

## Background and Significance

Since 2019, fentanyl contamination of non-opioid drugs like cocaine, methamphetamine, and MDMA has caused a dramatic increase in unintentional overdoses among non-opioid users (1-3). This trend places adolescents and young adults at particular risk, as they are often unaware of contamination, lack opioid tolerance, and are more likely to engage in high-risk substance use (4-7).

### The Surge (2019 - Mid-2023):

- Since 2019, **85%** of overdose deaths in adolescents and young adults have involved fentanyl (8).
- In 2020, unintentional overdose caused **84,179 years of life lost (YLL)** among young adults—exceeding cancer, motor vehicle collisions, homicide, and suicide (9).
- Between late 2021 to early 2023, overdose rates **soared nearly 10% each quarter** among young adults 15-24 (10).

### A Turning Point? (Mid-2023 - Present):

- Nationally, overdose deaths are declining, and young adults have the lowest overdose mortality among working-age adults (11-12).
- This national progress is widely attributed to harm reduction efforts, such as expanded naloxone access and drug checking (12-13).

### The Critical Gap:

- Most harm reduction efforts fail to engage non-injection drug users, first-time drug users, and non-opioid drug users (15-16).
- Despite low mortality, young adults remain a high-risk group due to high rates of non-opioid drug use and low engagement with harm reduction tools (17-18).

*This study aims to bridge the gap between high-risk substance use and low harm reduction engagement among young adults, a critical step to mitigate their vulnerability to unintentional overdose.*

## Research Objectives & Hypothesis

1. **Assess knowledge** of fentanyl contamination risks.
2. **Evaluate utilization** of harm reduction tools, including Fentanyl Test Strips (FTS) and naloxone (Narcan).
3. **Identify barriers** to engaging with harm reduction strategies.
4. **Explore opportunities** for tailored educational interventions.

### We hypothesize that:

- Awareness of fentanyl contamination risk is limited.
- The use of harm reduction tools is low due to barriers like access and stigma.
- Social contexts and peer networks significantly influence perceptions of drug safety.

## Methodology

A cross-sectional, anonymous online survey was designed to assess fentanyl risk awareness among young adults in the United States.

<b>Target Population</b>	Young Adults (18-25) with past-year non-opioid recreational substance use
<b>Target Sample Size</b>	500 - 1,000 participants
<b>Inclusion Criteria</b>	Age 18-25 Reside in the United States Reported non-opioid recreational drug use in the past 12 months

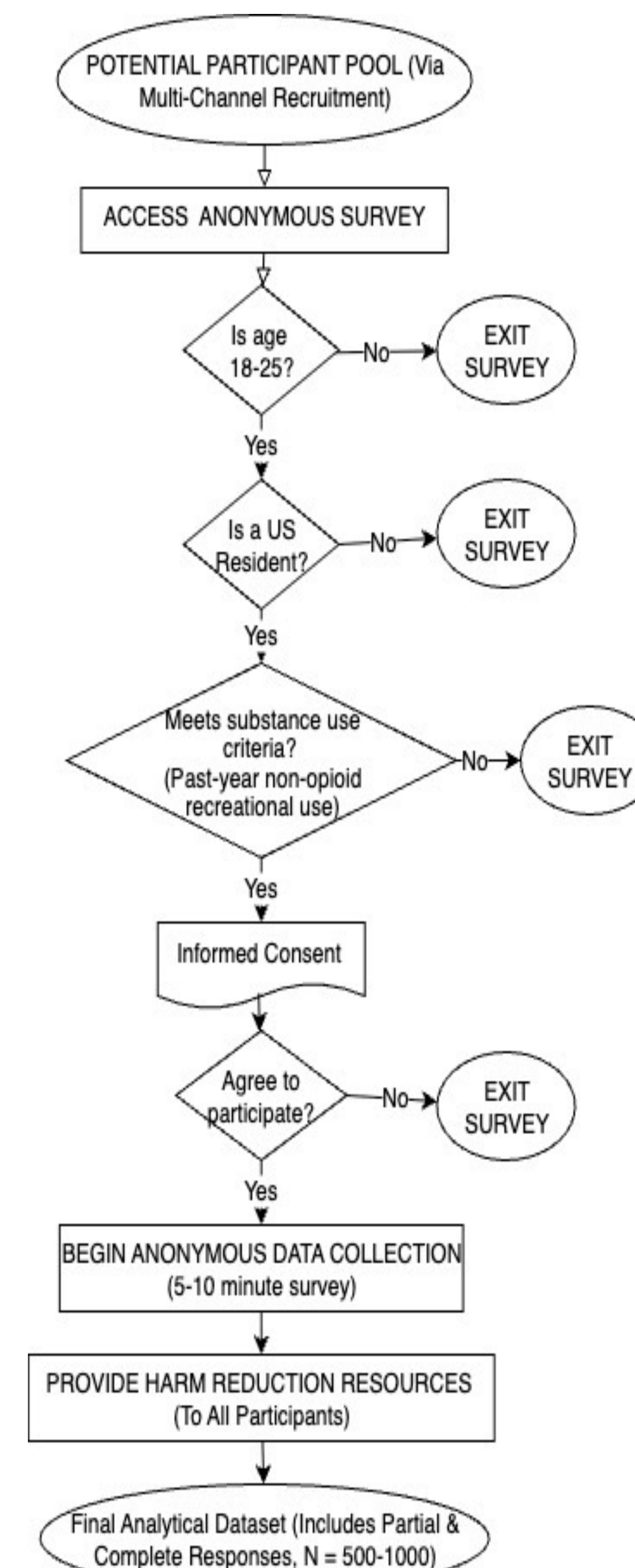
### Recruitment Strategy

- Digital Advertising on platforms like Instagram, Reddit, TikTok, & Snapchat
- Community-Based Outreach with flyers in “third spaces” such as nightlife venues and student centers
- Partnerships with student organizations and harm reduction groups

### Survey Design and Data Collection

Anonymous online survey, administered via Qualtrics, designed to take 5-10 minutes to complete. All questions are optional to minimize distress and protect participant autonomy.

- **Participant Characteristics:** Demographics, education, and living situation
- **Substance Use Patterns:** Types, frequency, and settings of substance use
- **Risk Perception:** Awareness and concern about fentanyl contamination
- **Harm Reduction Tools:** Knowledge, access, and use of FTS and naloxone
- **Barriers and Preferences:** Questions to identify what would increase the use of safety tools and preferred formats for learning about harm reduction
- **Ethical Protections:** The study is fully anonymous. No personally identifying information or IP addresses will be collected. All participation is voluntary.



## Anticipated Challenges and Limitations

<b>Sampling Bias</b>	A <b>multi-channel recruitment strategy</b> (digital, community, partnerships) is used to reach a more diverse demographic than a single source would allow.
<b>Self-Report Data</b>	The <b>fully anonymous design</b> and optional questions are intended to reduce social desirability bias and increase honest reporting.
<b>Comprehension</b>	Direct assessment is not feasible in an anonymous format. The consent form uses <b>clear, simple language</b> to facilitate understanding.

## Expected Impact

- **Inform Interventions:** Findings will guide the development of precision harm reduction strategies tailored to the digital platforms and social contexts relevant to young adults.
- **Enhance Education:** Data will highlight key knowledge gaps, helping to create more effective and empowering educational campaigns that move beyond fear-based messaging.
- **Improve Access:** Identifying barriers to naloxone and FTS access will help inform policies and programs designed to make these life-saving tools more readily available.

## Project Status and Next Steps

This study has received initial IRB approval for its design and protocol. The following steps outline the planned trajectory:

- **Finalize Approvals and Launch Recruitment:** Submit recruitment materials to the IRB.
- **Analyze and Synthesize Findings:** Quantitative analysis to identify trends and predictors of harm reduction behaviors. Qualitative thematic analysis to provide deeper context on the barriers and motivators young adults face (e.g., “What’s one thing you wish more people your age knew about drug safety?”)
- **Develop and Disseminate Actionable Insights:** Translate the research findings into practical recommendations for targeted, culturally sensitive harm reduction interventions and education strategies.

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