

## NDEWS Special Report

### Top 10 US counties per region with the highest rates of EMS encounters involving nonfatal alcohol use per 10,000 population

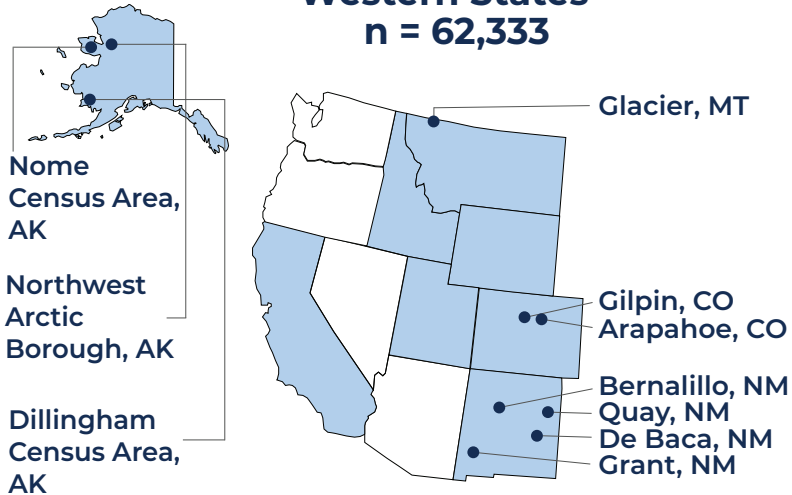
January 1, 2023 - March 31, 2026

Nationally, 227,417 nonfatal EMS encounters involving nonfatal alcohol use were recorded from January 1, 2023 to March 31, 2026. Of these, 62,333 (27.4%) occurred in Western states, 38,838 (17.1%) in Midwestern states, 81,807 (36.0%) in Southern states, and 44,439 (19.5%) in Northeastern states. Counties with  $\geq 10$  encounters are presented below as encounters per 10,000 population; counties with fewer than 10 encounters have been suppressed.

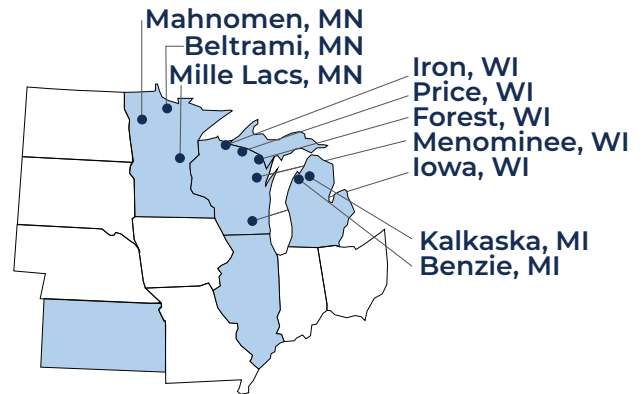
### Top 10 US counties per region with the highest rates of EMS encounters involving nonfatal alcohol use per 10,000 population

January 1, 2023 - March 31, 2026

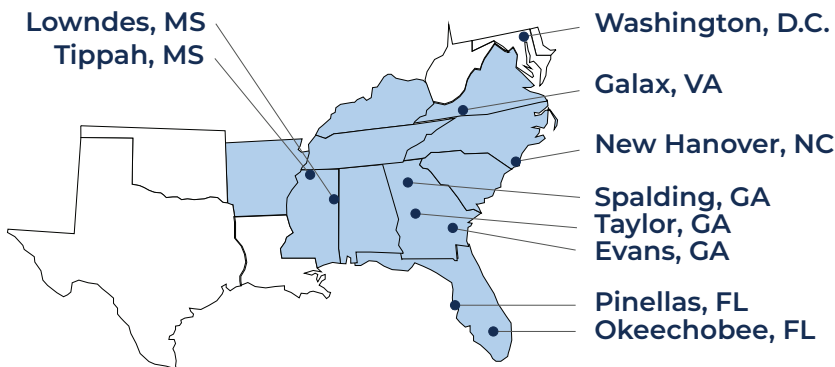
#### Western States n = 62,333



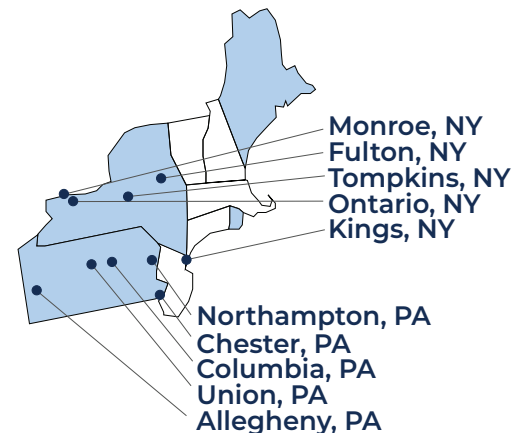
#### Midwestern States n = 38,838



#### Southern States n = 81,807



#### Northeastern States n = 44,439



Data Reporting Coverage:

□  $\leq 61\%$     ■  $\geq 62\%$

**Top 10 US counties per region with the highest rates of EMS encounters  
involving nonfatal alcohol use per 10,000 population  
January 1, 2023 - March 31, 2026  
n = 227,417**

**Western States  
n = 62,333**

**Midwestern States  
n = 38,838**

County*	EMS encounters per 10,000 population	County*	EMS encounters per 10,000 population
De Baca, NM	113.57	Menominee, WI	389.35
Glacier, MT	101.52	Mille Lacs, MN	75.73
Grant, NM	75.17	Mahnomen, MN	60.30
Dillingham C.A., AK	68.28	Forest, WI	55.80
Arapahoe, CO	61.45	Iron, WI	42.12
Gilqin, CO	54.53	Beltrami, WI	41.10
Quay, NM	51.24	Benzie, MI	40.89
N.W. Arctic Boro., AK	48.40	Kalkaska, MI	36.66
Nome C.A., AK	47.43	Iowa, WI	34.26
Bernalillo, NM	41.63	Price, WI	31.71

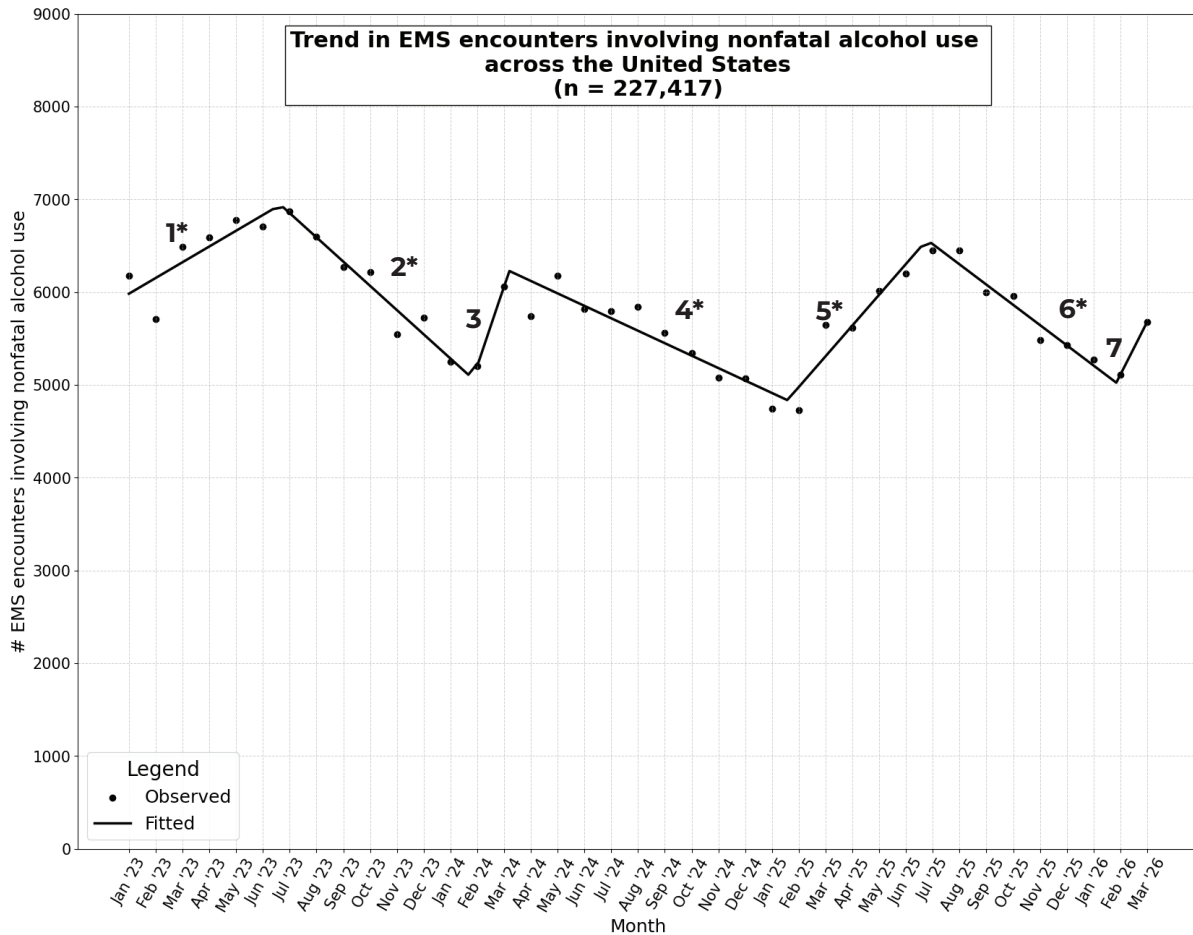
**Southern States  
n = 81,807**

**Northeastern States  
n = 44,439**

County*	EMS encounters per 10,000 population	County*	EMS encounters per 10,000 population
Spalding, GA	86.78	Kings, NY	46.99
Galax, VA	81.00	Columbia, PA	29.46
New Hanover, NC	66.23	Tompkins, NY	25.33
Evans, GA	63.92	Union, PA	23.25
Tippah, MS	56.10	Northampton, PA	22.39
Taylor, GA	53.26	Chester, PA	21.66
Lowndes, MS	52.31	Monroe, NY	20.53
Okeechobee, FL	47.76	Ontario, NY	19.08
Pinellas, FL	45.16	Allegheny, PA	19.01
Washington, D.C.	42.55	Fulton, NY	16.85

\*Colors reflect EMS encounters grouped by state.

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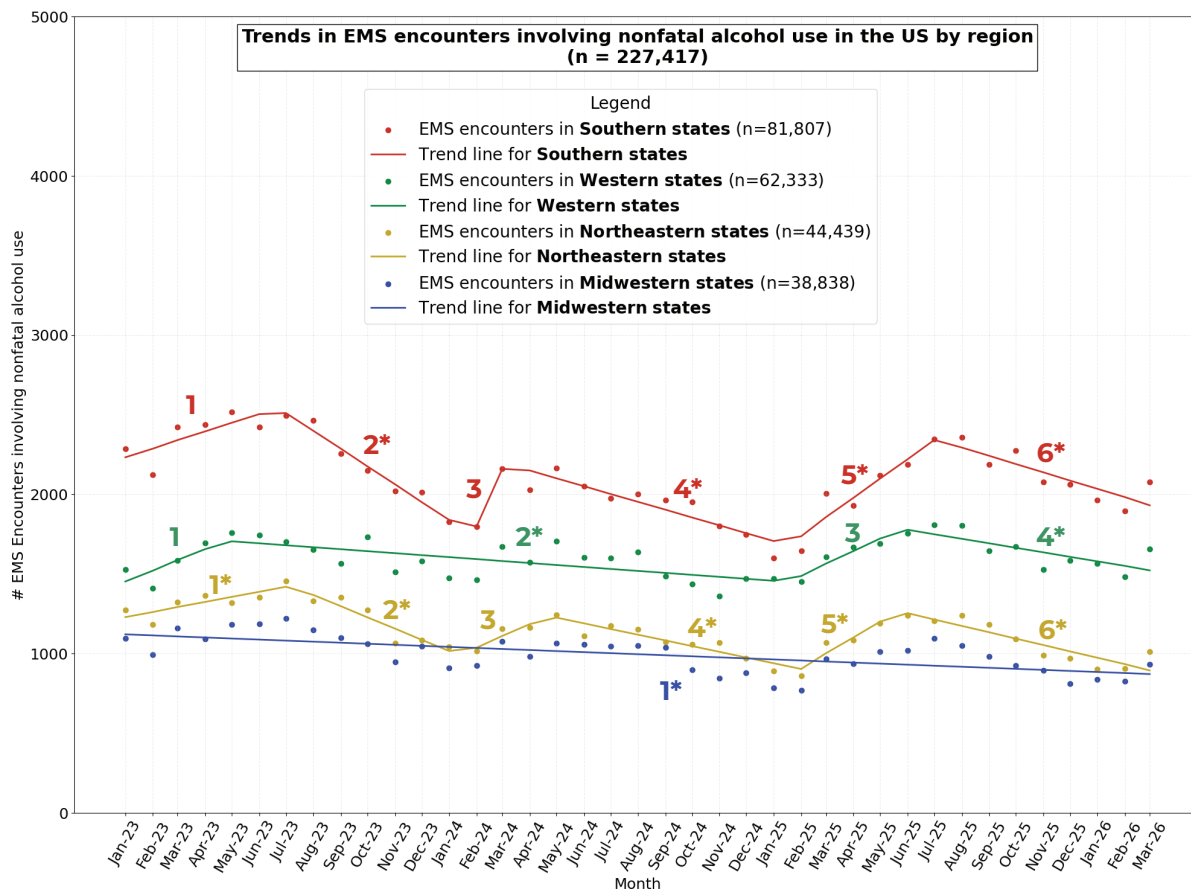
Numbered segments (1-7) represent distinct trend periods identified by joinpoint regression. Asterisks (\*) denote segments with statistically significant slopes ( $p < .05$ ).

Nationally, EMS encounters involving nonfatal alcohol use increased from January 2023 to June 2023 (Slope 1,  $\beta = 0.02$ ,  $p = 0.02$ ). Encounters then decreased from July 2023 through January 2024 (Slope 2,  $\beta = -0.05$ ,  $p = 0.001$ ). From March 2024 through December 2024, encounters decreased (Slope 4,  $\beta = -0.03$ ,  $p < 0.001$ ). Encounters then increased from January 2025 through June 2025 (Slope 5,  $\beta = 0.05$ ,  $p < 0.001$ ) before decreasing from July 2025 to February 2026 (Slope 6,  $\beta = -0.04$ ,  $p = 0.004$ ).

**Methodology:** Trends in EMS encounters involving nonfatal alcohol use were examined using joinpoint regression. This method fits weighted least-square regression models to EMS encounters on a log transformed scale. It also uses Monte Carlo permutation tests with a Bonferroni correction for multiple testing and identifies models with the best-fit set of joinpoints. These are points (or knots) in trends that indicate significant shifting points. Poisson models were specified under the assumption of non-constant variance or heterogeneity over time. National and regional models were run and produced statistically significant results.

**EMS encounters involving nonfatal alcohol use** were included if the encounter involved an emergency response with patient contact, contained a documented mention of alcohol in the patient complaint, narrative, provider impressions, cause of injury, or other elements in the record (including common misspellings). The EMS encounters were identified according to the state of Virginia's definition of a non-opioid overdose.

All dispatch types above follow the guidelines set by the National Emergency Medical Services Information System (NEMSIS).



Numbered segments (1-7) represent distinct trend periods identified by joinpoint regression. Asterisks (\*) denote segments with statistically significant slopes ( $p < .05$ ).

#### Southern Region:

EMS encounters involving nonfatal alcohol use showed a decline from July 2023 to February 2024 (Slope 2,  $\beta = -0.05$ ,  $p = 0.001$ ). From March 2024 through January 2025, encounters decreased (Slope 4,  $\beta = -0.03$ ,  $p = 0.002$ ). Encounters increased from February through June 2025 (Slope 5,  $\beta = 0.06$ ,  $p = 0.001$ ). In July 2025, encounters decrease for the remainder of the study period (Slope 6,  $\beta = -0.02$ ,  $p = 0.003$ ).

#### Western Region:

Encounters decreased from May 2023 through January 2025 (Slope 2,  $\beta = -0.008$ ,  $p = 0.001$ ). From June 2025 through the end of study period, encounters decreased (Slope 4,  $\beta = -0.02$ ,  $p = 0.02$ ).

#### Northeastern Region:

Encounters increased from January 2023 through June 2023 (Slope 1,  $\beta = 0.03$ ,  $p = 0.04$ ). During the period of July 2023 through December 2023, encounters decreased (Slope 2,  $\beta = -0.06$ ,  $p = 0.003$ ). From April 2024 through January 2025, encounters decreased (Slope 4,  $\beta = -0.03$ ,  $p = 0.001$ ). Encounters increased from February 2025 through May 2025 (Slope 5,  $\beta = 0.08$ ,  $p = 0.04$ ). From June 2025 through the end of the study period, encounters decreased (Slope 6,  $\beta = -0.04$ ,  $p < 0.001$ ).

#### Midwestern Region:

Encounters decreased steadily from January 2023 through March 2026 (Slope 1,  $\beta = -0.006$ ,  $p < 0.0001$ ).

**Limitations:** Biospatial.io data reflect pre-hospital EMS encounters and do not include hospital outcomes, or toxicology confirmation. Much of the data relies on clinical impressions, self-report, or bystander accounts. Additionally, EMS encounters involving nonfatal alcohol use may be underreported, overreported, or misclassified.