Drug Overdose & Opioid Use in Travis County

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The opioid use epidemic in the US has received increasing recognition and attention by the media and the medical and public health communities. This report summarizes drug overdose and opioid use data for Austin and Travis County. Several data sources are available to assess the epidemic's impact on our community. These sources include mortality records, hospital discharge data, Texas Poison Center Network records, and opioid prescription rates.

Mortality Data

Drug Overdose Deaths

Mortality statistics from the National Center for Health Statistics.[1] indicate that 1,398 Travis County residents died due to drug overdose from 2006-2016, an average of 127 each year. Of these deaths, 590 (42.2%) were due to a drug overdose from opioids (including opium, heroin, methadone, other opioids, and other synthetic narcotics) (Table 1).[2] Heroin was reported in 18.7% of drug overdose deaths, followed by other prescription opioids (14.7%), synthetic opioids other than methadone (6.3%), and methadone (4.9%). The mortality rate due to drug overdose in Travis County is 11.6 per 100,000, whereas the mortality rate due to opioid overdose is 4.8 per 100,000. In Travis County, drug overdose deaths due to opioids accounted for a lower percentage of all drug overdose deaths and a lower mortality rate than in the United States as a whole (42.2% vs 57.6% and 4.8 vs 8.0 per 100,000, respectively) during the same 11-year period. Both the percentages of drug overdose deaths in which "other opioids," e.g. prescription opioids such as hydrocodone and oxycodone, were reported and those in which "synthetic opioids other than methadone," e.g. Fentanyl, Tramadol, were reported were also lower than the percentages for the US overall.

Other drugs commonly reported in the multiple cause of death (MCD) codes were cocaine (14.4%), benzodiazepines (13.2%), and methamphetamines (9.3%). Approximately 11% of drug overdose deaths were due to a combination of opioids and benzodiazepines. These percentages, with the exception of methamphetamines (higher percentage), roughly mirror those of the US.

Reporting of Drug-related Deaths

Because mortality statistics rely on the information provided in the death certificates, the use of non-specific language to describe drug-related deaths may result in undercounting of specific drugs. There has been an upward trend in the number of drug overdose deaths (all drugs) as well as opioid overdose deaths in Travis County since 2006 (Graph 1; trend lines included); however, the nature of this increase should be interpreted with caution due to the likelihood of underreporting in previous years. Nationally, the mention of a specific drug in death certificates has been increasing, with 78% of all drug overdose deaths in the US in 2014 having a specific drug listed in the cause of death, compared to 67% in 2010.[3]

Table 1. Drugs Involved in Deaths due to Drug Overdose in Travis County, Texas 2006-2016 (N=1,398)

Drug Name or Drug Type	MCD ICD-10 Code	Number of Drug Overdose Deaths in Travis County	Percentage of Drug Overdose Deaths in Travis County	Percentage of Drug Overdose Deaths in US†	Age-adjusted rate (per 100,000 population) in Travis County	Age-adjusted rate (per 100,000 population) in US
Opioids (All Types)	T40.0-T40.4, T40.6	590	42.2%	57.6%	4.8	8.0
Heroin	T40.1	262	18.7%	15.1%	2	2.1
Other Natural & Semi-Synthetic Opioids (e.g. Hydrocodone, Oxycodone)	T40.2	205	14.7%	25.1%	1.8	3.4
Cocaine	T40.5	201	14.4%	13.6%	1.7	1.9
Benzodiazepines	T42.4	184	13.2%	15.5%	1.5	2.1
Methamphetamines	T43.6	130	9.3%	7.1%	1.1	1
Synthetic Opioids not including Methadone (e.g. Fentanyl, Tramadol)	T40.4	88	6.3%	11.9%	0.8	1.7
Methadone	T40.3	68	4.9%	10.0%	0.5	0.5
Other unspecified narcotics	T40.6	26	2.0%	6.3%	0.2	0.9
Barbiturates	T42.3	11	0.8%	0.7%	Unreliable	0.1
Opium	T40.0	*	*	<0.01%	*	Unreliable
Benzodiazepines + Opioids	T40.1-T40.4, T40.6 & T42.4	153	10.9%	13.0%	1.2	1.8
Methamphetamines + Opioids	T40.1-T40.4, T40.6 & T43.6	41	2.9%	2.9%	0.3	0.4
Cocaine + Opioids	T40.1-T40.4, T40.6 & T40.5	67	4.8%	7.7%	0.5	1.1

Note: See ICD-10 coding and definitions, including specific drugs, for drug overdose, opioids, and other drugs in endnotes
Individual opioids will not add to 590 because more than one opioid may have been in the system
Opioids are in blue text; columns with percentages of drug overdose deaths are highlighted in grey for comparison with US
†US Drug Overdose Deaths (N=472,133), of which opioid-related overdoses (N=272,143)

Opioid Overdose Deaths

Of the 590 deaths due to opioid overdose in Travis County, 537 (91%) were unintentional poisoning (accidents) and 43 (7%) were intentional self-poisoning (suicide). Males have a rate of overdose death due to opioids (6.4 per 100,000) that is twice as high as females (3.1). Whites have a rate of overdose death due to opioids (6.8 per 100,000) that is more than twice that of blacks (3.3) and two and a half times that of Hispanics (2.7).[4] In Travis County, the rate of opioid overdose death is highest in white males, followed by black males, white females, Hispanic males, and Hispanic females (rates for other races not reported due to small numbers).

Hospital Discharge Data

In 2016, there were 444 hospital discharges[5] of Travis County residents with a drug overdose diagnosis.[6] Of these discharges, 88 (19.8%) indicated an opioid in the diagnosis field or external cause of injury field. Children (age 0-17) accounted for 16% of all drug overdose hospitalizations and less than 5% of opioid overdose hospitalizations. Adults aged 18-44 accounted for 44% and adults aged 45-64 for 29% of all drug overdose hospitalizations; both age groups accounted for 41% of opioid overdose hospitalizations (data not shown). Gender data are not shown due to the suppression of this information for any patients with drug abuse or HIV infection in the discharge dataset.

Graph 1. Drug Overdose Deaths in Travis County 2006-2016

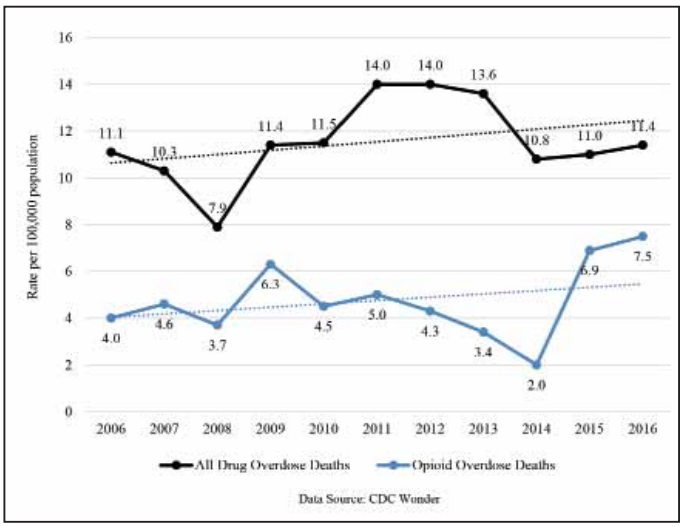

Table 2. Travis County Residents with Hospitalizations with Drug Overdose Diagnosis, Travis County, 2016 (N=444)

	Drug Overdose – Any Drug (N=444)		Opioids including Heroin (N=88)	
	Number	Percentage	Number	Percentage
Race/Ethnicity				
White	246	55%	48	55%
Black	57	13%	12	14%
Hispanic	113	26%	22	25%
Asian	*	-	*	-
American Indian	*	-	0	0%
Other	16	4%	*	-
Injury Intent				
Unintentional (Accident)	240	54%	62	71%
Intentional self-harm (Suicide)	184	41%	20	23%

Note: See further information on ICD-10 coding and definitions for drug overdose and opioids in endnotes

*Counts 1-11 are suppressed in hospital discharge data

For hospitalizations due to overdose involving any drug as well as for those involving opioids or heroin specifically, whites and Hispanics made up a higher percentage of the hospitalizations than blacks, Asians, or other race individuals (Table 2). The majority of drug overdose hospitalizations occurred due to unintentional poisoning (240 or 54%). Opioids were more commonly implicated in hospitalizations due to unintentional poisonings (62 or 26%) than in hospitalizations due to intentional self-poisoning (20 or 11%).

The most commonly detected drug in Travis County residents hospitalized for drug overdose were some type of opioid (19.8%), benzodiazepines (17.1%), and methamphetamines (5%) (Table 3). Heroin accounted for 12 (14%) of opioid overdose hospitalizations and only 3% of all drug overdose hospitalizations. In contrast, heroin accounted for 44% of all opioid overdose deaths and almost 19% of all drug overdose deaths in Travis County in the 10-year period between 2006 and 2016.

Texas Poison Center Network Calls

The Texas Poison Center Network[7] (TPCN) tracks calls for exposure to potentially poisonous substances. From 2000 through May 2017, there were over 3,600 calls from Travis County to the TPCN for exposure to opioids, an average of 200 such calls yearly. Of these calls, 57% came from females and 43% from males. Calls for exposures involving children (0-19) accounted for 27% of all

Table 3. Drugs Commonly Detected in Travis County Residents with Hospitalizations with Drug Overdose Diagnosis (N=444), Travis County, 2016

Drug Name or Type (ICD-10 Code)	Number	Percent of Hospitalizations with Drug Overdose Diagnosis	Percentage of Overdose Deaths Involving Drug, Travis County 2006-2016
Opioids (T40.0-T40.4, T40.6 or T40.69)	88	19.8%	25.0%
Opium (T40.0)	*	-	*
Heroin (T40.1)	12	2.7%	18.7%
Other Opioids (T40.2)	32	7.2%	14.7%
Methadone (T40.3)	*	-	-
Other synthetic opioids (not methadone) (T40.4)	13	2.9%	6.3%
Other unspecified narcotics (T40.60 or T40.69)	29	33.3%	2%†
Benzodiazepines (T42.2)	76	17.1%	13.2%
Methamphetamines (T43.62)	22	5.0%	9.3%†
Cocaine (T40.5)	17	3.8%	14.4%
Barbiturates (T42.4)	0	0%	0.8%

Note: See further information on ICD-10 coding and definitions for drug overdose, opioids, and other drugs in endnotes
Individual opioids may not total 88 due to more than opioid reported in a patient's discharge record.
*Counts 1-11 are suppressed in hospital discharge data
† T-codes for hospital discharge data are more specific than MCD ICD-10 codes in CDC Wonder

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calls. Drugs most commonly reported to TPCN for potential poisoning or toxic exposure include hydrocodone (51%), Tramadol (13.6%), codeine (11%), and oxycodone (8.3%). Approximately 42% of calls reported unintentional exposure to opioids, of which 55% report a therapeutic error. Roughly 42% of calls reported an intentional exposure to an opioid, of which 65% were suspected intentional self-harm (suicide attempt). Almost 43% of potentially toxic exposures were managed on site (not in a health care facility), 38% of calls were made en route to a health care facility, and 18% were referred to a health care facility for treatment. Minor to no effects were expected for 67% of the calls related to opioids, and 32% were judged as potentially toxic exposures with moderate to major effects (including death).

Opioid Prescribing Rates in Travis County

Mortality and hospital discharge data as well as poison center calls show that both prescription opioids and illicit opioids are contributors to opioid overdoses in Travis County. However, prescription opioids may not play as strong of a role in opioid overdose deaths in Travis County as they do in other areas of the country or in the US as a whole (see Table 1, last column). The retail opioid prescription rate has declined across the US since 2012 and Travis County remains well below the national rate and below Texas. The rate of opioid prescriptions in Travis County dropped from 69.9 per 100 persons in 2012 to 51.2 per 100 persons in 2016. This rate indicates that there are currently enough opioid prescriptions dispensed for every other person in the county to have one. The Travis County rate (51.2 per 100 person as of 2016) is lower than the Texas rate (57.6 per 100 persons), the US rate (66.5 per 100 persons), and the highest state's rate (Alabama, 121 per 100 persons).[8]

Clinical & Public Health Recommendations for Reducing Exposure to Opioids, Preventing Abuse & Stopping Addiction in Travis County

The following recommendations are compiled from the Centers for Disease Control's (CDC) overdose prevention website and guidelines for prescribing opioids for chronic pain outside of active cancer, palliative, and end-of-life care.[9]

Source: Adapted from CDC Guidelines for Prescribing Opioids for Chronic Pain and CDC Overdose Prevention Website

Detailed Guidelines & Further Resources for Opioid Prescribing

- CDC's Guidelines for Prescribing Opioids Clinical Tools (includes Factsheets, Pocket Guides, Checklists, Dosage Calculations, etc.): https://www.cdc.gov/drugoverdose/prescribing/clinical-tools.html
- CDC's Guidelines for Prescribing Opioids for Chronic Pain (Full Article): https://www.cdc.gov/mmwr/volumes/65/rr/rr6501e1er.htm
- CDC's Vital Signs "Opioid Prescribing – Where you live matters": https://www.cdc.gov/vitalsigns/pdf/2017-07-vitalsigns.pdf

Clinical Recommendations	Public Health Recommendations
Improve opioid prescribing by clinicians • Consider non-pharmacologic therapy and non-opioid pharmacologic therapy in addition to opioid therapy. • Consider new CDC dosage recommendations which have been lowered in order to lower risk. • Use morphine milligram equivalents (MME) per day for dosage calculation. • Consider immediate-release or extended-release and long-acting opioids. • Establish treatment goals, including duration, follow-up, and discontinuation of opioids. • Discuss risks and benefits of therapy with patients.	**Expand access to evidence-based substance abuse treatment** • e.g. Medication-Assisted Treatment for people already struggling with opioid addiction **Expand access and use of naloxone—a safe antidote to reverse opioid overdose, including:** • Standing orders at pharmacies (Note: Walgreens and CVS already provide naloxone) • Distribution through local, community-based organizations • Access and use by law enforcement officials • Training for basic emergency medical service staff on how to administer the drug
Conduct ongoing evaluation of risk factors for opioid-related harms and ways to mitigate patient risk • Acknowledge that opioids pose risk to all patients. • Review Texas prescription drug monitoring program (PDMP) data prior to prescribing opioids. • Use urine drug testing. • Consider the risks of co-prescribing benzodiazepines. • Arrange for treatment for opioid use disorder if necessary.	**Implement, strengthen and promote local and state-level monitoring and strategies:** • Promote the use of Texas prescription drug monitoring programs, which give health care providers information to improve patient safety and prevent abuse. • Implement and strengthen state strategies that help prevent high-risk prescribing and prevent opioid overdose. • Improve detection of the trends of illegal opioid use by working with state and local public health agencies, medical examiners and coroners, and law enforcement. • Improve access to safe disposal sites for prescription opioids (See http://www.austintexas.gov/drugs for local drug disposal sites)

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[1]United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Multiple Cause of Death 1999-2016 on CDC WONDER Online Database, released 2017. Data are compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at http://wonder.cdc.gov/ucd-icd10.html.

[2]Cause of Death ICD-10 codes include X40-X44, X60-X64, X85, Y10-Y15 and one of the following MCD ICD-10 codes: T40.0 (Opium), T40.1 (Heroin), T40.2 (Natural and semi-synthetic opioid analgesics or "Other opioids" – e.g. Morphine, Oxycodone, Hydrocodone), T40.3 (Methadone), T40.4 (Other synthetic narcotics excluding methadone – e.g. Fentanyl, Tramadol, Propoxyphene, Meperidine); T40.6 (Other unspecified narcotics – e.g. if "opioid" is listed in death certificate).

[3]Note: Drug overdose deaths that do not mention a specific drug fall into two groups—those in which only a drug class was mentioned (3%–4% of all drug overdose deaths), and those with no mention of involvement of a specific drug or drug class (19%–30% of all drug overdose deaths).Warner M, Trinidad JP, Bastian BA, et al. Drugs most frequently involved in drug overdose deaths: United States, 2010–2014. National vital statistics reports; vol. 65 no 10. Hyattsville, MD: National Center for Health Statistics. 2016.

[4]All rates are age-adjusted.

[5]Hospital discharge data are obtained by the Texas Health Care Information Collection at the Texas Department of State Health Service's Center for Health Statistics. The analysis in this article includes only hospitalizations of Travis County residents.

[6]Texas Inpatient Public Use Data File, Texas Department of State Health Services, Center for Health Statistics, Texas Health Care Information Collection. 2016. Note: ICD-10-CM drug overdose hospitalization subset was created by searching all diagnosis fields and dedicated external cause-of-injury fields for any mention of diagnosis codes T36-T50, with indication via the 5/6th character of accidental, intentional self-harm, assault, and undetermined intent and indication via the 7th character of initial encounter type or missing encounter type. Opioid overdose subset was created using T40.0-T40.4 (heroin, T40.1), T40.60 and T40.69.

[7]Texas Poison Center Network (2000-2017). See: http://poisoncontrol.org/home/

[8]CDC Prescription Drug Rate Maps (2012-2016). Available at: https://www.cdc.gov/drugoverdose/maps/rxrate-maps.html)

[9]See the CDC's Overdose Prevention website: https://www.cdc.gov/drugoverdose/prevention/index.html; Guidelines At A Glance: https://www.cdc.gov/drugoverdose/pdf/Guidelines_At-A-Glance-a.pdf or full article at: https://www.cdc.gov/mmwr/volumes/65/rr/rr6501e1.htm