**HCV TRANSMISSION AMONG HIV-POSITIVE MEN WHO HAVE SEX WITH MEN IN THE UK: RECENT EPIDEMIOLOGY AND MODELING THE IMPACT OF SCALED-UP HCV ANTIVIRAL TREATMENT WITH NEW DAAS FOR PREVENTION**

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**Background**: There is a hepatitis C virus (HCV) epidemic among HIV-positive men who have sex with men(MSM). We report epidemiological data from the UK Collaborative HIV Cohort(UK CHIC) study, and use a mathematical model to project the impact of current and scaled-up HCV direct-acting antivirals(DAAs).

**Methods:** We examined HCV prevalence(Ab+ or RNA+) and primary incidence from 2004-2011 among HIV-infected MSM in UK CHIC. A dynamic HCV transmission model among HIV-diagnosed MSM was calibrated to UK data on HCV primary/reinfection incidence and prevalence among HIV-diagnosed MSM. We model HCV treatment rates of 46%/22% treated within 1 year of an early(acute)/chronic HCV diagnosis, respectively, and 6%/yr thereafter. We assume 80%/30% SVR in the acute/chronic stage, respectively, and 90% with DAAs from 2015. The model was used to project the epidemic with: current or scaled-up HCV treatment rates, scaled-up treatment and a 20% behavioral risk reduction, and no historical treatment.

**Results:** HCV prevalence(Ab+ or RNA+) among HIV-positive MSM in UK CHIC increased from 7.26% in 2004 to 9.86% in 2011, and primary incidence was flat (~1.1/100person-years(100py)). Our epidemic model predicts HCV RNA prevalence could have been one-third higher in 2015 without HCV treatment (11.4% [95%Interval 10.6-12.2%] vs 8.5% [95%I 7.8-9.1]). With current treatment rates, RNA prevalence will remain stable if DAAs are introduced in 2015. If treatment is scaled-up to 80% within 1 year of diagnosis, 20%/yr thereafter, RNA prevalence could be reduced to 3% [95%I 2.5-4%] by 2025. With HCV treatment and behavioural change, chronic prevalence and incidence could be <2.5% and <0.5/100py, respectively, by 2025.

**Conclusions:** UK epidemiological data shows a continuing HCV epidemic among HIV-positive MSM, despite high treatment rates. Current treatment rates are unlikely to reduce chronic HCV prevalence. However, in the absence of evidence for behavioural interventions, reductions in HCV prevalence/incidence could be achieved with DAA treatment scale-up.