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# Public Health Outcomes as a Measure of Efficacy of Syringe Exchange Programs

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# Public Health Outcomes as a Measure of Efficacy of Syringe Exchange Programs



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## Introduction

### What is Syringe Exchange?

- Public health intervention where people who use drugs, referred to as Intravenous Drug Users (IVDU), are provided clean syringes in exchange for used syringes
- Services are provided nonjudgmentally to facilitate positive change as defined by the person who uses drugs

### How effective is Syringe Exchange?

- Reduces transmission of HIV, hepatitis C, and other blood-borne pathogens<sup>1</sup>
- Participants more likely to engage addiction treatment services and reduce drug use<sup>2</sup>

### Drug Use in Vermont

- More than 1500 opioid-related substance abuse treatment admissions in 2010<sup>3</sup>
- Heroin & fentanyl-related fatalities have been rising since 2013<sup>4</sup>
- 75 accidental & undetermined opioid fatalities in 2015<sup>4</sup>

## Aims

- Assess the impact of VT CARES syringe exchange program on the health of their participants
- Compare healthcare service usage in long-term and new syringe exchange participants
- Determine how VT CARES could improve its syringe exchange program

## Methods

### Research Protections Acceptance

Class projects require that the instructor develop a method of determining that the projects meet the required criteria to be "exempt" from Committee review. The requirements for this course have been reviewed and accepted by the UVM Office of Research Protections.

### Subjects & Data Collection

- 91 subjects at syringe exchange programs run by Vermont CARES at permanent sites in St. Johnsbury and Rutland and a mobile clinic serving greater Vermont
- 20 item survey aimed at identifying general health practices and barriers to receiving healthcare for intravenous drug users who participate in a syringe exchange program

### Statistical Analysis

- 2-Tailed Fischer's exact tests were conducted with graphpad.com statistical software

## Results

Table 1. Participant's Duration of Membership in Vermont CARES Syringe Exchange Program

Duration of Syringe Exchange Membership	No. of Participants (% of total)
Not part of an exchange	6 (6.59)
0-6 months	23 (25.27)
6-12 months	23 (25.27)
1-2 years	23 (25.27)
More than 2 years	16 (17.58)
Previously, with a different program	0 (0.00)

\*New members were designated by membership ≤ 6mo

Table 2. Participant Demographics

Demographic	No. of New Members (% of New Members)	No. of Long-term Members (% of Long-term Members)
<b>Age (y.o.)</b>		
18-25	6 (20.69)	7 (11.29)
26-35	9 (31.03)	22 (35.48)
35-45	10 (34.48)	17 (27.42)
45-55	2 (6.90)	12 (19.35)
Older than 55	0 (0.00)	0 (0.00)
<b>Needle exchange site</b>		
Rutland	18 (62.07)	31 (50.00)
St. Johnsbury	7 (24.14)	17 (27.42)
Mobile Site	3 (10.34)	10 (16.13)
<b>Primary insurance</b>		
Medicaid/Medicare	25 (86.21)	50 (80.65)
Employer	0 (0.00)	3 (4.84)
Uninsured	2 (6.90)	5 (8.06)
Other	1 (3.45)	1 (1.61)

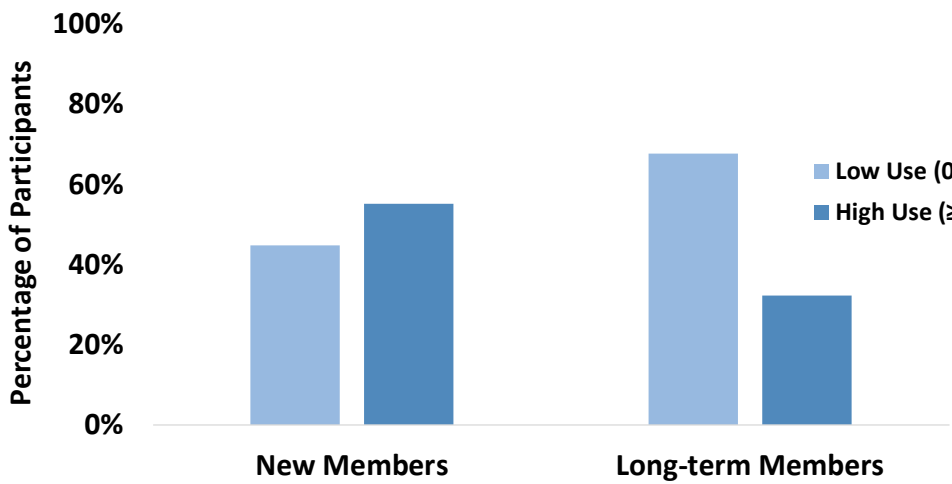


Figure 1: Emergency department usage (p = 0.04)

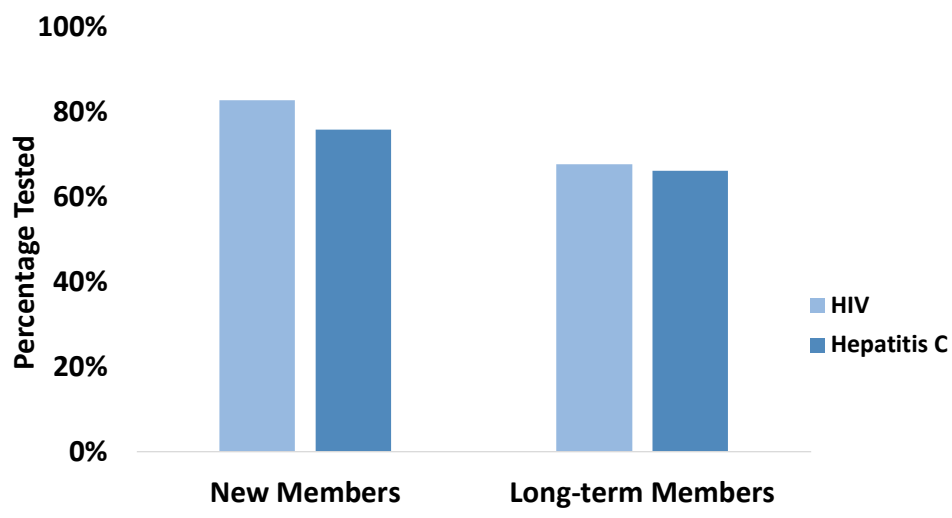


Figure 2: Prevalence of HIV and hepatitis C testing within the last year

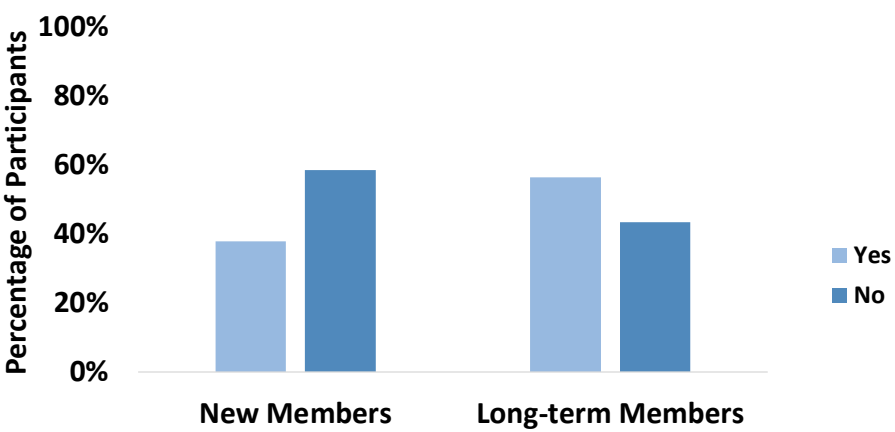


Figure 3: Current enrollment in addiction treatment among new and long-term members

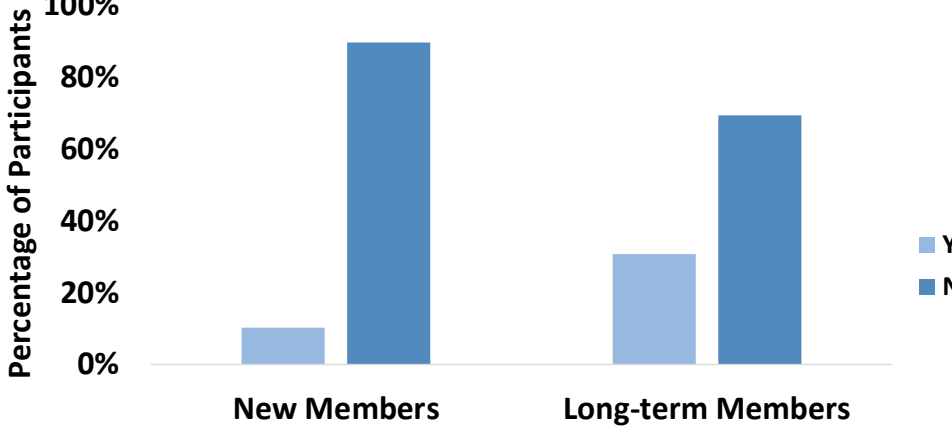


Figure 4: Interest in abstaining from IVDU between new and long-term members

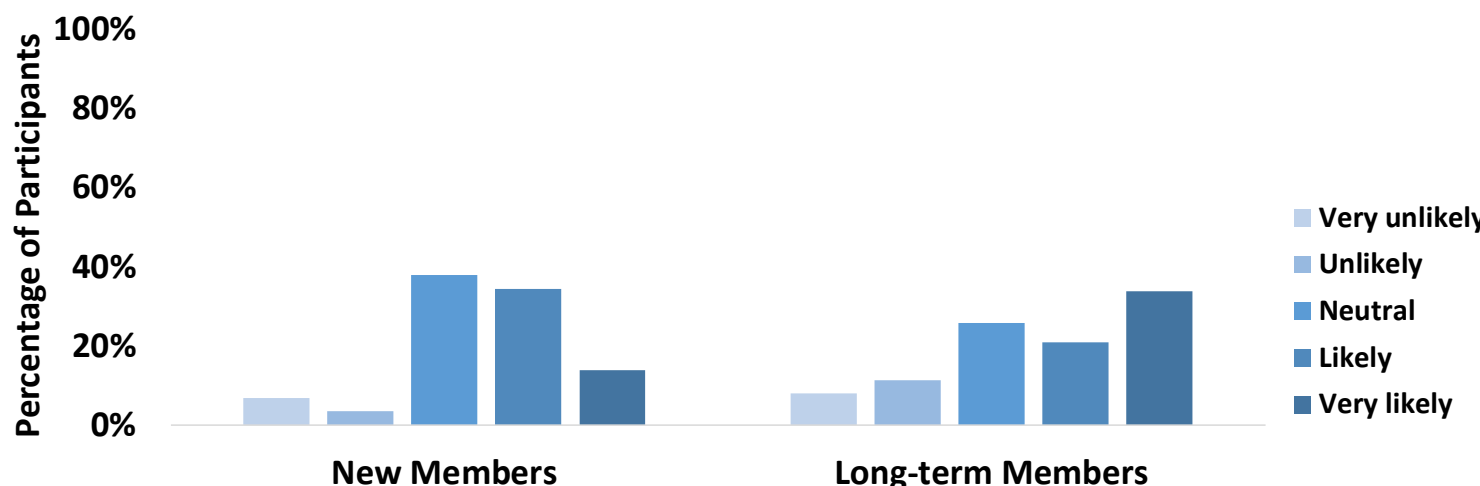


Figure 5: Comparison of interest in use of safer injection sites between new and long-term members

## Conclusions

- Long-term members compared to new members tended to have a primary care provider. Most commonly cited reasons for not having a primary care provider included lack of insurance and fear of judgement.
- Long-term members were significantly less likely (p=0.04) to use costly ED/urgent care services.
- Long-term members are less likely to reuse their own needle or one used by another person, suggesting the distribution of clean syringes at VT CARES encourages safe injection practices.
- Long-term members compared to new members are more likely to be in addiction treatment and reported a greater desire to abstain from drug use. This finding reflects the potential for positive personal change with sustained contact with syringe exchange programs.
- New members are more likely to obtain hepatitis C/HIV testing in the past year. Decreased testing among long-term members may reflect prior knowledge or awareness of their disease status.

### Limitations

- Study composed of a small sample size (n=91) from three polling sites.
- Not all respondents completed surveys in their entirety.

## Future Directions

- Participants expressed interest in safe syringe injection clinics.
  - A staffed, controlled environment for IVDUs to safely inject with sterile supplies.
  - Such clinics would lead to decreased rates of adverse health outcomes including infection and overdose.
- The majority of respondents indicated interest in primary care services through VT CARES if they were offered. This would allow access for those affected by the barriers stated above.
- As demonstrated by the efficacy of the syringe exchange programs, expansion to new locations and additional funding sources should be considered.

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