Southeastern Ohio Epidemiology Region
2022 Regional Substance Abuse Data Review

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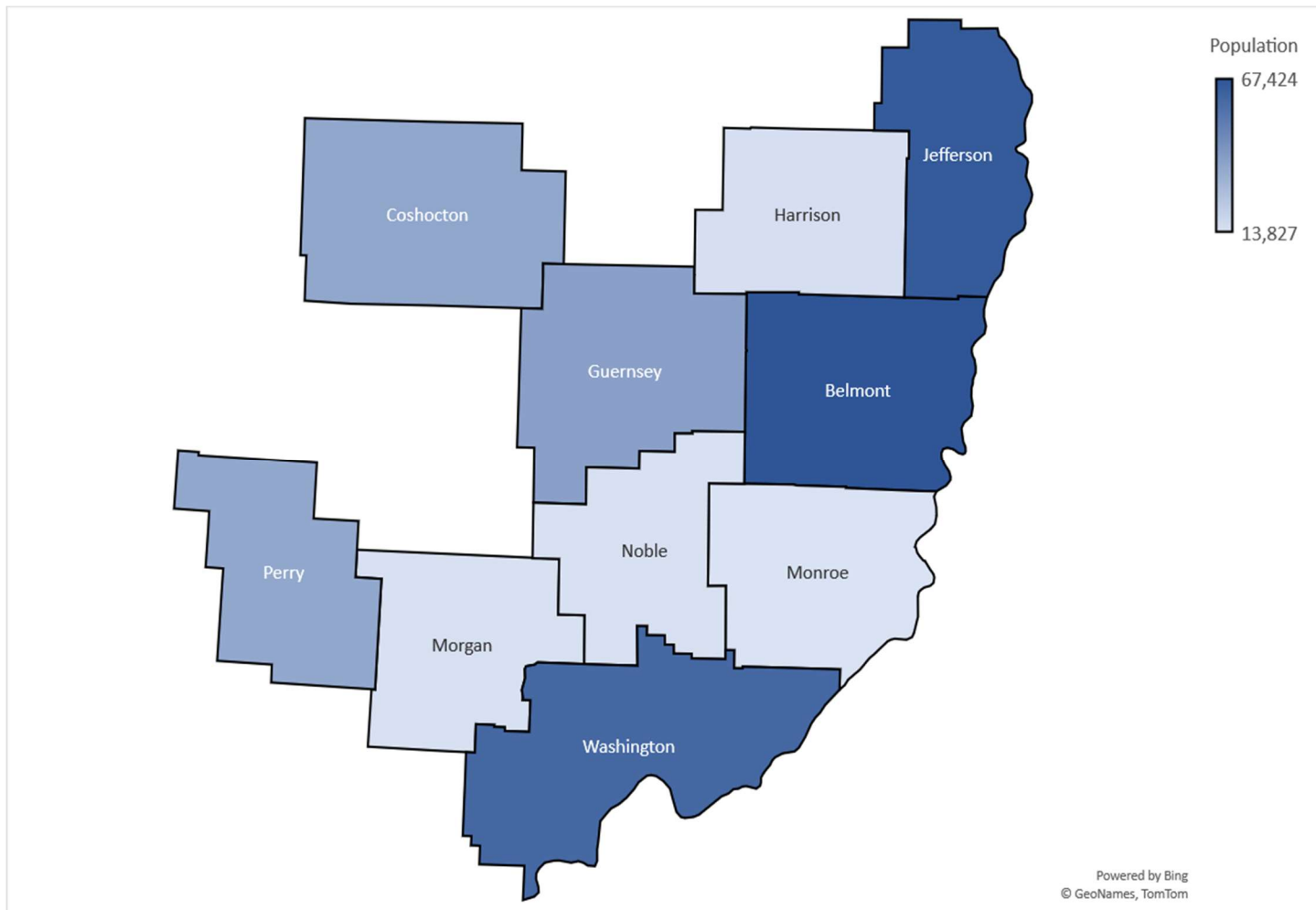
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Introduction

The Regional Substance Abuse Data Review provides substance abuse data, treatment facts, and prevention awareness on the 10 Ohio counties that make up the Southeastern Ohio Epidemiology Region. The review includes the health districts Belmont, Coshocton, Guernsey, Harrison, Jefferson, Monroe, Morgan, Noble, Perry, and Washington counties and includes approximately 360,000 Ohio residents[1]. This region is composed primarily of rural communities bordering the western edge of the Appalachia region in Southeastern Ohio. Though drug overdose has been identified as a "Diseases of Despair" by the Appalachia Regional Commission[2], data availability on this topic is limited within the epidemiology region and often lacks county-level granularity essential for development of substance abuse, treatment programs, and prevention materials distribution events.

The purpose of this report is to provide an analysis of substance abuse, treatment, and prevention data currently available for all served counties. Through this, the local health departments can better understand and address the areas of substance abuse in their communities, as well as treatment options and partnership opportunities for overdose prevention.

Overdose Deaths

In 2019, there were 70,630[3] overdose deaths nationally, while 4,028 Ohioans lost their lives to drug overdose[4]. At that same time, Ohio ranked #2 in drug overdose deaths behind West Virginia based on overdose death rates[5]. Fentanyl, which is a synthetic opioid 100 times stronger than morphine[6], was responsible for 76% of all 2019 overdose deaths in Ohio[4]. Often times, fentanyl is used in combination with other illicit drugs. In 2019, 82.3% of all heroin overdose deaths also involved fentanyl; 77.1% of all cocaine overdose deaths involved fentanyl; and 72.4% of all psycho-stimulant (i.e. methamphetamine) overdose deaths involved fentanyl[4].

The CDC has noted a rise in drug overdose deaths in recent years, with a significant acceleration in the rates of drug overdose death coinciding with the onset of the COVID-19 pandemic[7]. Preliminary data from the CDC suggests that there were over 100,000 deaths nationally from drug overdoses in 2021[8]. While the data from the Ohio Department of Health for overdose mortality in 2021 is not finalized at the time of this report, both Jefferson and Perry Counties have exceeded the state overdose death rate of 48.20/100,000 persons at rates of 53.69 and 63.75 per 100,000 persons, respectively.

Table 1: Total Overdose Deaths Rates per 100,000 Persons

	Ohio	Belmont	Coshocton	Guernsey	Harrison	Jefferson	Monroe	Morgan	Noble	Perry	Washington
	Total Overdose Deaths										
2016	39.69	34.11	10.94	41.03	13.22	24.26	7.23	20.61	20.82	13.86	46.50
2017	46.61	29.66	16.41	20.51	52.87	45.49	14.46	13.74	13.88	19.40	23.25
2018	36.36	34.11	21.88	25.64	26.43	39.43	28.93	27.48	34.70	33.26	28.23
2019	39.26	26.70	16.41	30.77	--	36.40	7.23	13.74	6.94	30.49	23.25
2020*	47.56	45.98	46.50	43.59	26.43	47.01	21.70	54.96	13.88	41.58	34.87
2021*	48.20	32.63	30.09	53.69	33.04	54.59	21.70	13.74	20.82	63.75	33.21

Source: Ohio Department of Health Data Warehouse Drug Overdose Deaths 2016-2021
 Years with * are considered partial and maybe incomplete.
 -- Indicates data that have been suppressed

Overdose Deaths by Substance

Table 2 represents data on the overdose death rates per 100,000 persons by substance and county from 2016-2021. For the year 2021, which has not yet been finalized by the Ohio Department of Health, Perry County exceeded the Ohio state fentanyl & analogues overdose death rate per 100,000 persons at 52.67 versus the state rate of 36.44. For alcohol, Guernsey County rose above the state overdose death rate per 100,000 persons at 10.26 versus 9.15, respectively. The benzodiazepine overdose death rate for the Ohio was 4.03 per 100,000 persons; Harrison, Jefferson, Monroe, and Perry Counties exceeded that overdose death rate at 13.22, 9.10, 7.23, and 6.94 per 100,000 persons, respectively. Perry, Washington, and Guernsey counties exceeded the state heroin overdose death rates per 100,000 persons of 1.14 with rates of 8.32, 4.98, and 2.56, respectively. Perry County also exceeded the state overdose death rate for opiates of 38.46 persons with a county rate of 55.44 overdose deaths per 100,000 persons. The state overdose death rate for other unspecified drugs was 23.53 per 100,000 persons; Jefferson, Guernsey, and Washington Counties all exceeded that with rates of 37.91, 30.77, and 29.89, respectively. The Ohio overdose death rate per 100,000 persons for prescription opiates was 38.24. Only Perry County exceed that overdose death rate at 52.67 prescription opiates deaths per 100,000 persons.

Table 2: Drug Overdose Death Rates (/100,000) by Substance and County

	Ohio	Belmont	Coshocton	Guernsey	Harrison	Jefferson	Monroe	Morgan	Noble	Perry	Washington
Fentanyl and Analogues											
2016	20.91	7.42	--	7.69	0.00	1.52	0.00	0.00	6.94	0.00	11.62
2017	30.60	8.90	2.74	12.82	0.00	1.52	0.00	0.00	6.94	5.54	13.29
2018	24.36	10.38	8.21	12.82	13.22	6.07	0.00	13.74	27.76	13.86	14.95
2019	27.32	13.35	8.21	15.39	0.00	7.58	0.00	6.87	0.00	19.40	9.96
2020*	35.90	25.21	32.82	20.51	6.61	9.10	7.23	13.74	6.94	27.72	24.91
2021*	36.44	14.83	24.62	20.51	6.61	18.20	0.00	6.87	20.82	52.67	26.57
Alcohol (all types)											
2016	7.34	4.45	0.00	7.69	6.61	1.52	7.23	0.00	6.94	2.77	11.62
2017	7.98	0.00	2.74	0.00	6.61	3.03	0.00	13.74	0.00	0.00	1.66
2018	6.28	5.93	2.74	2.56	6.61	0.00	0.00	0.00	0.00	2.77	6.64
2019	7.86	2.97	0.00	0.00	0.00	4.55	7.23	6.87	6.94	5.54	3.32
2020*	8.73	5.93	8.21	5.13	6.61	3.03	0.00	6.87	0.00	0.00	6.64
2021*	9.15	4.45	5.47	10.26	13.22	6.07	0.00	6.87	0.00	2.77	1.66
Benzodiazepines											
2016	5.48	2.97	2.74	10.26	0.00	4.55	0.00	6.87	13.88	0.00	11.62
2017	4.96	0.00	0.00	5.13	19.83	18.20	0.00	6.87	0.00	2.77	3.32
2018	3.90	1.48	2.74	5.13	0.00	13.65	7.23	0.00	0.00	0.00	8.30
2019	3.63	4.45	5.47	5.13	0.00	12.13	0.00	0.00	0.00	0.00	4.98
2020*	4.00	8.90	8.21	2.56	13.22	10.62	14.46	0.00	0.00	8.32	3.32
2021*	4.03	2.97	0.00	0.00	13.22	9.10	7.23	0.00	6.94	2.77	3.32

Ohio Data Warehouse, Mortality Reports, Drug Related Resident Deaths, 2016-2021

Ohio Public Health Information Warehouse - Public: Browse - Mortality

Ohio Resident deaths include individuals that resided in Ohio at the time of death regardless of where the death occurred.

Excludes zero records with unknown/missing data.

Years with * are considered partial and may be incomplete.

Rates have been suppressed for counts < 10 or where population counts are not available, rates based on counts < 20 are considered unreliable.

Report created in the Ohio Public Health Data Warehouse on 4/26/2022

Table 2 (Continued): Drug Overdose Death Rates (/100,000) by Substance and County

	Ohio	Belmont	Coshocton	Guernsey	Harrison	Jefferson	Monroe	Morgan	Noble	Perry	Washington
Heroin											
2016	12.83	5.93	5.47	7.69	0.00	3.03	0.00	6.87	6.94	5.54	8.30
2017	8.73	0.00	0.00	2.56	0.00	0.00	0.00	0.00	0.00	5.54	8.30
2018	6.25	4.45	5.47	5.13	13.22	4.55	0.00	0.00	13.88	11.09	4.98
2019	4.57	5.93	5.47	7.69	0.00	6.07	0.00	0.00	0.00	2.77	4.98
2020*	2.73	4.45	0.00	2.56	0.00	4.55	7.23	6.87	0.00	11.09	0.00
2021*	1.41	0.00	0.00	2.56	0.00	0.00	0.00	0.00	0.00	8.32	4.98
Opiates											
2016	31.58	17.80	5.47	30.77	0.00	15.16	0.00	13.74	13.88	11.09	24.91
2017	37.47	14.83	8.21	17.95	26.43	36.40	0.00	0.00	6.94	13.86	16.61
2018	28.39	16.31	13.68	12.82	19.83	22.75	7.23	20.61	27.76	24.95	21.59
2019	30.40	23.73	8.21	17.95	0.00	25.78	7.23	6.87	0.00	24.95	14.95
2020*	38.43	38.56	35.56	30.77	19.83	28.81	14.46	20.61	6.94	36.04	26.57
2021*	38.46	17.80	21.88	23.08	13.22	30.33	7.23	6.87	13.88	55.44	28.23
Opiates (other)											
2016	6.96	8.90	0.00	10.26	0.00	4.55	0.00	6.87	6.94	2.77	8.30
2017	7.59	0.00	5.47	7.69	19.83	13.65	0.00	0.00	0.00	5.54	0.00
2018	4.56	0.00	0.00	0.00	6.61	4.55	0.00	13.74	0.00	8.32	6.64
2019	3.83	5.93	0.00	5.13	0.00	7.58	0.00	0.00	0.00	0.00	6.64
2020*	4.00	4.45	2.74	7.69	6.61	3.03	7.23	0.00	0.00	2.77	1.66
2021*	3.73	2.97	0.00	7.69	0.00	3.03	0.00	0.00	0.00	0.00	3.32

Ohio Data Warehouse, Mortality Reports, Drug Related Resident Deaths, 2016-2021

Ohio Public Health Information Warehouse - Public: Browse - Mortality

Ohio Resident deaths include individuals that resided in Ohio at the time of death regardless of where the death occurred.

Excludes zero records with unknown/missing data.

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Report created in the Ohio Public Health Data Warehouse on 4/26/2022

Table 2 (Continued): Drug Overdose Death Rates (/100,000) by Substance and County

	Ohio	Belmont	Coshocton	Guernsey	Harrison	Jefferson	Monroe	Morgan	Noble	Perry	Washington
	Other Unspecified Drugs										
2016	19.63	19.28	10.94	20.51	6.61	19.71	0.00	6.87	20.82	5.54	33.21
2017	24.92	17.80	8.21	7.69	33.04	34.88	14.46	13.74	13.88	8.32	19.93
2018	20.57	23.73	10.94	15.39	13.22	31.85	28.93	13.74	27.76	8.32	14.95
2019	19.94	11.87	10.94	12.82	0.00	22.75	7.23	0.00	0.00	11.09	13.29
2020*	24.11	22.25	21.88	17.95	13.22	19.71	7.23	27.48	13.88	8.32	21.59
2021*	23.53	19.28	19.15	30.77	13.22	37.91	7.23	0.00	13.88	19.40	29.89
	Rx Opiates										
2016	26.28	13.35	0.00	28.21	0.00	13.65	0.00	1.00	13.88	5.54	19.93
2017	35.43	14.83	8.21	17.95	26.43	36.40	0.00	0.00	6.94	13.86	14.95
2018	27.26	16.31	8.21	12.82	19.83	21.23	7.23	3.00	20.82	16.63	21.59
2019	29.72	23.73	8.21	15.39	0.00	24.26	7.23	1.00	0.00	22.18	14.95
2020*	38.05	37.08	35.56	30.77	19.83	27.30	14.46	2.00	6.94	30.49	26.57
2021*	38.24	17.80	21.88	23.08	13.22	30.33	7.23	1.00	13.88	52.67	28.23

Emergency Room Data

Emergency room data can point to the first changes in the ongoing opioid epidemic before data from death certificates[9]. Emergency room data is received long before death certificate data, therefore allowing earlier detection of trends in the opioid epidemic[10]. Additionally, a 2020 National Institute of Health (NIH) study found that individuals who suffered a non-fatal opioid overdose were a 100-times more likely to be the victim of a deadly drug overdose within a year and 18 times more likely to be a victim of suicide, as compared to the general population. Further, in the year after a non-fatal overdose from benzodiazepines or barbiturates, the overdose death rate was 24 times higher and suicide rate that was 9 times higher than the general public[11]. During 2020, 92,000 were victims of overdose death, with 5% to 7% of those deaths being intentional[12].
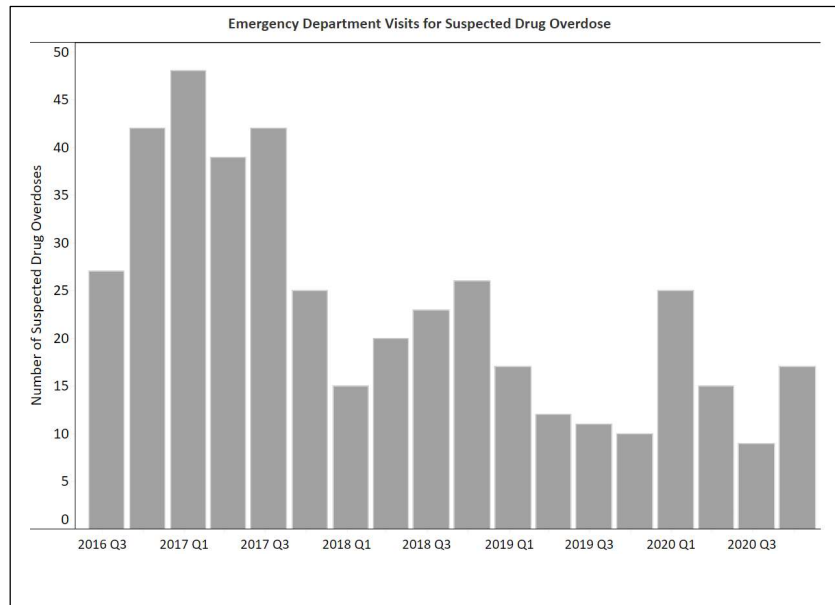
Figure 1: Emergency Room Visits for Suspected Drug Overdoses by Year and by County
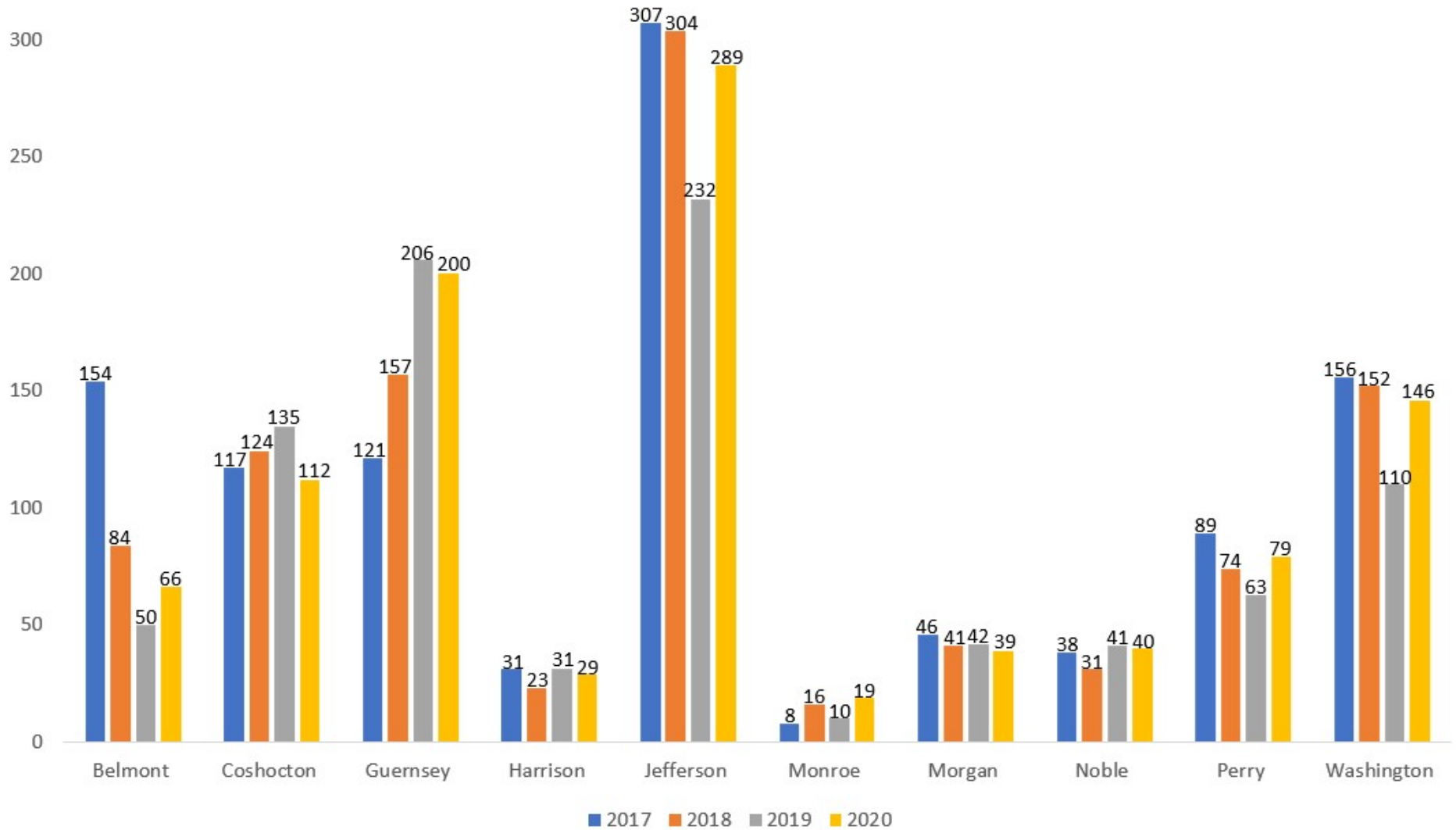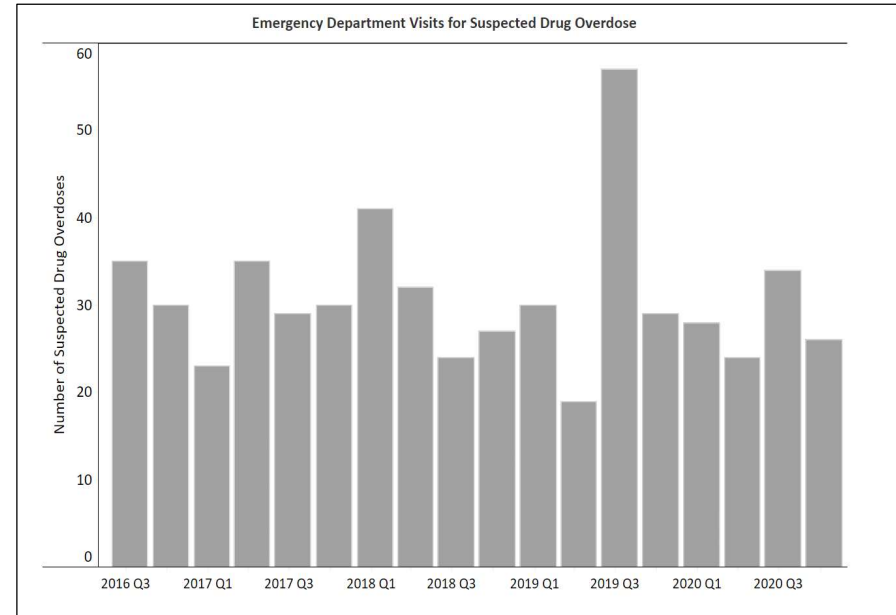

Source: Epi-Center -Syndromic Surveillance System   Analysis: ODH Violence and Injury Prevention Section. County is based on county of residence.
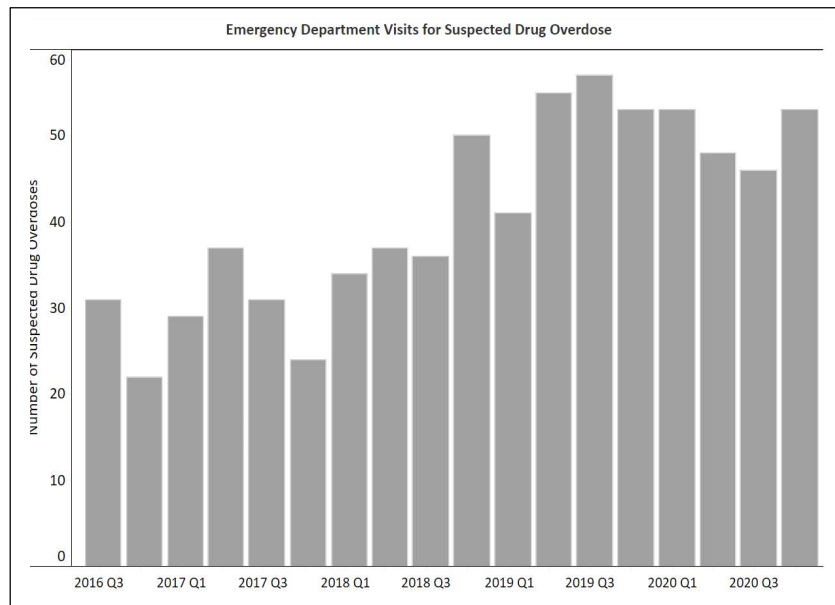
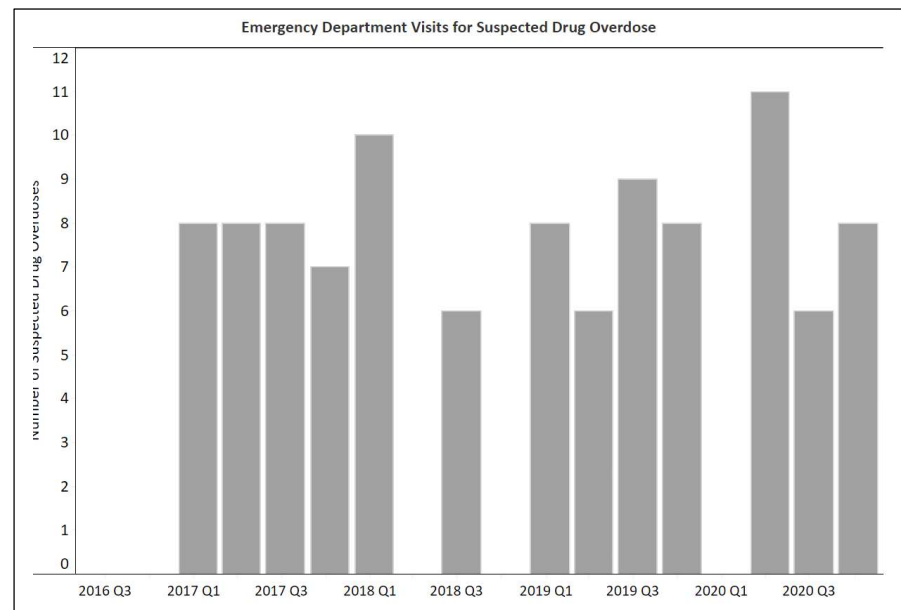**Figure 2:** Belmont County Emergency Room Visits for Suspected Drug Overdose by Quarter

Figure 3: Coshocton County Emergency Room Visits for Suspected Drug Overdose by Quarter
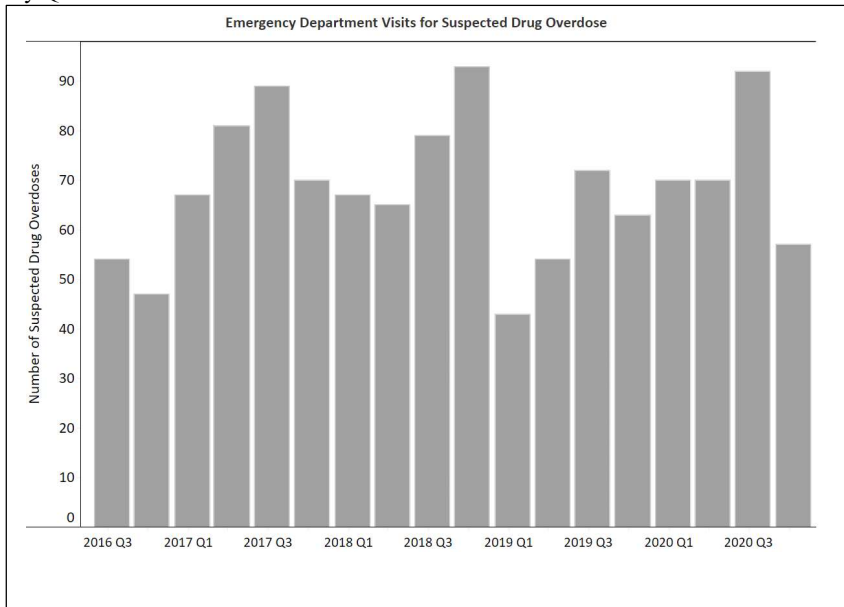

Figure 4: Guernsey County Emergency Room Visits for Suspected Drug Overdose by Quarter

Figure 5: Harrison County Emergency Room Visits for Suspected Drug Overdose by Quarter

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Figure 6: Jefferson County Emergency Room Visits for Suspected Drug Overdose by Quarter

Figure 7: Monroe County Emergency Room Visits for Suspected Drug Overdose by Quarter

Figure 8: Morgan County Emergency Room Visits for Suspected Drug Overdose by Quarter

Figure 9: Noble County Emergency Room Visits for Suspected Drug Overdose by Quarter

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Figure 10: Perry County Emergency Room Visits for Suspected Drug Overdose by Quarter
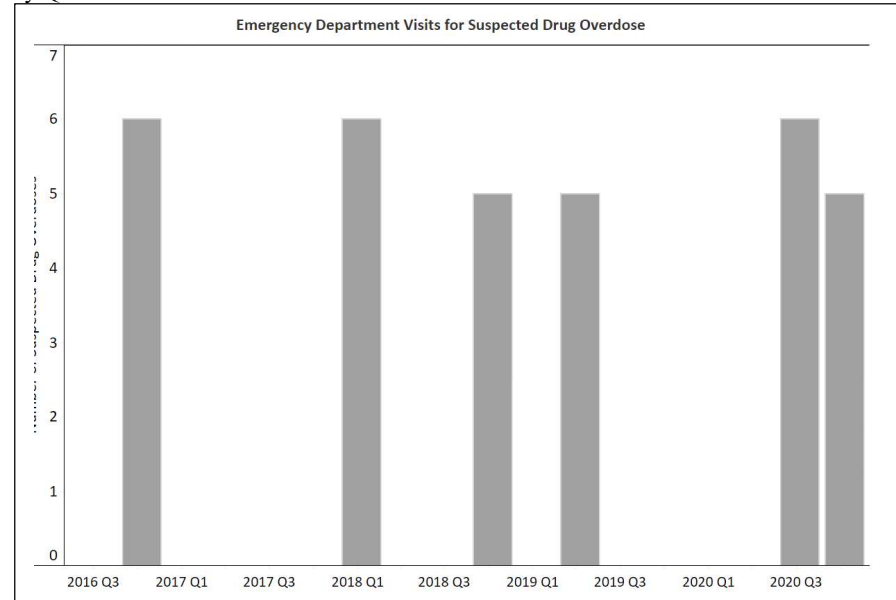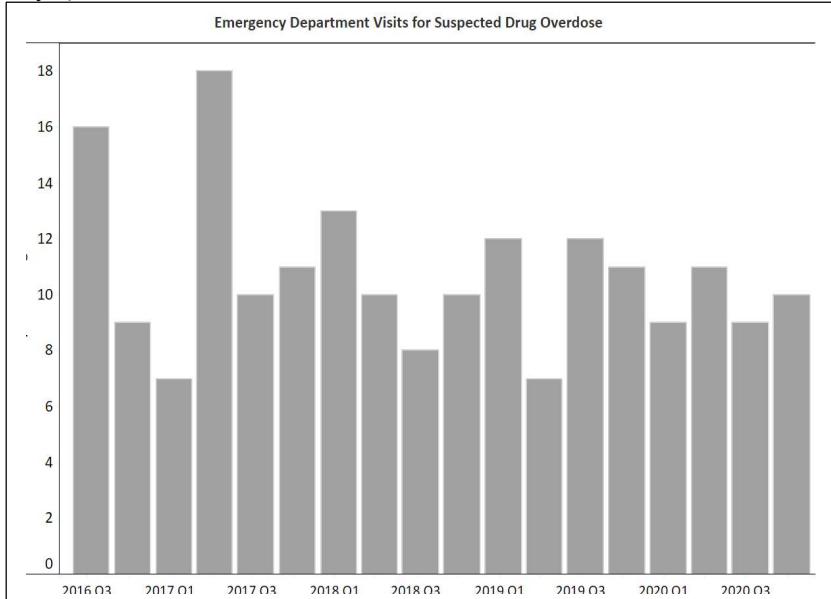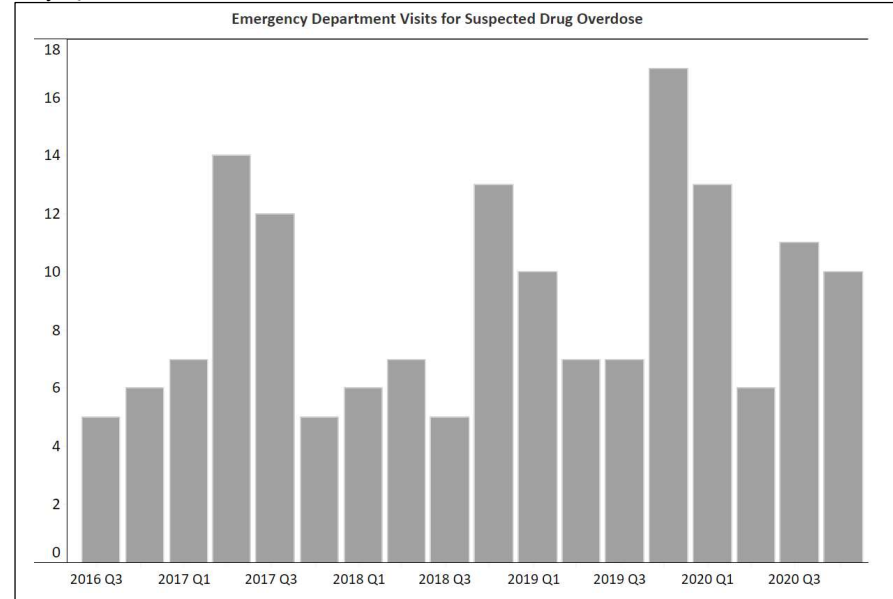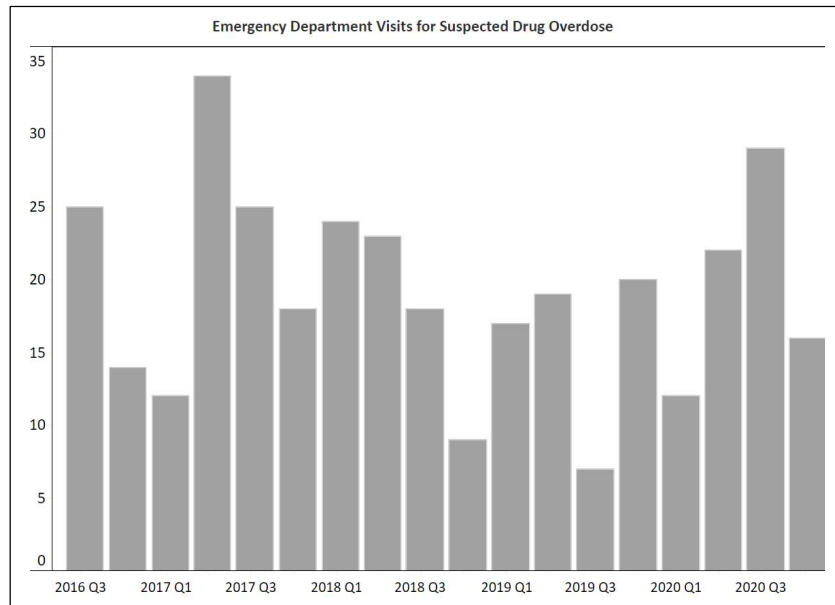

Emergency Department Visits for Suspected Drug Overdose

Figure 11: Washington County Emergency Room Visits for Suspected Drug Overdose by Quarter

Emergency Department Visits for Suspected Drug Overdose
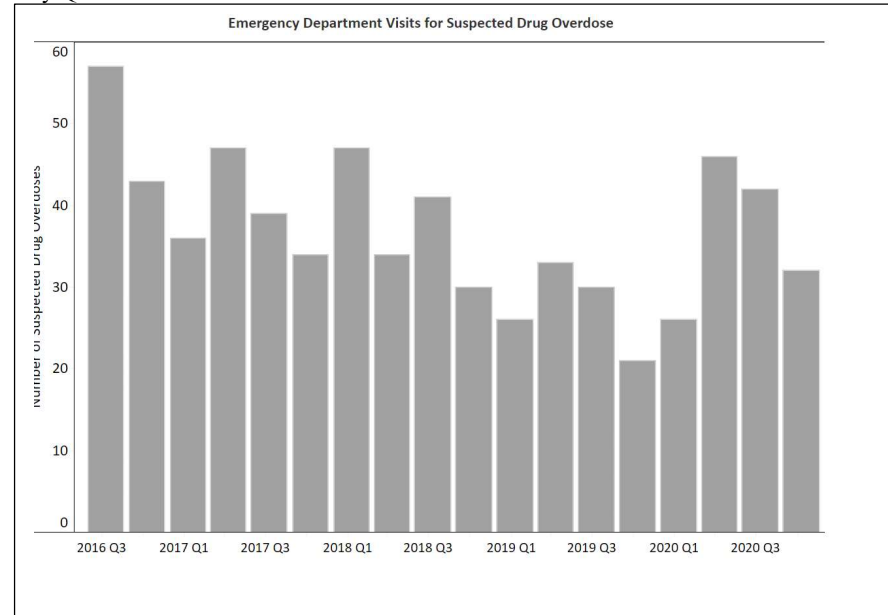
Source Figures 2-11: Ohio Department of Health Data Warehouse, Injury Surveillance and Data, Emergency Department Visits for Suspected Drug Overdose Among Ohio Residents Ages 11 Years and Older, Country Trends and Demographics. (September 2021)

Treatment Data

The treatment data presented in figure 12 compares for each of the ten (10) served counties the following: Opioid Use Disorder (OUD), Alcohol Use Disorder (AUD), Cannabis Use Disorder (CUD), Amphetamine Use Disorder (AUD), and Cocaine Use Disorder. Apart from a couple of counties (Coshocton, Harrison, and Morgan Counties), the percentage opioid treatments claims are more than the other substance abuse treatment claims added together.

Figure 12: Percentage Treatment Claims by County and Substance Use Disorder 2020
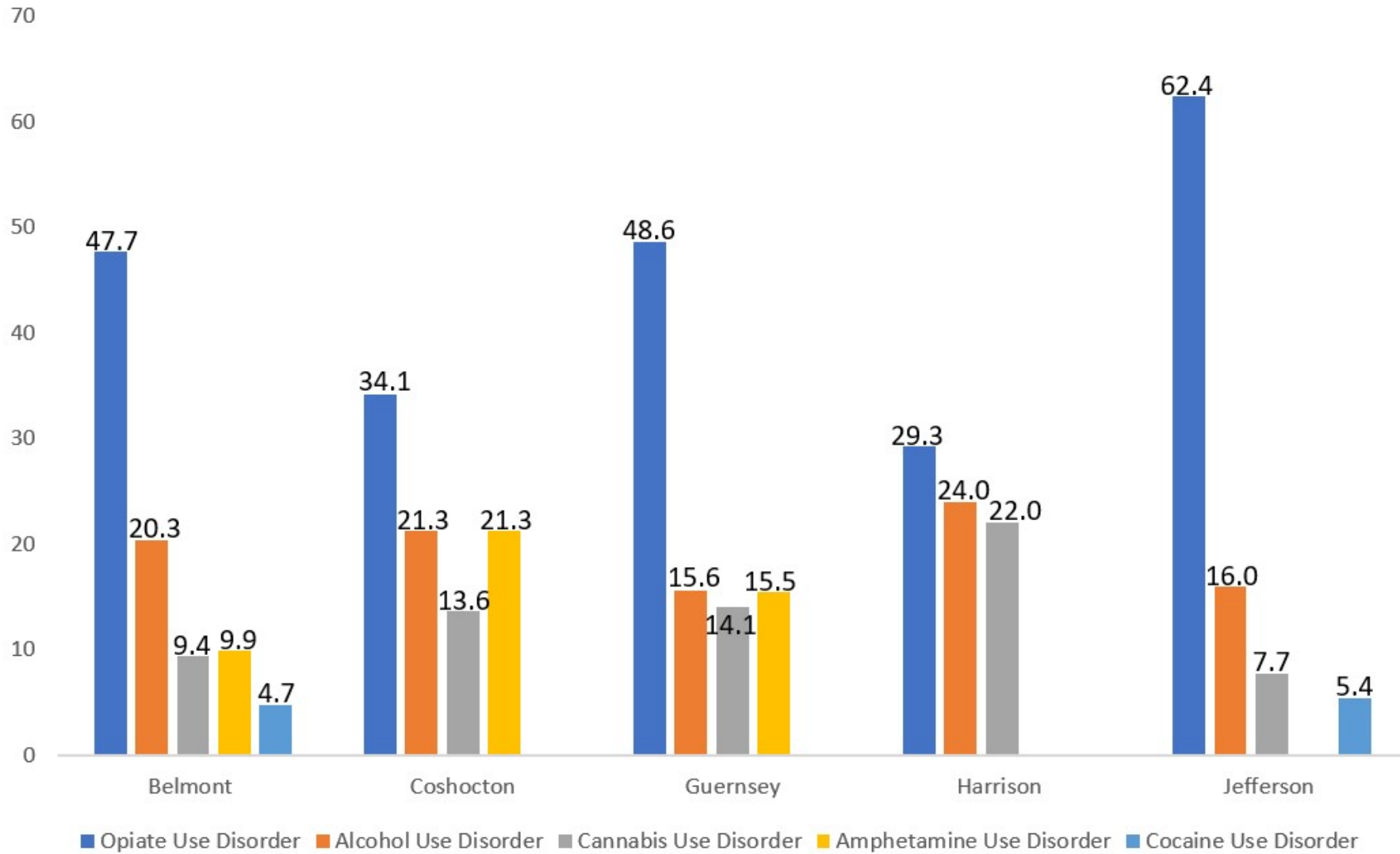
Source: Ohio MAS Community Behavioral Health Claims Data. https://mha.ohio.gov/static/ResearchandData/DashboardsAndMaps/Maps/SUD-Treatment-Claims-Opiates-2020.pdf
This data represents the percentage of unduplicated clients with a primary diagnosis of the respective use disorder served in each local health jurisdiction during 2020. The percentages are measured the number of substance use disorder claims made in the county.

Figure 12 (Continued): Percentage Treatment Claims by County and Substance Use Disorder 2020
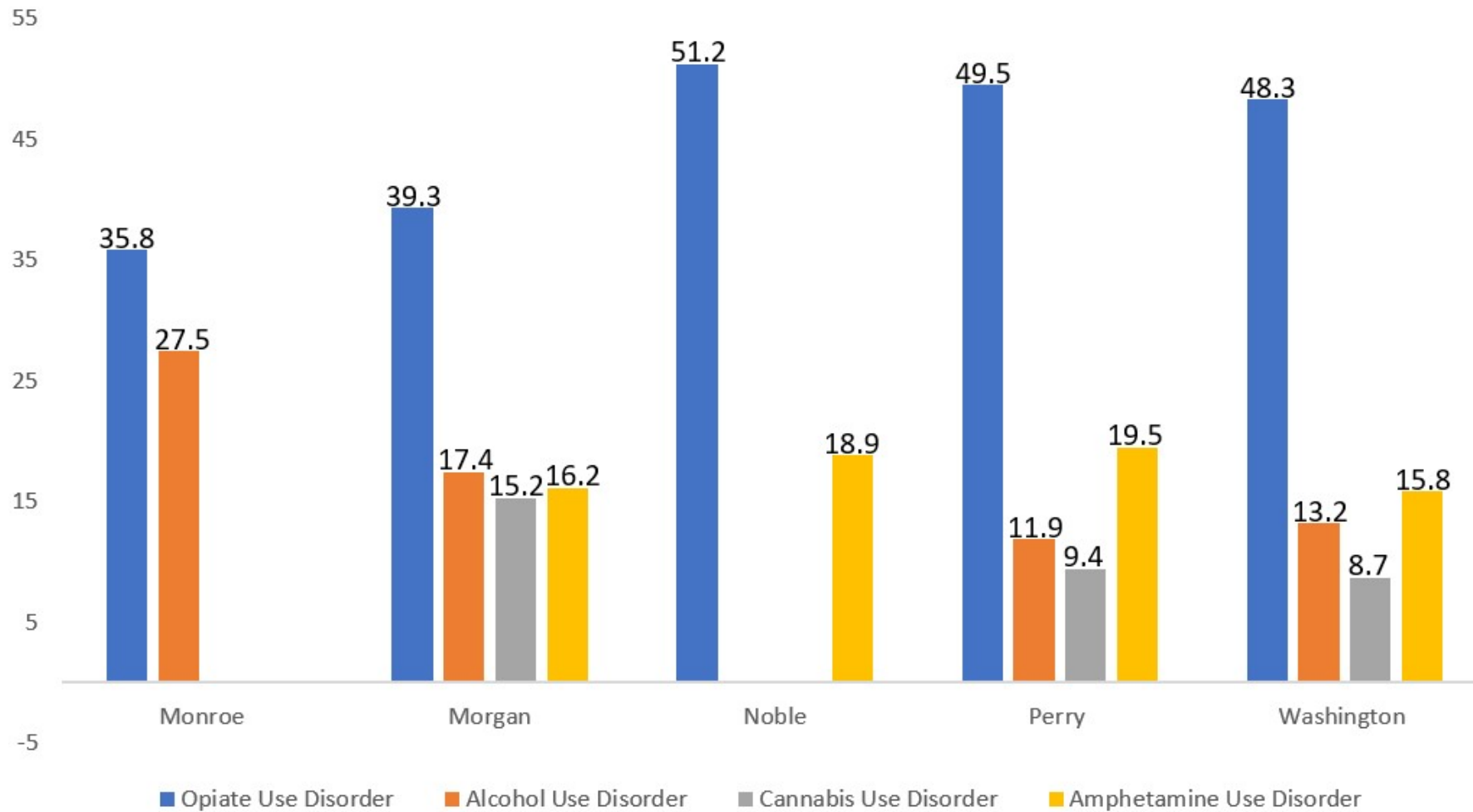
Source: Ohio MAS Community Behavioral Health Claims Data. https://mha.ohio.gov/static/ResearchandData/DashboardsAndMaps/Maps/SUD-Treatment-Claims-Opiates-2020.pdf
This data represents the percentage of unduplicated clients with a primary diagnosis of the respective use disorder served in each local health
jurisdiction during 2020. The percentages are measured the number of substance use disorder claims made in the county.

Opioid and Benzodiazepine Dispensing Data

The Ohio Automated Rx Reporting System (OARRS) is utilized to track the dispensing of controlled prescription drugs in the state. Ohio law requires that prescribers, when prescribing opioids and benzodiazepines, obtain a patient's information from Ohio Automated Rx Reporting System (OARRS) for at least the last 12-months[13]. These data are used by the Board of Pharmacy to monitor prescription of controlled substances and identify prescribers and licensees who may be noncompliant with dispensing guidelines and in violation of the law[13].

Table 3: Opioid and Benzodiazepine Prescriptions Dispensed Per Capita 2020

	Prescriptions Dispensed per Capita 2020	
	Opioids	**Benzodiazepines**
Belmont	27.1	13.8
Coshocton	29.7	16.7
Guernsey	42.5	32.2
Harrison	40.2	14.5
Jefferson	41.1	21.3
Monroe	19.0	14
Morgan	43.4	21.4
Noble	20.5	19.9
Perry	55.3	29.4
Washington	34.7	23.6

Source: Ohio MAS Quality, Planning, & Research. Data from the Ohio Automated Rx
Reporting System (OARRS), Ohio Board of Pharmacy. September 2020.
This data displays the number of Rx opioid doses dispensed per capita in each county during 2020.
Per capita measured on county population. Per capita is defined as a unit of the respective population.

Table 4: Prescription Opioid Doses Dispensed per Patient 2020

	Prescription Doses Dispensed per Patient 2020	
	Opioid	**Benzodiazepine**
Belmont	229.7	267.9
Coshocton	210.7	295.0
Guernsey	251.2	346.5
Harrison	244.5	239.1
Jefferson	255.8	289.1
Monroe	187.0	272.2
Morgan	305.4	315.9
Noble	213.2	347.3
Perry	289.7	328.5
Washington	220.8	286.5

Source: Ohio MAS Quality, Planning, & Research. Data from the Ohio Automated Rx
Reporting System (OARRS), Ohio Board of Pharmacy. September 2020.
This data displays the number of Rx opioid doses dispensed per capita in each county during 2020.
Per capita measured on county population. Per capita is defined as a unit of the respective population.

Naloxone Administration

Naloxone, also known as Narcan, is used to reverse overdoses from opioid, including fentanyl, heroin, and prescriptions opioid medications[14]. In as little as 2-3 minutes after administration, Naloxone can restore normal breathing in an individual who is overdosing[15].

Table 5: Naloxone Distribution 2020-2021

	2020	2021
County*	n	n
Belmont	162	388
Coshocton	8	13
Guernsey	20	205
\Harrison	--	--
Jefferson	671	910
Monroe	--	--
Morgan	0	9
Noble	--	--
Perry	2	32
Washington	22	253
Ohio	90,337	145,558

Source: Project DAWN Monthly Distribution Logs
*County refers to where the distributing program is based; this might not be where naloxone was distributed.

Neonatal Abstinence Syndrome (NAS) Data

Neonatal Abstinence Syndrome (NAS) is defined as an infant withdrawing from different substances after being exposed in the womb[16]. Babies born with NAS have a higher likelihood of low birthweight, sudden infant death syndrome, seizures, and jaundice[16]. While longer-term effects are not known, these effects are believed to include developmental delays, behavioral and learning problems, motor problems, speech and language problems, and sleep issues[16]. The table below demonstrates the number of NAS cases from 2016-2020 as reported by the Ohio Hospital Association in the epidemiology region.

Table 6: Hospitalizations* Among Ohio Resident Newborns for Neonatal Abstinence Syndrome**

County	2016-2020
Belmont	11
Coshocton	24
Guernsey	87
Harrison	--
Jefferson	103
Monroe	--
Morgan	--
Noble	--
Perry	62
Washington	27

Source: Ohio Hospital Association
* Hospitalizations occurred in Ohio hospitals to Ohio residents
**NAS reflects ICD-10-CM code P96.1
-Data is not shown for counties with a population under 20,000 or data counts of 10 or less.

Data Selection

Ohio Department of Health Data Warehouse and American Community Survey 2020 5-year population estimates data were utilized to calculate county overdose death rates per 100,000 persons among decedents with addresses in the state of Ohio. Ohio Department of Data Warehouse and American Community Survey 2020 5-year population estimate data were utilized to calculation the specific county substance overdose death rates per 100,000 persons among decedents with addresses in the state of Ohio. For the Emergency Room data, a suspected drug overdose is defined as a "suspected drug overdose of any substance, including over-the-counter, prescription, and illicit drugs"[17]. For the Opioid and Benzodiazepine Dispensing Data, the data is reported on a per capita basis. This is defined as "per unit of population[18].

Text Citations

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8. CDC, National Center for Health Statistics, Drug Overdose Deaths in the U.S. Top 100,000 Annually (November 2021). Retrieved from: [Drug Overdose Deaths in the U.S. Top 100,000 Annually (cdc.gov)](#)

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