



The burden of HCV infection among PWID

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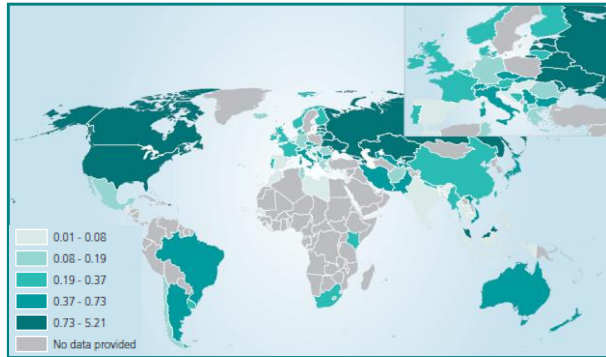
University for the Common Good

Disclosures

Honoraria from Abbvie and Gilead for speaking
at conferences/meetings

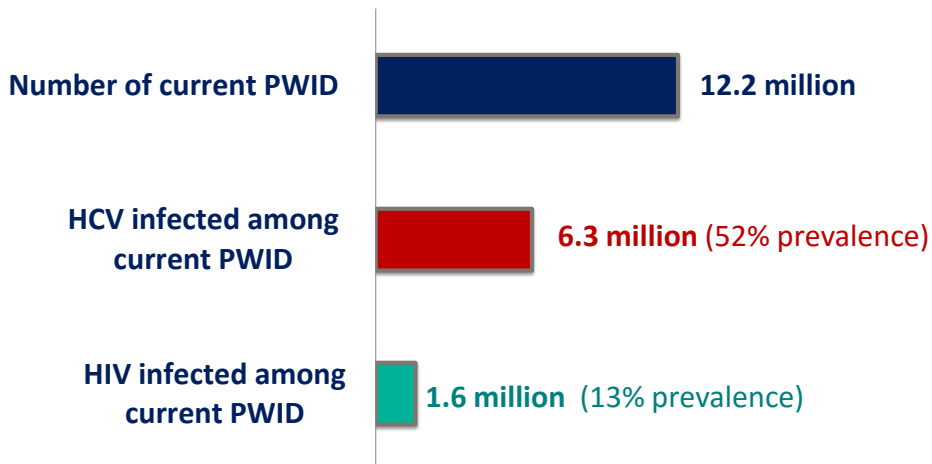
Global estimates of the number of people who currently inject drugs

Prevalence of PWID in the general population aged 15-64
 (Source: World Drug Report, 2013)



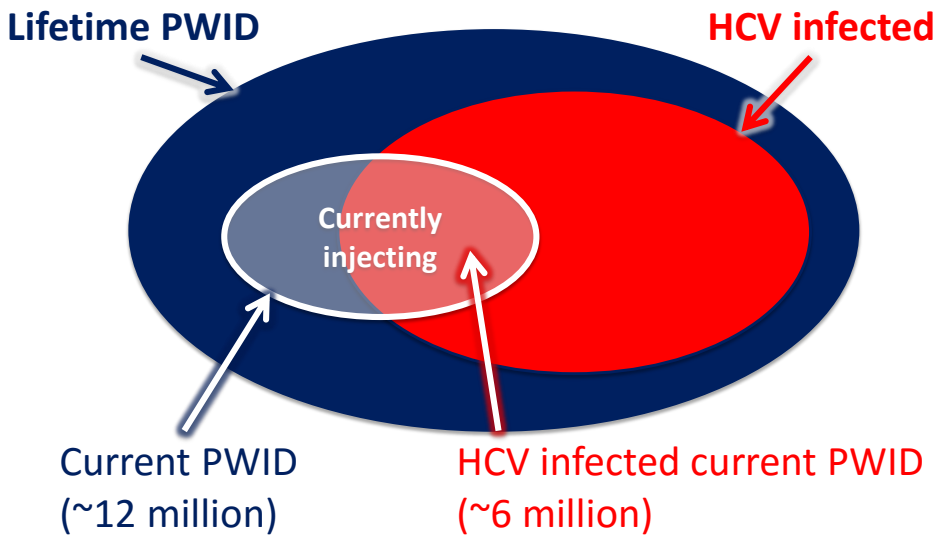
Year	Estimate	Range	Source
2007	15.9 million	11.0 – 21.2 m	Mathers et al., Lancet 2008
2013	12.2 million	8.5 – 21.5 m	UNODC, World Drug Report 2015

Global estimates of the number of people who currently inject drugs and are infected with Hepatitis C and HIV

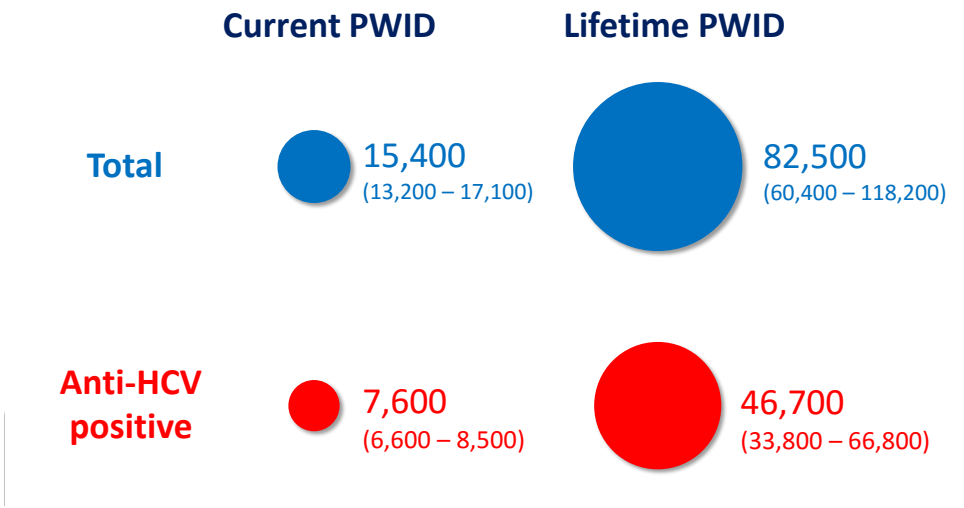


(Source: World Drug Report, 2015)

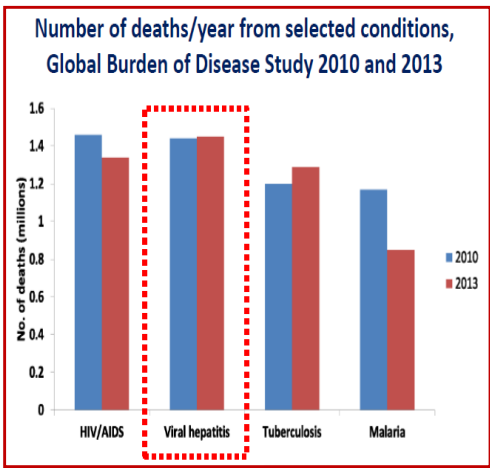
Global estimates of the number of people who have ever injected drugs, and with HCV infection, are *lacking*



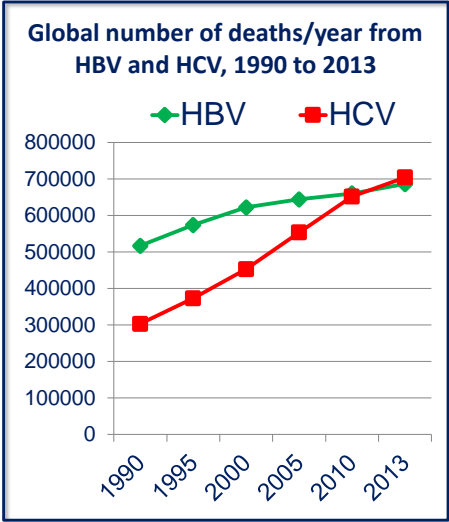
Estimates of the number of current and lifetime PWID (total and with anti-HCV) in Scotland, 2009
(Prevost et al. Addiction 2015)



High and increasing global burden of disease associated with viral hepatitis

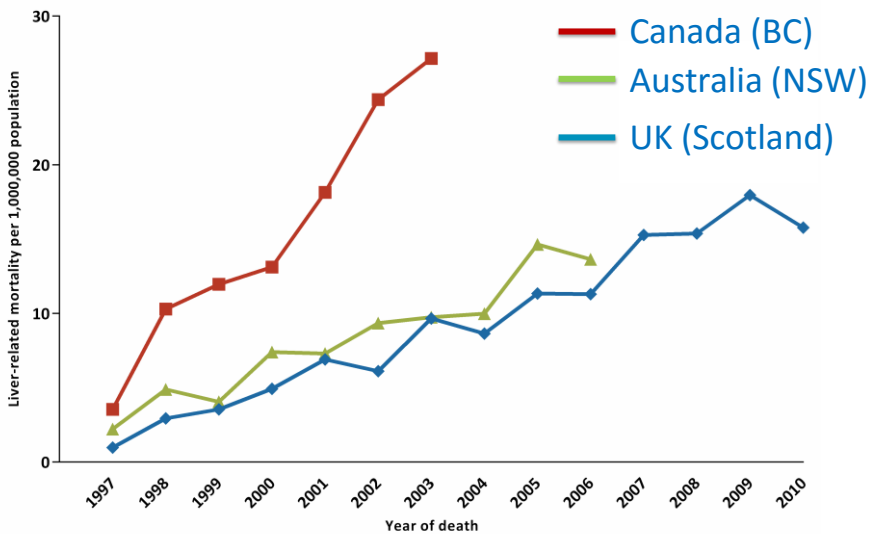


GBD 2013 Mortality and Causes of Death Collaborators. Lancet 2015.

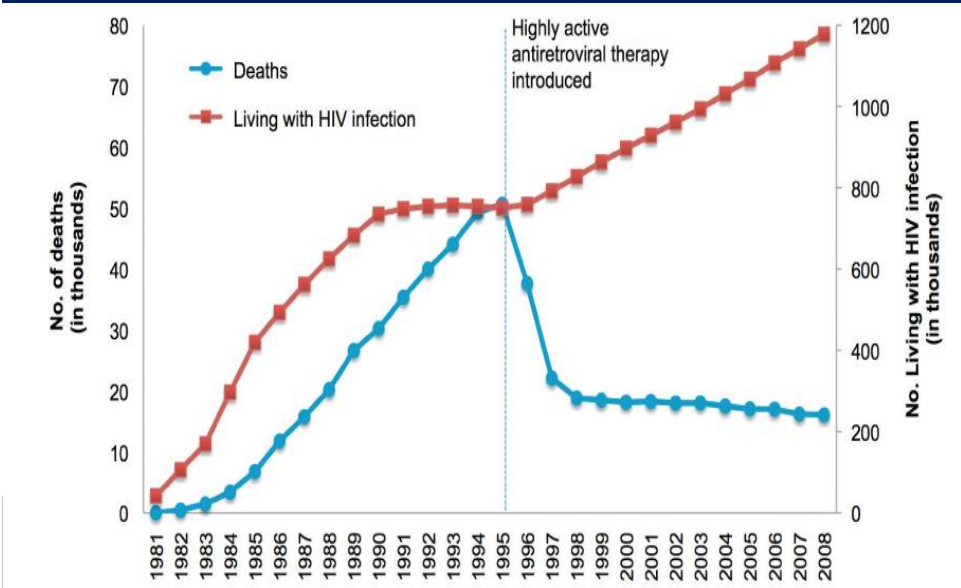


Stanaway et al. Lancet 2016.

Rising trend in Hepatitis C liver-related mortality in settings where injecting drug use is the most common route of transmission (Aspinall et al. JHep 2015)

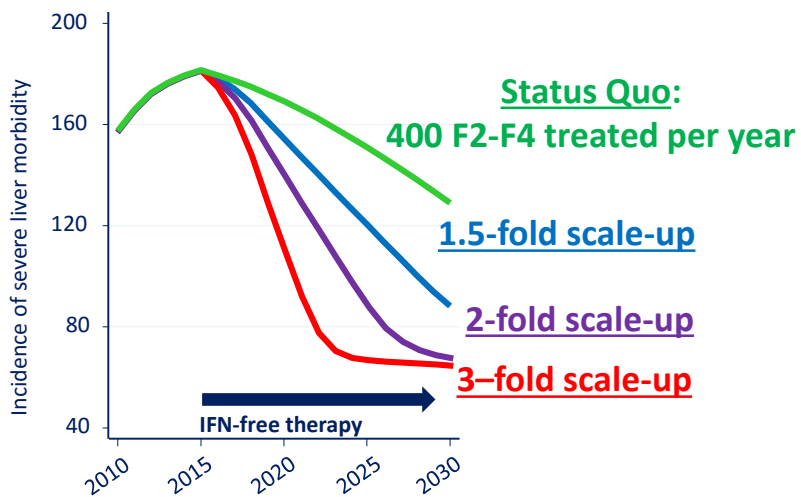


Impact of HAART on HIV-related deaths in the United States (Source: CDC)



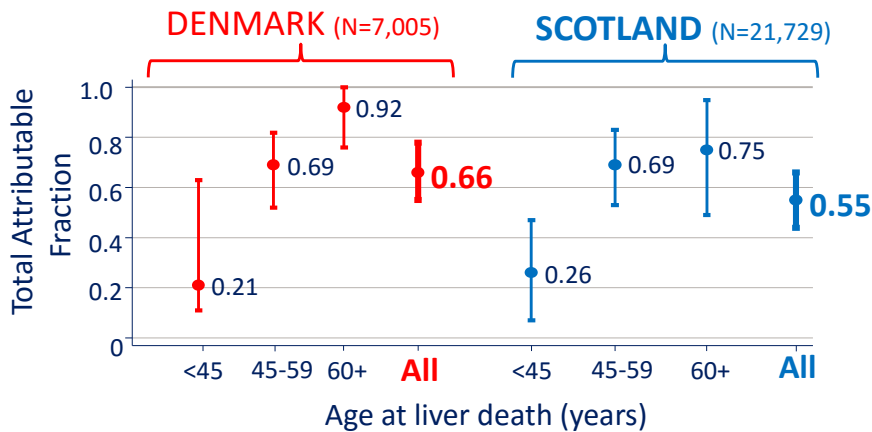
Potential impact of DAAs on HCV-related severe liver morbidity in Scotland

Modelled impact of scaling-up HCV therapy
(Innes et al, Gut 2015)



Fraction of liver death attributable to chronic HCV

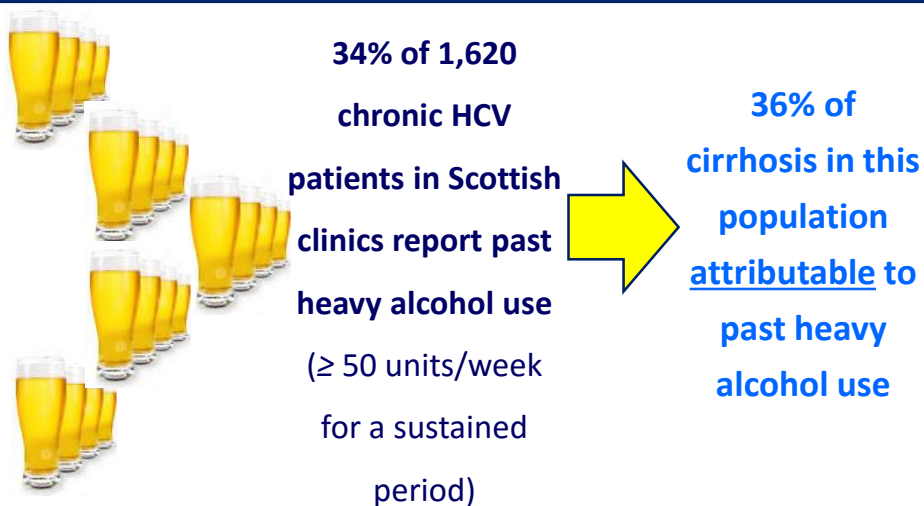
(Innes et al, Hepatology 2016)



In Denmark and Scotland, the majority of liver death in the chronic HCV-diagnosed population can be attributed to chronic HCV, **BUT an appreciable fraction cannot!**

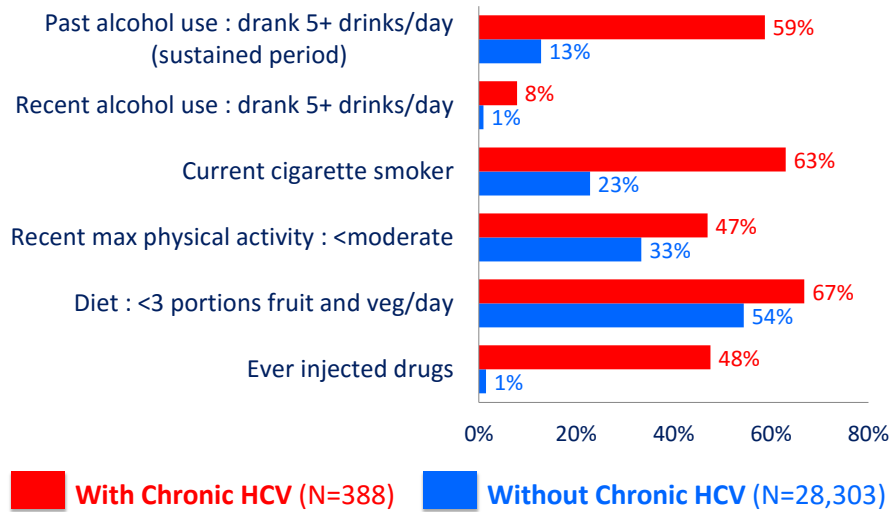
Fraction of cirrhosis attributable to heavy alcohol use among chronic HCV infected patients in Scotland

(Innes et al, Hepatology 2011)



Health risk behaviours reported by chronic HCV infected population in the United States

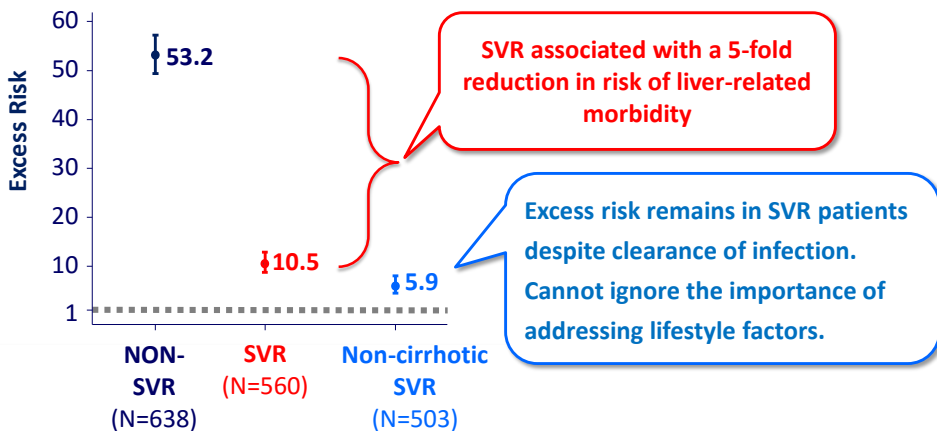
(Source: NHANES)



Impact of HCV therapy on liver-related morbidity in Scotland

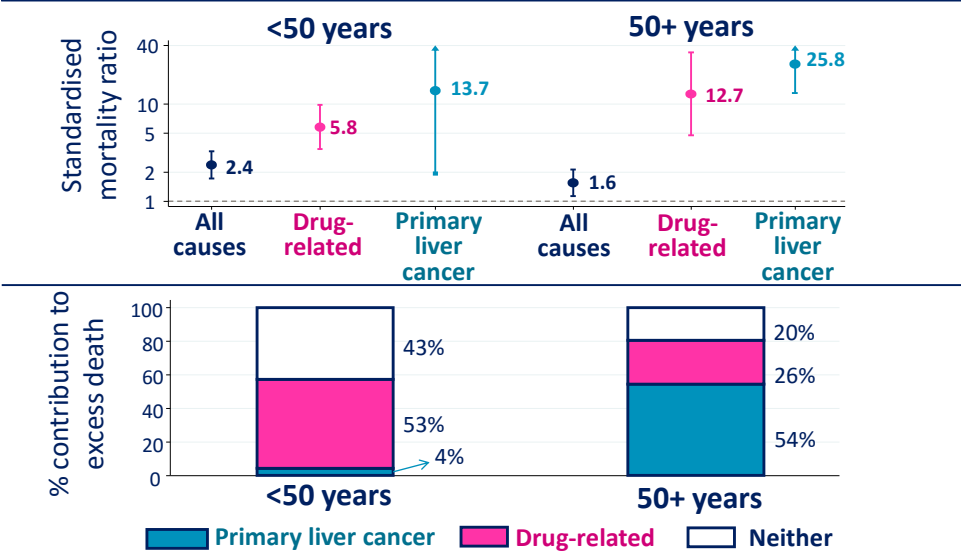
(Innes et al. Hepatology 2011)

Excess risk of a liver-related hospital episode post-therapy in HCV patients, compared to general population



Mortality in SVR patients higher than the general population in Scotland (N=1,824)

(Innes et al, JHep 2016)

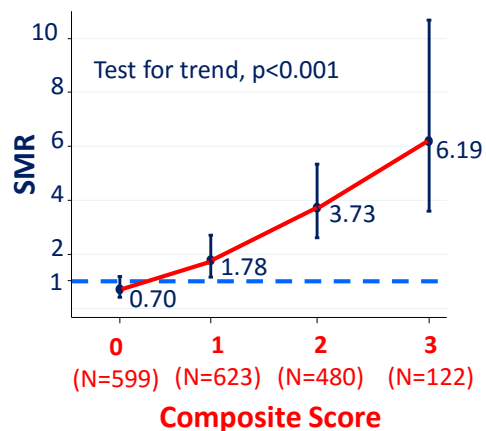


Health risk behaviours associated with excess mortality in SVR patients in Scotland (N=1,824)

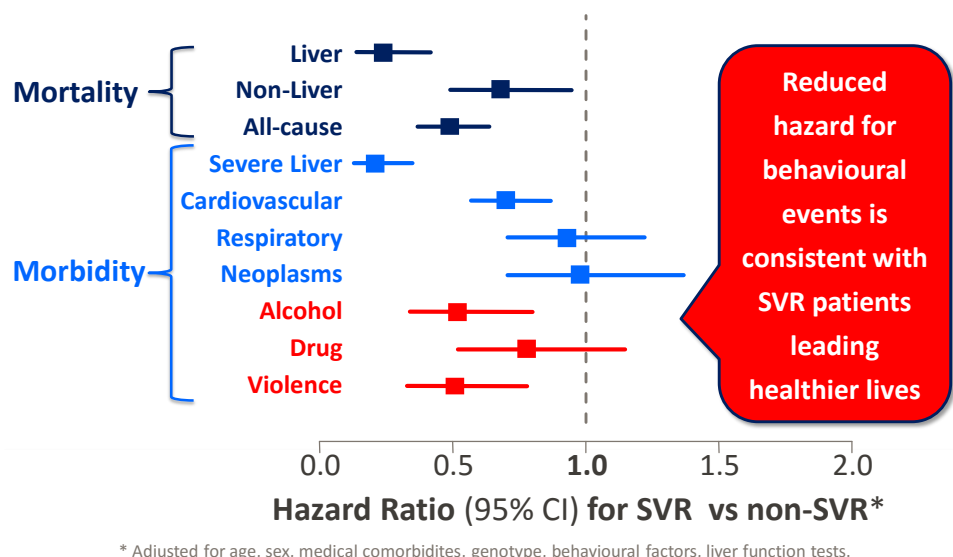
(Innes et al, JHep 2016)

Health risk behaviours	
A	→ Self-reported history of intravenous drug use
B	→ Self-reported history of heavy alcohol use (>50 units/wk sustained for at least 6 months)
C	→ Past hospitalisation for either drug or alcohol intoxication, or violence – related injury
Composite score	
0	<u>None</u> of A or B or C
1	<u>One</u> of A or B or C
2	<u>Two</u> of A or B or C
3	<u>All</u> of A and B and C

Standardised mortality ratio (SMR) according to health risk behaviours



SVR associated with reduced hazard for a range of hepatic and non-hepatic events in Scotland (N=3,385)
(Innes et al. Hepatology 2015)



Summary

- ❑ Countries witnessing a rise in liver disease burden as a result of the high prevalence of HCV among ageing populations of PWID
- ❑ All oral IFN-free HCV therapies represent an opportunity to dramatically reduce this liver disease burden in the short-term
- ❑ Health risk behaviours are however common among people who have injected drugs and likely contribute greatly to liver disease progression among HCV infected populations
- ❑ Elimination of liver disease burden in PWID-concentrated HCV epidemics will require a multi-faceted public health response (involving scaling-up of HCV therapy but also increased effort to address other major health risk behaviours)