

TITLE: IS HCV ELIMINATION AMONG HIV-INFECTED PEOPLE WHO INJECT DRUGS POSSIBLE THROUGH TREATING HIV/HCV COINFECTION? A MODELING ANALYSIS FOR ANDALUSIA, SPAIN

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Background:

Scale-up of hepatitis C virus (HCV) treatment for HIV/HCV coinfecting individuals is occurring in Spain, the majority with a history of injecting drug use. We assess the implications for achieving the WHO HCV incidence elimination target (80% reduction from 2015-2030) among HIV-infected (HIV+) people who inject drugs (PWID) and all PWID in Andalusia, Spain, using dynamic modeling.

Methods:

A joint HIV and HCV transmission model among PWID was calibrated to Andalusia based on published data and the HERACLES cohort (prospective cohort of HIV/HCV coinfecting individuals representing >99% coinfecting individuals in care in Andalusia from 2015). We simulate: 45%/60% chronic HCV prevalence and 20%/40% HIV prevalence among PWID injecting for <10 years and >10 years, respectively, 54% chronic HCV among HIV+ ever-PWID (PWID + ex-PWID). We assumed HCV treatment among diagnosed coinfecting ever-PWID of 10.5%/year from 2004-2014, and 33%/year from 2015 (from HERACLES). We project the impact of current treatment, and scaled-up treatment (among HIV+ PWID or all PWID) from 2018 on HCV prevalence/incidence among HIV+ PWID and all PWID.

Results:

We project that 28% and 32% of HCV+ PWID and HCV+ ex-PWID, respectively, in Andalusia were HIV/HCV coinfecting in 2015. Current treatment rates could reduce the number of diagnosed coinfecting PWID by 75% from 2015-2030. However, this would only reduce HCV incidence by a relative 25% and 16% among HIV+ PWID and all PWID, respectively (**Fig 1**). If all coinfecting PWID were diagnosed and treated annually from 2018, this could reduce chronic HCV prevalence by 74% among HIV+ PWID by 2030, but only halve incidence (**Fig 1**). Greater impact could be achieved through scaling-up treatment to all PWID.

Conclusion:

HCV elimination among HIV+ PWID in Andalusia will not be achieved by treating coinfecting PWID alone; efforts should focus on HCV diagnosis and treatment among both coinfecting and mono-infected PWID.

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Figure 1. Mean model projections for HCV chronic prevalence and incidence among PWID (left boxes) and HIV+ PWID (right boxes) in Andalusia, Spain with various treatment scenarios.

