CHARACTERIZING OVERDOSE MORTALITY AFTER DISCHARGE FROM THE EMERGENCY DEPARTMENT

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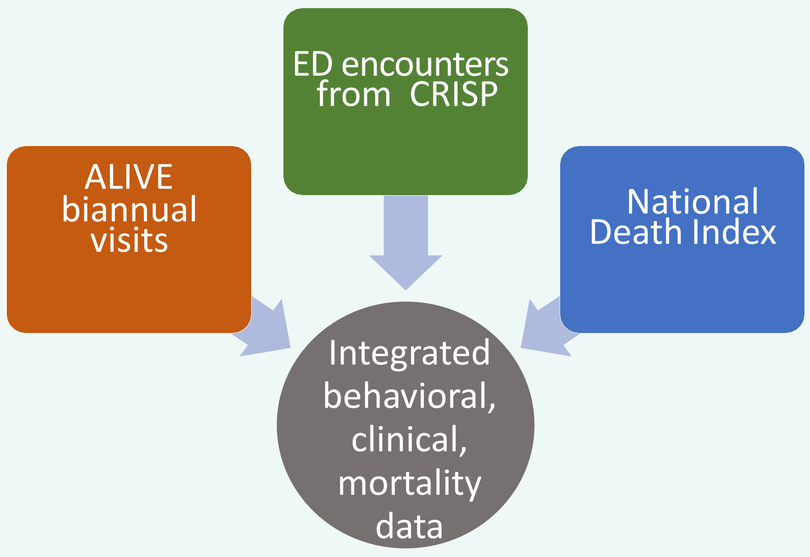
Abstract

- Many people who inject drugs (PWID) circulate through the emergency department (ED). Given pervasiveness of illicit fentanyl, every opportunity to engage with PWID in the ED should be leveraged.
- We linked data from the AIDS Linked to the IntraVenous Experience (ALIVE) Study, a prospective cohort of PWID in Baltimore, USA with ED utilization from the state health information exchange (CRISP) (Figure 1). Mortality data were linked to the CDC National Death Index.
- 165 ALIVE participants who died from drug overdose had an ED visit within one year of death. Most participants were male, Black, and older than 50 at the time of death. Major depression and high frequency ED utilization was associated with shorter survival post ED discharge.

Goal/ Objective

- The objective of this analysis was to characterize the phenotype of high-risk PWID who were at elevated risk of drug-related death after ED discharge..

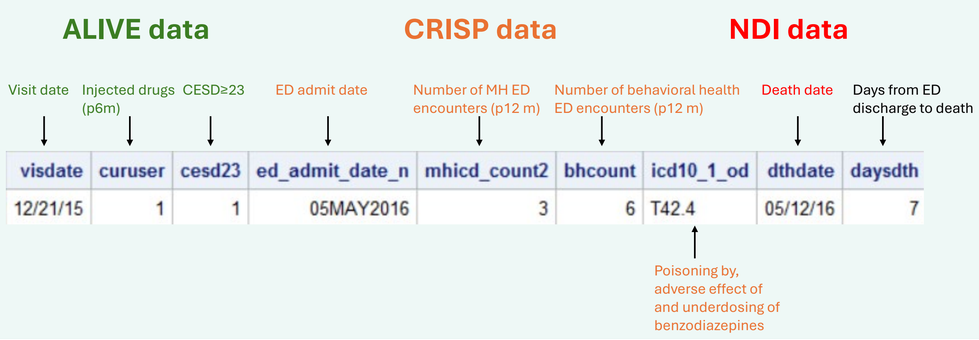
Figure 1. Overview of data sources



Methods

- **ALIVE Study**
  - Longitudinal, community-based cohort
  - History of injection drug use, at least 18 years of age
  - Detailed bio-behavioral data collected biannually
- **CRISP (state health information exchange)**
  - ED encounters abstracted from patient portal
  - ICD-10 codes abstracted if occurred within one year of death
  - Classified into clinically meaningful categories
- **National Death Index**
  - Drug-related deaths based on CDC criteria
- **Outcomes**
  - Median time from last ED visit to death
  - Death within 30 days from last ED discharge
- **Statistical analyses**
  - Descriptive statistics (Chi-squarest) ed, Kruskal-Wallis)
  - Survival analysis (log-rank test)

Figure 2. Example of ALIVE, CRISP, and NDI data integration



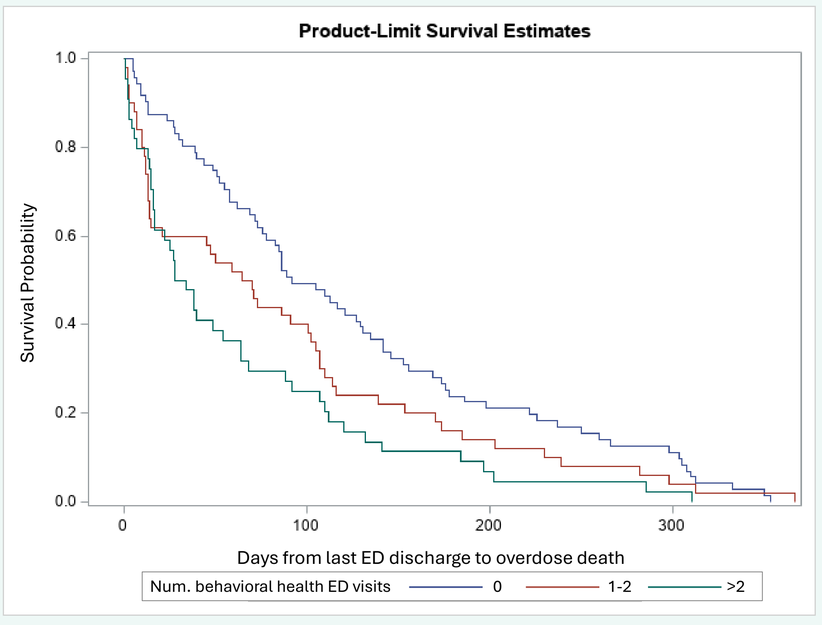
Results

- 785 ED encounters linked to 165 ALIVE participants who died due to overdose from 2012-2022.
- Most participants were Black (75%), male (69%), and had a median (IQR) age of 54 (46 – 61).
- Significant differences in median survival time were observed with respect major depression (CESD≥23), recent injection drug use, and ED utilization for both substance use and mental health (Table 1).
- Increasing number of behavioral health encounters associated with shorter median days from last ED discharge to death (Figure 3).

Table 1. Comparison of median survival times (days) from ED discharge to drug overdose death

	Median survival time (95% CI)	p-value
Male	79.5 (52-120)	0.058
Female	70 (40 – 86)	
Black	86 (58 – 107)	0.085
Non-Black	51 (21 – 70)	
Unstably housed within the past 6 months		0.072
Yes	38 (14 – 86)	
No	85.5 (64 – 105)	
CESD ≥23	27.5 (13 – 86)	0.033
CESD <23	86 (58 – 105)	
Suicidal thoughts in prior 6 months		0.011
Yes	38 (7 – 72)	
No	85 (55 – 107)	
Injected drugs in past 6 months		0.009
Yes	42.5 (17 – 72)	
No	106 (78 – 129)	
Number of ED visits in year prior to death		
1	155 (127 – 198)	<.0001
2-3	79.5 (30 – 105)	
>3	28 (16 – 40)	
Number of substance use ED visits in year prior to death		
0	90.5 (72 – 127)	0.011
≥1	47 (22 – 70)	
Number of mental health ED visits prior to death		0.014
0	76 (58 – 105)	
≥1	16 (10 – 88)	

Figure 3. Survival probabilities stratified by number of behavioral health ED encounters



Conclusions

- By integrating ED data with measures routinely collected from community-based research, these findings can inform discharge planning for ED clinicians regarding proximate overdose risk to patients after discharge.
- Linkage to care interventions should focus on high-frequency ED utilizers, especially those with recent history of mental health encounters.

Additional Information

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