

EVALUATING THE IMPACT OF DIRECT-ACTING ANTI-VIRAL THERAPY ON HEPATITIS C VIRAEMIA AMONG PEOPLE WHO INJECT DRUGS

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Background:

In Scotland, there is an ongoing effort to deliver direct-acting anti-viral treatment (DAA) against the Hepatitis C virus (HCV) to people who inject drugs (PWID). The administration of DAAs began in 2015 and has been gradually increasing to date, particularly in the region of Tayside. In this work, we evaluate the impact of DAAs on HCV viraemia among PWID over time and by region and investigate how this impact differs according to treatment intensity.

Methods:

We evaluate the impact of DAAs (the intervention) using longitudinal data on HCV viraemia and antibody prevalence among PWID during the period 2010-2020 from the Needle Exchange Surveillance Initiative (NESI). We aggregate the data by region and fit a Bayesian binomial difference-in-differences (DID) model to the proportion of HCV RNA positive (RNA+) individuals among those who are HCV antibody-positive. The fitted model provides a counterfactual for HCV viraemia in the absence of intervention which, compared with the observed figures, yields an estimate of the treatment's impact. We define treatment intensity as the number of new DAA treatments divided by the estimated number of PWID in the population and include as a covariate in the DID model.

Results:

For each Scottish region, we compare the estimated prevalence in 2020 to the pre-intervention average; the posterior distributions of these quantities are shown in Figure 1. The estimated reduction in Tayside, Greater Glasgow & Clyde and Rest of Scotland is 44.4%, 32.2% and 17.5%, respectively. Initial results suggest that treatment intensity has a significant effect on the magnitude of these effects.

Conclusion:

Our analyses suggests that introduction of DAAs has led to a significant decrease in HCV viraemia among people who inject drugs.

Disclosure of Interest: None

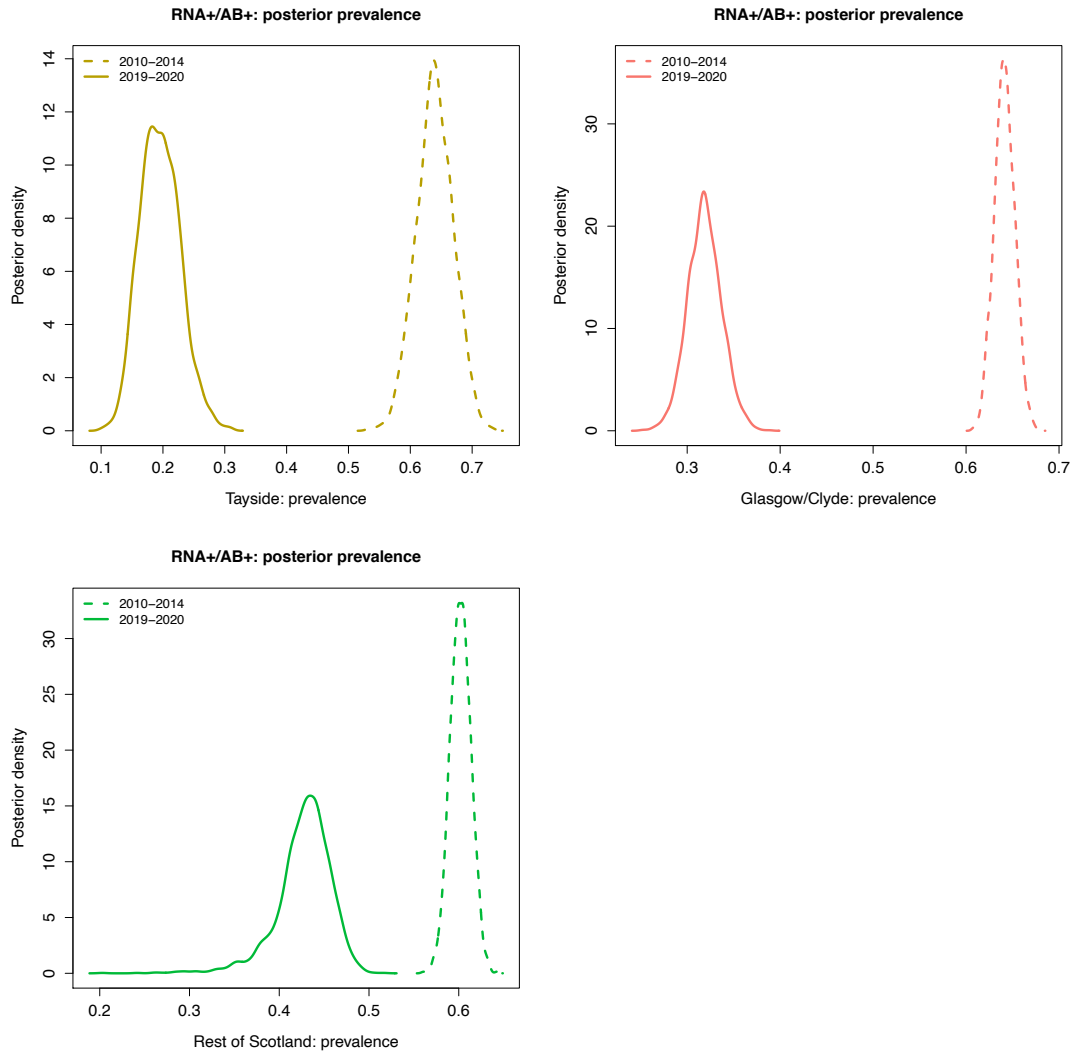


Figure 1: DID posterior prevalence in the three Scottish regions