Current Research on HCV Treatment Among People who use Drugs, *2018-2022*

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Table of Contents

Summary

Hepatitis C virus (HCV) is a common blood-born infection that the CDC estimates to be associated with more deaths in the United States than 60 other infectious diseases combined.[1,2] One of the most common ways for it to be spread is through injection drug use, and CDC reports that 67% of injection drug users that they surveyed currently had HCV.[3] As cases of HCV continue to rise in conjunction with the opioid crisis, access to HCV treatment for all populations is important for not only for improving each individual's health and potentially saving their life, but also reducing the risk and burden of the spread of the disease. HCV treatment is recommended for all patients with chronic HCV infection by both the CDC and the WHO.[2,4]

The American Association for the Study of Liver Diseases/Infectious Disease Society of America(AASLD), in their "Recommendations for Testing, Managing, and Treating Hepatitis C," stated that they had removed any previous prioritization tables and "recommend treatment for all patients with chronic HCV infection."[5] For people who use drugs (PWUD), the AASLD specifically advocated for HCV treatment for PWUD as a way to reduce the burden of infectious disease within a susceptible population, and that years of research have proven no discernable difference in adherence or re-infection.

Specifically, the AASLD recommends:

> "combining HCV treatment with needle exchange and opioid agonist therapy (OAT) programs in this population with a high prevalence of HCV has shown great value in decreasing the burden of HCV disease."
>
> "Conversely, there is no data to support the utility of pretreatment screening for illicit drug or alcohol use in identifying a population more likely to successfully complete HCV therapy. These requirements should be abandoned because they create barriers to treatment, add unnecessary cost and effort, and potentially exclude populations that are likely to obtain substantial benefit from therapy. Scaling up HCV treatment in persons who inject drugs is necessary to positively impact the HCV epidemic in the US and globally."[5]

Beyond the endorsements from these medical institutions, current research also demonstrates the benefits of providing HCV treatment to people who use drugs.

Low Risk of Re-Infection

In recent years many studies have looked at the rate of re-infection among PWUD who received HCV treatment.

- Hajarizadeh, B., Cunningham, E. B., Valerio, H., Martinello, M., Law, M., Janjua, N. Z., … Grebely, J. (2020). Hepatitis C reinfection after successful antiviral treatment among people who inject drugs: A meta-analysis. *Journal of Hepatology*, *72*(4), 643–657. https://doi.org/10.1016/j.jhep.2019.11.012

  This article is a systematic review assessed the rate of HCV reinfection following treatment among people with recent drug use and those receiving opioid agonist therapy. The authors reviewed thirty-six studies. **The overall rate of HCV reinfection was 5.9/100 person-years (95% CI 4.1-8.5) among people with recent drug use (injecting or non-injecting), 6.2/100 person-years (95% CI 4.3-9.0) among people recently injecting drugs, and 3.8/100 person-years (95% CI 2.5-5.8) among those receiving OAT.**
  Their findings demonstrate that:
  - "although reinfection by hepatitis C virus occurs following successful treatment in people with recent drug use, the rate of hepatitis C reinfection is lower than the rates of primary infection reported in the literature for this population - reinfection should not be used as a reason to withhold therapy from people with ongoing injecting drug use."[6]

- Yeung, A., Palmateer, N. E., Dillon, J. F., McDonald, S. A., Smith, S., Barclay, S., … Hutchinson, S. J. (2022). Population-level estimates of hepatitis C reinfection post scale-up of direct-acting antivirals among people who inject drugs. *Journal of Hepatology*, *76*(3), 549–557. https://doi.org/10.1016/j.jhep.2021.09.038

  This article from Scotland highlights that testing for HCV among PWUD needs to be a continuous process, not something that is done shortly after completion of treatment, to ensure that HCV is continued to be detected and treated. This study noticed that there can be a higher rate of re-infection in subsequent years post-SVR, but that treatment options should be provided in order to reduce spread of disease, as well as education and prevention strategies such as needle exchange and opioid agonist therapy.[7]

Co-Occurring Treatment Strategies

- Grebely, J., Tran, L., Degenhardt, L., Dowell-Day, A., Santo, T., Larney, S., … Hajarizadeh, B. (2021, July 1). Association between Opioid Agonist Therapy and Testing, Treatment Uptake, and Treatment Outcomes for Hepatitis C Infection among People Who Inject Drugs: A Systematic Review and Meta-analysis. *Clinical Infectious Diseases*. Oxford Academic. https://doi.org/10.1093/cid/ciaa612

  A review of 22 studies from US, Australia, Europe, and Thailand show that offering HCV testing and treatment within an OAT context or program increased likelihood of HCV testing and treatment adherence.[8]

- Sivakumar, A., Madden, L., DiDomizio, E., Eller, A., Villanueva, M., & Altice, F. L. (2022). Treatment of Hepatitis C virus among people who inject drugs at a syringe service program during the COVID-19 response: The potential role of telehealth, medications for opioid use disorder and minimal demands on patients. *International Journal of Drug Policy*, *101*, 103570. https://doi.org/10.1016/j.drugpo.2021.103570

  This article looked at the way a syringe service program in New Haven, CT used a bundled services approach to treat people who were actively using drugs during the first month of the COVID-19 pandemic. Using minimal screening, telehealth, and coordinated care between doctors and outreach staff, 29 of the 35 patients who initiated direct-acting antivirals (DAA) treatment successfully completed and achieved SVR. This study demonstrates that a client-centered approach focusing on the principles of harm reduction reduces barriers and increases patient success.[9]

Qualitative Research Regarding Perceptions/Barriers

- Goodyear, T., Brown, H., Browne, A. J., Hoong, P., Ti, L., & Knight, R. (2021). "I want to get better, but…": identifying the perceptions and experiences of people who inject drugs with respect to evolving hepatitis C virus treatments. *International Journal for Equity in Health*, *20*(1). https://doi.org/10.1186/s12939-021-01420-7

  This article was based on 56 in-depth interviews in Vancouver, Canada of participants who identified as PWUD and had received HCV treatment. One of the themes the participants identified was ***HCV treatment through harm reduction providers who didn't require sobriety was a key indicator as to accessing treatment.*** Research results focused on use of support networks, including case managers, peers, as well as healthcare workers to assist patients in multiple health needs as well as HCV treatment as another factor in successfully completing treatment. Results showed that nonjudgmental circles of support had a positive impact on participant's lives and contributed to their success in HCV treatment.

- Tsui, J. I., Barry, M. P., Austin, E. J., Sweek, E. W., Tung, E., Hansen, R. N., … Williams, E. C. (2021). 'Treat my whole person, not just my condition': qualitative explorations of hepatitis C care delivery preferences among people who inject drugs. *Addiction Science and Clinical Practice*, *16*(1). https://doi.org/10.1186/s13722-021-00260-8

  This study was interested in pursuing the idea of HCV DAA treatment through pharmacists as well as through medical providers, and used qualitative interviews of people who had received treatment from each to learn about the different experiences.

  > "Analyses revealed 3 themes: (1) limited knowledge regarding HCV and DAA treatments; (2) barriers/motivators for receiving treatment included fear of side effects, prior stigmatizing behaviors from physicians, and desire to protect relatives and the PWID community from HCV transmission; and (3) preferences for HCV care delivery, including a need for person-centered, low-barrier, and collaborative treatment integrated with other care (e.g. primary care and addiction treatment) for PWID."[10]

Other Interesting Research

- Corcorran, M. A., Tsui, J. I., Scott, J. D., Dombrowski, J. C., & Glick, S. N. (2021). Age and gender-specific hepatitis C continuum of care and predictors of direct acting antiviral

treatment among persons who inject drugs in Seattle, Washington. *Drug and Alcohol Dependence*, *220*. https://doi.org/10.1016/j.drugalcdep.2021.108525

Researchers used survey data from National HIV Behavioral Surveillance (NHBS) survey of PWID and a multivariate logistical regression model to calculate adjusted odds of having received HCV treatment (DAA therapy). Of a sample size 533 PWID, 376 (71 %) tested positive for HCV antibodies, 26% of those had undergone treatment and 18% had been cured. Being slightly older increased odds of having received the HCV treatment, and being female and/or homeless decreased odds of having received treatment.[11]

Conclusion

Medical providers must challenge their own internal biases at providing life-saving medicine to people who use drugs and heed the recommendations of the CDC, WHO, AASLD, and the research articles listed in this report. Providing HCV treatment to people who use drugs is not only morally correct, in that all people are deserving of treatment to improve their quality of life, but it reduces the spread of a deadly infectious disease among a targeted population.

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