MISSOURI DEPARTMENT OF

HEALTH & SENIOR SERVICES

PROMOTING HEALTH AND SAFETY

Examining Industry and Occupational Trends in Drug Overdose Deaths among Missouri Residents in 2022-23

J.C. Jackson

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Agenda

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#2	What are industry/occupation groups?
#3	Methodology/Demographic Characteristics
#4	Death Rates and Proportionate Mortality Ratios
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Why?

Why look at decedent industry/occupation for fatal drug overdoses?

Reason #1

Drug overdose deaths have increased substantially over the last decade. In 2022, Missouri had the 19th highest drug overdose death rates of all 50 states with a total of 2,180 fatal drug overdoses. The total for 2023 was 11% lower at 1,948, but still 28% higher than the pre-pandemic average for the years 2017-2019.

Reason #2

To better direct prevention/treatment resources to susceptible populations of workers, it is crucial to be able to identify decedent industry/occupational trends.

Reason #3

Raising awareness of the utility of industry/occupational data in the analysis of vital records can inspire further research in this field.

Defining Industry/Occupation

What are industry/occupation groups?

NAICS

The North American Industry Classification System (NAICS) is used to classify business establishments according to the type of goods or services they produce.

- ✓ At the broadest level of detail, a NAICS code consists of two digits and is known as a Sector.
- ✓ There are 20 NAICS Sectors, which contain 1,012 national industries.
- ✓ NAICS revisions occur periodically, with the most recent published in 2022.

SOC

The Standard Occupational Classification (SOC) system is used to classify workers into occupational categories based on their job duties.

- ✓ At the broadest level of detail, a SOC code consists of two digits and is known as a Major Group.
- ✓ There are 23 SOC Major Groups, which contain 867 detailed occupations.
- ✓ SOC revisions occur periodically, with the most recent published in 2018.

Methodology/Demographic Characteristics

Framework

As closely as possible, I adhered to the research methodology used by **Billock, Steege, and Miniño** (2023) in their report titled, "**Drug Overdose Mortality by Usual Occupation and Industry: 46 U.S. States and New York City, 2020**" published in National Vital Statistics Reports [Volume 72, Number 7, August 22, 2023].

Population

Fatal drug overdose deaths in the paid civilian noninstitutional population of Missouri resident decedents aged 15-64 in 2022-23

Demographic characteristics of the population of individuals who fatally overdosed included age, sex, race and Hispanic ethnicity, and level of education.

Additionally, I looked at the types of drugs used in the overdose deaths and the overdose intent.

Death Rates

"Age-standardized drug overdose death rates for the population aged 16-64 were [calculated] based on age-specific death rates in each [industry sector] and [occupation major group] and the 2000 U.S. standard population as deaths per 100,000 workers." (Billock et al., 2023) [pg 3]

The Current Population Survey Basic Monthly Data was used to determine the estimated number of workers in each industry sector and occupation major group for Missouri in order to calculate the age-specific death rates.

Proportionate Mortality Ratios (PMRs)

PMRs were calculated for each industry sector and occupation major group for all of the demographic characteristics along with drug type and overdose intent.

In keeping with the methodology used by Billock et al. (2023), "PMRs were internally adjusted to the age distributions of [Missouri] resident decedents aged 15-64 who were identified in usual occupations and industries in the paid civilian workforce." [pg 3]

Ratios above 100 indicate that the industry/occupation group experienced a higher proportion of drug overdose deaths relative to the proportion of drug overdose deaths for all industries/occupations combined.

Death Rates

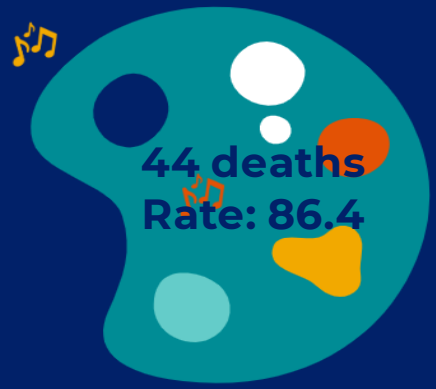
Age 16-64 Drug Overdose Death Rates for 2022-23

Top 3 Industries

Construction

Accommodation & Food Services

Arts, Entertainment & Recreation



Top 3 Occupations

	Rate
Construction and extraction (565 drug overdose deaths)	205.6
Food preparation and serving-related (419 deaths)	195.2
Personal care and service (83 deaths)	148.2

Rate per 100,000 Missouri workers

Proportionate Mortality Ratios (PMRs)

Age 15-64 Drug Overdose PMRs for 2022-23

Top 3 Industries

Accommodation & Food Services

Construction

Administrative, Support & Waste Services

Top 3 Occupations

	PMR
Food preparation and serving-related (419 drug overdose deaths)	143.9
Construction and extraction (565 deaths)	141.4
Building and grounds cleaning and maintenance (202 deaths)	127.5

PMRs by Sex - Industry

Age 15-64 Drug Overdose PMRs for 2022-23

Females - Top 3 Industries

	PMR
Accommodation and food services (211 drug overdose deaths)	152.8
Administrative, support, and waste services (32 deaths)	111.4
Other services (except public administration) - (50 deaths)	110.6

Males – Top 3 Industries

	PMR
Accommodation and food services (305 drug overdose deaths)	139.0
Construction (598 deaths)	131.5
Administrative, support, and waste services (132 deaths)	108.4

PMRs by Sex - Occupation

Age 15-64 Drug Overdose PMRs for 2022-23

Females - Top 3 Occupations	PMR
Food preparation and serving-related (165 drug overdose deaths)	152.3
Building and grounds cleaning and maintenance (53 deaths)	152.1
Healthcare support (116 deaths)	111.2

Males – Top 3 Occupations	
Food preparation and serving-related (254 drug overdose deaths)	141.3
Construction and extraction (554 deaths)	134.8
Building and grounds cleaning and maintenance (149 deaths)	119.3

PMRs by Race/Ethnicity - Industry

Age 15-64 Drug Overdose PMRs for 2022-23

Hispanic - Top 3 Industries

	PMR
Retail Trade (10 drug overdose deaths)	144.5
Accommodation and food services (16 deaths)	144.3
Construction (21 deaths)	91.5

African-American – Top 3 Industries

	PMR
Accommodation and food services (184 drug overdose deaths)	150.4
Construction (80 deaths)	140.5
Other services (except public administration) - (44 deaths)	105.8

White – Top 3 Industries

	PMR
Construction (507 drug overdose deaths)	142.0
Accommodation and food services (306 deaths)	133.9
Administrative, support, and waste services (122 deaths)	120.3

PMRs by Race/Ethnicity - Occupation

Age 15-64 Drug Overdose PMRs for 2022-23

Hispanic - Top 3 Occupations	PMR
Food preparation and serving-related (16 drug overdose deaths)	156.6
Transportation and material moving (17 deaths)	144.2
Construction and extraction (20 deaths)	94.7

African-American – Top 3 Occupations	
Construction and extraction (81 drug overdose deaths)	150.1
Food preparation and serving-related (152 deaths)	144.1
Transportation and material moving - (166 deaths)	114.0

White – Top 3 Occupations	
Construction and extraction (458 drug overdose deaths)	144.7
Food preparation and serving-related (243 deaths)	135.0
Building and grounds cleaning and maintenance (136 deaths)	130.4

PMRs by Education - Industry

Age 15-64 Drug Overdose PMRs for 2022-23

20%

Less than HS Diploma or GED - Top 3 Industries	PMR
Accommodation and food services (126 drug overdose deaths)	128.2
Construction (145 deaths)	112.4
Healthcare and social assistance (53 deaths)	107.7

68%

HS Graduates/GED/Some College – Top 3 Industries	PMR
Accommodation and food services (366 drug overdose deaths)	137.3
Construction (438 deaths)	135.9
Administrative, support, and waste services - (113 deaths)	109.9

12%*

College Graduates – Top 3 Industries	PMR
Healthcare and social assistance (95 drug overdose deaths)	132.9
Accommodation and food services (21 deaths)	131.9
Construction (26 deaths)	124.5

PMRs by Education - Occupation

Age 15-64 Drug Overdose PMRs for 2022-23

Less than HS Diploma or GED - Top 3 Occupations	PMR
Food preparation and serving-related (92 drug overdose deaths)	123.7
Construction and extraction (140 deaths)	114.7
Healthcare support (31 deaths)	105.7

HS Graduates/GED/Some College – Top 3 Occupations	
Construction and extraction (403 drug overdose deaths)	139.1
Food preparation and serving-related (306 deaths)	138.0
Building and grounds cleaning and maintenance - (132 deaths)	122.7

College Graduates – Top 3 Occupations	
Healthcare practitioners and technical (66 drug overdose deaths)	152.1
Business and financial operations (27 deaths)	109.6
Sales and related (29 deaths)	100.6

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FINAL THOUGHTS

Industries - In Summary

- Construction and Accommodation and food services industries appeared in the Top 3 in 94% of the categories in the demographic breakouts by industry.

- Administrative, support, and waste services industries appeared in the Top 3 in 38% of the categories in the demographic breakouts by industry.

Occupations - In Summary

- Construction and extraction and Food preparation and serving-related occupations appeared in the Top 3 in 88% of the categories in the demographic breakouts by occupation.
- Building and grounds cleaning and maintenance occupations appeared in the Top 3 in 44% of the categories in the demographic breakouts by occupation.
- Transportation and material moving occupations appeared in the Top 3 in 25% of the categories in the demographic breakouts by occupation.

Takeaways and Implications for Public Health

- Industries/occupations which are experiencing higher rates and larger proportions of fatal drug overdoses among workers can be identified.
- Policymakers are better equipped to make decisions regarding funding for public health programs to help prevent and treat substance use disorders.
- As public health workers, research in this field is a contribution we can make to the safety and well-being of our fellow workers.

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QUESTIONS?

Jonathan.Jackson@health.mo.gov

573-751-2097

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THANK YOU!