

Using social networks to reduce hepatitis C prevalence

Targeting social networks with a 'treat your friends' approach is a feasible, practical and effective strategy for treating hepatitis C amongst people who inject drugs.

THE ISSUE

New, highly effective direct-acting antiviral (DAA) treatment for hepatitis C can halt the progression of liver disease in people with chronic infection, therefore preventing liver-related deaths. Moreover, treating people involved in the ongoing transmission of the virus prevents new infections. Hence, DAAs enable the elimination of hepatitis C as a public health threat. People who inject drugs (PWID) are at particularly high risk of hepatitis C infection, and modelling studies have shown that treating PWID can halt hepatitis C transmission.¹ However, the impact of PWIDs' social networks on the transmission of disease is not well understood.

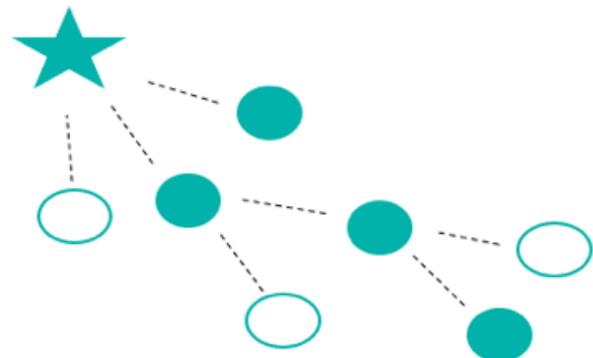
WHAT OUR WORK FOUND

Burnet Institute researchers created infection transmission models using data from real-life injecting networks observed in a study of PWID in Melbourne, Australia. Using these models, Professor Hellard and colleagues sought to understand how treating PWID with DAAs could affect hepatitis C prevalence, and how different approaches to involving the injecting network in treatment might affect the outcome. They found that:

- ▶ hepatitis C prevalence will reduce with a more effective treatment and as more PWID are treated
- ▶ of the five treatment strategies tested, the 'treat your friends' strategy is the most effective way to reduce hepatitis C prevalence
- ▶ the 'treat your friends' strategy results in a greater reduction in hepatitis C prevalence than treating random PWID
- ▶ of the network-based treatment strategies tested, 'treat your friends' is the most practical for implementation because it is easy for PWID and clinicians to identify 'friends' – at-risk relatives or contacts.

CONCLUSION

The 'treat your friends' approach is an effective strategy to reduce the prevalence of hepatitis C amongst PWID.



- ★ **Treat infected case**
- **Treat infected friend**
- **Uninfected friend**

Diagrammatic representation of the 'treat your friends' approach

Policy Implications

- ▶ The 'treat your friends' approach is a feasible and practical approach for delivering treatment to individuals who inject drugs.
- ▶ Targeting social networks benefits the broader community because it is an efficient and effective way to treat and reduce prevalence of hepatitis C at a population level.

For complete details and results, contact Professor Margaret Hellard (margaret.hellard@burnet.edu.au).
Full publication: Hellard M, Rolls D, Sacks-Davis R, Robins G, Pattison P, Higgs P, Aitken C, McBryde E. The impact of injecting networks on hepatitis C transmission and treatment in people who inject drugs. *Hepatology* 2014; 60:1861 – 1870. doi: 10.1002/hep.27403

References

1. Scott N, et al. *Gut* 2017; 66:1507–1515.