



Hepatitis C virus Incidence and Risk in Suburbanites who Inject Drugs in Southwestern Connecticut

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Presenter Disclosures

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No relationships to disclose

Presentation Goals

- To describe our study of a sample of people who inject drugs and reside outside the urban centers of Fairfield and New Haven Counties, CT.
- Report on prevalence and incidence of HIV and hepatitis B and C viruses.
- Present data on injection risks and access to prevention services.
- Recommend measures to reduce risk and incidence.

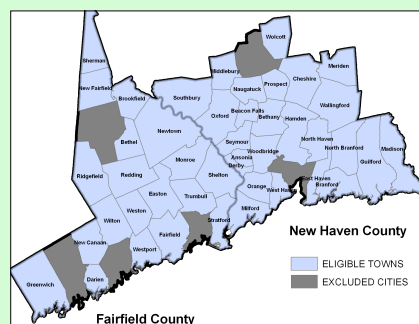
Introduction

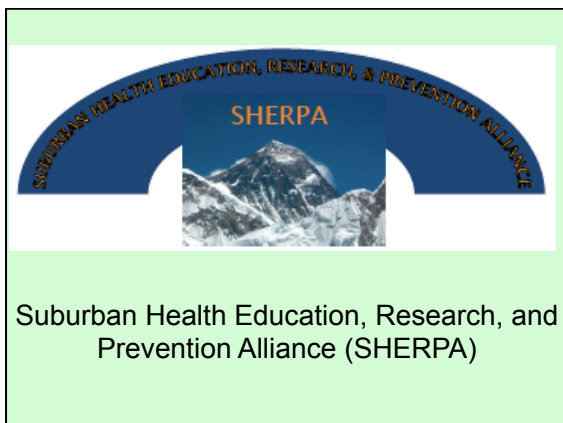
- Drug use by people residing in suburbia has increased over the past two decades.
- Documented by data from national and state databases:
 - Drug treatment admissions,
 - Drug-related mortality statistics,
 - National drug use surveys of adults and adolescents,
 - Emergency room admissions.
- Nevertheless, few comprehensive studies of suburban drug users have been undertaken.

Specific Aims

- Use respondent-driven sampling (RDS) to assemble and a cohort of people who inject drugs and who reside outside the large cities of southwestern Connecticut.
- Follow cohort through semi-annual interviews and annual serological testing.
- Test hypotheses about the environmental contexts of injecting on bloodborne virus infections, service utilization, and incarceration.
- Determine factors that modulate the risk of infection with bloodborne viruses.

Study Location – Southwestern CT





Results: SHERPA Recruitment

- Sample size was 475 when recruitment ended (600 target) of whom 454 were included in the final database (4% ineligible).
- RDS was hampered by small network sizes and large proportion of non-productive seeds:
 - 82 seeds, of whom 46 (56%) were non-productive
 - Longest chain 213 individuals
 - Mean social network size was 9.5 people and mean chain length was only 4.35 recruits from a seed
 - Small injection networks: mean 2.3 ± 3.1 people injected with in past 30 days

Results: Demographics

- Age: mean 35.0 ± 10.9 years; median 34 (25%, 75%: 25, 45)
- Sex: 282 men (62.1%)
- Race/ethnicity: 363 (81.9%) white, 43 (9.7%) Hispanic, 28 (6.3%) African American
- Marital status: 301 (66.3%) never married, 55 (12.1%) married, 98 (21.6%) previously married

Results: Social Circumstances

- 131 people (28.9%) report some form of employment
 - 57 employed full-time, 74 part-time or seasonal
- Most (n=247, 54.4%) live in a residence of another family member
 - 133 (29.3%) lived in their own home
 - 54 (11.9%) lived in a friend's residence
- High school diploma was most common highest academic achievement (n=190, 41.9%)
 - 89 (19.6%) had less than a high school diploma
 - 159 (35.0%) had some post-secondary education
- 33 (7.3%) served in the military

Injection Practices

- Heroin was the drug used most often by most participants (n=408, 89.9%); cocaine used most often by 27 people (5.9%)
- Syringe sources in the past month:
 - Pharmacy – 333 (74.2%), 26 with prescriptions
 - Syringe exchange program – 15 (3.3%)
 - From a diabetic – 60 (13.4%)
- Injection locale most frequently used:
 - Own residence – 259 (57.0%)
 - Other residence – 51 (11.2%)
 - Vehicle – 77 (17.0%)
 - Public location (restroom) – 18 (4.0%)

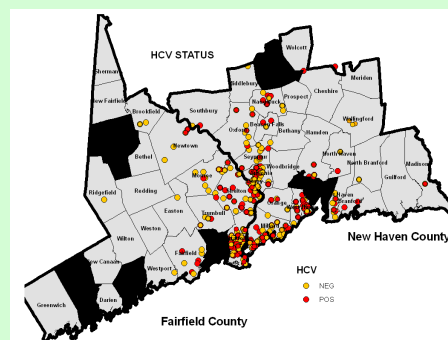
Bloodborne Viral Transmission Risks

- Syringe sharing was uncommon
 - 360 people (79.5%) reported never sharing syringes; 12 (2.6%) reported sharing every time
- Sharing of drugs was common
 - 96 people (21.2%) always shared; 139 more (30.7%) did on occasion
- Sharing of injection paraphernalia
 - 373 (82.2%) never shared cookers
 - 318 (70.0%) never shared rinse water
 - 296 (65.2%) never shared water to dissolve drugs

Serologies (n=439)

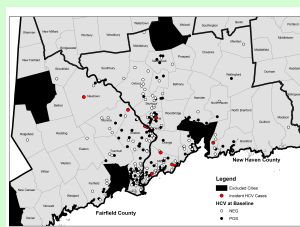
- We tested for HIV, hepatitis C virus (HCV), and several markers for hepatitis B virus (HBV)
- 14 people (3.2%) tested positive for HIV
- 179 people (40.8%) tested positive for HCV; only 74 knew they were positive
- 114 people (25.9%) had been exposed to HBV:
 - Of the 113, only 23 knew they had been infected
 - 21 (4.8%) were currently infected
 - 137 people (31.2%) had been successfully immunized
 - 188 people (42.8%) remained susceptible

HCV Prevalence - Geographic Distribution



HCV Incidence

- We conducted follow up testing annually
 - Tested 99 susceptible people, found 11 new infections
 - Estimated incidence rate is 9.03 per 100 person-years



Study Limitations

- This is not a probability sample, thus biases and statistical dependencies will require hierarchical statistical models or other methods to render the results more generalizable.
- Injectors at or above median income may be under-represented in the study sample.
- There is no urban injector comparison group.

Conclusions

- While HIV prevalence and incidence are negligible, HCV prevalence and incidence are unacceptably high and the HBV vaccination rate is unacceptably low.
- Contact with harm reduction services is all but non-existent.
- Injection risks, especially from shared injections and sharing of water to dissolve drugs, remain elevated.

Recommendations

- Suburban injectors need greater access to comprehensive harm reduction and disease prevention services.
- Included among these services are:
 - Syringe exchange
 - Safe injection training
 - HBV vaccination
 - Overdose prevention and response training including naloxone provision (data not shown)
 - Substance abuse treatment on demand (data not shown)

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Supplemental Material

- Data on opioid overdose in the SHERPA cohort
 - 140 people (30.8%) reported history of an overdose
 - Of these, more than two-thirds (n=93) reported more than one overdose event
 - 18 people reported an overdose event in the past year
- Data on substance abuse treatment
 - 351 people (77.3%) reported a history of substance abuse treatment
 - 208 (45.8%) were receiving substitution treatment at the time of enrollment in the study; 200 on methadone
 - Nonetheless, more than half of the participants lived ≥ 20 miles from the nearest methadone program

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