Trends in HCV notifications since DAA scale-up: evidence for treatment as prevention?

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Background: Direct-acting antiviral (DAA) therapy has been funded by the Australian government for all adults living with chronic hepatitis C virus (HCV) since March 2016. The study objective was to examine whether statistically significant changes in HCV notification trends following the scale-up of DAA treatment in Australia have occurred and if they are consistent with reductions in new infections.

Methods: This study analysed monthly HCV notification data recorded in the National Notifiable Disease Surveillance System from January 2009 to December 2021. Trends in the number of notifications in the overall population and 15-24-year-olds were examined. Piece-wise Poisson regression analysis was used to assess the change in trends over time, identify the location of change points and estimate the annual rate ratio (ARR) for each trend period.

Results: Two sharp changes in HCV notifications were detected between January 2009 and December 2021 in the overall population. Prior to September 2015, overall notifications were decreasing (January 2009 to September 2015, ARR = 0.99), followed by a rapid increase between the two change points, which suggests increasing HCV testing as DAA became available (September 2015 to April 2016, ARR = 1.48), and then a declining trend afterwards (April 2016 to December 2021, ARR = 0.91). A decreasing trend of notifications in the younger age group post-DAA availability was observed, with one later change point was detected in December 2019 followed by a more rapid decline in notifications.

Conclusion: There has been a continual decline in HCV notifications overall and among 15-24-year-olds in Australia since the scale-up of DAA treatment. This trend aligns with a declining HCV prevalence among people who inject drugs, since early 2016. This decline suggests that HCV incidence has reduced and is consistent with treatment as a prevention effect but further analyses are required to assess changes in testing among younger age groups.

Disclosure of Interest Statement: GJD has received research grant funding from Gilead, Merck, Abbvie. JG is a consultant/advisor and has received research grants from Abbvie, bioLytical, Cepheid, Gilead, and Hologic. RTG and AJK have provided project advice for Gilead.