Hypertension Prevalence, Awareness, Treatment, and Control Among Adults Age 18 and Older: United States, August 2021–August 2023

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Key findings

Data from the National Health and Nutrition Examination Survey

• During August 2021–August 2023, the prevalence of adult hypertension was 47.7%. Hypertension was higher in men (50.8%) than women (44.6%) and increased with age: 23.4% for ages 18–39, 52.5% for 40–59, and 71.6% for 60 and older.

• Among adults with hypertension, 59.2% were aware of their hypertension status.

• More than one-half of adults with hypertension were currently taking medication (51.2%) to lower blood pressure.

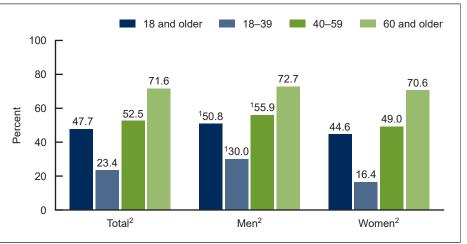
• About one-fifth of adults with hypertension had their blood pressure controlled (20.7%) to less than 130/80 mm Hg.

• No significant change was seen in awareness, treatment, or control of hypertension among adults with hypertension between 2017–March 2020 and August 2021–August 2023. Hypertension affects almost one-half the U.S. adult population (1) and is an important risk factor for cardiovascular disease (2). During 2017–March 2020, 48.1% of adults had hypertension. Among adults with hypertension, more than one-half reported taking medication to lower their blood pressure and about one-fifth had their blood pressure under control (3). This report presents the latest findings from the National Health and Nutrition Examination Survey on the prevalence, awareness, treatment, and control of hypertension among adults in the United States during August 2021–August 2023.

Were there differences in the prevalence of hypertension in adults by sex and age during August 2021–August 2023?

Hypertension prevalence in adults age 18 and older was 47.7% and was higher in men (50.8%) than women (44.6%) (Figure 1, Table 1). The prevalence of

Figure 1. Prevalence of hypertension in adults age 18 and older, by sex and age: United States, August 2021–August 2023



¹Significantly different from women in the same age group.

²Significant increasing trend by age.

NOTES: Hypertension is defined as systolic blood pressure greater than or equal to 130 mm Hg or diastolic blood pressure greater than or equal to 80 mm Hg, or currently taking medication to lower blood pressure. Estimates for age group 18 and older, when age adjusted by the direct method to the U.S. Census 2000 population using age groups 18–39, 40–59, and 60 and older, are 44.5% for total population, 48.8% for men, and 40.1% for women.

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, August 2021-August 2023.



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hypertension increased with age. The prevalence was 23.4% in adults ages 18–39 and increased to 52.5% for ages 40–59 and 71.6% for 60 and older.

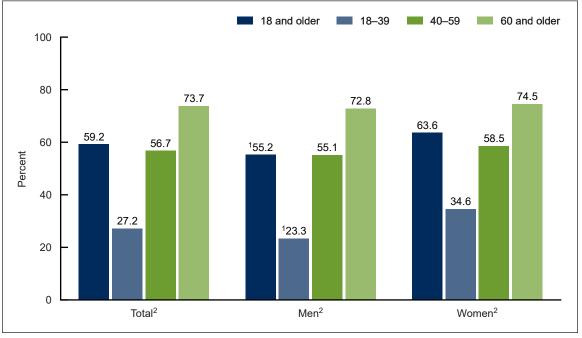
For both men and women, a similar pattern of increasing prevalence of hypertension by age was observed. Hypertension prevalence was higher in men than women ages 18–39 (30.0% compared with 16.4%) and 40–59 (55.9% compared with 49.0%), but the prevalence was not significantly different between men and women age 60 and older.

Did awareness of hypertension differ among adults with hypertension by sex and age during August 2021–August 2023?

During August 2021–August 2023, 59.2% of adults with hypertension were aware of their hypertension status (Figure 2, Table 2). The prevalence of hypertension awareness increased with age overall and among both men and women. The prevalence was 27.2% among adults ages 18–39 and increased to 56.7% for ages 40–59 and 73.7% for 60 and older.

Hypertension awareness was lower among men (55.2%) than women (63.6%) overall and among young adults 18–39 (23.3% compared with 34.6%), but the prevalence was not significantly different between men and women ages 40–59 and 60 and older.





¹Significantly different from women in the same age group.

²Significant increasing trend by age.

NOTES: Hypertension is defined as systolic blood pressure greater than or equal to 130 mm Hg or diastolic blood pressure greater than or equal to 80 mm Hg, or currently taking medication to lower blood pressure. Among those with hypertension, awareness is defined as a yes response to the survey question, "Have you ever been told by a doctor or health professional that you had hypertension, also called high blood pressure?"

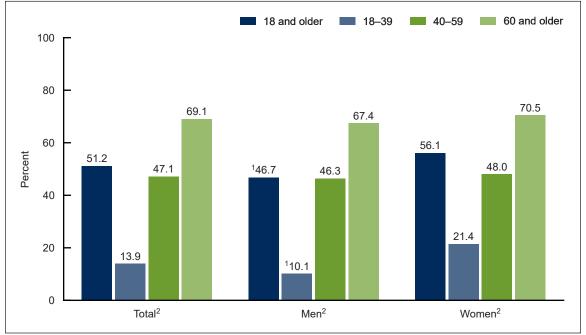
SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, August 2021–August 2023.

Did treatment of hypertension differ among adults with hypertension by sex and age during August 2021–August 2023?

Among adults with hypertension during August 2021–August 2023, 51.2% reported taking medications for treatment of their hypertension (Figure 3, Table 3). The prevalence of hypertension treatment increased with age overall and among men and women. The prevalence was 13.9% among adults ages 18–39 and increased to 47.1% for ages 40–59 and 69.1% for 60 and older.

Hypertension treatment was lower among men (46.7%) than women (56.1%) overall and among young adults 18–39 (10.1% compared with 21.4%), but the prevalence was not significantly different between men and women ages 40–59 and 60 and older.





¹Significantly different from women in the same age group.

²Significant increasing trend by age.

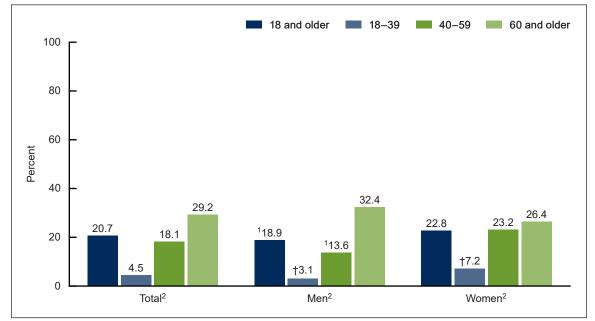
NOTES: Hypertension is defined as systolic blood pressure greater than or equal to 130 mm Hg or diastolic blood pressure greater than or equal to 80 mm Hg, or currently taking medication to lower blood pressure. Among those with hypertension, treatment is defined as currently taking medication to lower blood pressure, based on a yes response to the survey question, "Are you now taking any medication prescribed by a doctor for your high blood pressure?" SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, August 2021–August 2023.

Did control of hypertension differ among adults with hypertension by sex and age during August 2021–August 2023?

Among adults with hypertension, 20.7% had controlled hypertension during August 2021– August 2023 (Figure 4, Table 4). The prevalence of hypertension control increased with age overall and among men and women. The prevalence was 4.5% among adults ages 18–39 and increased to 18.1% for ages 40–59 and 29.2% for 60 and older.

The prevalence of controlled hypertension was lower among men (18.9%) than women (22.8%) overall and for those ages 40–59 (13.6% compared with 23.2%). The observed difference between men and women age 60 and older was not significant.

Figure 4. Prevalence of hypertension control among adults age 18 and older with hypertension, by sex and age: United States, August 2021–August 2023



† Estimate does not meet National Center for Health Statistics presentation standards for proportions; for more information, see "National Center for Health Statistics Data Presentation Standards for Proportions," available from: https://www.cdc.gov/nchs/data/series/sr_02/sr02_175.pdf. ¹Significantly different from women in the same age group.

²Significant increasing trend by age.

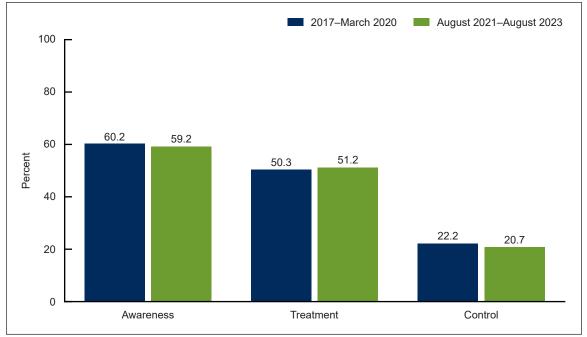
NOTES: Hypertension is defined as systolic blood pressure greater than or equal to 130 mm Hg or diastolic blood pressure greater than or equal to 80 mm Hg, or currently taking medication to lower blood pressure. Among those with hypertension, control is defined as having systolic blood pressure below 130 mm Hg and diastolic blood pressure below 80 mm Hg.

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, August 2021-August 2023.

Were there differences in the prevalence of awareness, treatment, or control of hypertension among adults with hypertension between 2017–March 2020 and August 2021–August 2023?

No significant change was seen between 2017–March 2020 and August 2021–August 2023 in the prevalence of hypertension awareness (60.2% compared with 59.2%), treatment (50.3% and 51.2%), or control (22.2% and 20.7%) among adults with hypertension (Figure 5, Table 5).





NOTES: Hypertension is defined as systolic blood pressure greater than or equal to 130 mm Hg or diastolic blood pressure greater than or equal to 80 mm Hg, or currently taking medication to lower blood pressure. Among those with hypertension, awareness is defined as a yes response to the survey question, "Have you ever been told by a doctor or health professional that you had hypertension, also called high blood pressure?", treatment is defined as currently taking medication to lower blood pressure, based on a yes response to the question, "Are you now taking any medication prescribed by a doctor for your high blood pressure?"; treatment is defined as having systolic blood pressure below 130 mm Hg and diastolic blood pressure below 60 mm Hg. SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, 2017–March 2020 and August 2021–August 2023.

Summary

Nearly 48% of U.S. adults had hypertension during August 2021–August 2023 (47.7%), consistent with 48.1% reported during 2017–March 2020 (3,4). The prevalence of hypertension increased with increasing age, with more than 70% of adults age 60 and older having hypertension.

Hypertension is a treatable chronic condition. Men were more likely than women to have hypertension, but among those with hypertension, a higher percentage of women were aware of their hypertension, reported treatment for hypertension, and had controlled hypertension. The reason for this sex difference may be multifaceted, and research shows that women generally seek health care more than men (5).

Based on recent national data from August 2021 through August 2023, the prevalence of hypertension remains above the Healthy People 2030 target goal to lower blood pressure to

41.9% of the population or below (6). However, the prevalence of controlled hypertension at 20.7% is higher than the Healthy People 2030 target goal of 18.9% or above (7).

Definitions

<u>Hypertension</u>: Systolic blood pressure of 130 mm Hg or above or diastolic blood pressure of 80 mm Hg or above, or currently taking medication to lower blood pressure. This definition is based on criteria from the American College of Cardiology and American Heart Association's 2017 Hypertension Guideline (8). Previously published National Center for Health Statistics reports have used a higher threshold of 140/90 mm Hg (9,10).

<u>Awareness of hypertension</u>: Among those with hypertension, indicated by a yes response to the survey question, "Have you ever been told by a doctor or health professional that you had hypertension, also called high blood pressure?"

<u>Treatment for hypertension</u>: Among those with hypertension, defined as currently taking medication to lower blood pressure, based on a yes response to the survey question, "Are you now taking any medication prescribed by a doctor for your high blood pressure?" This definition does not include lifestyle modifications for treatment of hypertension.

<u>Controlled hypertension</u>: Among those with hypertension, defined as having systolic blood pressure below 130 mm Hg and diastolic blood pressure below 80 mm Hg.

Data source and methods

Data for this report are from the August 2021–August 2023 National Health and Nutrition Examination Survey, a cross-sectional survey designed to monitor the health and nutritional status of the U.S. civilian noninstitutionalized population (11). The survey is conducted by the Centers for Disease Control and Prevention's National Center for Health Statistics. The survey sample is selected through a complex, multistage design and consists of interviews conducted in the participant's home or by phone; a standardized health examination that includes blood pressure measurement in a mobile examination center; and laboratory tests using blood and urine specimens provided during the health examination (12). Unlike previous years, no oversampling was done by race and Hispanic origin or income.

An average of up to three brachial systolic and diastolic blood pressure readings were taken using an oscillometric device. All blood pressure readings were obtained during a participant's health examination in the mobile examination center by trained staff following a standard protocol (13). Examination sample weights, which account for the differential probabilities of selection, nonresponse, and noncoverage, were incorporated into the estimation process. All variance estimates accounted for the complex survey design using Taylor series linearization. Analyses excluded pregnant women.

Differences between groups were tested using a *t* statistic at the p < 0.05 significance level. All differences reported are statistically significant unless otherwise indicated. Adjustments were not made for multiple comparisons. Statistical analyses were conducted using the SAS System for Windows (Release 9.4, SAS Institute Inc., Cary, N.C.) and SUDAAN (Release 11.1, RTI International, Research Triangle Park, N.C.).

About the authors

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Figure Tables

Data table for Figure 1. Prevalence of hypertension in adults age 18 and older, by sex and age: United States, August 2021–August 2023

Sex and age group	Sample size	Percent (95% confidence interval)	Standard error
Total			
18 and older (age adjusted)	6,084	44.5 (42.1–46.9)	1.1
18 and older (crude)	6,084	47.7 (45.4–49.9)	1.1
18–39	1,712	23.4 (20.2–26.9)	1.6
40–59	1,681	52.5 (49.5–55.4)	1.4
60 and older	2,691	71.6 (68.7–74.3)	1.3
Men			
18 and older (age adjusted)	2,776	48.8 (46.2–51.4)	1.2
18 and older (crude)	2,776	50.8 (48.4–53.2)	1.1
18–39	787	30.0 (26.2–34.1)	1.8
40–59	752	55.9 (50.6–61.1)	2.4
60 and older	1,237	72.7 (68.8–76.4)	1.7
Women			
18 and older (age adjusted)	3,308	40.1 (37.2-43.1)	1.3
18 and older (crude)	3,308	44.6 (41.4–47.8)	1.5
18–39	925	16.4 (12.6–21.0)	1.9
40–59	929	49.0 (45.8–52.3)	1.5
60 and older	1,454	70.6 (67.2–73.8)	1.5

NOTES: Hypertension is defined as systolic blood pressure greater than or equal to 130 mm Hg or diastolic blood pressure greater than or equal to 80 mm Hg, or currently taking medication to lower blood pressure. Age-adjusted estimates for adults age 18 and older were age adjusted by the direct method to the U.S. Census 2000 population using age groups 18–39, 40–59, and 60 and older.

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, August 2021-August 2023.

Data table for Figure 2. Prevalence of hypertension awareness among adults age 18 and older with hypertension, by sex and age: United States, August 2021–August 2023

Sex and age group	Sample size	Percent (95% confidence interval)	Standard error
Total			
18 and older	3,240	59.2 (56.4–61.9)	1.3
18–39	399	27.2 (21.4–33.6)	2.8
40–59	897	56.7 (51.3–62.0)	2.4
60 and older	1,944	73.7 (70.8–76.4)	1.3
Men			
18 and older	1,575	55.2 (52.4–57.9)	1.3
18–39	225	23.3 (16.2–31.8)	3.5
40–59	431	55.1 (49.7–60.4)	2.5
60 and older	919	72.8 (68.6–76.8)	1.9
Women			
18 and older	1,665	63.6 (60.1–67.0)	1.6
18–39	174	34.6 (26.5–43.5)	3.9
40–59	466	58.5 (51.9–64.9)	3.0
60 and older	1,025	74.5 (69.8–78.7)	2.0

NOTES: Hypertension is defined as systolic blood pressure greater than or equal to 130 mm Hg or diastolic blood pressure greater than or equal to 80 mm Hg, or currently taking medication to lower blood pressure. Among those with hypertension, awareness is defined as a yes response to the survey question, "Have you ever been told by a doctor or health professional that you had hypertension, also called high blood pressure?"

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, August 2021-August 2023.

		Percent (95% confidence	
Sex and age group	Sample size	` interval)	Standard error
Total			
18 and older	3,238	51.2 (48.6–53.7)	1.2
18–39	399	13.9 (10.0–18.7)	1.9
40–59	896	47.1 (42.8–51.5)	2.0
60 and older	1,943	69.1 (66.3–71.7)	1.3
Men			
18 and older	1,574	46.7 (43.6-49.9)	1.5
18–39	225	10.1 (5.1–17.4)	2.7
40–59	430	46.3 (40.9–51.8)	2.5
60 and older	919	67.4 (61.9–72.6)	2.5
Women			
18 and older	1,664	56.1 (53.0-59.2)	1.4
18–39	174	21.4 (15.2–28.7)	3.1
40–59	466	48.0 (41.7–54.4)	2.9
60 and older	1,024	70.5 (66.7–74.1)	1.7

Data table for Figure 3. Prevalence of hypertension treatment among adults age 18 and older with hypertension, by sex and age: United States, August 2021–August 2023

NOTES: Hypertension is defined as systolic blood pressure greater than or equal to 130 mm Hg or diastolic blood pressure greater than or equal to 80 mm Hg, or currently taking medication to lower blood pressure. Among those with hypertension, treatment is defined as currently taking medication to lower blood pressure, based on a yes response to the survey question, "Are you now taking any medication prescribed by a doctor for your high blood pressure?"

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, August 2021-August 2023.

Data table for Figure 4. Prevalence of hypertension control among adults age 18 and older with hypertension, by sex and age: United States, August 2021–August 2023

Sex and age group	Sample size	Percent (95% confidence interval)	Standard error
Total			
18 and older	3,242	20.7 (18.8–22.8)	0.9
18–39	399	4.5 (2.7–7.0)	0.9
40–59	897	18.1 (14.9–21.6)	1.5
60 and older	1,946	29.2 (25.5–33.1)	1.7
Men			
18 and older	1,577	18.9 (16.5–21.5)	1.2
18–39	225	†3.1 (0.9–7.4)	1.3
40–59	431	13.6 (9.7–18.3)	1.9
60 and older	921	32.4 (26.6–38.6)	2.7
Women			
18 and older	1,665	22.8 (19.8–26.0)	1.4
18–39	174	†7.2 (2.7–15.1)	2.6
40–59	466	23.2 (18.8–28.0)	2.1
60 and older	1,025	26.4 (22.6–30.5)	1.8

† Estimate does not meet National Center for Health Statistics presentation standards for proportions; for more information, see "National Center for Health Statistics Data Presentation Standards for Proportions," available from: https://www.cdc.gov/nchs/data/series/sr_02/sr02_175.pdf.

NOTES: Hypertension is defined as systolic blood pressure greater than or equal to 130 mm Hg or diastolic blood pressure greater than or equal to 80 mm Hg, or currently taking medication to lower blood pressure. Among those with hypertension, control is defined as having systolic blood pressure below 130 mm Hg and diastolic blood pressure below 80 mm Hg.

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, August 2021–August 2023.

Data table for Figure 5. Prevalence of hypertension awareness, treatment, and control among adults age 18 and older with hypertension: United States, 2017–March 2020 and August 2021–August 2023

Survey year and hypertension characteristic	Sample size	Percent (95% confidence interval)	Standard error
Awareness	4,297	60.2 (57.4–63.0)	1.3
Treatment	4,295	50.3 (47.5-53.1)	1.4
Control	4,305	22.2 (20.6–23.9)	0.8
August 2021–August 2023			
Awareness	3,240	59.2 (56.4–61.9)	1.3
Treatment	3,328	51.2 (48.6-53.7)	1.2
Control	3,242	20.7 (18.8–22.8)	0.9

NOTES: Hypertension is defined as systolic blood pressure greater than or equal to 130 mm Hg or diastolic blood pressure greater than or equal to 80 mm Hg, or currently taking medication to lower blood pressure. Among those with hypertension, awareness is defined as a yes response to the survey question, "Have you ever been told by a doctor or health professional that you had hypertension, also called high blood pressure?"; treatment is defined as currently taking medication to lower blood pressure, based on a yes response to the question, "Are you now taking any medication prescribed by a doctor for your high blood pressure?"; and control is defined as having systolic blood pressure below 130 mm Hg and diastolic blood pressure below 80 mm Hg.

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, 2017–March 2020 and August 2021–August 2023.

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