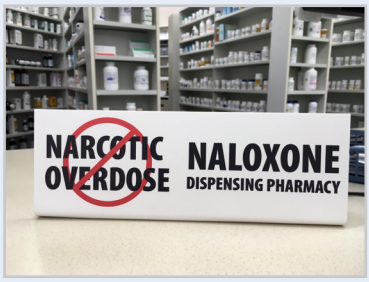
HIDI HealthStats

Statistics and Analysis From the Hospital Industry Data Institute

MAY 2017 ■ Drug Deaths Increase Among Middle-Aged, White Missourians



Background

In 2015, two Princeton economists made a startling discovery. For decades, public health advances in the U.S. had resulted in life expectancy gains and sharply decreasing mortality rates. This was a well-known trend. What Sir Angus Deaton and Anne Case stumbled upon was that these gains were not benefiting all population subgroups equally. The overall mortality rate for middle-aged, non-Hispanic whites in the U.S. diverged from the downward trend of the previous decades and turned sharply upward in the late 1990s. Moreover, they found that this trend was unique to the U.S. and not experienced in other developed countries, or even by other racial and ethnic groups within the U.S. Appallingly, the study found that if the mortality rate for whites between ages 45 and 54 had continued the same downward trajectory during the previous two decades instead of turning sharply upward, a half a million deaths would have been avoided between 1999 and 2013.[i]

Key Findings

- Missouri is the only state in the nation without a prescription drug monitoring program.
- The human toll of the opioid crisis in Missouri has been extensive, with 12,585 drug-induced overdose deaths in the state since 1999.
- During the same period, the age-adjusted rate of drug-induced deaths in Missouri increased by 247 percent.
- Similar to recent national studies, drug-induced deaths in Missouri have been most impactful to the middle-aged non-Hispanic white population.
- Drug-induced mortality caused more than three-quarters of the 11 percent increase in the overall mortality rates for white males ages 25 to 54 in Missouri since 1999.
- 75 percent of new heroin users report that their addiction began by abusing prescription opioids that can typically be tracked by a PDMP.
- 43 percent of hospital patients with a heroin overdose death in 2016 had a history of hospital utilization for prescription opioid abuse during the previous four years.

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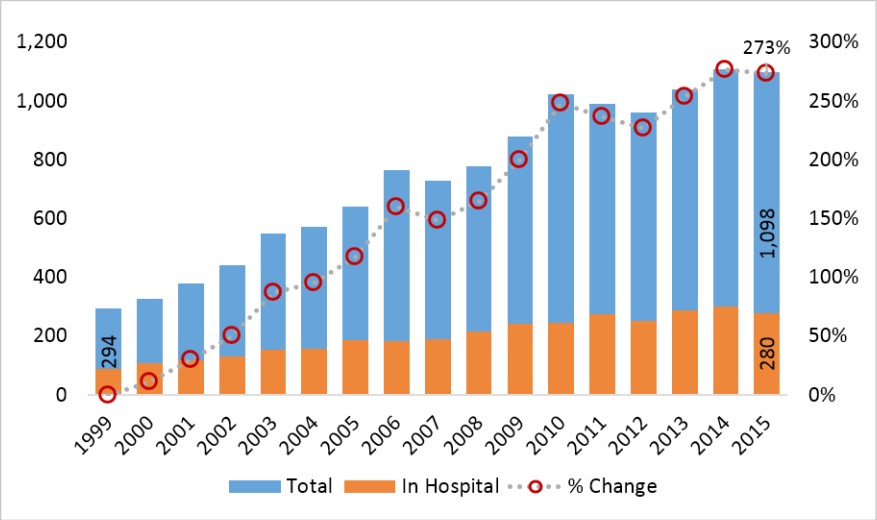
Case and Deaton went on to find that the survival losses in middle-aged American whites were being driven primarily among individuals with a high school education or less, and by three primary causes: suicide, liver disease or cirrhosis, and poisoning from drugs or alcohol. In 1999 — the beginning of the uptick in mortality for this group — drugs and alcohol caused fewer than 10 deaths per 100,000. By 2013, they had more than tripled and were the primary drivers of increased mortality for this cohort. In reviewing the findings, Harvard health economist David Cutler stated that it was well known that more people were dying from opioid addiction, but most experts assumed the crisis would result in little more than a blip that would be covered up by larger improvements in vital health statistics. Much to the contrary, Cutler said that the Case-Deaton findings "show those blips are more like incoming missiles."[ii]

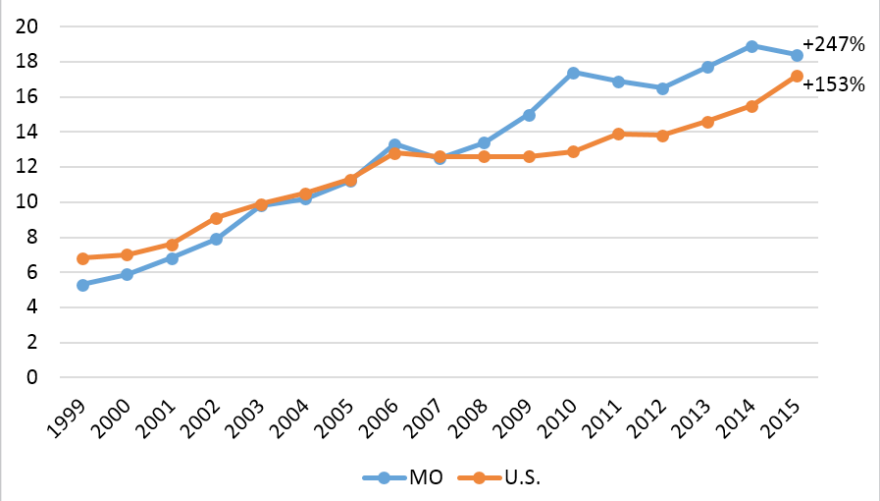
What remained unclear was exactly what was driving these "deaths of despair." As economists, they theorized the trend could be explained by the contemporary deterioration of the blue collar labor market alongside dramatic increases in prescribed narcotics.[iii] In a companion study published in March 2017, Case and Deaton formally tied the deaths of despair to a "cumulative disadvantage" that begins with fewer and less stable labor market opportunities for middle-aged whites without a college education, resulting in poorer marriage and family outcomes, and culminating in worsened physical and emotional well-being. They also found that the reduction in life expectancy for middle-aged whites was seen across the U.S., including Missouri.[iv]

Figure 1: Drug-Induced Deaths in Missouri by Setting and Percent Change From 1999



Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2015 on CDC WONDER Online Database.

Figure 2: Age-Adjusted Drug-Induced Death Rates in Missouri and the U.S., 1999-2015



Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2015 on CDC WONDER Online Database.

Data

This publication examines "deaths of despair" in Missouri using death certificate data from the U.S. Centers for Disease Control and Prevention between 1999 and 2015, and hospital discharge data for opioid-related overdose deaths in fiscal year 2016.[v]

Death certificate data present a more accurate estimate of the overall human toll of the opioid crisis because so few overdose victims survive long enough to be treated in a hospital; however, hospital discharge data are more current and offer greater granularity than the public-use death certificate data.

Analysis of Death Certificate Data

Between 2012 and 2015, just over 1 in 4 drug-induced overdose deaths in Missouri occurred in a hospital setting, while 54 percent occurred in the decedent's home. According to CDC death certificate data, 12,585 Missourians died from a drug-induced overdose between 1999 and 2015. Similar to the Case-Deaton findings, Missouri saw a dramatic 273 percent increase in the number of overdose deaths during the same period with 294 occurring in 1999 and 1,098 in 2015 (Figure 1).

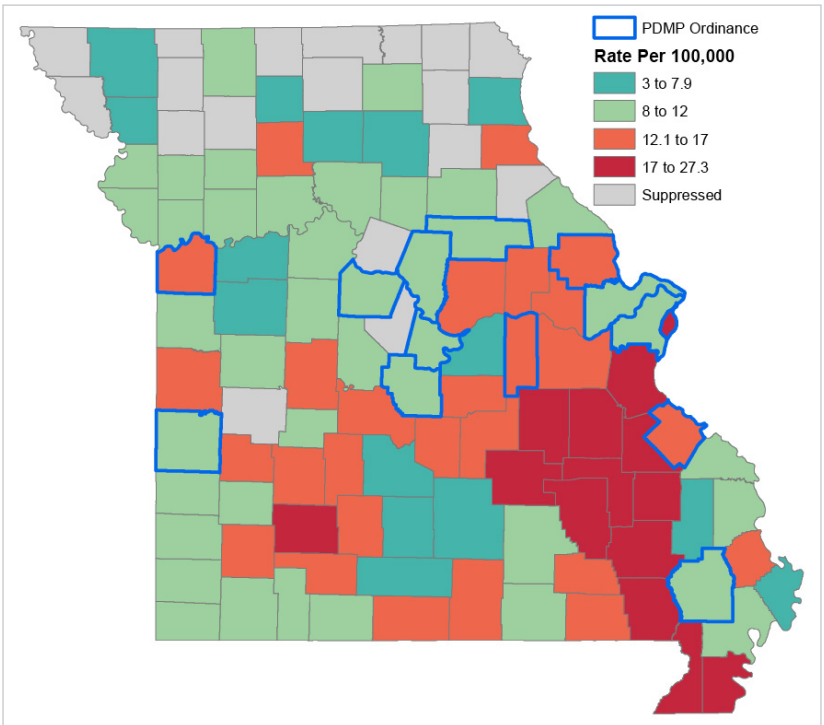
Missouri — the only state in the country without a statewide prescription drug monitoring program — also experienced significantly higher rates of growth for drug-induced overdose deaths compared to the rest of the country. In 1999, Missouri was below the national rate for age-adjusted overdose deaths. By 2006, Missouri had converged with the national rates; however, during the first four years of the great recession the state experienced significant growth and has eclipsed the national death rate for drug overdose every year since 2008. Throughout the entire period, the age-adjusted drug-induced death rate increased by 247 percent in Missouri compared to 153 percent nationally (Figure 2).

Geographically, since 2000, the highest rates of drug-induced overdose deaths in Missouri have occurred in St. Louis City, Greene County and the region stretching from Jefferson County through the lead-belt and into Pemiscot and Dunklin counties in the Bootheel (Figure 3). The map was created by pooling data from 2000 to 2015 because of CDC data suppression rules; however, other studies suggest significant recent problems with opioid abuse in the state's most populous region — St. Louis County.[vi]

Additionally, CDC data indicate the three most populous counties in the state with data available in 1999 and 2015 — St. Louis, Jackson and St. Louis City — had significant increases in the drug overdose death rate at 193, 168 and 171 percent, respectively.

Demographically, the CDC death certificate data for Missouri drug-induced overdose deaths reinforced the Case-Deaton findings. In fact, their latest study found that white people, ages 25 to 54 with a high school education or less, have higher mortality rates than the black population of the same age range, which traditionally suffers from large disparities in health outcomes.[iv]

Figure 3: Rate of Drug-Induced Deaths for Missouri Counties, 2000-2015 and Counties or Major Cities Adopting a Prescription Drug Monitoring Ordinance (as of 3/23/17)



Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2015 on CDC WONDER Online Database.

In 2015, among the 1,098 overdose deaths in the state, non-Hispanic whites between the ages of 25 and 54 accounted for 59 percent of deaths, while accounting for just 41 percent of the total population (Figure 4, top panel). As a whole, whites accounted for 85 percent of the population and 87 percent of drug overdose deaths in 2015.

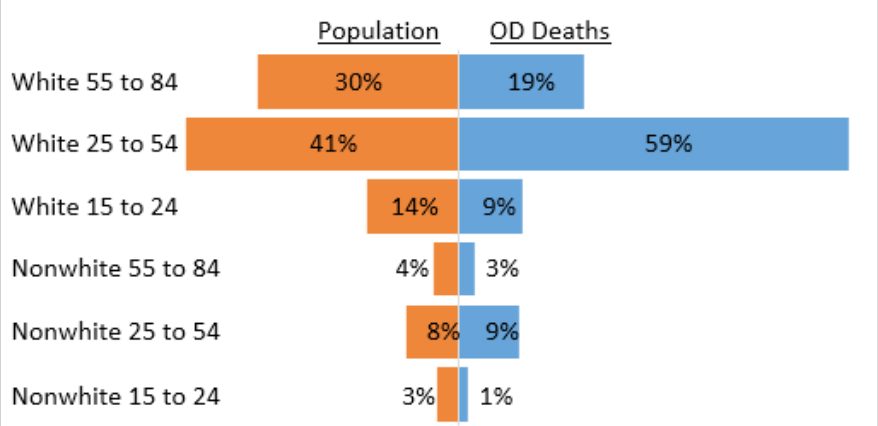
Drug-induced overdose deaths exceeding percent of population occurred in Missourians of all races between the ages of 25 and 54 during 2015. Whites in this age cohort experienced 43 percent more deaths than would be suggested by their population percentage alone, and non-white Missourians between 25 and 54 experienced 16 percent excess drug overdose deaths (Figure 4, middle panel).

Taken as a whole, the overall drug-related death rate for white Missourians surpassed the rate for nonwhite Missourians in 2000, and experienced the sharpest rates of growth during the great recession. During the same period, the drug-related death rates for nonwhite Missourians experienced the largest reductions observed during the 17-year study period (Figure 4, bottom panel).

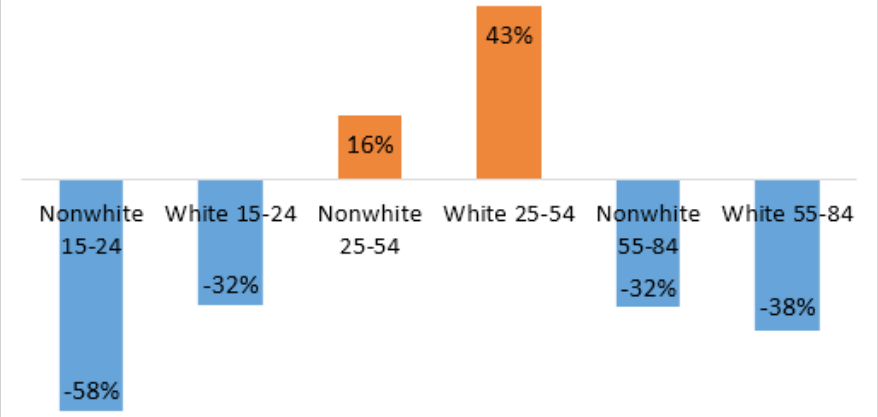
For all ages, since 1999, the drug-induced death rate for nonwhite Missourians increased by 164 percent, with nearly all of the increase occurring since 2009 — a 240 percent increase was observed during the last seven years of the study period.

For non-Hispanic white Missourians of all ages, the drug-related death rate nearly tripled between 1999 and 2015, increasing from 4.6 to 18.2 per 100,000 — an increase of 294 percent.

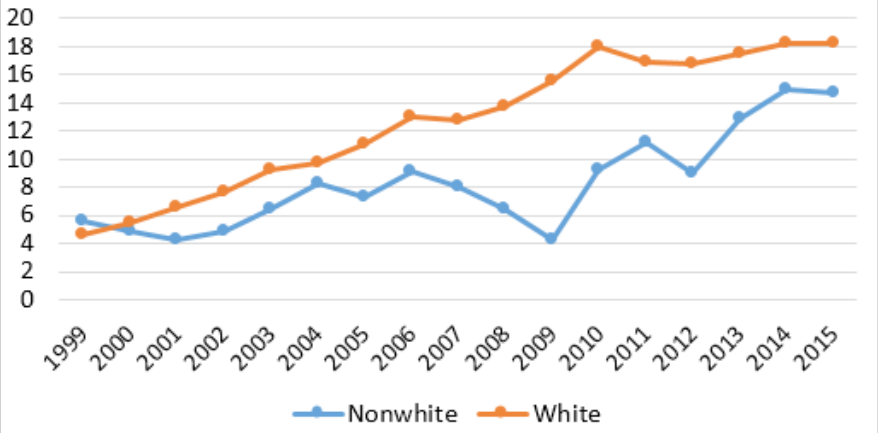
Figure 4: Distribution of Drug-Induced Deaths and Population by Age and Race in Missouri, 2015 Ages 15-84



Ratio of Drug-Induced Deaths to Population by Age and Race in Missouri, 2015 Percent Over/Under Expected

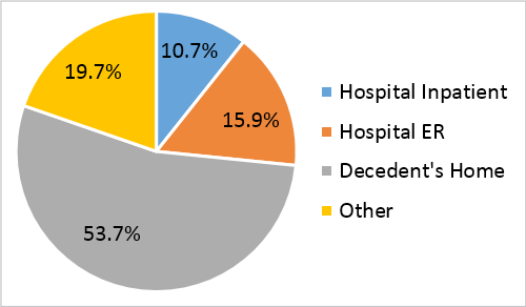


Rate of Drug-Induced Deaths per 100,000 by Race in Missouri, 1999-2015



Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2015 on CDC WONDER Online Database.

Figure 5: Drug-Induced Deaths in Missouri by Setting, 2012-2015



Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2015 on CDC WONDER Online Database.

Analysis of Hospital Discharge Data

During FY 2016, 551 individuals died of an opioid-related overdose in a hospital setting in Missouri. Historically, among all drug-induced overdose deaths in Missouri, only 26.6 percent occur in a hospital setting (Figure 5). This suggests that Missouri could experience more than 2,000 opioid-related overdose deaths in 2016, across all settings. Recent data have placed the number of heroin overdose deaths in St. Louis City alone at 256 during 2016.[vii]

Much of the increase in lethal heroin overdoses, which have more than quadrupled since 2010, has been attributed to the recent practice of cutting the drug with cheaper and more potent synthetic opioids, such as fentanyl.[viii, ix] Additionally, 75 percent of new heroin users report

Table 1: Archetype of Missouri Hospital Patients With Opioid-Related Overdose Death in FY 2016

	Type of Overdose			
	Primary Cause Heroin-Synthetic	Primary Cause Opioid Poisoning	Opioid-Related	Total
Total Number of Deaths	**72**	**91**	**388**	**551**
Hospital Utilization History FY 2012-2015				
Prescription Opioid Misuse	43.1%	16.2%	24.1%	25.8%
Heroin-Illicit Opioid Misuse	20.8%	2.9%	1.5%	4.6%
Average Visits for Any Reason	10.2	26.0	30.1	26.5
Demographic Profile				
White Male Under 25	15.3%	0.0%	2.1%	3.4%
White Male 25 to 54	29.2%	7.7%	12.4%	13.8%
White Male 55 and Older	8.3%	20.9%	26.3%	23.0%
White Female Under 25	5.6%	2.2%	0.5%	1.5%
White Female 25 to 54	13.9%	13.2%	11.6%	12.2%
White Female 55 and Older	6.9%	34.1%	33.5%	30.1%
White Total	*79.2%*	*78.0%*	*86.3%*	*84.0%*
Nonwhite Male Under 25	0.0%	2.2%	0.0%	0.4%
Nonwhite Male 25 to 54	13.9%	1.1%	2.8%	4.0%
Nonwhite Male 55 and Older	1.4%	9.9%	3.6%	4.4%
Nonwhite Female Under 25	0.0%	1.1%	0.3%	0.4%
Nonwhite Female 25 to 54	2.8%	3.3%	3.4%	3.3%
Nonwhite Female 55 and Older	2.8%	4.4%	3.6%	3.6%
Nonwhite Total	*20.8%*	*22.0%*	*13.7%*	*16.0%*
Payer Profile				
Medicare	23.6%	53.8%	53.9%	49.9%
Medicaid	13.9%	14.3%	16.8%	16.0%
Commercial	16.7%	22.0%	18.3%	18.7%
Uninsured	45.8%	8.8%	8.5%	13.4%
Other	0.0%	1.1%	2.6%	2.0%

Source: Hospital Industry Data Institute FY 2016 Inpatient and Outpatient Hospital Discharge Databases

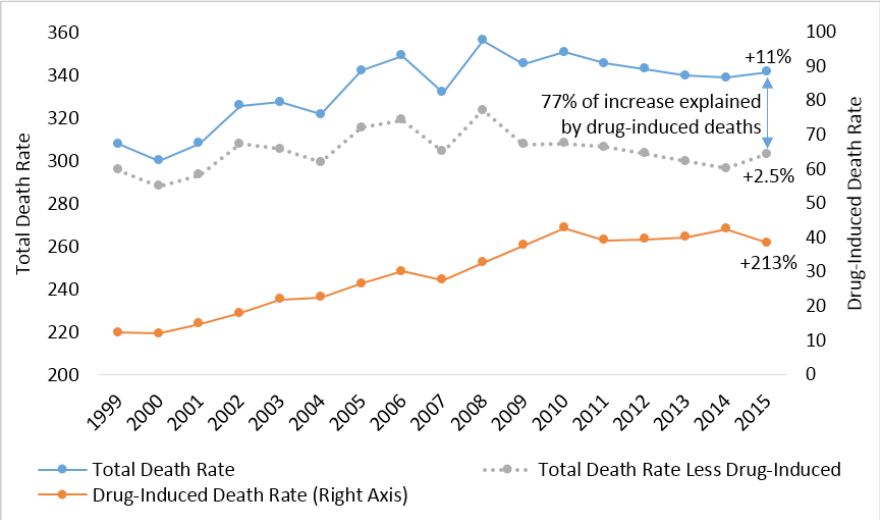
that their addiction began by abusing prescription opioids,[viii] signaling the importance of a statewide prescription drug monitoring program with open access to providers and pharmacists in Missouri. A recent study by GE's Healthymagination team on the measurement of population health recommends stratification matrices of the health outcome by subgroups of the overall population.[x] Table 1 presents this stratification for individuals with an opioid-related overdose death in a Missouri hospital during FY 2016.

Of the 551 decedents, 25.8 percent had a hospitalization for analgesic opioid misuse during the four-year period leading up to their opioid-related overdose death; an additional 4.6 percent were hospitalized at some point for illicit opioid overuse. The history of opioid abuse was most pronounced for patients who died of an overdose of heroin or synthetic opiates — 43 percent of these patients had a history of analgesic opioid abuse, signaling the relationship between prescription narcotic abuse and eventual substitution with less expensive heroin. A full list of ICD-10 CM codes used to categorize the types of opioid overdose deaths is included in the appendix.

Demographically, 84 percent of opioid-related overdose deaths in Missouri hospitals during FY 2016 were by white patients. Within the three types of overdoses, white males ages 25 to 54 accounted for the most overdose deaths from heroin or synthetic opioid poisonings, but white females ages 55 and older had the most deaths attributed to other opioid poisonings and opioid-related causes.

Evaluated by payer, Medicare patients accounted for half of all opioid-related overdose deaths in a Missouri hospital last year. For heroin and synthetic opioid overdose deaths, the decedents were most commonly uninsured at 45.8 percent, enrolled in Medicare at 23.6 percent, or covered by a private commercial health plan at 16.7 percent. Among other opioid poisoning deaths, more than half were covered by Medicare, and more than 1 in 5 had private commercial coverage. A similar pattern was observed for non-poisoning opioid-related deaths.

Figure 6: Death Rates per 100,000 for Non-Hispanic White Males Ages 25-54 in Missouri, 1999-2015



Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2015 on CDC WONDER Online Database.

Conclusion

The human toll of the opioid crisis in Missouri has been extensive with more than 12,500 "deaths of despair" in the state since 1999, and an additional 551 last year occurring in a hospital setting alone. Opioid-related deaths have hardest hit middle-aged white Missourians, and while socioeconomic data are not available, recent national research suggests within this group, that blue-collar individuals with a high school education or less are most impacted. Similar to the Case-Deaton findings, the overall mortality rate for non-Hispanic white males ages 25 to 54 in Missouri has increased 11 percent since 1999. Removing drug-related deaths from the statistics would have resulted in a 2.5 percent increase over the same period, indicating that drug overdoses caused more than three-quarters of the increased mortality for this cohort in Missouri (Figure 6).

The CDC recommends a variety of evidence-based interventions that states can pursue to minimize the burden of opioid-related overdose deaths.[xi] Statewide PDMPs are among the most effective when deployed with policies that ensure universal use, real-time access to information, active management and limited barriers to use for providers and dispensers.[xii] Missouri remains the only state in the nation without a statewide PDMP.

Suggested Citation

Reidhead, M. (2017, May). Drug deaths increase among middle-aged, white Missourians. *HIDI HealthStats*. Missouri Hospital Association. Hospital Industry Data Institute. Available at *http://web.mhanet.com/hidi-analytics-research*

[i] Case, A. & Deaton, A. (2015, December). Rising morbidity and mortality in midlife among white non-Hispanic Americans in the 21st century. *Proceedings of the National Academy of Sciences of the United States of America, 112*(49). doi: 10.1073/pnas.1518393112. Retrieved from http://www.pnas.org/content/112/49/15078.abstract

[ii] Kolata, G. (2015, November 2). Death rates rising for middle-aged white Americans, study finds. *The New York Times*. Retrieved from https://www.nytimes.com/2015/11/03/health/death-rates-rising-for-middle-aged-white-americans-study-finds.html?_r=0

[iii] Kolata, G. (2015, November 3). More white people die from suicide and substance abuse: Why? *The New York Times*. Retrieved from https://www.nytimes.com/2015/11/03/insider/more-white-men-die-from-suicide-and-substance-abuse-why.l?action=click&contentCollection=Health&module=RelatedCoverage&region=Marginalia&pgtype=article

[iv] Case, A. & Deaton, A. (2017, March). *Mortality and morbidity in the 21st century*. Retrieved from https://www.brookings.edu/wp-content/uploads/2017/03/6_casedeaton.pdf

[v] Sources: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2015 on CDC WONDER Online Database, released December, 2016. Data are from the Multiple Cause of Death Files, 1999-2015, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Retrieved from http://wonder.cdc.gov/mcd-icd10.html

Hospital Industry Data Institute, FY 2016 Hospital Inpatient and Outpatient Discharge Databases.

Notes: Fiscal year 2016 covers hospital discharges occurring on or between Oct. 1 to Sept. 30, 2015. Historical hospital records for patients with opioid-related overdose deaths during FY 2016 were gathered from HIDI FY 2012-2015 Hospital Inpatient and Outpatient Discharge Databases. The appendix includes a full list of ICD-10 CM codes used to identify opioid-related overdose deaths.

[iv] Missouri Department of Health and Senior Services Bureau of Vital Statistics. (2015, December). *Accidental drug poisoning deaths with heroin involvement in Missouri*. Retrieved from http://health.mo.gov/data/focus/pdf/AccidentalDrugPoisoningDeaths2015.pdf

[vii] Bogan, J. (2017, February 20). A mass killer: St. Louis heroin deaths hit new high. *St. Louis Post-Dispatch*. Retrieved from http://www.stltoday.com/news/local/metro/a-mass-killer-st-louis-heroin-deaths-hit-new-high/article_2fd6130c-3c35-524a-891e-e51eff2e40b4.html

[viii] Heroin overdose data. (2017, January). Retrieved from https://www.cdc.gov/drugoverdose/data/heroin.html

[ix] Reported law enforcement encounters testing positive for fentanyl increase across US. (2016, August). Retrieved from https://www.cdc.gov/drugoverdose/data/fentanyl-le-reports.html

[x] Vuik, S., Siegel, S. & Darzi, A. (2017, March 17). How should we measure the distribution of health in a population? [Blog post]. Retrieved from http://healthaffairs.org/blog/2017/03/17/how-should-we-measure-the-distribution-of-health-in-a-population/

[xi] Promising state strategies. (2016, June). Retrieved from https://www.cdc.gov/drugoverdose/policy/index.html

[xii] What states need to know about PDMPs. (2016, March). Retrieved from https://www.cdc.gov/drugoverdose/pdmp/states.html

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Appendix

Code	Category	Description
F1110	Opioid-Related	Opioid abuse, uncomplicated
F11120	Opioid-Related	Opioid abuse with intoxication, uncomplicated
F11121	Opioid-Related	Opioid abuse with intoxication delirium
F11122	Opioid-Related	Opioid abuse with intoxication with perceptual disturbance
F11129	Opioid-Related	Opioid abuse with intoxication, unspecified
F1114	Opioid-Related	Opioid abuse with opioid-induced mood disorder
F11150	Opioid-Related	Opioid abuse with opioid-induced psychotic disorder with delusions
F11151	Opioid-Related	Opioid abuse with opioid-induced psychotic disorder with hallucinations
F11159	Opioid-Related	Opioid abuse with opioid-induced psychotic disorder, unspecified
F11181	Opioid-Related	Opioid abuse with opioid-induced sexual dysfunction
F11182	Opioid-Related	Opioid abuse with opioid-induced sleep disorder
F11188	Opioid-Related	Opioid abuse with other opioid-induced disorder
F1119	Opioid-Related	Opioid abuse with unspecified opioid-induced disorder
F1120	Opioid-Related	Opioid dependence, uncomplicated
F1121	Opioid-Related	Opioid dependence, in remission
F11220	Opioid-Related	Opioid dependence with intoxication, uncomplicated
F11221	Opioid-Related	Opioid dependence with intoxication delirium
F11222	Opioid-Related	Opioid dependence with intoxication with perceptual disturbance
F11229	Opioid-Related	Opioid dependence with intoxication, unspecified
F1123	Opioid-Related	Opioid dependence with withdrawal
F1124	Opioid-Related	Opioid dependence with opioid-induced mood disorder
F11250	Opioid-Related	Opioid dependence with opioid-induced psychotic disorder with delusions
F11251	Opioid-Related	Opioid dependence with opioid-induced psychotic disorder with hallucinations
F11259	Opioid-Related	Opioid dependence with opioid-induced psychotic disorder, unspecified
F11281	Opioid-Related	Opioid dependence with opioid-induced sexual dysfunction
F11282	Opioid-Related	Opioid dependence with opioid-induced sleep disorder
F11288	Opioid-Related	Opioid dependence with other opioid-induced disorder
F1129	Opioid-Related	Opioid dependence with unspecified opioid-induced disorder
F1190	Opioid-Related	Opioid use, unspecified, uncomplicated
F11920	Opioid-Related	Opioid use, unspecified with intoxication, uncomplicated
F11921	Opioid-Related	Opioid use, unspecified with intoxication delirium
F11922	Opioid-Related	Opioid use, unspecified with intoxication with perceptual disturbance
F11929	Opioid-Related	Opioid use, unspecified with intoxication, unspecified
F1193	Opioid-Related	Opioid use, unspecified with withdrawal
F1194	Opioid-Related	Opioid use, unspecified with opioid-induced mood disorder
F11950	Opioid-Related	Opioid use, unspecified with opioid-induced psychotic disorder with delusions
F11951	Opioid-Related	Opioid use, unspecified with opioid-induced psychotic disorder with hallucinations
F11959	Opioid-Related	Opioid use, unspecified with opioid-induced psychotic disorder, unspecified

Code	Category	Description
F11981	Opioid-Related	Opioid use, unspecified with opioid-induced sexual dysfunction
F11982	Opioid-Related	Opioid use, unspecified with opioid-induced sleep disorder
F11988	Opioid-Related	Opioid use, unspecified with other opioid-induced disorder
F1199	Opioid-Related	Opioid use, unspecified with unspecified opioid-induced disorder
R781	Opioid-Related	Finding of opiate drug in blood
T400X1A	Opioid Poisoning	Poisoning by opium, accidental (unintentional), initial encounter
T400X1D	Opioid Poisoning	Poisoning by opium, accidental (unintentional), subsequent encounter
T400X1S	Opioid Poisoning	Poisoning by opium, accidental (unintentional), sequela
T400X2A	Opioid Poisoning	Poisoning by opium, intentional self-harm, initial encounter
T400X2D	Opioid Poisoning	Poisoning by opium, intentional self-harm, subsequent encounter
T400X2S	Opioid Poisoning	Poisoning by opium, intentional self-harm, sequela
T400X3A	Opioid Poisoning	Poisoning by opium, assault, initial encounter
T400X3D	Opioid Poisoning	Poisoning by opium, assault, subsequent encounter
T400X3S	Opioid Poisoning	Poisoning by opium, assault, sequela
T400X4A	Opioid Poisoning	Poisoning by opium, undetermined, initial encounter
T400X4D	Opioid Poisoning	Poisoning by opium, undetermined, subsequent encounter
T400X4S	Opioid Poisoning	Poisoning by opium, undetermined, sequela
T400X5A	Opioid Poisoning	Adverse effect of opium, initial encounter
T400X5D	Opioid Poisoning	Adverse effect of opium, subsequent encounter
T400X5S	Opioid Poisoning	Adverse effect of opium, sequela
T400X6A	Opioid Poisoning	Underdosing of opium, initial encounter
T400X6D	Opioid Poisoning	Underdosing of opium, subsequent encounter
T400X6S	Opioid Poisoning	Underdosing of opium, sequela
T401X1A	Heroin-Synthetic Poisoning	Poisoning by heroin, accidental (unintentional), initial encounter
T401X1D	Heroin-Synthetic Poisoning	Poisoning by heroin, accidental (unintentional), subsequent encounter
T401X1S	Heroin-Synthetic Poisoning	Poisoning by heroin, accidental (unintentional), sequela
T401X2A	Heroin-Synthetic Poisoning	Poisoning by heroin, intentional self-harm, initial encounter
T401X2D	Heroin-Synthetic Poisoning	Poisoning by heroin, intentional self-harm, subsequent encounter
T401X2S	Heroin-Synthetic Poisoning	Poisoning by heroin, intentional self-harm, sequela
T401X3A	Heroin-Synthetic Poisoning	Poisoning by heroin, assault, initial encounter
T401X3D	Heroin-Synthetic Poisoning	Poisoning by heroin, assault, subsequent encounter
T401X3S	Heroin-Synthetic Poisoning	Poisoning by heroin, assault, sequela

Code	Category	Description
T401X4A	Heroin-Synthetic Poisoning	Poisoning by heroin, undetermined, initial encounter
T401X4D	Heroin-Synthetic Poisoning	Poisoning by heroin, undetermined, subsequent encounter
T401X4S	Heroin-Synthetic Poisoning	Poisoning by heroin, undetermined, sequela
T402X1A	Opioid Poisoning	Poisoning by other opioids, accidental (unintentional), initial encounter
T402X1D	Opioid Poisoning	Poisoning by other opioids, accidental (unintentional), subsequent encounter
T402X1S	Opioid Poisoning	Poisoning by other opioids, accidental (unintentional), sequela
T402X2A	Opioid Poisoning	Poisoning by other opioids, intentional self-harm, initial encounter
T402X2D	Opioid Poisoning	Poisoning by other opioids, intentional self-harm, subsequent encounter
T402X2S	Opioid Poisoning	Poisoning by other opioids, intentional self-harm, sequela
T402X3A	Opioid Poisoning	Poisoning by other opioids, assault, initial encounter
T402X3D	Opioid Poisoning	Poisoning by other opioids, assault, subsequent encounter
T402X3S	Opioid Poisoning	Poisoning by other opioids, assault, sequela
T402X4A	Opioid Poisoning	Poisoning by other opioids, undetermined, initial encounter
T402X4D	Opioid Poisoning	Poisoning by other opioids, undetermined, subsequent encounter
T402X4S	Opioid Poisoning	Poisoning by other opioids, undetermined, sequela
T402X5A	Opioid Poisoning	Adverse effect of other opioids, initial encounter
T402X5D	Opioid Poisoning	Adverse effect of other opioids, subsequent encounter
T402X5S	Opioid Poisoning	Adverse effect of other opioids, sequela
T402X6A	Opioid Poisoning	Underdosing of other opioids, initial encounter
T402X6D	Opioid Poisoning	Underdosing of other opioids, subsequent encounter
T402X6S	Opioid Poisoning	Underdosing of other opioids, sequela
T403X1A	Opioid Poisoning	Poisoning by methadone, accidental (unintentional), initial encounter
T403X1D	Opioid Poisoning	Poisoning by methadone, accidental (unintentional), subsequent encounter
T403X1S	Opioid Poisoning	Poisoning by methadone, accidental (unintentional), sequela
T403X2A	Opioid Poisoning	Poisoning by methadone, intentional self-harm, initial encounter
T403X2D	Opioid Poisoning	Poisoning by methadone, intentional self-harm, subsequent encounter
T403X2S	Opioid Poisoning	Poisoning by methadone, intentional self-harm, sequela
T403X3A	Opioid Poisoning	Poisoning by methadone, assault, initial encounter
T403X3D	Opioid Poisoning	Poisoning by methadone, assault, subsequent encounter
T403X3S	Opioid Poisoning	Poisoning by methadone, assault, sequela
T403X4A	Opioid Poisoning	Poisoning by methadone, undetermined, initial encounter
T403X4D	Opioid Poisoning	Poisoning by methadone, undetermined, subsequent encounter
T403X4S	Opioid Poisoning	Poisoning by methadone, undetermined, sequela
T403X5A	Opioid Poisoning	Adverse effect of methadone, initial encounter
T403X5D	Opioid Poisoning	Adverse effect of methadone, subsequent encounter
T403X5S	Opioid Poisoning	Adverse effect of methadone, sequela
T403X6A	Opioid Poisoning	Underdosing of methadone, initial encounter

Code	Category	Description
T403X6D	Opioid Poisoning	Underdosing of methadone, subsequent encounter
T403X6S	Opioid Poisoning	Underdosing of methadone, sequela
T404X1A	Heroin-Synthetic Poisoning	Poisoning by other synthetic narcotics, accidental (unintentional), initial encounter
T404X1D	Heroin-Synthetic Poisoning	Poisoning by other synthetic narcotics, accidental (unintentional), subsequent encounter
T404X1S	Heroin-Synthetic Poisoning	Poisoning by other synthetic narcotics, accidental (unintentional), sequela
T404X2A	Heroin-Synthetic Poisoning	Poisoning by other synthetic narcotics, intentional self-harm, initial encounter
T404X2D	Heroin-Synthetic Poisoning	Poisoning by other synthetic narcotics, intentional self-harm, subsequent encounter
T404X2S	Heroin-Synthetic Poisoning	Poisoning by other synthetic narcotics, intentional self-harm, sequela
T404X3A	Heroin-Synthetic Poisoning	Poisoning by other synthetic narcotics, assault, initial encounter
T404X3D	Heroin-Synthetic Poisoning	Poisoning by other synthetic narcotics, assault, subsequent encounter
T404X3S	Heroin-Synthetic Poisoning	Poisoning by other synthetic narcotics, assault, sequela
T404X4A	Heroin-Synthetic Poisoning	Poisoning by other synthetic narcotics, undetermined, initial encounter
T404X4D	Heroin-Synthetic Poisoning	Poisoning by other synthetic narcotics, undetermined, subsequent encounter
T404X4S	Heroin-Synthetic Poisoning	Poisoning by other synthetic narcotics, undetermined, sequela
T404X5A	Heroin-Synthetic Poisoning	Adverse effect of other synthetic narcotics, initial encounter
T404X5D	Heroin-Synthetic Poisoning	Adverse effect of other synthetic narcotics, subsequent encounter
T404X5S	Heroin-Synthetic Poisoning	Adverse effect of other synthetic narcotics, sequela
T404X6A	Heroin-Synthetic Poisoning	Underdosing of other synthetic narcotics, initial encounter
T404X6D	Heroin-Synthetic Poisoning	Underdosing of other synthetic narcotics, subsequent encounter
T404X6S	Heroin-Synthetic Poisoning	Underdosing of other synthetic narcotics, sequela
Z79891	Opioid-Related	Long-term (current) use of opiate analgesic