

# Fentanyl Test Strip Distribution Among Patients with Substance-Related ED Visits

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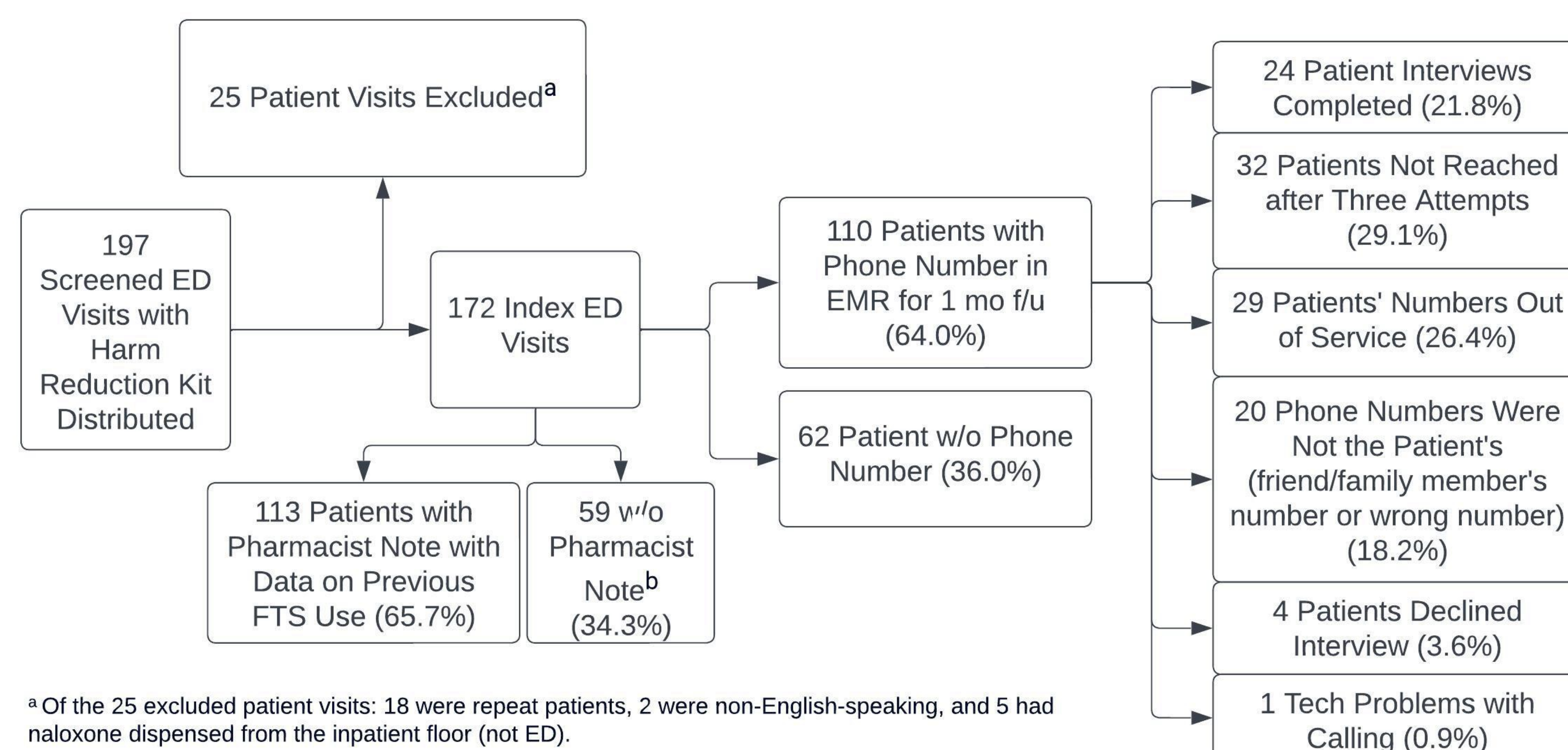
## Background

- Fentanyl test strip (FTS) distribution has become a key harm reduction strategy in the current opioid overdose crisis.
- Previous research in the community setting has shown that positive FTS results are associated with positive changes in overdose prevention behaviors in people who use substances.
- However, there is limited research on FTS distribution in the emergency department (ED) setting.
- Study objective:** To characterize acceptability and harm reduction behaviors among patients receiving FTS from the ED setting.

## Methods

- Study type:** Prospective cohort study
- Sample:** Patients discharged from an urban academic ED in downtown Chicago, IL from August 2022 to August 2023 who received an ED harm reduction kit (two take-home naloxone intranasal devices and three fentanyl test strips (cut-off 20ng/ml)).
- Main measures included: 1) acceptability of fentanyl test strips, defined as patient willingness to receive fentanyl test strips during the ED visit; and 2) patients' previous, planned, and actual FTS use and harm reduction behaviors following a positive result.
- Data were collected from: 1) an EMR standardized data collection form (demographic and clinical variables of index ED visit); 2) ED Pharmacist structured clinical notes at the index ED visit, and 3) a follow-up phone call 4 weeks after the ED visit.

Figure 1. Study Inclusion Diagram



## Results

- A total of 172 patients received harm reduction kits during the study period; median age was 51 years (IQR 34-60), 84.3% were male, 59.3% were Black, and 65.1% had Medicaid as primary insurance.
- Acceptance of FTS in ED:** Of 113 patients with a pharmacist note, **85.8% (n=97) accepted FTS** and 14.2% (n=16) did not.
  - 9 did not give a reason for declining, 4 were not interested, 2 said they have no need for them, and for 1 patient the ED supply was depleted
- Previous use of FTS:** Of 94 patients discussing prior FTS use: **86.1% had not previously used FTS** (n=81), 13 (13.8%) had.
  - 41 (62.1%) stated they would either not use or dispose of the substance.
  - 7 (10.6%) stated they would use less.
  - 1 planned to confirm fentanyl as their preference.
  - 17 (25.7%) were not sure what to do or asked the pharmacist for advice.

### Actual FTS Use:

- At 4-week follow-up, 4 patients had used their FTS:**
  - 2 disposed of the substance (both heroin) after a positive result.
  - 1 did not recall the substance tested or the result.
  - 1 tested their own urine two days later (negative test result after ketamine use).
- 12 patients had not used their FTS:**
  - 8 had not used substances since the ED visit or did not plan on using again.
  - 2 had not used them yet, but planned to in the future.

### Patient responses to FTS use:

- It "scared me a bit to see a positive result" and it was "such a blessing to be able to get them."*
- The FTS "makes me feel more aware about what I'm doing."*

### Reasons for not using FTS:

- "[I don't want to] mess with that stuff anymore"*
- It was a "one-off instance," and "I just happened to be going through a tough time and someone offered me heroin."*
- ED visit was a "wake-up call"*
- "[I'm] working on staying clean"*

## Results Cont.

Table 1. Clinical Characteristics of ED Patients Receiving Fentanyl Test Strips

Characteristic	Patients n (%)
<b>Reason for ED Visit</b>	
Overdose	154 (89.5%)
Withdrawal	4 (2.3%)
Agitation	4 (2.3%)
Not Substance-Related (e.g., shoulder pain, headache)	10 (5.8%)
<b>Received Pre-Hospital Naloxone</b>	
Administered by Emergency Medical Services	101 (58.7%)
Administered by Bystander	16 (9.3%)
Undetermined Administration	4 (2.3%)
<b>Pre-Hospital Location</b>	
Public Transportation (e.g. bus, train)	56 (32.6%)
Outdoor Public Location (e.g. street, park)	52 (30.2%)
Indoor Public Location (e.g. fast-food, pharmacy, store)	13 (7.6%)
Home	12 (7.0%)
Bar or Nightclub	7 (4.1%)
Undetermined	32 (18.6%)
<b>Substance Endorsed</b>	
Single Substance	117 (68.0%)
Heroin	89 (76.1%)
Fentanyl	3 (2.6%)
Methadone	1 (0.9%)
Opioid Pills (e.g. hydrocodone, oxycodone)	6 (5.1%)
Non-Opioid (e.g. cocaine, cannabis, ketamine, alcohol)	8 (6.8%)
Unknown Substance	2 (1.7%)
Multiple Substances	43 (25.0%)
Heroin	36 (83.7%)
Alcohol	20 (46.5%)
Cocaine or Crack Cocaine	16 (37.2%)
Other (cannabis, prescription opioids or benzodiazepines)	14 (32.6%)
No mention of substance use or patient denied substance use	13 (7.6%)

## Discussion & Conclusions

- There may be utility to distributing FTS in the ED setting due to high patient acceptability and low previous exposure.
- In contrast to previous research in the community setting, **most patient planned to dispose of/not use a substance** after positive FTS result.
  - Difference could be due to clinical context of recent overdose.
- Most patients not using FTS explained that they do not need them due to a **strong commitment to future abstinence**. Given the low efficacy of abstinence-based approaches, future work could explore point-of-care counseling for patients preferring abstinence-based messaging.
- Future work could also explore **tailored patient guidance** following FTS positivity based on setting, patterns of drug use (frequent vs infrequent) and substance type (opioids vs non-opioids).
- Frequent test positivity may influence patients' experience with FTS over time (i.e. alarm fatigue).
- Limitations:**
  - Low follow-up rate
  - Limited generalizability from focus on single urban ED