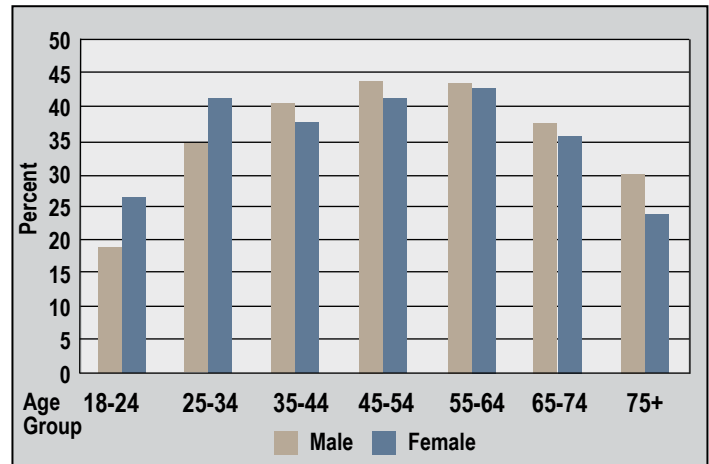
Overweight and Obesity *continued*

had the highest self-reported obesity rates at 39.5% and 39.9% respectively. Adults with some college (38.0%) and college graduates (28.9%) reported slightly lower rates. For overweight, education seemed to have little systematic effect on overweight rates. If anything, a higher percentage of college graduates tended to report being overweight. Likewise, the percentage of overweight tended to be lower among those who reported lower incomes while the opposite was true for obesity. Iowans who had an annual household income of \$25,000 or less had a higher prevalence of obesity (see Table 8.1).

Table 8.1: Overweight and Obesity Based on BMI, 2017

Demographic Groups	Overweight		Obese	
	Prevalence Rate (%)	C.I. (95%)	Prevalence Rate (%)	C.I. (95%)
Total	33.7	(32.3-35.1)	36.4	(35.0-37.8)
Sex				
Male	38.2	(36.4-40.0)	36.4	(34.6-38.2)
Female	29.0	(27.2-30.8)	36.4	(34.4-38.4)
Race/Ethnicity				
White/Non-Hisp.	34.2	(32.8-35.6)	36.6	(35.2-38.0)
Black/Non-Hisp.	27.8	(18.6-37.0)	43.7	(32.9-54.5)
Other/Non-Hisp.	28.5	(21.3-35.7)	27.0	(19.2-34.8)
Hispanic	30.8	(24.1-37.5)	38.1	(31.0-45.2)
Age Group				
18 - 24	25.7	(21.4-30.0)	22.6	(18.3-26.9)
25 - 34	32.3	(28.8-35.8)	37.8	(34.1-41.5)
35 - 44	33.2	(29.9-36.5)	39.1	(35.6-42.6)
45 - 54	34.5	(31.6-37.4)	42.4	(39.3-45.5)
55 - 64	34.4	(31.7-37.1)	43.2	(40.5-45.9)
65 - 74	37.5	(34. -40.3)	37.4	(34.6-40.2)
75+	40.9	(37.3-44.5)	26.5	(23.3-29.8)
Education				
Less than H.S.	26.9	(21.2-32.6)	39.5	(33.4-45.6)
H.S. or G.E.D.	32.7	(30.5-34.9)	39.9	(37.5-42.3)
Some Post-H.S.	33.5	(31.1-35.9)	38.0	(35.6-40.4)
College Grad.	37.7	(35.5-39.9)	28.9	(26.9-30.9)
Household Income				
Less than \$15,000	22.6	(18.1-27.1)	50.3	(44.6-56.0)
\$15,000 - 24,999	28.4	(24.9-31.9)	39.8	(35.9-43.7)
\$25,000 - 34,999	30.7	(26.6-34.8)	36.3	(32.0-40.6)
\$35,000 - 49,999	32.3	(28.8-35.8)	40.0	(36.3-43.7)
\$50,000 - 74,999	34.1	(31.0-37.2)	39.8	(36.5-43.1)
\$75,000+	39.9	(37.5-42.3)	30.7	(28.5-32.9)

Figure 8.2: Obesity by Age and Sex, 2017



Comparison to other states

Iowa's obesity prevalence rate of 36.4% was well above the 2017 U.S. median rate of 31.3%, with a range from 22.6% to 38.1%. Iowa was one of seven states reporting obesity rates at or above 35% in 2017. For obesity and overweight combined, the Iowa rate of 70.1% was also higher than the U.S. median of 66.6% in 2017.

Health Objectives for Iowa and the nation

The Healthy People 2020 objectives for the nation to be achieved on weight call for increasing the prevalence of those with a healthy weight (neither overweight nor obese) to 33.9% among adults age 20 years and older. Iowa is slightly below this target, having 33.4% of its adult population at healthy weight.

The Healthy People 2020 goal for obesity is 30.6%. With an adult obesity prevalence of those with a 36.4%, Iowa fails to achieve that goal.

In 2012, all states had obesity prevalence rates lower than 35%. In 2017, Iowa was 1 of 7 states across the country that reported obesity rates at or above 35%.

References

- Centers for Disease Control and Prevention. (2021). Adult Overweight and Obesity: Adult Obesity Causes and Consequences. Available at <https://www.cdc.gov/obesity/adult/causes.html>.
- Centers for Disease Control and Prevention. (2021). Adult Overweight and Obesity: Defining Adult Obesity. Available at <https://www.cdc.gov/obesity/adult/defining.html>.

Diabetes

Background

Diabetes mellitus is a long-lasting health condition that essentially affects how the body turns food into energy (Centers for Disease Control and Prevention, 2020). People who have type 1 diabetes are not able to produce insulin. Type 2 diabetes is most common (90% - 95% of all diagnosed cases) and is a condition that occurs when your body does not use insulin properly resulting in insulin resistance (American Diabetes Association, 2021; Centers for Disease Control and Prevention, 2020).

Diabetes is the 7th leading cause of death in the United States. In the last 2 decades, as the population has aged and become more overweight or obese, the number of U.S. adults diagnosed with diabetes has more than doubled (Centers for Disease Control and Prevention, 2020). Currently, 34.2 million U.S. adults have diabetes and over 88 million have pre-diabetes. The majority of those who have prediabetes likely are unaware of their condition, and in many cases, pre-diabetes develops into full diabetes.

The good news is that research studies have found that positive lifestyle changes can prevent or delay the onset of Type 2 diabetes among high-risk adults. Lifestyle interventions including diet modification, weight loss and moderate-intensity physical activity, such as walking for 2 1/2 hours each week, are recommended to delay diabetes onset in high-risk populations.

The complications of diabetes are many and severe, and can include heart disease, stroke, high blood pressure, kidney disease, blindness, diseases of the nervous system, dental disease, complications during pregnancy, lower-limb amputations and lower resistance to other diseases. However, complications can be minimized when diabetes

is diagnosed early and patients are taught to self-manage their disease through blood glucose control, weight control, taking medications appropriately, decreasing unhealthy lifestyle habits such as smoking, and implementing healthy lifestyle interventions (Centers for Disease Control and Prevention, 2017).

The Diabetes Prevention and Control Program at the Iowa Department of Public Health provides a resource for health care professionals regarding the latest guidelines for diabetes care, coordinates a statewide diabetes network, and collaborates with local community projects to develop initiatives on public awareness, prevention and other areas of disease management. It also certifies programs for Medicaid reimbursement and assists certified programs in maintaining quality standards for outpatient education.

Diabetes Results

In 2017, 9.6% of lowans had ever been told by a physician that they have diabetes, excluding women told only during pregnancy. This is somewhat higher than the figure in 2016, when 9.3% of lowans had ever been told that they have diabetes (see Figure 9.1).

Diabetes may affect persons of all ages, although prevalence increases with age. Table 9.1 below shows that the rate of diabetes is much higher for lowans who are older, lower in education and have a lower household income. In 2017, the demographic group with the highest percentage of diagnosed diabetics was those 75 years of age or older, at 22.6%. The demographic group with the lowest diabetes prevalence rate were lowans between 18 and 24 years old (1.6%).



FACT

In 2017, approximately
231,984 adult lowans
had diabetes.

Diabetes *continued*

Table 9.1: Iowans Ever Told They Had Diabetes, 2017

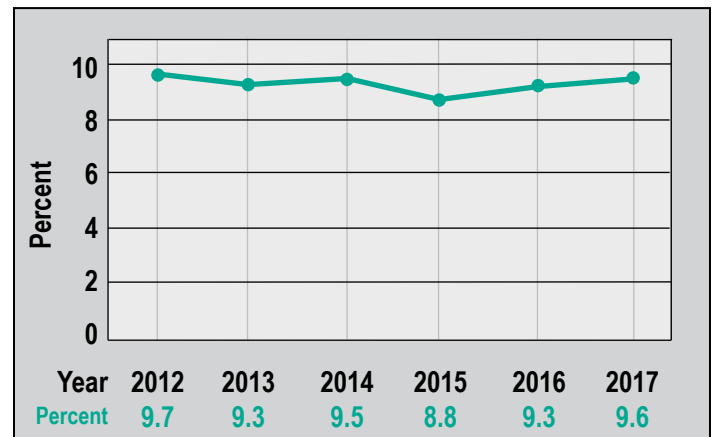
Demographic Groups	Prevalence Rate (%)	C.I. (95%)
Total	9.6	(8.8-10.4)
Sex		
Male	9.4	(8.4-10.4)
Female	9.7	(8.7-10.7)
Race/Ethnicity		
White/Non-Hispanic	9.9	(9.1-10.7)
Black/Non-Hispanic	11.8	(6.1-17.5)
Other/Non-Hispanic	3.7	(0.8-6.6)
Hispanic	6.8	(3.9-9.7)
Age Group		
18 - 24	1.6	(0.4-2.8)
25 - 34	1.4	(0.4-2.4)
35 - 44	3.5	(2.3-4.7)
45 - 54	8.3	(6.5-10.1)
55 - 64	15.4	(13.4-17.4)
65 - 74	19.8	(17.6-22.1)
75+	22.6	(19.5-25.7)
Education		
Less than H.S.	13.7	(10.0-17.4)
H.S. or G.E.D.	10.9	(9.7-12.1)
Some Post-H.S.	9.5	(8.3-10.7)
College Graduate	6.4	(5.4-7.4)
Household Income		
Less than \$15,000	16.1	(12.4-19.8)
\$15,000 - 24,999	14.5	(12.0-17.0)
\$25,000 - 34,999	9.6	(7.4-11.8)
\$35,000 - 49,999	9.9	(7.9-11.9)
\$50,000 - 74,999	8.3	(6.7-9.9)
\$75,000+	5.1	(0.3-1.1)
Age diabetes diagnosed		
1 - 15 years old	4.2	(2.0-6.4)
16 - 30 years old	6.0	(3.8-8.2)
31 - 45 years old	22.4	(18.8-19.1)
46 - 60 years old	44.2	(40.3-48.1)
61+ years old	23.1	(20.0-26.2)

Among individuals who had been told they had diabetes, 44.2% reported being first diagnosed between age 46 and 60. Just over 4% of those ever diagnosed with diabetes reported their age of first diagnosis at under 16 years of age.

When asked if they had a test for diabetes in the past three years, over half (53.4%) of Iowans affirmed that they had, with the highest response being among Iowans between 65 to 74 years of age (75.5%).

More attention is being given to pre or borderline diabetes. If left untreated, 15-30% of those with prediabetes will develop Type 2 diabetes. In 2017, 7.2%, or an estimated 74,621 Iowa adults, were told by their doctor that they have prediabetes. The highest percentage of these were among Black/Non-Hispanic and Other/Non-Hispanic populations, at 9.3% and 9.1% respectively. When analyzed by age group, Iowans between 65 and 74 years old reported the highest prediabetes rates (14.4%).

Figure 9.1: Percent of Iowans diagnosed with Diabetes per Year, 2012-2017



Diabetes *continued*

Comparison to other states

The median prevalence of diagnosed diabetes for the 50 states and District of Columbia was 10.5% in 2017, with Iowa's prevalence of 9.6% being slightly better than the median. The prevalence of diagnosed diabetes across the U.S. ranged from 7.1% to 17.2%.

FACT

You may be able to prevent or delay diabetes by losing **5% to 7%** of your starting weight, getting at least **30** minutes of physical activity **5** times a week and eating smaller portions to reduce the amount of calories consumed.



References

1. American Diabetes Association (2021). Overview. Available at <https://www.diabetes.org/diabetes>.
2. Centers for Disease Control and Prevention. (2020). What is Diabetes? Available at <https://www.cdc.gov/diabetes/basics/diabetes.html>.
3. Iowa Department of Public Health. (2021). Diabetes Prevention and Management. Available at <https://idph.iowa.gov/diabetes>.

Resources

- Iowa Department of Public Health - Diabetes Management: <http://www.idph.iowa.gov/Diabetes/Diabetes-Management>.
- Iowa Diabetes Statewide Strategy: http://www.idph.iowa.gov/Portals/1/userfiles/187/Diabetes%20Statewide%20Strategy%20Final_05_2017.pdf.
- American Association of Diabetes Educators: <https://www.diabeteseducator.org/>.
- American Diabetes Association: <http://www.diabetes.org/>.
- Centers for Diabetes Control and Prevention: <https://www.cdc.gov/diabetes/home/index.html>.
- JDRF (The former Juvenile Diabetes Research Foundation International): <https://www.jdrf.org/>.
- National Diabetes Education Program: <https://www.cdc.gov/diabetes/ndep/index.html>.

FACT

Race and ethnicity are a factor in developing diabetes. African Americans, Hispanic/Latino Americans, American Indians, Pacific Islanders and some Asian Americans are at higher risk of developing diabetes.

Cardiovascular Disease

Background

Cardiovascular disease (CVD) refers to any or all of the many disorders that can affect the circulatory system. CVD most often means heart disease, heart failure or stroke. Heart disease includes coronary heart disease (CHD) or heart attack, also known as myocardial infarction (MI). Stroke refers to a sudden impairment of brain function, sometimes termed “brain attack,” which results from interruption of circulation to one or another part of the brain. Heart disease and stroke are mainly consequences of clogged arteries (atherosclerosis) and high blood pressure (hypertension).

More than 80 million Americans currently live with a cardiovascular disease (Centers for Disease Control and Prevention, 2019). Coronary heart disease is a leading cause of premature, permanent disability in the U.S. Stroke alone accounts for disability in nearly 1 million Americans. Each year, 15 to 30% of stroke survivors are permanently disabled. Suffering a stroke may lead to paralysis, speech difficulties and emotional problems (Centers for Disease Control and Prevention, 2019). Following a heart attack, individuals frequently suffer fatigue and depression, and may find it more difficult to engage in physical activities.

The economic impact of cardiovascular disease on our nation’s health care system continues to grow as the population ages. About 1 in 6 health care dollars is devoted to cardiovascular disease. Heart disease and stroke cost the nation an estimated \$316.6 billion in health care costs and lost productivity in 2011—and these costs are rising (Centers for Disease Control and Prevention, 2019). On a personal level, families who experience heart disease or stroke not only have to deal with medical bills, but also lost wages and the real potential of a decreased standard of living.

FACT

Each year, 15-30% of stroke survivors are permanently disabled.

Reducing cardiovascular disease risk requires an integrated strategy that includes:

- Lifestyle behavior change - weight management; increased physical activity; no tobacco use; a low fat, low-cholesterol diet with moderate sodium, sugar and alcohol intake; and control of high blood cholesterol, elevated blood pressure and diabetes.
- Community environmental support such as population screening to identify individuals with high levels of blood cholesterol, blood pressure, blood glucose and other individuals at risk for heart disease. Community support also includes interventions that teach the skills necessary for behavior change that make living a healthier life easier. One popular example is the establishment and upkeep of bicycle trails for use by the public.
- Development of public policies that encourage healthy lifestyle behaviors. These may be implemented in the form of laws, regulations, standards or guidelines that contribute to setting these and other social and environmental conditions. For example, dietary patterns result from the influences of food production policies, marketing practices, product availability, cost, convenience, knowledge and choices that affect health, and preferences that are often based on early-life habits.



Cardiovascular Disease *continued*

Cardiovascular Disease Results

In 2017, 4.0% of adult lowans had been told by a doctor that they had a heart attack or myocardial infarction; 4.1% had been told they had coronary heart disease or angina, and 3.1% had been told they had a stroke (see Table 10.1). Prevalence of cardiovascular disease increased with age and was highest among lowans with annual household incomes of less than \$15,000.

Table 10.1: Prevalence of Heart Attack and Stroke in Iowa Adults, 2017

Demographic Groups	Ever told you had a heart attack, also called Myocardial Infarction (MI)?		Ever told you had a stroke?	
	Prevalence Rate (%)	C.I. (95%)	Prevalence Rate (%)	C.I. (95%)
Total	4.0	(3.6-4.4)	3.1	(2.7-3.5)
Sex				
Male	5.2	(4.4-6.0)	3.3	(2.7-3.9)
Female	2.9	(2.3-3.5)	2.8	(2.2-3.4)
Race/Ethnicity				
White/Non-Hispanic	4.3	(3.7-4.9)	3.0	(2.6-3.4)
Black/Non-Hispanic	1.2	(0-2.8.0)	2.1	(0-4.6)
Other/Non-Hispanic	2.2	(0.4-4.1)	4.9	(1.7-7.9)
Hispanic	2.6	(0-5.7)	1.9	(0.3-3.5)
Age Group				
18 - 24	0.9	(0-2.1)	-	-
25-34	0.8	(0.2-1.4)	0.9	(0.3-1.5)
35-44	0.9	(0.3-1.5)	1.3	(0.3-2.3)
45-54	3.0	(2.0-4.0)	2.6	(1.6-3.6)
55-64	5.3	(4.1-6.5)	4.4	(3.2-5.6)
65-74	8.9	(7.2-10.5)	5.9	(4.5-7.3)
75+	12.2	(9.9-14.6)	8.6	(6.4-10.7)
Education				
Less than H.S.	7.4	(4.5-10.3)	6.6	(4.1-9.1)
H.S. or G.E.D.	5.5	(4.5-6.5)	3.6	(2.8-4.4)
Some Post-H.S.	3.3	(2.7-3.9)	2.8	(2.2-3.4)
College Graduate	2.1	(1.5-2.7)	1.5	(1.1-1.9)
Household Income				
Less than \$15,000	10.1	(6.8-13.4)	8.7	(6.0-11.4)
\$15,000- 24,999	6.0	(4.4-7.6)	6.8	(4.8-8.8)
\$25,000- 34,999	4.4	(2.8-6.0)	2.9	(1.5-4.3)
\$35,000- 49,999	4.5	(3.1-5.9)	2.2	(1.2-3.2)
\$50,000- 74,999	3.1	(2.1-4.1)	1.7	(0.9-2.5)
\$75,000+	1.4	(1.0-1.8)	1.1	(0.7-1.5)

Table 10.2 shows the distribution of cardiovascular disease by demographic groups. 6.3% of lowans reported having ever being told by a doctor that they had either a heart attack/myocardial infarction or coronary heart disease/angina in 2017. Although these values may appear small, they represent around 150,000 lowans who have experienced a heart attack or coronary heart disease. About 8.2%, or over 198,590 lowans, reported being told they had any of the three conditions (heart attack, coronary heart disease or stroke).

Table 10.2: Combined Prevalence of Heart Attack and Coronary Heart Disease and Combined Prevalence of Heart Attack, Coronary Heart Disease and Stroke, 2017

Demographic Groups	Had any Heart Disease (MI or CHD)?		Had any Cardiovascular Disease?	
	Prevalence Rate (%)	C.I. (95%)	Prevalence Rate (%)	C.I. (95%)
Total	6.3	(5.7-6.9)	8.2	(7.5-8.8)
Sex				
Male	7.6	(6.8-8.4)	9.6	(8.6-10.6)
Female	5.0	(4.2-5.8)	6.8	(6.0-7.7)
Race/Ethnicity				
White/Non-Hispanic	6.6	(6.0-7.2)	8.5	(7.8-9.2)
Black/Non-Hispanic	3.3	(0.2-6.4)	4.9	(1.1-8.7)
Other/Non-Hispanic	3.1	(0.3-7.6)	6.7	(3.2-10.2)
Hispanic	4.0	(0.3-7.7)	5.9	(1.9-9.8)
Age Group				
18-24	1.1	(0-2.3)	1.1	(0-2.4)
25-34	1.3	(0.5-2.1)	1.8	(0.8-2.7)
35-44	1.7	(0.7-2.7)	2.9	(1.6-4.2)
45-54	3.9	(2.7-5.1)	5.2	(3.8-6.5)
55-64	8.9	(7.3-10.5)	11.2	(9.5-13.0)
65-74	13.2	(11.2-15.1)	17.5	(15.3-19.7)
75+	19.6	(16.7-22.5)	23.7	(20.6-26.8)
Education				
Less Than H.S.	11.7	(8.2-15.2)	14.9	(10.9-18.9)
H.S. or G.E.D.	8.1	(6.9-9.3)	10.4	(9.2-11.7)
Some Post-H.S.	5.4	(4.6-6.2)	7.2	(6.2-8.3)
College Graduate	3.4	(2.8-4.0)	4.4	(3.6-5.1)
Household Income				
Less than \$15,000	13.5	(9.8-17.2)	17.6	(13.5-21.7)
\$15,000- 24,999	9.2	(7.2-11.2)	13.5	(11.1-15.9)
\$25,000- 34,999	7.9	(5.9-9.9)	9.6	(7.4-11.8)
\$35,000- 49,999	7.2	(5.6-8.8)	8.3	(6.5-10.0)
\$50,000- 74,999	4.6	(3.4-5.8)	5.9	(4.6-7.4)
\$75,000+	3.0	(2.2-3.8)	9.1	(7.3-10.9)

Cardiovascular Disease *continued*

More men than women reported having experienced heart attacks or coronary heart disease in 2017, similar to the trend observed in 2016. Non-Hispanic White Iowans experienced cardiovascular disease at higher rates than other racial/ethnic groups. Age is the variable with the most impact on having had these conditions, with 19.6% and 23.7% of those 75 years and older reporting having had a heart condition or having experienced any of the three cardiovascular conditions respectively. There was no difference observed in stroke prevalence by sex.

These results represent those who have survived these cardiovascular events, and they may not match the actual prevalence of these conditions. Events ending in death on their first occurrence could not be considered here. Mortality data is required to complement the information from this survey.

References

1. Centers for Disease Control and Prevention. (2019). About Heart Disease & Stroke: Consequences & Costs. Million Hearts Initiative, 2020. Available at <https://millionhearts.hhs.gov/learn-prevent/cost-consequences.html>.



FACT

198, 590 Iowans have had at least one of the three forms of cardiovascular disease in their lifetime.



Exercise and Physical Activity

Background

A lifestyle that includes regular physical activity can reduce the risk of cardiovascular illness, certain cancers, osteoporosis, diabetes, falls and other debilitating conditions (Centers for Disease Control and Prevention, 2020). Additionally, regular physical activity can help to strengthen bones and muscles, improve mental health and quality of sleep as well as increase general quality of life. Despite the multitude of benefits, a large proportion of people in the United States remain inactive.

Any physical activity is better than none and the more the better. According to the *Physical Activity Guidelines for Americans, 2nd edition* (U.S. Department of Health and Human Services, 2018), adults should strive to engage in 150 minutes per week of moderate aerobic physical activity, 75 minutes per week of vigorous aerobic physical activity, or some combination. In addition, they should also engage in physical activity aimed at strengthening their muscles at a recommended level of at least two times per week.

Although the percentage of people who do not engage in regular physical activity remains high, there are efforts in motion to try to increase the physical activity level of people across the United States, and in Iowa specifically (Centers for Disease Control and Prevention, 2020; Iowa Department of Health, 2020). Interventions to increase physical activity include:

1. Designing communities where biking and walking is the easy choice.
2. Connecting activity-friendly routes with everyday destinations.
3. Increasing the number of complete streets in communities. A complete street is a street that has been designed with all users in mind: vehicles, cyclists and pedestrians.
4. Providing and increasing access to indoor and outdoor spaces for physical activity – away from busy streets, considering age and mobility of individuals. EX: parks and trails, fitness and recreational facilities, schools or universities, malls, senior centers and places of work.
5. Encouraging shared-use agreements to allow public access after hours in order to expand a property's usage.
6. Enhancing physical activity at places of work through support from management, access to facilities, policies and social support programs.

7. Continuous promotion of physical activity through motivation, signage and other resources.
8. Continuous promotion of physical activity and the built environment by the Iowa Department of Public Health and other organizations.

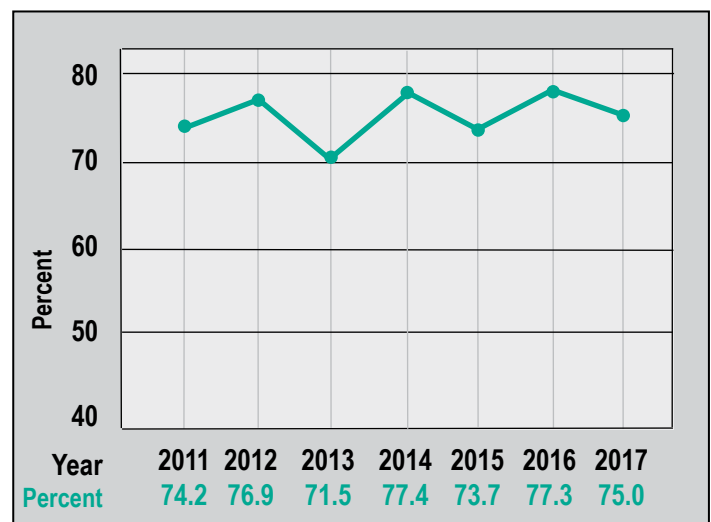
Encouraging people to have a less sedentary lifestyle by engaging in regular physical activity continues to be a significant step toward a healthier state and nation.

Exercise & Physical Activity Results

In 2017, 75.0% adult Iowans reported that they had engaged in some sort of physical activity for exercise during the past month other than their regular job (see Figure 11.1).

A larger proportion of younger respondents reported engaging in leisure physical activity than older respondents. The percentage of respondents who exercised also increased with education and household income. This percentage also trended higher for Non-Hispanic Whites than for other racial or ethnic groups, though the difference was not statistically significant. The lowest percentage of all examined demographic variables was among those having less than a high school education (63.5%), while the highest was among those with a college degree (85.2%; see Table 11.1).

Figure 11.1: Percentage of Iowans engaging in Leisure-Time Physical Activity in the Past 30 Days by Year, 2011 – 2017



Exercise and Physical Activity *continued*

The BRFSS determines the level of aerobic physical activity by asking about two activities the person engages in for the most amount of time. These activities are determined as moderate or vigorous based on a complex formula involving several factors including both characteristics of the activity and of the person considering expected maximum oxygen usage. For each activity the frequency of times engaged in for at least ten minutes per week and the total duration of these times is determined.

There is also a question asked about activities designed for strengthening the muscles. The recommendation is that people engage in muscle strengthening activity at least twice a week.

Just over half of BRFSS respondents met the recommended level of aerobic physical activity in 2017 (50.2%). The percentage of respondents who met the recommended level of strengthening activity was 28.9%. Despite these figures, only 19.2% met both of the recommended levels of aerobic and strengthening activity.

The relation of meeting the recommendations for aerobic and strengthening activity differed among the demographic groups. The percentage of respondents reporting they had engaged in the recommended amount of aerobic activity was higher for people with higher income and higher education. The group with the highest percentage meeting the aerobic recommendation were those earning a household income of \$75,000 or more (58.4%). The lowest percentage was reported among those who reported a household income of less than \$15,000 per year (41.0%).

The muscle-strengthening recommendation was met by a higher percentage of younger people, people with more education and those with the highest incomes. The highest percentage was found among those age 18 to 24 years (46.5%). The lowest percentage was found among lowans with less than a high school education (20.6%).

Table 11.1: Percentage Participating in Leisure Exercise in Past Month in Iowa, 2017

Demographic Groups	Any Leisure Physical Exercise in Last Month	
	%	C.I. (95%)
Total	75.0	(73.8-76.2)
Sex		
Male	74.6	(72.9-76.3)
Female	75.5	(73.8-77.1)
Race/Ethnicity		
White/Non-Hispanic	75.5	(74.2-76.7)
Non-White or Hispanic	72.6	(68.0-77.1)
Age Group		
18-24	85.5	(81.8-89.3)
25-34	79.9	(76.8-83.1)
35-44	78.2	(75.1-81.2)
45-54	72.2	(69.2-75.2)
55-64	69.1	(66.5-71.8)
65-74	71.6	(69.0-74.2)
75+	66.1	(62.5-69.7)
Education		
Less than H.S.	63.5	(57.5-69.4)
H.S. or G.E.D.	68.8	(66.7-71.0)
Some Post-H.S.	75.6	(73.5-77.7)
College Graduate	85.2	(83.6-86.7)
Household Income		
Less than \$15,000	67.0	(61.6-72.4)
\$15,000- 24,999	70.4	(66.8-74.1)
\$25,000- 34,999	69.4	(65.2-73.6)
\$35,000- 49,999	72.0	(68.7-75.3)
\$50,000- 74,999	75.0	(72.1-77.9)
\$75,000+	83.7	(81.9-85.4)

The percentage of people meeting both types of physical activity decreased with age. A larger percentage of those who had more education engaged in the recommended amounts of both types of physical activity. Only those in the highest household income level (\$75,000 or more) reported a higher percentage meeting the recommended physical activity levels for both aerobic and muscle-strengthening activity (see Table 11.2).

Exercise and Physical Activity *continued*

Table 11.2: Percent of Iowans Receiving Recommended Levels of Physical Activity, 2017

Demographic Groups	Recommended Level of Physical Activity					
	Aerobic		Strengthening		Both Aerobic & Strength	
	%	C.I. (95%)	%	C.I. (95%)	%	C.I. (95%)
Total	50.2	(48.8-51.6)	28.9	(27.6-30.2)	19.2	(18.1-20.4)
Sex						
Male	49.3	(47.3-51.3)	30.7	(28.8-32.5)	19.3	(17.7-20.9)
Female	51.1	(49.1-53.1)	27.4	(25.5-29.2)	19.2	(17.5-20.8)
Race/Ethnicity						
White/Non-Hispanic	50.7	(49.3-52.2)	28.4	(27.0-29.7)	19.0	(17.8-20.2)
Non-White or Hispanic	47.3	(42.2-52.5)	33.8	(29.1-38.6)	21.5	(17.3-25.7)
Age Group						
18-24	57.4	(52.4-62.5)	46.5	(41.3-51.6)	30.5	(25.6-35.3)
25-34	49.1	(45.3-53.0)	33.2	(29.6-36.8)	22.8	(19.6-26.0)
35-44	48.8	(45.2-52.5)	31.1	(27.8-34.5)	18.9	(16.1-21.7)
45-54	45.3	(42.0-48.6)	25.7	(22.8-28.5)	16.6	(14.2-19.0)
55-64	47.3	(44.5-50.2)	21.4	(19.1-23.7)	14.4	(12.4-16.4)
65-74	53.1	(50.2-56.1)	22.1	(19.7-24.5)	16.6	(14.4-18.7)
75+	54.0	(50.2-57.9)	21.2	(18.2-24.3)	14.4	(11.8-16.9)
Education						
Less than H.S.	41.3	(34.7-47.9)	20.6	(15.0-26.1)	12.2	(7.7-16.7)
H.S. or G.E.D.	46.4	(43.9-48.8)	22.6	(20.5-24.8)	15.2	(13.3-17.1)
Some Post-H.S.	49.6	(47.0-52.1)	29.9	(27.5-32.3)	20.2	(18.0-22.3)
College Graduate	58.2	(55.9-60.4)	37.9	(35.7-40.1)	25.0	(23.0-26.9)
Household Income						
Less than \$15,000	41.0	(35.0-46.9)	23.5	(18.6-28.3)	15.0	(10.8-19.1)
\$15,000- 24,999	45.5	(41.4-49.6)	22.3	(18.9-25.7)	15.1	(12.2-18.0)
\$25,000- 34,999	46.5	(41.9-51.1)	27.2	(23.0-31.4)	15.8	(12.4-19.3)
\$35,000- 49,999	44.7	(40.8-48.7)	26.3	(22.5-30.1)	16.2	(12.8-19.7)
\$50,000- 74,999	49.6	(46.2-53.1)	27.7	(24.6-30.8)	18.1	(15.4-20.8)
\$75,000+	58.4	(56.0-60.8)	36.0	(33.6-38.4)	25.7	(23.5-27.9)



Exercise and Physical Activity *continued*

Since the neighborhood environment can have an influence on a person's level of physical activity, a module was asked about the neighborhood environment. In 2017, 72.7% of Iowans rated their neighborhood as a very pleasant place to walk. Sidewalks were reported to be present for 66.8% of respondents. Only 27.6% of respondents used schools for public recreational activity. However, 59.9% of Iowans reported that they used walking trails or parks in their community for recreational activities.

Comparison with Other States

Values for the prevalence of not engaging in leisure time physical activity ranged from a low of 19.2% to a high of 34.4% among the 50 states and the District of Columbia. Iowa ranked slightly better than the national median for not engaging in leisure time physical activity. Iowa's figure was 25%, while the national median for the nation was 26%.

Adult Iowans fared similarly to the nation as a whole on meeting the recommended levels of physical activity. Aerobic physical activity recommendations were met by 41.9% to 59.7% of people in the 50 states and District of Columbia. The national median was 50.6%, while Iowa reported 50.2%. The muscle-strengthening recommendation was met by 22.6% to 35.5% of those in the 50 states and the District of Columbia. The median for the nation was 30.2%, which was higher than the percentage reported by Iowans who met the recommendations for muscle-strengthening (28.9%).



Health Objectives for Iowa and the Nation

The national target for reducing the proportion of adults who engage in no leisure-time physical activity is 32.6%. Iowa's level of 25.0% is better than this target.

The national target to increase the proportion of adults engaging in the recommended amount of regular moderate or regular vigorous aerobic physical activity is 47.9%. Adult Iowans reported 50.2% achieving this recommendation, which meets the national target, but falls short of the Healthy Iowans goal for 52% of adult Iowans to attain the recommended level of aerobic physical activity.

The national target for meeting the recommended strengthening goal of two or more times per week is 24.1%. About 28.9% of adult Iowans reported achieving this recommendation, which is better than the national target. On the other hand, Healthy Iowans proposed a target of 32% of adult Iowans meeting the recommended muscle-strengthening goal, which adult Iowans fell short of in 2017.

Healthy People 2020 set the target of 20.1% of adults in the United States meeting both of the aerobic physical and muscle-strengthening activity recommendations. Iowa's figure of 19.2% does not meet the national goal.

References

1. Centers for Disease Control and Prevention. (2020). Benefits of Physical Activity. Available at <https://www.cdc.gov/physicalactivity/basics/pa-health/index.htm#reducing-disease>.
2. U.S. Department of Health and Human Services. (2018). Physical Activity Guidelines for Americans, 2nd edition. Washington, DC.
3. Centers for Disease Control and Prevention. (2020). Strategies to Increase Physical Activity. Available at <https://www.cdc.gov/physicalactivity/activepeoplehealthynation/strategies-to-increase-physical-activity/index.html>.
4. Iowa Department of Public Health. (2020). Physical Activity. Available at <https://dph.iowa.gov/nutrition-physical-activity/initiatives-and-resources/physical-activity>.

Background

Proper nutrition is critical to living a healthy life. According to the most recent Dietary Guidelines for Americans (U. S. Department of Health and Human Services & U.S. Department of Agriculture, 2015), a pattern of healthy eating should include vegetables from a variety of subgroups and whole fruits. It is recommended that vegetables be consumed from a variety of different subgroups, including dark green, orange, legumes, starchy vegetables, and other vegetables (U. S. Department of Health and Human Services & U.S. Department of Agriculture, 2015).

Increased consumption of fruits and vegetables by individuals is a practical and important means for optimizing nutrition to reduce risk of disease and maximize good health. Eating a diet high in fruits and vegetables can help lower chronic disease risk and aid in weight management. Fruits and vegetables contain essential vitamins, mineral, fiber and other bioactive compounds; a diet high in these foods is associated with lower risk for numerous chronic diseases, including certain cancers, diabetes and cardiovascular diseases (Slavin & Lloyd, 2012).

In addition to fruits and vegetables, the Dietary Guidelines recommend consuming a variety of foods in other food groups, but most importantly, whole grains, low-fat or fat-free dairy, protein and oils. People should limit their intake of saturated fats and trans-fats, added sugars, salt and refined or processed foods. The concern is that high-calorie, nutrient-poor sugary foods and beverages are replacing more nutritious foods, adding to the overweight problem.

Diet and Nutrition Results

The BRFSS asks a series of six questions about how often the respondent eats various fruits or vegetables. From the answers to these questions indices are computed showing the total average consumption per day of fruits and vegetables. The questions involved juice, fruit, beans, dark green vegetables, orange-colored vegetables and other vegetables. Definitions and examples are given concerning what should count in each category.

Looking at fruit consumption, 35.6% of adult lowans reported consuming fruit less than one time per day. For vegetables, 19.3% of adult lowans reported a consumption pattern of less than one time per day (see Table 12.1). Women, older people, people with more education, and

people with higher household incomes tended to eat more fruits and vegetables per day. Adult lowans age 75 years and older showed the best pattern of consuming fruits each day (24.4% ate less than once). Adult lowans who were college graduates showed the best pattern of consuming vegetables each day. Approximately 12.2% of adult lowans who reported their race/ethnicity as a category other than Non-Hispanic White, Non-Hispanic Black or Hispanic indicated consuming vegetables less than once per day.

The worst fruit consumption patterns were found among those with lower levels of education and those with a lower reported annual household income. Additionally, males had a low fruit consumption rate, where two out of every five males (40.5%) ate fruit less than once per day. The worst vegetable consumption patterns were found among people with less than a high school education and those earning less than \$15,000 household income, where 26.8% and 26.7% ate vegetables less than once per day.

Overall, lowans had better fruit and vegetable consumption in 2017 than in 2015 which is a positive trend. Compared to the figures in 2015, some positive trends for specific groups of adult lowans reached statistical significance. For fruit, groups that showed better consumption patterns included but were not limited to Non-Hispanic Whites, 35-44 year olds, college graduates and those making a higher annual household income. In 2017 compared to 2015, vegetable consumption was not only better for all lowans, but also among Non-Hispanic Whites and older adults specifically.

In 2017, the survey asked several other questions concerning dietary habits. When asked “How often do you drink soda or pop containing sugar?”, 40.5% of adult lowans reported that they did not drink it at all. When asked “How often do you drink sweetened fruit drinks?”, 54.4% said they did not drink them at all.

Concerning sodium or salt, 44.2% of adult lowans said they were currently watching their salt intake. In addition, 15.6% said that a doctor had advised them to watch their salt intake.

Comparison with Other States

The consumption of fruit per day across the 50 states and District of Columbia ranged from a low of 55.2% to a high of 70.4% consuming at least one fruit per day. The range of consumption of vegetables was from 76.1% to 87.7% of individuals consuming vegetables at least once per day. Iowa's level of 64.4% for fruit consumption of less than one per day is above the national median of 63.4%, while Iowa's level of 80.7% for vegetable consumption of less than one per day is slightly below the national median consumption rate for vegetables (82.0%).

Health Objectives for Iowa

Healthy Iowans set the objective for the percentage of Iowans eating five or more fruit and/or vegetables per day at 20%. The figure obtained from Iowa BRFSS of 16.3% falls short of this goal, but is moving in the right direction, up from 2015's figure of 13.5%.

References

1. Slavin, J. L., & Lloyd, B. (2012). Health Benefits of Fruits and Vegetables. *Advances in Nutrition*, 3(4), 506-516. <https://doi.org/10.3945/an.112.002154>.
2. U. S. Department of Health and Human Services and U.S. Department of Agriculture. (2015). *Dietary Guidelines for Americans, 8th edition*. Available at <http://health.gov/dietaryguidelines/2015/guidelines/>.

Table 12.1: Iowans Eating Fruits & Vegetables Less Than Once per Day, 2017

Demographic Groups	<1 Fruit per Day		<1 Vegetable per Day	
	%	C.I. (95%)	%	C.I. (95%)
Total	35.6	(34.3-36.9)	19.3	(18.2-20.4)
Sex				
Male	40.5	(38.6-42.4)	22.2	(20.5-23.8)
Female	30.9	(29.0-32.8)	16.6	(15.1-18.1)
Race/Ethnicity				
White/Non-Hisp.	36.1	(34.7-37.5)	19.2	(18.0-20.3)
Black/Non-Hisp.	36.8	(26.0-47.6)	11.7	(5.2-18.1)
Other/Non-Hisp.	33.8	(25.1-42.4)	12.2	(6.6-17.9)
Hispanic	26.6	(20.5-32.7)	31.3	(24.8-37.9)
Age Group				
18 - 24	38.5	(33.5-43.6)	25.8	(21.5-30.2)
25 - 34	34.7	(31.1-38.4)	19.7	(16.7-22.6)
35 - 44	38.2	(34.7-41.7)	18.6	(15.8-21.5)
45 - 54	39.6	(36.5-42.8)	20.5	(17.8-23.1)
55 - 64	35.9	(33.2-38.6)	18.4	(16.2-20.7)
65-74	33.6	(30.9-36.4)	16.1	(13.9-18.2)
75+	24.4	(21.1-27.7)	15.0	(12.3-17.8)
Education				
Less than H.S.	40.7	(34.4-47.0)	26.8	(21.3-32.2)
H.S. or G.E.D.	39.9	(37.5-42.2)	23.4	(21.4-25.5)
Some Post-H.S.	36.9	(34.5-39.3)	18.0	(16.0-19.9)
College Graduate	26.9	(24.9-28.9)	14.0	(12.5-15.6)
Household Income				
Less than \$15,000	43.5	(37.7-49.3)	26.7	(21.6-31.8)
\$15,000- 24,999	39.6	(35.6-43.7)	21.6	(18.3-24.9)
\$25,000- 34,999	35.8	(31.4-40.2)	21.9	(18.0-25.7)
\$35,000- 49,999	35.2	(31.5-38.9)	21.4	(18.3-24.5)
\$50,000- 74,999	37.0	(33.7-40.2)	16.8	(14.3-19.3)
\$75,000+	31.7	(29.4-34.0)	15.1	(13.3-16.9)



FACT

Over 2 out of 5 adult Iowans were watching their salt intake in 2017.

Respiratory Conditions

Background

Few things are as immediately important to life as the ability to breathe. Several respiratory diseases exist that can make breathing difficult. A few common ones are asthma and chronic obstructive pulmonary disease (COPD).

Asthma is a chronic, inflammatory disease of the lungs in which the airways become blocked or narrowed causing breathing difficulty. It is characterized by recurrent wheezing, breathlessness, coughing and chest tightness (National Heart Lung and Blood Institute, 2020).

This chronic disease affects more than 24.7 million Americans of all ages. Asthma is the most common chronic disease of childhood. About 5.5 million children under the age of 18 (7.5%) suffer from asthma (Centers for Disease Control and Prevention, 2020). Prevalence among adults and children has increased sharply since 1980 (Centers for Disease Control and Prevention, 2011).

The causes of asthma are not completely understood, but are most likely a combination of personal and environmental risk factors. Those risk factors for asthma include family history of asthma and allergies, acute respiratory infections, exposure to indoor air pollution (tobacco smoke, animal dander, dust mites, cockroaches, occupational exposures to more than 250 substances), outdoor air pollution (burning leaves, pollen, air pollutants), obesity and lack of exercise. Diet and early exposure to certain infectious agents may provide some protection. After developing asthma, a person often becomes especially sensitive to any exposures to the environmental risk factors listed (National Heart Lung and Blood Institute, 2020).

Asthma is a leading cause of inpatient admission and of unscheduled emergency department and physician office visits. Many of these admissions and visits could be avoided if medical and self-management of asthma were carried out according to national guidelines. Self-management of asthma involves the proper use of asthma medications and devices as well as the avoidance of known triggers. People who suffer from asthma are encouraged to develop an asthma management plan.

Poor asthma control continues to be associated with increased emergency department visits, hospitalizations and medical costs. The estimated total cost of asthma to society,

including medical expenses (\$50.3 billion), loss of productivity resulting from missed school or work days (\$3 billion per year) and asthma related death (\$29 billion) was an estimated \$81.9 billion in 2013 (Nurmagambetov, Kuwahara, & Garbe, 2018). Medical expenses associated with asthma were \$3,266 per person per year (in 2015 U.S. dollars) during 2008-2013 (Nurmagambetov et al., 2018).

Chronic Obstructive Pulmonary Disease (COPD) includes both chronic bronchitis and emphysema. It is one of the most common lung diseases. Chronic bronchitis is defined by a long-term cough with mucus, while emphysema is defined by destruction of the lungs over time. Most people with COPD have a combination of both conditions (MedlinePlus, 2021).

Smoking is the leading cause of COPD. The more a person smokes, the more likely that person will develop COPD. Additional causes are exposure to secondhand smoke or air pollution.

There is no cure for COPD. However, there are many things you can do to relieve symptoms and keep the disease from getting worse. Persons with COPD must stop smoking. This is the best way to slow the lung damage. Medications may also be used to treat COPD symptoms. Oxygen therapy at home may be needed if a person has a low level of oxygen in their blood.

Respiratory Diseases Results

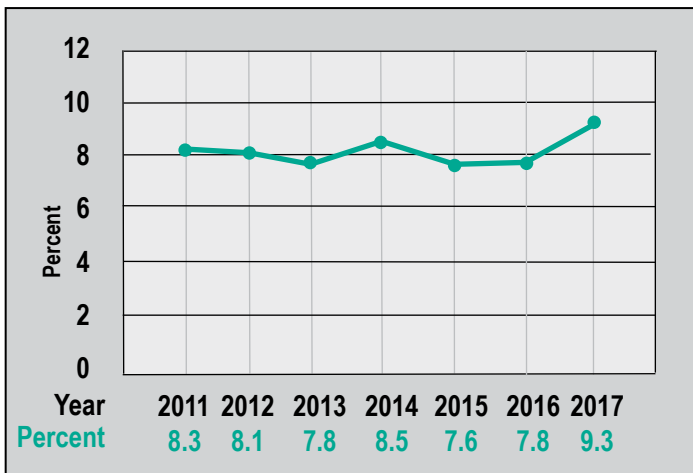
In 2017, 13.0% of lowans reported ever being diagnosed by a physician with asthma. Out of all adult lowans, 9.3% currently had asthma, and 3.8% formerly had asthma. Current asthma status was reported at the highest rate since 2014, when 8.5% of lowans currently had asthma (see Figure 13.1).

FACT

The causes of asthma are likely a combination of personal and environmental factors, but smoking is the leading cause of COPD.

Respiratory Conditions *continued*

Figure 13.1: Current Asthma in Iowa by Year, 2011 – 2017



In Iowa, more women, people with less than a high school education and people with a lower annual household income currently have asthma. There were no statistical differences in current asthma rates between age groups or racial/ethnic groups examined. The highest current asthma prevalence was among Iowans earning less than \$15,000 per year (17.2%), while the lowest prevalence was among those earning a household income of \$75,000 per year or more (6.3%; see Table 13.1). When looking at former asthma prevalence rates, the only statistical differences were observed among age categories. Older Iowans (age 55 and older) had lower rates of former asthma than younger Iowans (age 34 and younger).

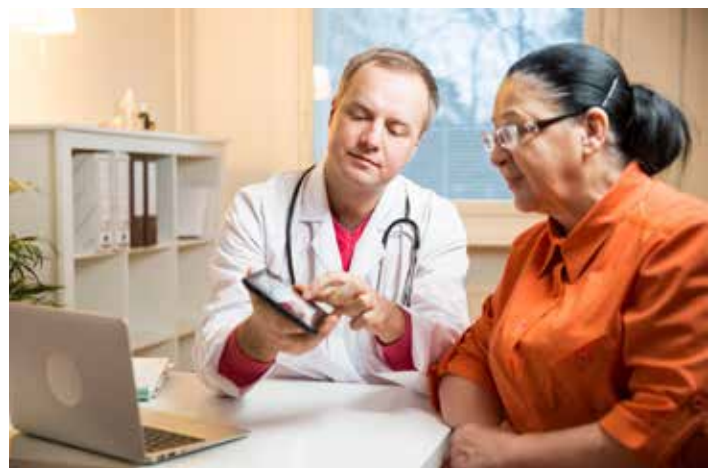
Table 13.1: Iowans Currently and Formerly Having Asthma, 2017

Demographic Groups	Current Asthma		Former Asthma	
	%	C.I. (95%)	%	C.I. (95%)
Total	9.3	(8.5-10.1)	3.5	(3.0-4.1)
Sex				
Male	6.5	(5.6-7.4)	4.1	(3.3-4.9)
Female	12.0	(10.7-13.3)	3.0	(2.2-3.8)
Race/Ethnicity				
White/Non-Hispanic	9.2	(8.4-10.0)	3.5	(2.9-4.1)
Non-White or Hispanic	9.8	(6.9-12.8)	3.4	(1.9-5.0)
Age Group				
18-24	10.4	(7.2-13.6)	6.7	(3.8-9.5)
25-34	10.4	(8.1-12.8)	4.4	(3.0-5.9)
35-44	8.4	(6.4-10.4)	3.7	(2.4-5.0)
45-54	8.8	(7.0-10.6)	3.1	(2.0-4.1)
55-64	9.9	(8.2-11.5)	2.1	(1.4-2.9)
65-74	8.9	(7.2-10.5)	2.8	(1.9-3.7)
75+	7.3	(5.3-9.2)	1.6	(0.7-2.5)
Education				
Less than H.S.	15.2	(10.8-19.6)	*	*
H.S. or G.E.D.	8.2	(6.9-9.4)	3.2	(2.3-4.0)
Some Post-H.S.	10.4	(8.9-11.9)	4.5	(3.3-5.8)
College Graduate	7.0	(5.9-8.2)	3.1	(2.3-3.8)
Household Income				
Less than \$15,000	17.2	(12.9-21.4)	4.6	(2.3-7.0)
\$15,000- 24,999	13.6	(10.9-16.3)	4.2	(2.6-5.9)
\$25,000- 34,999	9.3	(6.7-11.9)	4.2	(2.3-6.0)
\$35,000- 49,999	7.8	(5.9-9.8)	4.8	(2.3-7.3)
\$50,000- 74,999	8.0	(6.1-10.0)	3.3	(2.1-4.4)
\$75,000+	6.3	(5.1-7.5)	3.1	(2.3-3.9)

* Percentages suppressed due to small counts and/or unreliable estimates.

FACT

The current asthma rate for females was almost double the rate for males.



Respiratory Conditions *continued*

Table 13.2: Iowans Who Have Been Told They Have COPD, 2017

Demographic Groups	COPD	
	%	C.I. (95%)
Total	6.4	(5.8-7.0)
Sex		
Male	5.5	(4.8-6.3)
Female	7.2	(6.2-8.2)
Race/Ethnicity		
White/Non-Hispanic	6.5	(5.8-7.1)
Non-White or Hispanic	5.6	(3.2-8.0)
Age Group		
18-24	*	*
25-34	*	*
35-44	3.6	(2.3-5.0)
45-54	5.6	(4.0-7.2)
55-64	9.9	(8.2-11.5)
65-74	11.9	(10.0-13.8)
75+	11.6	(9.2-13.9)
Education		
Less than H.S.	15.7	(11.5-19.9)
H.S. or G.E.D.	7.5	(6.4-8.5)
Some Post-H.S.	5.8	(4.8-6.8)
College Graduate	2.7	(2.1-3.3)
Household Income		
Less than \$15,000	18.6	(14.1-23.1)
\$15,000- 24,999	11.2	(9.0-13.4)
\$25,000- 34,999	9.3	(6.9-11.7)
\$35,000- 49,999	6.9	(5.1-8.6)
\$50,000- 74,999	2.9	(2.0-3.9)
\$75,000+	2.0	(1.3-2.7)

* Percentages suppressed due to small counts and/or unreliable estimates.



When asked if they had been told they had COPD, 6.4% of BRFSS respondents said they had. This is the highest percentage reported since 2013 when 6.2% of adult Iowans reported ever being told that they had COPD. Women had a higher prevalence than men, but there was not a statistically significant difference between men and women (see Table 13.2). COPD was more common among older people, people with less education and people with a lower household income. Similar to what was observed with current asthma, income plays a role in reported adult COPD. Adult Iowans with a household income of \$75,000 per year or more reported the lowest prevalence rate of ever having COPD (2.0%), while those with a household income of less than \$15,000 per year had the highest prevalence rate (18.6%).

Comparison with Other States

In 2017, the prevalence rate of adult Iowans currently suffering from asthma was 9.3%, which was similar to the median rate for the 50 states and the District of Columbia of 9.4%. The range across the 50 states and the District of Columbia was from 7.3% to 13.2%.

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FACT

Income and education are related to the prevalence of current asthma and COPD.

Other Cancer Prevalence

Background

Cancer is a very common condition and the second most common cause of death in the United States, following heart disease. Cancer occurs when a group of cells grows out of control and has the ability to take over normal cells (American Cancer Society, 2020). Cancer may arise almost anywhere in the body, though some locations are more common than others. Overall, skin cancer is the most common type of cancer. Among men, prostate cancer is most common, only behind skin cancer. Other common types include lung, breast and colorectal cancer.

Though cancer is a common disease, more and more people are surviving cancer. The American Cancer Society predicted that in 2017 there would be an estimated 1,688,780 new cancer cases diagnosed and 600,920 cancer deaths in the U.S. (American Cancer Society, 2017). Despite this, death rates for all cancer types have declined since 1991 when the cancer death rate peaked at 215 deaths from cancer per 100,000 people by about 27% in 2016 (156 cancer deaths per 100,000 people). Progress towards lowering the death rate for those who are diagnosed with cancer is largely contributed to by reductions in smoking as well as vast improvements in early cancer detection and treatment methods. The decline in cancer death rates over the last 2 decades have resulted in over 2.6 million fewer deaths from cancer from 1991 to 2016 (American Cancer Society, 2019).

FACT

Reductions in smoking and improvements in early cancer detection and treatment methods are helping to lower the cancer death rate.

Skin and Other Cancer Screening Results

In 2017, 6.8% of adult lowans had ever been told they had skin cancer, which was an increase from the rate reported in 2016 (5.6%) and the highest reported rate over the last six years. In 2017, 7.2% reported having been told they had some other type of cancer, a prevalence rate that slightly increased over the past year (7.1% in 2016).

Skin cancer behaves somewhat differently from other types of cancers, which themselves may vary in prevalence and prognosis according to type. The prevalence rate of skin cancer was similar among males and females. Other cancers were more common among females. In general, the prevalence rate for having skin cancer or other cancers increased with age. The highest prevalence of ever having skin or other cancer was among lowans who were aged 75 years and older (23.4% for skin cancer and 20.8% for other cancer (see Table 14.1).



Other Cancer Prevalence *continued*

Table 14.1: Prevalence of lowans Reporting ever Having Cancer, 2017

Demographic Groups	Ever Had Skin Cancer		Ever Had Other Cancer	
	%	C.I. (95%)	%	C.I. (95%)
Total	6.8	(6.2-7.4)	7.2	(6.6-7.8)
Sex				
Male	6.4	(5.6-7.2)	5.8	(5.0-6.5)
Female	7.2	(6.3-8.1)	8.6	(7.7-9.5)
Race/Ethnicity				
White/Non-Hisp.	7.4	(6.8-8.0)	7.8	(7.2-8.5)
Non-White or Hispanic	*	*	*	*
Age Group				
18-24	*	*	*	*
25-34	*	*	*	*
35-44	1.9	(0.9-2.9)	2.9	(1.8-4.0)
45-54	5.1	(3.7-6.5)	4.9	(3.5-6.3)
55-64	8.1	(6.6-9.6)	10.4	(8.8-12.1)
65-74	13.9	(11.9-15.8)	14.8	(12.9-16.8)
75+	23.4	(20.4-26.3)	20.8	(17.9-23.7)
Education				
Less Than H.S.	7.5	(4.3-10.8)	10.3	(6.9-13.8)
H.S. or G.E.D.	6.9	(5.9-7.9)	7.0	(6.0-8.0)
Some Post-H.S.	6.3	(5.3-7.3)	7.0	(6.0-8.0)
College Graduate	7.1	(6.1-8.0)	6.8	(5.8-7.7)
Household Income				
Less than \$15,000	5.5	(2.7-8.3)	9.6	(6.2-13.0)
\$15,000- 24,999	8.2	(6.3-10.0)	8.3	(6.5-10.1)
\$25,000- 34,999	6.7	(4.6-8.7)	8.1	(6.0-10.2)
\$35,000- 49,999	7.1	(5.6-8.7)	7.3	(5.6-8.9)
\$50,000- 74,999	6.4	(4.9-7.8)	6.2	(4.9-7.6)
\$75,000+	6.2	(5.2-7.3)	5.7	(4.8-6.6)

* Percentages suppressed due to small counts and/or unreliable estimates.

References

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2. American Cancer Society. (2017). Cancer Facts & Figures 2017. Atlanta: American Cancer Society.
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FACT

Rates of skin and other cancer increase with age.



Tobacco

Background

Tobacco use remains the leading cause of preventable disease and death in the United States. An estimated 34 million or 14% of all American adults currently smoke cigarettes (Centers for Disease Control and Prevention, 2020).

Tobacco use is known to cause heart disease, stroke, peripheral vascular disease, respiratory diseases such as COPD and asthma attacks, as well as cancers of the lung, larynx, esophagus, pharynx, mouth, bladder, pancreas, kidney and cervix. In fact, smoking causes diseases in nearly every organ of the body (Centers for Disease Control and Prevention, 2020).

Consequences of smoking during pregnancy include spontaneous abortions, low birth weight babies and sudden infant death syndrome (SIDS).

Secondhand smoke (SHS) increases the risk of heart disease and lung cancer in adults. SHS also affects children by increasing lower respiratory tract infections and asthma, and by decreasing pulmonary function. According to the Surgeon General, there is no safe level of exposure to secondhand smoke (U. S. Department of Health and Human Services, 2014).

Many steps are being taken to prevent use of tobacco. Some of these include reducing exposure to environmental tobacco smoke, smoking prevention education, the restriction of minors' access to tobacco, the treatment of nicotine addiction (cessation), and working toward changing social norms and environments that support tobacco use. Efforts to shift social norms surrounding smoking include counter-advertising and promotion, product regulation and economic incentives against tobacco. In Iowa, smoking cessation programs such as Quitline Iowa offer free nicotine replacement therapy (NRT).

Tobacco Results

Current smoking is defined as smoking at least 100 cigarettes in a lifetime and smoking every day or some days during the past 30 days. Among adult Iowans in 2017, 17.1% reported being a current smoker, which was a change from the 2016 current smoking rate of 16.7% (see Figure 15.1). In 2017, the proportion of current smokers was higher among

males than females, as well as higher for Iowans with less than high school education and among Non-Hispanic Blacks. Smoking declined after age 65, but was also lower for people age 18 to 24 than among older age groups. Respondents with annual household incomes of less than \$15,000 reported the highest proportion of current smokers at 31.6% (see table 15.1).

Table 15.1: Current Smoking in Iowa, 2017

Demographic Groups	Prevalence Rate (%)	C.I. (95%)
Total	17.1	(16.1 - 18.1)
Sex		
Male	18.5	(16.9 - 20.1)
Female	15.8	(14.4 - 17.2)
Race/Ethnicity		
White/Non-Hispanic	16.3	(15.3 - 17.3)
Black/Non-Hispanic	36.0	(25.4 - 46.6)
Other/Non-Hispanic	24.1	(16.4 - 31.7)
Hispanic	13.8	(9.3 - 18.3)
Age Group		
18 - 24	13.7	(10.2 - 17.2)
25 - 34	22.0	(18.7 - 25.3)
35 - 44	21.9	(19 - 24.8)
45 - 54	20.8	(18.3 - 23.3)
55 - 64	17.5	(15.3 - 19.7)
65 - 74	13.0	(11 - 15.1)
75+	4.8	(3.1 - 6.6)
Education		
Less than H.S.	30.8	(25.1 - 36.5)
H.S. or G.E.D.	21.5	(19.5 - 23.5)
Some Post-H.S.	16.4	(14.6 - 18.2)
College Graduate	7.8	(6.6 - 9)
Household Income		
Less than \$15,000	31.6	(26.3 - 36.9)
\$15,000 - 24,999	28.7	(25 - 32.4)
\$25,000 - 34,999	21.8	(18.1 - 25.5)
\$35,000 - 49,999	18.1	(15.2 - 21)
\$50,000 - 74,999	14.9	(12.5 - 17.3)
\$75,000+	9.7	(8.1 - 11.3)

Figure 15.1: Current Smoking in Iowa by Year 2012-2017

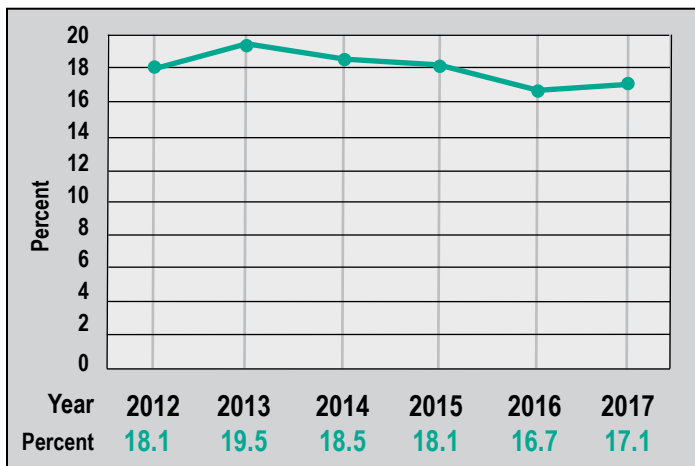
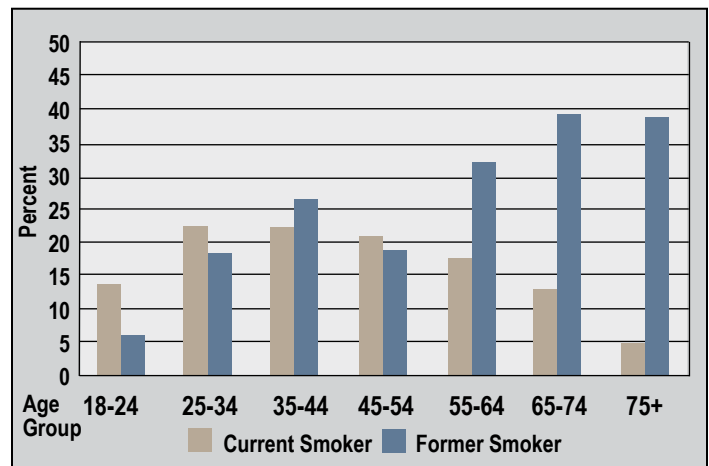


Figure 15.2: Percentage of Current and Former Smokers by Age, 2017



About 24.6% of respondents were former smokers. This means that they had smoked at least 100 cigarettes in their lifetime, but do not smoke now. More males than females were former smokers and the percent of former smokers tended to increase with age. The 18 to 24-year age group had only 5.2% former smokers, while those 65 and older had over 38.7% (see Figure 15.2). Non-Hispanic Blacks reported a significantly lower percentage of former smokers than other racial/ethnic groups. When asked how long it had been since they last smoked cigarettes regularly, the majority of former smokers (58.6%) said 10 or more years.

When asked about attempts to quit smoking, over half (52.7%) of current smokers reported they quit smoking for a day or more during the past year. Quit attempts were higher among younger smokers, lowans with less than high school education and those with household incomes under \$35,000. lowans with the highest education and incomes reported lower rates of quit attempts.

FACT

Cigarette smoking is the leading cause of preventable disease and death in the United States, accounting for more than 480,000, or every 1 in 5, deaths every year.

To assess use of other tobacco products besides cigarettes, all respondents were asked if they currently use chewing tobacco, snuff or snus. About 5.5% said they used either chewing tobacco, snuff or snus every day or some days.

When asked whether they had tried hookah, even one or two puffs, 14.5% of lowans in 2017 said they had tried smoking a hookah. Other tobacco products used every day or some days by lowans were cigars (1.7%) and a pipe (0.8%).

In 2017, 19.4% of lowans said they had ever used an e-cigarette or other electronic vaping products, with 4.0% currently using e-cigarettes every day or some days. Use of e-cigarettes was particularly common among males, young adult lowans and those with annual household incomes under \$25,000 (see Table 15.2).

Of smokers who had seen a doctor in the past year, 69.1% of them reported that the doctor had advised them to quit smoking. The most common forms of assistance offered by doctors were medical resources (24.4%) or a quitline (25.0%).

Of smokers who had seen a dentist in the past year, 39.6% reported that the dentist had advised them to quit smoking.

With respect to rules against smoking in their house, 85.4% of lowans said they never allowed it.

Table 15.2: Percentage of E-Cigarette users in Iowa, 2017

Demographic Groups	Prevalence Rate (%)	C.I. (95%)
Total	4.0	(3.4 - 4.6)
Sex		
Male	5.2	(4.2 - 6.2)
Female	2.9	(2.1 - 3.7)
Race/Ethnicity		
White/Non-Hispanic	3.5	(2.9 - 4.1)
Black/Non-Hispanic	4.3	(0 - 10.4)
Other/Non-Hispanic	15.1	(7.9 - 22.3)
Hispanic	4.1	(1.4 - 6.8)
Age Group		
18 - 24	10.6	(7.5 - 13.7)
25 - 34	5.7	(3.9 - 7.5)
35 - 44	3.7	(2.3 - 5.1)
45 - 54	2.4	(1.4 - 3.4)
55 - 64	3.2	(2.2 - 4.2)
65+	0.8	(0.4 - 1.2)
Education		
Less than H.S.	4.1	(1.4 - 6.8)
H.S. or G.E.D.	4.8	(3.6 - 6.0)
Some Post-H.S.	5.1	(3.9 - 6.3)
College Graduate	1.5	(0.9 - 2.1)
Household Income		
Less than \$15,000	10.2	(6.3 - 14.1)
\$15,000 - 24,999	5.3	(2.9 - 7.7)
\$25,000 - 34,999	3.8	(2.0 - 5.6)
\$35,000 - 49,999	3.9	(2.3 - 5.5)
\$50,000 - 74,999	3.8	(2.4 - 5.2)
\$75,000+	2.6	(1.8 - 3.4)

FACT

Current smoking has declined from nearly **21** out of every **100** adults in 2005 to **14** out of every **100** adults in 2017.

Comparison to other states

Across all states and District of Columbia, current smoking prevalence ranged from a low of 8.9% to a high of 26.4%. Iowa's current smoking rate was the same as the national median among all states. Regionally, the Midwest had the highest smoking rate, with 17 out of every 100 adults (16.9%) being current smokers (Centers for Disease Control, Smoking and Tobacco Use, 2019).

Health Objectives for Iowa and the nation

As a nation, smoking rates continue to decline, with the national mean rate in 2017 being 14%. However, with 34 million adult Americans still currently smoking, the Healthy People 2020 goal to reduce the percentage of smokers to 12% has still not been achieved. As a state, the current smoking prevalence of 17.1% in Iowa is still above both the Healthy People 2020 target and the Healthy Iowans goal of reducing the state cigarette smoking rate to 15%.

The Healthy People 2020 goal of having 80% of current smokers attempting to quit in the past year was not met by Iowan adults. Nearly 30 percentage points below the goal, Iowa had a rate of 52.7% of current smokers attempting to quit in the past year.

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Alcohol Consumption

Background

The National Institute of Alcohol Abuse and Alcoholism (NIAAA) defines binge drinking as a pattern of drinking that brings a person's blood alcohol concentration (BAC) to 0.08 grams percent or above. This typically happens when men consume five or more drinks or women consume four or more drinks in about two hours (NIAAA, 2021). The Substance Abuse and Mental Health Services Administration (SAMHSA) defines binge drinking as five or more alcoholic drinks for males or four or more alcoholic drinks for females on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least one day in the past month (NIAAA, 2021). Heavy drinking is defined as heavy alcohol use on five or more days in the past month.

Alcohol dependency and abuse are major public health problems carrying a large economic cost and placing heavy demands on the health care system. Chronic alcohol use affects every organ and system of the body. It can lead to medical disorders (e.g., fetal alcohol syndrome, liver disease, cardiomyopathy and pancreatitis). Heavy drinking can increase the risk for certain cancers. Drinking lowers inhibitory control and disrupts decision-making abilities, rational thought and attention, and increases the risk of death from automobile crashes, as well as recreational and on-the-job injuries (Centers for Disease Control and Prevention, 2018; American Addiction Centers, 2020).

Alcohol Consumption Results

The BRFSS survey defines a standard drink as one 12-ounce beer, one 5-ounce glass of wine, or a drink with one shot of hard liquor. In 2017, 59.7% of Iowans reported that they had at least one drink of alcohol in the past 30 days. On the days when they drank, 37.1% had an average of only one drink. About 11.9% reported drinking five or more drinks per day on average.

FACT

59.7% of Iowans reported that they had at least one drink of alcohol in the past **30** days.

Table 16.1: Binge Drinking and Heavy Drinking among Iowa adults, 2017

Demographic Groups	Binge Drinking		Heavy Drinking	
	Prevalence Rate (%)	C.I. (95%)	Prevalence Rate (%)	C.I. (95%)
Total	21.1	(19.9 - 22.3)	7.2	(6.4-8.0)
Sex				
Male	27.6	(25.8 - 29.4)	8.8	(7.6-10)
Female	14.8	(13.2 - 16.4)	5.7	(4.7-6.7)
Race/Ethnicity				
White/Non-Hispanic	21.1	(19.9 - 22.3)	7.3	(6.5-8.1)
Black/Non-Hispanic	16.2	(8.8 - 23.6)	4.1	(0.4-7.8)
Other/Non-Hispanic	20.9	(13.2 - 28.7)	5.6	(1.8-9.4)
Hispanic	24.4	(17.9 - 30.9)	10.2	(5.3-15.1)
Age Group				
18 - 24	32.7	(28.0 - 37.4)	9.8	(6.9-12.7)
25 - 34	31.7	(28.2 - 35.2)	7.4	(5.4-9.4)
35 - 44	28.4	(25.1 - 31.7)	8.0	(6.0-10.0)
45 - 54	23.9	(21.2 - 26.6)	9.7	(7.7-11.7)
55 - 64	14.2	(12.2 - 16.2)	6.9	(5.5-8.3)
65-74	6.2	(4.8 - 7.6)	4.6	(3.4-5.7)
75+	2.4	(1.1 - 3.6)	2.3	(1.3-3.3)
Education				
Less than H.S.	17.3	(12.2 - 22.4)	5.1	(2.2-8.0)
H.S. or G.E.D.	19.2	(17.2 - 21.2)	7.6	(6.2-9.0)
Some Post-H.S.	23.4	(21.2 - 25.6)	8.0	(6.6-9.4)
College Graduate	21.4	(19.4 - 23.4)	6.5	(5.3-7.7)
Household Income				
Less than \$15,000	17.0	(12.3 - 21.7)	7.3	(3.8-10.8)
\$15,000- 24,999	18.4	(14.9 - 21.9)	6.1	(4.3-7.9)
\$25,000- 34,999	15.3	(12.0 - 18.6)	5.2	(3.2-7.2)
\$35,000- 49,999	22.3	(19.0 - 25.6)	8.8	(6.6-11.0)
\$50,000- 74,999	23.7	(20.8 - 26.6)	7.4	(5.6-9.2)
\$75,000+	27.1	(24.9 - 29.3)	9.2	(7.8-10.6)



Alcohol Consumption *continued*

In our analysis, heavy drinking was defined as an average of greater than 14 drinks per week for men and seven drinks per week for women. According to this definition, 7.2% of all lowans were heavy drinkers. The trend has been steadily increasing over the last few years, with 2017 prevalence rates being higher than 2015, when 5.9% of lowans were heavy drinkers (see Figure 16.1).

Heavy drinking among men is significantly higher than in women. In 2017, 8.8% of men were considered to be heavy drinkers, while 5.7% of women reported being heavy drinkers. In Iowa, older people, those with less than a high school education, and people with household incomes between \$25,000 and \$34,999 reported a lower prevalence of heavy drinking (see Table 16.1).

Among adult lowans, 12.3% reported at least one binge drinking episode in the 30 days prior to participating in the survey. More than twice as many males binge drink than females, at 27.6% and 14.8% respectively. Men binged more than women at all ages, with the prevalence of binge drinking decreasing with age from 42.5% among 25 to 34 year olds to 4.8% among those 75 years old and older (see Figure 16.2). In 2017, a higher percentage of Hispanic and Non-Hispanic Whites binged than all other racial and ethnic groups. lowans with some college or college graduates and those with higher incomes tended to report a higher prevalence of binge drinking (see Table 16.1).

Figure 16.1: Binge and Heavy Drinking by Year, 2012-2017

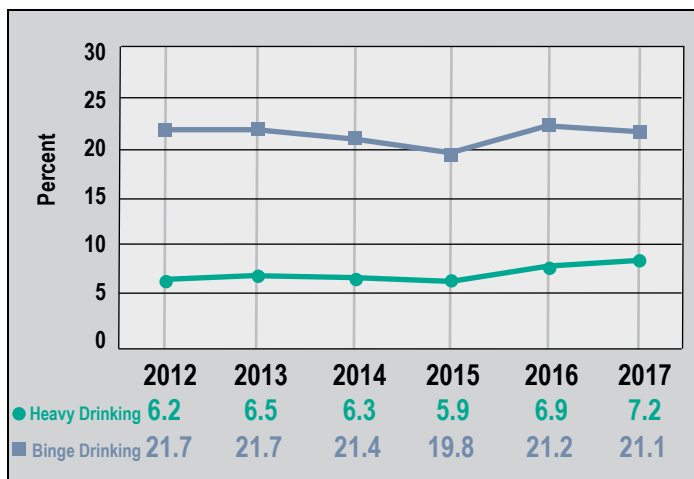
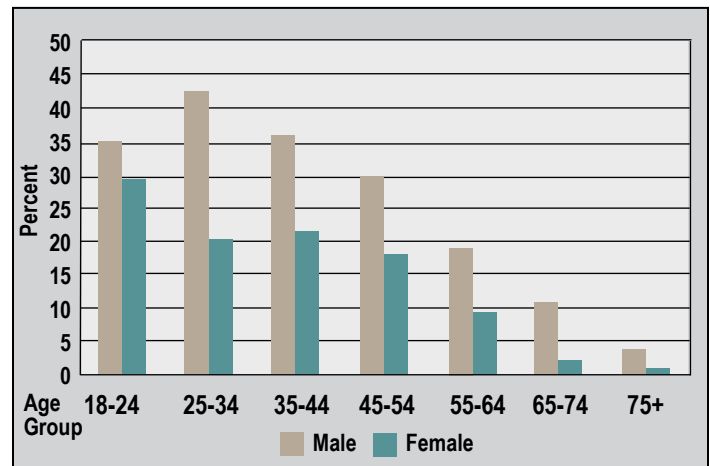


Figure 16.2: Binge Drinking Among Iowa adults by Age and Sex, 2017



Comparison with Other States

The prevalence of people reporting heavy drinking in the 50 states and District of Columbia ranged from 3.6% to 9.5%. Iowa's rate of 7.2% is above the national median of 6.3%.

The national median level of reported binge drinking was 17.4% and ranged from 11.5% to 25.6% across all 50 states and the District of Columbia. Iowa's rate of 21.1% was well above the national median. There were only three states (District of Columbia, North Dakota and Wisconsin) with a higher prevalence than Iowa of reported binge drinking in 2017.

References

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Disability and Arthritis

Background

The World Health Organization's *International Classification of Functioning, Disability and Health* (2001) defines disability as an umbrella term for impairments, activity limitations and participation restrictions. Disability is the interaction between individuals with a health condition (e.g. cerebral palsy, Down's syndrome, or depression) and personal and environmental factors (e.g. negative attitudes, inaccessible transportation and public buildings, and limited social supports). Impairment is defined as "any loss or abnormality of psychological, physiological, or anatomical structure or function" (World Health Organization, 2001).

Chronic physical, mental and emotional conditions can limit the ability of adults to carry out important activities such as working and doing everyday household chores. According to data from the 2016 Behavioral Risk Factor Surveillance System, one in four people in the United States has a disability (26%; 61 million people) that prevented or limited their ability in some way (Centers for Disease Control and Prevention, 2020).

The number of people living with a disability is on the rise, in part by the aging population and an increase in chronic health conditions around the world. Currently, if services for those with a disability are available, they tend to lack the necessary resources and quality required to provide adequate care and relief. There is a need to increase disability services in primary healthcare settings, and more specifically in rehabilitation interventions. (World Health Organization, 2020). Having a disability is not necessarily a barrier to good general health in unrelated areas.

Many disabled Americans use Assistive Technology Devices (ATDs) to accommodate mobility impairments and other sensory and mental impairments. These can allow a person with a disability to work and otherwise live an independent life.

Disability Results

The most recent standard of determining disability in adult Iowans requires a "yes" response to at least one of the following six items. In 2017, 6.7% of Iowans reported that they were deaf or had trouble hearing; 3.0% reported that they were blind; 9.6% reported that they had serious difficulty concentrating, remembering, or making decisions; 12.0% reported that they had serious difficulty walking or

climbing stairs; 3.5% reported that they had difficulty dressing or bathing; 6.3% reported that they had difficulty doing errands alone such as visiting a doctor's office or shopping because of a physical, mental, or emotional condition. Using the answers to these questions, the "new" method for determining disability produced a rate of 24.5%, which was higher than what was reported in 2016 (22.7%; see Figure 17.1).

Figure 17.1: Adults with Disability in Iowa Trend, 2016-2017 New Method

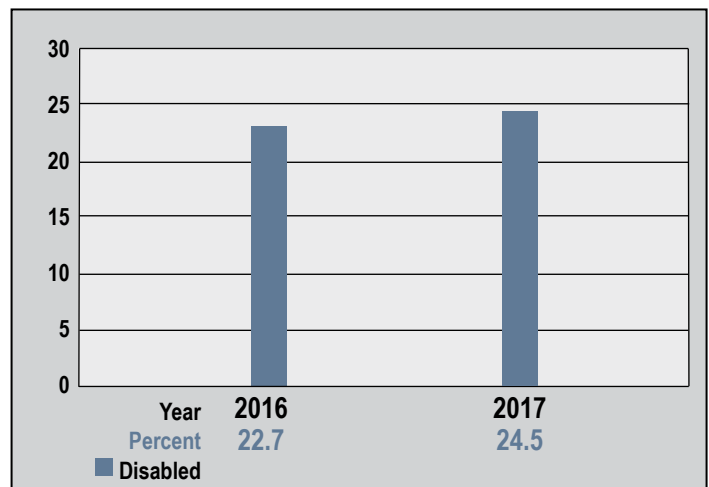


Table 17.1 shows the results of the most recent disability determination method. Older people, people with less education and people with lower household incomes reported higher percentages of disability. Many disabled people are unable to work due to their disability. Over half of those who reported disability had incomes of less than \$15,000 (56.3%). The lowest prevalence rate of disability was reported among those with an annual household income of \$75,000 or more (11.7%).

Arthritis is the leading cause of work disability in the United States. Arthritis is the name given to a group of over 100 different rheumatic diseases and conditions that result in pain and reduction of functionality in and around the joints. The most common are osteoarthritis, rheumatoid arthritis, lupus, fibromyalgia, and gout (Centers for Disease Control and Prevention, 2020). Arthritis may be caused by a wearing down of cartilage, a change in bone composition, or inflammation in the joints. Over 54 million adults in the United States have arthritis (23%; Centers for Disease Control and Prevention, 2020).

Disability and Arthritis *continued*

In 2017, a doctor had told 24.7% of Iowans that they had some form of arthritis. Rates of reported arthritis have continued to decline (see Figure 17.2). The percentage of adult Iowans reporting arthritis is higher than the percentage reporting disability indicating not all people diagnosed with arthritis find it to be a limitation.

Table 17.1: Percent Reporting Being Disabled, 2017

Demographic Groups	Prevalence Rate (%)	C.I. (95%)
Total	24.5	(23.3-25.6)
Sex		
Male	23.1	(75.3-78.5)
Female	25.9	(24.2-27.5)
Race/Ethnicity		
White/Non-Hispanic	24.3	(23.1-25.5)
Black/Non-Hispanic	30.8	(20.3-41.3)
Other/Non-Hispanic	23.4	(16.6-30.2)
Hispanic	22.2	(16.3-28.1)
Age Group		
18-24	20.2	(16.0-24.4)
25-34	14.0	(11.3-16.7)
35-44	14.6	(12.1-17.2)
45-54	23.0	(20.2-25.8)
55-64	28.0	(25.5-30.6)
65-74	32.4	(29.7-35.1)
75+	49.6	(45.9-53.2)
Education		
Less Than H.S.	45.6	(39.6-51.7)
H.S. or G.E.D.	29.7	(27.7-31.8)
Some Post-H.S.	22.4	(20.5-24.3)
College Graduate	13.7	(12.3-15.1)
Household Income		
Less than \$15,000	56.3	(50.6-61.9)
\$15,000- 24,999	36.6	(32.9-40.3)
\$25,000- 34,999	27.2	(23.4-31.0)
\$35,000- 49,999	26.5	(23.3-29.8)
\$50,000- 74,999	17.0	(14.5-19.4)
\$75,000+	11.7	(10.2-13.2)

A statistically higher percentage of women than men reported having arthritis. The prevalence decreased with greater education and income. In general, fewer racial and ethnic minorities reported having arthritis than Non-Hispanic Whites. Age had the strongest association. The demographic group reporting the highest prevalence of arthritis was adult Iowans age 75 years and older (51.9%). The group with the lowest prevalence was people age 18 to 24 years old (4.2%), which has continued to rise over the last few years. For example, only 1.4% of 18-24 year olds reported having arthritis in 2015 and 1.5% of this age group reported having arthritis in 2016.

Table 17.2: Percent Having Been Told by a Doctor They Had Some Form of Arthritis, 2017

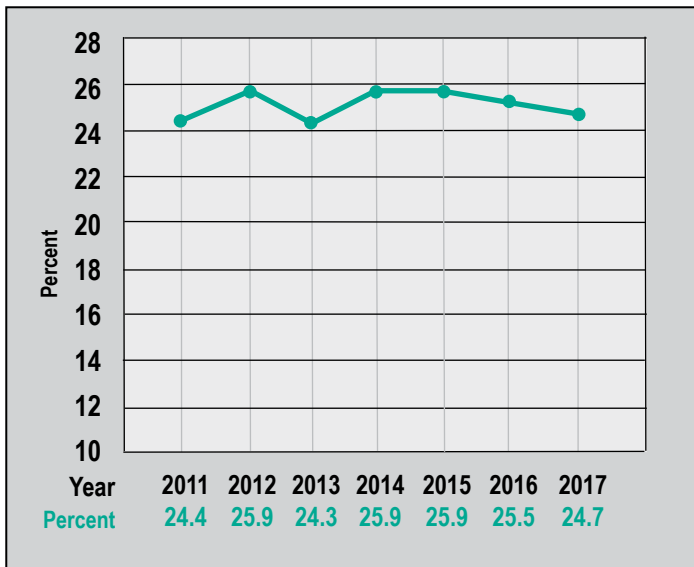
Demographic Groups	Told by doctor you have Arthritis	
	%	C.I. (95%)
Total	24.7	(23.6-25.7)
Sex		
Male	20.5	(19.1-21.9)
Female	28.7	(27.1-30.3)
Race/Ethnicity		
White/Non-Hispanic	26.0	(24.8-27.1)
Black/Non-Hispanic	19.3	(12.1-26.5)
Other/ Non-Hispanic	15.4	(10.6-20.1)
Hispanic	10.1	(5.9-14.3)
Age Group		
18-24	4.2	(2.2-6.2)
25-34	8.8	(6.5-11.0)
35-44	12.4	(10.1-14.7)
45-54	21.9	(19.3-24.5)
55-64	36.4	(33.7-39.0)
65-74	48.6	(45.8-51.4)
75+	51.9	(48.3-55.5)
Education		
Less Than H.S.	28.1	(23.0-33.2)
H.S. or G.E.D.	27.8	(25.9-29.7)
Some Post-H.S.	24.9	(23.0-26.8)
College Graduate	19.2	(17.6-20.7)
Household Income		
<\$15,000	38.0	(32.8-43.2)
\$15,000- 24,999	32.3	(28.9-35.8)
\$25,000- 34,999	28.5	(24.8-32.3)
\$35,000- 49,999	26.6	(23.6-29.6)
\$50,000- 74,999	22.5	(19.9-25.0)
\$75,000+	16.9	(15.2-18.6)

FACT

Not all people diagnosed with arthritis find it to be a disability.

Disability and Arthritis *continued*

Figure 17.2: Percent of Iowans Diagnosed with Arthritis by Year, 2011 – 2017



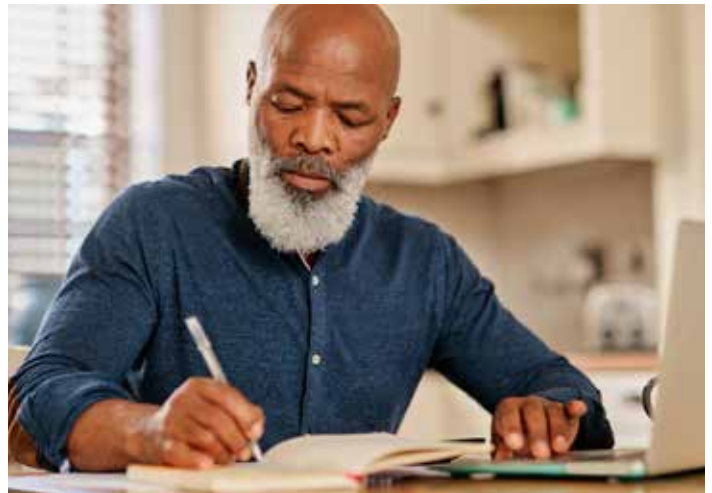
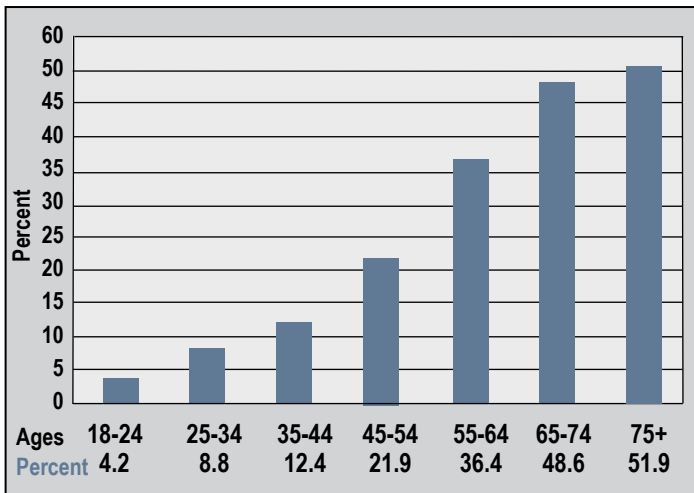
Comparison with Other States

The percent of people in the 50 states and District of Columbia reporting being diagnosed with arthritis ranged from 14.3% to 39.2%. The median of all states was 24.9%. Iowa was slightly better than the median at 24.7%

References

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Figure 17.3: Percent of Iowans with Arthritis by Age, 2017



FACT

Rates of having arthritis have decreased since 2015.

Immunizations

Background

Influenza, or the flu, is a contagious respiratory illness caused by viruses that infect the nose, throat and lungs. It can cause mild to severe illness, and at times can lead to death. The best way to prevent the flu is by getting a flu vaccination each year (Centers for Disease Control and Prevention, 2021).

Influenza can vary greatly from year to year in the severity of its impact. For instance, the seasonal influenza primarily causes more of a problem for the elderly, while the 2009 H1N1 pandemic affected more children, young and middle-aged adults (Centers for Disease Control and Prevention, 2019). For healthy children and adults, influenza is typically a moderately severe illness. For unhealthy or elderly people, influenza can be very dangerous. Adults 65 years old and older who contract influenza are much more likely to have serious complications from this illness, which can affect their health and independence.

Influenza can be prevented with the influenza vaccine. This vaccine is produced each year so that it can be effective against influenza viruses that are expected to cause illness that year. A yearly influenza vaccination has been reported to lower the chances of individuals needing to go to the doctor for the flu by 40.0% to 60.0%. The vaccine may be taken through several methods, but the most common is a shot in the upper arm muscle. The best time to receive the influenza vaccine is soon after the vaccine becomes available in the fall of each year. The Centers for Disease Control and Prevention (2020) recommends that people get vaccinated by the end of October of each year, but one can continue receiving the vaccine into January or later of the following year. The recommendation by the Centers for Disease Control and Prevention is for everyone in the U.S. from six months of age and older to get the seasonal influenza vaccine. There are different vaccine options, and one should consult a doctor or healthcare professional for the most appropriate one based on health status and age (Centers for Disease Control and Prevention, 2020).

Influenza is a very serious illness for anyone at high risk. Certain diseases that place people at high risk include:

- Chronic lung disease such as asthma, emphysema, chronic bronchitis, tuberculosis or cystic fibrosis,
- Heart disease,
- Diabetes or other chronic metabolic disorders,
- Severe anemia,
- Chronic kidney disease or
- Diseases or treatments that depress immunity.

Some of the symptoms associated with influenza are fever, chills, coughing, weakness, muscle aches and pains, sore throat or headache (Centers for Disease Control and Prevention, 2020).

Pneumonia is a lung disease caused by bacteria, viruses, and other infectious agents such as fungi. Pneumonia is frequently a complication of influenza and is responsible for the vast majority of deaths from the two. In 2017, three million people in the United States were diagnosed with pneumonia in an emergency department, and around 50,000 people died from the disease (Centers for Disease Control and Prevention, 2020). In 2017, influenza and pneumonia combined were the eighth leading cause of death among all Americans as well as those specifically aged 65 and older (Centers for Disease Control and Prevention, 2020). Influenza and pneumonia together resulted in 578 deaths in Iowa in 2017 (Centers for Disease Control and Prevention, 2021).

The Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices (ACIP) recommends that persons aged 65 years old or older receive the pneumococcal polysaccharide vaccine at least once in their lifetime. A second vaccine (pneumococcal conjugate vaccine, typically first administered when children are younger than 2 years of age) is now also recommended to follow the first for added protection, but people should consult with their doctor or healthcare provider for which combination is best based on age, previous vaccinations, and health status (Centers for Disease Control and Prevention, 2020). People at an increased risk for pneumococcal disease are those with chronic illnesses, such as diseases of the heart, liver, kidney or lung as well as diabetes and alcoholism, those with conditions that result in weakened immune system, such as HIV/AIDS and cancer, those with cochlear implants or cerebrospinal fluid leaks and those who engage in cigarette smoking (Centers for Disease Control and Prevention, 2020).

Immunizations *continued*

Immunization Results

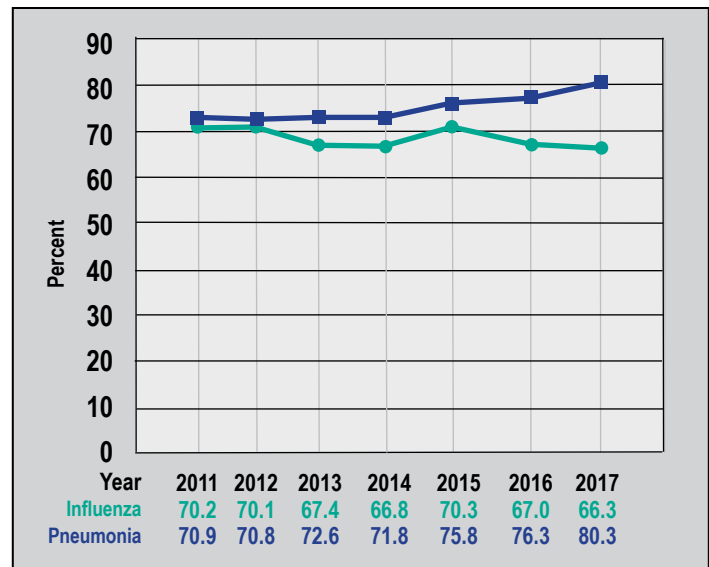
In 2017, 66.3% of lowans age 65 and over reported having a flu shot in the past 12 months. This was the lowest reported percentage since 2011 (see Figure 18.1).

Among all adults, 45.8% had a flu immunization in the past 12 months, which is a decrease from the percentage reported in 2016 (46.6%). Females, older people, those with more education and people with higher household incomes reported higher prevalence rates of having a flu immunization in the past year. In 2017, the lowest immunization in the past year. In 2017, the lowest percentage was reported among 18-24 year olds (33.0%), which was a decline from 2016 for this age group (36.7%). The highest prevalence rate was reported among those age 75 and older (71.6%; see Table 18.1).

In 2017, 80.3% of lowans age 65 and over reported ever having a pneumonia vaccination. This is the highest reported prevalence to date, and continues the upward trend observed since 2015 (see Figure 18.1).

Among all adults, 40.7% had ever received a pneumonia vaccination, which was a higher reported figure than in 2016 when 34.6% had. Older people reported the highest rates of having a vaccination in their lifetime (85.7% for 75+ year olds; see Table 18.1). The prevalence rate for 18-24 year olds ever receiving the pneumonia vaccination increased significantly from 31.5% in 2016 to 41.7% in 2017. Middle-aged adult lowans reported the lowest prevalence rates of receiving a pneumonia vaccination. Since vaccination is only recommended for those age 65 years and older except under special conditions (those of younger ages who are at high risk for pneumonia), this finding is consistent with current vaccination recommendations. Rates for ever receiving a pneumonia vaccination were similar between males and females.

Figure 18.1: Flu & Pneumonia Immunizations by Year, 2011 – 2017, Age >= 65



FACT

1 out of **3** 18-24 year olds had received a flu vaccination in 2017.

Table 18.1: Percentage of Influenza and Pneumonia Immunizations in Adult Iowans, 2017

Demographic Groups	Influenza		Pneumonia	
	%	C.I. (95%)	%	C.I. (95%)
Total	45.8	(44.4-47.2)	40.7	(39.2-42.1)
Sex				
Male	40.5	(38.6-42.4)	39.3	(37.3-41.3)
Female	50.9	(48.9-52.9)	41.9	(39.9-43.9)
Race/Ethnicity				
White/Non-Hisp.	46.4	(45.0-47.9)	41.5	(40.0-43.0)
Black/Non-Hisp.	41.8	(30.7-52.9)	48.2	(36.5-59.8)
Other/Non-Hisp.	35.1	(26.9-43.4)	29.9	(21.2-38.6)
Hispanic	45.2	(38.0-52.4)	26.8	(20.1-33.6)
Age Group				
18-24	33.0	(28.2-37.8)	41.7	(35.9-47.6)
25-34	37.3	(33.6-41.0)	21.7	(18.1-25.3)
35-44	37.4	(33.9-40.9)	22.0	(18.7-25.3)
45-54	39.8	(36.6-43.0)	19.1	(16.3-21.8)
55-64	50.3	(47.4-53.1)	35.1	(32.4-37.9)
65-74	62.2	(59.4-65.1)	76.1	(73.6-78.6)
75+	71.6	(68.2-75.0)	85.7	(83.1-88.3)
Education				
Less than H.S.	43.1	(36.7-49.5)	42.8	(36.1-49.4)
H.S. or G.E.D.	43.1	(40.7-45.4)	45.3	(42.9-47.8)
Some Post-H.S.	43.5	(41.0-45.9)	39.4	(36.9-41.9)
College Graduate	53.3	(51.0-55.5)	36.3	(34.1-38.5)
Household Income				
Less than \$15,000	45.5	(39.7-51.3)	51.5	(45.4-57.6)
\$15,000- 24,999	42.9	(38.9-46.8)	48.1	(43.9-52.3)
\$25,000- 34,999	43.7	(39.2-48.2)	49.2	(44.4-54.0)
\$35,000- 49,999	45.7	(41.9-49.5)	45.9	(41.9-50.0)
\$50,000- 74,999	42.2	(38.8-45.5)	34.7	(31.3-38.0)
\$75,000+	49.5	(47.1-52.0)	30.1	(27.8-32.4)



Adult Iowans who reported a lower household income had higher rates of ever receiving the pneumonia vaccine than those in the higher household income categories. For example, 30.1% of people with a household income of \$75,000 or more had ever received the pneumonia vaccine, while just over half (51.5%) of those with a household income of less than \$15,000 had received the vaccine before. The relation with education and income is the opposite of most health risk measures, though is a similar trend as what was observed in recent years of Iowa BRFSS data.

In 2017, results were mixed regarding the relationship between chronic conditions that could increase the risk of getting the flu or pneumonia and receiving the respective vaccinations. Of all respondents ever told they had diabetes, asthma, COPD, or kidney disease; 54.4% had a flu vaccination in the past 12 months, compared to 45.6% who had a chronic condition and had not received a flu vaccination. Of respondents ever told that they had one or more of the chronic health conditions above, a higher percentage had received a pneumonia vaccine in their lifetime (60.9%) than those with at least one chronic condition without a history of a pneumonia vaccine (39.1%). This difference was significant, resulting in a higher percentage of people with chronic condition(s) receiving the pneumonia vaccine, which is in line with what the Centers for Disease Control and Prevention recommends, in terms of people most at risk for pneumonia.

Comparison with Other States

The median percentage of the population age 65 and over who have had a flu shot in the past 12 months from all the states and the District of Columbia was 60.6% in 2017. The range was from 52.0% to 68.5%. The prevalence in Iowa was 66.3%, which was higher than the national median. Though flu vaccination rates among Iowans 65 years or older have declined over the past few years, Iowa was the fifth highest state for flu vaccination prevalence among this age group in 2017.

Immunizations *continued*

The national median percentage of the population age 65 years old and older who ever had a pneumonia vaccination was 75.4%. The range across the 50 states and the District of Columbia was from 68.4% to 78.3%. Iowa's rate for adults 65 years of age or older (80.3%) was above the national median. Iowa was among the top states for those 65 years or older ever receiving the pneumonia vaccination. Oklahoma and Iowa tied for having the sixth highest vaccination rate among the 50 states and the District of Columbia.

Health Objectives for Iowa and the Nation

The Healthy People 2020 and Healthy Iowans goals for having a flu shot in the past 12 months and ever having a pneumonia vaccination for people age 65 and over are both 90%. Although higher than the nation as a whole, Iowa's 2017 rates of 66.3% for having a flu vaccination and 80.3% for ever having a pneumonia vaccination are a long way from meeting these targets. The Healthy People 2020 goal for flu immunization of people age 18 to 64 is 80%. Iowa misses this by an even greater amount having a flu immunization prevalence rate of only 39.9% among this age group. The rate among younger Iowans was 41.1% in 2016, so the rate of flu vaccinations for younger adults in Iowa is moving in the opposite direction from the goal.

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FACT

The rates of flu and pneumonia vaccinations for Iowans are above the national medians, but still fall short of national and state targets.

Background

HIV stands for human immunodeficiency virus. This is the virus that causes acquired immunodeficiency syndrome (AIDS). HIV is different from most other viruses because it attacks the immune system. The immune system gives our bodies the ability to fight infections. HIV finds and destroys a type of white blood cell that the immune system must have to fight disease. AIDS is the final stage of HIV infection. It can take years for a person infected with HIV, even without treatment, to reach this stage. Having AIDS means that the virus has weakened the immune system to the point at which the body has a difficult time fighting infections (Centers for Disease Control and Prevention, 2020).

June 2017 marked the 36th year of experiencing the HIV epidemic (Centers for Disease Control and Prevention, 2011). In 2017, 36.82 million people were living with HIV infection worldwide, with 1.49 million cases being among those in the United States (Global Burden of Disease Collaborative Network, 2018). About one in seven (14%) people are living with HIV but do not know they are infected (U.S. Department of Health and Human Services, 2021). Not knowing puts them and others at risk.

In 2017, an estimated 37,000 people were diagnosed with HIV infection in the United States (Global Burden of Disease Collaborative Network, 2018).. The number of new HIV diagnoses has decreased from 37,800 in 2015 (U.S. Department of Health and Human Services, 2021). Because HIV testing has remained stable or increased in recent years, this decrease in new diagnoses suggests a positive response and true decline in new infections. The decrease may be due to targeted HIV prevention efforts. This being said, progress has been experienced unevenly, and diagnoses have increased among a few groups (Centers for Disease Control and Prevention, 2020; U.S. Department of Health and Human Services, 2021). Data suggests that HIV prevention and treatment are not sufficiently reaching the populations that could most benefit from them.

Groups with the largest exposure include “men who have sex with men (MSM)”, African Americans, Hispanics, transgender persons, injection drug users, and those who reside in the South. Data must be utilized to ensure targeted prevention efforts to reach those in greatest need, with a primary focus on young African American and

Hispanic men who identify as gay or bisexual, MSM, heterosexual persons, and those who inject drugs (U.S. Department of Health and Human Services, 2021).

African American and Hispanic men continue to be over-represented among persons with HIV diagnoses when compared to the sizes of their populations in Iowa. For example, even though Non-Hispanic Blacks represent 3% of Iowa’s population, they experienced 30% of the diagnoses in 2017; Hispanics represent 6% of the state’s population, but experienced a 13% rate of HIV diagnoses in 2017 (Iowa Department of Public Health, 2020).

The highest prevalence rate ever recorded was in 2016 when 136 new Iowans were diagnosed with HIV/AIDS. Since 2016, there was a decrease in HIV/AIDS prevalence in Iowa. As of December 31, 2017, there were 2,790 persons living with HIV or AIDS who were Iowa residents at the time of their diagnosis. There were 125 new diagnoses during 2017, which is a lower number of new diagnoses than in 2016 (Iowa Department of Public Health, 2020).

The lifetime costs of health care associated with HIV have grown considerably. Currently, the lifetime treatment cost of a single HIV infection is estimated at \$379,668 in 2010 dollars (Centers for Disease Control and Prevention, 2019).

The CDC recommends routine HIV testing in health care settings. People should get tested so they can receive treatment and not infect others. By being tested, people can become aware of their status and if diagnosed, can start receiving treatment and still remain healthy for many years down the road. If it is a negative diagnosis, individuals can further make decisions regarding sex, the use of drugs and health care regarding protection from getting HIV (Centers for Disease Control and Prevention, 2020). Treatment for HIV is better than ever before.

FACT

Getting routinely tested for HIV is recommended by the CDC.

HIV/AIDS Results

In 2017, 27.8% of all adult Iowans reported ever being tested for HIV, not including part of a blood donation. The rate for 2017 was the highest rate reported in Iowa over the last seven years (see Figure 19.1).

Females, those of minority race/ethnicity, adults between 25 and 44 years of age, and those with lower household incomes reported having been tested at higher rates. The largest proportion of respondents tested was among Non-Hispanic Blacks (55.6%). The smallest proportion reporting ever being tested were those age 75 years and older (4.8%; see Table 19.1). Compared to the rates by demographic groups in 2016, college graduates were the only group that reported an increase in being tested for HIV (27.2% in 2016 vs. 32.1% in 2017).

Figure 19.2 shows that in younger people, many more women report ever being tested, but for adults age 55 and older, testing rates for males slightly surpass those of females.



FACT

Women under the age of 55 report being tested for HIV at a higher rate than men.

Table 19.1: Percentage of Iowans Tested for HIV/AIDS, 2017

Demographic Groups	Had HIV Test	
	%	C.I. (95%)
Total	27.8	(26.5-29.1)
Sex		
Male	25.0	(23.2-26.7)
Female	30.4	(28.5-32.4)
Race/Ethnicity		
Non-Hispanic White	25.6	(24.3-26.9)
Non-Hispanic Black	55.6	(44.3-66.8)
Non-Hispanic Other	45.7	(36.3-55.0)
Hispanic	39.2	(32.1-46.4)
Age Group		
18-24	27.9	(23.2-32.7)
25-34	42.0	(38.1-45.9)
35-44	46.1	(42.5-49.8)
45-54	32.2	(29.1-35.3)
55-64	19.5	(17.2-21.8)
65-74	11.1	(9.3-13.0)
75+	4.8	(3.0-6.6)
Education		
Less than H.S.	26.2	(20.2-32.2)
H.S. or G.E.D.	23.3	(21.1-25.5)
Some Post-H.S.	28.6	(26.2-31.0)
College Graduate	32.1	(29.9-34.3)
Household Income		
<\$15,000	37.8	(31.8-43.8)
\$15,000- 24,999	34.8	(30.6-39.0)
\$25,000- 34,999	25.6	(21.4-29.8)
\$35,000- 49,999	25.6	(22.1-29.0)
\$50,000- 74,999	26.8	(23.6-30.0)
\$75,000+	29.3	(26.9-31.6)



Comparison with Other States

In all 50 states and the District of Columbia the percentage of people who had a test for HIV ranged from 23.9% to 70.0%. The median national percentage of people tested was 36.1%. Iowa had the fourth lowest rate of people tested for HIV across the 50 states and the District of Columbia, after South Dakota, Nebraska and Utah.

Health Objectives for the Nation

Healthy People 2020 has the goal of 16.9% of people age 15 to 44 being tested for HIV in the past 12 months. Iowa had a rate of 12.7% for respondents age 18 to 44 tested within this time period, which is trending in the right direction, but still below the goal.

Figure 19.1: Iowans Having HIV Test by Year, 2011 – 2017

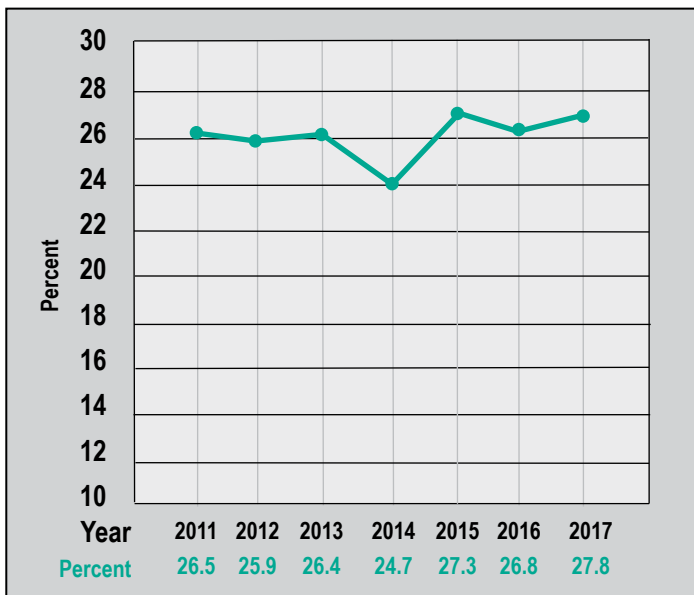
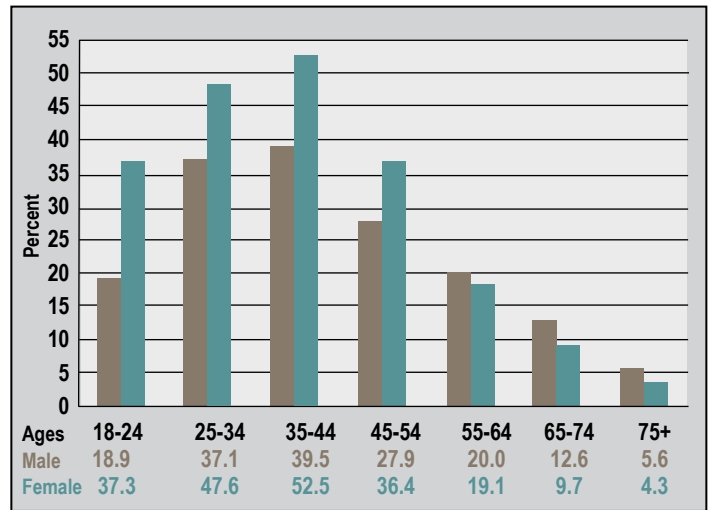


Figure 19.2: Percentage of Iowans Reporting Ever Being Tested for HIV by Age and Gender, 2017



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FACT

In 2017, Iowa had the 4th lowest HIV testing rate in the United States.

Mental Health & Adverse Childhood Experiences (ACEs)

Background

Mental health and mental illness are two different things. Mental health includes our emotional, psychological and social well-being. It affects how we think, feel, and act. It also helps determine how we handle stress, relate to others, and make healthy choices (Centers for Disease Control and Prevention, 2018). Mental illness refers to conditions that affect a person's thinking, feeling, mood or behavior, such as depression, anxiety, bipolar disorder, or schizophrenia (Centers for Disease Control and Prevention, 2018).

Physical health and mental health are inter-dependent. Poor physical health can lead to poor mental health, and poor mental health can lead to poor physical health. For example, mental illness, particularly depression, puts individuals at a higher risk for physical health problems such as stroke, type 2 diabetes and heart disease. Likewise, individuals who have chronic physical health conditions are at a higher risk for mental illness (Centers for Disease Control and Prevention, 2018). In 2017, an estimated 8.5 million adults aged 18 or older (3.4% of all adults) had any mental illness and at least one substance use disorder in the past year. About 3.1 million adults (1.3% of all adults) had co-occurring severe mental illness and an substance use disorder in the past year (Substance Abuse and Mental Health Services Administration, 2018).

Mental health and mental disorders have a significant impact on the total health-care system. In 2016, there were over 56.7 million visits to physician offices in which mental, behavioral or neurodevelopmental disorders were the primary diagnosis (Rui & Okeyode, 2019). The impact of mental illness is large. Mood disorders that include major depression, dysthymic disorder and bipolar disorder are the 3rd leading cause of hospitalization for U.S. adults aged 18-44. One out of every 25 U.S. adults has a condition called serious mental illness (SMI), in which individuals experience a mental illness or disorder in the past year "with serious functional impairment that substantially interferes with or limits one or more major life activities". Individuals living with SMI are at a higher risk for developing physical health problems like heart disease, diabetes, and human immunodeficiency virus (HIV) and have a shorter lifespan than others (Centers for Disease Control and Prevention, 2018).

Adverse childhood experiences (ACEs) are stressful or traumatic events that occur in childhood (0-17 years), including abuse and neglect. They may also include household dysfunction such as witnessing domestic violence or growing up with family members who have substance use disorders (Centers for Disease Control and Prevention, 2019). Experiences people have in early childhood can have a lifelong effect on both physical and mental health. A look at these experiences can help to focus on people likely to need special attention (Anda & Felitti, 2014), but more research is needed to determine if and how the potential benefits of screening for ACEs outweigh the potential harms (Afifi & Asmundson, 2020; McLennan, McTavish, & MacMillan, 2020).

Research has demonstrated a strong relationship between adverse childhood experiences, substance use disorders and behavioral problems. When children are exposed to chronic stressful events, their neurodevelopment can be disrupted. As a result, the child's cognitive functioning or ability to cope with negative or disruptive emotions may be impaired. Over time, and often during adolescence, the child may adopt negative coping mechanisms, such as substance use or self-harm. Eventually, these unhealthy coping mechanisms can contribute to disease, disability, and social problems, as well as premature mortality.

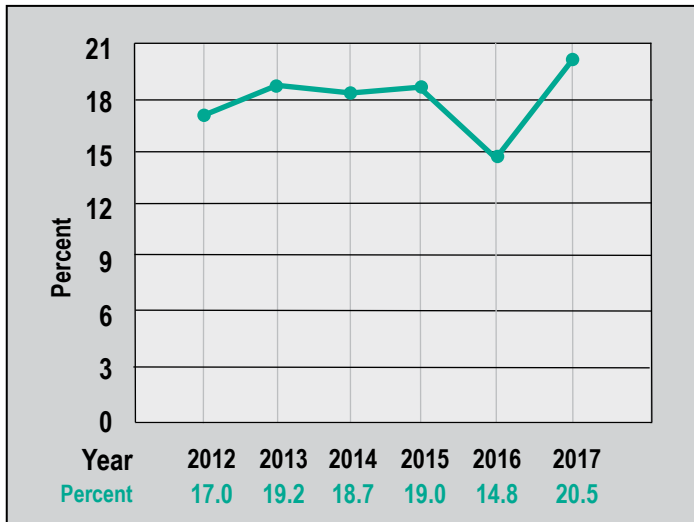
Mental Health and Adverse Childhood Experiences Results

In 2017, 20.5% of adults reported that they had been told within their lifetime that they had a depressive disorder, including depression, major depression, dysthymia or minor depression about various chronic conditions. This is the highest rate reported by adult lowans to date (see Figure 20.1).



Mental Health & Adverse Childhood Experiences (ACEs) *continued*

Figure 20.1: Iowans Ever told they had Depression by Year, 2012 – 2017



Adult women in Iowa reported experiencing depression at almost double the rate of men in 2017. Rates of reported depression were higher among lower income individuals and lower among older Iowans. The highest prevalence was reported among those with annual household incomes of less than \$15,000 (42.3%). The lowest prevalence was reported among those age 75 years or older (10.1%; see Table 20.1).

In 2017, BRFSS contained questions that explore the early childhood experiences of respondents. Respondents were asked to recall experiences they had before they were 18 years old specifically surrounding childhood abuse and neglect as well as household dysfunction. This data is then used to assess the impact of these childhood experiences on health and well-being in adult years. Questions used in the BRFSS are adapted from the CDC-Kaiser Permanente ACE study conducted from 1995 to 1997.

An adverse childhood experiences module was assessed in 2017. Rather than look at each question individually from this module, a single score will be determined based on all of the responses to the 11 questions. Iowans provided responses on a wide range of childhood experiences such as exposure to divorced, incarcerated, or drug abusing parents and physical, psychological or sexual abuse. The ACEs module contained 11 questions. For Iowans, 40.5% indicated no adverse childhood experiences, 21.8% indicated one, 20.5% indicated two or three, 9.4% indicated four or five, and 7.8% indicated six or more. This corresponds to about 144,174 adult Iowans with six or more

Table 20.1: Prevalence of Depression in Iowa Adults, 2017

Demographic Groups	Depressive Disorder	
	%	C.I. (95%)
Total	20.5	(19.4-21.6)
Sex		
Male	14.1	(12.8-15.5)
Female	26.7	(25.0-28.4)
Race/Ethnicity		
White/Non-Hispanic	20.9	(19.8-22.1)
Black/Non-Hispanic	15.6	(8.3-22.9)
Other/Non-Hispanic	16.8	(11.5-22.2)
Hispanic	19.0	(13.6-24.4)
Age Group		
18-24	24.1	(19.9-28.2)
25-34	22.5	(19.4-25.6)
35-44	22.5	(19.6-25.4)
45-54	22.7	(20.0-25.4)
55-64	21.1	(18.8-23.4)
65-74	16.8	(14.7-18.8)
75+	10.1	(8.0-12.1)
Education		
Less Than H.S.	26.0	(20.7-31.2)
H.S. or G.E.D.	19.8	(18.0-21.7)
Some Post-H.S.	22.3	(20.3-24.3)
College Graduate	17.1	(15.5-18.7)
Household Income		
Less than \$15,000	42.3	(36.9-47.8)
\$15,000- 24,999	26.7	(26.1-33.3)
\$25,000- 34,999	21.3	(17.7-25.0)
\$35,000- 49,999	21.3	(18.2-24.3)
\$50,000- 74,999	16.6	(13.9-19.2)
\$75,000+	14.1	(12.4-15.7)

ACEs, which was a small increase (0.8%) from 2016. Table 20.2 shows that depression, frequent mental distress and days of bad physical health were more prevalent among Iowans who reported 2 or more adverse childhood experiences (ACEs). Iowans who reported experiencing one ACE also reported being told they had a depressive disorder as well as had a higher prevalence of frequent mental distress than Iowans who reported experiencing zero ACEs. In general, as the number of reported ACEs increased, so did the prevalence rate of frequent mental distress and number of bad physical health days, but

Mental Health & Adverse Childhood Experiences (ACEs) *continued*

especially in reported depression (see Table 20.2). For example, in adult lowans who reported zero ACEs, 10.1% reported being diagnosed with a depressive disorder, while among lowans who reported 6 or more ACEs, the figure was 52.4%.

For other information related to mental health see Chapter 4 on general health status and health-related quality of life.

Health Objectives for the Nation

Healthy People 2020 proposed a goal to reduce the number of people who have experienced a major depressive episode to 5.8%. The 2017 Iowa BRFSS shows 20.5% of adult lowans reporting ever having a depressive disorder, though this figure could include depression, major depression, dysthymia, or minor depression. Although the statistics do not line up perfectly, this figure has increased over the past year, indicating a move in the opposite direction from the Healthy People 2020 goal.

Table 20.2: Percent of Mental and Physical Health Measures by Number of Adverse Childhood Experiences (ACEs), 2017

ACEs	Depression		Frequent Mental Distress (FMD)		>14 Days Bad Physical Health	
	Prevalence Rate (%)	C.I. (95%)	Prevalence Rate (%)	C.I. (95%)	Prevalence Rate (%)	C.I. (95%)
0	10.1	(8.8-11.4)	4.2	(3.2-5.2)	7.4	(6.2-8.6)
1	15.9	(13.5-18.2)	6.9	(5.3-8.5)	7.3	(5.7-8.9)
2 or 3	27.7	(24.6-30.8)	11.7	(9.4-13.9)	9.7	(7.8-11.6)
4 or 5	35.3	(30.3-40.2)	18.8	(14.9-22.8)	13.4	(10.2-16.7)
6 or more	52.4	(46.6-58.3)	32.6	(26.9-38.3)	21.5	(16.7-26.3)

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FACT

The average delay between mental illness symptom onset and treatment (therapy, medication, self-care) is 11 years. (National Alliance on Mental Illness, 2019).

Appendix – Iowa 2017 BRFSS Questionnaire

Section 1: Health Status

1.1 Would you say that in general your health is — (90)

Please read:

- 1 Excellent
- 2 Very good
- 3 Good
- 4 Fair, or
- 5 Poor

Do not read:

- 7 Don't know / Not sure
- 9 Refused

Section 2: Healthy Days – Health-Related Quality of Life

2.1 Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good? (91-92)

- Number of days
- 88 None
 - 77 Don't know / Not sure
 - 99 Refused

2.2 Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good? (93-94)

- Number of days
- 88 None [CATI NOTE: IF Q2.1 AND Q2.2 = 88 (NONE), GO TO NEXT SECTION]
 - 77 Don't know / Not sure
 - 99 Refused

2.3 During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation? (95-96)

- Number of days
- 88 None
 - 77 Don't know / Not sure
 - 99 Refused

Section 3: Health Care Access

3.1 Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, government plans such as Medicare, or Indian Health Service? (97)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

3.2 Do you have one person you think of as your personal doctor or health care provider?

If “No” ask: “Is there more than one, or is there no person who you think of as your personal doctor or health care provider?” (98)

- 1 Yes, only one
- 2 More than one
- 3 No
- 7 Don't know / Not sure
- 9 Refused

3.3 Was there a time in the past 12 months when you needed to see a doctor but could not because of cost? (99)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

3.4 A routine checkup is a general physical exam, not an exam for a specific injury, illness, or condition. About how long has it been since you last visited a doctor for a routine checkup? (100)

Read only if necessary:

- 1 Within the past year (anytime less than 12 months ago)
- 2 Within the past 2 years (1 year but less than 2 years ago)
- 3 Within the past 5 years (2 years but less than 5 years ago)
- 4 5 or more years ago

Do not read:

- 7 Don't know / Not sure
- 8 Never
- 9 Refused

Section 4: Hypertension Awareness

4.1 Have you EVER been told by a doctor, nurse, or other health professional that you have high blood pressure? (101)

Read only if necessary: By “other health professional” we mean a nurse practitioner, a physician’s assistant, or some other licensed health professional. If “Yes” and respondent is female, ask: “Was this only when you were pregnant?”

- 1 Yes
- 2 Yes, but female told only during pregnancy [GO TO NEXT SECTION]
- 3 No [GO TO NEXT SECTION]
- 4 Told borderline high or pre-hypertensive [GO TO NEXT SECTION]
- 7 Don't know / Not sure [GO TO NEXT SECTION]
- 9 Refused [GO TO NEXT SECTION]

4.2 Are you currently taking medicine for your high blood pressure? (102)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

Section 5: Cholesterol Awareness

5.1 Blood cholesterol is a fatty substance found in the blood. About how long has it been since you last had your blood cholesterol checked?(103)

Read only if necessary:

- 1 Never [GO TO NEXT SECTION]
- 2 Within the past year (anytime less than 12 months ago)
- 3 Within the past 2 years (1 year but less than 2 years ago)
- 4 Within the past 5 years (2 years but less than 5 years ago)
- 5 5 or more years ago

Do not read:

- 7 Don't know / Not sure
- 9 Refused [GO TO NEXT SECTION]

5.2 Have you EVER been told by a doctor, nurse or other health professional that your blood cholesterol is high? (104)

- 1 Yes
- 2 No [GO TO NEXT SECTION]
- 7 Don't know / Not sure [GO TO NEXT SECTION]
- 9 Refused [GO TO NEXT SECTION]

5.3 Are you currently taking medicine prescribed by a doctor or other health professional for your blood cholesterol? (105)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

Section 6: Chronic Health Conditions

Has a doctor, nurse, or other health professional EVER told you that you had any of the following? For each, tell me “Yes,” “No,” or you’re “Not sure.”

6.1 (Ever told) you that you had a heart attack also called a myocardial infarction? (106)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

Appendix – Iowa 2017 BRFSS Questionnaire *continued*

6.2 (Ever told) you had angina or coronary heart disease? (107)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

6.3 (Ever told) you had a stroke? (108)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

6.4 (Ever told) you had asthma? (109)

- 1 Yes
- 2 No [GO TO Q6.6]
- 7 Don't know / Not sure [GO TO Q6.6]
- 9 Refused [GO TO Q6.6]

6.5 Do you still have asthma? (110)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

6.6 (Ever told) you had skin cancer? (111)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

6.7 (Ever told) you had any other types of cancer? (112)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

6.8 (Ever told) you have Chronic Obstructive Pulmonary Disease or COPD, emphysema or chronic bronchitis? (113)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

6.9 (Ever told) you have some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia? (114)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

INTERVIEWER NOTE: ARTHRITIS DIAGNOSES INCLUDE:

- RHEUMATISM, POLYMYALGIA RHEUMATICA
- OSTEOARTHRITIS (NOT OSTEOPOROSIS)
- TENDONITIS, BURSITIS, BUNION, TENNIS ELBOW
- CARPAL TUNNEL SYNDROME, TARSAL TUNNEL SYNDROME
- JOINT INFECTION, REITER'S SYNDROME
- ANKYLOSING SPONDYLITIS; SPONDYLOSIS
- ROTATOR CUFF SYNDROME
- CONNECTIVE TISSUE DISEASE, SCLERODERMA, POLYMYOSITIS, RAYNAUD'S SYNDROME
- VASCULITIS (GIANT CELL ARTERITIS, HENOCH-SCHONLEIN PURPURA, WEGENER'S GRANULOMATOSIS,
- POLYARTERITIS NODOSA)

6.10 (Ever told) you have a depressive disorder, (including depression, major depression, dysthymia), or minor depression? (115)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

6.11 (Ever told) you have kidney disease? Do NOT include kidney stones, bladder infection or incontinence. (116)

INTERVIEWER NOTE: INCONTINENCE IS NOT BEING ABLE TO CONTROL URINE FLOW.

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

6.12 (Ever told) you have diabetes? (117)

[INTERVIEWER NOTE: If "Yes" and respondent is female, ask: "Was this only when you were pregnant?"]

[INTERVIEWER NOTE: If respondent says pre-diabetes or borderline diabetes, use response code 4.]

- 1 Yes
- 2 Yes, but female told only during pregnancy
- 3 No
- 4 No, pre-diabetes or borderline diabetes
- 7 Don't know / Not sure
- 9 Refused

[CATI NOTE: IF Q6.12 = 1 (YES), GO TO NEXT QUESTION. IF ANY OTHER RESPONSE TO Q6.12, GO TO PRE-DIABETES OPTIONAL MODULE]

6.13 How old were you when you were told you have diabetes? (118-119)

- __ Code age in years [97 = 97 and older]
- 98 Don't know / Not sure
- 99 Refused

[CATI NOTE: GO TO DIABETES OPTIONAL MODULE]

Module 1: Pre-Diabetes [FORM B ONLY]

1. Have you had a test for high blood sugar or diabetes within the past three years? (290)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

[CATI NOTE: IF CORE Q6.12 = 4 (NO, PRE-DIABETES OR BORDERLINE DIABETES); ANSWER Q2 "YES" (CODE = 1).]

2. Have you ever been told by a doctor or other health professional that you have pre-diabetes or borderline diabetes?

INTERVIEWER INSTRUCTIONS: IF "YES" AND RESPONDENT IS FEMALE, ASK: "WAS THIS ONLY WHEN YOU WERE PREGNANT?" (291)

- 1 Yes
- 2 Yes, during pregnancy
- 3 No
- 7 Don't know / Not sure
- 9 Refused

Module 2: Diabetes

[CATI NOTE: TO BE ASKED FOLLOWING CORE Q6.13; IF RESPONSE TO Q6.12 IS "YES" (1)] (292)

1. Are you now taking insulin?

- 1 Yes
- 2 No
- 9 Refused

2. About how often do you check your blood for glucose or sugar? Include times when checked by a family member or friend, but do NOT include times when checked by a health professional. (293-295)

INTERVIEWER NOTE: ENTER QUANTITY PER DAY, WEEK, OR MONTH

- 1 __ Times per day
- 2 __ Times per week
- 3 __ Times per month
- 4 __ Times per year
- 888 Never
- 777 Don't know / Not sure
- 999 Refused

Appendix – Iowa 2017 BRFSS Questionnaire *continued*

[INTERVIEWER NOTE: IF THE RESPONDENT USES A CONTINUOUS GLUCOSE MONITORING SYSTEM (A SENSOR INSERTED UNDER THE SKIN TO CHECK GLUCOSE LEVELS CONTINUOUSLY), FILL IN '98 TIMES PER DAY']

3. About how often do you check your feet for any sores or irritations? Include times when checked by a family member or friend, but do NOT include times when checked by a health professional. (296-298)

INTERVIEWER NOTE: ENTER QUANTITY PER DAY, WEEK, OR MONTH

- 1 __ Times per day
- 2 __ Times per week
- 3 __ Times per month
- 4 __ Times per year
- 555 No feet
- 888 Never
- 777 Don't know / Not sure
- 999 Refused

4. About how many times in the past 12 months have you seen a doctor, nurse, or other health professional for your diabetes? (299-300)

- __ Number of times [76 = 76 or more]
- 88 None
- 77 Don't know / Not sure
- 99 Refused

5. A test for "A one C" measures the average level of blood sugar over the past three months. About how many times in the past 12 months has a doctor, nurse, or other health professional checked you for "A one C"? (301-302)

- __ Number of times [76 = 76 or more]
- 88 None
- 98 Never heard of "A one C" test
- 77 Don't know / Not sure
- 99 Refused

[CATI NOTE: IF Q3 = 555 (NO FEET), GO TO Q7.]

6. About how many times in the past 12 months has a health professional checked your feet for any sores or irritations? (303-304)

- __ Number of times [76 = 76 or more]
- 88 None
- 77 Don't know / Not sure
- 99 Refused

7. When was the last time you had an eye exam in which the pupils were dilated? This would have made you temporarily sensitive to bright light. (305)

Read only if necessary:

- 1 Within the past month (anytime less than 1 month ago)
- 2 Within the past year (1 month but less than 12 months ago)
- 3 Within the past 2 years (1 year but less than 2 years ago)
- 4 2 or more years ago

Do not read:

- 7 Don't know / Not sure
- 8 Never
- 9 Refused

8. Has a doctor ever told you that diabetes has affected your eyes or that you had retinopathy? (306)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

9. Have you ever taken a course or class in how to manage your diabetes yourself? (307)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

Section 7: Arthritis Burden

[CATI NOTE: IF Q6.9 = 1 (YES) THEN CONTINUE, ELSE GO TO NEXT SECTION.]

Next, I will ask you about your arthritis.

Arthritis can cause symptoms like pain, aching, or stiffness in or around a joint.

7.1 Are you now limited in any way in any of your usual activities because of arthritis or joint symptoms? (120)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

INTERVIEWER INSTRUCTION: IF A QUESTION ARISES ABOUT MEDICATIONS OR TREATMENT, THEN THE INTERVIEWER SHOULD SAY: "PLEASE ANSWER THE QUESTION BASED ON YOUR CURRENT EXPERIENCE, REGARDLESS OF WHETHER YOU ARE TAKING ANY MEDICATION OR TREATMENT."

INTERVIEWER NOTE: Q7.2 SHOULD BE ASKED OF ALL RESPONDENTS REGARDLESS OF EMPLOYMENT STATUS.

7.2 In this next question, we are referring to work for pay. Do arthritis or joint symptoms now affect whether you work, the type of work you do, or the amount of work you do? (121)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

INTERVIEWER INSTRUCTION: IF RESPONDENT GIVES AN ANSWER TO EACH ISSUE (WHETHER RESPONDENT WORKS, TYPE OF WORK, OR AMOUNT OF WORK), THEN IF ANY ISSUE IS "YES" MARK THE OVERALL RESPONSE AS "YES."

IF A QUESTION ARISES ABOUT MEDICATIONS OR TREATMENT, THEN THE INTERVIEWER SHOULD SAY: "PLEASE ANSWER THE QUESTION BASED ON YOUR CURRENT EXPERIENCE, REGARDLESS OF WHETHER YOU ARE TAKING ANY MEDICATION OR TREATMENT."

7.3 During the past 30 days, to what extent has your arthritis or joint symptoms interfered with your normal social activities, such as going shopping, to the movies, or to religious or social gatherings? (122)

Please read [1-3]:

- 1 A lot
- 2 A little
- 3 Not at all

Do not read:

- 7 Don't know / Not sure
- 9 Refused

INTERVIEWER INSTRUCTION: IF A QUESTION ARISES ABOUT MEDICATIONS OR TREATMENT, THEN THE INTERVIEWER SHOULD SAY: "PLEASE ANSWER THE QUESTION BASED ON YOUR CURRENT EXPERIENCE, REGARDLESS OF WHETHER YOU ARE TAKING ANY MEDICATION OR TREATMENT."

7.4 Please think about the past 30 days, keeping in mind all of your joint pain or aching and whether or not you have taken medication. On a scale of 0 to 10 where 0 is no pain or aching and 10 is pain or aching as bad as it can be, DURING THE PAST 30 DAYS, how bad was your joint pain ON AVERAGE? (123-124)

- __ Enter number [00-10]
- 77 Don't know / Not sure
- 99 Refused

Appendix – Iowa 2017 BRFSS Questionnaire *continued*

Section 8: Demographics

8.1 Are you ... (125)

- 1 Male
- 2 Female
- 9 Refused

INTERVIEWER NOTE: ASK THIS QUESTION EVEN IF RESPONDENT'S SEX HAD BEEN IDENTIFIED DURING LANDLINE HOUSEHOLD ENUMERATION OR CELL PHONE SCREENING QUESTIONS.

8.2 What is your age? (126-127)

- __ Code age in years
- 07 Don't know / Not sure
- 09 Refused

8.3 Are you Hispanic, Latino/a, or Spanish origin? (128-131)

If yes, ask: Are you...

INTERVIEWER NOTE: One Or More Categories May Be Selected.

- 1 Mexican, Mexican American, Chicano/a
- 2 Puerto Rican
- 3 Cuban
- 4 Another Hispanic, Latino/a, or Spanish origin

Do not read:

- 5 No
- 7 Don't know / Not sure
- 9 Refused

8.4 Which one or more of the following would you say is your race? (132-159)

INTERVIEWER NOTE: SELECT ALL THAT APPLY.

INTERVIEWER NOTE: IF 40 (ASIAN) OR 50 (PACIFIC ISLANDER) IS SELECTED READ AND CODE SUBCATEGORIES UNDERNEATH MAJOR HEADING.

Please read:

- 10 White
- 20 Black or African American
- 30 American Indian or Alaska Native
- 40 Asian
- 41 Asian Indian
- 42 Chinese
- 43 Filipino
- 44 Japanese
- 45 Korean
- 46 Vietnamese
- 47 Other Asian
- 50 Pacific Islander
- 51 Native Hawaiian
- 52 Guamanian or Chamorro
- 53 Samoan
- 54 Other Pacific Islander

Do not read:

- 60 Other
- 88 No additional choices
- 77 Don't know / Not sure
- 99 Refused

[CATI NOTE: IF MORE THAN ONE RESPONSE TO Q8.4; CONTINUE. OTHERWISE, GO TO Q8.6.]

8.5 Which one of these groups would you say best represents your race?

INTERVIEWER NOTE: IF 40 (ASIAN) OR 50 (PACIFIC ISLANDER) IS SELECTED READ AND CODE SUBCATEGORY UNDERNEATH MAJOR HEADING. IF RESPONDENT HAS SELECTED MULTIPLE RACES IN PREVIOUS AND REFUSES TO SELECT A SINGLE RACE, CODE "REFUSED." (160-161)

- 10 White
- 20 Black or African American
- 30 American Indian or Alaska Native

- 40 Asian
- 41 Asian Indian
- 42 Chinese
- 43 Filipino
- 44 Japanese
- 45 Korean
- 46 Vietnamese
- 47 Other Asian
- 50 Pacific Islander
- 51 Native Hawaiian
- 52 Guamanian or Chamorro
- 53 Samoan
- 54 Other Pacific Islander

Do not read:

- 60 Other
- 77 Don't know / Not sure
- 99 Refused

8.6 Are you...?

Please read:

- 1 Married
- 2 Divorced
- 3 Widowed
- 4 Separated
- 5 Never married, or
- 6 A member of an unmarried couple

Do not read:

- 9 Refused

8.7 What is the highest grade or year of school you completed?(163)

Read only if necessary:

- 1 Never attended school or only attended kindergarten
- 2 Grades 1 through 8 (Elementary)
- 3 Grades 9 through 11 (Some high school)
- 4 Grade 12 or GED (High school graduate)
- 5 College 1 year to 3 years (Some college or technical school)
- 6 College 4 years or more (College graduate)

Do not read:

- 9 Refused

8.8 Do you own or rent your home?

Read only if necessary:

- 1 Own
- 2 Rent
- 3 Other arrangement

Do not read:

- 7 Don't know / Not sure
- 9 Refused

INTERVIEWER NOTE: "OTHER ARRANGEMENT" MAY INCLUDE GROUP HOME, STAYING WITH FRIENDS OR FAMILY WITHOUT PAYING RENT.

INTERVIEWER NOTE: HOME IS DEFINED AS THE PLACE WHERE YOU LIVE MOST OF THE TIME/THE MAJORITY OF THE YEAR.

INTERVIEWER NOTE: WE ASK THIS QUESTION IN ORDER TO COMPARE HEALTH INDICATORS AMONG PEOPLE WITH DIFFERENT HOUSING SITUATIONS.

8.9 In what county do you currently live? (165-167)

- ___ ANSI County Code (formerly FIPS county code)
- 777 Don't know / Not sure
- 999 Refused

8.10 What is the ZIP Code where you currently live? (168-172)

- _____ ZIP Code
- 77777 Don't know / Not sure
- 99999 Refused

Appendix – Iowa 2017 BRFSS Questionnaire *continued*

[CATI NOTE: IF CELL TELEPHONE INTERVIEW SKIP TO 8.14 (QSTVER GE 20)]

8.11 Do you have more than one telephone number in your household? Do not include cell phones or numbers that are only used by a computer or fax machine. (173)

- 1 Yes
- 2 No [GO TO Q8.13]
- 7 Don't know / Not sure [GO TO Q8.13]
- 9 Refused [GO TO Q8.13]

8.12 How many of these telephone numbers are residential numbers? (174)

- Residential telephone numbers [6 = 6 or more]
- 7 Don't know / Not sure
- 9 Refused

8.13 Including phones for business and personal use, do you have a cell phone for personal use? (175)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

8.14 Have you ever served on active duty in the United States Armed Forces, either in the regular military or in a National Guard or military reserve unit? **INTERVIEWER NOTE:** Active duty does not include training for the Reserves or National Guard, but DOES include activation, for example, for the Persian Gulf War. (176)

- 1 Yes
- 2 No

Do not read:

- 7 Don't know / Not sure
- 9 Refused

8.15 Are you currently...?

INTERVIEWER NOTE: IF MORE THAN ONE: SAY "SELECT THE CATEGORY WHICH BEST DESCRIBES YOU".

Please read: (177)

- 1 Employed for wages
- 2 Self-employed
- 3 Out of work for 1 year or more
- 4 Out of work for less than 1 year
- 5 A Homemaker
- 6 A Student
- 7 Retired, or
- 8 Unable to work

Do not read:

- 9 Refused

INTERVIEWER NOTE: DO NOT CODE 7 FOR "DON'T KNOW" ON THIS QUESTION.

8.16 How many children less than 18 years of age live in your household? (178-179)

- Number of children
- 88 None
- 99 Refused

[INTERVIEW IS CONSIDERED A PARTIAL AT THIS POINT]

8.17 Is your annual household income from all sources—

INTERVIEWER NOTE: IF RESPONDENT REFUSES AT ANY INCOME LEVEL, CODE '99' (REFUSED) (180-181)

- 04 Less than \$25,000 If "no," ask 05; if "yes," ask 03 (\$20,000 to less than \$25,000)
- 03 Less than \$20,000 If "no," code 04; if "yes," ask 02 (\$15,000 to less than \$20,000)
- 02 Less than \$15,000 If "no," code 03; if "yes," ask 01 (\$10,000 to less than \$15,000)
- 01 Less than \$10,000 If "no," code 02

- 05 Less than \$35,000 If "no," ask 06 (\$25,000 to less than \$35,000)
- 06 Less than \$50,000 If "no," ask 07 (\$35,000 to less than \$50,000)
- 07 Less than \$75,000 If "no," code 08 (\$50,000 to less than \$75,000)
- 08 \$75,000 or more

Do not read:

- 77 Don't know / Not sure
- 99 Refused

8.18 Have you used the internet in the past 30 days? (182)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

8.19 About how much do you weigh without shoes?

INTERVIEWER NOTE: IF RESPONDENT ANSWERS IN METRICS, PUT "9" IN COLUMN 183. ROUND FRACTIONS UP (183-186)

- / — Weight (pounds/kilograms)
- 7777 Don't know / Not sure
- 9999 Refused

8.20 About how tall are you without shoes?

INTERVIEWER NOTE: IF RESPONDENT ANSWERS IN METRICS, PUT "9" IN COLUMN 187. ROUND FRACTIONS DOWN (187-190)

- / — Height (ft/inches/meters/centimeters)
- 77/ 77 Don't know / Not sure
- 99/ 99 Refused

[CATI NOTE: IF MALE, GO TO 8.22, IF FEMALE RESPONDENT IS 50 YEARS OLD OR OLDER, GO TO Q8.22]

8.21 To your knowledge, are you now pregnant? (191)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

The following questions are about health problems or impairments you may have.

Some people who are deaf or have serious difficulty hearing may or may not use equipment to communicate by phone.

8.22 Are you deaf or do you have serious difficulty hearing? (192)

- 1 Yes
- 2 No
- 7 Don't know / Not Sure
- 9 Refused

8.23 Are you blind or do you have serious difficulty seeing, even when wearing glasses? (193)

- 1 Yes
- 2 No
- 7 Don't know / Not Sure
- 9 Refused

8.24 Because of a physical, mental, or emotional condition, do you have serious difficulty concentrating, remembering, or making decisions? (194)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

8.25 Do you have serious difficulty walking or climbing stairs? (195)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

8.26 Do you have difficulty dressing or bathing? (196)

Appendix – Iowa 2017 BRFSS Questionnaire *continued*

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

8.27 Because of a physical, mental, or emotional condition, do you have difficulty doing errands alone such as visiting a doctor's office or shopping? (197)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

Section 9: Tobacco Use

9.1 Have you smoked at least 100 cigarettes in your entire life? (198)

INTERVIEWER NOTE: 5 PACKS = 100 CIGARETTES

- 1 Yes
- 2 No [GO TO Q9.5]
- 7 Don't know / Not sure [GO TO Q9.5]
- 9 Refused [GO TO Q9.5]

INTERVIEWER NOTE: "FOR CIGARETTES, DO NOT INCLUDE: ELECTRONIC CIGARETTES (E-CIGARETTES, NJOY, BLUETIP), HERBAL CIGARETTES, CIGARS, CIGARILLOS, LITTLE CIGARS, PIPES, BIDIS, KRETEKS, WATER PIPES (HOOKAHS), OR MARIJUANA."

9.2 Do you now smoke cigarettes every day, some days, or not at all? (199)

Do not read:

- 1 Every day
- 2 Some days
- 3 Not at all [GO TO Q9.4]
- 7 Don't know / Not sure [GO TO Q9.5]
- 9 Refused [GO TO Q9.5]

9.3 During the past 12 months, have you stopped smoking for one day or longer because you were trying to quit smoking? (200)

- 1 Yes [GO TO Q9.5]
- 2 No [GO TO Q9.5]
- 7 Don't know / Not sure [GO TO Q9.5]
- 9 Refused [GO TO Q9.5]

9.4 How long has it been since you last smoked a cigarette, even one or two puffs? (201-202)

Read only if necessary:

- 01 Within the past month (less than 1 month ago)
- 02 Within the past 3 months (1 month but less than 3 months ago)
- 03 Within the past 6 months (3 months but less than 6 months ago)
- 04 Within the past year (6 months but less than 1 year ago)
- 05 Within the past 5 years (1 year but less than 5 years ago)
- 06 Within the past 10 years (5 years but less than 10 years ago)
- 07 10 years or more
- 08 Never smoked regularly

Do not read:

- 77 Don't know / Not sure
- 99 Refused

9.5 Do you currently use chewing tobacco, snuff, or snus every day, some days, or not at all? (203)

INTERVIEWER NOTE: SNUS (RHYMES WITH 'GOOSE')/ SNUS (SWEDISH FOR SNUFF) IS A MOIST SMOKELESS TOBACCO, USUALLY SOLD IN SMALL POUCHES THAT ARE PLACED UNDER THE LIP AGAINST THE GUM.

Do not read:

- 1 Every day
- 2 Some days
- 3 Not at all

Do not read:

- 7 Don't know / Not sure
- 9 Refused

Section 10: E-Cigarettes

The next questions are about electronic cigarettes and other electronic "vaping" products. These products typically contain nicotine, flavors, and other ingredients. Do not include products used only for marijuana.

INTERVIEWER NOTE: THESE QUESTIONS CONCERN ELECTRONIC VAPING PRODUCTS FOR NICOTINE USE. THE USE OF ELECTRONIC VAPING PRODUCTS FOR MARIJUANA USE IS NOT INCLUDED IN THESE QUESTIONS.

10.1 Have you ever used an e-cigarette or other electronic "vaping" product, even just one time, in your entire life? (204)

- 1 Yes
- 2 No [GO TO NEXT SECTION]
- 7 Don't know / Not Sure [GO TO NEXT SECTION]
- 9 Refused [GO TO NEXT SECTION]

Read if necessary: Electronic cigarettes (e-cigarettes) and other electronic "vaping" products include electronic hookahs (e-hookahs), vape pens, e-cigs, and others. These products are battery-powered and usually contain nicotine and flavors such as fruit, mint, or candy.

10.2 Do you now use e-cigarettes or other electronic "vaping" products every day, some days, or not at all? (205)

- 1 Every day
- 2 Some days
- 3 Not at all
- 7 Don't know / Not sure
- 9 Refused

Section 11: Alcohol Consumption

11.1 During the past 30 days, how many days per week or per month did you have at least one drink of any alcoholic beverage such as beer, wine, a malt beverage or liquor? (206-208)

- 1 __ Days per week
- 2 __ Days in past 30 days
- 888 No drinks in past 30 days [GO TO NEXT SECTION]
- 777 Don't know / Not sure [GO TO NEXT SECTION]
- 999 Refused [GO TO NEXT SECTION]

11.2 One drink is equivalent to a 12-ounce beer, a 5-ounce glass of wine, or a drink with one shot of liquor. During the past 30 days, on the days when you drank, about how many drinks did you drink on the average?

INTERVIEWER NOTE: A 40-ounce beer would count as 3 drinks, or a cocktail drink with 2 shots would count as 2 drinks. (209-210)

- __ Number of drinks
- 77 Don't know / Not sure
- 99 Refused

11.3 Considering all types of alcoholic beverages, how many times during the past 30 days did you have [CATI NOTE: 5 FOR MEN, 4 FOR WOMEN] or more drinks on an occasion? (211-212)

- __ Number of times
- 88 None
- 77 Don't know / Not sure
- 99 Refused

11.4 During the past 30 days, what is the largest number of drinks you had on any occasion? (213-214)

- __ Number of drinks
- 77 Don't know / Not sure
- 99 Refused

Section 12: Fruits and Vegetables

Now think about the foods you ate or drank during the past month, that is, the past 30 days, including meals and snacks.

INTERVIEWER INSTRUCTIONS: IF A RESPONDENT INDICATES THAT THEY CONSUME A FOOD ITEM EVERY DAY THEN ENTER THE NUMBER OF TIMES PER DAY. IF THE RESPONDENT INDICATES THAT THEY EAT A

Appendix – Iowa 2017 BRFSS Questionnaire *continued*

FOOD LESS THAN DAILY, THEN ENTER TIMES PER WEEK OR TIMES PER MONTH. **DO NOT ENTER TIMES PER DAY UNLESS THE RESPONDENT REPORTS THAT HE/SHE CONSUMED THAT FOOD ITEM EACH DAY DURING THE PAST MONTH.**

12.1 Not including juices, how often did you eat fruit? You can tell me times per day, times per week or times per month. (215-217)

INTERVIEWER NOTE: ENTER QUANTITY TIMES PER DAY, WEEK, OR MONTH.

IF RESPONDENT GIVES A NUMBER WITHOUT A TIME FRAME, ASK “WAS THAT PER DAY, WEEK, OR MONTH?”

IF RESPONDENT ASKS WHAT TO INCLUDE OR SAYS “I DON’T KNOW”, SAY: INCLUDE FRESH, FROZEN OR CANNED FRUIT. DO NOT INCLUDE DRIED FRUITS.

- 1__ Days
- 2__ Weeks
- 3__ Months
- 300 Less than once a month
- 555 Never
- 777 Don’t Know
- 999 Refused

12.2 Not including fruit-flavored drinks or fruit juices with added sugar, how often did you drink 100% fruit juice such as apple or orange juice? (218-220)

INTERVIEWER NOTE: ENTER QUANTITY IN TIMES PER DAY, WEEK, OR MONTH

INTERVIEWER NOTE: IF RESPONDENT GIVES A NUMBER WITHOUT A TIME FRAME, ASK “WAS THAT PER DAY, WEEK, OR MONTH?”

IF RESPONDENT ASKS ABOUT EXAMPLES OF FRUIT-FLAVORED DRINKS, SAY: “DO NOT INCLUDE FRUIT-FLAVORED DRINKS WITH ADDED SUGAR LIKE CRANBERRY COCKTAIL, HI-C, LEMONADE, KOOL-AID, GATORADE, TAMPICO, AND SUNNY DELIGHT. INCLUDE ONLY 100% PURE JUICES OR 100% JUICE BLENDS.”

- 1__ Days
- 2__ Weeks
- 3__ Months
- 300 Less than once a month
- 555 Never
- 777 Don’t Know
- 999 Refused

12.3 How often did you eat a green leafy or lettuce salad, with or without other vegetables? (221-223)

INTERVIEWER NOTE: ENTER QUANTITY IN TIMES PER DAY, WEEK, OR MONTH

INTERVIEWER NOTE: IF RESPONDENT GIVES A NUMBER WITHOUT A TIME FRAME, ASK “WAS THAT PER DAY, WEEK, OR MONTH?”

IF RESPONDENT ASKS ABOUT SPINACH, SAY: “INCLUDE SPINACH SALADS.”

- 1__ Days
- 2__ Weeks
- 3__ Months
- 300 Less than once a month
- 555 Never
- 777 Don’t Know
- 999 Refused

12.4 How often did you eat any kind of fried potatoes, including french fries, home fries, or hash browns? (224-226)

INTERVIEWER NOTE: ENTER QUANTITY IN TIMES PER DAY, WEEK, OR MONTH

INTERVIEWER NOTE: IF RESPONDENT GIVES A NUMBER WITHOUT A TIME FRAME, ASK “WAS THAT PER DAY, WEEK, OR MONTH?”

IF RESPONDENT ASKS ABOUT POTATO CHIPS, SAY: “DO NOT INCLUDE POTATO CHIPS.”

- 1__ Days
- 2__ Weeks
- 3__ Months
- 300 Less than once a month
- 555 Never
- 777 Don’t Know
- 999 Refused

12.5 How often did you eat any other kind of potatoes, or sweet potatoes, such as baked, boiled, mashed potatoes, or potato salad? (227-229)

INTERVIEWER NOTE: ENTER QUANTITY IN TIMES PER DAY, WEEK, OR MONTH

INTERVIEWER NOTE: IF RESPONDENT GIVES A NUMBER WITHOUT A TIME FRAME, ASK “WAS THAT PER DAY, WEEK, OR MONTH?”

IF RESPONDENT ASKS ABOUT WHAT TYPES OF POTATOES TO INCLUDE, SAY: “INCLUDE ALL TYPES OF POTATOES EXCEPT FRIED. INCLUDE POTATOES AU GRATIN, SCALLOPED POTATOES.”

- 1__ Days
- 2__ Weeks
- 3__ Months
- 300 Less than once a month
- 555 Never
- 777 Don’t Know
- 999 Refused

12.6 Not including lettuce salads and potatoes, how often did you eat other vegetables? (230-232)

INTERVIEWER NOTE: ENTER QUANTITY IN TIMES PER DAY, WEEK, OR MONTH.

INTERVIEWER NOTE: IF RESPONDENT GIVES A NUMBER WITHOUT A TIME FRAME, ASK “WAS THAT PER DAY, WEEK, OR MONTH?”

IF RESPONDENT ASKS ABOUT WHAT TO INCLUDE, SAY: “INCLUDE TOMATOES, GREEN BEANS, CARROTS, CORN, CABBAGE, BEAN SPROUTS, COLLARD GREENS, AND BROCCOLI. INCLUDE RAW, COOKED, CANNED, OR FROZEN VEGETABLES. DO NOT INCLUDE RICE.”

- 1__ Day
- 2__ Week
- 3__ Month
- 300 Less than once a month
- 555 Never
- 777 Don’t Know
- 999 Refused

Section 13: Exercise (Physical Activity)

The next few questions are about exercise, recreation, or physical activities other than your regular job duties.

INTERVIEWER INSTRUCTION: If respondent does not have a “regular job duty” or is retired, they may count the physical activity or exercise they spend the most time doing in a regular month.

13.1 During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise? (233)

- 1 Yes
- 2 No [GO TO Q13.8]
- 7 Don’t know / Not sure [GO TO Q13.8]
- 9 Refused[GO TO Q13.8]

13.2 What type of physical activity or exercise did you spend the most time doing during the past month? (234-235)

- __ [Specify] [See Physical Activity Coding List]
- 77 Don’t know / Not Sure [GO TO Q13.8]
- 99 Refused [GO TO Q13.8]

Appendix – Iowa 2017 BRFSS Questionnaire *continued*

INTERVIEWER INSTRUCTION: IF THE RESPONDENT'S ACTIVITY IS NOT INCLUDED IN THE PHYSICAL ACTIVITY CODING LIST, CHOOSE THE OPTION LISTED AS "OTHER".

13.3 How many times per week or per month did you take part in this activity during the past month? (236-238)

- 1__ Times per week
- 2__ Times per month
- 777 Don't know / Not sure
- 999 Refused

13.4 And when you took part in this activity, for how many minutes or hours did you usually keep at it? (239-241)

- :_:_ Hours and minutes
- 777 Don't know / Not sure
- 999 Refused

13.5 What other type of physical activity gave you the next most exercise during the past month? (242-243)

- __ [Specify] [See Physical Activity Coding List]
- 88 No other activity [GO TO Q13.8]
- 77 Don't know / Not Sure [GO TO Q13.8]
- 99 Refused [GO TO Q13.8]

INTERVIEWER INSTRUCTION: IF THE RESPONDENT'S ACTIVITY IS NOT INCLUDED IN THE CODING PHYSICAL ACTIVITY LIST, CHOOSE THE OPTION LISTED AS "OTHER".

13.6 How many times per week or per month did you take part in this activity during the past month? (244-246)

- 1__ Times per week
- 2__ Times per month
- 777 Don't know / Not sure
- 999 Refused

13.7 And when you took part in this activity, for how many minutes or hours did you usually keep at it? (247-249)

- :_:_ Hours and minutes
- 777 Don't know / Not sure
- 999 Refused

13.8 During the past month, how many times per week or per month did you do physical activities or exercises to STRENGTHEN your muscles? Do NOT count aerobic activities like walking, running, or bicycling. Count activities using your own body weight like yoga, sit-ups or push-ups and those using weight machines, free weights, or elastic bands. (250-252)

- 1__ Times per week
- 2__ Times per month
- 888 Never
- 777 Don't know / Not sure
- 999 Refused

Section 14: Seatbelt Use

14.1 How often do you use seat belts when you drive or ride in a car? Would you say — (253)

Please read:

- 1 Always
- 2 Nearly always
- 3 Sometimes
- 4 Seldom
- 5 Never

Do not read:

- 7 Don't know / Not sure
- 8 Never drive or ride in a car
- 9 Refused

Section 15: Immunization

Now I will ask you questions about the flu vaccine. There are two ways to get the flu vaccine, one is a shot in the arm and the other is a spray, mist, or drop in the nose called FluMist™.

15.1 During the past 12 months, have you had either a flu shot or a flu vaccine that was sprayed in your nose? (254)

Read only if necessary: A new flu shot came out in 2011 that injects vaccine into the skin with a very small needle. It is called Fluzone Intradermal vaccine. This is also considered a flu shot.

- 1 Yes
- 2 No [GO TO Q15.3]
- 7 Don't know / Not sure [GO TO Q15.3]
- 9 Refused [GO TO Q15.3]

15.2 During what month and year did you receive your most recent flu shot injected into your arm or flu vaccine that was sprayed in your nose? (255-260)

- __ / ____ Month / Year
- 77 / 7777 Don't know / Not sure
- 99 / 9999 Refused

15.3 A pneumonia shot or pneumococcal vaccine is usually given only once or twice in a person's lifetime and is different from the flu shot. Have you ever had a pneumonia shot? (261)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

[CATI NOTE: IF RESPONDENT IS LESS THAN 50 YEARS OF AGE, GO TO NEXT SECTION.]

15.4 Have you ever had the shingles or zoster vaccine? (262)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

INTERVIEWER NOTE (READ IF NECESSARY): SHINGLES IS CAUSED BY THE CHICKEN POX VIRUS. IT IS AN OUTBREAK OF RASH OR BLISTERS ON THE SKIN THAT MAY BE ASSOCIATED WITH SEVERE PAIN. A VACCINE FOR SHINGLES HAS BEEN AVAILABLE SINCE MAY 2006; IT IS CALLED ZOSTAVAX®, THE ZOSTER VACCINE, OR THE SHINGLES VACCINE.

Section 16: HIV/AIDS

The next few questions are about the national health problem of HIV, the virus that causes AIDS. Please remember that your answers are strictly confidential and that you don't have to answer every question if you do not want to. Although we will ask you about testing, we will not ask you about the results of any test you may have had.

16.1 Have you ever been tested for HIV? Do not count tests you may have had as part of a blood donation. Include testing fluid from your mouth. (263)

- 1 Yes
- 2 No [GO TO Q16.3]
- 7 Don't know / Not sure [GO TO Q16.3]
- 9 Refused [GO TO Q16.3]

16.2 Not including blood donations, in what month and year was your last HIV test?

INTERVIEWER INSTRUCTIONS: IF RESPONSE IS BEFORE JANUARY 1985, CODE "DON'T KNOW." IF THE RESPONDENT REMEMBERS THE YEAR BUT CANNOT REMEMBER THE MONTH, CODE THE FIRST TWO DIGITS 77 AND THE LAST FOUR DIGITS FOR THE YEAR. (264-269)

- __ / ____ Code month and year
- 77/7777 Don't know / Not sure
- 99/9999 Refused / Not sure

16.3 I am going to read you a list. When I am done, please tell me if any of the situations apply to you. You do not need to tell me which one. (270)

You have injected any drug other than those prescribed for you in the past year.

You have been treated for a sexually transmitted disease or STD in the past year.

Appendix – Iowa 2017 BRFSS Questionnaire *continued*

You have given or received money or drugs in exchange for sex in the past year.

You had anal sex without a condom in the past year.

You had four or more sex partners in the past year.

Do any of these situations apply to you?

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

Optional Modules

Module 3: Respiratory Health (COPD) [FORM A ONLY]

The next few questions are about breathing problems you may have.

1 During the past 3 months, did you have a cough on most days? (308)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

2 During the past 3 months, did you cough up phlegm [FLEM] or mucus on most days? (309)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

3 Do you have shortness of breath either when hurrying on level ground or when walking up a slight hill or stairs? (310)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

4 Have you ever been given a breathing test to diagnose breathing problems? (311)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

5 Over your lifetime, how many years have you smoked tobacco products? (312-313)

- __ Number of years (01-76)
- 88 Never smoked or smoked less than one year
- 77 Don't know / Not sure
- 99 Refused

Module 4: Cardiovascular Health

I would like to ask you a few more questions about your cardiovascular or heart health.

[CATI NOTE: IF CORE Q6.1 = 1 (YES), ASK Q1. IF CORE Q6.1 = 2, 7, or 9 (NO, DON'T KNOW, or REFUSED), SKIP Q1.]

1 Following your heart attack, did you go to any kind of outpatient rehabilitation? (This is sometimes called "rehab.") (314)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

[CATI NOTE: IF CORE Q6.3 = 1 (YES), ASK Q2. IF CORE Q6.3 = 2, 7, or 9 (NO, DON'T KNOW, or REFUSED), SKIP Q2.]

2 Following your stroke, did you go to any kind of outpatient rehabilitation? (This is sometimes called "rehab.") (315)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

INTERVIEWER NOTE: QUESTION 3 IS ASKED OF ALL RESPONDENTS

3 Do you take aspirin daily or every other day? (316)

INTERVIEWER NOTE: ASPIRIN CAN BE PRESCRIBED BY A HEALTH CARE PROVIDER OR OBTAINED AS AN OVER-THE-COUNTER (OTC) MEDICATION.

- 1 Yes [GO TO QUESTION 5]
- 2 No
- 7 Don't know / Not sure
- 9 Refused

4 Do you have a health problem or condition that makes taking aspirin unsafe for you? (317)

If "Yes," ask "Is this a stomach condition?" Code upset stomach as stomach problems.

- 1 Yes, not stomach related [GO TO NEXT MODULE]
- 2 Yes, stomach problems [GO TO NEXT MODULE]
- 3 No [GO TO NEXT MODULE]
- 7 Don't know / Not sure [GO TO NEXT MODULE]
- 9 Refused [GO TO NEXT MODULE]

5 Do you take aspirin to relieve pain? (318)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

6 Do you take aspirin to reduce the chance of a heart attack? (319)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

7 Do you take aspirin to reduce the chance of a stroke? (320)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

Module 13: Sugar Sweetened Beverages [FORM B ONLY]

1 During the past 30 days, how often did you drink regular soda or pop that contains sugar? Do not include diet soda or diet pop. (431-433)

Please read: You can answer times per day, week, or month: for example, twice a day, once a week, and so forth.

- 1 __ Times per day
- 2 __ Times per week
- 3 __ Times per month

Do not read:

- 888 None
- 777 Don't know / Not sure
- 999 Refused

2 During the past 30 days, how often did you drink sugar-sweetened fruit drinks (such as Kool-aid™ and lemonade), sweet tea, and sports or energy drinks (such as Gatorade™ and Red Bull™)? Do not include 100% fruit juice, diet drinks, or artificially sweetened drinks. (434-436)

Please read: You can answer times per day, week, or month: for example, twice a day, once a week, and so forth.

- 1 __ Times per day
- 2 __ Times per week
- 3 __ Times per month

Do not read:

- 888 None
- 777 Don't know / Not sure
- 999 Refused

Module 14: Sodium or Salt-Related Behavior [FORM B ONLY]

Most of the sodium or salt we eat comes from processed foods and foods prepared in restaurants. Salt also can be added in cooking or at the table.

1 Are you currently watching or reducing your sodium or salt intake? (430)

Appendix – Iowa 2017 BRFSS Questionnaire *continued*

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

2 Has a doctor or other health professional ever advised you to reduce sodium or salt intake? (431)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

State Added: Nutrition [FORM B ONLY]

SANQ1 During the past 30 days, about how often did you have milk, either to drink or on cereal? Include cow's milk and soy milk, but NOT rice, goat, coconut, and almond milk.

[INTERVIEWER NOTE: LACTOSE-FREE MILK COUNTS, BUT NOT SMALL AMOUNTS OF MILK OF ANY KIND IN COFFEE OR TEA.]

INTERVIEWER NOTE: ENTER QUANTITY IN TIMES PER DAY, WEEK, OR MONTH

INTERVIEWER NOTE: IF RESPONDENT GIVES A NUMBER WITHOUT A TIME FRAME, ASK "WAS THAT PER DAY, WEEK, OR MONTH?"

- 1__ Days
- 2__ Weeks
- 3__ Months
- 300 Less than once a month [GO TO NEXT MODULE]
- 555 Never [GO TO NEXT MODULE]
- 777 Don't Know [GO TO NEXT MODULE]
- 999 Refused [GO TO NEXT MODULE]

SANQ2 If you drink cow's milk, was the milk you typically drank or used; whole milk, reduced-fat 2%, low-fat 1%, or fat-free, skim milk?

[INTERVIEWER NOTE: IF MORE THAN ONE KIND MENTIONED, ASK "WHICH KIND DID YOU DRINK OR USE MOST OFTEN?"]

[INTERVIEWER NOTE: IF RESPONDENT SAYS "VITAMIN D MILK", PROBE BY REPEATING RESPONSE OPTIONS.]

- 1 Whole milk
- 2 Reduced Fat (2%)
- 3 Low fat (1%)
- 4 Fat free (skim)
- 5 I drink soy milk
- 7 Don't know / Not sure
- 9 Refused

Module 16: Preconception Health/Family Planning

[CATI NOTE: IF RESPONDENT IS FEMALE AND GREATER THAN 49 YEARS OF AGE, HAS HAD A HYSTERECTOMY, IS PREGNANT, OR IF RESPONDENT IS MALE GO TO THE NEXT MODULE.]

The next set of questions asks you about your thoughts and experiences with family planning. Please remember that all of your answers will be kept confidential.

1 Did you or your partner do anything the last time you had sex to keep you from getting pregnant? (436)

- 1 Yes
- 2 No [GO TO Q3]
- 3 No partner/not sexually active [GO TO NEXT MODULE]
- 4 Same sex partner [GO TO NEXT MODULE]
- 5 Has had a Hysterectomy [GO TO NEXT MODULE]
- 7 Don't know / Not sure [GO TO Q3]
- 9 Refused [GO TO Q3]

2 What did you or your partner do the last time you had sex to keep you from getting pregnant?

INTERVIEWER NOTE: IF RESPONDENT REPORTS USING MORE THAN ONE METHOD, PLEASE CODE THE METHOD THAT OCCURS FIRST ON THE LIST.

INTERVIEWER NOTE: IF RESPONDENT REPORTS USING "CONDOMS," PROBE TO DETERMINE IF "FEMALE CONDOMS" OR MALE CONDOMS."

INTERVIEWER NOTE: IF RESPONDENT REPORTS USING AN "IUD" PROBE TO DETERMINE IF "LEVONORGESTREL IUD" OR "COPPER-BEARING IUD."

INTERVIEWER NOTE: IF RESPONDENT REPORTS "OTHER METHOD," ASK RESPONDENT TO "PLEASE BE SPECIFIC" AND ENSURE THAT THEIR RESPONSE DOES NOT FIT INTO ANOTHER CATEGORY. IF RESPONSE DOES FIT INTO ANOTHER CATEGORY, PLEASE MARK APPROPRIATELY.

Read only if necessary: (437-438)

- 01 Female sterilization (ex. Tubal ligation, Essure, Adiana) [GO TO NEXT MODULE]
- 02 Male sterilization (vasectomy) [GO TO NEXT MODULE]
- 03 Contraceptive implant (ex. Implanon) [GO TO NEXT MODULE]
- 04 Levonorgestrel (LEE-voe-nor-JES-trel) (LNG) or hormonal IUD (ex. Mirena) [GO TO NEXT MODULE]
- 05 Copper-bearing IUD (ex. ParaGard) [GO TO NEXT MODULE]
- 06 IUD, type unknown [GO TO NEXT MODULE]
- 07 Shots (ex. Depo-Provera) [GO TO NEXT MODULE]
- 08 Birth control pills, any kind [GO TO NEXT MODULE]
- 09 Contraceptive patch (ex. Ortho Evra) [GO TO NEXT MODULE]
- 10 Contraceptive ring (ex. NuvaRing) [GO TO NEXT MODULE]
- 11 Male condoms [GO TO NEXT MODULE]
- 12 Diaphragm, cervical cap, sponge [GO TO NEXT MODULE]
- 13 Female condoms [GO TO NEXT MODULE]
- 14 Not having sex at certain times (rhythm or natural family planning) [GO TO NEXT MODULE]
- 15 Withdrawal (or pulling out) [GO TO NEXT MODULE]
- 16 Foam, jelly, film, or cream [GO TO NEXT MODULE]
- 17 Emergency contraception (morning after pill) [GO TO NEXT MODULE]
- 18 Other method [GO TO NEXT MODULE]

Do not read:

- 77 Don't know / Not sure
- 99 Refused

Some reasons for not doing anything to keep you from getting pregnant the last time you had sex might include wanting a pregnancy, not being able to pay for birth control, or not thinking that you can get pregnant.

3 What was your main reason for not doing anything the last time you had sex to keep you from getting pregnant? (439-440)

INTERVIEWER NOTE: IF RESPONDENT REPORTS "OTHER REASON," ASK RESPONDENT TO "PLEASE SPECIFY" AND ENSURE THAT THEIR RESPONSE DOES NOT FIT INTO ANOTHER CATEGORY. IF RESPONSE DOES FIT INTO ANOTHER CATEGORY, PLEASE MARK APPROPRIATELY.

Read only if necessary:

- 01 You didn't think you were going to have sex/no regular partner
- 02 You just didn't think about it
- 03 Don't care if you get pregnant
- 04 You want a pregnancy
- 05 You or your partner don't want to use birth control
- 06 You or your partner don't like birth control/side effects
- 07 You couldn't pay for birth control
- 08 You had a problem getting birth control when you needed it
- 09 Religious reasons
- 10 Lapse in use of a method
- 11 Don't think you or your partner can get pregnant (infertile or too old)
- 12 You had tubes tied (sterilization)
- 13 You had a hysterectomy
- 14 Your partner had a vasectomy (sterilization)
- 15 You are currently breast-feeding
- 16 You just had a baby/postpartum

Appendix – Iowa 2017 BRFSS Questionnaire *continued*

- 17 You are pregnant now
- 18 Same sex partner
- 19 Other reasons
- 77 Don't know / Not sure
- 99 Refused

Module 24: Social Determinants of Health

1 During the last 12 months, was there a time when you were not able to pay your mortgage, rent or utility bills? (476)

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

2 In the last 12 months, how many times have you moved from one home to another? (477-478)

- ___ Number of moves in past 12 months [01-52]
- 88 None (Did not move in past 12 months)
- 77 Don't know / Not sure
- 99 Refused

3 How safe from crime do you consider your neighborhood to be? Would you say... (479)

Please read:

- 1 Extremely safe
- 2 Safe
- 3 Unsafe
- 4 Extremely unsafe

Do not read:

- 7 Don't know / Not sure
- 9 Refused

4 For the next two statements, please tell me whether the statement was often true, sometimes true, or never true for you in the last 12 months (that is, since last [CATI NOTE: NAME OF CURRENT MONTH]). The first statement is, "The food that I bought just didn't last, and I didn't have money to get more."

Was that often, sometimes, or never true for you in the last 12 months? (480)

Please read:

- 1 Often true,
- 2 Sometimes true, or
- 3 Never true

Do not read:

- 7 Don't know / Not sure
- 9 Refused

5 I couldn't afford to eat balanced meals. Was that often, sometimes, or never true for you in the last 12 months? (481)

Please read:

- 1 Often true,
- 2 Sometimes true, or
- 3 Never true

Do not read:

- 7 Don't Know / Not sure
- 9 Refused

6 In general, how do your finances usually work out at the end of the month?

Do you find that you usually: (482)

Please read:

- 1 End up with some money left over,
- 2 Have just enough money to make ends meet, or
- 3 Do not have enough money to make ends meet

Do not read:

- 7 Don't know / Not sure
- 9 Refused

7 Stress means a situation in which a person feels tense, restless, nervous, or anxious, or is unable to sleep at night because his/her mind is troubled all the time. Within the last 30 days, how often have you felt this kind of stress? (483)

Please read:

- 1 None of the time,
- 2 A little of the time,
- 3 Some of the time,
- 4 Most of the time, or
- 5 All of the time

Do not read:

- 7 Don't know / Not sure
- 9 Refused

Module 26: Sexual Orientation and Gender Identity

The next two questions are about sexual orientation and gender identity.

INTERVIEWER NOTE: WE ASK THIS QUESTION IN ORDER TO BETTER UNDERSTAND THE HEALTH AND HEALTH CARE NEEDS OF PEOPLE WITH DIFFERENT SEXUAL ORIENTATIONS.

INTERVIEWER NOTE: PLEASE SAY THE NUMBER BEFORE THE TEXT RESPONSE. RESPONDENT CAN ANSWER WITH EITHER THE NUMBER OR THE TEXT/WORD.

1 Do you consider yourself to be: (684)

Please read:

- 1 1 Straight
- 2 2 - Lesbian or gay
- 3 3 - Bisexual

Do not read:

- 4 Other
- 7 Don't know / Not sure
- 9 Refused

2 Do you consider yourself to be transgender? (685)

IF YES, ASK "DO YOU CONSIDER YOURSELF TO BE 1. MALE-TO-FEMALE, 2. FEMALE-TO-MALE, OR 3. GENDER NON-CONFORMING?"

INTERVIEWER NOTE: PLEASE SAY THE NUMBER BEFORE THE TEXT RESPONSE. RESPONDENT CAN ANSWER WITH EITHER THE NUMBER OR THE TEXT/WORD.

Please read:

- 1 Yes, Transgender, male-to-female
- 2 Yes, Transgender, female to male
- 3 Yes, Transgender, gender nonconforming
- 4 No

Do not read:

- 7 Don't know / Not sure
- 9 Refused

INTERVIEWER NOTE: IF ASKED ABOUT DEFINITION OF

TRANSGENDER: SOME PEOPLE DESCRIBE THEMSELVES AS TRANSGENDER WHEN THEY EXPERIENCE A DIFFERENT GENDER IDENTITY FROM THEIR SEX AT BIRTH. FOR EXAMPLE, A PERSON BORN INTO A MALE BODY, BUT WHO FEELS FEMALE OR LIVES AS A WOMAN WOULD BE TRANSGENDER. SOME TRANSGENDER PEOPLE CHANGE THEIR PHYSICAL APPEARANCE SO THAT IT MATCHES THEIR INTERNAL GENDER IDENTITY. SOME TRANSGENDER PEOPLE TAKE HORMONES AND SOME HAVE SURGERY. A TRANSGENDER PERSON MAY BE OF ANY SEXUAL ORIENTATION – STRAIGHT, GAY, LESBIAN, OR BISEXUAL.

INTERVIEWER NOTE: IF ASKED ABOUT DEFINITION OF GENDER NON-CONFORMING: SOME PEOPLE THINK OF THEMSELVES AS GENDER NON-CONFORMING WHEN THEY DO NOT IDENTIFY ONLY AS A MAN OR ONLY AS A WOMAN.

State Added: Neighborhood Physical Activity [FORM B ONLY]

SANPAQ1 Overall, how would you rate your neighborhood as a place to walk? Would you say...

- 1 Very pleasant
- 2 Somewhat pleasant

Appendix – Iowa 2017 BRFSS Questionnaire *continued*

- 3 Not very pleasant
- 4 Not at all pleasant
- 7 Don't know / Not sure
- 9 Refused

SANPAQ2 Does your neighborhood have any sidewalks?

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

SANPAQ3 Do you use schools that are open in your community for public recreation activities?

- 1 Yes
- 2 No
- 3 Schools in my community are not open for the public to use
- 7 Don't know / Not sure
- 9 Refused

SANPAQ4 Do you use walking trails, parks, playgrounds, sports fields in your community for physical activity?

- 1 Yes
- 2 No
- 3 My community does not have these facilities
- 7 Don't know / Not sure
- 9 Refused

State Added: Tobacco

[Ask if Q9.1 = 1 AND Q9.2 = 1 or 2]

SATQ1 Currently, when you smoke cigarettes, how often do you smoke menthol cigarettes? Would you say...

- 1 All of the time,
- 2 Most of the time,
- 3 Some of the time,
- 4 Rarely, or
- 5 Never?
- 7 Don't know / Not sure
- 9 Refused:

Ask if Q9.1 = 1 AND (Q9.2 = 1 or 2 OR Q9.4 = 1)

SATQ2 During the past 30 days, what brand of cigarettes did you buy MOST often?

[DO NOT READ]

- 01 American Spirit
- 02 Basic (Branded Discount)
- 03 Camel
- 04 Benson and Hedges
- 05 Capri
- 06 Carlton
- 07 Doral (Branded Discount)
- 08 GPC
- 09 Kent
- 10 Kool
- 11 Liggett
- 12 Marlboro Gold
- 13 Marlboro Menthol
- 14 Marlboro Red
- 15 Marlboro (Other)
- 16 Maverick
- 17 Merit
- 18 Misty
- 19 Monarch
- 20 Newport Box
- 21 Newport Menthol Blue
- 22 Newport Menthol Gold
- 23 Newport (Other)
- 24 Pall Mall

- 25 Parliament
- 26 Pyramid
- 27 Salem
- 28 Santa Fe
- 29 U.S.A. Gold
- 30 Viceroy
- 31 Virginia Slims
- 32 Winston
- 55 Other Specified Brand
- 66 Did Not Buy One Brand Most Often During Past 30 Days
- 88 Did Not Buy Any Cigarette During Past 30 Days
- 77 Don't know / Not sure
- 99 Refused

[FOR EVERYONE]

SATQ3 Do you now smoke cigars, cigarillos, or little filtered cigars every day, some days, rarely or not at all?

- 1 Every day
- 2 Some days
- 3 Rarely
- 4 Not at all
- 7 Don't know / Not sure
- 9 Refused

SATQ4 Do you now smoke a regular pipe filled with tobacco every day, some days, rarely or not at all?

- 1 Every day
- 2 Some days
- 3 Rarely
- 4 Not at all
- 7 Don't know / Not sure
- 9 Refused

SATQ5 Have you ever tried smoking tobacco in a water pipe or hookah in your entire life, even one or two puffs?

- 1 Yes
- 2 No [Go to SATQ7]
- 7 Don't know / Not sure [Go to SATQ7]
- 9 Refused [Go to SATQ7]

SATQ6 Do you now smoke tobacco in a water pipe or hookah every day, some days, rarely or not at all?

- 1 Every day
- 2 Some days
- 3 Rarely
- 4 Not at all
- 7 Don't know / Not sure
- 9 Refused

SATQ7 If you have ever smoked part or all of a cigarette, even just one time in your entire life, how old were you that first time?

- ___ AGE IN YEARS
- 888 Never
- 777 Don't know / Not sure
- 999 Refused [IF Q10.1 > 1, SKIP SATQ9]

SATQ8 How old were you the first time you used an e-cigarette, even one or two puffs?

- ___ AGE IN YEARS
- 777 Don't know / Not sure
- 999 Refused

SATQ9 Quit lines are telephone or internet/web-based services that help people quit smoking or quit tobacco use. Have you ever heard of Quitline Iowa?

- 1 Yes
- 2 No [Go to SATQ11]
- 7 Don't know / Not sure [Go to SATQ11]
- 9 Refused [Go to SATQ11]

SATQ10 Have you ever used Quitline Iowa?

Appendix – Iowa 2017 BRFSS Questionnaire *continued*

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

INTERVIEWER NOTE: QUITLINE IOWA SERVICES MAY HAVE BEEN USED THROUGH A PHONE CALL TO QUITLINE IOWA OR THROUGH THE QUITLINE IOWA WEB SITE OR THE QUITLINE IOWA CELL PHONE APPLICATION. [SKIP IF (Q9.1 >= 2) OR (Q9.2 >= 3) OR (Q9.3 = 1)]

SATQ11 During the past 12 months, have you made a serious attempt to stop smoking cigarettes because you were TRYING to quit – even if you stopped for less than a day?

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

[ASK IF Q9.5 < 3 OR SATQ3 < 3 OR SATQ4 < 3 OR SATQ6 < 3]

SATQ12 During the past 12 months, have you made a serious attempt to stop using smokeless tobacco, cigars or pipe tobacco because you were TRYING to quit – even if you stopped for less than a day?

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

[ASK IF Q9.3 = 1 OR Q9.4 < 5 OR SATQ11 = 1 OR SATQ12 = 1]

SATQ13 Thinking back to the (LAST TIME/time) you tried to QUIT smoking or quit using tobacco in the past 12 months. Did you do ANY of the following...

- a Call a telephone help line or quit line?
 - b Use an internet or web-based program, app, smartphone or tool?
 - c Try to quit by SWITCHING to electronic or E-cigarettes?
 - d Try to quit by SWITCHING to some other form of tobacco?
 - e Try to stop by setting a specific date to stop smoking or using tobacco?
 - f Try to quit cold turkey?
 - g Try to quit with the support of family or friends?
 - h Try to quit using medications that help people stop using tobacco?
- 1 Yes
 - 2 No
 - 7 Don't know / Not sure
 - 9 Refused

[ASK IF (SATQ13a OR SATQ13b = 1) AND SATQ9 = 1]

SATQ14 Earlier you said you called a quit line or used a web-based or smartphone tool the last time you tried to quit using cigarettes or other tobacco. Was the service you used Quitline Iowa?

- 1 Yes
- 2 No
- 7 Don't know
- 9 Refused [ASK IF SATQ13h = 1]

SATQ15 Which medications did you use when you tried to quit?

Did you use...

- a Nicotine patches?
 - b Nicotine gum?
 - c Nicotine lozenges?
 - d Nicotine spray?
 - e Nicotine inhaler?
 - f Zyban, also called Wellbutrin or bupropion?
 - g Chantix, also called varenicline?
 - h Other medications to help you quit?
- 1 Yes
 - 2 No
 - 7 Don't know / Not sure
 - 9 Refused [ASK IF Q10.2 = 1 or 2]

SATQ16 The next question is about the reasons people use e-cigarettes.

Please tell me which reasons apply to you.

[INTERVIEWER NOTE: Say about E-cigarettes if required: You may also know them as vape pens, hookah-pens, e-hookahs, e-vaporizers, e-cigars, or e-pipes]

- a I can use e-cigarettes at times or in places where smoking cigarettes isn't allowed.
- b They might be less harmful to me than cigarettes.
- c They might be less harmful to people around me than cigarettes.
- d Using e-cigarettes helps people to quit smoking cigarettes.
- e They seem cheaper than cigarettes.

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused [Skip to SATQ18A if Q3.4 = 1]

SATQ17 Excluding visits to a dentist or dental hygienist, in the past 12 months, have you seen a doctor, nurse or other health care professional?

[INTERVIEWER NOTE: Answer is "YES" if they visited doctor, nurse practitioner or physician's assistant for ANY reason, not just smoking.]

- 1 Yes
- 2 No [GO TO NEXT MODULE]
- 7 Don't know / Not sure [GO TO NEXT MODULE]
- 9 Refused [GO TO NEXT MODULE]

[ASK IF Q9.2 = 1 or 2 OR Q9.4 < 5 OR Q9.5 = 1 or 2 OR SATQ3 = 1 or 2 OR SATQ4 = 1 or 2 OR SATQ6 = 1 or 2]

CATI/INTERVIEWER NOTE: E-cigarette users not asked and those who rarely use cigars, pipes, water pipes not asked.

SATQ18A In the PAST 12 MONTHS, when you visited your health care provider, did they ask about your tobacco use?

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

SATQ18B In the PAST 12 MONTHS, when you visited your health care provider, did they advise you to stop smoking or using tobacco?

- 1 Yes
- 2 No [GO TO NEXT MODULE]
- 7 Don't know / Not sure [GO TO NEXT MODULE]
- 9 Refused [GO TO NEXT MODULE]

SATQ19 Which method, if any, did they advise you to use?

[DO NOT READ – SELECT ALL THAT APPLY]

- 1 Suggest you call or use a telephone or web-based quit line
- 2 Suggest you use a smoking or tobacco use cessation class, program, or counseling
- 3 Recommend or prescribe a medicine to help you quit
- 4 Suggest you set a specific date to stop smoking or using tobacco
- 5 Suggest you stop cold turkey
- 6 Suggest some other method to quit
- 8 Did NOT suggest a method to quit
- 7 Don't know / Not sure
- 9 Refused [Ask if SATQ19 = 1 and SATQ9 = 1]

SATQ20 Earlier you said that a health care provider suggested you use a telephone or web-based quit line to help you stop using cigarettes or other tobacco. Was the service your provider recommended Quitline Iowa?

- 1 Yes
- 2 No
- 7 Don't know
- 9 Refused

State Added: Secondhand Smoke [FORM B ONLY]

SASSQ1 Not counting decks, porches, or garages, during the past 7 days, that is since last [TODAY'S DAY OF WEEK], on how many days did someone other than you smoke tobacco inside your home while you were at home?

Appendix – Iowa 2017 BRFSS Questionnaire *continued*

____ NUMBER OF DAYS [1-7]

88 NONE

77 Don't know / Not sure

99 REFUSED

SASSQ2 Not counting decks, porches, or garages, inside your home, is smoking ...

[CATI/INTERVIEWER NOTE: The order of the response categories for this question is being randomly reversed.]

1 Always Allowed

2 Allowed only at some times or in some places, or

3 Never allowed

Do not read:

6 Family does not have a smoking policy

7 Don't know / Not sure

9 Refused

State Added: Marijuana [FORM B ONLY]

SAMQ1 During the past 30 days, on how many days did you use marijuana or hashish?

__ (1-30) Number of Days

88 None (0 days)

77 Don't know / Not sure

99 Refused

State Added: Mental Health [FORM A ONLY]

Now, I am going to ask you some questions about how you have been feeling lately.

SAMHQ1 About how often during the past 30 days did you feel nervous — would you say all of the time, most of the time, some of the time, a little of the time, or none of the time?

1 All

2 Most

3 Some

4 A little

5 None

7 Don't know / Not sure

9 Refused

SAMHQ2 During the past 30 days, about how often did you feel hopeless — all of the time, most of the time, some of the time, a little of the time, or none of the time?

1 All

2 Most

3 Some

4 A little

5 None

7 Don't know / Not sure

9 Refused

SAMHQ3 During the past 30 days, about how often did you feel restless or fidgety? [If necessary: all, most, some, a little, or none of the time?]

1 All

2 Most

3 Some

4 A little

5 None

7 Don't know / Not sure

9 Refused

SAMHQ4 During the past 30 days, about how often did you feel so depressed that nothing could cheer you up? [If necessary: all, most, some, a little, or none of the time?]

1 All

2 Most

3 Some

4 A little

5 None

7 Don't know / Not sure

9 Refused

SAMHQ5 During the past 30 days, about how often did you feel that everything was an effort?

INTERVIEWER NOTE: If respondent asks what does "everything was an effort" mean say, "Whatever it means to you" [If necessary: all, most, some, a little, or none of the time?]

1 All

2 Most

3 Some

4 A little

5 None

7 Don't know / Not sure

9 Refused

SAMHQ6 During the past 30 days, about how often did you feel worthless? [If necessary: all, most, some, a little, or none of the time?]

1 All

2 Most

3 Some

4 A little

5 None

7 Don't know / Not sure

9 Refused

State Added: Physical and Emotional Neglect [FORM A ONLY]

I'd like to ask you some questions about events that happened during your childhood. This information will allow us to better understand problems that may occur early in life, and may help others in the future. This is a sensitive topic and some people may feel uncomfortable with these questions. At the end of this section, I will give you a phone number for an organization that can provide information and referral for these issues. Please keep in mind that you can ask me to skip any question you do not want to answer.

All questions refer to the time period before you were 18 years of age. Now, looking back before you were 18 years of age, how true were each of the following statements:

SAPENQ1 You knew there was someone to take care of you and protect you. Was this never true, rarely true, often true, or very often true?

1 never true,

2 rarely true,

3 often true, or

4 very often true?

7 Don't know / Not sure

9 Refused

SAPENQ2 Your parents were too drunk or high to take care of the family. Was this never true, rarely true, often true, or very often true?

1 never true,

2 rarely true,

3 often true, or

4 very often true?

7 Don't know / Not sure

9 Refused

SAPENQ3 There was someone in your family who helped you feel important or special. Was this never true, rarely true, often true, or very often true?

1 never true,

2 rarely true,

3 often true, or

4 very often true?

7 Don't know / Not sure

9 Refused

SAPENQ4 You felt loved? Was this never true, rarely true, often true, or very often true?

Appendix – Iowa 2017 BRFSS Questionnaire *continued*

- 1 never true,
- 2 rarely true,
- 3 often true, or
- 4 very often true?
- 7 Don't know / Not sure
- 9 Refused

SAPENQ5 There was someone to take you to the doctor if you needed it. Was this never true, rarely true, often true, or very often true?

- 1 never true,
- 2 rarely true,
- 3 often true, or
- 4 very often true?
- 7 Don't know / Not sure
- 9 Refused

SAPENQ6 Your family was a source of strength and support. Was this never true, rarely true, often true, or very often true?

- 1 never true,
- 2 rarely true,
- 3 often true, or
- 4 very often true?
- 7 Don't know / Not sure
- 9 Refused

State Added: Adverse Childhood Experiences

[ONLY SAY IF FORM B]

I'd like to ask you some questions about events that happened during your childhood. This information will allow us to better understand problems that may occur early in life, and may help others in the future. This is a sensitive topic and some people may feel uncomfortable with these questions. At the end of this section, I will give you a phone number for an organization that can provide information and referral for these issues. Please keep in mind that you can ask me to skip any question you do not want to answer.

All questions refer to the time period before you were 18 years of age. Now, looking back before you were 18 years of age—

[ONLY SAY IF FORM A]

Again, we are still talking about before you were 18 years of age.

SAASEQ1 Did you live with anyone who was depressed, mentally ill, or suicidal?

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

SAACEQ2 Did you live with anyone who was a problem drinker or alcoholic?

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

SAACEQ3 Did you live with anyone who used illegal street drugs or who abused prescription medications?

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

SAACEQ4 Did you live with anyone who served time or was sentenced to serve time in a prison, jail, or other correctional facility?

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

SAACEQ5 Were your parents separated or divorced?

- 1 Yes

- 2 No
- 8 Parents not married
- 7 Don't know / Not sure
- 9 Refused

SAACEQ6 How often did your parents or adults in your home ever slap, hit, kick, punch or beat each other up? Would you say...

- 1 Never,
- 2 Once, or
- 3 More than once?

Do not read:

- 7 Don't know / Not sure
- 9 Refused

SAACEQ7 Before age 18, how often did a parent or adult in your home ever hit, beat, kick, or physically hurt you in any way? Do not include spanking. Would you say...

- 1 Never,
- 2 Once, or
- 3 More than once?

Do not read:

- 7 Don't know / Not sure
- 9 Refused

SAACEQ8 How often did a parent or adult in your home ever swear at you, insult you, or put you down? Would you say...

- 1 Never,
- 2 Once, or
- 3 More than once?

Do not read:

- 7 Don't know / Not sure
- 9 Refused

SAACEQ9 How often did anyone at least 5 years older than you, or an adult, touch you sexually? Would you say...

- 1 Never,
- 2 Once, or
- 3 More than once?

Do not read:

- 7 Don't know / Not sure
- 9 Refused

SAACEQ10 How often did anyone at least 5 years older than you, or an adult, try to make you touch them sexually? Would you say...

- 1 Never,
- 2 Once, or
- 3 More than once?

Do not read:

- 7 Don't know / Not sure
- 9 Refused

SAACEQ11 How often did anyone at least 5 years older than you, or an adult, force you to have sex?

- 1 Never,
- 2 Once, or
- 3 More than once?

Do not read:

- 7 Don't know / Not sure
- 9 Refused

As I mentioned when we started this section, I would give you a phone number for an organization that can provide information and referral for these issues. Would you like that number? You can dial 1-800-422-4453 to reach the National Hotline for child abuse.

Appendix – Iowa 2017 BRFSS Questionnaire *continued*

State Added: Gambling

SAGQ1 Have you gambled or bet for money or possessions in the past 12 months?

- 1 Yes
- 2 No [FORM A: SKIP TO ASTHMA CALLBACK PERMISSION]
[FORM B: SKIP TO STATE ADDED HEALTH LITERACY]
- 7 Don't know / Not sure
[FORM A: SKIP TO ASTHMA CALLBACK PERMISSION]
[FORM B: SKIP TO STATE ADDED HEALTH LITERACY]
- 9 Refused [FORM A: SKIP TO ASTHMA CALLBACK PERMISSION]
[FORM B: SKIP TO STATE ADDED HEALTH LITERACY]

SAGQ2 During the past 12 months, have you become restless, irritable or anxious when trying to stop or cut down on gambling?

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

SAGQ3 During the past 12 months, have you tried to keep your family or friends from knowing how much you gamble?

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

SAGQ4 During the past 12 months, did you have such financial trouble as a result of your gambling that you had to get help with living expenses from family, friends, or welfare?

- 1 Yes
- 2 No
- 7 Don't know / Not sure
- 9 Refused

State Added: Health Literacy [FORM B ONLY]

SAHLQ1 How difficult is it for you to get advice or information about health or medical topics if you need it? Would you say it is...

- 1 Very easy,
- 2 Somewhat easy,
- 3 Somewhat difficult,
- 4 Very difficult, or
- 5 I don't look for health information?

Do not read

- 7 Don't know / Not sure
- 9 Refused

INTERVIEWER NOTE: Respondent can answer based on any source of health or medical advice or information. If the respondent asks what is meant by advice or information, interviewer re-reads the question to the respondent. If the respondent still doesn't understand, interviewer can say, "You can think about any source of health or medical advice or information."

SAHLQ2 How difficult is it for you to understand information that doctors, nurses and other health professionals tell you? Would you say it is...

- 1 Very easy
- 2 Somewhat easy
- 3 Somewhat difficult
- 4 Very difficult

Do not read

- 7 Don't know / Not sure
- 9 Refused

SAHLQ3 You can find written information about health on the Internet, in newspapers and magazines, and in brochures in the doctor's office and clinic. In general, how difficult is it for you to understand written health information? Would you say it is...

- 1 Very easy
- 2 Somewhat easy

- 3 Somewhat difficult
- 4 Very difficult
- 5 I don't pay attention to written health information

Do not read

- 7 Don't know / Not sure
- 9 Refused

Asthma Call-Back Permission Script

We would like to call you again within the next 2 weeks to talk in more detail about your experiences with asthma. The information will be used to help develop and improve the asthma programs in Iowa. The information you gave us today and any you give us in the future will be kept confidential. If you agree to this, we will keep your first name or initials and phone number on file, separate from the answers collected today. Even if you agree now, you or others may refuse to participate in the future. Would it be okay if we called you back to ask additional asthma-related questions at a later time?

- 1 Yes
- 2 No

Can I please have your first name or initials, so we will know who to ask for when we call back?

_____ Enter first name or initials.

What is a good time to call you back? For example, evenings, days, or weekends?

CLOSING STATEMENT

Landline

That was my last question. Everyone's answers will be combined to help us provide information about the health practices of people in Iowa. Also, I want to let you know that my supervisor will be checking my work and may be calling you back in a few weeks just to see how the interview went. Thank you very much for your time and cooperation.

Cell Phone: In state

That was my last question. Everyone's answers will be combined to help us provide information about the health practices of people in Iowa. Thank you very much for your time and cooperation.

Cell Phone: Out of state

That was my last question. Everyone's answers will be combined to help us provide information about the health practices of people in your state. Thank you very much for your time and cooperation.

Activity List for Common Leisure Activities

(To be used for Section 12: Physical Activity)

Code Description (Physical Activity, Questions 12.2 and 12.5 above)

- 01 Active Gaming Devices (Wii Fit, Dance, Dance revolution)
- 02 Aerobics video or class
- 03 Backpacking
- 04 Badminton
- 05 Basketball
- 06 Bicycling machine exercise
- 07 Bicycling
- 08 Boating (Canoeing, rowing, kayaking, sailing for pleasure or camping)
- 09 Bowling
- 10 Boxing
- 11 Calisthenics
- 12 Canoeing/rowing in competition
- 13 Carpentry
- 14 Dancing-ballet, ballroom, Latin, hip hop, Zumba, etc.
- 15 Elliptical/EFX machine exercise
- 16 Fishing from river bank or boat
- 17 Frisbee
- 18 Gardening (spading, weeding, digging, filling)
- 19 Golf (with motorized cart)

Appendix – Iowa 2017 BRFSS Questionnaire *continued*

- 20 Golf (without motorized cart)
- 21 Handball
- 22 Hiking – cross-country
- 23 Hockey
- 24 Horseback riding
- 25 Hunting large game – deer, elk
- 26 Hunting small game – quail
- 27 Inline Skating
- 28 Jogging
- 29 Lacrosse
- 30 Mountain climbing
- 31 Mowing lawn
- 32 Paddleball
- 33 Painting/papering house
- 34 Pilates
- 35 Racquetball
- 36 Raking lawn/trimming hedges
- 37 Running
- 38 Rock climbing
- 39 Rope skipping
- 40 Rowing machine exercises
- 41 Rugby
- 42 Scuba diving
- 43 Skateboarding
- 44 Skating – ice or roller
- 45 Sledding, tobogganing
- 46 Snorkeling
- 47 Snow blowing
- 48 Snow shoveling by hand
- 49 Snow skiing
- 50 Snowshoeing
- 51 Soccer
- 52 Softball/Baseball
- 53 Squash
- 54 Stair climbing/Stair master
- 55 Stream fishing in waders
- 56 Surfing
- 57 Swimming
- 58 Swimming in laps
- 59 Table tennis
- 60 Tai Chi
- 61 Tennis
- 62 Touch football
- 63 Volleyball
- 64 Walking
- 66 Waterskiing
- 67 Weight lifting
- 68 Wrestling
- 69 Yoga
- 71 Childcare
- 72 Farm/Ranch Work (caring for livestock, stacking hay, etc.)
- 73 Household Activities (vacuuming, dusting, home repair, etc.)
- 74 Karate/Martial Arts
- 75 Upper Body Cycle (wheelchair sports, ergometer)
- 76 Yard work (cutting/gathering wood, trimming, etc.)
- 98 Other _____
- 99 Refused



Iowa Department of Public Health
Protecting and Improving the Health of Iowans



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