



## **Kentucky Substance Use Research & Education**

*Using data to drive public safety and public health efforts against substance use across the Commonwealth*

### **Brief 39: Six Major Overdose-Related Substances and General Overdose-Related Events in Kentucky, January 1, 2017–March 31, 2025**

Based on data from possession and trafficking citations, drug overdose-related deaths, emergency department visits, hospitalizations, submissions to the state police lab, and general drug overdose-related events



Released November 2025

Produced by the Kentucky State Police Intelligence Branch and the Kentucky Injury Prevention and Research Center, as bona fide agent for the Kentucky Department for Public Health.

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## Data Evaluation Survey



We would like to hear your feedback on the Kentucky Substance Use Research & Education (K-SURE) briefs and other outputs you use. This will help us improve future K-SURE briefs, stakeholder engagement, dissemination, and audience receptivity. You can find the survey here:

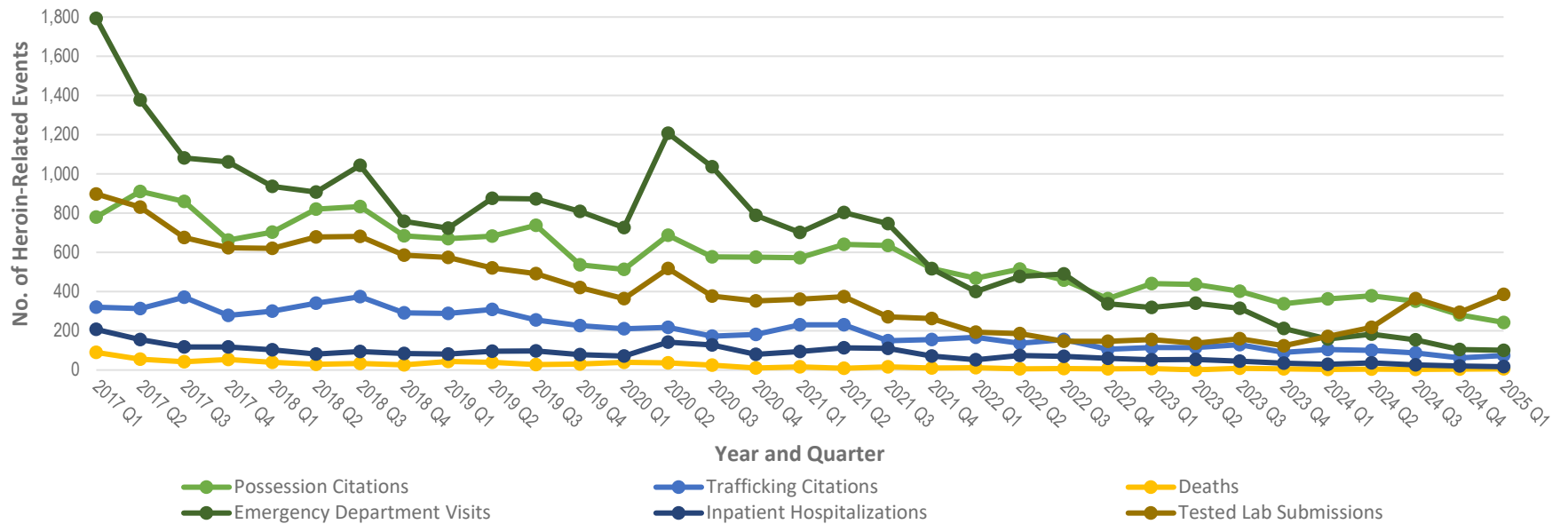
[https://qualtricsxm6yh3ssdyd.qualtrics.com/jfe/form/SV\\_5vCcuHwyEuC7dly](https://qualtricsxm6yh3ssdyd.qualtrics.com/jfe/form/SV_5vCcuHwyEuC7dly)



Thank you in advance!

*The K-SURE Team*

## Heroin-Related Events



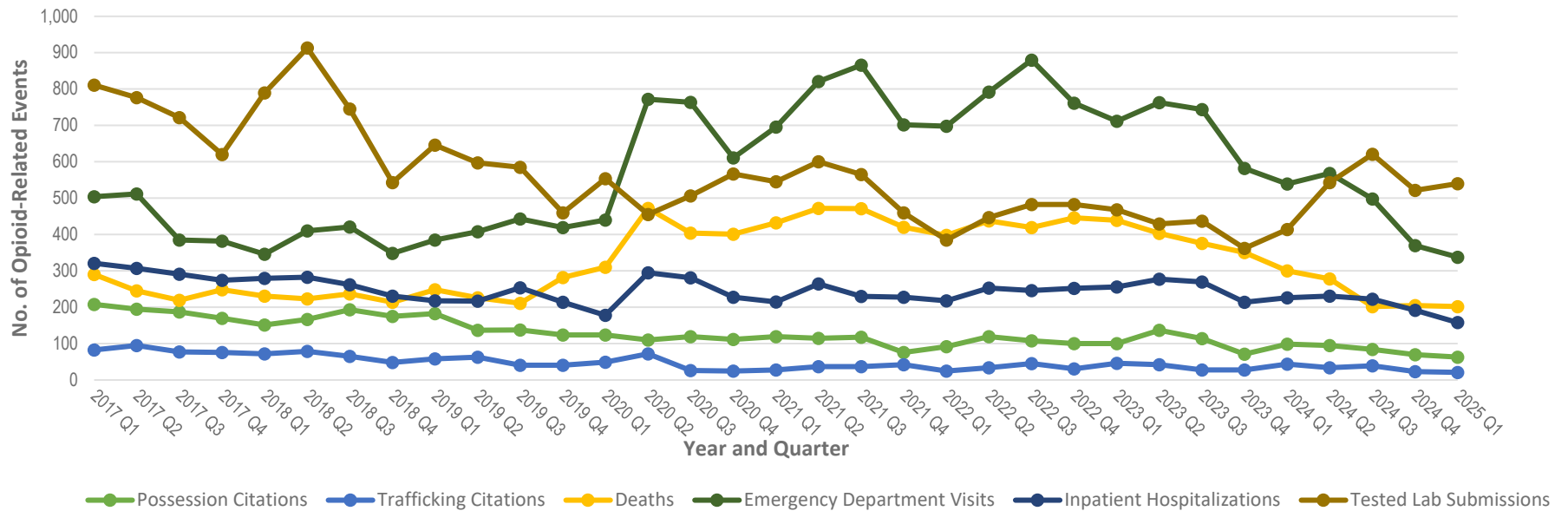
Data are provisional and subject to change. The number of citations could be greater than the number of individuals cited; citations are with over 90% of law enforcement agencies reporting. Death data are based on drug overdose-related deaths among Kentucky residents. Drug overdose-related hospitalizations represent encounters of care among Kentucky residents and could be greater than the number of individual patients treated in acute care facilities. Drug overdose-related emergency department visits represent encounters of care among Kentucky residents and could be greater than the number of individual patients treated. Tested lab submission data represent those substances submitted to the lab for identification purposes; quantity is not reflected. Lab data represent submissions tested within the corresponding time; submission date is not reflected. Testing of submissions is based on those items supporting the highest-tier charge(s).

Data sources: Kentucky Open Portal System; Kentucky Death Certificate Database, Office of Vital Statistics, Cabinet for Health and Family Services; Kentucky Outpatient Services Database Files, Office of Data and Analytics, Cabinet for Health and Family Services; Kentucky Inpatient Hospitalization Claims Files, Office of Data and Analytics, Cabinet for Health and Family Services; Kentucky State Police Crime Laboratory.

### Key Findings:

- Heroin possession citations decreased by 68.8% from Q1 2017 through Q1 2025 and by 13.8% from Q4 2024 through Q1 2025.
- Heroin trafficking citations decreased by 76.9% from Q1 2017 through Q1 2025 and increased by 19.4% from Q4 2024 through Q1 2025.
- Kentucky resident heroin-related deaths declined by 93.3% from Q1 2017 through Q1 2025 but increased by 20% from Q4 2024 through Q1 2025.
- Heroin-related inpatient hospitalizations declined by 91.8% from Q1 2017 through Q1 2025 and by 15% from Q4 2024 through Q1 2025.
- Heroin-related emergency department (ED) visits declined by 94.4% from Q1 2017 through Q1 2025 and by 3.8% from Q4 2024 through Q1 2025.
- Heroin-related tested lab submissions decreased by 57% from Q1 2017 through Q1 2025 and increased by 7.7% from Q4 2024 through Q1 2025.

## Opioid-Related Events



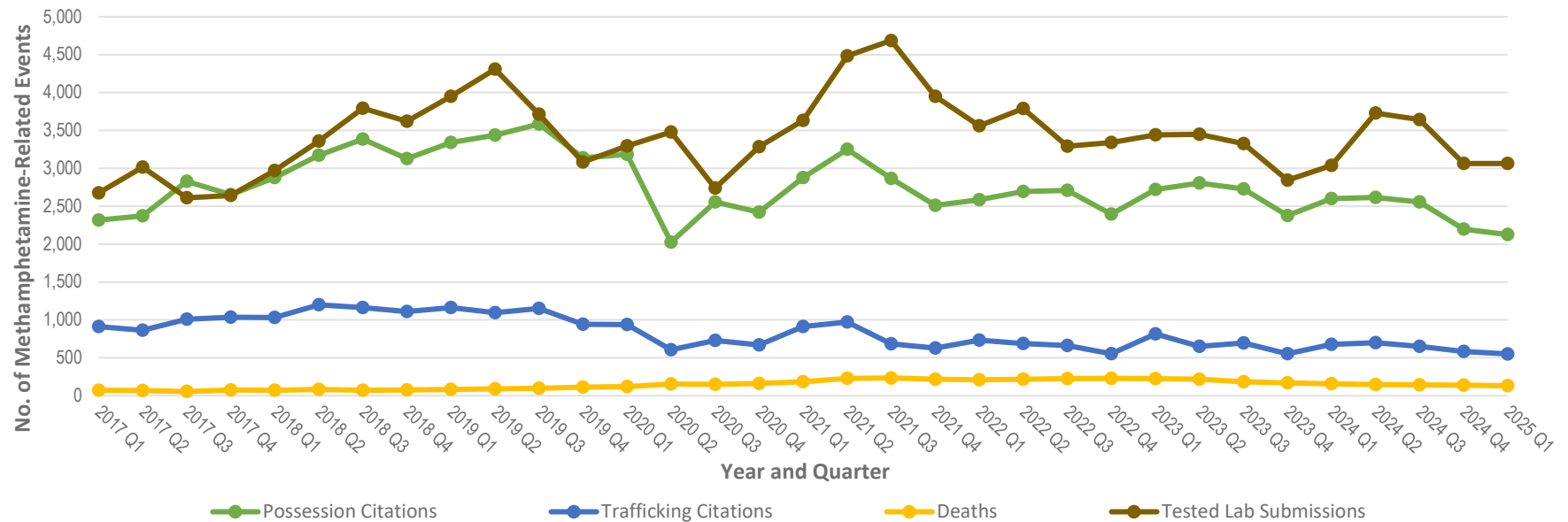
Data are provisional and subject to change. Opioid-related events reflect non-heroin- and non-fentanyl-related opioids. The number of citations could be greater than the number of individuals cited; citations are with over 90% of law enforcement agencies reporting. Death data are based on drug overdose-related deaths among Kentucky residents. Drug overdose-related hospitalizations represent encounters of care among Kentucky residents and could be greater than the number of individual patients treated in acute care facilities. Drug overdose-related emergency department visits represent encounters of care among Kentucky residents and could be greater than the number of individual patients treated. Tested lab submission data represent those substances submitted to the lab for identification purposes; quantity is not reflected. Lab data represent submissions tested within the corresponding time; submission date is not reflected. Testing of submissions is based on those items supporting the highest-tier charge(s).

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### Key Findings:

- Opioid possession citations decreased by 69.7% from Q1 2017 through Q1 2025 and by 10% from Q4 2024 through Q1 2025.
- Opioid trafficking citations decreased by 74.7% from Q1 2017 through Q1 2025 and decreased by 8.7% from Q4 2024 through Q1 2025.
- Kentucky resident opioid-related deaths decreased by 30.3% from Q1 2017 through Q1 2025 and by 1.5% from Q4 2024 through Q1 2025.
- Opioid-related ED visits decreased by 32.9% from Q1 2017 through Q1 2025 and by 8.6% from Q4 2024 through Q1 2025.
- Opioid-related inpatient hospitalizations declined by 50.8% from Q1 2017 through Q1 2025 and by 17.7% from Q4 2024 through Q1 2025.
- Tested lab submissions that positively identified opioids decreased by 33.4% from Q1 2017 through Q1 2025 and increased by 3.4% from Q4 2024 through Q1 2025.

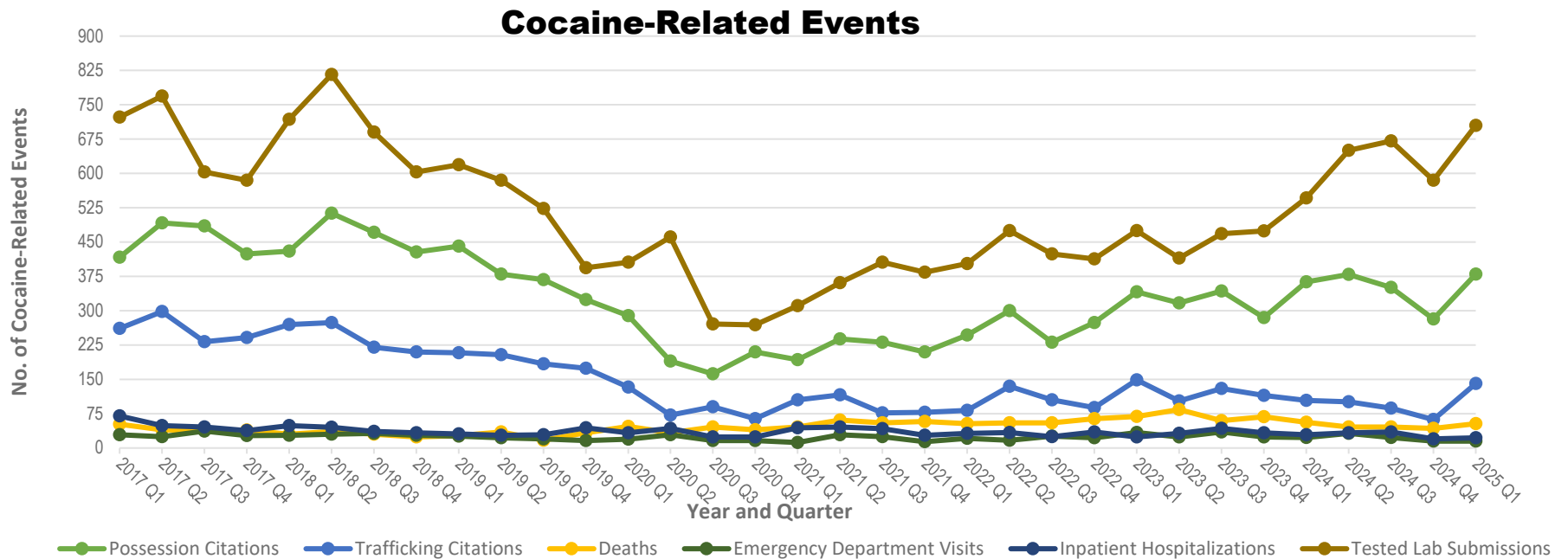
## Methamphetamine-Related Events



Data are provisional and subject to change. The number of citations could be greater than the number of individuals cited; citations are with over 90% of law enforcement agencies reporting. Death data are based on drug overdose-related deaths among Kentucky residents. Tested lab submission data represent those substances submitted to the lab for identification purposes; quantity is not reflected. Lab data represent submissions tested within the corresponding time; submission date is not reflected. Testing of submissions is based on those items supporting the highest-tier charge(s). Data sources: Kentucky Open Portal System; Kentucky Death Certificate Database, Office of Vital Statistics, Cabinet for Health and Family Services; Kentucky State Police Crime Laboratory.

### Key Findings:

- Methamphetamine possession citations decreased by 8.3% from Q1 2017 through Q1 2025 and by 3.3% from Q4 2024 through Q1 2025.
- Methamphetamine trafficking citations decreased by 39.6% from Q1 2017 through Q1 2025 and by 5.7% from Q4 2024 through Q1 2025.
- An 81.9% increase in methamphetamine-related overdose deaths was observed among Kentucky residents from Q1 2017 through Q1 2025; all involved the use of more than one drug (polydrug use). A 5.8% decrease in deaths occurred from Q4 2024 through Q1 2025.
- Tested lab submissions positively identifying methamphetamine increased by 14.5% from Q1 2017 through Q1 2025, while no change was observed from Q4 2024 through Q1 2025.



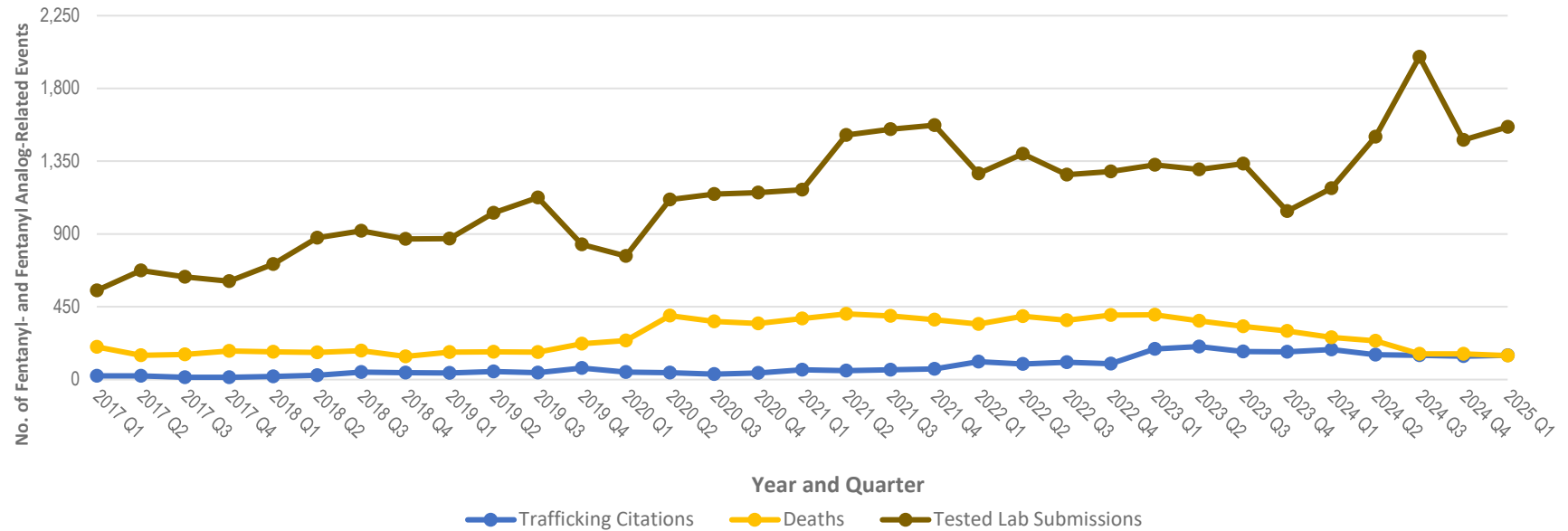
Data are provisional and subject to change. The number of citations could be greater than the number of individuals cited; citations are with over 90% of law enforcement agencies reporting. Death data are based on drug overdose-related deaths among Kentucky residents. Drug overdose-related hospitalizations represent encounters of care among Kentucky residents and could be greater than the number of individual patients treated in acute care facilities. Drug overdose-related emergency department visits represent encounters of care among Kentucky residents and could be greater than the number of individual patients treated. Tested lab submission data represent those substances submitted to the lab for identification purposes; quantity is not reflected. Lab data represent submissions tested within the corresponding time; submission date is not reflected. Testing of submissions is based on those items supporting the highest-tier charge(s).

Data sources: Kentucky Open Portal System; Kentucky Death Certificate Database, Office of Vital Statistics, Cabinet for Health and Family Services; Kentucky Outpatient Services Database Files, Office of Data and Analytics, Cabinet for Health and Family Services; Kentucky Inpatient Hospitalization Claims Files, Office of Data and Analytics, Cabinet for Health and Family Services; Kentucky State Police Crime Laboratory.

#### Key Findings:

- Cocaine possession citations decreased by 8.9% from Q1 2017 through Q1 2025 and increased by 34.8% from Q4 2024 through Q1 2025.
- Cocaine trafficking citations decreased by 46% from Q1 2017 through Q1 2025 and increased by 127.4% from Q4 2024 through Q1 2025.
- Cocaine-related deaths increased by 1.9% from Q1 2017 through Q1 2025; a 23.3% increase was observed from Q4 2024 through Q1 2025.
- Cocaine-related emergency department visits decreased by 48.3% from Q1 2017 through Q1 2025; no change was observed from Q4 2024 through Q1 2025.
- Cocaine-related inpatient hospitalizations declined by 68.6% from Q1 2017 through Q1 2025; a 10% increase was observed from Q4 2024 through Q1 2025.
- Tested lab submissions positively identifying cocaine decreased by 2.5% from Q1 2017 to Q4 2024 and increased by 20.5% from Q4 2024 through Q1 2025.

## Fentanyl- and Fentanyl Analog-Related Events

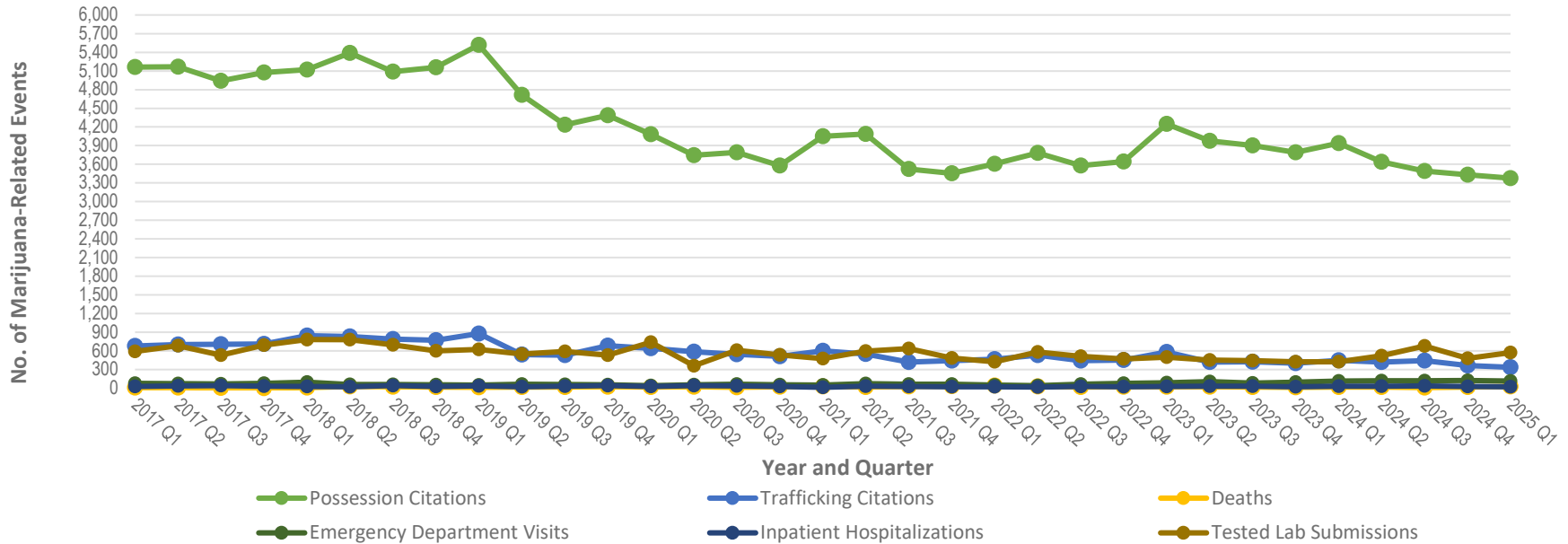


Data are provisional and subject to change. The number of citations could be greater than the number of individuals cited; citations are with over 90% of law enforcement agencies reporting. There are no Kentucky Revised Statute codes for fentanyl possession. Death data are based on drug overdose-related deaths among Kentucky residents. Tested lab submission data represent those substances submitted to the lab for identification purposes; quantity is not reflected. Lab data represent submissions tested within the corresponding time; submission date is not reflected. Testing of submissions is based on those items supporting the highest-tier charge(s).  
 Data sources: Kentucky Open Portal System; Kentucky Death Certificate Database, Office of Vital Statistics, Cabinet for Health and Family Services; Kentucky State Police Crime Laboratory.

### Key Findings:

- Notably, fentanyl and fentanyl analog trafficking citations increased 547.8% from Q1 2017 through Q1 2025 and rose by 2.8% from Q4 2024 through Q1 2025. Citations related to fentanyl and its analogs may be underestimated, as fentanyl is often associated with polydrug use and laboratory testing is often needed to confirm its presence.
- Fentanyl- and fentanyl analog-related deaths decreased by 26.7% from Q1 2017 through Q1 2025 and by 6.9% from Q4 2024 through Q1 2025.
- Tested lab submissions positively identifying fentanyl and fentanyl analogs rose by 183.5% from Q1 2017 through Q1 2025 and by 5.5% from Q4 2024 through Q1 2025.

## Marijuana-Related Events



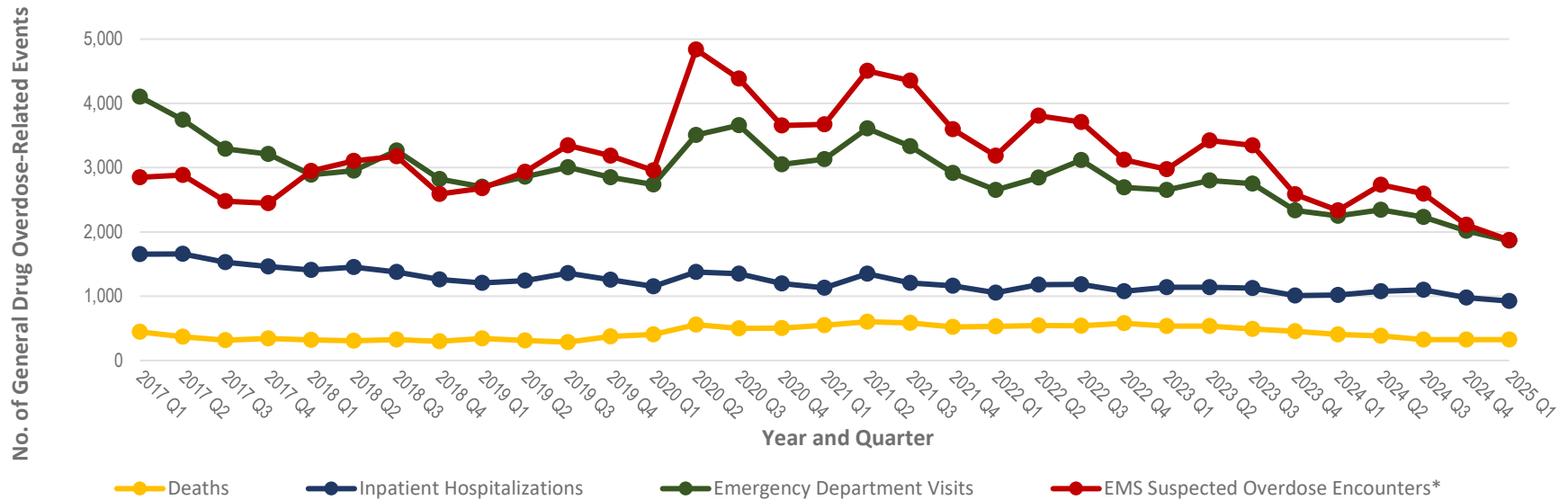
Data are provisional and subject to change. The number of citations could be greater than the number of individuals cited; citations are with over 90% of law enforcement agencies reporting. Death data are based on drug overdose-related deaths among Kentucky residents. Drug overdose-related hospitalizations represent encounters of care among Kentucky residents and could be greater than the number of individual patients treated in acute care facilities. Drug overdose-related emergency department visits represent encounters of care among Kentucky residents and could be greater than the number of individual patients treated. Tested lab submission data represent those substances submitted to the lab for identification purposes; quantity is not reflected. Lab data represent submissions tested within the corresponding time; submission date is not reflected. Testing of submissions is based on those items supporting the highest-tier charge(s).

Data sources: Kentucky Open Portal System; Kentucky Death Certificate Database, Office of Vital Statistics, Cabinet for Health and Family Services; Kentucky Outpatient Services Database Files, Office of Data and Analytics, Cabinet for Health and Family Services; Kentucky Inpatient Hospitalization Claims Files, Office of Data and Analytics, Cabinet for Health and Family Services.

### Key Findings:

- Marijuana possession citations declined by 34.6% from Q1 2017 through Q1 2025 and by 1.5% from Q4 2024 through Q1 2025.
- Marijuana trafficking citations declined by 50.4% from Q1 2017 through Q1 2025 and by 7.2% from Q4 2024 through Q1 2025.
- Marijuana (cannabis)-related deaths increased by 133.3% from Q1 2017 through Q1 2025 and by 55.6% from Q4 2024 through Q1 2025; all involved polydrug use.
- Marijuana-related emergency department visits increased by 42% from Q1 2017 through Q1 2025; a 8% decline was observed from Q4 2024 through Q1 2025.
- Marijuana-related inpatient hospitalizations decreased 17.2% from Q1 2017 through Q1 2025; a 17.2% decrease was observed from Q4 2024 through Q1 2025.
- Tested lab submissions positively identifying marijuana decreased 3.5% from Q1 2017 through Q1 2025 and increased by 18.7% from Q4 2024 through Q1 2025.

## General Drug Overdose-Related Events



\*A large emergency medical services (EMS) agency began reporting to the Kentucky State Ambulance Reporting System in January 2018.

Data are provisional and subject to change. Death data are based on drug overdose-related deaths among Kentucky residents. Drug overdose-related hospitalizations represent encounters of care among Kentucky residents and could be greater than the number of individual patients treated in acute care facilities. Drug overdose-related emergency department visits represent encounters of care among Kentucky residents and could be greater than the number of individual patients treated. EMS suspected overdose encounters, which represent encounters of care and could be greater than the number of individual patients treated, are based on scans of free-text fields and medication fields (for naloxone/Narcan administration with indicated positive response) and on state of incident (Kentucky) with an expanded any drug definition added May 2025.

Data sources: Kentucky Death Certificate Database, Office of Vital Statistics, Cabinet for Health and Family Services; Kentucky Outpatient Services Database Files, Office of Data and Analytics, Cabinet for Health and Family Services; Kentucky Inpatient Hospitalization Claims Files, Office of Data and Analytics, Cabinet for Health and Family Services; Kentucky State Ambulance Reporting System, Kentucky Board of Emergency Medical Services.

### Key Findings:

- Statewide drug overdose-related deaths decreased by 27.9% from Q1 2017 through Q1 2025 and by 0.3% from Q4 2024 through Q1 2025.
- Drug overdose-related hospitalizations declined by 44.1% from Q1 2017 through Q1 2025 and by 5.5% from Q4 2024 through Q1 2025.
- Drug overdose-related ED visits decreased by 54.6% from Q1 2017 through Q1 2025 and by 7.7% from Q4 2024 through Q1 2025.
- Emergency medical services (EMS) suspected drug overdose-related encounters decreased by 34.2% from Q1 2017 through Q1 2025 and by 11.2% from Q4 2024 through Q1 2025.
- Among law enforcement agencies currently reporting, 4,312 naloxone doses were administered from December 12, 2018, through March 31, 2025 (data not shown).

## K-SURE Data Matrix

	<b>Emergency Department (ED) Visits</b>	<b>Inpatient Hospitalizations</b>	<b>Deaths</b>	<b>Possession Citations</b>	<b>Trafficking Citations</b>	<b>Crime Lab Submissions</b>
<b>Heroin</b>	T401	T401	T401	KRS: 35120, 35121, 42195, 42196, 42205, 42206	KRS: 35100, 35101, 42105, 42106, 42376, 42377, 42378, 42379, 42466, 42468, 42470, 42480, 42483, 42486	submissions represent those substances submitted to the lab for identification purposes; quantity is not reflected.
<b>Opioids</b>	T400, T402, T403, T404, T4060, T4069	T400, T402, T403, T404, T4060, T4069	T400, T402, T403, T404, T406	KRS: 35220, 35221, 42197, 42198, 42209, 42210, 42237, 42238, 42246	KRS: 35200, 35201, 42109, 42110, 42372, 42373, 42374, 42375, 42435, 42436, 42437, 42438, 42137, 42138	
<b>Methamphetamine</b>			Text scan	KRS: 42187, 42188, 42215, 42216	KRS: 42113, 42114, 42290, 42291, 42364, 42365, 42366, 42367	
<b>Cocaine</b>	T405	T405	T405	KRS: 35320, 35321, 42193, 42194, 42203, 42204	KRS: 35300, 35301, 42103, 42104, 42368, 42369, 42370, 42371	
<b>Fentanyl and Fentanyl Analogs</b>			T404 and text scan; Fentanyl Analogs: Methylfentanyl, Methoxybutyrylfentanyl, Acetylfentanyl, Acrylfentanyl, Hydroxythiofentanyl, Butyrylfentanyl, Carfentanil, Furanylfentanyl, Para_1, Para_2, U47700		KRS: 42465, 42472, 42474, 42476, 42478, 42590, 42593, 42596, 42599	

<b>Marijuana</b>	T407X1, T407X2, T407X3, T407X4, T407X5	T407X1, T407X2, T407X3, T407X4, T407X5	T407	KRS: 42330	KRS: 42301, 42302, 42311, 42312, 42321, 42322	
<b>General Drug Overdoses</b>	T36-T50, T369, T379, T399, T414, T427, T439, T459, T479, T499	T36-T50, T369, T379, T399, T414, T427, T439, T459, T479, T499	X40-X44, X60-X64, X85, Y10-Y14			
<b>Data Sources</b>	Kentucky Outpatient Services Database Files, Office of Data and Analytics, Cabinet for Health and Family Services: Frankfort, Kentucky	Kentucky Inpatient Hospitalization Claims Files, Office of Data and Analytics, Cabinet for Health and Family Services: Frankfort, Kentucky	Kentucky Death Certificate Database, Office of Vital Statistics, Cabinet for Health and Family Services: Frankfort, Kentucky	Kentucky Open Portal System, Kentucky State Police: Frankfort, Kentucky	Kentucky Open Portal System, Kentucky State Police: Frankfort, Kentucky	Kentucky State Police Crime Laboratory: Frankfort, Kentucky
<b>Notes</b>	The codes listed above are relevant ICD-10-CM codes. Drug overdose-related emergency department visits represent initial encounters of care among Kentucky residents and could be greater than the number of individual patients treated. Data are provisional and subject to change.	The codes listed above are relevant ICD-10-CM codes. Drug overdose-related hospitalizations represent initial encounters of care among Kentucky residents and could be greater than the number of individual patients treated in acute care facilities. Data are provisional and subject to change.	The codes listed above are relevant ICD-10 codes. Deaths are based on drug overdose-related deaths among Kentucky residents. Deaths may involve more than one drug. Data are provisional and subject to change.	Possession citations reflect violations of Kentucky Revised Statutes. The number of citations could be greater than the number of individuals cited; citations are with over 90% of law enforcement agencies reporting. data are provisional and subject to change.	Trafficking citations reflect violations of Kentucky Revised Statutes. The number of citations could be greater than the number of individuals cited; citations are with over 90% of law enforcement agencies reporting. Data are provisional and subject to change.	Lab data represent submissions tested within the corresponding time; submission date is not reflected. Testing of submissions is based on those items supporting the highest-tier charge(s). Data are provisional and subject to change.

