**SUPPLEMENTARY TABLE 2. Adjusted prevalence of elevated blood pressure (BP) and hypertension by weight status in youths aged 12–19 years — National Health and Nutritional Examination Survey, United States 2001–2004 through 2013–2016**

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| --- | --- | --- | --- | --- | --- |
| Guidelines/weight status\* | **NHANES**  **2001–2004**  **N = 4,169** | **NHANES**  **2005–2008**  **N = 3,076** | **NHANES**  **2009–2012**  **N = 2,319** | **NHANES**  **2013–2016**  **N = 2,440** | ***P*-Value for Trend**† |
| **Hypertension (New Guideline)§** | | | | | |
| Overall | 7.7 (6.5–9.2) | 7.9 (6.2–9.9) | 5.4 (4.4–6.5) | 4.2 (3.3–5.3) | <0.001 |
| Healthy | 5.4 (4.1–7.0) | 5.7 (4.1–8.0) | 3.6 (2.7–4.6) | 1.9 (1.2–3.0) | <0.001 |
| Overweight | 10.2 (7.7–13.5) | 9.1 (5.8–14.1) | 5.6 (3.3–9.2) | 5.3 (3.2–8.6) | 0.004 |
| Obesity (all) | 14.1 (10.6–18.4) | 14.0 (10.6–18.2) | 10.6 (7.5–14.7) | 9.4 (6.7–13.0) | 0.030 |
| -Severe Obesity | 18.8 (12.1–27.9) | 16.0 (10.7–23.2) | 11.8 (7.0–19.2) | 13.8 (9.8–19.1) | 0.185 |
| **Elevated BP (New Guideline)§** | | | | | |
| Overall | 11.0 (9.7–12.4) | 11.6 (9.9–13.5) | 11.2 (9.5–13.1) | 10.4 (8.9–12.1) | 0.532 |
| Healthy | 7.9 (6.8–9.3) | 9.0 (7.2–11.1) | 9.0 (7.3–11.1) | 7.3 (5.9–9.1) | 0.580 |
| Overweight | 11.0 (8.6–13.9) | 15.0 (11.3–19.7) | 15.2 (11.0–20.6) | 11.3 (7.8–16.3) | 0.881 |
| Obesity (all) | 21.9 (17.4–27.1) | 17.3 (13.6–21.9) | 14.8 (10.4–20.5) | 18.1 (14.9–21.7) | 0.146 |
| -Severe Obesity | 21.9 (16.3–28.7) | 20.9 (15.7–27.4) | 15.3 (8.9–25.2) | 16.8 (13.2–21.2) | 0.093 |
| **Combined Hypertension + Elevated BP (New Guideline)§** | | | | | |
| Overall | 18.7 (16.9–20.6) | 19.5 (16.4–22.9) | 16.5 (14.5–18.7) | 14.6 (12.8–16.5) | <0.001 |
| Healthy | 13.3 (11.5–15.3) | 14.7 (11.6–18.4) | 12.6 (10.3–15.3) | 9.2 (7.6–11.2) | 0.002 |
| Overweight | 21.2 (17.5–25.3) | 24.2 (19.1–30.1) | 20.8 (15.5–27.3) | 16.6 (12.3–22.2) | 0.100 |
| Obesity (all) | 35.9 (30.2–42.0) | 31.3 (26.0–37.2) | 25.4 (21.4–29.9) | 27.5 (23.4–31.9) | 0.007 |
| -Severe Obesity | 40.6 (32.7–49.1) | 36.9 (28.4–46.4) | 27.1 (19.3–36.6) | 30.6 (25.4–36.3) | 0.015 |
| **Hypertension (Former Guideline)¶** | | | | | |
| Overall | 3.2 (2.4–4.1) | 3.0 (2.1–4.2) | 1.9 (1.3–2.8) | 1.5 (1.0–2.2) | <0.001 |
| Healthy | 2.2 (1.5–3.3) | 2.1 (1.1–3.9) | 1.2 (0.7–2.1) | 0.6 (0.3–1.2) | 0.001 |
| Overweight | 3.3 (1.8–5.9) | 3.0 (1.5–6.1) | 2.5 (1.1–5.6) | 1.9 (1.0–3.3) | 0.176 |
| Obesity (all) | 6.4 (4.4–9.2) | 5.7 (3.3–9.6) | 3.6 (1.9–6.8) | 3.7 (2.3–5.9) | 0.035 |
| -Severe Obesity | 9.5 (5.2–16.7) | 6.3 (3.5–11.0) | 5.2\*\* (2.2–12.0) | 5.6 (3.6–8.6) | 0.180 |
| **Elevated BP (Former Guideline)¶** | | | | | |
| Overall | 14.8 (13.3–16.5) | 15.4 (13.0–18.1) | 13.9 (12.0–16.0) | 12.1 (10.5–13.9) | 0.013 |
| Healthy | 10.5 (9.3–11.9) | 11.6 (9.3–14.3) | 10.8 (8.5–13.6) | 7.8 (6.4–9.5) | 0.015 |
| Overweight | 17.5 (13.9–21.9) | 20.3 (15.9–25.6) | 18.0 (13.3–23.7) | 14.1 (10.1–19.3) | 0.200 |
| Obesity (all) | 27.8 (23.0–33.3) | 24.2 (19.1–30.0) | 20.3 (16.3–25.0) | 22.3 (18.7–26.3) | 0.045 |
| -Severe Obesity | 29.9 (23.9–36.6) | 29.1 (21.9–37.5) | 21.8 (15.1–30.4) | 24.3 (19.3–30.0) | 0.080 |
| **Combined Hypertension + Elevated BP (Former Guideline)¶** | | | | | |
| Overall | 18.0 (16.3–19.8) | 18.4 (15.5–21.7) | 15.8 (13.9–18.0) | 13.6 (12.0–15.4) | <0.001 |
| Healthy | 12.7 (11.0–14.6) | 13.7 (10.8–17.1) | 12.0 (9.7–14.8) | 8.4 (6.9–10.1) | <0.001 |
| Overweight | 20.9 (17.3–25.0) | 23.4 (18.3–29.2) | 20.4 (15.1–27.0) | 15.9 (11.8–21.1) | 0.076 |
| Obesity (all) | 34.3 (29.3–39.6) | 29.9 (24.5–35.9) | 24.0 (19.9–28.7) | 25.9 (21.8–30.5) | 0.004 |
| -Severe Obesity | 39.4 (31.6–47.9) | 35.4 (26.7–45.2) | 27.0 (19.2–36.5) | 29.8 (24.5–35.7) | 0.023 |

**Abbreviations:** 95% CI = 95% confidence interval; NHANES = National Health and Nutritional Examination Survey.

\* Body Mass Index (BMI) is compared with age- and sex-specific reference values from the 2000 CDC growth charts (http://www.cdc.gov/growthcharts/cdc\_charts.htm). Healthy = BMI-for-age ≥5th-<85th, overweight = BMI-for-age ≥85th-<95th percentile, obesity = BMI-for-age ≥95% percentile. Severe obesity = BMI-for-age ≥120% of 95th percentile. Persons classified as underweight (BMI-for-age <5th percentile) are excluded.

†*P*-value for trends across the surveys using t-test with logistic regression model adjusted for age, sex, and race/ethnicity; all tests 2-tailed.

**§**New Guideline: youths aged 12–17 years – elevated blood pressure (BP) = BP ≥90th percentile to <95th percentile or 120 mm Hg to <95th percentile (whichever was lower); hypertension = BP ≥95th percentile, orsystolic blood pressure (SBP) ≥130 mm Hg, ordiastolic blood pressure (DBP) ≥80 mm Hg, ortaking anti-hypertensive medication (available for persons aged 16–19 years). Persons aged 18–19 years – elevated BP = mean SBP ≥120 to <130 mm Hg and mean DPB <80 mm Hg; hypertension = SBP ≥130 mm Hg, orDBP ≥80 mm Hg, ortaking anti-hypertensive medication

**¶**Former Guideline: youths aged 12–17 years – elevated BP (formerly “prehypertension”) = mean SBP or DBP ≥90th to <95th percentile or observed BP levels ≥120/80 mmHg to <95th percentile; hypertension = mean SBP or DBP ≥95th percentile (using 2004 age, sex, and height percentile tables), or use of anti-hypertensive medication. Persons aged 18–19 years – elevated BP = mean SBP ≥120 to <140 mm Hg or mean DBP ≥80 mm Hg and <90 mm Hg; hypertension = SBP ≥140 mm Hg, or DBP ≥90 mm Hg, or use of anti-hypertensive medication.

\*\* indicates relative standard error (RSE) >30%.