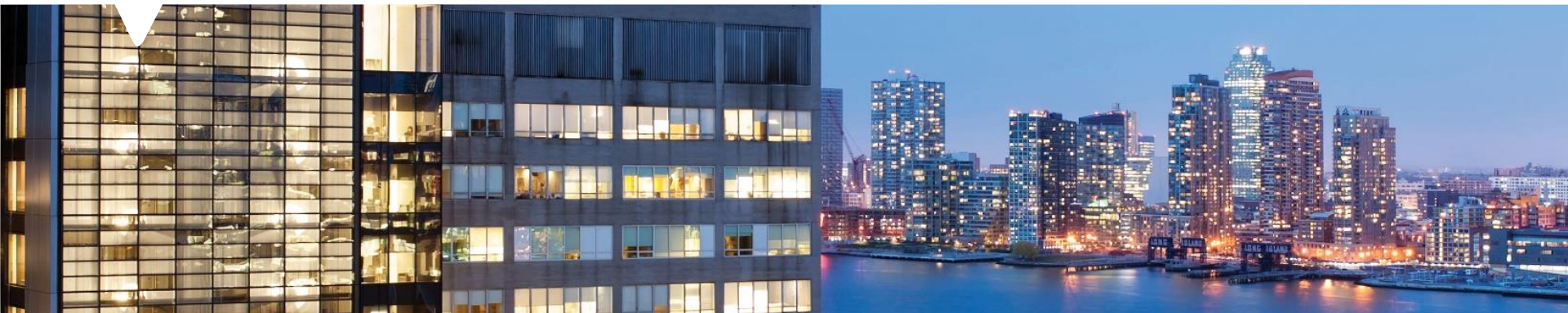


PREDICTING IMMINENT HOMELESSNESS AMONG EMERGENCY DEPARTMENT PATIENTS WITH UNHEALTHY ALCOHOL OR DRUG USE

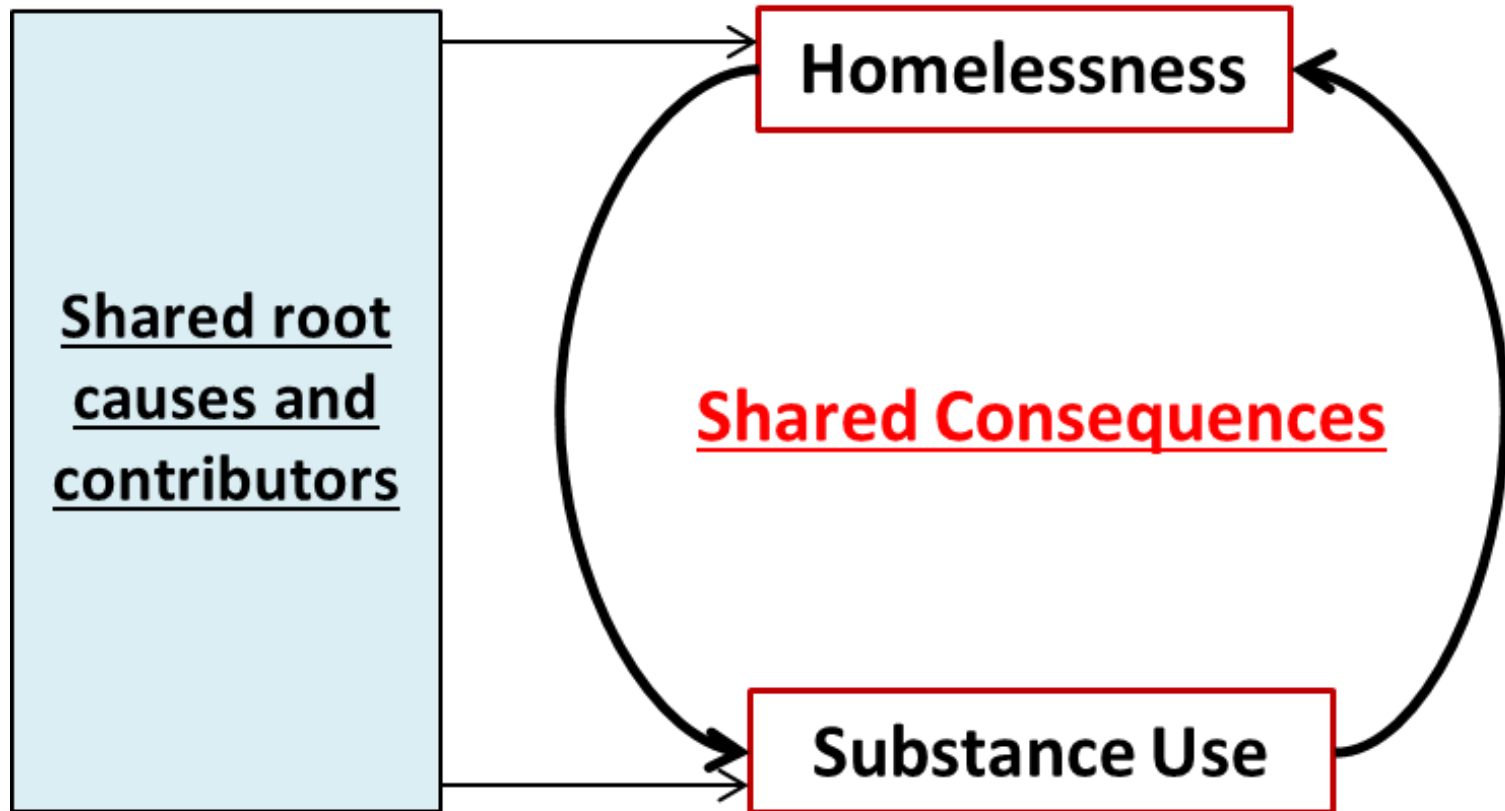
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Research reported in this presentation was supported by NIH/NIDA K23DA039179, the United Hospital Fund 161022S, and the Doris Duke Charitable Trust—NYULH Fund to Retain Clinical Scientists.

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Background



Background



Prevention

Homelessness prevention = key national strategy



Methods Overview

- **STEP 1: ED patient survey**
- **STEP 2: Link with New York City Department of Homeless Services shelter data**
- **STEP 3: Predictive modeling for future shelter entry & develop homelessness risk screening tool**

Step 1: ED Patient Survey

NYC ED – random sample

Adults (≥ 18 years)

English & Spanish speakers,
NYC residents, able to
provide informed consent

Excludes medically or
psychiatrically unstable,
intoxicated, prisoners

Provide informed consent, \$15
incentive

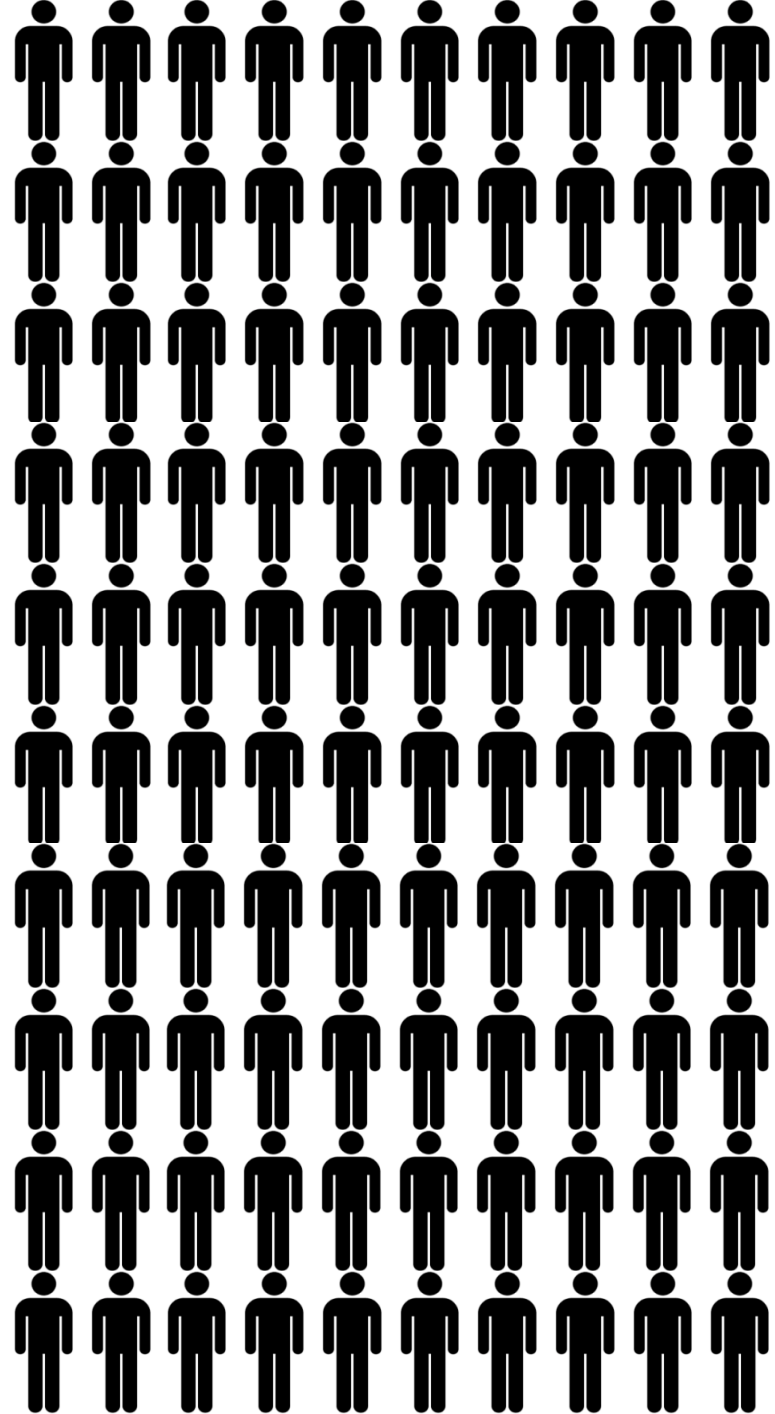


Survey Questions

- Demographics
- Physical & mental health
- Alcohol & drug use
- Health services use
- Socioeconomic status
- Homelessness history
- Housing details
- Social support
- Criminal justice history
- Food insecurity
- Other social service needs
- Identifying information

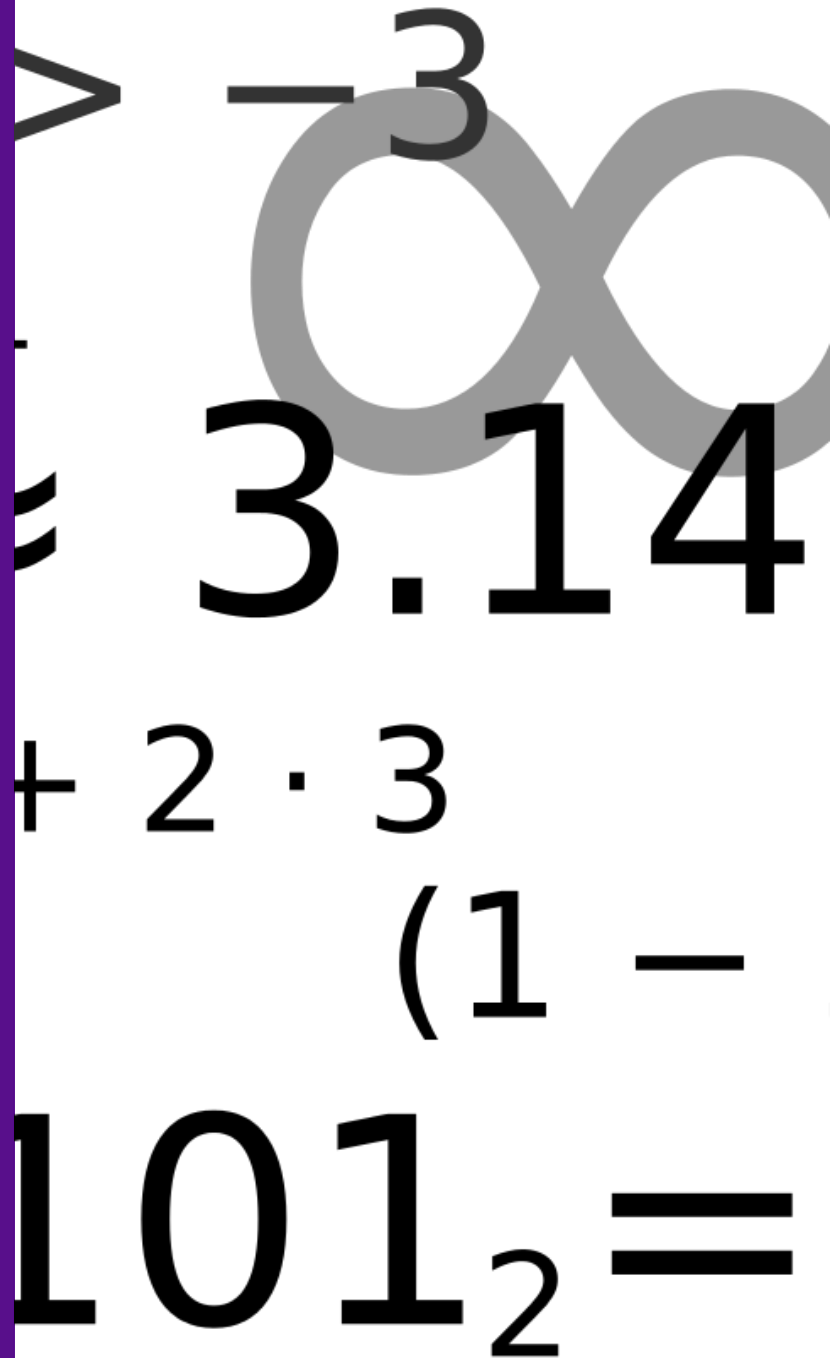
Step 2: Link Data

- Survey linked with CARES database – captures 90% of shelter use in NYC
- Linkage performed by NYC Center for Innovation through Data Intelligence



Step 3: Prediction

- Examine what factors from survey predict homeless shelter entry in next 6 months
- Full universe of variables from survey included in analysis as candidate predictors – results of multiple modeling types compared
- Variables consistently important in models considered as candidate variables for homelessness risk screening tool



Step 3: Prediction

- Goal was to create a screening tool that would be practical to implement in ED
 - Short
 - Yes/no patient questions
 - No complicated scoring
- Examined sensitivity and PPV of combinations of candidate variables meeting criteria above
 - Prioritized sensitivity over specificity



Results

- Data collected Nov 2016 – Jan 2018
- 82% of eligible patients participated
- 2,837 unique participants
 - 2,521 not already (currently) homeless
 - 1,262 unhealthy alcohol or drug use
 - 1,255 no unhealthy alcohol or drug use

Results

Of emergency department patients with unhealthy alcohol or drug use who were not currently homeless, 8.5% entered a NYC homeless shelter within the next 6 months.

Results

- Survey asked patients “how likely are you to enter a homeless shelter in the next 6 months?”
 - If answered “very” or “somewhat” likely → 53.3% sensitivity & 26.5% PPV for actual shelter entry
 - If answered “very” likely → 32.5% sensitivity & 31.5% PPV for actual shelter entry

Results

- Discussion with stakeholders about pros and cons of various screening tool possibilities
- 3-item screening tool: shelter use (past 12 mo.), applied for shelter (past 3 mo.), jail / incarceration history (lifetime)
 - 85.0% sensitivity
 - 19.1% PPV

Discussion & Next Steps

- A substantial percentage of ED patients with unhealthy alcohol or drug use who are not already homeless become homeless in the next 6 months
- Important to consider for ED-based substance use interventions
- Current pilot study of an intervention



THANK YOU

