METHODOLOGY TO INVESTIGATE TRENDS IN HEPATITIS C VIRUS REINECTION AMONG PEOPLE WHO INJECT DRUGS IN ENGLAND

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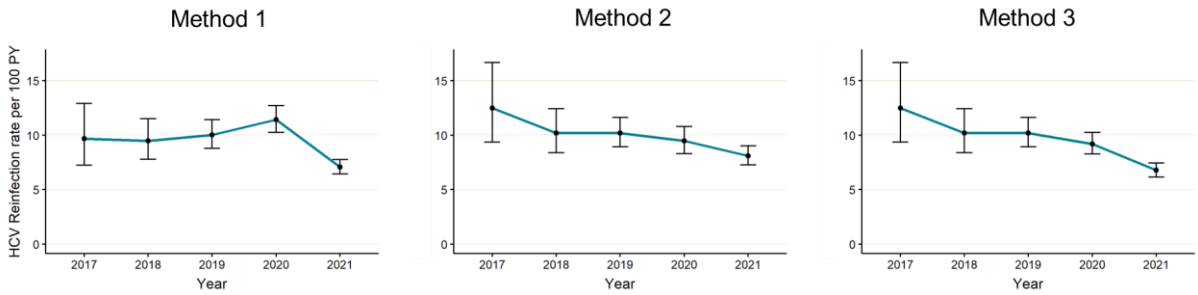
Background: With the expansion of hepatitis C virus (HCV) treatment in England, HCV reinfections pose a threat to achieving HCV elimination goals. We propose three methods to assess trends in annual HCV reinfection rate among people who inject drugs (PWID) to account for variations in post-treatment testing and the impact of the COVID-19 pandemic on testing.

Methods: PWID treated for HCV between 2015-2021 in England were included. HCV reinfection was defined as having evidence of completing treatment followed with an SVR, then having a positive HCV-RNA test or subsequent treatment >=196 days after treatment start. All methodologies calculated reinfection rate among those who had a successful treatment and an HCV-RNA test >=196 days after treatment start date. Reinfection rate was calculated in method 1 among those who had an HCV-RNA test in the year under consideration; in method 2 among those who had an HCV-RNA test within three years prior to the year under consideration; and in method 3 among those who had an HCV-RNA test any time before and including the year under consideration. Reinfection rates in the post-DAA era between 2017-2021 are presented in 100 person-years (PY) with 95% confidence intervals (CI).

Results: 10,743 PWID (78% men, median age:44) had a median of 2 post-treatment tests and follow-up of 1 year. Method 1 showed the greatest increase from 9.66(7.24-12.90) in 2017, to 11.41(10.25-12.70) in 2020, and decreased to 7.07(6.44-7.76) in 2021. Methods 2 and 3 decreased from 2017 to 2021, with greater decreases between 2017-2018 and 2020-2021.



Conclusion: Using three possible methodologies to help understand trends in reinfection in the context of HCV elimination takes account of changes in testing during the COVID-19 pandemic and possible treatment as prevention effects. Post-treatment testing among PWID should be improved to effectively evaluate the effects of HCV reinfection on elimination goals.

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