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Australia's
Global
University

HCV Elimination in Australia: Are we on-track?

Professor Gregory Dore

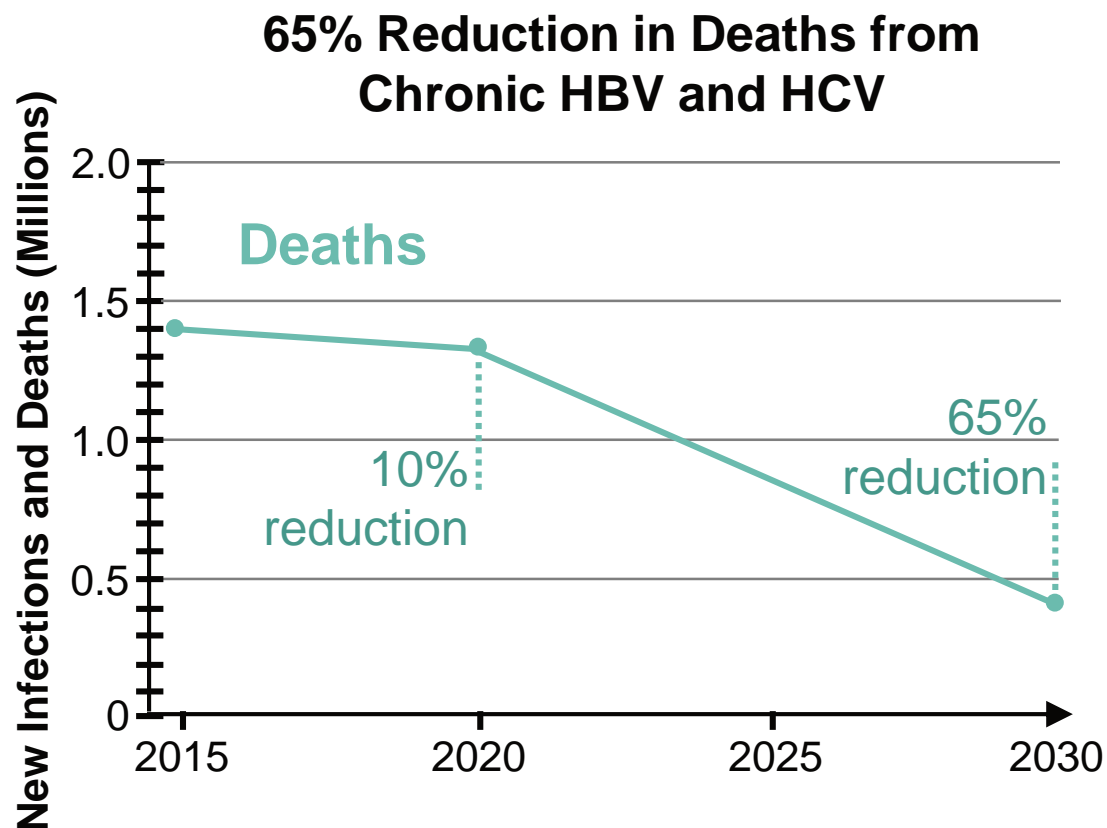


Kirby Institute

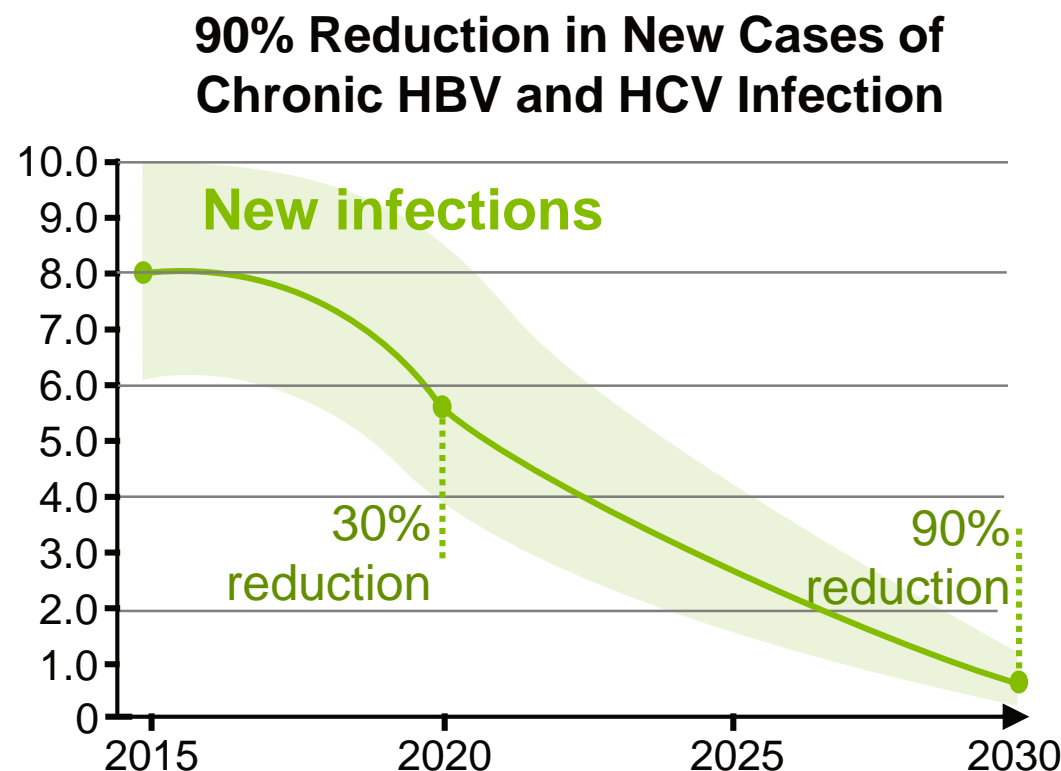
HCV Elimination in Australia

- Update on DAA treatment numbers in Australia
 - DAA uptake in high-risk populations
 - DAA treatment outcomes (REACH-C)
 - HCV screening and linkage to care initiatives
 - Mathematical modelling HCV elimination
 - Future challenges for HCV elimination
-

WHO Viral Hepatitis Elimination Targets: 2016



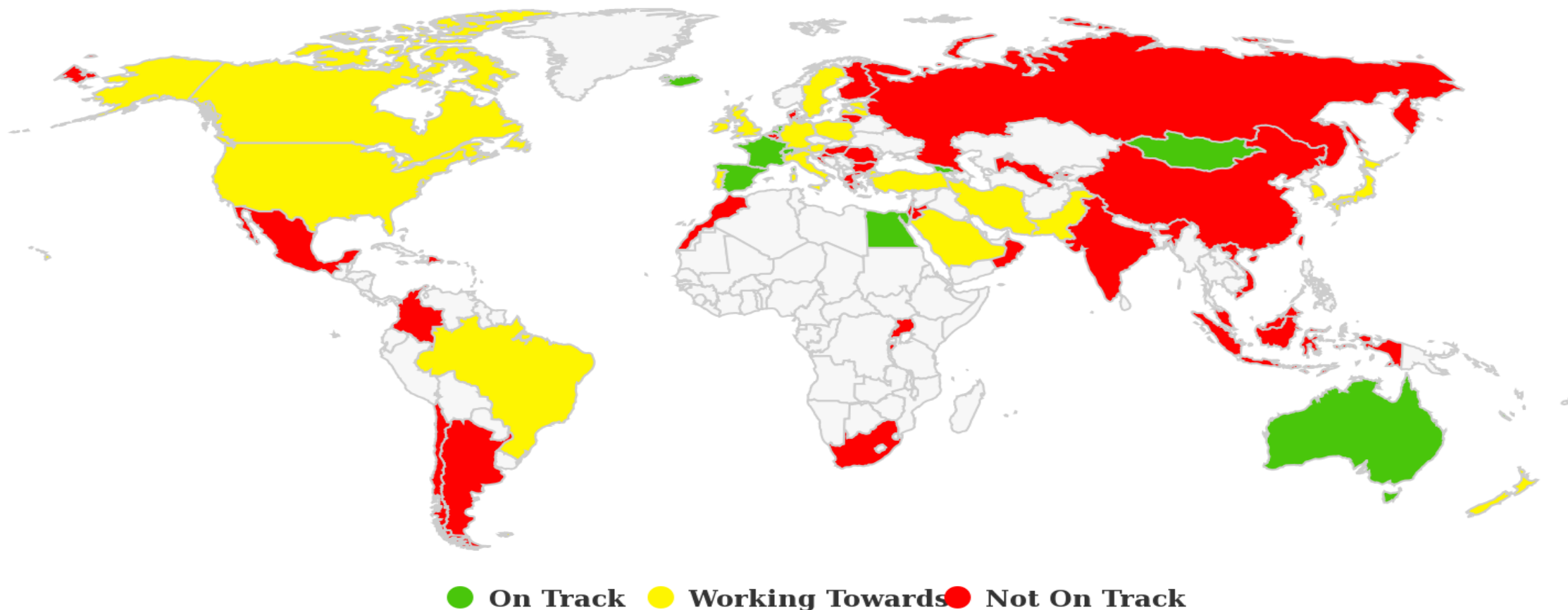
1.4 million deaths (in 2015) to under 500,000 deaths (by 2030)



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

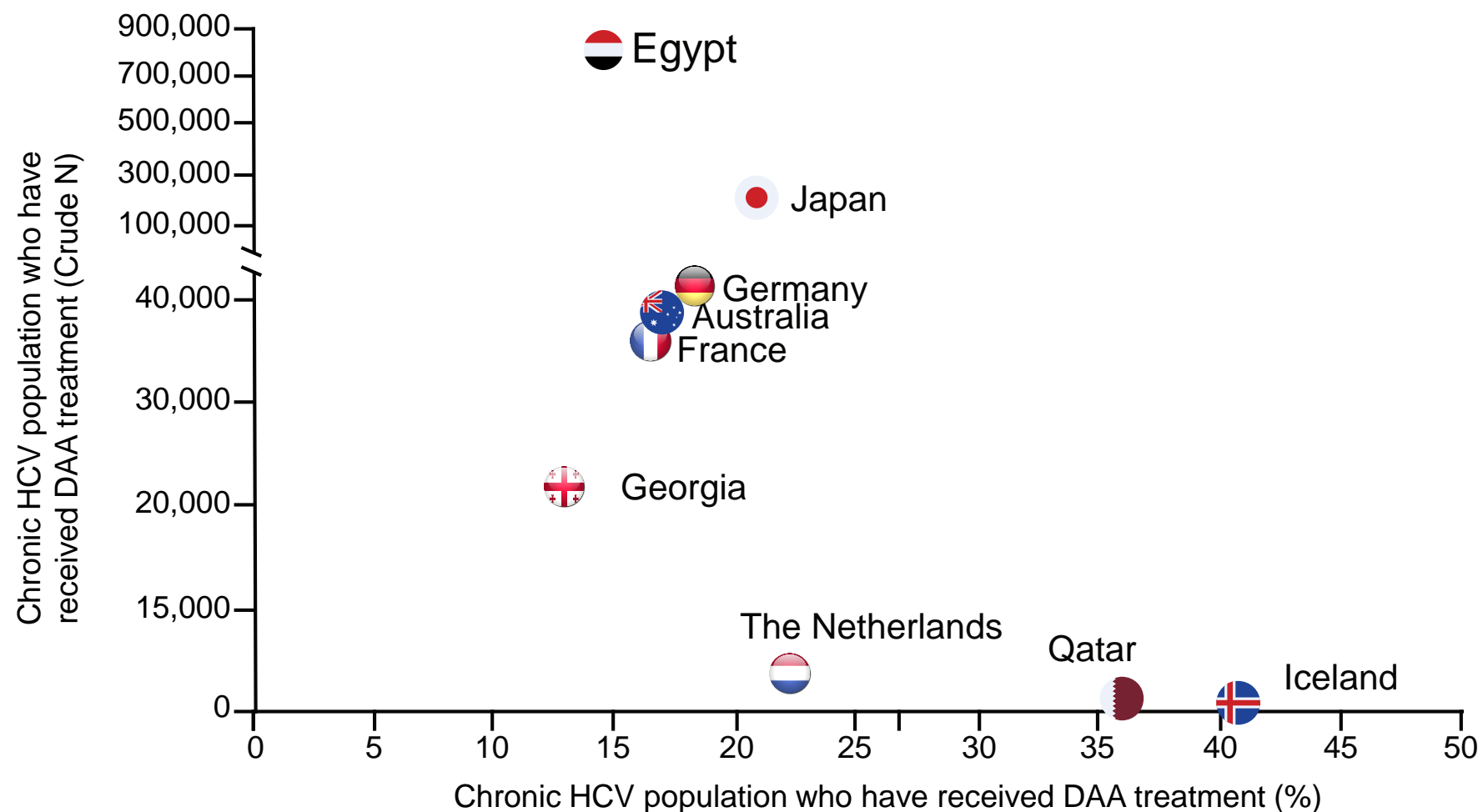
WHO HCV Elimination Targets: 2017



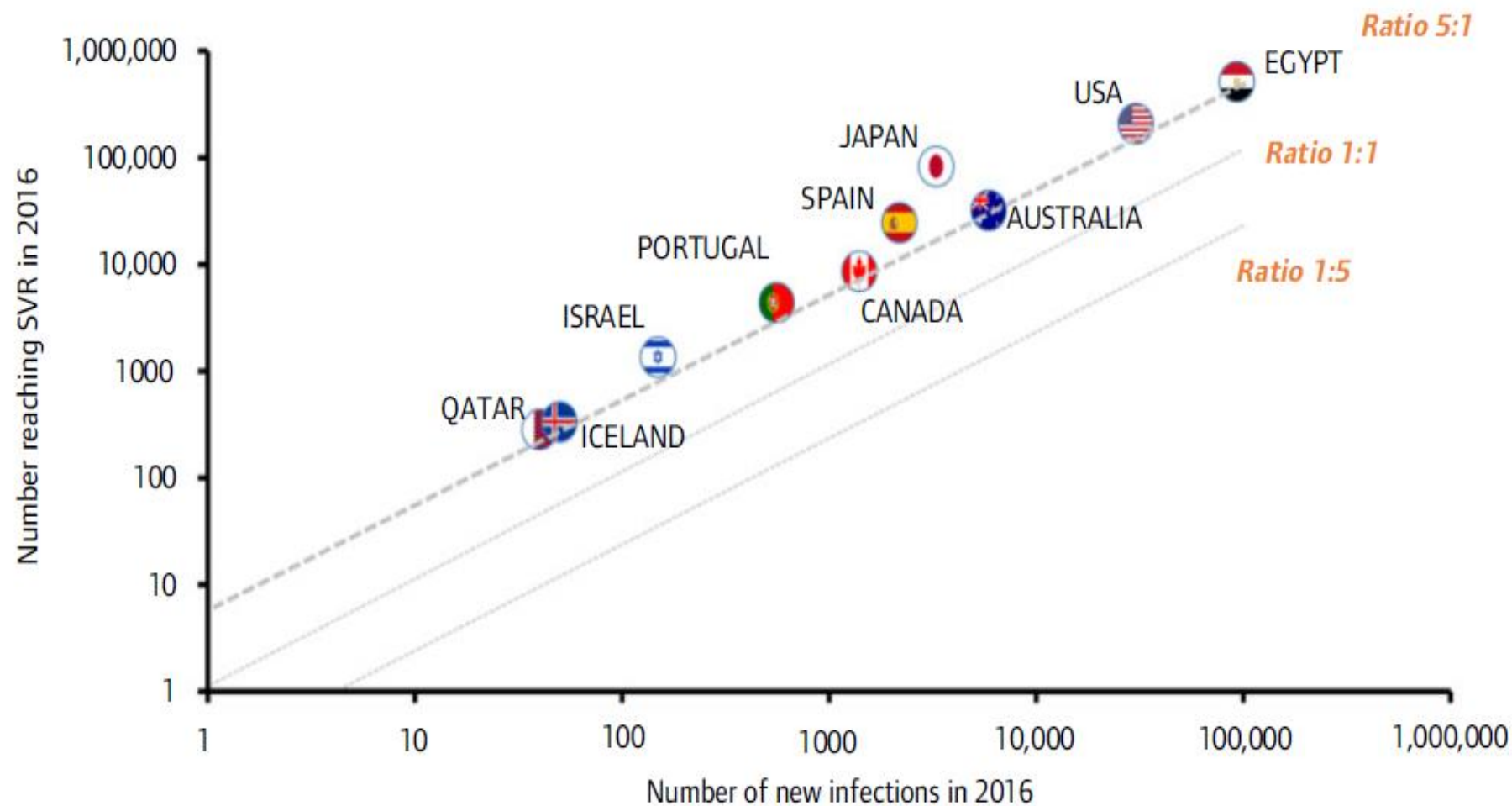
On-track (2016): Iceland, Qatar, Netherlands, Australia, France, Germany, Japan, Egypt, Georgia

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

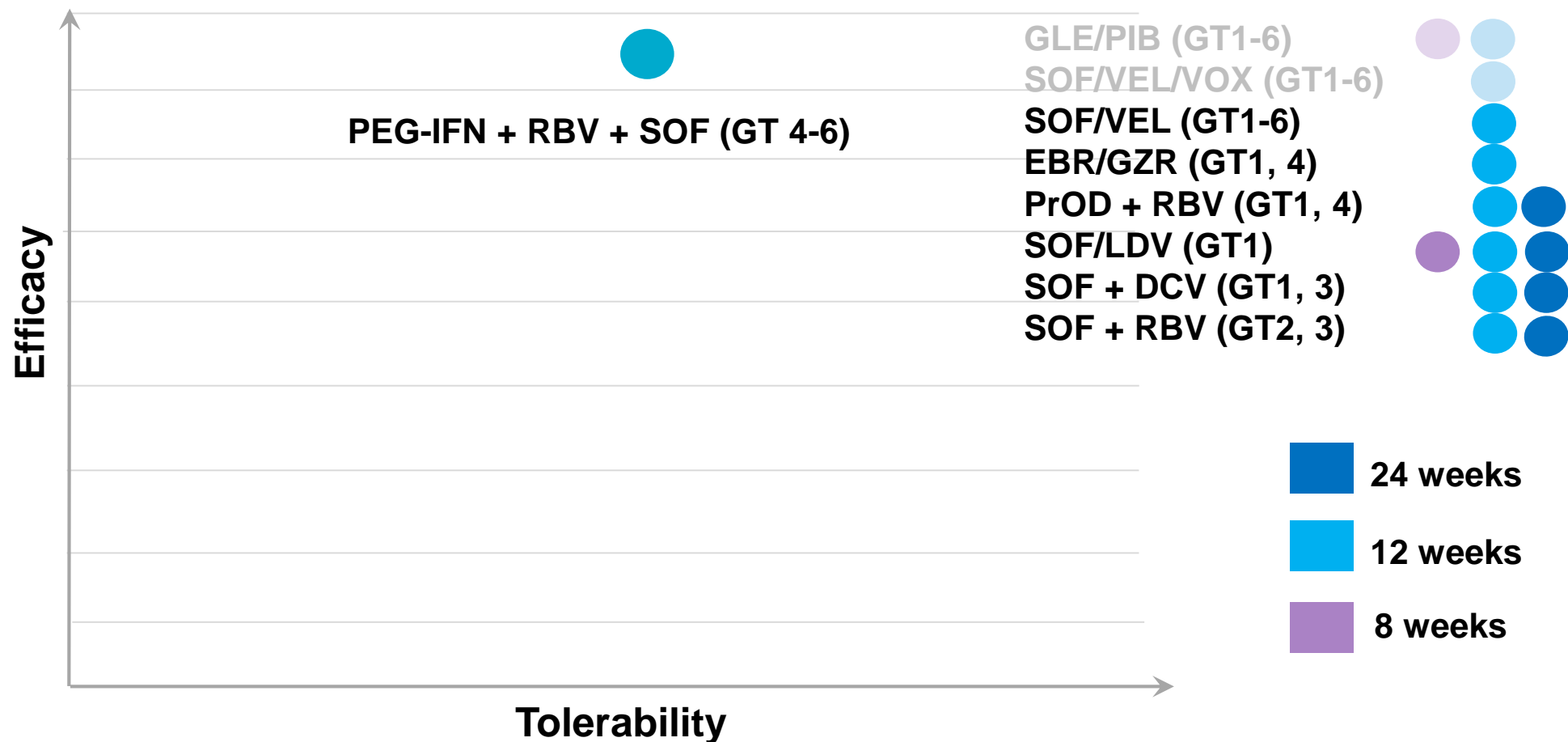
DAA uptake in 'on-track' countries: 2015–2016



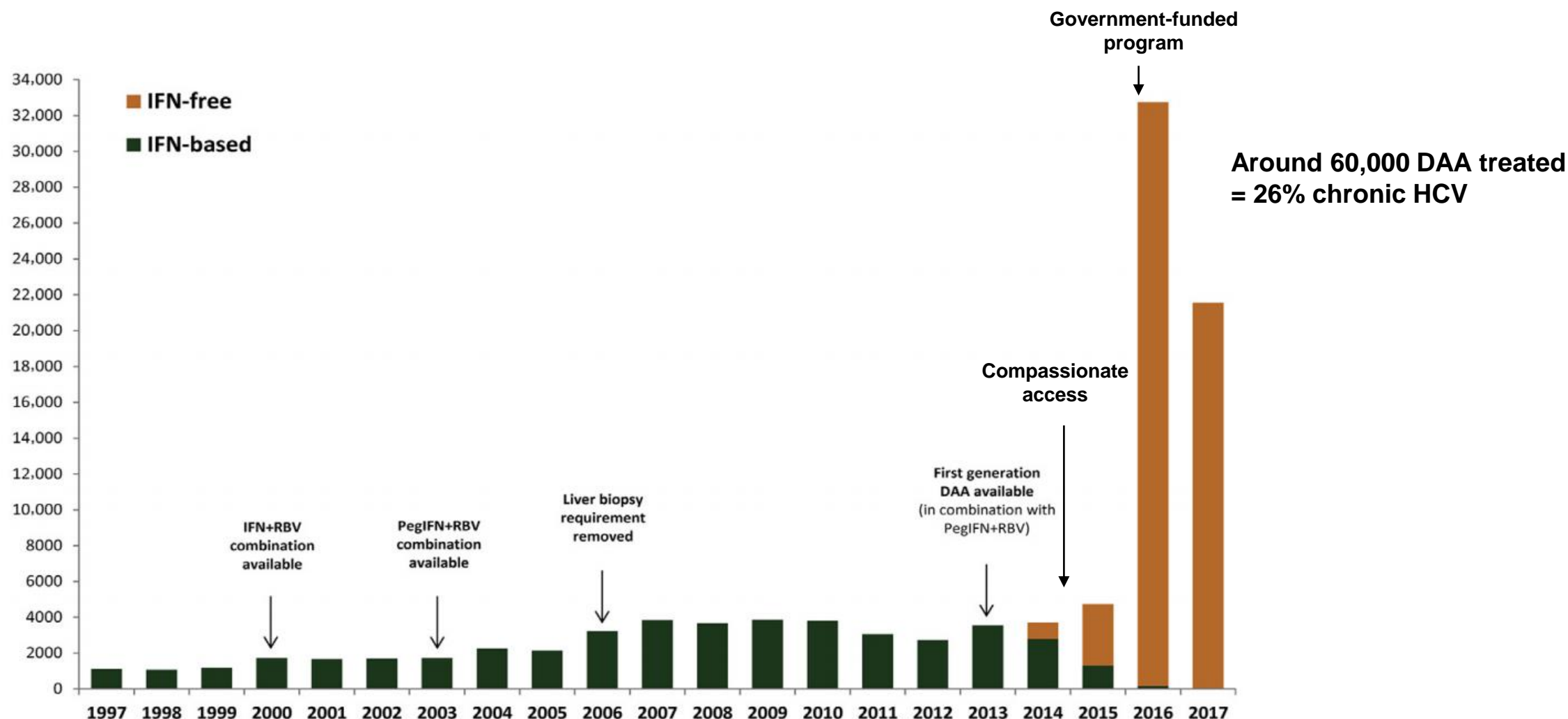
Global HCV Elimination: cures vs new infections



Australian Government-funded DAAs: 2016-2018

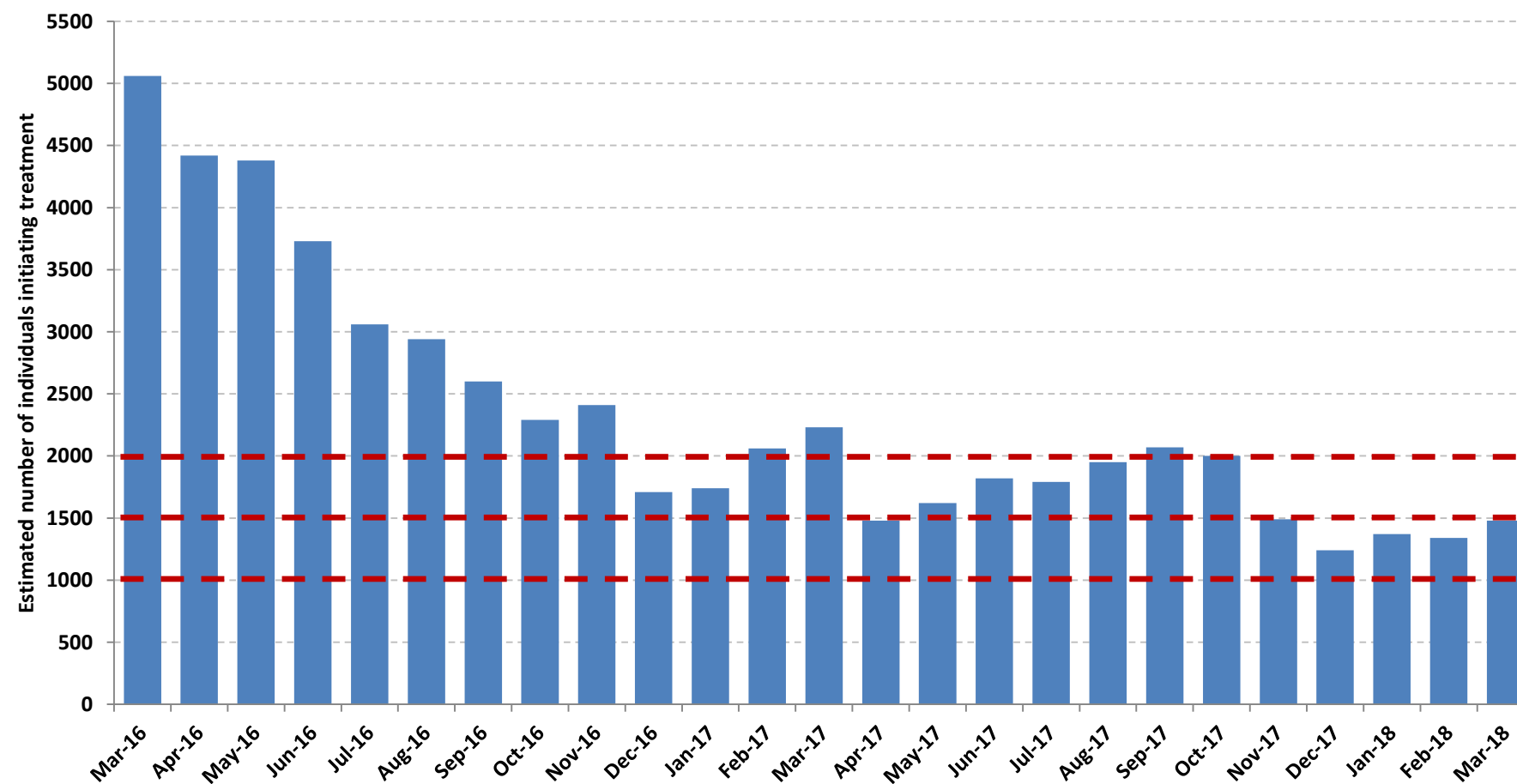


HCV treatment uptake in Australia: 1997-2017



DAA treatment numbers have declined

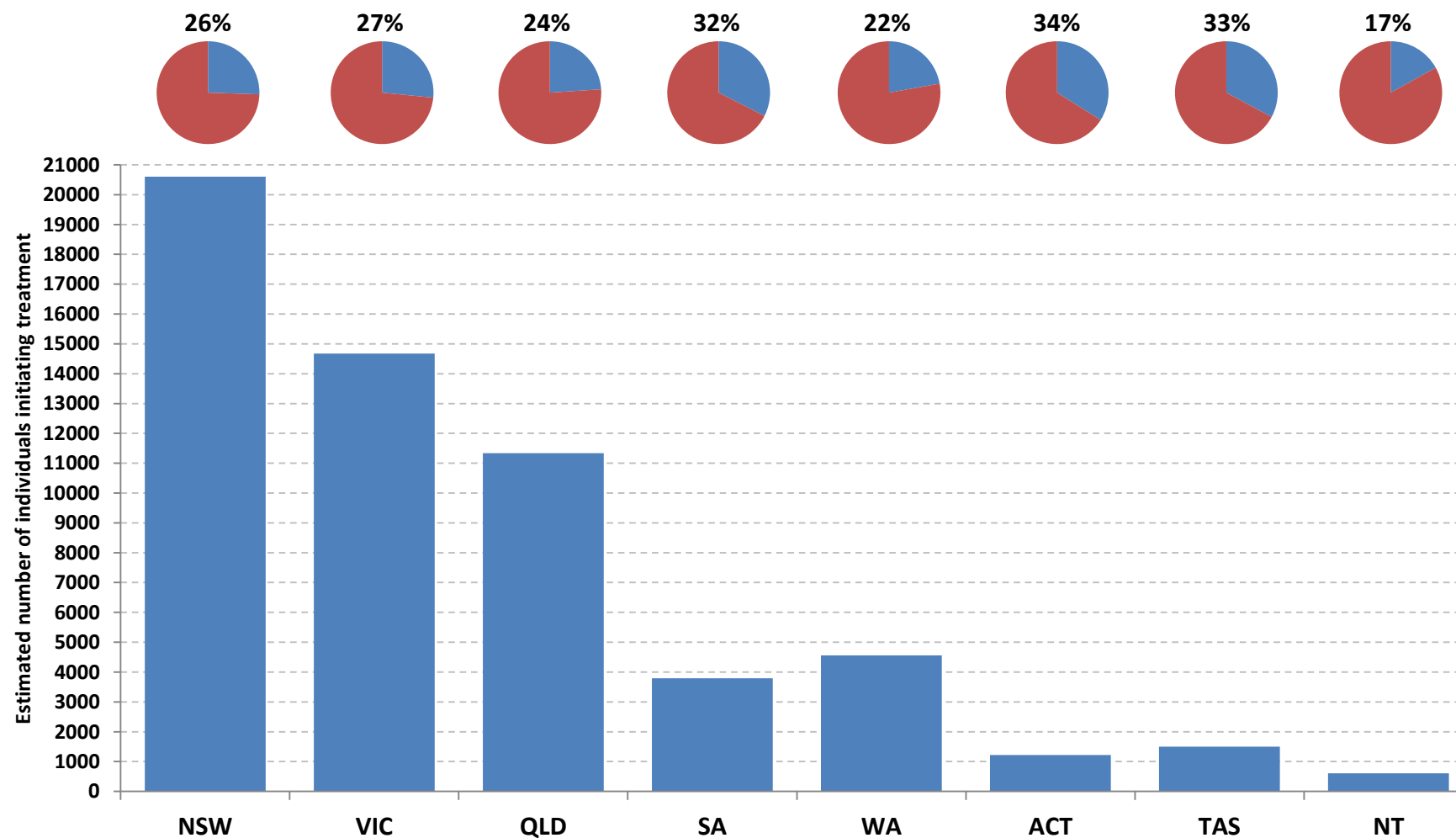
DAA initiations/month (total = 58,280)



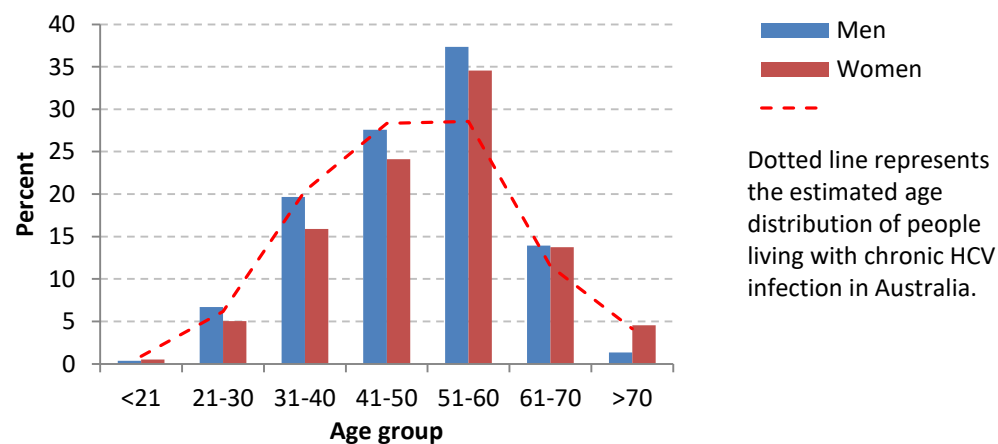
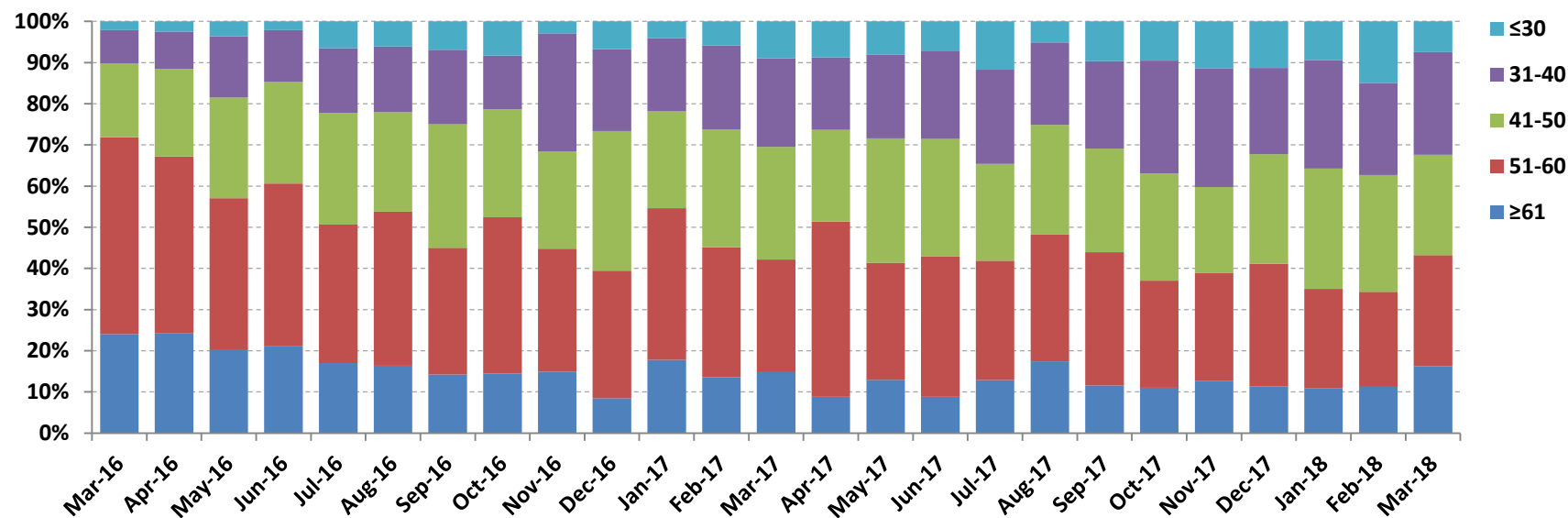
= 21,000/year

= 15,000/year

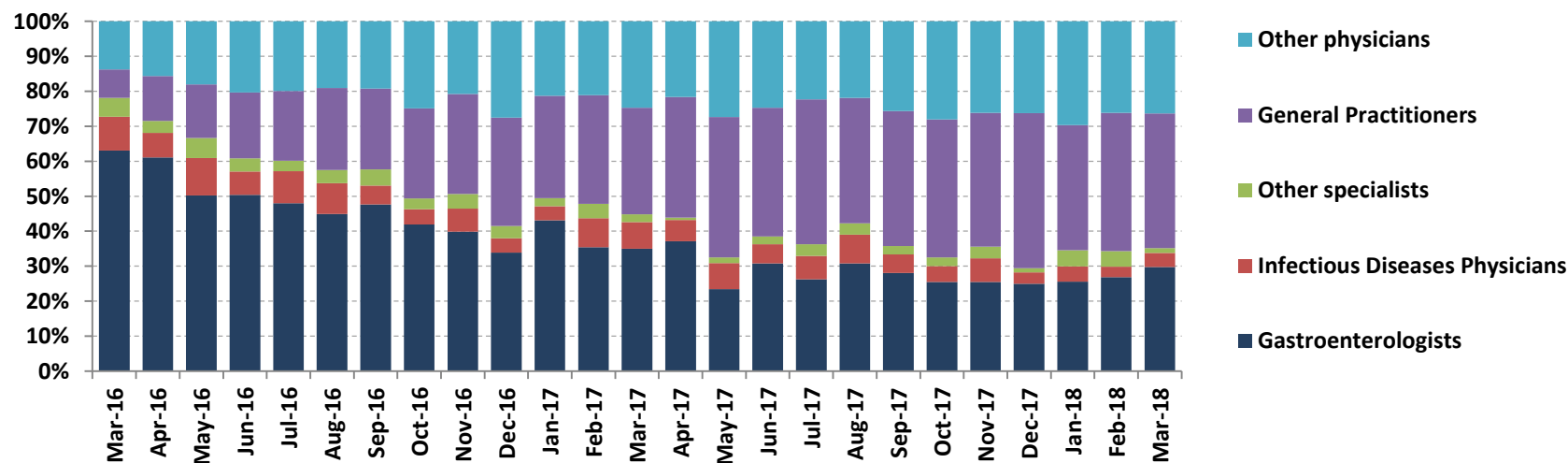
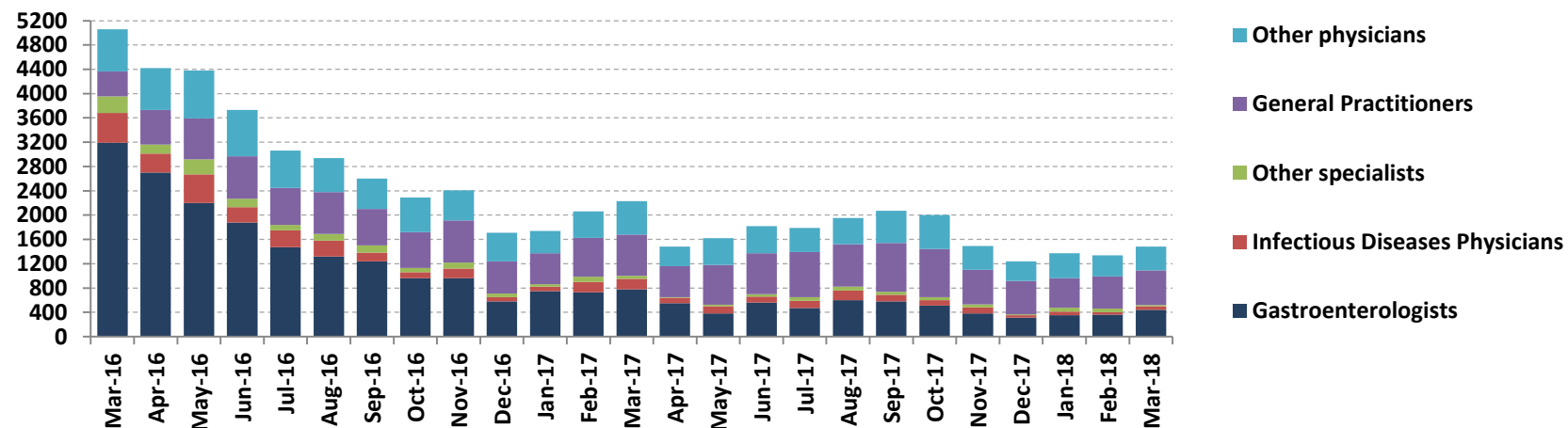
DAA treatment by jurisdiction



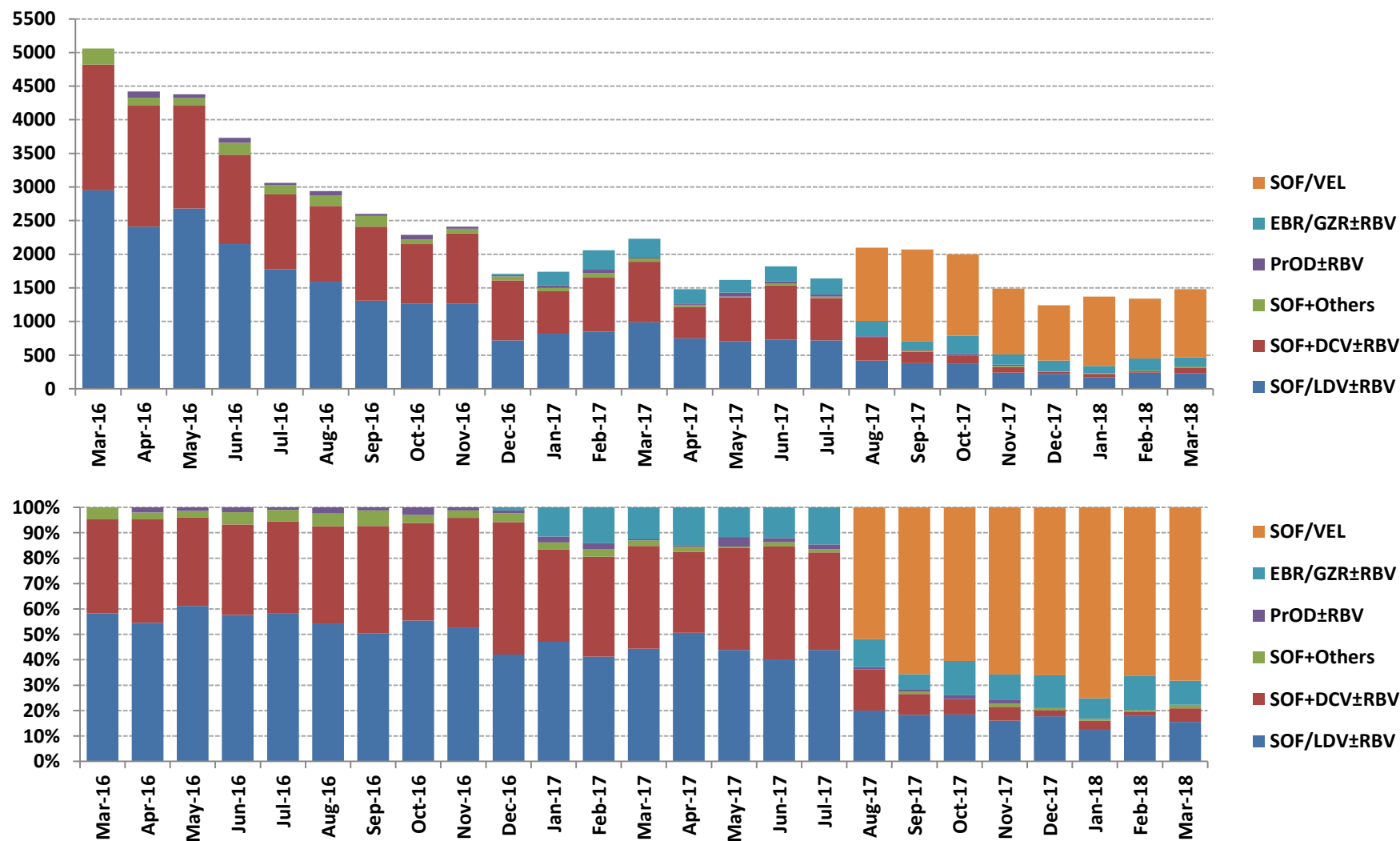
DAA treatment by age group



DAA treatment by prescriber type

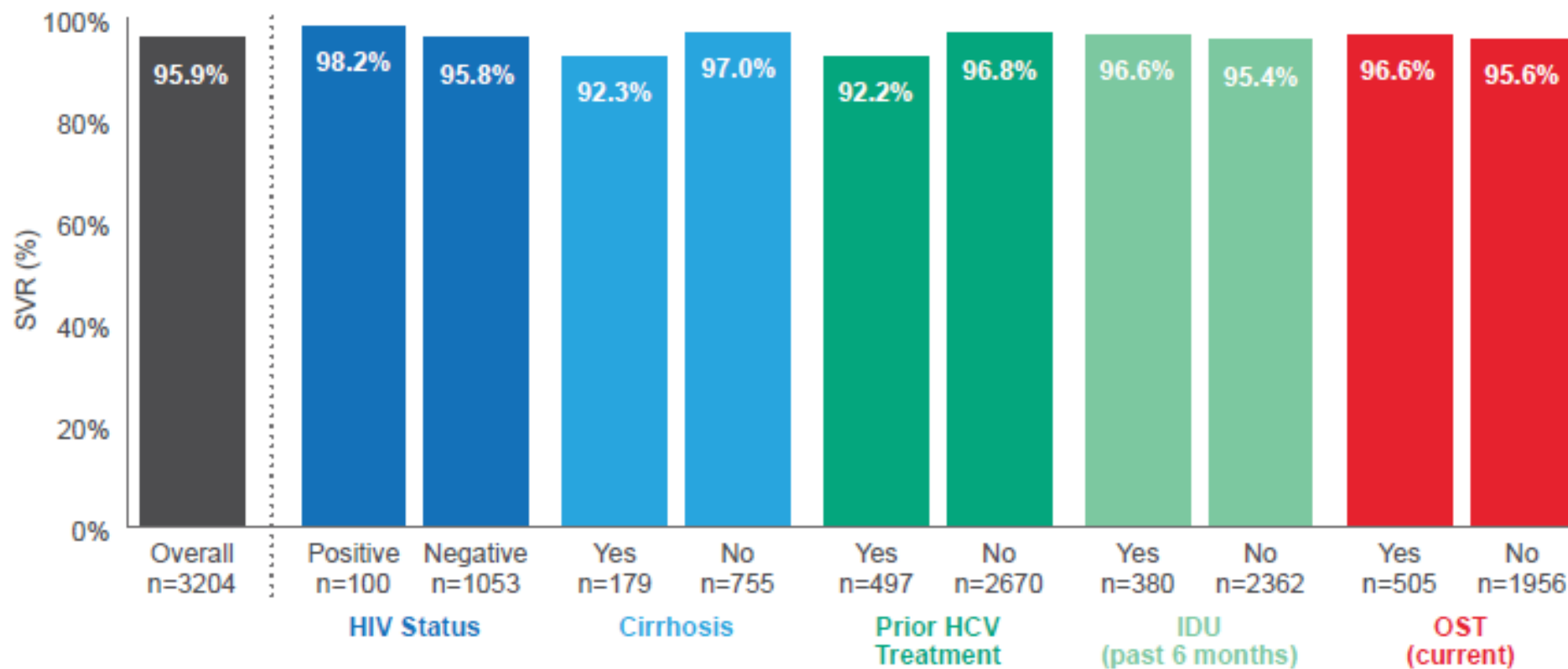


DAA treatment by regimen



High DAA efficacy across all sub-populations

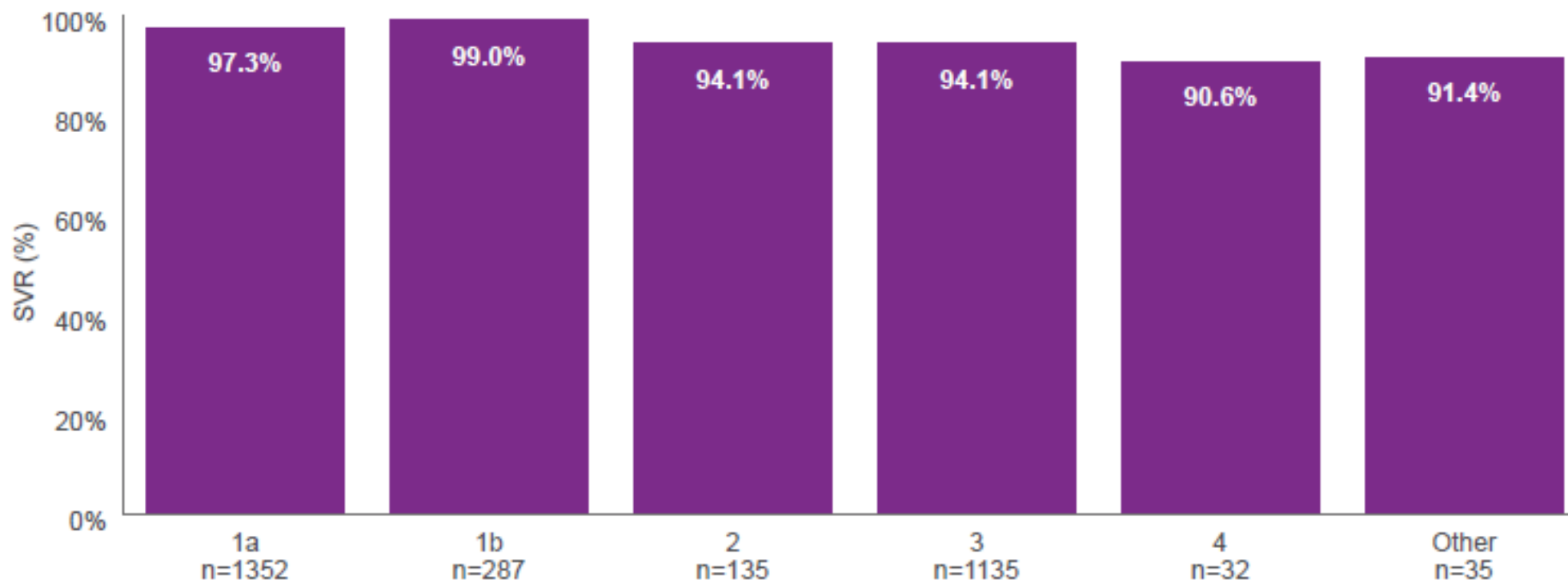
REACH-C study: Per protocol analysis* (n=3,204)



*(n=576 with unknown SVR; 16%)

High DAA efficacy across all sub-populations

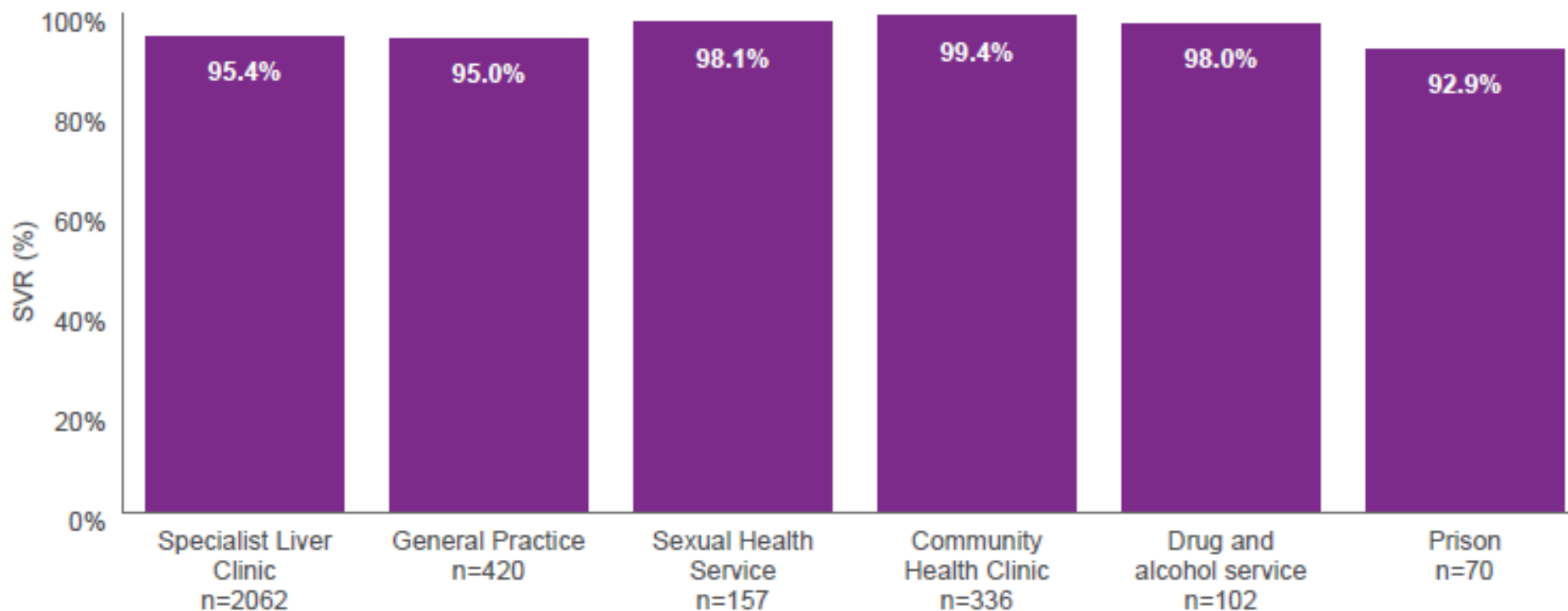
REACH-C study: Per protocol analysis* (n=3,204)



*(n=576 with unknown SVR; 16%)

High DAA efficacy across all service models

REACH-C study: Per protocol analysis* (n=3,204)



*(n=576 with unknown SVR; 16%)

Key aspects of primary care involvement

- Major programs of GP training in HCV screening and treatment since early 2000s
 - GP pilot HCV treatment study in PEG-IFN/RBV era
 - Major involvement of GPs in HIV management (>50% of antiretroviral therapy prescribing)
 - Major involvement of GPs in opioid substitution therapy prescribing
 - Pragmatic approach to HCV management (e.g. use of APRI <1.0 to define pre-cirrhosis)
 - Clinical leadership and mentorship
 - Government leadership
-

Models of HCV care

Community-based models for PWID and marginalized



Kirketon Road Centre, Sydney
Community health clinic:
PWID hepatitis C clinic

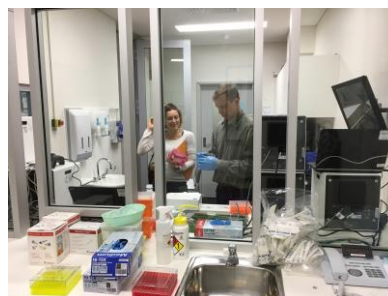
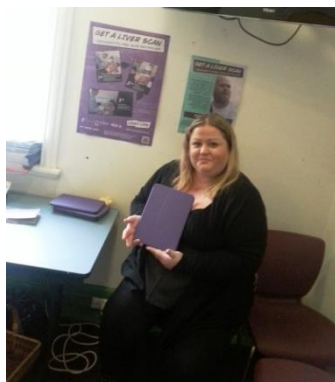


Kombi Clinic, Brisbane
Community PWID and homeless
hepatitis C clinic

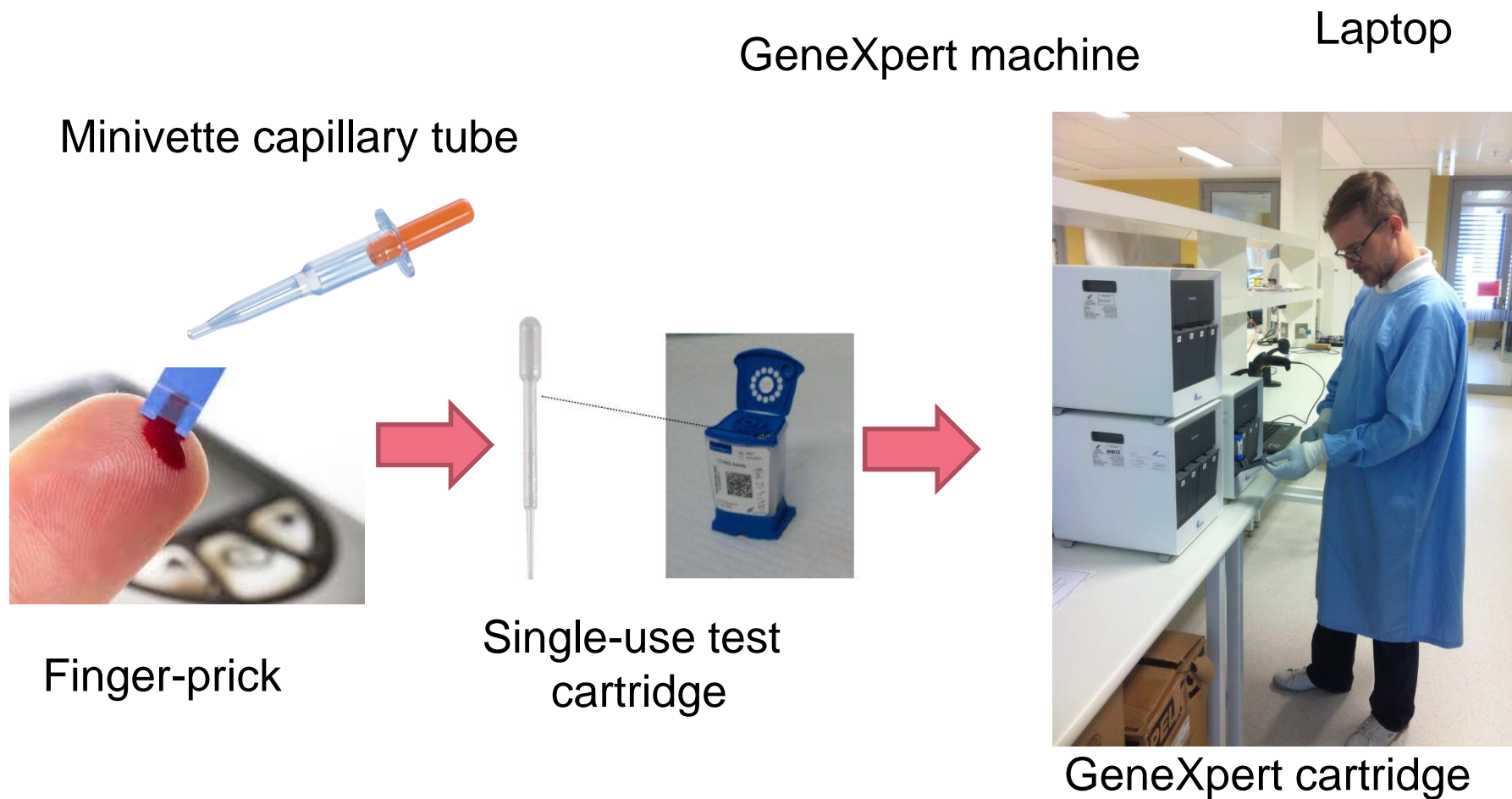


**Queensland Injectors Health
Network: Community-based
PWID hepatitis C services**

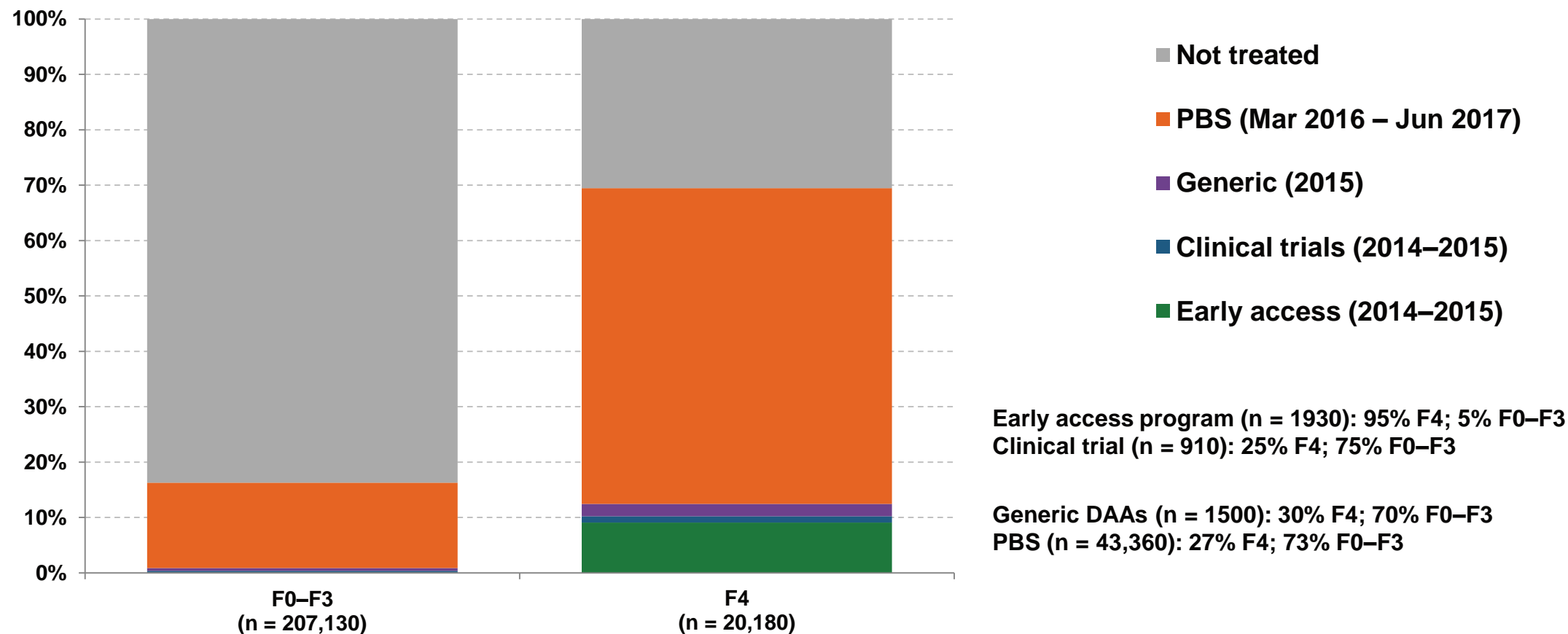
LiveRLife Campaign



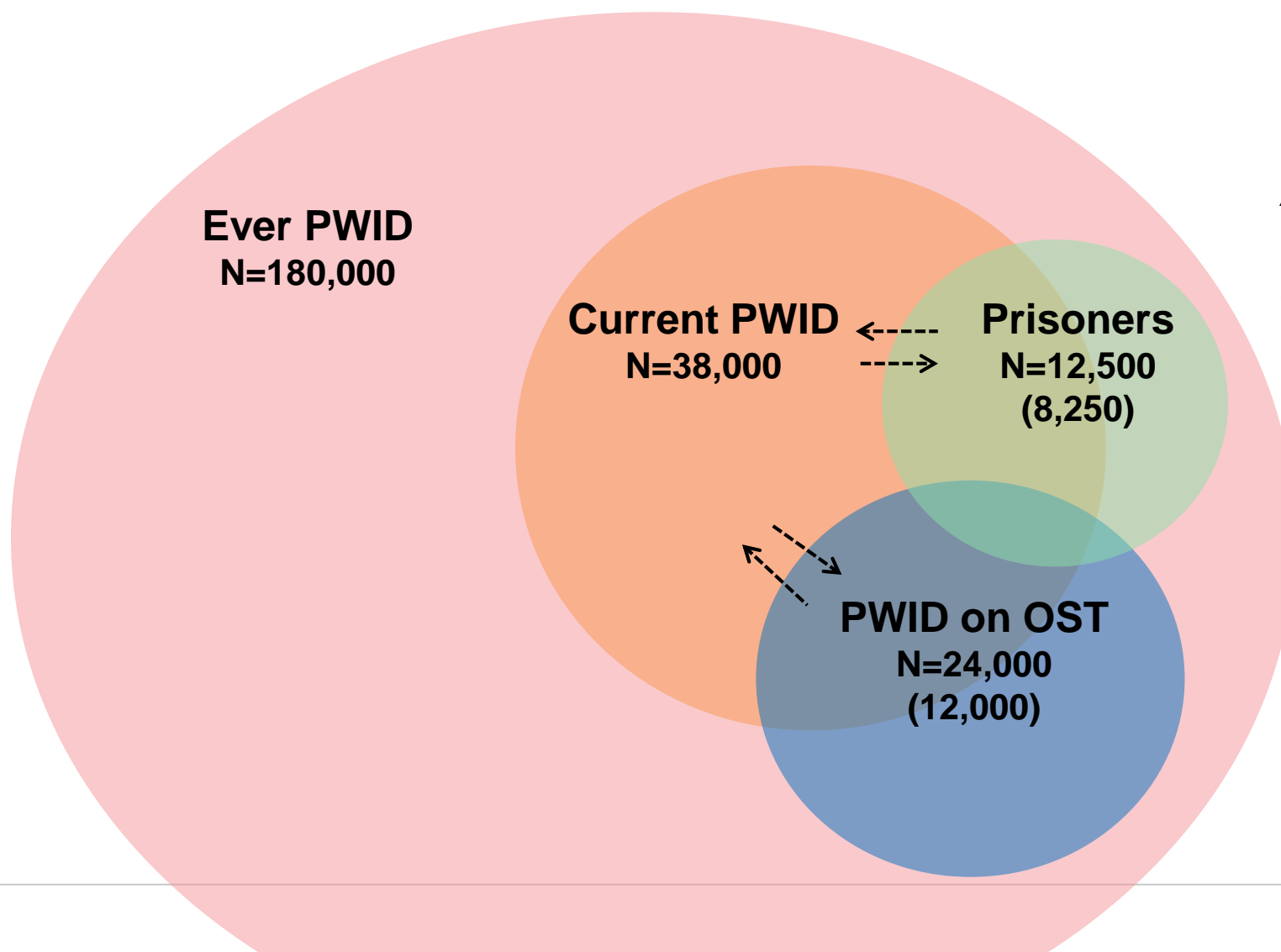
Point of Care HCV: GeneXpert®



DAA uptake very high in patients with cirrhosis



PWID populations with HCV in Australia: 2016



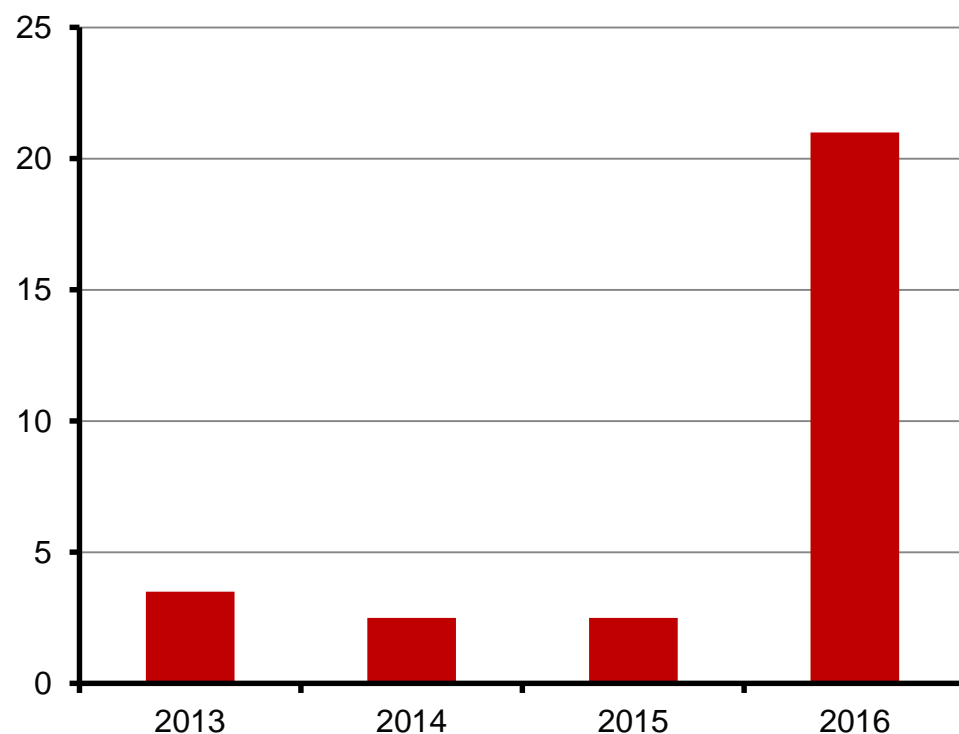
An estimated 20-25% of current PWID are incarcerated each year

An estimated 30% of current PWID are on OST

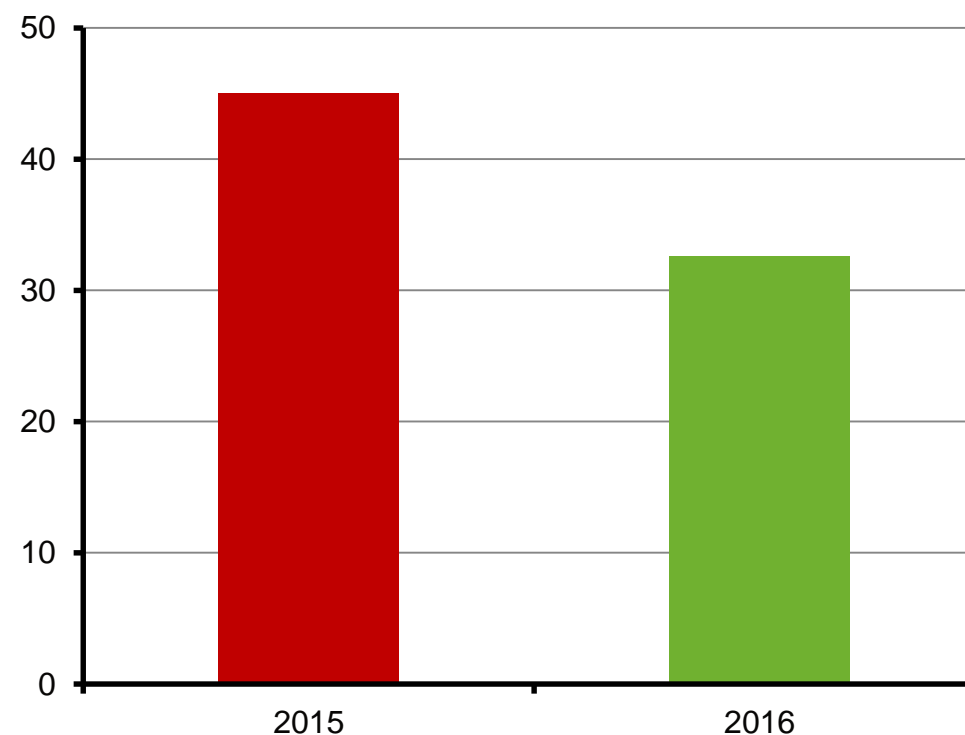
DAA uptake high in current PWID

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

Recent HCV Treatment (Past 12 Months)
among Chronic HCV (%)^{*†}



HCV RNA+ (%)



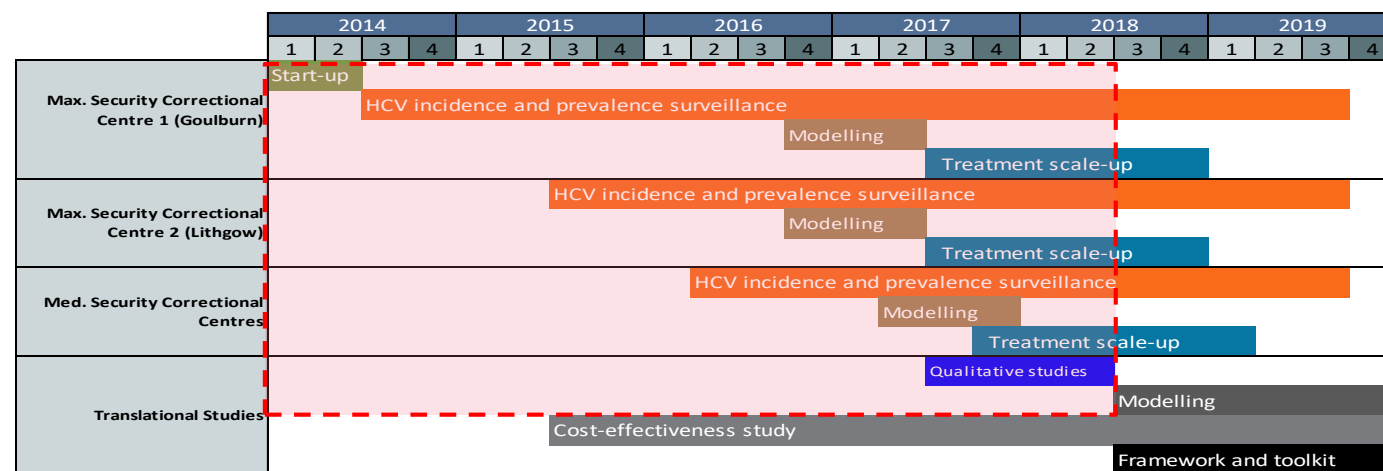
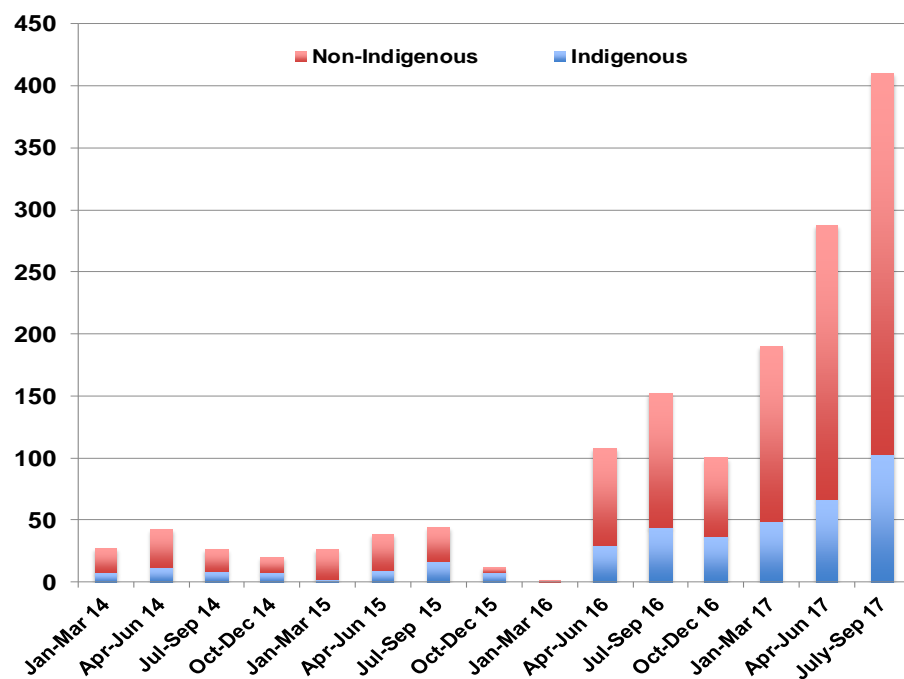
* Among HCV antibody-positive respondents after adjusting for 20% spontaneous clearance (n = 404);

† Adjusted for prior treatment-induced clearance at 55% in interferon era.

Prison-based HCV treatment in NSW

Treatment numbers in pre-DAA and DAA era
(Nurse-led model of care)

S | T | O | P | C



Goulburn Correctional Centre



Lithgow Correctional Centre



Outer Metropolitan Multipurpose Correctional Centre, Sydney



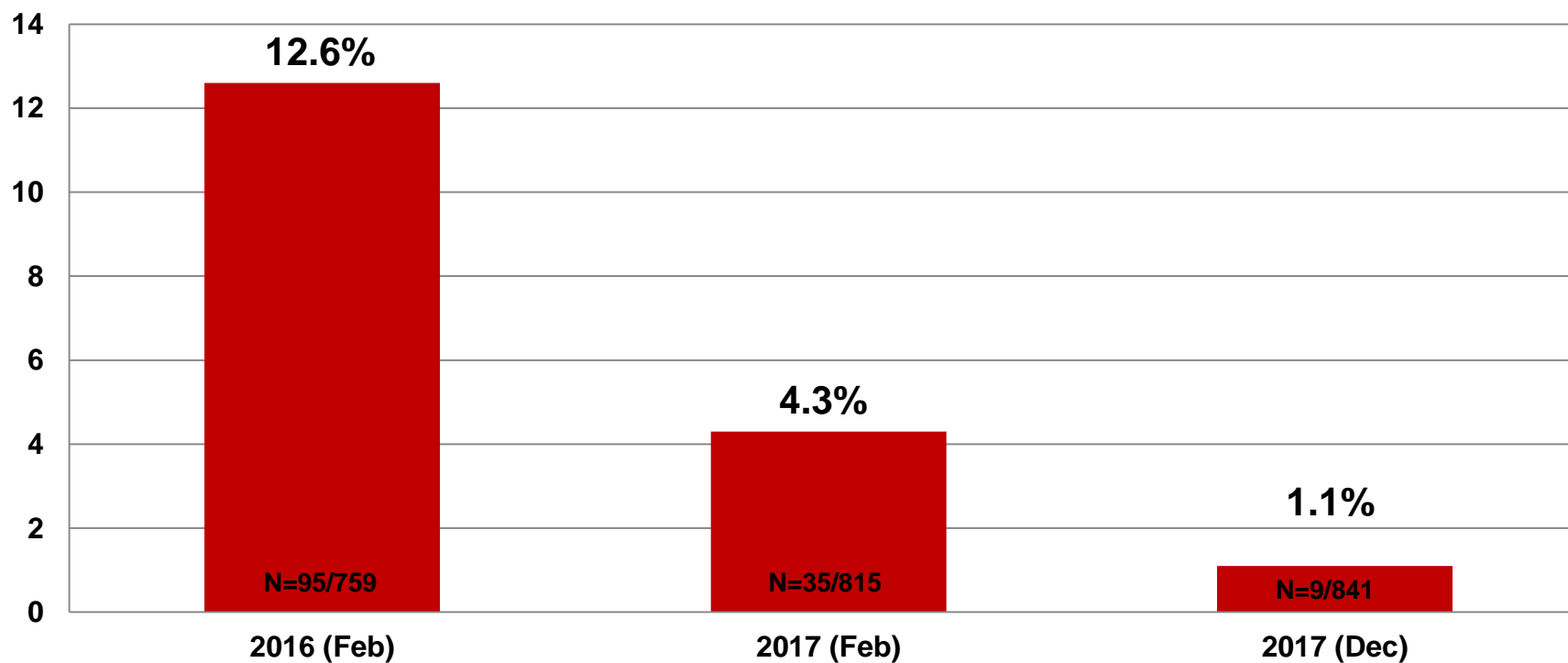
Dillwynia Correctional Centre (Women), Sydney



HCV elimination (near) in QLD prison: Lotus Glen

HCV burden within prison (800-850 inmates)

% HCV RNA+

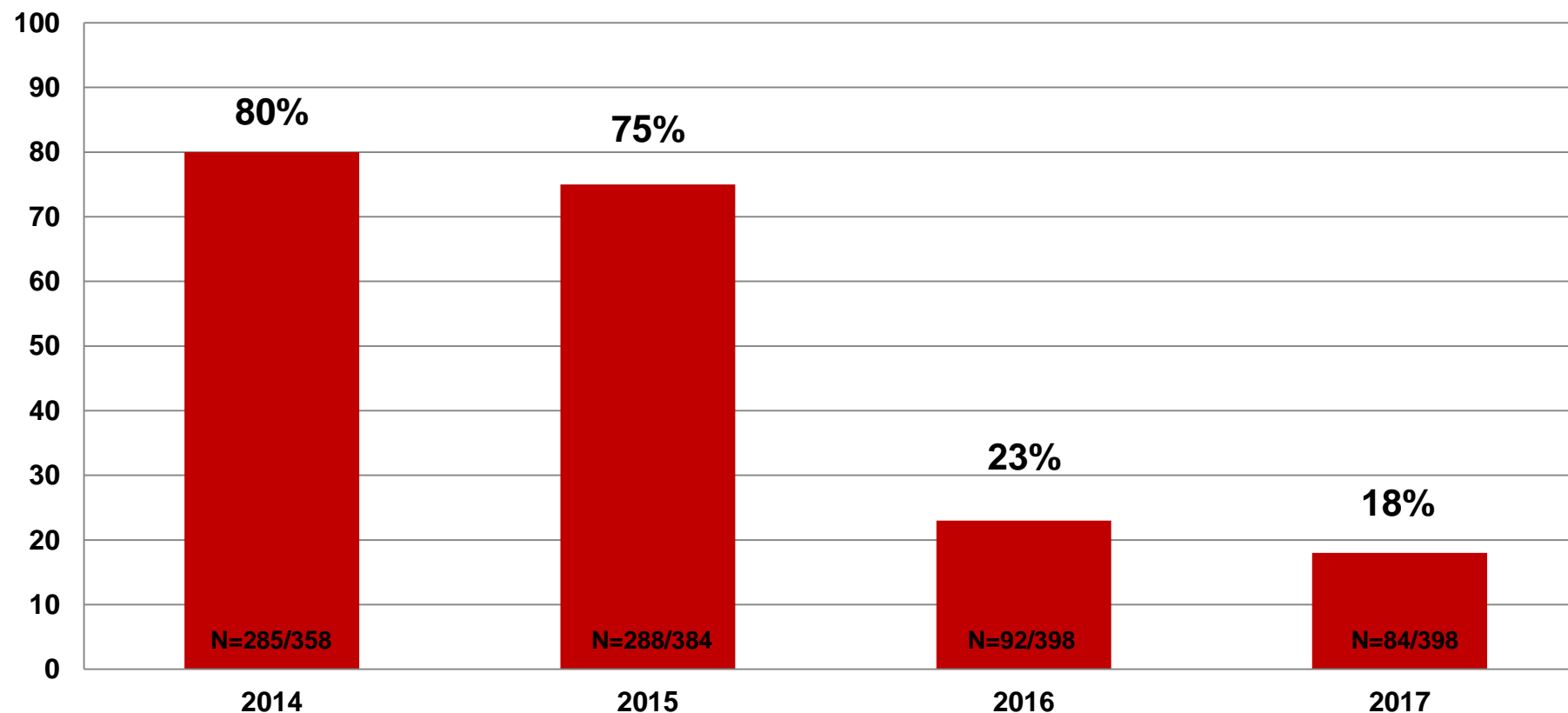


HCV elimination in HIV population



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

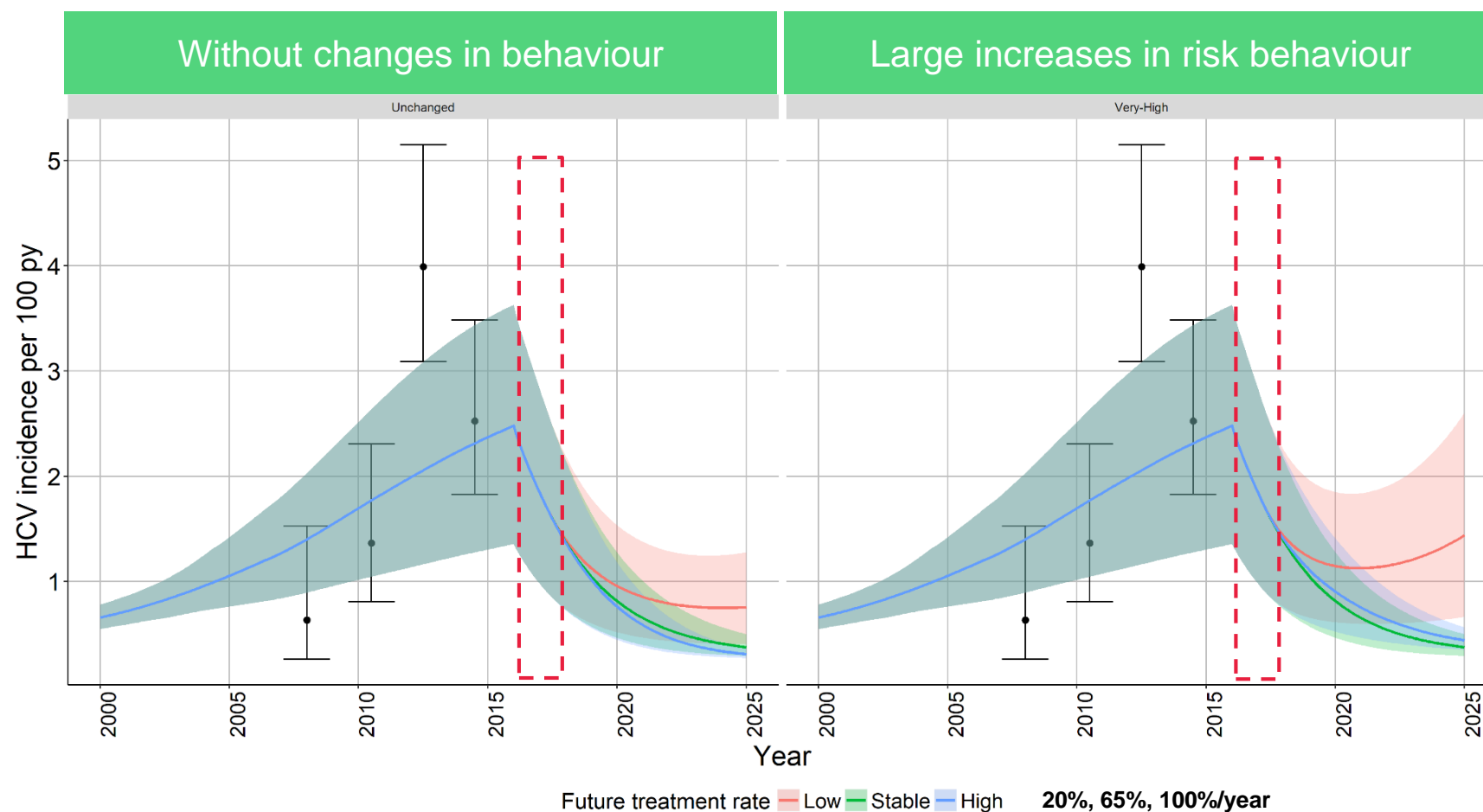
% HCV RNA+



HCV elimination in HIV population



Modelling HCV incidence in Australian HIV population

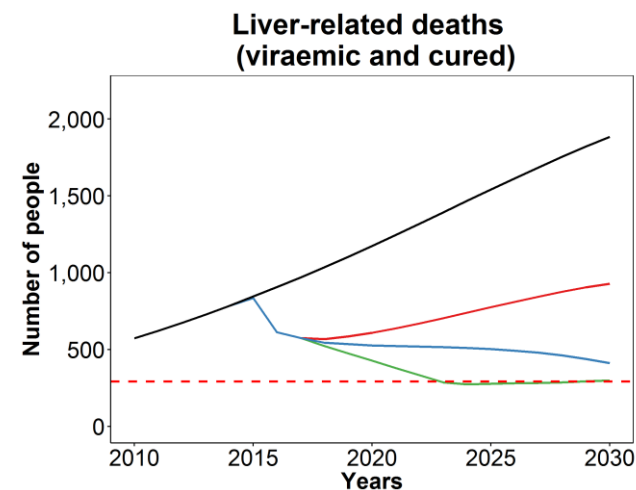
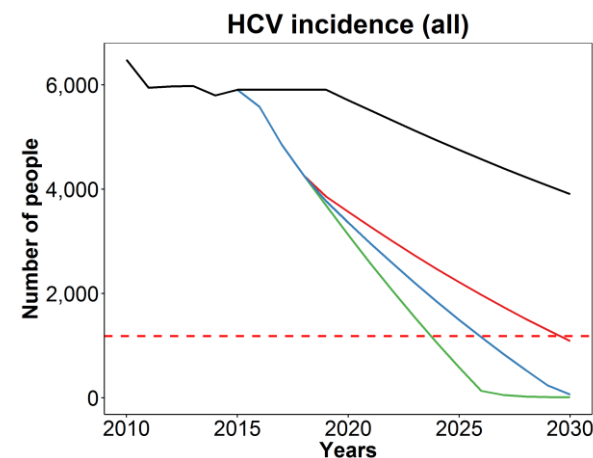
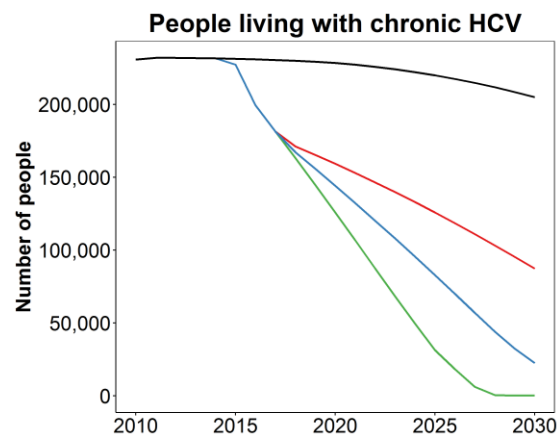
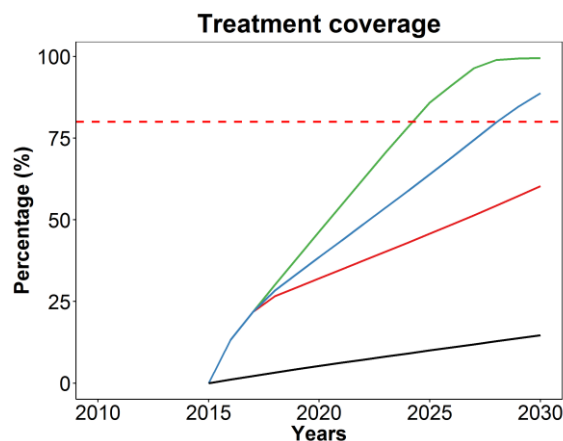


Key challenges to keep Australia “on-track”

- Continued improvement in health systems to provide DAA access
 - Keeping all key stakeholders engaged
 - Enhanced HCV RNA diagnosis required, with linkage to care (role for POC HCV RNA)
 - Increased DAA treatment in prison and community PWID populations (e.g. NSPs)
 - Non-specialist involvement encouraging, but larger number of prescribers required
 - Community awareness campaigns required to enhance diagnosis and linkage to care
 - Need for ongoing monitoring and evaluation
-

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

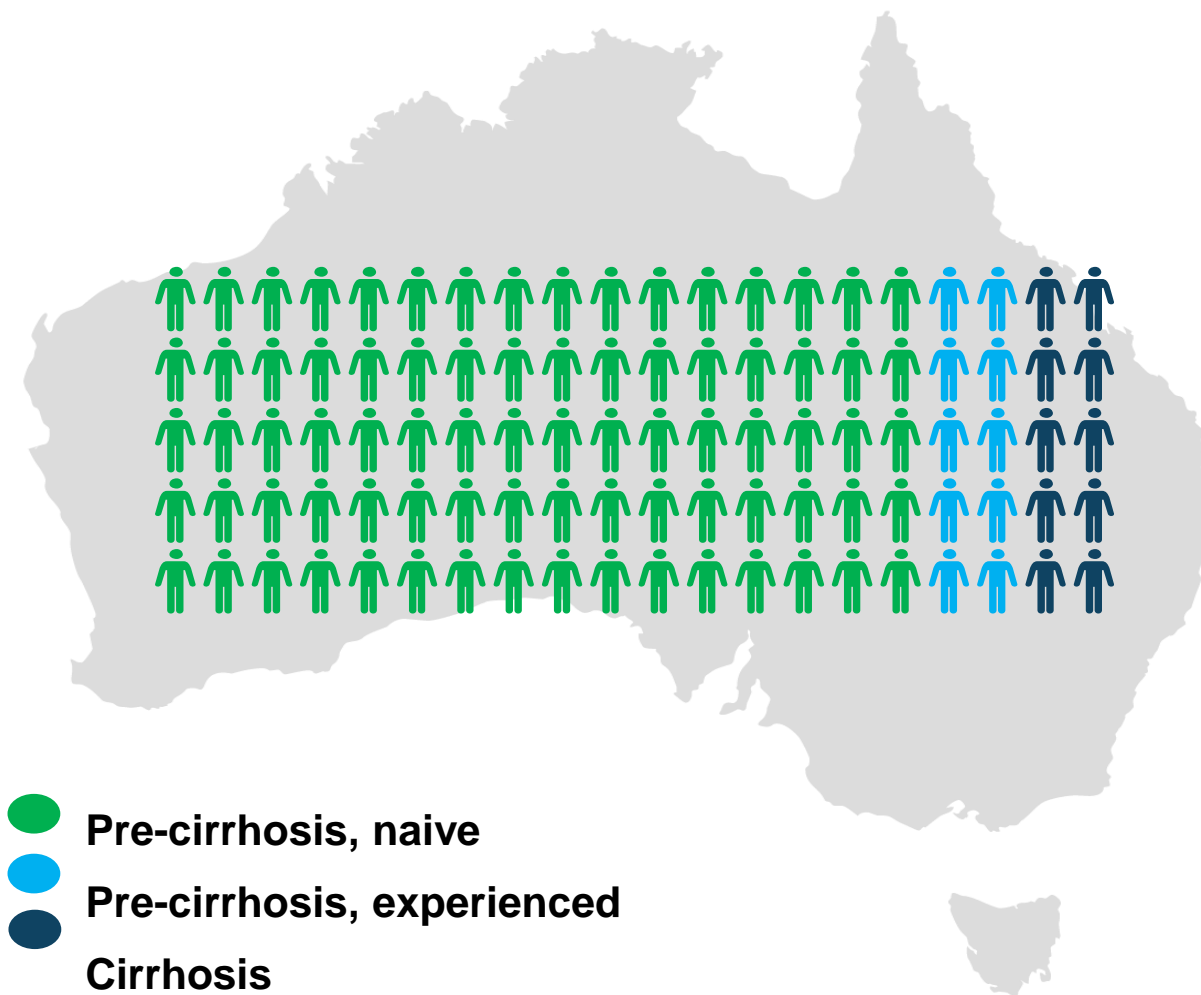


Chronic HCV prevalence in Australia: 2015

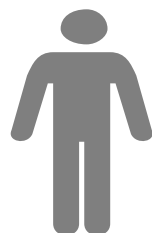


227,000

Australians live with
chronic HCV infection

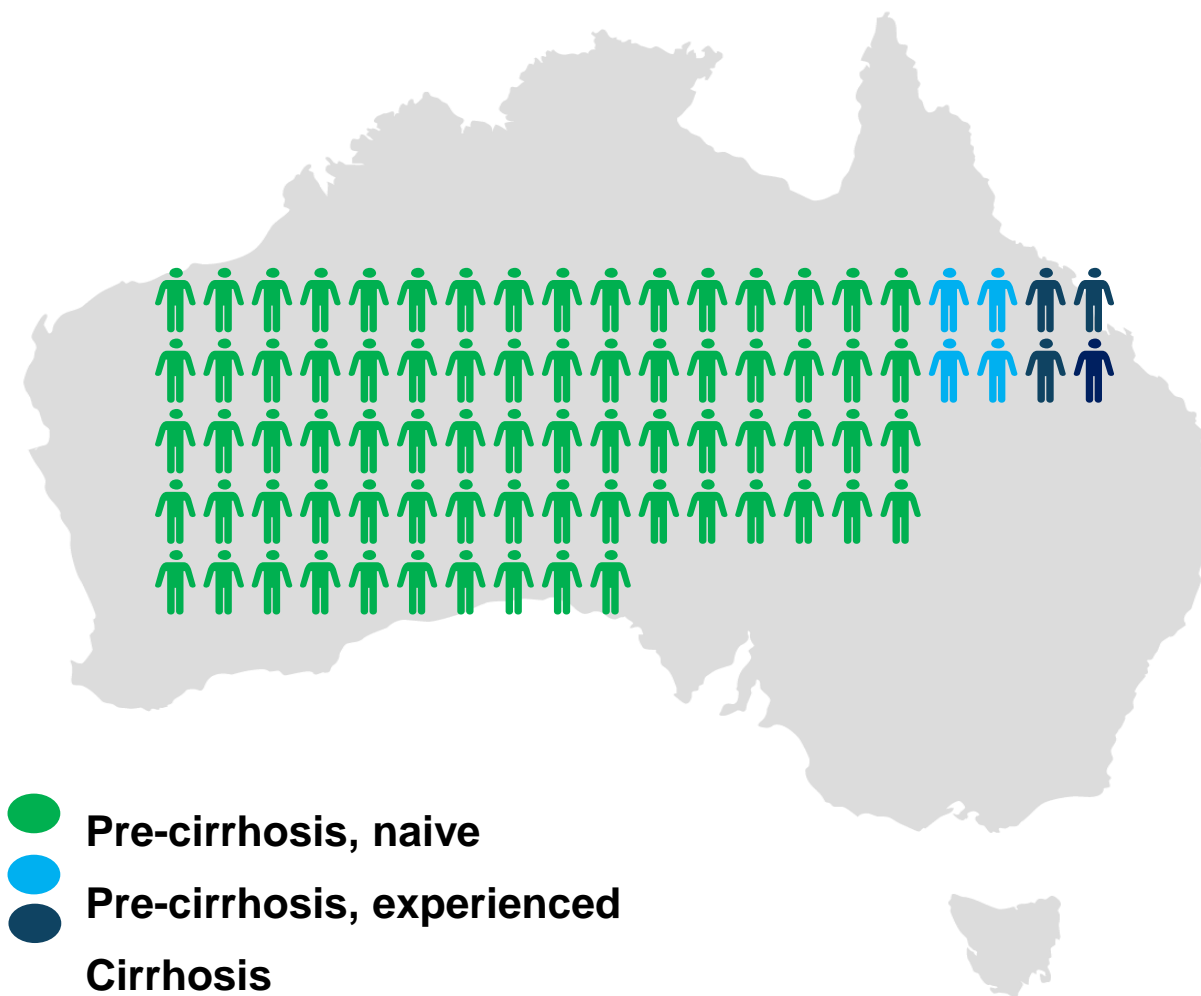


Chronic HCV prevalence in Australia: 2016



199,000

Australians live with
chronic HCV infection

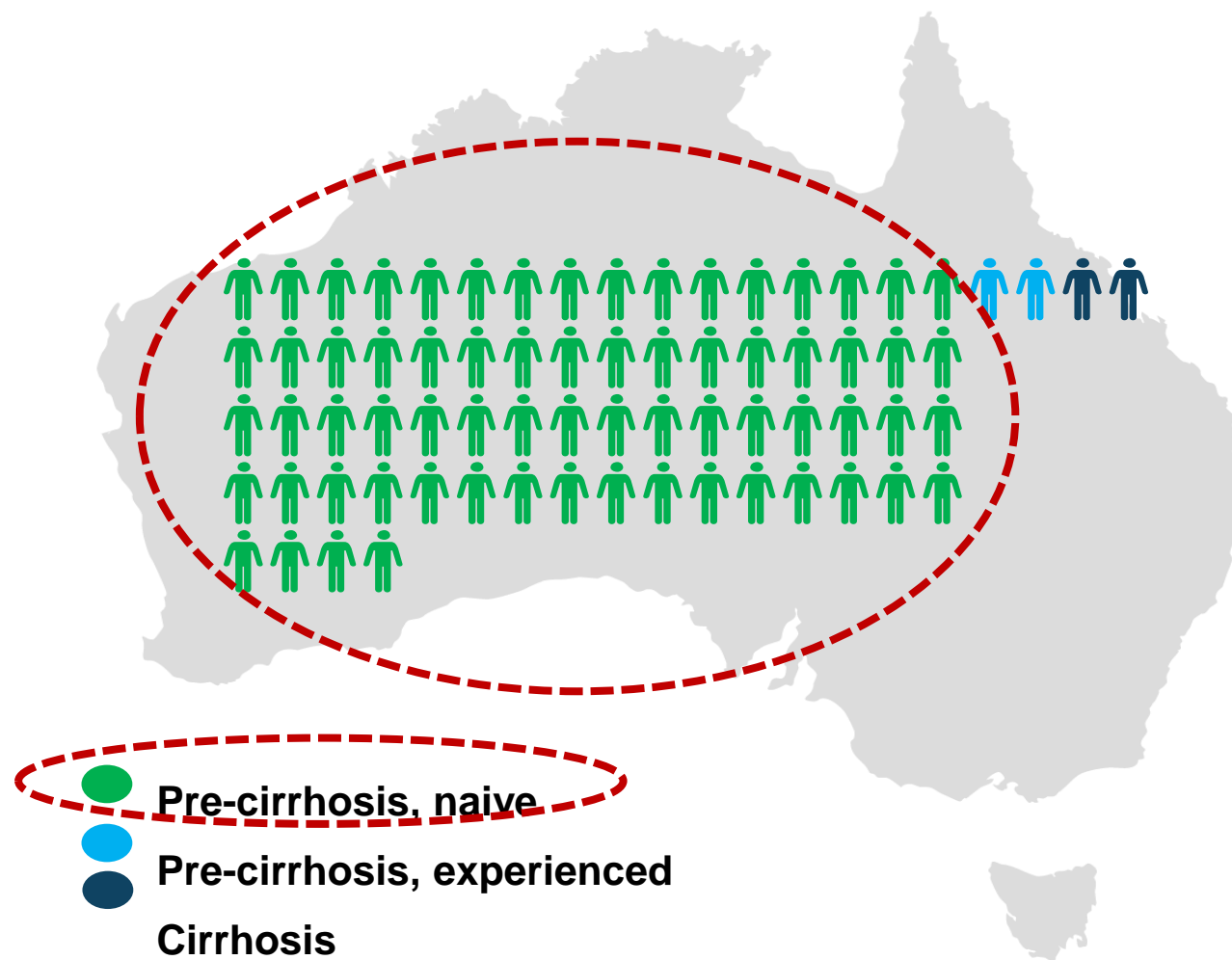


Chronic HCV prevalence in Australia: 2017



183,000

Australians live with
chronic HCV infection



Acknowledgements

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