

## POPULATION-LEVEL ESTIMATES OF DETECTED AND UNDETECTED HEPATITIS C REINFECTION FOLLOWING THE EARLY SCALE-UP OF HCV DAA TREATMENT AMONG PEOPLE WHO INJECT DRUGS IN SCOTLAND

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### Background:

Scale-up of highly-effective direct-acting antivirals (DAAs) for hepatitis C virus (HCV) among people who inject drugs (PWID) in Scotland is underway and has led to a reduction in prevalence of HCV infection in this population. However, such scale-up in treatment to PWID at continuing high-risk may initially increase the risk of reinfection. Therefore, reinfection rates should be monitored closely as part of efforts to reach Scottish Government HCV elimination targets by 2024. We estimated the HCV reinfection rate among PWID by treatment setting, pre and post-introduction of DAAs, in Scotland.

### Methods:

Using national clinical and laboratory data on HCV, a retrospective cohort of PWID who commenced treatment between 2000-2018 and achieved a sustained viral response (SVR) were followed up for reinfection to December 2019. Reinfection was defined as a positive HCV antigen or RNA test.

### Results:

Of 5686 SVRs among 5592 PWID, 4126 (73%) had an HCV RNA or antigen test post-SVR, with 56% and 51% of patients tested in the first 5 months and 6-17 months post-SVR, respectively. Of those retested, we identified 361 reinfections (3.9/100 person-years (PY)). The reinfection rate increased from 1.5/100PY among PWID treated in 2000-2009 to 8.8/100PY in 2017-2018. The highest reinfection rates were observed among those treated in prison (14.3/100PY) and community settings (including needle exchange and drug treatment services; 9.5/100PY). For those treated in 2015-18, 169 reinfections were detected but we estimate around 200 undetected reinfections arising from a lack of retesting among some PWID.

### Conclusion:

HCV reinfection rates among PWID in Scotland have risen contemporaneous with the scale-up of DAAs and broadened access of treatment - to those at highest risk - through delivery in community drug services. Promotion of HCV testing post-SVR among PWID is essential to ensure those reinfected are identified and retreated promptly.

### Disclosure of Interest Statement:

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