

## Opioid-related Trends in the Commonwealth

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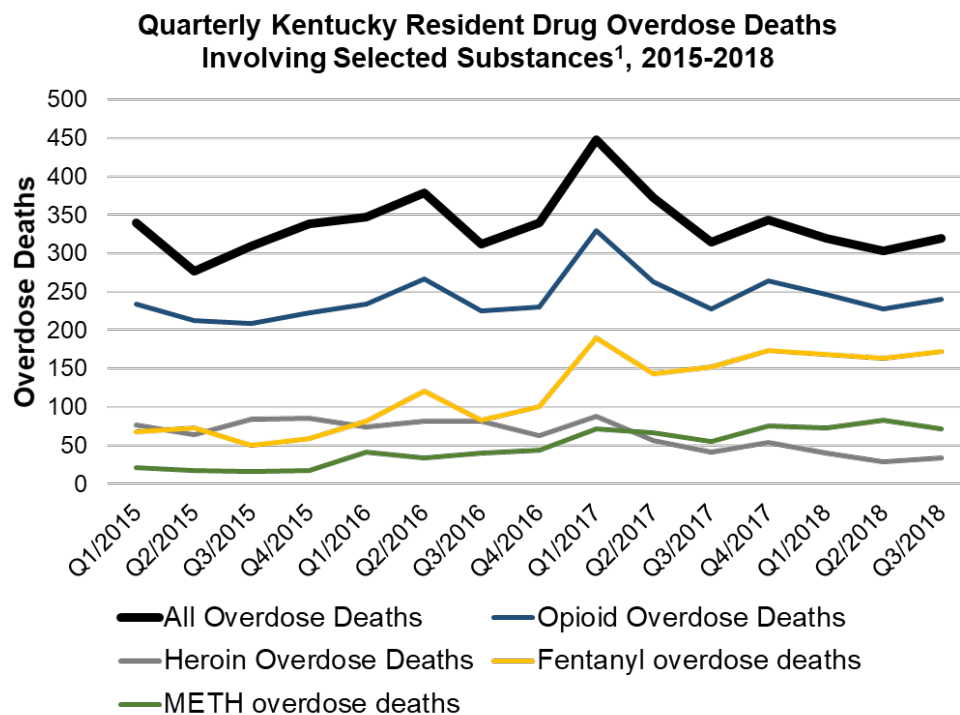
According to the Centers for Disease Control and Prevention, Kentucky had the fifth highest rate of deaths due to drug overdose in 2017 (37.2 per 100,000).<sup>1</sup> This report presents recent data from multiple Kentucky state offices and agencies on opioid-related trends in the Commonwealth.

### Key Findings

- Kentucky resident opioid-involved overdose deaths remain at epidemic levels after peaking in early 2017.
- Opioid overdose emergency department visits and the count of Medicaid beneficiaries with a claims-based opioid overdose closely followed overdose death trends.
- Refusing Emergency Medical Services transport for opioid overdose encounters remained constant in 2018 (~100/month).
- Medicaid claims-based naloxone prescriptions increased 6.5-fold between 2015 and 2018.
- Proportion of opioid prescriptions with ≤ 3 day supply increased after House Bill 333.

### Statewide Kentucky resident opioid overdose deaths peaked in 2017 before subsiding to previously observed epidemic levels.

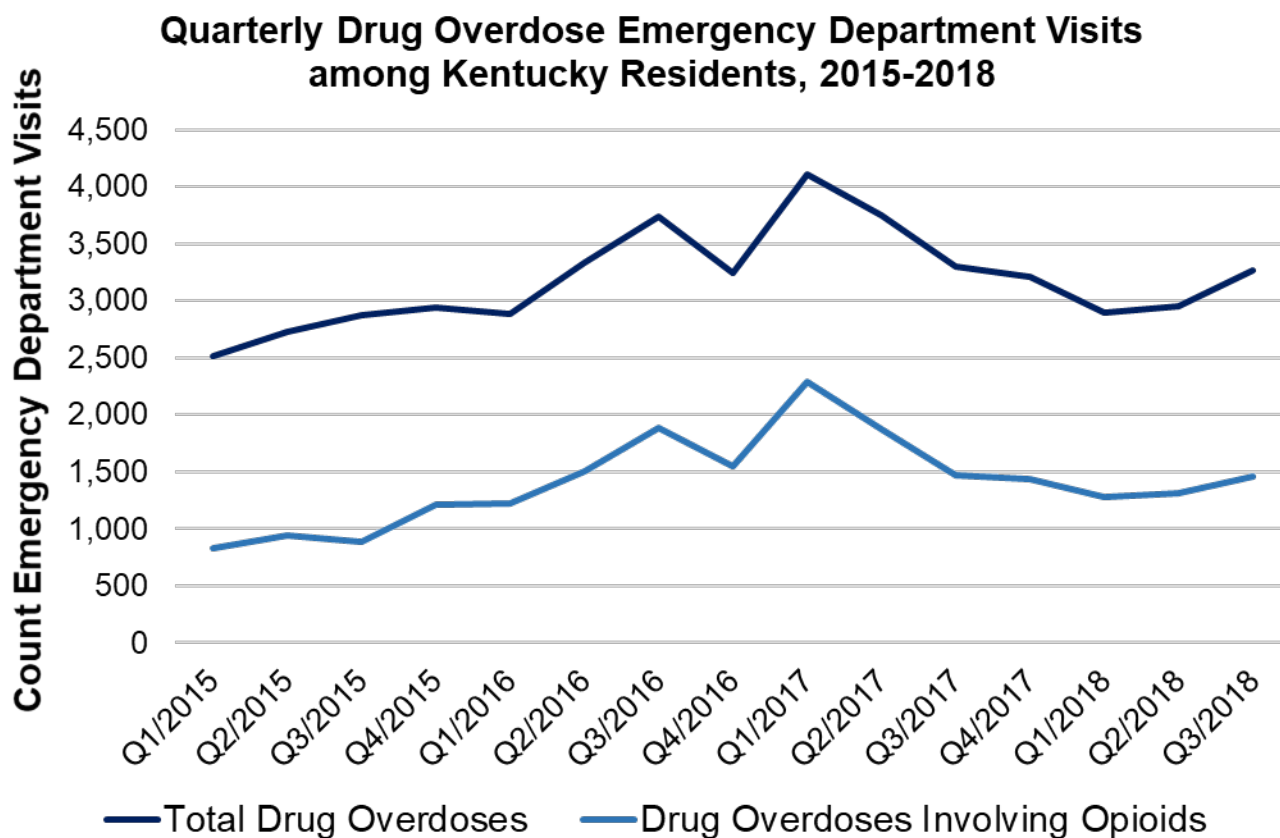
- Total (black line) and opioid-involved (blue line) overdose deaths among Kentucky residents spiked during first quarter 2017.
- Fentanyl-involved overdose deaths increased 2.5-fold from the first quarter of 2015 to the third quarter of 2018.
- Methamphetamine-involved deaths surpassed heroin overdose deaths in the second quarter of 2017.



**Figure 1. Quarterly Kentucky Resident Drug Overdose Deaths Involving Selected Substances<sup>1</sup>, 2015-2018.** <sup>1</sup>Substances are not mutually exclusive; a single overdose death can be both a heroin and a methamphetamine (METH) overdose. Data Source: Kentucky Death Certificate Database, Kentucky Office of Vital Statistics, Cabinet for Health and Family Services. February 2019. Data are provisional and subject to change. See methods for codes used to determine specific substances.

## Opioid overdose emergency department visits peaked in early 2017, mirroring overdose death data.

- The count of total emergency department drug overdose visits in Kentucky spiked in the first quarter of 2017.
- Opioid-involved drug overdose emergency department visits closely follow trends in total drug overdose visits.
- Following the first quarter of 2017, total and opioid-involved emergency department visits declined but may be on the rise.

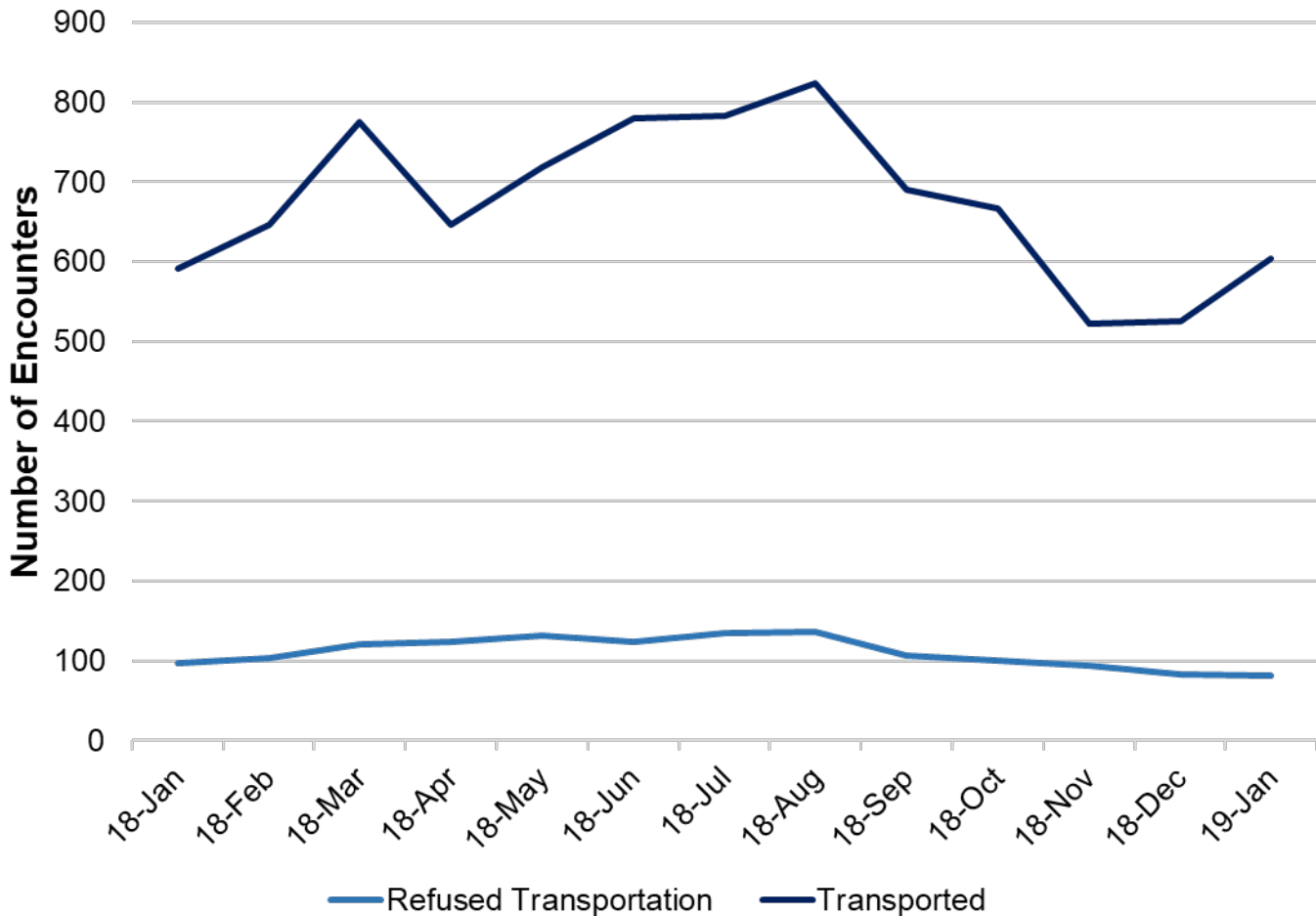


**Figure 2. Quarterly Drug Overdose Emergency Department Visits among Kentucky Residents, 2015-2018.** Produced by the Kentucky Injury Prevention and Research Center, as bona fide agent for the Kentucky Department for Public Health, February 2019. Data source: Kentucky Outpatient Services Database, Frankfort, KY; Cabinet for Health and Family Services, Office of Health Data and Analytics. Data are provisional and subject to change. Counts represent encounters of care and could be greater than the number of individual patients treated. This report was supported by Cooperative Agreement Number 5 NU17CE002732-04, funded by the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention or the Department of Health and Human Services.

**Refusal to transport during Emergency Medical Services encounters involving opioid overdoses has remained constant in the year since the data have been tracked.**

- During calendar year 2018, Emergency Medical Services (EMS) opioid overdose encounters where the individual was transported fluctuated between about 520 and 820 encounters per month.
- Each month there were about 100 EMS encounters involving opioid overdoses wherein an individual refused transport, representing 11.8-16% of total opioid-involved encounters.

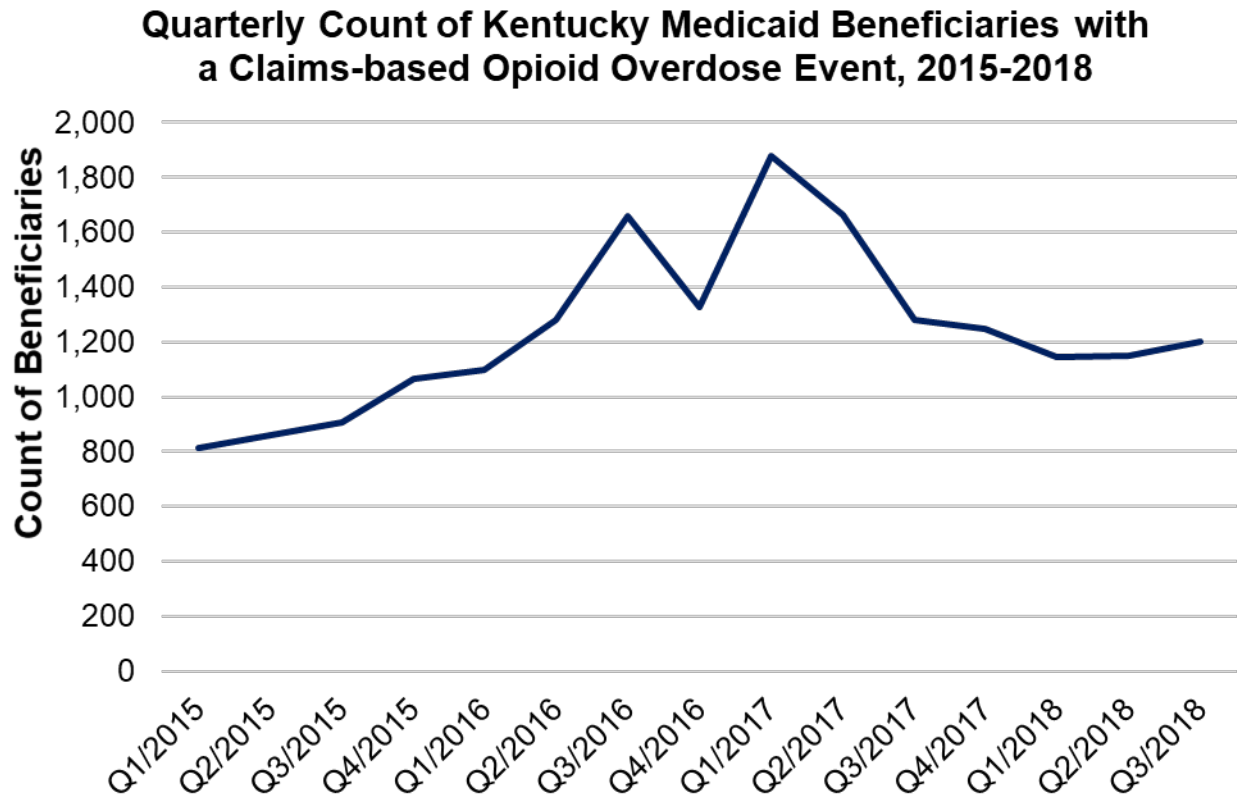
**Monthly Kentucky Opioid Overdoses (including Heroin) in Emergency Medical Services Encounters 2018-2019\***



**Figure 3. Monthly Kentucky Opioid Overdoses (including Heroin) in Emergency Medical Services Encounters 2018-2019\*.** \*Data only available for January of calendar year 2019. Emergency Medical Services (EMS) opioid overdose definitions are based on scans of text fields (for indication of opioid/heroin overdose) and medication fields (for Naloxone/Narcan administration with indicated positive response). Produced by the Kentucky Injury Prevention and Research Center, as bona fide agent for the Kentucky Department for Public Health, February 2019. Data source: Kentucky Board of Emergency Medical Services: KY State Ambulance Reporting System. Data are provisional and subject to change. Counts represent encounters of care and could be greater than the number of individual patients treated.

**Claims-based opioid overdoses among Kentucky Medicaid beneficiaries subsided in 2018 after peaking in 2017.**

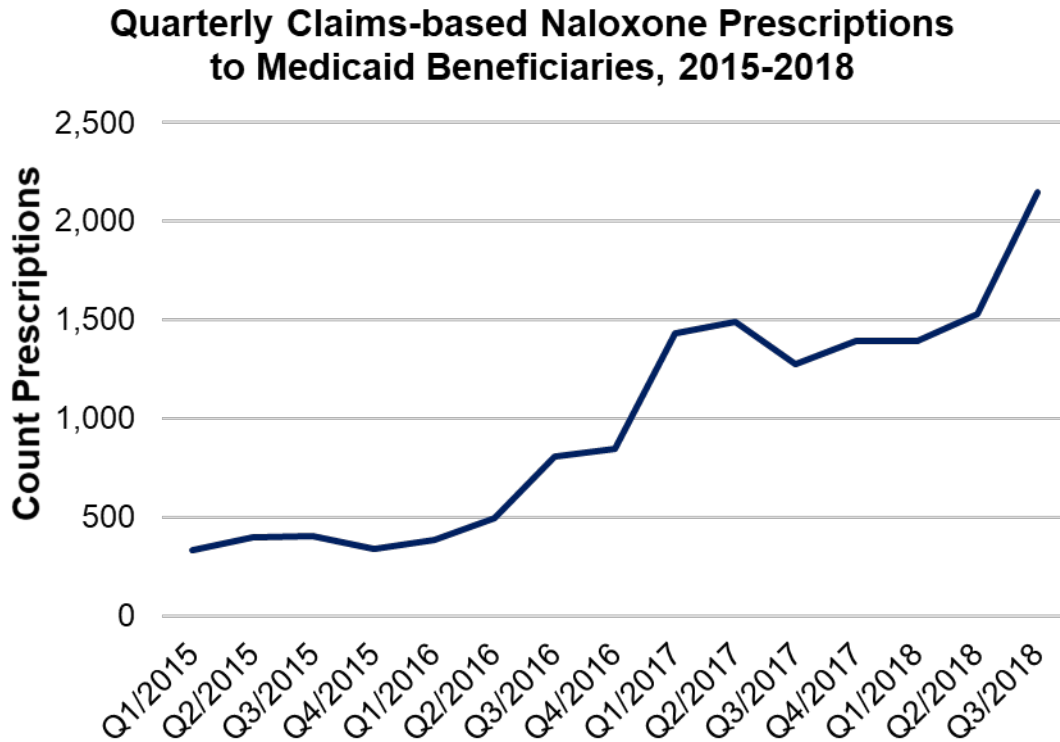
- The quarterly number of Medicaid beneficiaries with a claims-based opioid overdose closely followed opioid overdose deaths (Fig 1) and emergency department visits (Fig 2).
- The number of Medicaid beneficiaries with a claims-based opioid overdose increased steadily from 2015 to 2017 before subsiding.



**Figure 4. Quarterly Count of Kentucky Medicaid Beneficiaries with a Claims-based Opioid Overdose Event, 2015-2018.** Kentucky Department for Medicaid Services Office of Health Data & Analytics, March 2019. Data are provisional and subject to change.

**Prescription fills for the rescue medication, naloxone, are on the rise among Kentucky Medicaid beneficiaries.**

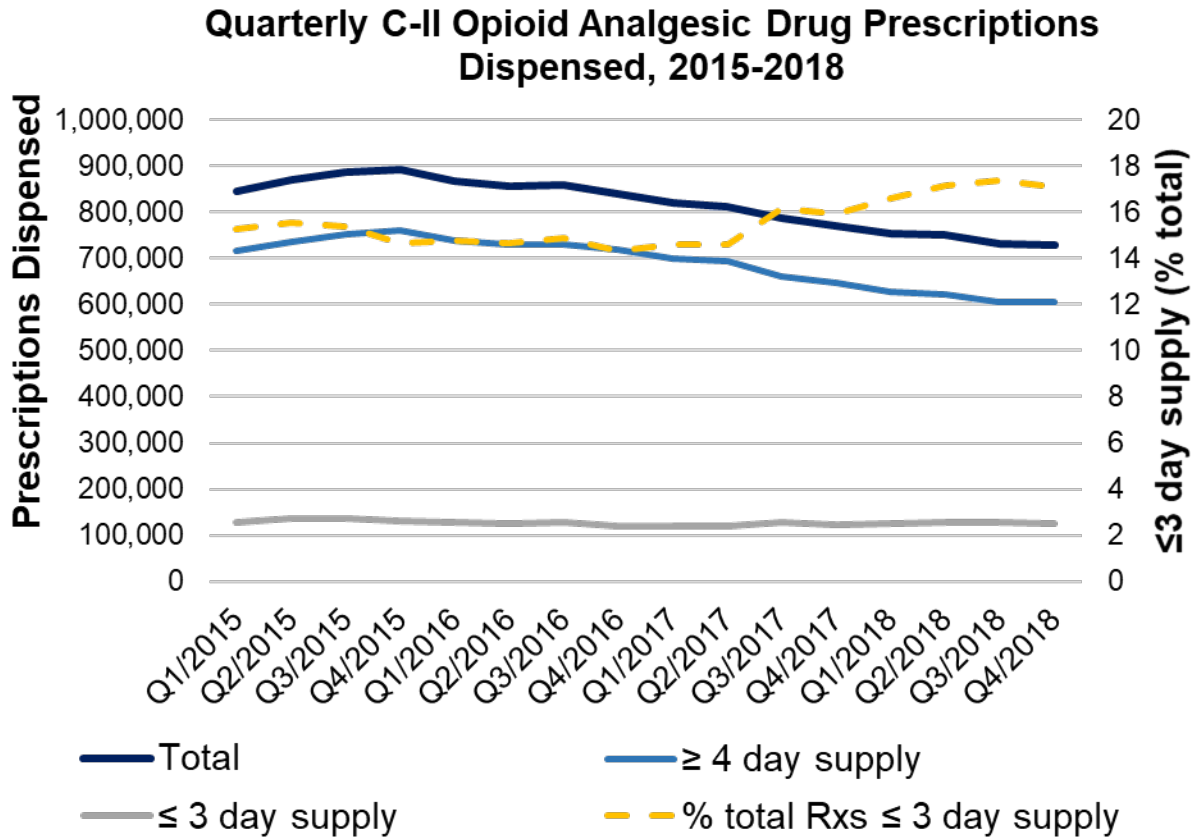
- Naloxone (i.e. Narcan, Evzio) is a life-saving medication that can rapidly reverse opioid overdose.
- Nationwide, naloxone prescriptions increased more than 8-fold between the fourth quarter of 2015 and the second quarter of 2017.<sup>2</sup>
- Between the first quarter of 2015 and third quarter of 2018, the number of naloxone prescriptions among Kentucky Medicaid beneficiaries increased 6.5-fold.



**Figure 5. Quarterly claims-based Naloxone Prescriptions to Medicaid Beneficiaries, 2015-2018.** Count of Medicaid claims for naloxone prescriptions. Data source: Kentucky Department for Medicaid Services Office of Health Data & Analytics, March 2019. Data are provisional and subject to change.

**Overall and long-term ( $\geq 4$  day supply) opioid analgesic prescriptions dispensed declined statewide across Kentucky.**

- Following the implementation of House Bill 333 (July 2017), there was an immediate upsurge in the proportion of C-II opioid prescriptions where the day supply was  $\leq 3$  (yellow dotted line, right y-axis).
- Total schedule II opioid analgesic drug prescriptions dispensed from Kentucky doctors to Kentucky residents are declining.
- This trend is driven by a reduction in schedule II opioid analgesic drug prescriptions with  $\geq 4$  day supply.



**Figure 6. Quarterly C-II Opioid Analgesic Drug Prescriptions Dispensed, 2015-2018.** Data Source: Office of the Inspector General. Kentucky All Schedule Prescription Electronic Reporting (KASPER). March 2019. Data are provisional and subject to change. Left y-axis: number of C-II opioid prescriptions dispensed (solid lines). Right y-axis: percent of total C-II opioid prescriptions with  $\leq 3$  day supply (yellow dotted line).

## Summary

Kentucky has been one of the hardest hit states by the opioid epidemic. According to data from several Kentucky state offices and agencies, opioid-related events (i.e. opioid overdose deaths, opioid overdose emergency department visits, and Medicaid claims-based opioid overdoses) have subsided to previously observed epidemic levels after peaking in the first quarter of 2017. Based on the substances examined in overdose death data for this report, this appears to have been driven by an increase in fentanyl-involved overdoses during that quarter. The data from all sources support the same narrative about a spike in opioid-related events in the first quarter of 2017 followed by a return to epidemic levels. It is too early to know whether the downward trends observed following the first quarter of 2017 will continue. Regardless, overdose deaths involving fentanyl and methamphetamine are on the rise. EMS opioid overdose encounters wherein an individual refuses transport remained stable in the year (2018) during which the data were collected. Between 2015 and 2018, there has been an increase in naloxone prescriptions filled by Kentucky Medicaid beneficiaries consistent with national trends in naloxone dispensing.<sup>2</sup> Moreover, immediately following the implementation of House Bill 333, there was a spike in the proportion of total C-II opioid prescriptions with  $\leq 3$  day supply, concurrent with a reduction in the number of long-term ( $\geq 4$  day supply) prescriptions of schedule II opioid analgesic drugs dispensed statewide. This brief indicates a need for continued statewide surveillance of drug policy-related efforts as well as the continuation of efforts to address new and emerging drug problems within the Commonwealth of Kentucky.

## Data source and methods

### Kentucky Injury Prevention Research Center (KIPRC) Data

All KIPRC work was supported by funding from Centers for Disease Control and Prevention grant numbers 5 NU17CE002732-04-00 and 5 NU17CE924880-03. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention or the Department of Health and Human Services. Data are provisional and subject to change. Starting October 1st, 2015, coding switched to International Classification of Disease, 10th revision, Clinical Modification (ICD-10-CM, <https://www.cdc.gov/nchs/icd/icd10cm.htm>).

### Figure 1: Quarterly Kentucky Resident Drug Overdose Deaths Involving Selected Substances<sup>1</sup>, 2015-2018.

Produced by the Kentucky Injury Prevention and Research Center, as bona fide agent for the Kentucky Department for Public Health, February 2019. **Data source:** Kentucky Death Certificate Database, Kentucky Office of Vital Statistics, Cabinet for Health and Family Services.

1. Substances are not mutually exclusive; for example, one overdose death can be both a heroin overdose and a methamphetamine overdose.
2. Opioid involvement determined by the presence of at least one of the following ICD-10 codes in the supplemental cause codes on Drug Overdose Death Kentucky Death Certificates: T40.0, T40.1, T40.2, T40.3, T40.4, T40.6 (Appendix 1).
3. Heroin involvement determined by the presence of ICD-10 code T40.1 in the supplemental cause codes on Drug Overdose Death Kentucky Death Certificates.
4. Fentanyl involvement determined by the presence of ICD-10 code T40.4 in the supplemental cause codes and mention of the word “fentanyl” on Drug Overdose Death Kentucky Death Certificates.
5. Methamphetamine involvement determined by mention of word “methamphetamine” on Drug Overdose Death Kentucky Death Certificates.

### Figure 2. Quarterly Drug Overdose Emergency Department Visits among Kentucky Residents, 2015-2018.

Produced by the Kentucky Injury Prevention and Research Center, as bona fide agent for the Kentucky Department for Public Health, February 2019. **Data source:** Kentucky Outpatient Services Database, Frankfort, KY; Cabinet for Health and Family Services, Office of Health Data and Analytics. Counts represent encounters of care and could be greater than the number of individual patients treated.

An emergency department (ED) visit was considered a drug overdose ED visit if:

1. any of the ICD-9-CM codes in the range 960-979 were listed in any diagnosis (Appendix 2); or
2. any of the ICD-9-CM codes in the range E850-E858, E950.0-E950.5, E962.0, or E980.0-E980.5 were listed in the E-code fields; or
3. any of the ICD-10-CM codes in the range T36-T50 were listed in any diagnosis, with unintentional, self-harm, assault, or undetermined intent and encounter character A or D.

An emergency department (ED) visit was considered an opioid-involved overdose ED visit if:

1. any of the ICD-9-CM codes in the range 965 were listed in any diagnosis; or
2. any of the ICD-9-CM codes in the range E850.0-E850.2 were listed in the E-code fields; or
3. any of the ICD-10-CM codes in the range T40.0-T40.4 or T40.6 were listed in any diagnosis, with unintentional, self-harm, assault, or undetermined intent and encounter character A or D.

### Figure 3. Monthly Opioid Overdoses (including Heroin) in Emergency Medical Services Encounters, 2018-2019

EMS opioid overdose definitions are based on scans of text fields (for indication of opioid/heroin overdose) and medication fields (for Naloxone/Narcan administration with indicated positive response). Produced by the Kentucky Injury Prevention and Research Center, as bona fide agent for the Kentucky Department for Public Health, February 2019. **Data source:** Kentucky Board of Emergency Medical Services: KY State Ambulance Reporting System. Counts represent encounters of care and could be greater than the number of individual patients treated.



**Kentucky Department for Medicaid Services (DMS) Office of Health Data and Analytics**

**Figure 4. Quarterly Count of Kentucky Medicaid Beneficiaries with a Claims-based Opioid Overdose Event, 2015-2018.** Claims-based opioid overdoses refer to health claims with an International Classification of Disease Clinical Modification 9<sup>th</sup> Revision (ICD-9-CM) or ICD-10-CM diagnosis of opioid overdose (Appendix 3). This measure only captures Medicaid beneficiaries observed in inpatient or outpatient settings. It is not possible to determine whether the overdoses reflect fatal or non-fatal encounters. **Data Source:** Kentucky Department for Medicaid Services Office of Health Data and Analytics, March 2019. Data are provisional and subject to change.

**Figure 5. Quarterly claims-based Naloxone Prescriptions to Medicaid Beneficiaries, 2015-2018.** Count of Medicaid claims for naloxone prescriptions (Appendix 4). **Data source:** Kentucky Department for Medicaid Services Office of Health Data & Analytics, March 2019. Data are provisional and subject to change.

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**Figure 6. Quarterly C-II Opioid Analgesic Drug Prescriptions Dispensed, 2015-2018.** Opioid C-II prescriptions were identified from National Drug Codes where the Drug Enforcement Agency class was C-II and the first two digits of the Medi-Span<sup>®</sup> Generic Product Indicator were '65' (excluding buprenorphine products). These represent prescriptions filled by Kentucky residents and prescribed by Kentucky doctors. **Data Source:** Office of the Inspector General. **Data Source:** Kentucky All Schedule Prescription Electronic Reporting (KASPER). March 2019. Data are provisional and subject to change.

## Appendices

## Appendix 1. ICD-10 codes for overdose deaths (Figure 1).

ICD-10 Code	Description
T40.0	Poisoning by, adverse effect of and underdosing of opium
T40.1	Poisoning by and adverse effect of heroin
T40.2	Poisoning by, adverse effect of and underdosing of other opioids
T40.3	Poisoning by, adverse effect of and underdosing of methadone
T40.4	Poisoning by, adverse effect of and underdosing of other synthetic narcotics
T40.6	Poisoning by, adverse effect of and underdosing of other and unspecified narcotics

## Appendix 2. ICD-9-CM and ICD-10-CM codes for drug overdose emergency department visits (Figure 2).

ICD-9-CM/ICD-10-CM Codes	Description <sup>a</sup>
<b>E850</b>	Accidental poisoning by analgesics, antipyretics, and antirheumatics
○ E850.0	<i>Accidental poisoning by heroin</i>
○ E850.1	<i>Accidental poisoning by methadone</i>
○ E850.2	<i>Accidental poisoning by other opiates and related narcotics</i>
<b>E851</b>	Accidental poisoning by barbiturates
<b>E852</b>	Accidental poisoning by sedatives and hypnotics
<b>E853</b>	Accidental poisoning by tranquilizers
<b>E854</b>	Accidental poisoning by other psychotropic agents
<b>E855</b>	Accidental poisoning by other drugs acting on central and autonomic nervous system
<b>E856</b>	Accidental poisoning by antibiotics
<b>E857</b>	Accidental poisoning by other anti-infectives
<b>E858</b>	Accidental poisoning by other drugs
<b>E950.0</b>	Suicide and self-inflicted poisoning by analgesics, antipyretics, and antirheumatics
<b>E950.1</b>	Suicide and self-inflicted poisoning by barbiturates
<b>E950.2</b>	Suicide and self-inflicted poisoning by other sedatives and hypnotics
<b>E950.3</b>	Suicide and self-inflicted poisoning by tranquilizers and other psychotropic agents
<b>E950.4</b>	Suicide and self-inflicted poisoning by other specified drugs and medicinal substances
<b>E950.5</b>	Suicide and self-inflicted poisoning by unspecified drug and medicinal substance
<b>E962.0</b>	Assault by drugs and medicinal substances
<b>E980.0</b>	Poisoning by analgesics, antipyretics, and antirheumatics, undetermined whether accidentally or purposely inflicted
<b>E980.1</b>	Poisoning by barbiturates, undetermined whether accidentally or purposely inflicted
<b>E980.2</b>	Poisoning by other sedatives and hypnotics, undetermined whether accidentally or purposely inflicted
<b>E980.3</b>	Poisoning by tranquilizers and other psychotropic agents, undetermined whether accidentally or purposely inflicted
<b>E980.4</b>	Poisoning by other specified drugs and medicinal substances, undetermined whether accidentally or purposely inflicted
<b>E980.5</b>	Poisoning by unspecified drug or medicinal substances, undetermined whether accidentally or purposely inflicted
<b>960</b>	Poisoning by antibiotics
<b>961</b>	Poisoning by other anti-infectives
<b>962</b>	Poisoning by hormones and synthetic substitutes
<b>963</b>	Poisoning by primarily systemic agents
<b>964</b>	Poisoning by agents primarily affecting blood constituents
<b>965</b>	Poisoning by analgesics, antipyretics, and antirheumatics
○ 965.00	<i>Poisoning by opium (alkaloids), unspecified</i>
○ 965.01	<i>Poisoning by heroin</i>
○ 965.02	<i>Poisoning by methadone</i>
○ 965.09	<i>Poisoning by other opiates and related narcotics</i>
<b>966</b>	Poisoning by anticonvulsants and anti-parkinsonism drugs
<b>967</b>	Poisoning by sedatives and hypnotics
<b>968</b>	Poisoning by sedatives and hypnotics
<b>969</b>	Poisoning by other central nervous system depressants and anesthetics
<b>970</b>	Poisoning by psychotropic agents
<b>971</b>	Poisoning by central nervous system stimulants
<b>972</b>	Poisoning by drugs primarily affecting the autonomic nervous system
<b>973</b>	Poisoning by agents primarily affecting the cardiovascular system
<b>974</b>	Poisoning by agents primarily affecting the gastrointestinal system
<b>975</b>	Poisoning by water mineral and uric acid metabolism drug

<b>976</b>	Poisoning by agents primarily acting on the smooth and skeletal muscles and respiratory system
<b>977</b>	Poisoning by other and unspecified drugs and medicinal substances
<b>978</b>	Poisoning by bacterial vaccines
<b>979</b>	Poisoning by other vaccines and biological substances
<b>T36</b>	Poisoning by, adverse effect of, and underdosing of systemic antibiotics
<b>T37</b>	Poisoning by, adverse effect of, and underdosing of other systemic anti-infectives and antiparasitics
<b>T38</b>	Poisoning by, adverse effect of, and underdosing of hormones and their synthetic substitutes and antagonists, not elsewhere classified
<b>T39</b>	Poisoning by, adverse effect of, and underdosing of nonopioid analgesics, antipyretics, and antirheumatics
<b>T40</b>	Poisoning by, adverse effect of, and underdosing of narcotics and psychodysleptics [hallucinogens]
○ T40.0	<i>Poisoning by, adverse effect of and underdosing of opium</i>
○ T40.1	<i>Poisoning by and adverse effect of heroin</i>
○ T40.2	<i>Poisoning by, adverse effect of and underdosing of other opioids</i>
○ T40.3	<i>Poisoning by, adverse effect of and underdosing of methadone</i>
○ T40.4	<i>Poisoning by, adverse effect of and underdosing of other synthetic narcotics</i>
○ T40.6	<i>Poisoning by, adverse effect of and underdosing of other and unspecified narcotics</i>
<b>T41</b>	Poisoning by, adverse effect of, and underdosing of anesthetics and therapeutic gases
<b>T42</b>	Poisoning by, adverse effect of, and underdosing of antiepileptic, sedative-hypnotic, and antiparkinsonism drugs
<b>T43</b>	Poisoning by, adverse effect of, and underdosing of psychotropic drugs, not elsewhere classified
<b>T44</b>	Poisoning by, adverse effect of, and underdosing of drugs primarily affecting the autonomic nervous system
<b>T45</b>	Poisoning by, adverse effect of, and underdosing of primarily systemic and hematological agents, not elsewhere classified
<b>T46</b>	Poisoning by, adverse effect of, and underdosing of agents primarily affecting the cardiovascular system
<b>T47</b>	Poisoning by, adverse effect of, and underdosing of agents primarily affecting the gastrointestinal system
<b>T48</b>	Poisoning by, adverse effect of, and underdosing of agents primarily acting on smooth and skeletal muscles and the respiratory system
<b>T49</b>	Poisoning by, adverse effect of, and underdosing of topical agents primarily affecting skin and mucous membrane and by ophthalmological, otorhinolaryngological, and dental drugs
<b>T50</b>	Poisoning by, adverse effect of, and underdosing of diuretics and other and unspecified drugs, medicaments, and biological substances

<sup>a</sup> Codes used to identify opioid overdoses are specified with descriptions in italics.

Appendix 3. ICD-9-CM and ICD-10-CM codes for claims-based opioid overdoses (Figure 4).

ICD-9/ICD-10	Description
965.00	Poisoning - opium NOS
965.01	Poisoning - heroin
965.02	Poisoning - methadone
965.09	Poisoning - opiates NEC
E85.00	Accidental poisoning - heroin
E85.01	Accidental poisoning - methadone
E85.02	Accidental poisoning - opiates NEC
T40.0X1A	Poisoning by opium, accidental (unintentional), initial encounter
T40.0X1D	Poisoning by opium, accidental (unintentional), subsequent encounter
T40.0X1S	Poisoning by opium, accidental (unintentional), sequela
T40.0X4A	Poisoning by opium, undetermined, initial encounter
T40.0X4D	Poisoning by opium, undetermined, subsequent encounter
T40.0X4S	Poisoning by opium, undetermined, sequela
T40.1X1A	Poisoning by heroin, accidental (unintentional), initial encounter
T40.1X1D	Poisoning by heroin, accidental (unintentional), subsequent encounter
T40.1X1S	Poisoning by heroin, accidental (unintentional), sequela
T40.1X4A	Poisoning by heroin, undetermined, initial encounter
T40.1X4D	Poisoning by heroin, undetermined, subsequent encounter
T40.1X4S	Poisoning by heroin, undetermined, sequela
T40.2X1A	Poisoning by other opioids, accidental (unintentional), initial encounter
T40.2X1D	Poisoning by other opioids, accidental (unintentional), subsequent encounter
T40.2X1S	Poisoning by other opioids, accidental, sequela
T40.2X4A	Poisoning by other opioids, undetermined, initial encounter
T40.2X4D	Poisoning by other opioids, undetermined, subsequent encounter
T40.2X4S	Poisoning by other opioids, undetermined, sequela
T40.3X1A	Poisoning by methadone, accidental (unintentional), initial encounter
T40.3X1D	Poisoning by methadone, accidental (unintentional), subsequent encounter
T40.3X1S	Poisoning by methadone, accidental (unintentional), sequela
T40.3X4A	Poisoning by methadone, undetermined, initial encounter
T40.3X4D	Poisoning by methadone, undetermined, subsequent encounter
T40.3X4S	Poisoning by methadone, undetermined, sequela
T40.4X1A	Poisoning by other synthetic narcotics, accidental, initial encounter
T40.4X1D	Poisoning by other synthetic narcotics, accidental, subsequent encounter
T40.4X1S	Poisoning by other synthetic narcotics, accidental, sequela
T40.4X4A	Poisoning by other synthetic narcotics, undetermined, initial encounter
T40.4X4D	Poisoning by other synthetic narcotics, undetermined, subsequent encounter
T40.4X4S	Poisoning by other synthetic narcotics, undetermined, sequela
T40.601A	Poisoning by unspecified narcotics, accidental, initial encounter
T40.601D	Poisoning by unspecified narcotics, accidental, subsequent encounter
T40.601S	Poisoning by unspecified narcotics, accidental, sequela
T40.604A	Poisoning by unspecified narcotics, undetermined, initial encounter
T40.604D	Poisoning by unspecified narcotics, undetermined, subsequent encounter
T40.604S	Poisoning by unspecified narcotics, undetermined, sequela

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<b>T40.691A</b>	Poisoning by other narcotics, accidental (unintentional), initial encounter
<b>T40.691D</b>	Poisoning by other narcotics, accidental (unintentional), subsequent encounter
<b>T40.691S</b>	Poisoning by other narcotics, accidental, sequela
<b>T40.694A</b>	Poisoning by other narcotics, undetermined, initial encounter
<b>T40.694D</b>	Poisoning by other narcotics, undetermined, subsequent encounter
<b>T40.694S</b>	Poisoning by other narcotics, undetermined, sequela

## Appendix 4. National Drug Codes to identify naloxone (Figure 5).

Drug Name	National Drug Codes
Evzio	60842003001, 60842005101
Naloxone	39769012802, 39769012873, 39769012971, 39769013010, 53258191000, 53258191003, 53258192001, 53258193001
Naloxone HCl	00003291010, 00008068801, 00008068802, 00008068901, 00008068902, 00008068903, 00008068904, 00024131302, 00024131326, 00024131402, 00024131427, 00074121101, 00074121201, 00074121301, 00074121501, 00074121601, 00074121901, 00074178201, 00074178221, 00074178269, 00074179002, 00074179022, 00182189063, 00182305163, 00182310085, 00186125013, 00186125113, 00186125213, 00186125313, 00186125412, 00186125512, 00304218756, 00364234045, 00364234051, 00364234054, 00402080301, 00402080310, 00406149252, 00409121201, 00409121501, 00409121525, 00409121901, 00409121925, 00409178203, 00409178269, 00469191000, 00469191030, 00469192010, 00469193010, 00469314020, 00469314030, 00548146600, 00548146700, 00548146900, 00548336600, 00548336900, 00548812100, 00641044713, 00641044723, 00641145133, 00641252141, 00641613201, 00641613225, 00814511834, 00814511840, 10019003968, 17478004101, 17478004210, 38779076700, 38779076703, 38779076706, 39769012901, 47679080000, 47679080030, 49452483603, 51309050102, 51309050110, 51309050202, 51309050302, 51552114901, 51552114902, 51927333500, 54569157300, 54569221600, 54569338500, 54569340000, 54569524700, 54868074800, 54868206200, 54868625900, 55045351501, 55081087600, 55081105500, 62991267901, 62991267902, 62991267904, 67457029200, 67457029202, 67457029900, 67457029910, 67457059900, 67457059902, 70069007101, 70069007110, 70069007201, 70069007210, 76329146901, 76329146905, 76329336901, 76329346901
Narcan	00056037710, 00590035810, 00590035910, 00590036510, 00590036805, 00590036810, 00590036813, 00590036815, 00590037710, 54868011400, 63481035810, 63481035910, 63481036805, 63481037710, 69547021204, 69547021224, 69547035302
Narcan Multiple Dose	00590036505, 63481036505
Narcan Neonatal	00590036710
Narcan Prefilled	00590036515, 00590036525

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2. Freeman PR, Hankosky ER, Lofwall MR, Talbert JC. (2018) The changing landscape of naloxone availability in the United States, 2011-2017. *Drug and Alcohol Dependence*, 191: 361-364.



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