

EVALUATION OF AN INTEGRATED NURSE MODEL OF CARE PROVIDING HEPATITIS C TREATMENT TO PEOPLE ATTENDING HOMELESS SERVICES IN MELBOURNE, AUSTRALIA

Harney BL^{1,2}, Whitton B¹, Lim C^{1,3}, Paige E¹, McDonald B³, Nolan S^{3,4}, Pemberton D^{3,4}, Hellard ME^{1,2}, Doyle JS^{1,2}

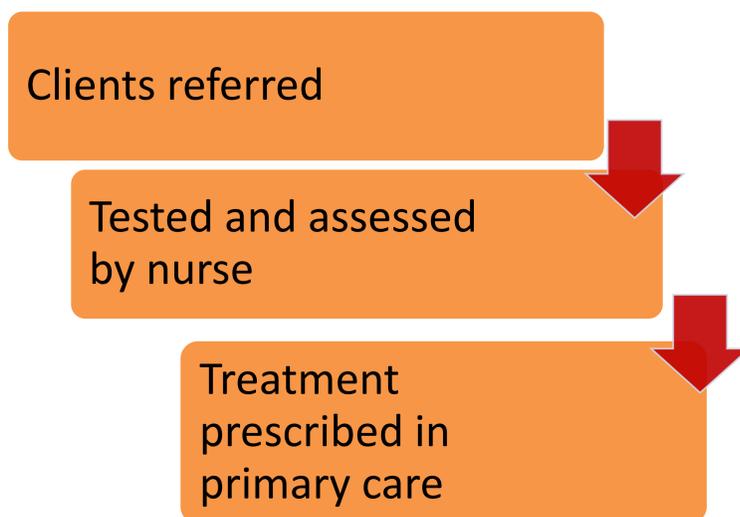
¹Department of Infectious Diseases, Alfred Health & Monash University, Melbourne, VIC, Australia, ²Disease Elimination Program, Burnet Institute, Melbourne, VIC, Australia, ³Star Health, South Melbourne, VIC, Australia, ⁴Launch Housing, Southbank, VIC, Australia Author contact: brendan.harney@burnet.edu.au

BACKGROUND

- The prevalence of hepatitis C has been reported to be high among people who are homeless⁽¹⁾ and has been associated with a history of and/or recent injecting drug use^(2,3)
- People who are homeless often have multiple and complex health and social needs that may take precedence over hepatitis C testing and treatment⁽⁴⁾
- We quantitatively evaluated the outcomes of a pilot program aiming to provide access to hepatitis C treatment to people attending homeless services

METHODS

- A nurse with experience in hepatitis C visited two sites providing services to people who are homeless or at risk of homelessness in Melbourne on a weekly basis
- Nursing staff and case workers at the services referred clients who consented to the hepatitis C nurse
- We evaluated outcomes from November 2016 to July 2017



- Clients who consented to hepatitis C testing completed a questionnaire which collected demographic, behavioural and accommodation status data
- Treatment commencement was defined as a prescription written by a doctor affiliated with the services
- SVR12 data was obtained from clients clinical records
- Logistic regression was utilised to examine factors associated with treatment commencement
- Factors explored in analyses included age, sex, country of birth, accommodation status and injecting drug use

ACKNOWLEDGEMENTS

- We acknowledge the important contribution that the clients who participated in this program have made to enable this work to be presented and thank them for their time, providing biological samples and answering potentially sensitive questions regarding behaviours
- We'd also like to acknowledge the staff and management of the services that participated in this work and thank them for their involvement in this cross-sector partnership

DISCLOSURES

- Funding for this pilot program was received from the South Eastern Melbourne Primary Health Network and the funders had no role in data analysis or decision to submit
- No industry funding was received for this work

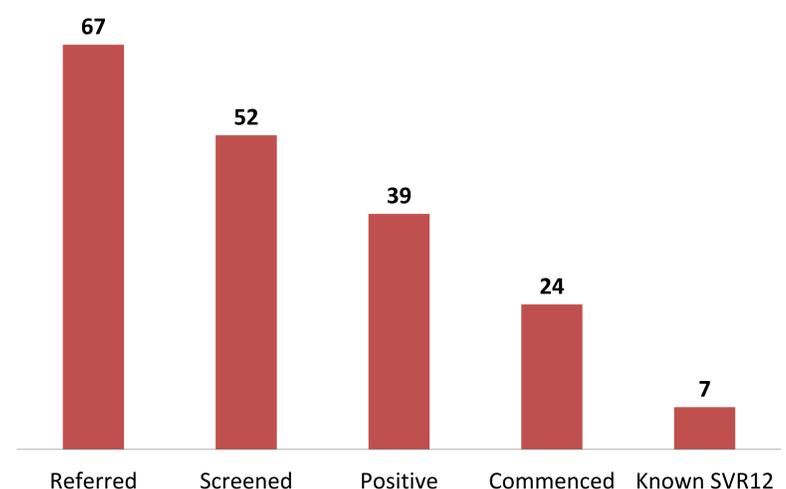
REFERENCES

1. Beijer, U., Wolf, A., & Fazel, S. (2012). Prevalence of tuberculosis, hepatitis C virus, and HIV in homeless people: a systematic review and meta-analysis. *The Lancet Infectious Diseases*, 12(11), 859-870. doi:10.1016/S1473-3099(12)70177-9
2. Nyamathi, A. M., Dixon, E. L., Robbins, W., Smith, C., Wiley, D., Leake, B., Gelberg, L. (2002). Risk Factors for Hepatitis C Virus Infection Among Homeless Adults. *Journal of General Internal Medicine*, 17(2), 134-143. doi:10.1046/j.1525-1497.2002.10415.x
3. Rosenblum, A., Nuttbrock, L., McQuiston, H. L., Magura, S., & Joseph, H. (2001). Hepatitis C and substance use in a sample of homeless people in New York City. *J Addict Dis*, 20(4), 15-25.
4. Neale, J. (2008). Homelessness, drug use and Hepatitis C: A complex problem explored within the context of social exclusion. *International Journal of Drug Policy*, 19(6), 429-435. doi:10.1016/j.drugpo.2007.09.001

RESULTS

- 67 clients were referred to the nurse, 52 underwent HCV testing and 39 were HCV positive
- Among those who were HCV positive, the mean age was 44 (range 23-74) and 64% were male
- The majority were Australian born and non-indigenous and 46% reported sleeping rough prior to service engagement
- Injecting drug use was reported by 31 people overall, of whom 74% had injected less than three months ago. The majority of people who reported injecting drug use, 87%, were HCV RNA positive.

Hepatitis C Cascade Among Clients of Homeless Services



- Of 39 clients who were HCV positive, 24 commenced treatment within the pilot period and SVR12 was known for 7 clients
- After adjustment for injecting drug use, sleeping rough was associated with a lower odds of commencing treatment; Odds Ratio 0.15, *p*-value 0.019

Table 1. Client characteristics and factors associated with HCV treatment commencement

	n (%)	Treatment commencement	
		OR (95%CI)	aOR ^a (95%CI)
Age, mean (range)	44.7 (23-74)	1.5 (0.80-2.82)	-
Sex, n (%)			
Female	14 (36)	REF	
Male	25 (64)	1.3 (0.35-5.08)	-
Country of birth			
Australia	35 (90)	REF	
Other	4 (10)	0.59 (0.07-4.7)	-
Indigenous status			
Non-indigenous	36 (92)	N/A	
Indigenous / not stated	3 (8)		
Accommodation			
At risk or boarding house	21 (54)	REF	
Sleeping rough	18 (46)	0.15 (0.035 - 0.63)	0.15 (0.029-0.73)
Injecting drug use			
None or > 3 months	20 (51)	REF	
Less than 3 months	19 (49)	0.48 (0.12 - 1.8)	1.06 (0.21-5.2)

CONCLUSION

- A nurse led model can successfully provide HCV treatment to people who are homeless or at risk of homelessness
- Multi-sectorial collaboration is likely needed to ensure the most vulnerable people are reached for successful HCV treatment
- Models of care to reduce time between testing and treatment may improve treatment uptake
- Strategies are needed to improve post-treatment testing including for potential reinfection
- Further research, including qualitative methodologies, is required to understand and overcome barriers to HCV treatment among people who are homeless and particularly those who have recent or current experiences of sleeping rough