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Introduction

- Injecting drug use (IDU) is the primary mode of hepatitis C virus (HCV) transmission
- There is a high prevalence of IDU among people detained in prisons and other closed settings (e.g. extra-judicial detention centres for people who use drugs)
- Risk behaviours while detained, such as drug injection and tattooing, may result in incident HCV infection inside closed settings.

Aims

To determine the

- Rate of incident HCV infection, and
- Prevalence of HCV antibody (anti-HCV) among detainees of closed settings.

Methods

- Broad-based search of published and grey literature
- “Closed settings” included prisons, jails and extra-judicial detention centres for people who use drugs
- Eligible studies reported HCV seroconversion among continuously detained persons, or anti-HCV prevalence in a detainee population
- Data extracted for general detainee samples (i.e. samples unselected for drug use or any other characteristics) and samples of detainees with a history of IDU
- Meta-analysis of studies, with heterogeneity examined through stratification by global region and meta-regression.
- Regional and global summary estimates were used to extrapolate the size of the anti-HCV+ detainee population

Results

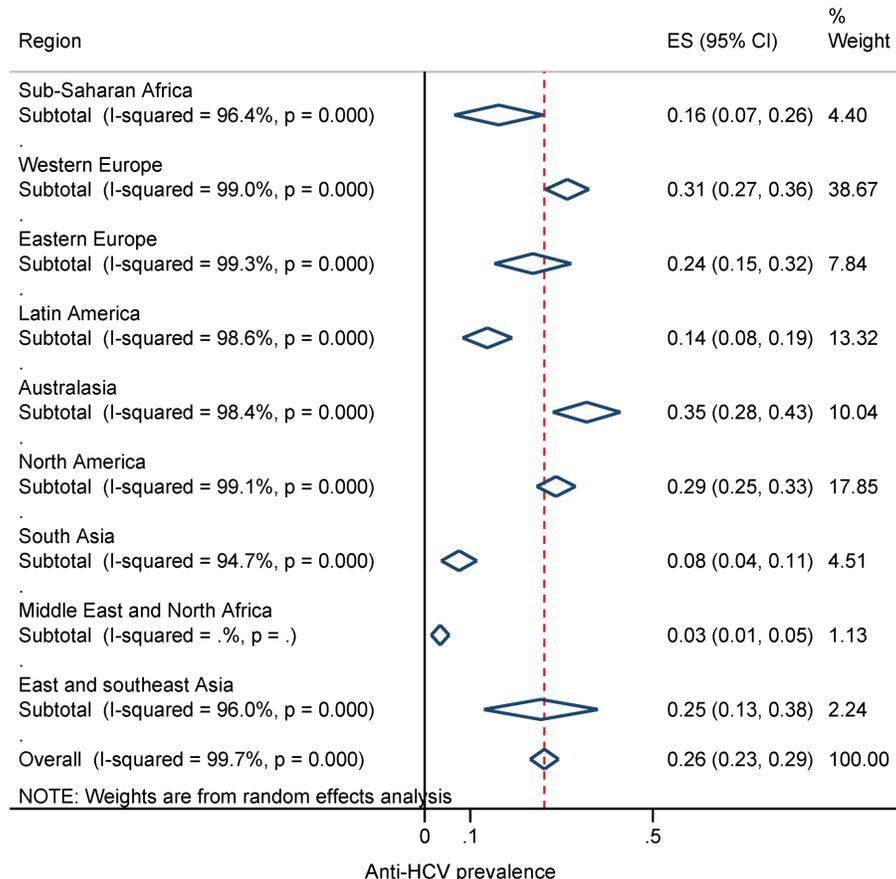
HCV incidence

- HCV incidence among general population detainees was **1.4 per 100py** (95% CI: 0.1, 2.7; $k=4$)
- HCV incidence among detainees with a history of IDU was **5.5 per 100py** (95% CI: 0.8, 32.1; $k=3$)

Anti-HCV prevalence: General detainee samples

- Global summary anti-HCV prevalence among general population detainees was **26%** (95% CI: 23%, 29%; $k=93$) – **Figure 1**

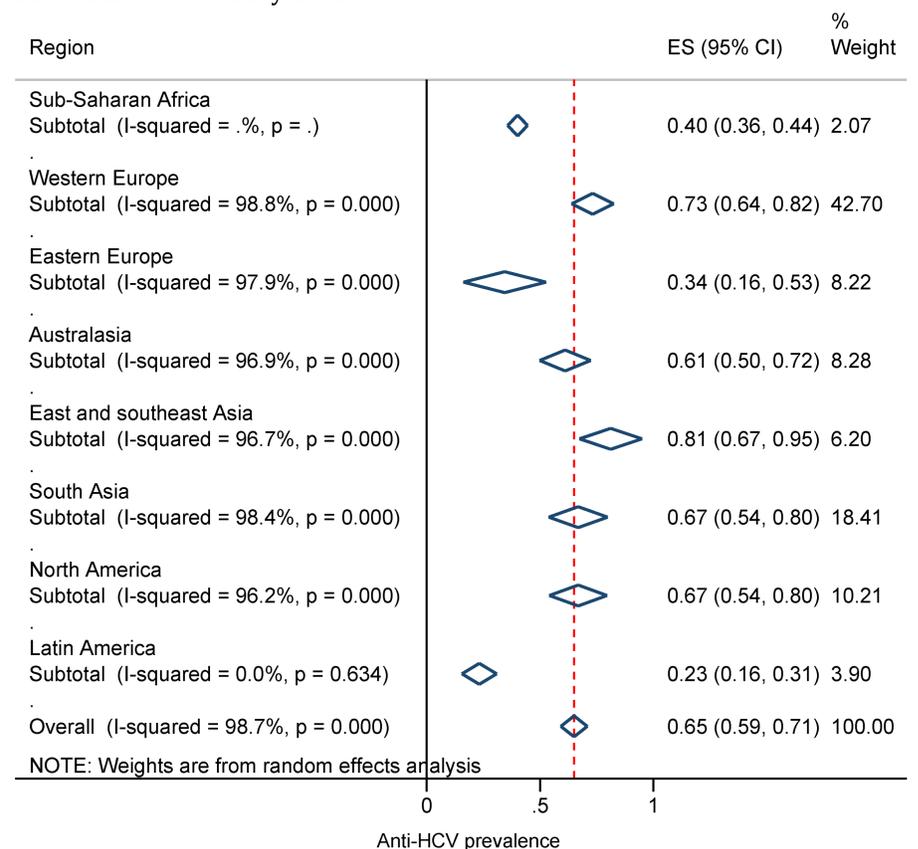
Figure 1: Regional and global summary estimates of anti-HCV prevalence among general population detainees



Anti-HCV prevalence: Detainees with a history of IDU

- Global summary anti-HCV prevalence among detainees with a history of IDU was **65%** (95% CI: 59%, 71%; $k=51$) – **Figure 2**

Figure 2: Regional and global summary estimates of anti-HCV prevalence among detainees with a history of IDU



Sources of heterogeneity

- Convenience samples returned higher anti-HCV prevalence than random samples (in general population detainee samples only)
- More **recent** sources reported **lower** anti-HCV prevalence than older sources

Extrapolated global population of anti-HCV+ detainees

- Using 92 sources from 10 of 12 world regions, we estimate there are **2.2 million** anti-HCV+ positive detainees globally (range 1.4 million-2.9 million)
- The largest population of anti-HCV+ detainees is in North America: **668,500** (range 553,500-784,000)

Conclusions

Consistent evidence of HCV seroconversion in closed settings

- Widespread implementation of preventive interventions in prisons and other closed settings is needed
- Multi-component interventions** that combine evidence-based treatment for drug dependence and access to sterile needles and syringes are most effective in reducing HCV seroconversion among people who inject drugs
- Education/counselling alone are **insufficient** to prevent HCV transmission.

Large pool of prevalent HCV infection

- Closed settings are important sites for diagnosis and treatment of HCV
- HCV **screening** in closed settings may significantly increase the number of people aware of their infection
- Diagnosis allows for education about transmission risks and risks for disease progression; hepatitis A and B vaccination; and treatment of chronic infection
- Treating** chronic HCV in closed settings will reduce the pool of infection and the burden of advanced liver disease.

Publication details and acknowledgements

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