

# HCV REINFECTION FOLLOWING SUCCESSFUL DIRECT-ACTING ANTIVIRAL TREATMENT AMONG PEOPLE WHO INJECT DRUGS: PRELIMINARY RESULTS FROM A LOW-THRESHOLD TREATMENT SETTING

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## **Introduction:**

A major concern is that ongoing injecting risk behaviour following hepatitis C virus (HCV) treatment will lead to reinfection, reversing the benefits of cure for people who inject drugs (PWID). The aim of this study was to calculate the incidence of reinfection following successful direct-acting antiviral (DAA) treatment in a population of PWID with ongoing injecting drug use.

## **Methods:**

A primary care-based low-threshold HCV clinic was established in downtown Oslo in 2013 as an effort to reach PWID with ongoing injecting drug use. All individuals who achieved an end of treatment response (ETR) after DAA treatment between 2014 and 2017 were included and followed prospectively at 3 months intervals with assessment of HCV RNA and self-reported risk behaviours. Incidence rates were calculated using person-time techniques assuming a Poisson distribution.

## **Results:**

Post-ETR HCV RNA recurrence was observed in 2 of 53 (3.8%) individuals over a total follow-up time of 40.1 person-years (PY). Case 1 (male, age 55, genotype 3, no cirrhosis) became HCV RNA positive without genotype switch 4 weeks after ETR, but did not report any injecting drug use during or following treatment. Case 2 (female, age 45, genotype 3, cirrhosis) remained HCV RNA negative 4 weeks after ETR but demonstrated recurrent viremia without genotype switch 8 weeks later. She reported injecting drug use at all study visits throughout treatment and follow-up, also with sharing of injecting equipment. Both cases received opioid substitution treatment and had good access to needle and syringe provision. Case 1 was considered a probable virological relapse, while case 2 was considered a probable reinfection (incidence 2.5/100 PY [95% CI 0.03-13.9]). Final results from next generation sequencing to distinguish reinfection from relapse will be reported.

## **Conclusion:**

Preliminary results indicate that reinfection does occur despite frequent post-treatment follow-up and optimized harm reduction.

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