

Hepatitis C reinfection among homeless and unstably housed individuals in Boston

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Boston Health Care for the Homeless Program

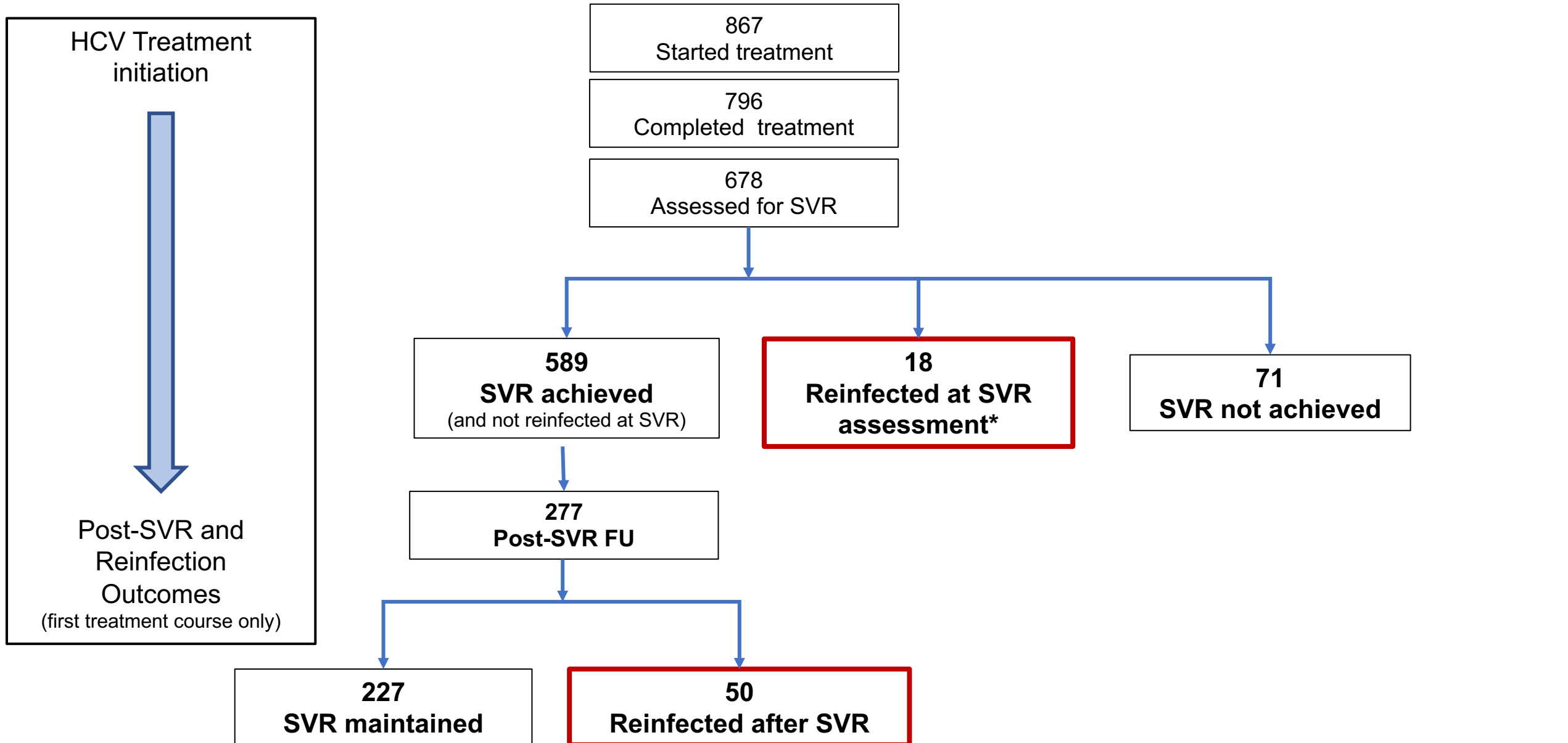
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Disclosures and Acknowledgements

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- I wish to thank my co-authors, our HCV treatment team and the BHCHP staff, as well as the patients at Boston Health Care for the Homeless Program for prioritizing HCV care and treatment alongside the critical needs and competing priorities in their lives

- Global meta-analysis on reinfection among people with recent drug use describes low rate, 5.9/100 person-years¹
- Limited data suggests homelessness may present an increased risk for reinfection², but homelessness variables have not been described in most reinfection literature

- Main aim:
 - Describe reinfection rate and associated factors for individuals experiencing homelessness and unstable housing treated in a homeless health center-based program in Boston
- Retrospective chart review
 - Reinfection analysis conducted within larger study of all treated at BHCHP January 2014-March 2020
 - Unadjusted and adjusted analysis of factors associated with reinfection
 - Reinfection rate calculated utilizing method described by Martinello et al³



* Analyzed separately, but not shared in this presentation

Characteristic	% Reinfected	P value of Chi Square test*	Unadjusted OR (95% CI)
Sociodemographic			
Age		0.017	
< 45 years	25.24		Ref
≥ 45 years	13.79		0.474 (0.255 – 0.880)
Ethnicity		0.017*	
Non-Hispanic	13.51		Ref
Hispanic	26.92		2.358 (1.226 – 4.536)
Unknown	28.57		2.560 (0.745 – 8.791)
Language		0.003	
English	15.19		Ref
Spanish	35.00		3.006 (1.434 – 6.303)
Unstably housed, past year		0.030	
No	9.52		Ref
Yes	20.38		2.432 (1.065 – 5.552)
Unknown	27.78		3.654 (1.303 – 10.243)
Substance use and medical conditions			
Heavy alcohol use, past 6 months		0.008*	
No	15.13		Ref
Yes	6.52		0.391 (0.110 – 1.399)
Unknown	25.89		1.961 (1.017 – 3.778)
Illicit drug use, past 6 months		0.001*	
No	6.10		Ref
Yes	25.86		5.372 (1.985 – 14.536)
Unknown	18.99		3.609 (1.244 – 10.471)

Unadjusted associations and odds of being reinfected post SVR among those with post SVR follow-up (n = 277)

Characteristic	% Reinfected	P value of Chi Square test*	Unadjusted OR (95% CI)
HCV characteristics			
Referral source		0.055	
Internal	15.88		Ref
Counseling & Testing	31.43		2.428 (1.096 – 5.379)
External / self-referred	22.22		1.514 (0.302 – 7.574)
Injection drug use identified as risk factor for HCV acquisition		0.003*	
Yes	20.59		Ref
No	2.56		0.102 (0.014 – 0.758)

*P value for Fisher exact test examining whether reinfection rates differ significantly across levels of the variables displayed.

Adjusted analysis of factors associated with post-SVR reinfection among those with post-SVR follow-up, Odds Ratio Estimate (n=277)

Adjusted Odds Ratio (95% CI)	
Illicit drug use, past 6 months	
No	Ref
Yes	4.325 (1.386 – 13.494)
Unknown	2.114 (0.558 – 8.003)

Reinfection rate for all courses of treatment, per 100 years

	Number of reinfections	Total number of person-years of follow up	Reinfection rate / 100 person years
Full cohort	74	643.5	11.5
Injection drug use identified as risk factor for HCV acquisition	73	544.3	13.4

- Multiple factors surfaced in univariate analysis that highlight sub-populations more vulnerable to reinfection
 - Younger age
 - Hispanic-identifying
 - Spanish as preferred language
 - Recent unstable housing
 - Recent drug use
 - IDU as primary risk factor for HCV acquisition
 - Referred by Counseling & Testing team
- Self-reported recent drug use was the only variable to remain a significant predictor of reinfection in multivariable analysis

Reinfection reflects hyperlocal and highly dynamic structural and individual factors. Approaches to mitigate reinfection risk must be multi-pronged and collaborative and, in our area, could include:

Improve practical harm reduction

- 24/7 Syringe service programs
- Safe consumption sites
- Informed by consistent relationships with people who inject drugs

Innovate HCV care delivery

- Cohorted treatment among networks of PWID for TasP

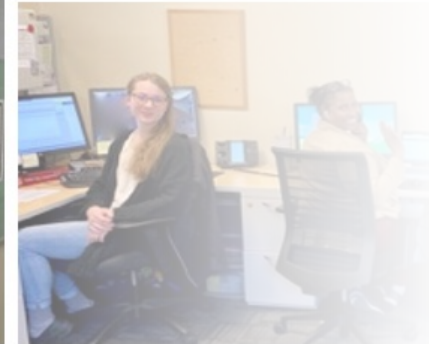
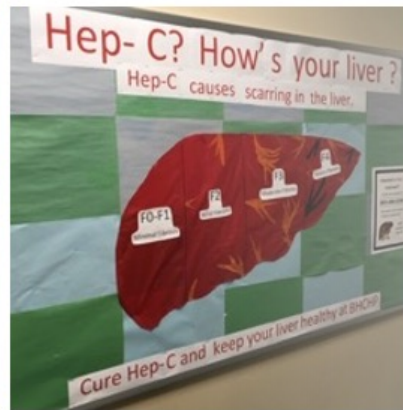
Reinforce education

- Sustained approaches from intake to post-SVR
- Peer-led models
- Language and literacy appropriate materials and messaging

Ameliorate syndemic factors

- Transitional and permanent supportive housing
- Work to reduce stigma related to drug use
- Support all efforts to improve QoL of people who use drugs

Thank you for your time and attention!



- For questions contact: Maggie Beiser, mbeiser@bhchp.org
- For more findings from this data set see our additional presentations:
 - On Demand Oral Presentation
Housing is health care: HCV treatment outcomes for individuals experiencing homelessness and unstable housing in Boston
 - #158 Virtual Poster
From treatment initiation to cure: Movement along the care cascade among homeless and unstably housed individuals who injection drugs

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3. Martinello M, Grebely J, Petoumenos K, et al. HCV reinfection incidence among individuals treated for recent infection. *J Viral Hepat.* 05 2017;24(5):359-370. doi:10.1111/jvh.12666