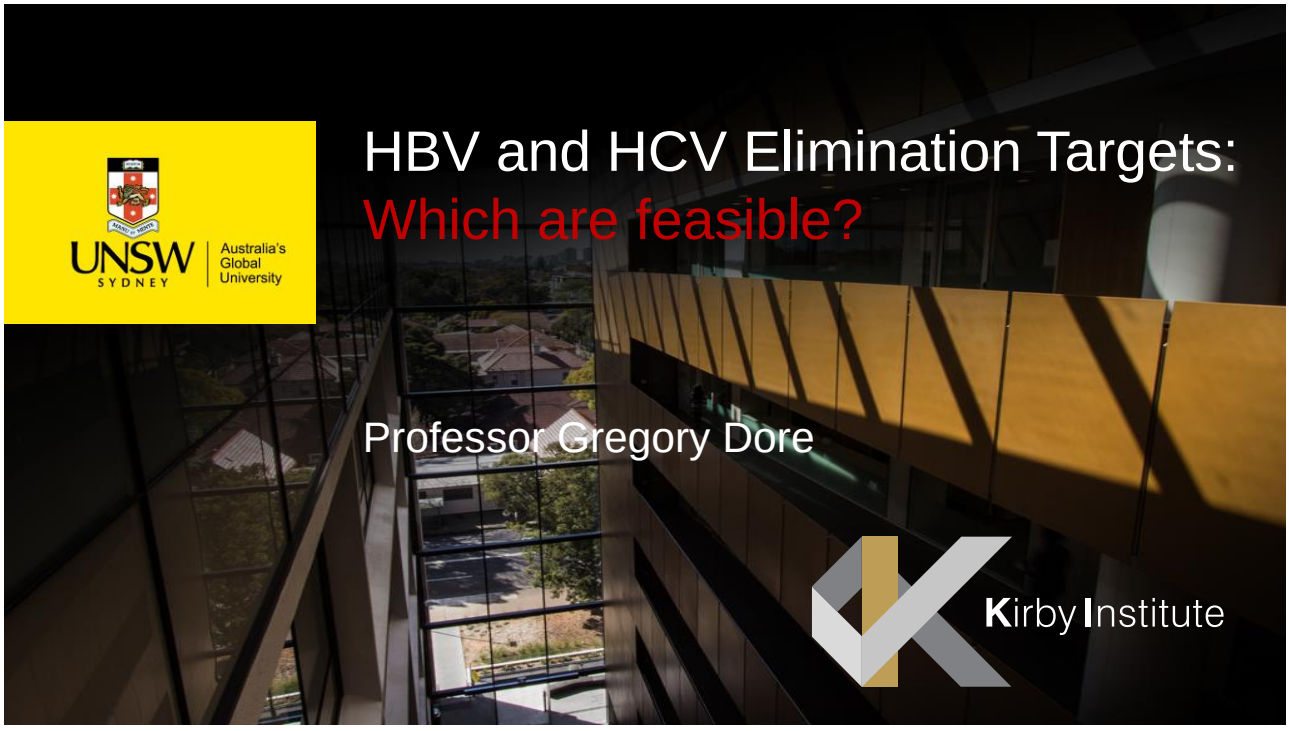
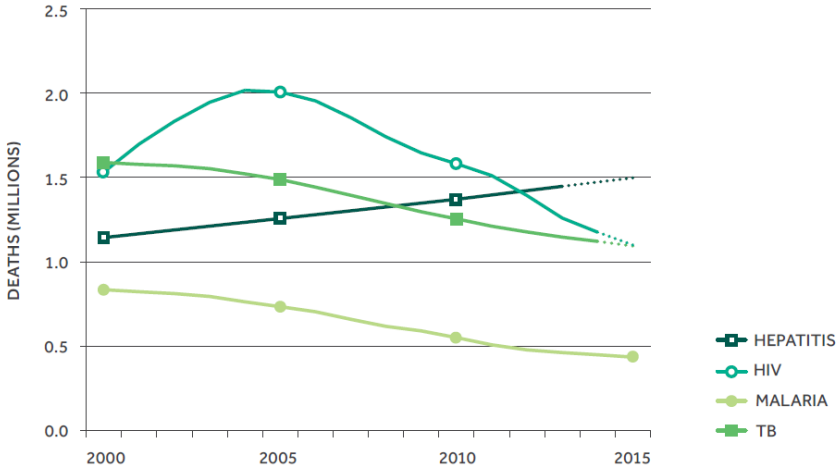


HBV and HCV Elimination in Australia

- WHO Viral Hepatitis Strategy 2016-2021
- WHO HBV and HCV Elimination Targets for 2020 and 2030
- Current Australian situation in relation to WHO targets
- HCV treatment uptake and modelling-based elimination scenarios
- Key issues for HBV and HCV elimination in Australia

Global Burden of Infectious Diseases



3 WHO global health sector strategy on viral hepatitis 2016–2021. Available at: http://www.who.int/hepatitis/strategy2016-2021/ghss-hep/en/ (accessed March 2018).

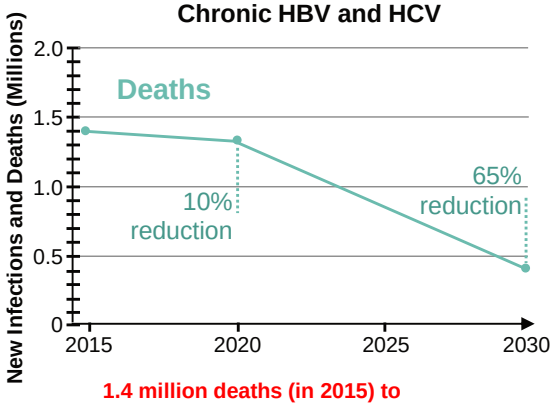
WHO Viral Hepatitis Strategy: 2016-2021

Elimination of viral hepatitis as a major public health threat by 2030

WHO Global Health Sector Strategy on Viral Hepatitis, 2016–2021. Available at: http://apps.who.int/iris/bitstream/10665/246177/1/WHO-HIV-2016.06-eng.pdf?ua=1;
WHO. Combating Hepatitis B and C to Reach Elimination by 2030. Available at: http://apps.who.int/iris/bitstream/10665/206453/1/WHO_HIV_2016.04_eng.pdf?ua=1 (both accessed May 2018)

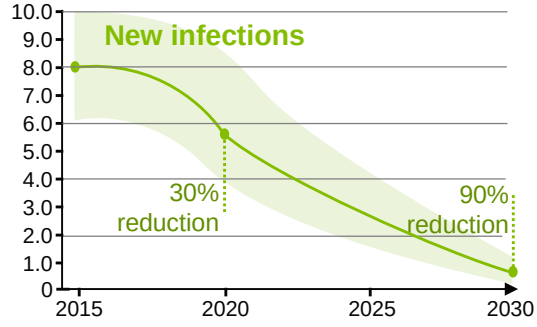
WHO Viral Hepatitis Elimination Targets: 2016

65% Reduction in Deaths from Chronic HBV and HCV



1.4 million deaths (in 2015) to under 500,000 deaths (by 2030)

90% Reduction in New Cases of Chronic HBV and HCV Infection



6–10 million (in 2015) to 900,000 infections (by 2030)
95% decline in HBV infections
80% decline in HCV infections

80% of eligible chronic HCV patients treated; 90% of treated patients cured

5 WHO global health sector strategy on viral hepatitis 2016–2021. Available at: http://www.who.int/hepatitis/strategy2016-2021/ghss-hep/en/ (accessed March 2018).

WHO Viral Hepatitis Strategy: 2016-2021

Service coverage targets	Baseline 2015	2020 Targets	2030 Targets
Hepatitis B virus vaccination: childhood vaccine coverage (third dose coverage)	82%[11] in infants	90%	90%
Prevention of hepatitis B virus mother-to-child transmission: hepatitis B virus birth-dose vaccination coverage or other approach to prevent mother-to-child transmission	38%	50%	90%
Blood safety	39 countries do not routinely test all blood donations for transfusion-transmissible infections 89% of donations screened in a quality-assured manner[12]	95% of donations screened in a quality-assured manner	100% of donations are screened in a quality-assured manner
Safe injections: percentage of injections administered with safety-engineered devices in and out of health facilities	5%	50%	90%
Harm reduction: number of sterile needles and syringes provided per person who injects drugs per year	20	200	300
Viral hepatitis B and C diagnosis	<5% of chronic hepatitis infections diagnosed	30%	90%
Viral hepatitis B and C treatment	<1% receiving treatment	5 million people will be receiving hepatitis B virus treatment 3 million people have received hepatitis C virus treatment (Both targets are cumulative by 2020)	80% of eligible persons with chronic hepatitis B virus infection treated 80% of eligible persons with chronic hepatitis C virus infection treated

Australia in 2017

90-95% ✓

85-90%

100% ✓

99% ✓

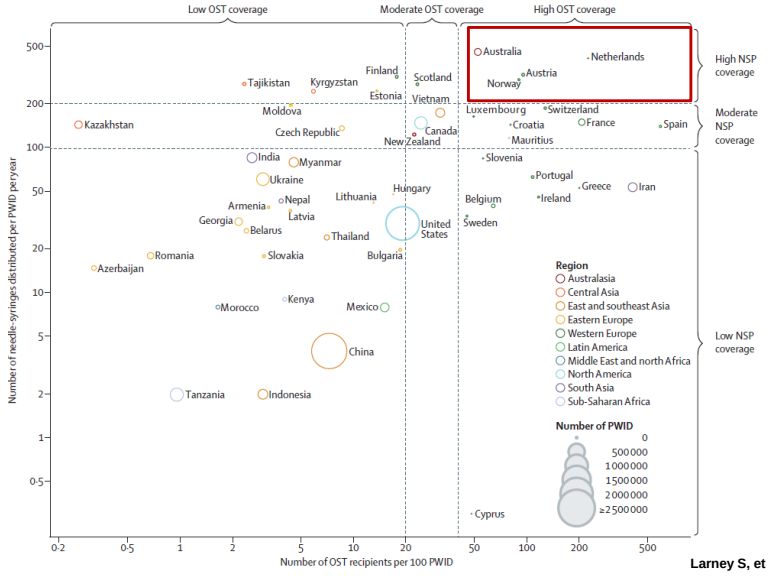
400 ✓

61% HBV; 81% HCV

50% HBV; 30% HCV

6 WHO global health sector strategy on viral hepatitis 2016–2021. Available at: http://www.who.int/hepatitis/strategy2016-2021/ghss-hep/en/ (accessed March 2018).

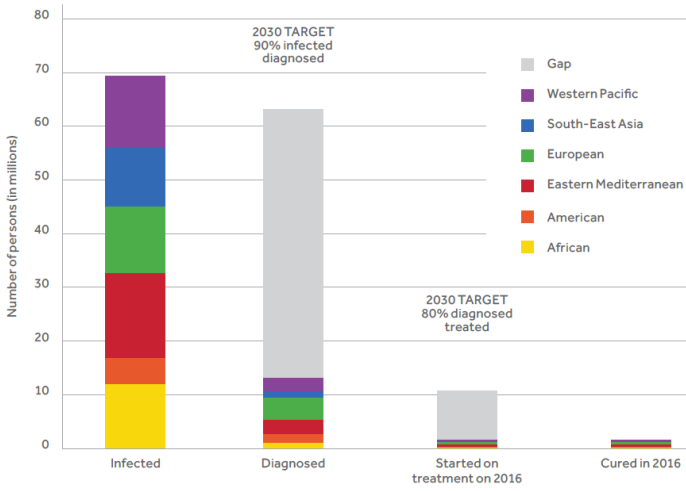
Global OST and NSP Coverage among PWID



Only 1% of PWID live in countries with high coverage of both NSP and OST

Larney S, et al. *Lancet Global Health* 2017

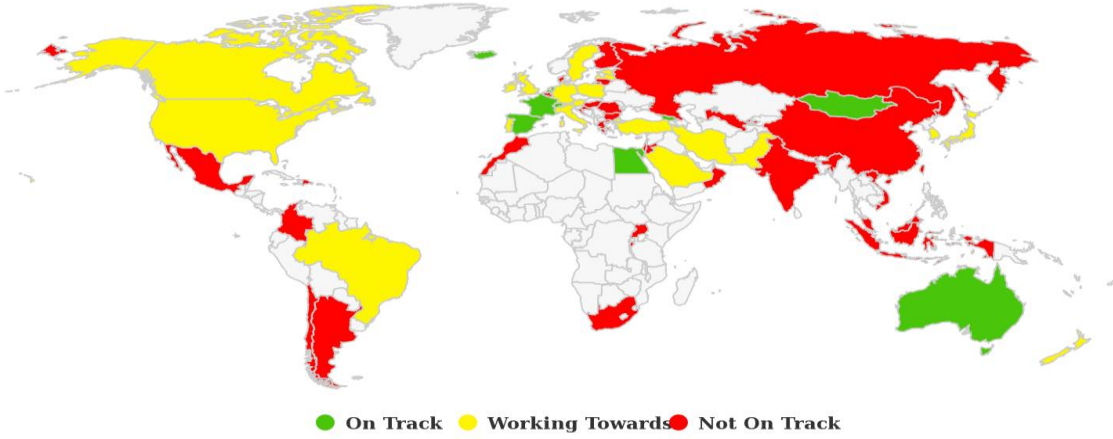
WHO HCV Elimination Targets: Progress



70 million infected
13 million diagnosed (19%)
1.5 million treated in 2016 (2%)

WHO 2018: Progress report on access to hepatitis C treatment (WHO/CDS/HIV/18.4)

WHO HCV Elimination Targets: 2017



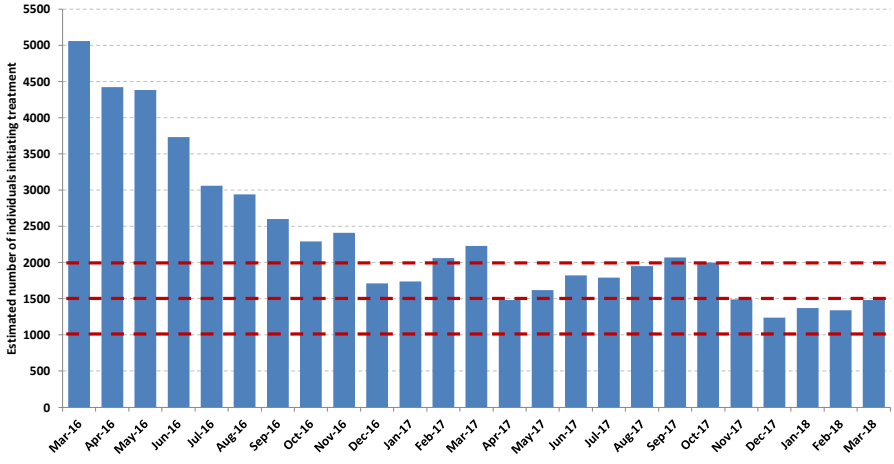
On-track (2016): Iceland, Qatar, Netherlands, Australia, France, Germany, Japan, Egypt, Georgia

On-track (2017): Iceland, Qatar, Netherlands, Australia, France, Germany, Japan, Egypt, Georgia, Spain, Switzerland, Mongolia

CDA 2018: Polaris Observatory (http://centerforda.com/polaris/)

DAA treatment numbers have declined

DAA initiations/month (total = 58,280)

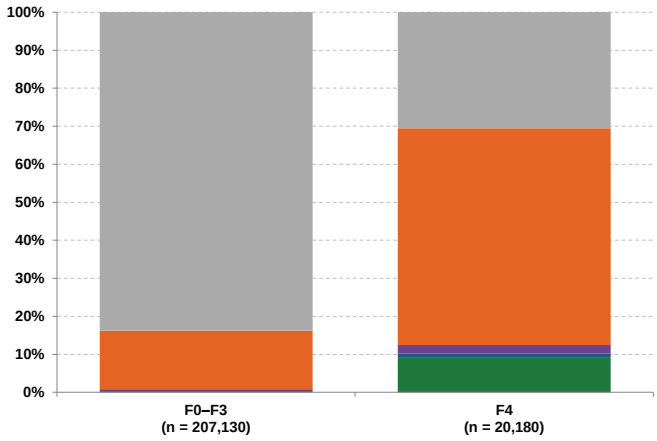


= 21,000/year

= 15,000/year

Kirby Institute 2018

DAA uptake very high in patients with cirrhosis

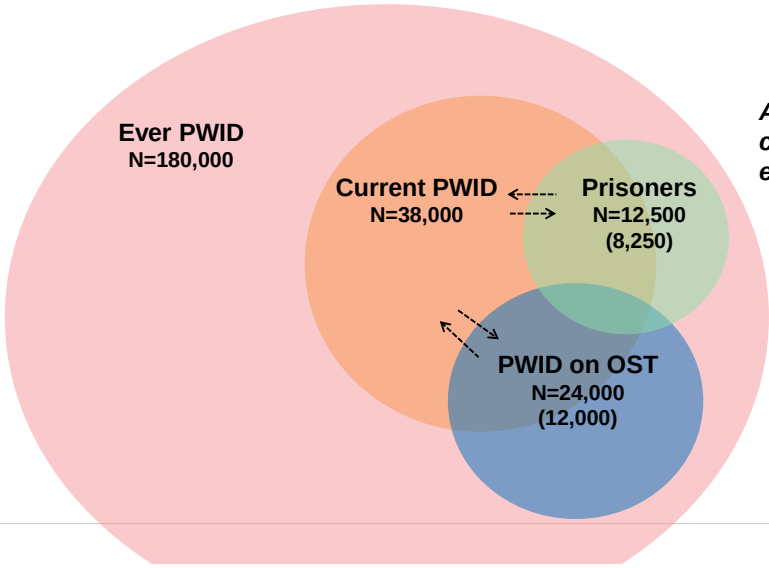


Early access program (n = 1930): 95% F4; 5% F0–F3
Clinical trial (n = 910): 25% F4; 75% F0–F3

Generic DAAs (n = 1500): 30% F4; 70% F0–F3
PBS (n = 43,360): 27% F4; 73% F0–F3

Hajarizadeh B, *et al. J Viral Hepat* 2018; Dore GJ & Hajarizadeh B. *Infect Dis Clin N Am* 2018

PWID populations with HCV in Australia: 2016



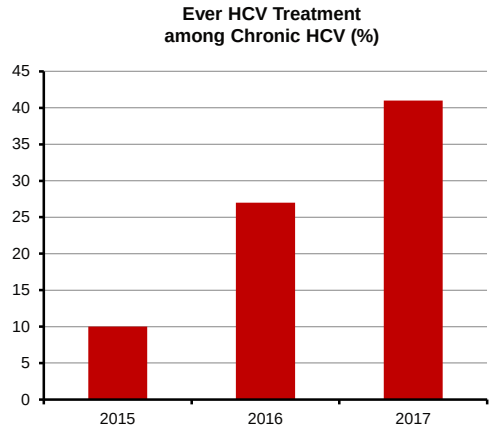
An estimated 20-25% of current PWID are incarcerated each year

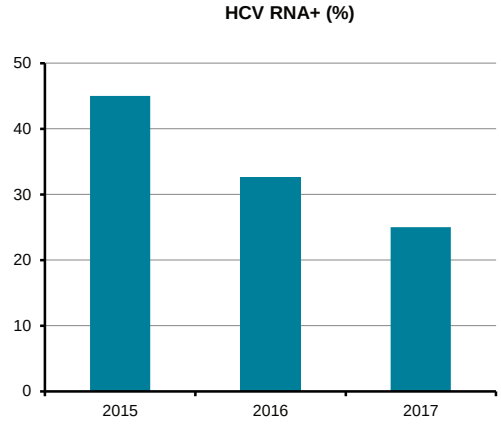
An estimated 30% of current PWID are on OST

Larney S, *IJDP* 2017; Kirby Institute 2017

DAA uptake high in current PWID

Annual Needle Syringe Program Survey (n = 2,000-2,500)

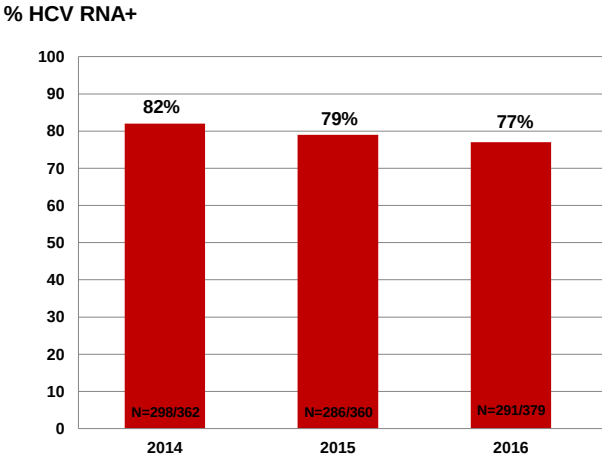




Iversen J, *et al.* AVHC 2018.

HCV elimination in HIV population

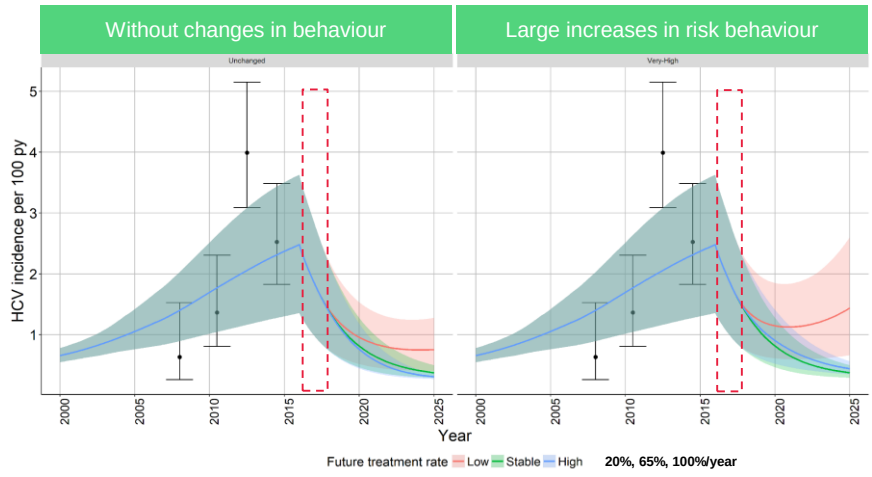
HCV RNA prevalence among HIV/HCV cohort (antibody +ve)



Martinello M, et al. AVHC 2018

HCV elimination in HIV population

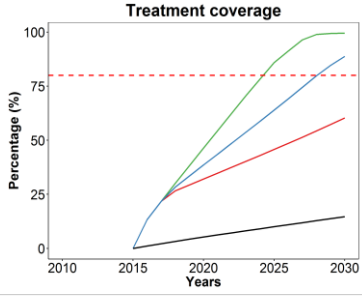
Modelling HCV incidence in Australian HIV population

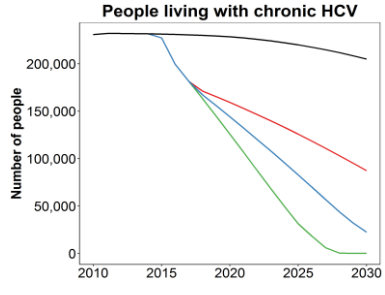


Salazar Viccaya L, et al. IAS 2018

Treatment scenarios to achieve HCV elimination

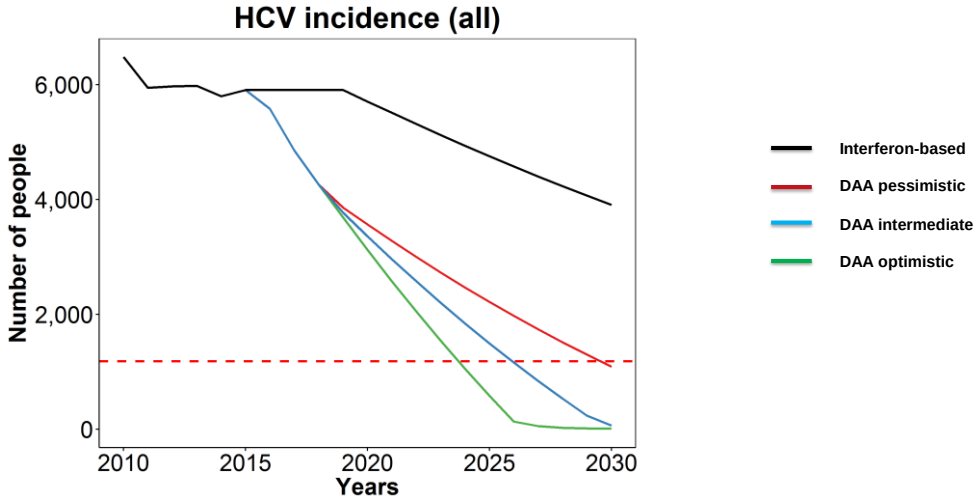
Treatment roll-out	2015 (IFN + DAA)	2016	2017	2018	Post- 2019
Pessimistic	7,296	32,600	21,370	12,822 (40%↓)	7,693 (40%↓)
Intermediate	7,296	32,600	21,370	17,096 (20%↓)	13,677 (20%↓)
Optimistic	7,296	32,600	21,370	21,370	21,370





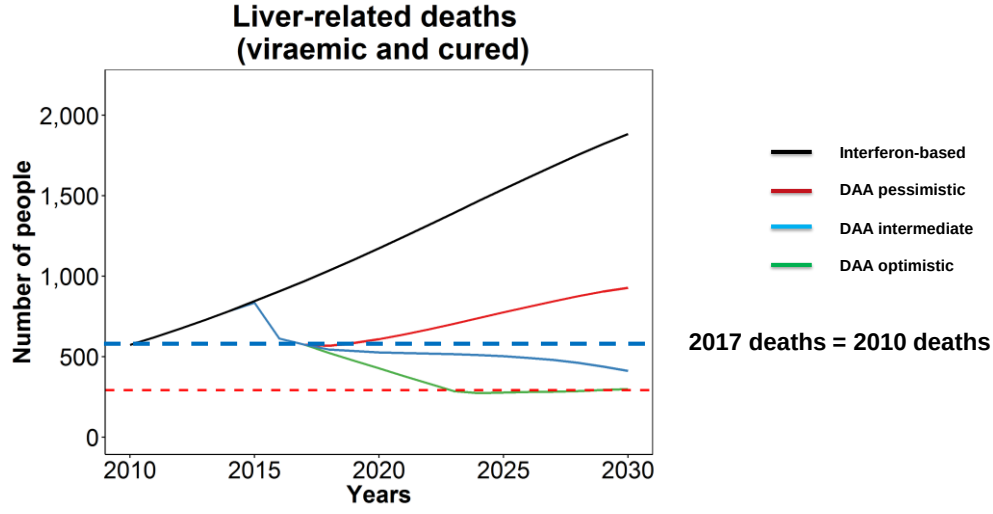
Kwon, A et al. Kirby Institute 2018

Treatment scenarios to achieve HCV elimination



Kwon, A et al. Kirby Institute 2018

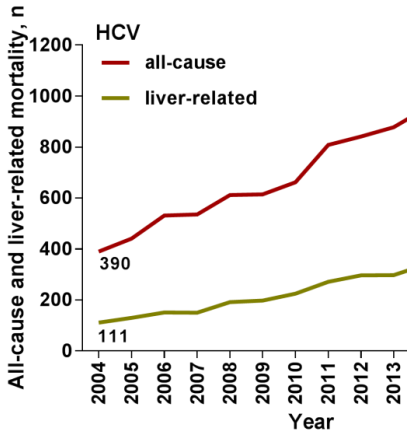
Treatment scenarios to achieve HCV elimination



2017 deaths = 2010 deaths

Kwon, A et al. Kirby Institute 2018

NSW HBV/HCV data linkage: mortality to 2017



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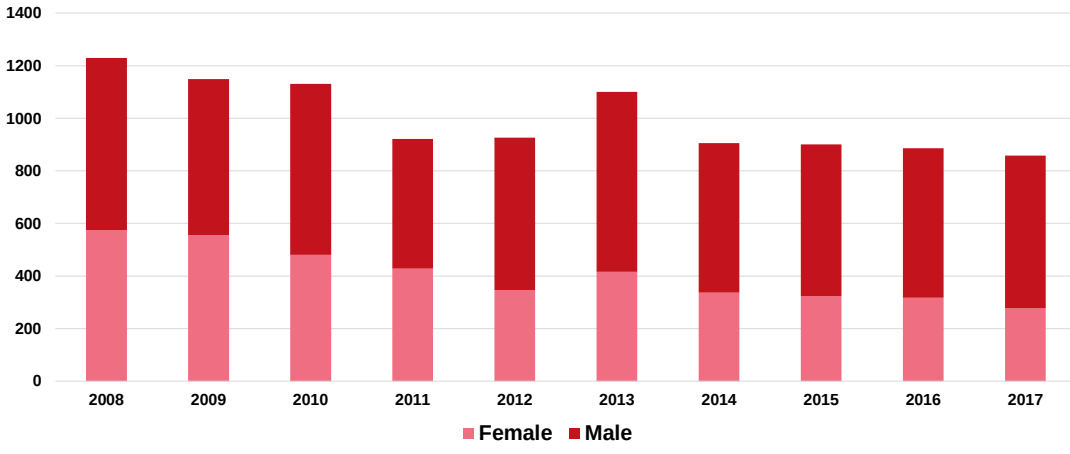
Alavi M, et al. Kirby Institute 2018

HCV notifications in Australia: 15 – 24 years



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NNDSS 2018 (accessed 9 August 2018: http://www9.health.gov.au/cda/source/cda-index.cfm

HBV and HCV Elimination in Australia

Summary

- Several “service coverage” 2030 targets already achieved: HBV vaccination, blood safety, NSP coverage
- On-track for HCV elimination impact targets (declines: 80% incidence; 65% mortality)
- Initial HCV mortality decline (in NSW) consistent with modelling prediction
- Declining HCV treatment initiations of concern, particularly for mortality target
- HBV mortality reduction will require enhanced HBV diagnosis and linkage to care/treatment
- Feasibility of overall global HBV and HCV impact 2030 targets, ***very low***

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