

Health E-Stat 115: Cigarette and Electronic Cigarette Use Among Adults by Urbanization Level: United States, 2024

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Cigarette smoking is the leading preventable contributor to disease and death in the United States, and, along with secondhand smoke exposure, causes various cancers and diseases (1). Electronic cigarette (or e-cigarette) use has been attributed to several respiratory, neurological, and cardiovascular effects (2). Although cigarette use has decreased among U.S. adults, e-cigarette use has increased (3,4). Previous research has shown that the prevalence of cigarette smoking is higher in rural areas compared with urban areas (5), but less data on e-cigarette use by urbanization level are available.

This *Health E-Stat* reports the percentage of U.S. adults age 18 and older who used cigarettes or e-cigarettes by urbanization level.

In 2024, 9.9% of all adults used cigarettes and 7.0% used e-cigarettes. The percentage of adults who used cigarettes increased with decreasing urbanization level, from 8.0% each in large central and large fringe metropolitan counties to 15.4% in nonmetropolitan counties (Figure 1, Table 1). Patterns were similar by age group. Across all urbanization levels, the percentage of adults who used cigarettes increased from ages 18–24 to ages 45–64, and then decreased among those age 65 and older. The percentage of adults who used e-cigarettes increased with decreasing urbanization level, from 6.1% in large central metropolitan counties to 9.2% in nonmetropolitan counties (Figure 2, Table 2). Patterns were also generally similar by age group.

Data source and methods

Data are from the 2024 National Health Interview Survey (NHIS), a survey of the U.S. civilian noninstitutionalized population (6). The 2024 NHIS included an oversample of rural households. Estimates of cigarette and e-cigarette use are shown by urbanization level. Linear and quadratic trends by urbanization level were evaluated using orthogonal polynomials.

Cigarette use was measured based on a “yes” response to the survey question, “Have you smoked at least 100 cigarettes in your entire life?” and a response of “every day” or “some days” to the question, “Do you now smoke cigarettes every day, some days, or not at all?” E-cigarette use was based on a “yes” response to the survey question, “Have you ever used an e-cigarette or



other electronic vaping product, even just one time, in your entire life?” and a response of “every day” or “some days” to the survey question, “Do you now use e-cigarettes or other electronic vaping products every day, some days, or not at all?”

Urbanization level was classified based on the 2023 NCHS Urban–Rural Classification Scheme for counties: large central metropolitan, large fringe metropolitan, medium small metropolitan, and nonmetropolitan (7). All estimates presented meet the National Center for Health Statistics presentation standards for proportions (8).

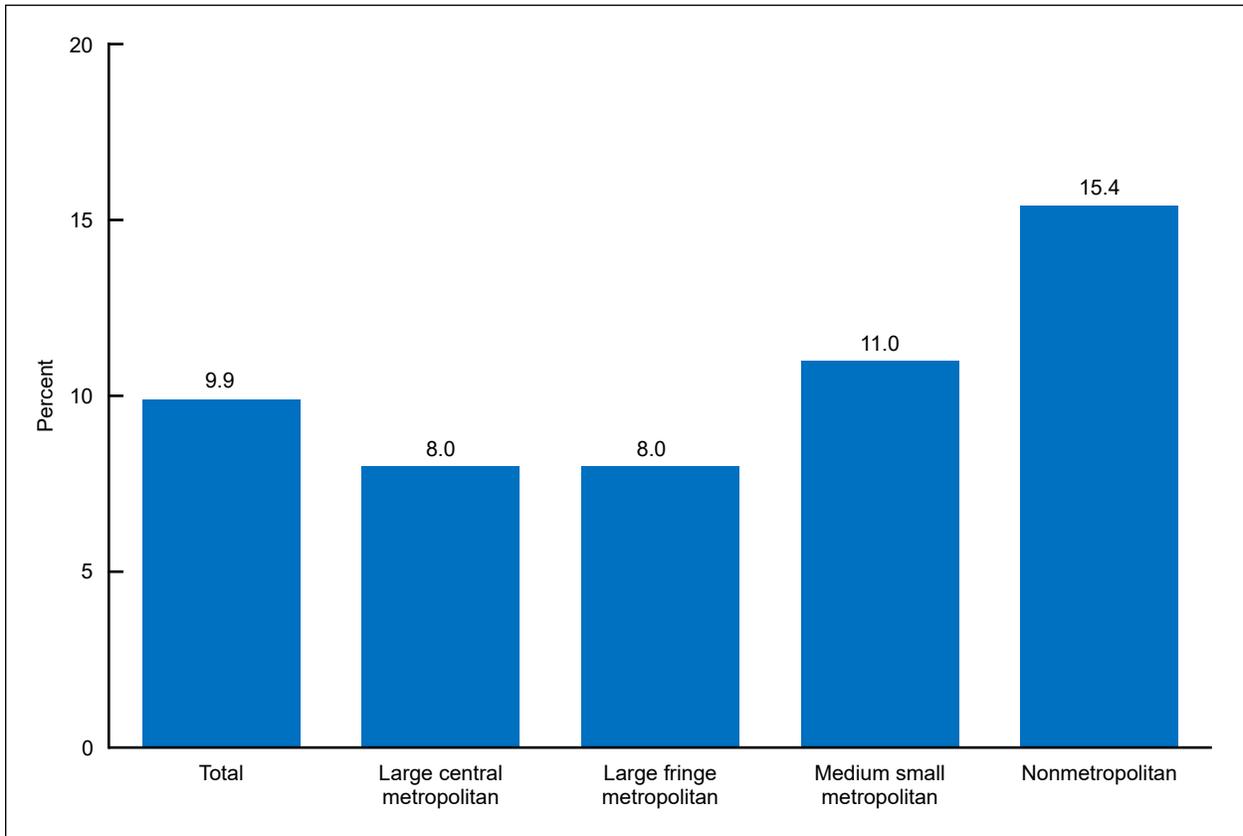
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Suggested citation

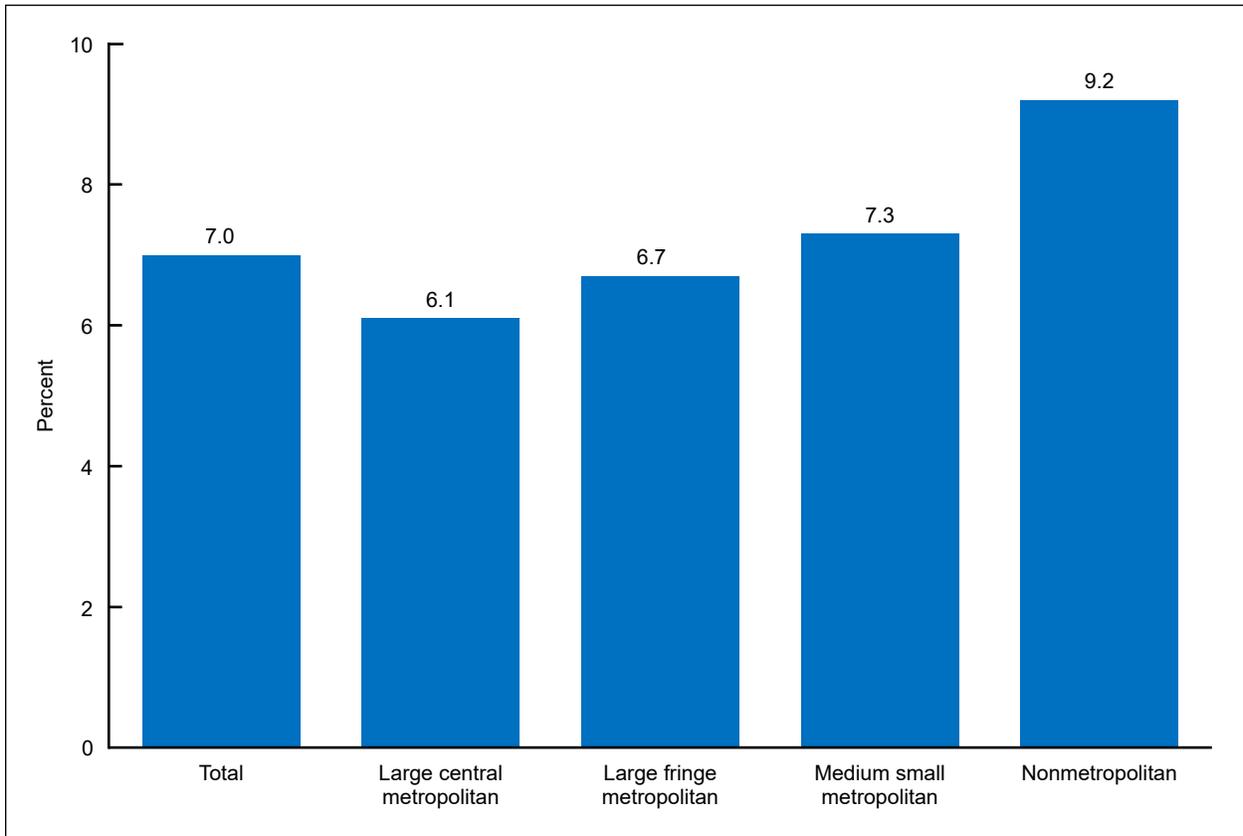
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Figure 1. Percentage of adults age 18 and older who used cigarettes, by urbanization level: United States, 2024



NOTES: Significant linear trend by urbanization level ($p < 0.05$). Estimates are based on household interviews of a sample of the U.S. civilian noninstitutionalized population.
 SOURCE: National Center for Health Statistics, National Health Interview Survey, 2024.

Figure 2. Percentage of adults age 18 and older who used electronic cigarettes, by urbanization level: United States, 2024



NOTES: Significant linear trend by urbanization level ($p < 0.05$). Estimates are based on household interviews of a sample of the U.S. civilian noninstitutionalized population. SOURCE: National Center for Health Statistics, National Health Interview Survey, 2024.

Table 1. Percentage of adults age 18 and older who used cigarettes, by age group and urbanization level: United States, 2024

Urbanization level	All ages ¹		18–24 ¹		25–44 ¹		45–64 ¹		65 and older ¹	
	Percent (95% confidence interval)	Standard error								
Total	9.9 (9.5–10.4)	0.22	3.4 (2.6–4.5)	0.47	10.5 (9.7–11.3)	0.40	13.3 (12.5–14.2)	0.43	7.8 (7.2–8.5)	0.32
Large central metropolitan ²	8.0 (7.4–8.7)	0.34	2.6 (1.4–4.4)	0.72	8.2 (7.1–9.4)	0.58	10.3 (8.9–11.7)	0.69	7.5 (6.3–8.9)	0.65
Large fringe metropolitan ²	8.0 (7.2–8.8)	0.39	2.5 (1.1–4.8)	0.87	9.0 (7.5–10.7)	0.80	10.0 (8.5–11.6)	0.78	6.2 (5.1–7.5)	0.58
Medium small metropolitan ²	11.0 (10.0–12.0)	0.50	3.6 (2.0–5.8)	0.91	11.8 (10.2–13.6)	0.86	15.8 (14.1–17.6)	0.90	7.8 (6.6–9.1)	0.63
Nonmetropolitan ²	15.4 (14.1–16.7)	0.67	6.7 (4.1–10.3)	1.49	17.2 (14.7–19.9)	1.30	20.7 (18.5–23.1)	1.16	10.6 (9.2–12.0)	0.70

¹Significant linear trend by urbanization level ($p < 0.05$).

²Significant linear trend by age group ($p < 0.05$).

NOTE: Estimates are based on household interviews of a sample of the U.S. civilian noninstitutionalized population.

SOURCE: National Center for Health Statistics, National Health Interview Survey, 2024.

Table 2. Percentage of adults age 18 and older who used electronic cigarettes, by urbanization level and age group: United States, 2024

Urbanization level	All ages ¹		18–24 ¹		25–44 ¹		45–64 ¹		65 and older ¹	
	Percent (95% confidence interval)	Standard error								
Total	7.0 (6.6–7.4)	0.20	14.8 (13.1–16.7)	0.92	11.1 (10.3–11.9)	0.39	4.1 (3.6–4.6)	0.25	1.0 (0.7–1.2)	0.11
Large central metropolitan ²	6.1 (5.5–6.8)	0.33	11.5 (8.7–14.8)	1.52	9.1 (7.9–10.3)	0.60	3.8 (3.0–4.8)	0.44	0.7 (0.4–1.1)	0.17
Large fringe metropolitan ²	6.7 (5.9–7.5)	0.41	16.0 (11.9–21.0)	2.24	11.0 (9.5–12.7)	0.81	2.8 (2.1–3.7)	0.41	1.1 (0.6–1.9)	0.29
Medium small metropolitan ²	7.3 (6.5–8.0)	0.38	14.9 (11.9–18.2)	1.54	11.7 (10.3–13.4)	0.77	4.4 (3.5–5.5)	0.51	0.9 (0.6–1.3)	0.18
Nonmetropolitan ²	9.2 (8.0–10.4)	0.58	20.6 (16.3–25.4)	2.25	15.7 (13.6–18.1)	1.12	6.3 (5.1–7.8)	0.69	1.2 (0.7–1.8)	0.26

¹Significant linear trend by urbanization level ($p < 0.05$).

²Significant linear trend by age group ($p < 0.05$).

NOTE: Estimates are based on household interviews of a sample of the U.S. civilian noninstitutionalized population.

SOURCE: National Center for Health Statistics, National Health Interview Survey, 2024.