**THE COST-EFFECTIVENESS OF UNDERTAKING HCV TREATMENT IN NEEDLE AND SYRINGE PROGRAMMES IN TAYSIDE, SCOTLAND**

Authors: Ward Z[1], Schulkind J[1], Martin N[2], Hickman M[1], Dillon J[3], Vickerman P[1]
Affiliations:
1. University of Bristol, Bristol, UK,
2. University of California San Diego, USA
3. University of Dundee, UK,

**Background:**
A 2013 to 2016 pilot trial, Eradicate Hepatitis C (Tayside, Scotland), aimed to determine whether active injectors can be successfully treated in needle and syringe programmes (NSP). Our aim was to evaluate the cost-effectiveness of the trial compared to the standard community pathway of hepatitis C treatment in drug treatment settings in Tayside.

**Approach:**
A dynamic HCV transmission and disease progression model of people who inject drugs (PWID) was parameterised with Tayside specific data from the Eradicate trial (32% prevalence of chronic HCV, ~1615 active PWID). The model estimated the impact and cost-effectiveness of the 94 PWID treated through the Eradicate trial at the largest NSP in Dundee over 2013-2016; increasing on-going treatment of PWID by ~40% from ~70 treatments per year. Interferon-based treatments sustained virologic response (SVR intervention 80%, standard pathway 67%) and full drug costs were assumed for the intervention period and direct acting antivirals SVR (90%) and costs after 2016. Impact outcomes were captured up to 2066, with the incremental cost-effectiveness ratio compared to a £20,000 per quality adjusted life year (QALY) willingness to pay (WTP) threshold. Probabilistic sensitivity analysis and a threshold analysis of cost-effectiveness at different time horizons were performed.

**Outcome:**
Additional treatment of individuals through the NSP averts 164 (95% CI 110-224) infections over 2013-2066 compared to the standard community pathway alone. In all simulations the intervention was associated with more QALYs than the standard pathway of care, with the intervention being cost-saving in 93% of the simulations, i.e. costing less money than the comparator. All the simulations were cost-effective at the WTP threshold. The intervention is still cost-effective and cost-saving down to time horizons of 10 and 23 years, respectively.

**Conclusion:**
Targeting treatment at an actively injecting population through a needle exchange programme could be a cost-saving approach to reducing HCV transmission.

**Disclosure of Interest Statement:**
ZW and JD acknowledge support from Janssen for this work. JD acknowledges support from Roche for this work. PV and MH acknowledge support from the National Institute of Health Research Health Protection Research Unit in Evaluation of Interventions. MH has received honoraria unrelated to this work from Merck, AbbVie and Gilead. NKM, was additionally supported by the National Institute for Drug Abuse [grant number R01 DA037773], and NKM was partially funded by the University of California San Diego Center for AIDS Research(CFAR), a National Institute of Health (NIH) funded program [grant number P30 AI036214].

NKM and PV have received unrestricted research grants from Gilead unrelated to this work, and NKM has received honoraria from Merck, AbbVie, and Janssen. JD has received grants and honoraria from Gilead, AbbVie, Merck, Roche, Janssen.