**HCV TREATMENT AS PREVENTION FOR PWID: IS REINFECTION RATE A USEFUL OUTCOME FOR DECISION-MAKERS?**

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**Background:** Reinfection concerns have limited HCV treatment for people who inject drugs(PWID), but the ‘acceptable’ level of reinfection is unclear. We determine, from an economic standpoint, when reinfection outweighs prevention benefits, and examine scenarios where this threshold does not hold.

**Methods:** We use a dynamic cost-effectiveness model of HCV transmission and disease progression among PWID/ex-PWID to assess the net monetary benefit (NMB) of HCV treatment for PWID compared to non/ex PWID. We assume a homogeneous PWID population with a steady-state epidemic (equal primary/reinfection incidence, generating the observed HCV prevalence). We assume a mean 11 years until permanent cessation (uniformly sampled 6-16 years) and examine settings with 20%/40%/60% PWID chronic HCV prevalence. We evaluate a generic DAA treatment (95% SVR, £3300/wk).

**Results:** In a homogeneous population with equal primary/reinfection incidence and PWID randomly selected for treatment, HCV treatment generates higher NMB among PWID than ex/non PWID in settings below 60% chronic prevalence among PWID, corresponding to a primary/reinfection incidence of 20 per 100person-years [2.5-97.5% Interval 15-30/100py]. The uncertainty is predominantly due to uncertainty in injecting duration. However, many factors could alter this reinfection ‘threshold’, such as heterogeneity in the population and those selected for treatment such that primary and reinfection incidence are unequal, or epidemics where primary incidence does not match prevalence due to historical changes in injecting behavior. Low reinfection rates do not necessarily imply more prevention benefit; if injectors are treated at end of their injecting career, no prevention benefit accrues despite 0% reinfection.

**Conclusions:** Despite evidence prevention benefit is compromised in settings with >60% chronic prevalence among PWID, possible heterogeneity in risk and treatment access limits the usefulness of inferring a threshold ‘acceptable’ reinfection incidence and should not guide treatment access decisions. However, in high reinfection settings, scaling-up harm reduction to prevent reinfection and reduce prevalence is necessary.