

# GLOBAL MULTI-LEVEL ANALYSIS OF DEMOGRAPHIC, BEHAVIOURAL AND ENVIRONMENTAL FACTORS ASSOCIATED WITH HCV ANTIBODY PREVALENCE IN PEOPLE WHO INJECT DRUGS

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## Background:

People who inject drugs are a key population at risk of hepatitis C virus (HCV). Much work on understanding HCV risk in this population has focused on individual-level behavior, such as needle sharing. There is a need to understand the influence of the risk environment on HCV infection. We aimed to analyse both individual level (demographic and behavioural factors) and environmental factors affecting HCV prevalence in people who inject drugs globally.

## Methods:

We systematically reviewed publications reporting anti-HCV prevalence among people who inject drugs. We extracted anti-HCV prevalence from each study, as well as variables characterising the study sample (e.g. median age). We identified national indices of health and inequality hypothesized to be associated with anti-HCV prevalence in people who inject drugs (e.g. Human Development Index, harm reduction coverage). Generalized linear models with clustering by country were fit with study-level anti-HCV prevalence as the outcome.

## Results:

We identified 568 estimates of anti-HCV prevalence among people who inject drugs from 82 countries. Demographic characteristics associated with higher anti-HCV prevalence were older age and longer duration of injecting. Anti-HCV prevalence was lower in more recent studies. At the country level, higher Human Development Index and lower Gender Inequality Index were associated with higher anti-HCV prevalence. There was a lack of evidence of an association between anti-HCV prevalence and coverage of harm reduction interventions.

## Conclusion:

Globally, older populations of people who inject drugs experience higher anti-HCV prevalence, but prevalence appears to be declining with time. Analyses of environmental variables highlights that anti-HCV prevalence is often highest in high-income countries with established populations of people who inject drugs, compared to regions where injecting drug use is a more recent or emerging phenomenon. Although harm reduction interventions prevent new anti-HCV infections, coverage is often insufficient to affect population prevalence.

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