

Prevalent Comorbidities Associated With Substance Use Disorder in East Texas (2021-2024)

Background

- Substance use disorders (SUD) in the United States are not just a concern but a pressing public health crisis. In 2022, a staggering 48.7 million individuals aged 12 or older reported having a SUD within the past year, underscoring the urgent need for intervention.
- Approximately **35% of adults with a mental disorder** also experience SUD.
- SUD is also associated with physical comorbidities, including **cardiovascular and respiratory diseases, STIs, and chronic pain**.
- Individuals who inject drugs face an elevated risk of contracting **HIV or Hepatitis C** along with **opportunistic infections** and **tuberculosis** due to compromised immune function.
- Patients with SUD are disproportionately involved in **trauma-related injuries, accidents, and interpersonal violence**.
- We aimed to determine the prevalence of these comorbidities among SUD patients in East Texas to develop targeted preventive strategies, enhance education efforts, and implement effective treatment programs in the region

Materials and Methods

- Retrospective data review from the **Anderson and Cherokee Counties Opioid Response (ANCHOR) Project**, which included all emergency department (ED) visits for (SUD) in East Texas from September 1, 2021, to December 31, 2024.
- ICD-10-CM** codes were used to identify the study population: patients with **alcohol use disorder (AUD), opioid use disorder (OUD), stimulant use disorder, and drug overdose (OD)**.
- The top 200 comorbidities were categorized into 12 groups** to further examine their association with mortality.
- Analysis included descriptive statistics analysis. Mann-Whitney U test, and Chi-square test. Logistic regression identified factors associated with mortality risk, and statistical significance was set at **p<0.05**

Results

Table 1. Patient Characteristics

Variable	All	Alive	Dead	P Value
Number of patients, No. (%)	65054	64110 (98.5)	944 (1.5)	-
Gender, No. (%)				<0.0001
Male	35240 (54.2)	34663 (98.4)	577 (1.6)	
Female	29788 (45.8)	29425 (98.8)	363 (1.2)	
Unknown	26 (0.04)	22 (84.6)	4 (15.4)	
Age, median (IQR), Yr.	50 (36-63)	50 (35-63)	65 (56-72)	<0.0001
BMI, median (IQR)	28.0 (23.7-33.3)	28.1 (23.7-33.4)	25.8 (21.8-31.1)	<0.0001
Race/Ethnicity, no. (%)				0.0018
White	48250 (74.2)	47516 (98.5)	734 (1.5)	
Black	10090 (15.5)	9953 (98.6)	137 (1.4)	
Hispanic	3836 (5.9)	3810 (99.3)	26 (0.7)	
Native Americans/Pacific Islanders	201 (0.3)	198 (98.5)	3 (1.5)	
Asians	150 (0.2)	147 (98.0)	3 (2.0)	
Others/Unknown	2527 (3.9)	2486 (98.4)	41 (1.6)	
Year of Admission				<0.0001
2021 (Sep 1-Dec 31)	11691 (18.0)	11428 (97.7)	263 (2.3)	
2022	26785 (41.2)	26413 (98.6)	372 (1.4)	
2023	16807 (25.8)	16624 (98.9)	183 (1.1)	
2024	9771 (15.0)	9645 (98.7)	126 (1.3)	

Abbreviations: BMI, Body mass index; IQR, Interquartile ranges. P-value was calculated using Mann-Whitney U test or Chi-square test.

Figure 1. Most Common Co-morbidities

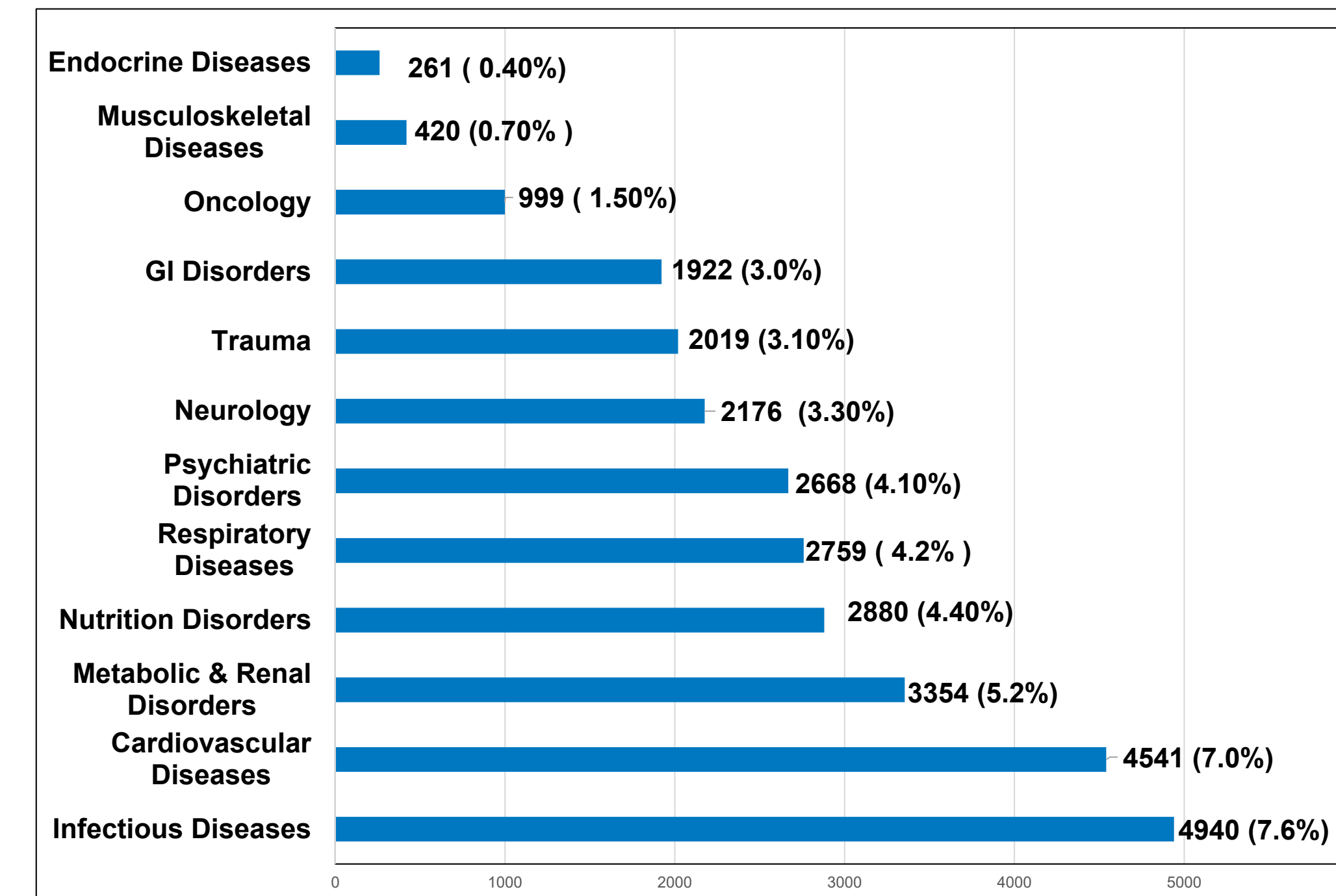
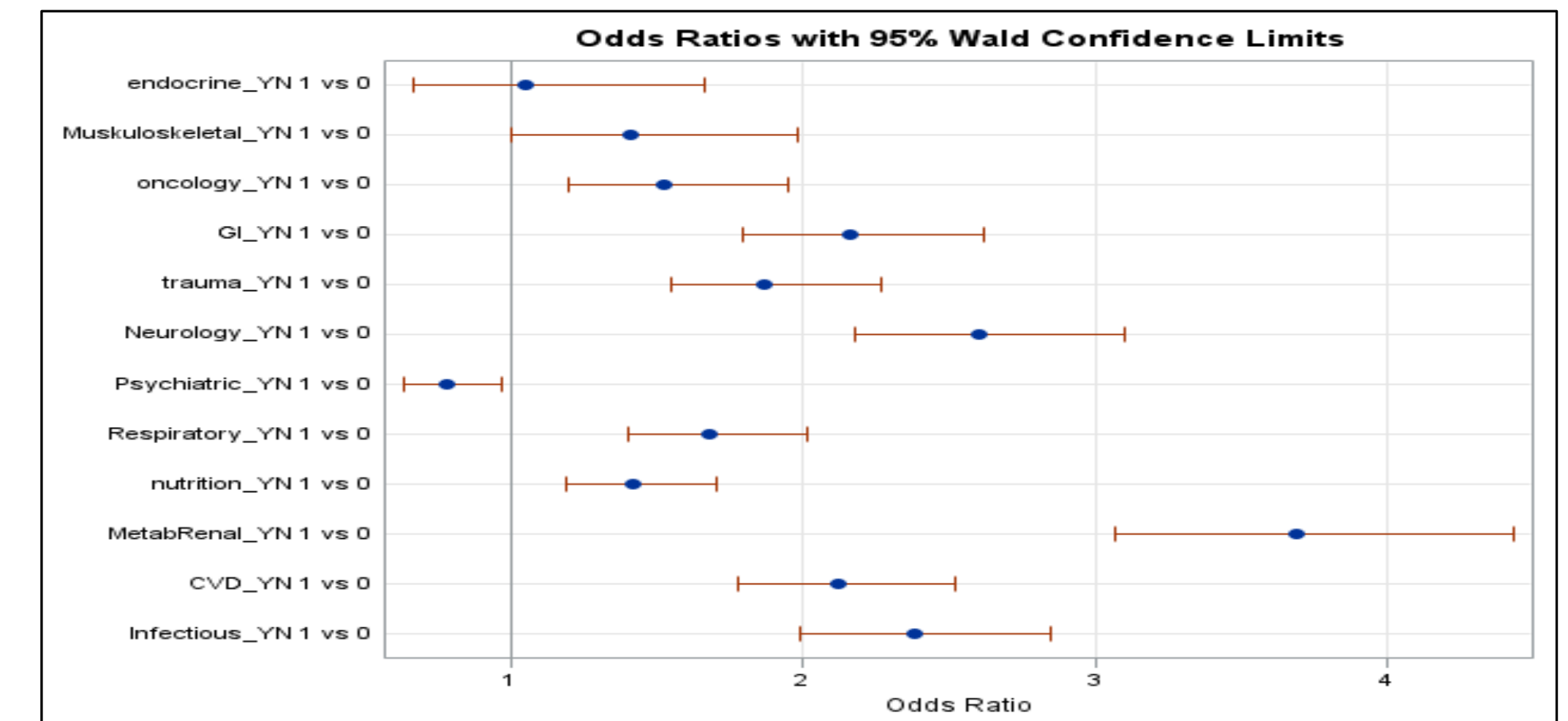


Figure 2. Likelihood of Mortality with Co-morbidities



Conclusions

- The most prevalent comorbidities found in the population from the ANCHOR project were **infectious diseases**, followed by **cardiovascular diseases (7.0%)** and **metabolic and renal disorders (5.2%)** in substance use abusers. They are associated with a higher risk of mortality.
- Identifying the most common comorbidities in patients with substance use disorders will help design effective prevention and treatment management to reduce mortality and morbidity.

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References

- Bethesda. Common Comorbidities with Substance Use Disorders Research Report. National Institutes on Drug Abuse (US); April 2020. Accessed March 5, 2025. <https://www.ncbi.nlm.nih.gov/books/NBK571451/>
- Substance Abuse and Mental Health Services Administration. Key substance use and mental health indicators in the United States: Results from the 2023 National Survey on Drug Use and Health. Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. July 2024. Accessed March 5, 2025. <https://www.samhsa.gov/data/report/2023-nsduh-annual-national-report>
- United Nations Office on Drugs and Crime. Comorbidities in drug use disorders – No wrong door. March 2022. Accessed March 5, 2025. <https://www.unodc.org/unodc/drug-prevention-and-treatment/publications/data/2022/march/comorbidities-in-drug-use-disorders-no-wrong-door.html>

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