

NDEWS Special Report

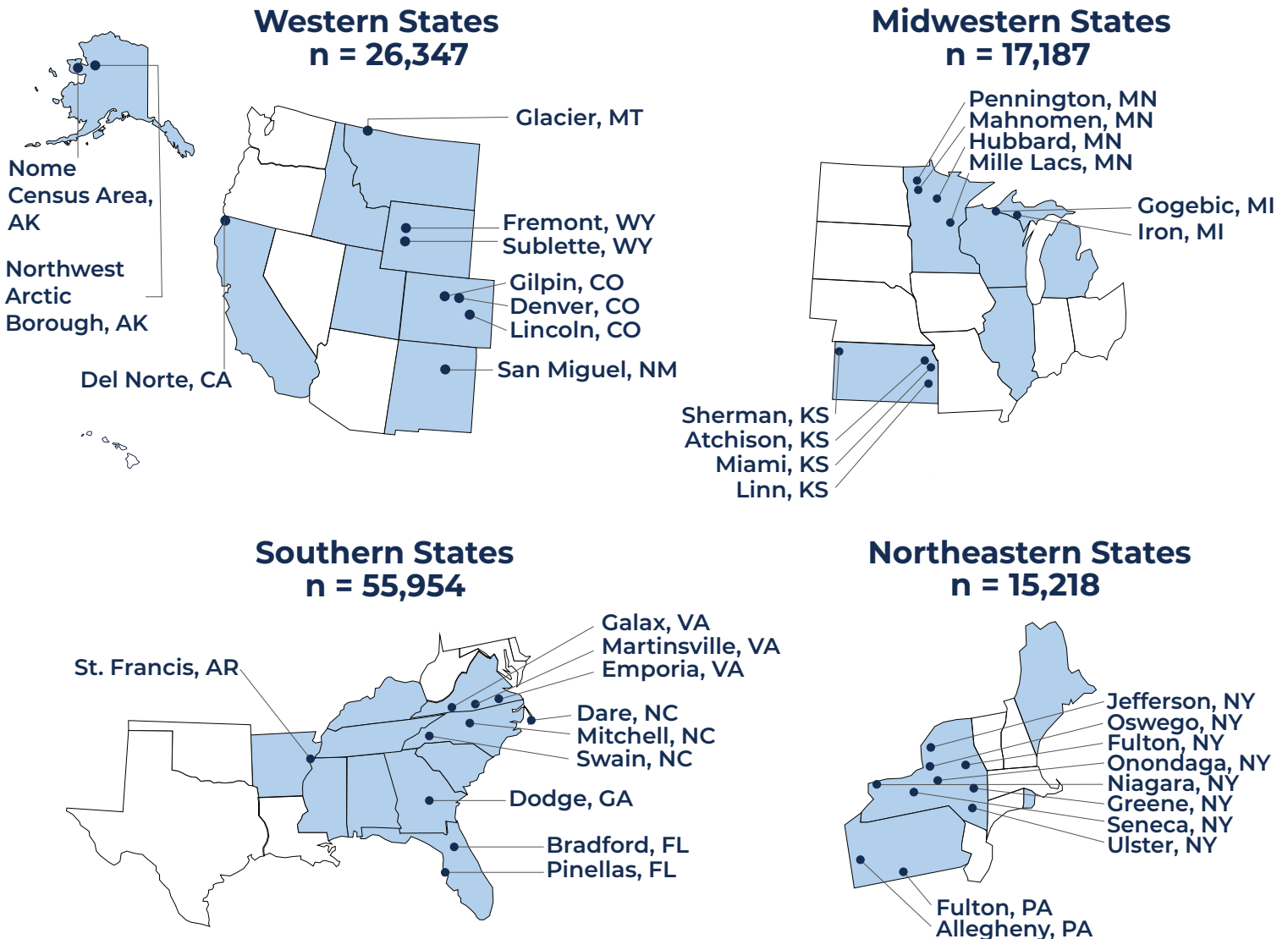
Top 10 US counties per region with the highest rates of EMS encounters involving nonfatal benzodiazepine overdoses per 10,000 population

January 1, 2023 - February 28, 2026

Nationally, 114,706 nonfatal EMS encounters involving benzodiazepine overdoses were recorded from January 1, 2023 to February 28, 2026. Of these, 26,347 (23.0%) occurred in Western states, 17,187 (15.0%) in Midwestern states, 55,954 (48.8%) in Southern states, and 15,218 (13.2%) in Northeastern states. Counties with ≥ 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 benzodiazepine overdoses per 10,000 population

January 1, 2023 - February 28, 2026



Data Reporting Coverage:

□ ≤ 61% ■ ≥ 62%

Top 10 US counties per region with the highest rates of EMS encounters involving nonfatal benzodiazepine overdoses per 10,000 population
January 1, 2023 - February 28, 2026
n = 114,706

Western States
n = 26,347

Midwestern States
n = 17,187

County*	EMS encounters per 10,000 population	County*	EMS encounters per 10,000 population
NW Arctic Bor., AK	18.96	Mahnomen, MN	21.93
Lincoln, CO	17.66	Pennington, MN	18.74
Nome Census Area, AK	13.94	Miami, KS	18.35
San Miguel, NM	9.24	Atchison, KS	17.48
Del Norte, CA	5.50	Sherman, KS	17.31
Glacier, MT	3.41	Linn, KS	16.57
Fremont, WY	3.04	Iron, MI	16.27
Sublette, WY	2.34	Mille Lac, MN	15.30
Gilpin, CO	2.09	Gogebic, MI	15.17
Denver, CO	1.23	Hubbard, MN	15.15

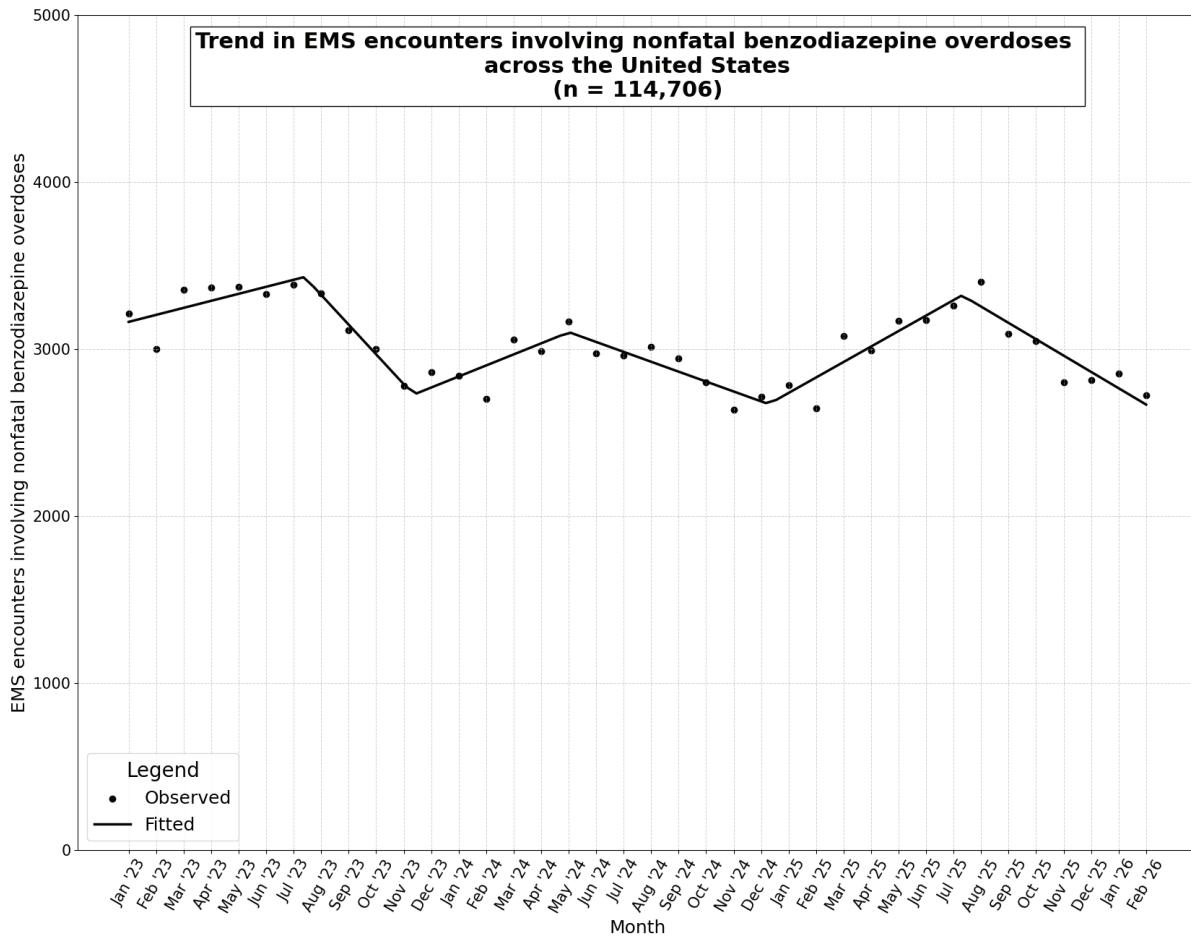
Southern States
n = 55,954

Northeastern States
n = 15,218

County*	EMS encounters per 10,000 population	County*	EMS encounters per 10,000 population
Galax, VA	66.71	Greene, NY	10.17
Swain, NC	38.79	Niagara, NY	9.60
Emporia, VA	28.53	Onondaga, NY	8.69
Pinellas, FL	25.84	Oswego, NY	7.91
Dare, NC	23.70	Jefferson, NY	7.77
Mitchell, NC	22.85	Allegheny, PA	7.65
St. Francis, AR	22.69	Fulton, PA	7.59
Dodge, GA	21.51	Fulton, NY	7.57
Bradford, FL	20.58	Ulster, NY	7.43
Martinsville, VA	20.23	Seneca, NY	7.35

*Colors reflect EMS encounters grouped by state.

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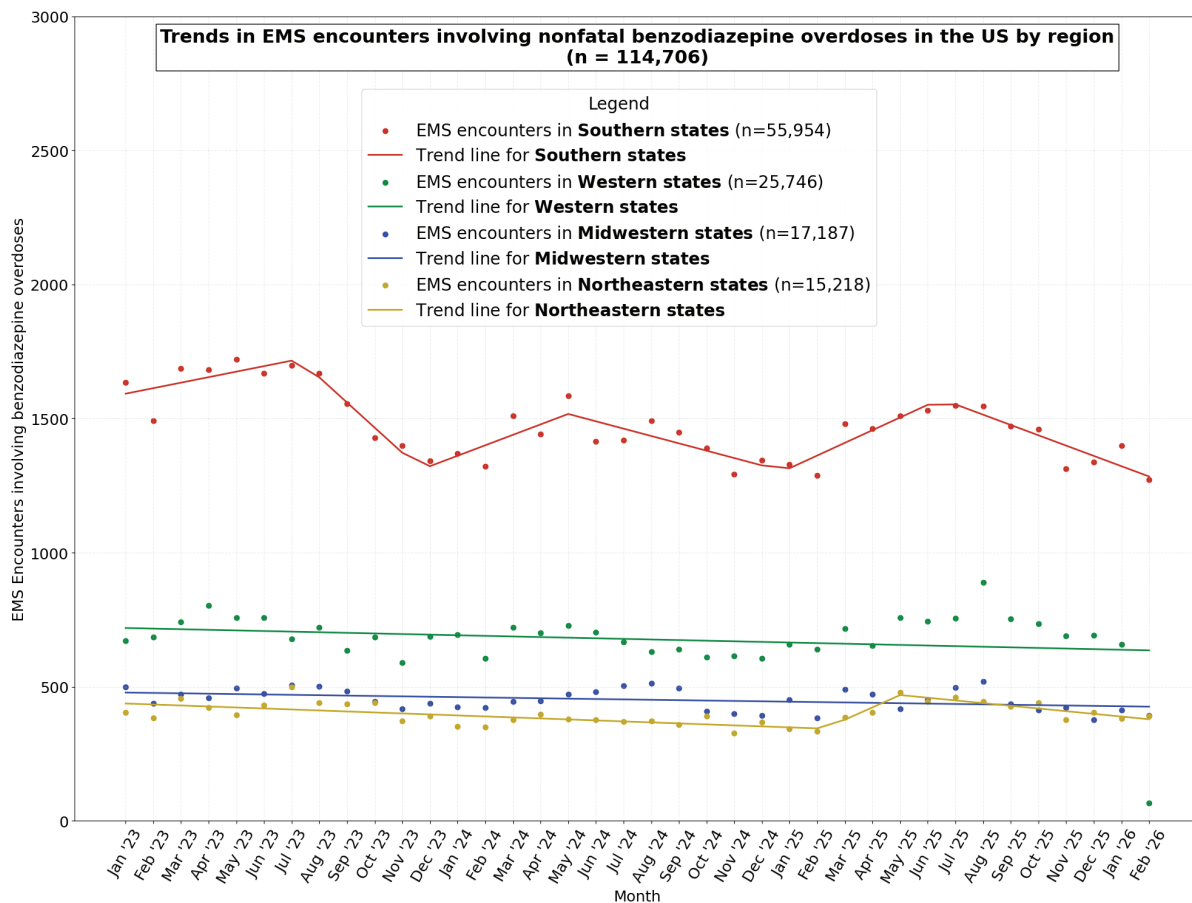


Nationally, encounters decreased from July 2023 through November 2023 ($\beta = -0.04, p = 0.01$). From May 2024 to November 2024, encounters again decreased ($\beta = -0.02, p = 0.03$). Encounters subsequently increased in December 2024 through June 2025 ($\beta = 0.03, p = 0.002$) before decreasing from July 2025 through February 2026 ($\beta = -0.03, p < 0.001$)

****Methodology:** Trends in EMS encounters involving nonfatal benzodiazepine overdoses 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 benzodiazepine overdoses were included if the encounter involved an emergency response with patient contact, contained a documented mention of benzodiazepines 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).



Southern Region:

EMS encounters involving nonfatal benzodiazepine overdoses showed a statistically significant decrease from July 2023 through November 2023 ($\beta = -0.05$, $p = 0.007$). Encounters then decreased through May 2024 to December 2024 ($\beta = -0.02$, $p = 0.03$). They decreased again from July 2025 through February 2026 ($\beta = -0.02$, $p = 0.001$).

Western Region:

Encounters remained stable without any statistically significant trends during the study period.

Midwestern Region:

Encounters remained stable from January 2023 through February 2026 without any statistically significant trends.

Northeastern Region:

Encounters decreased from January 2023 through February 2025 ($\beta = -0.009$, $p < 0.001$). Encounters then decreased from May 2025 through February 2026 ($\beta = -0.02$, $p = 0.01$).

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 benzodiazepine overdoses may be underreported, overreported, or misclassified.