

Hepatitis C treatment in the prison setting

Professor Andrew Lloyd

Disclosures

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 - Gilead Sciences
 - Merck Sharpe & Dohme (MSD)
 - Janssen
- No personal remuneration from pharma

The prison environment

- Unique physical structure, commonly overcrowded
- Predominantly short stay
- Frequent movements
- Uncontrolled exposure to violence
- Lack of purposeful activity
- Separation from family networks
- Significant risk of physical & psychological harm
- A distinct micro-society with their own rules & regulations



de Viggiani N. Unhealthy prisons: exploring structural determinants of prison health.
Sociology of Health & Illness 2007;29:115-35

Hepatitis C and prisoners

- 1.5M prisoners (15.1%) infected globally

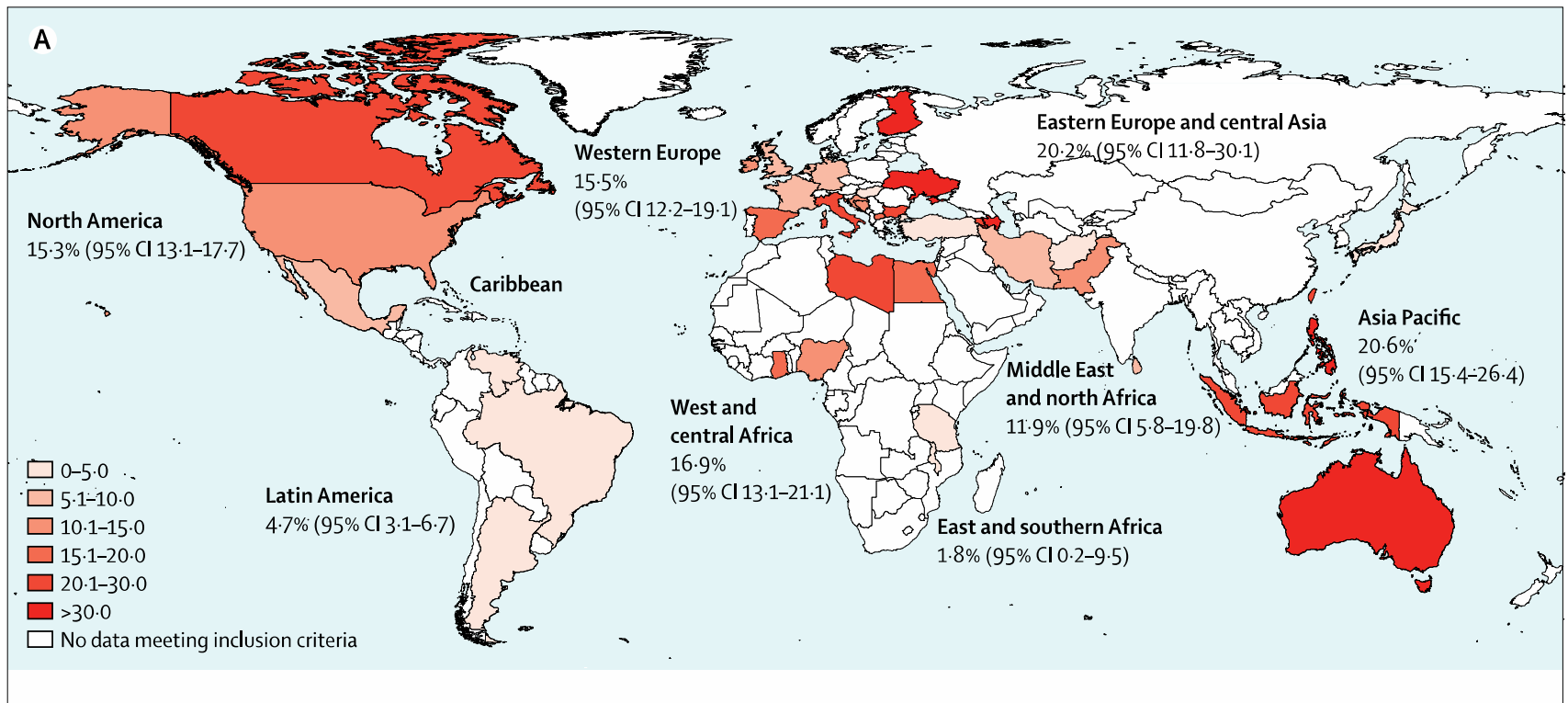


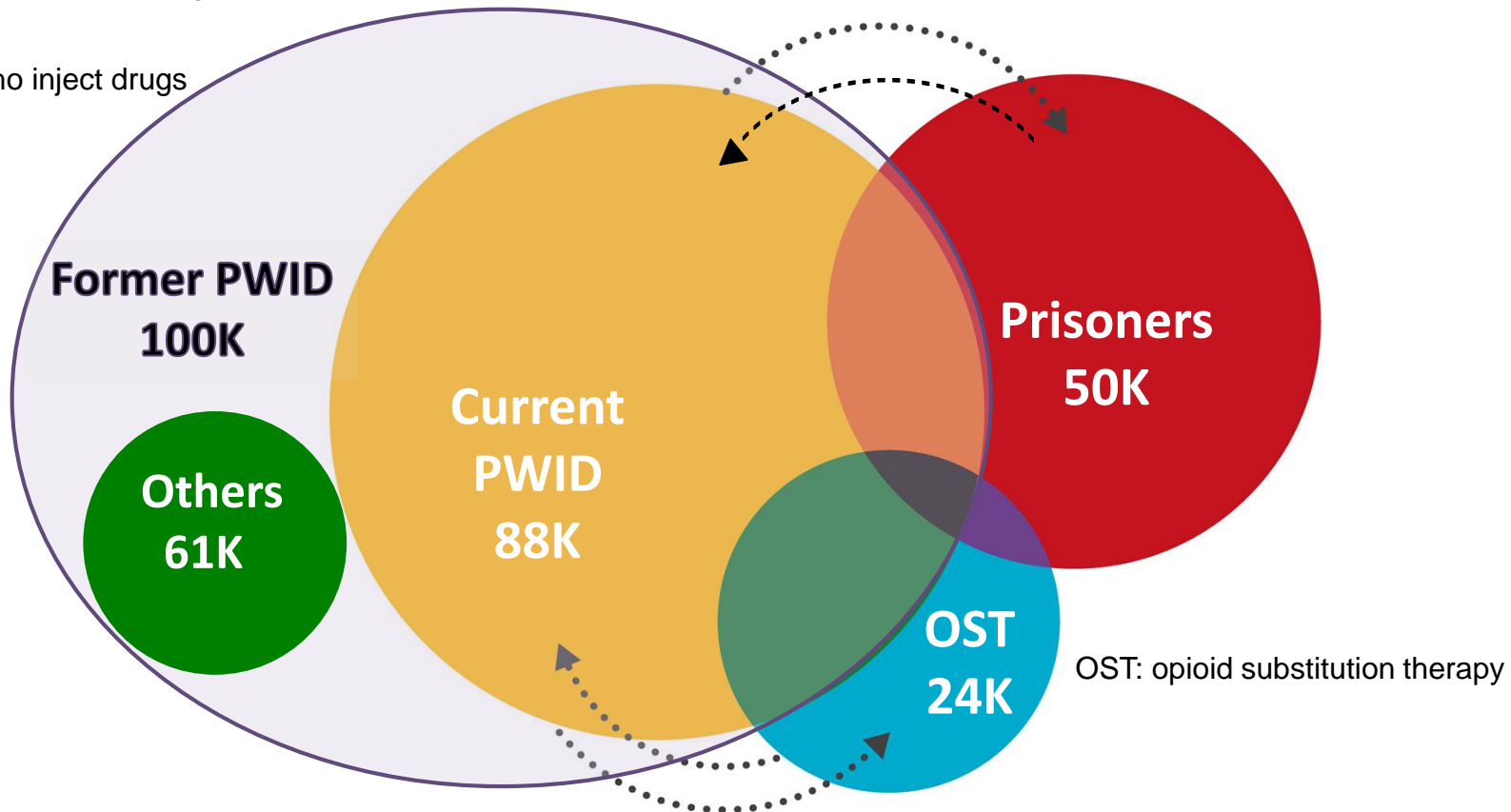
Figure 3: Global and regional prevalence of viral hepatitis in prison inmates, published between 2005 and 2015

(A) Prevalence of HCV antibodies.

HCV in Australia – people who inject drugs (PWID)

Population with chronic HCV ~250K

PWID: people who inject drugs



modified from Grebely J et al. *Antiviral Res* 2014;104:62–72

- *Fourth National Hepatitis C Strategy 2014–2017:*
 - Priority populations: PWID and prisoners

Prisoners in NSW

- NSW inmate population: ~10,000; ~7% females
- 74% Australian born, 17% non-English background
- Aboriginal or Torres Strait Islander (Indigenous): 20%
- Education: ~50% < Year 10
- Mental illness: 33% males, 59% females
- Short stay <6 mths (incl. remand): 63% males, 76% females
- Recidivism (<2 yrs): 64%
- Annual imprisonments ~25,000
- Annual movements ~150,000
- Targeted screening for HCV and other BBVs
- Chronic HCV prevalence ~30%
- Bleach for cleansing of injecting devices
- Opioid substitution treatment (OST)



Hepatitis services for prisoners in NSW

- Specialist ‘in-reach’ medical model (1995-2005)
- 8 centres, nurse-supported clinics
- Limited access to, and uptake of, anti-viral treatment
 - Transfers a major impediment – linked to access to specialists
 - Very slow timelines
 - ~1% of those potentially eligible - actually treated
- Nurse-led model of care (NLMC) – three centres, 2009-2010
 - Selected hepatitis-skilled Clinical Nurse Consultants (CNCs)
 - Protocol-driven nurse assessment and triage
 - Specialist reviews via telemedicine
 - Qualitative and quantitative evaluation
- Outcomes
 - Safe, well accepted by inmates and staff
 - Reasonably efficient - 1 in 4 assessed were treated

Boonwaat L et al, *Med J Aust* 2010, 192 (9), 496–500

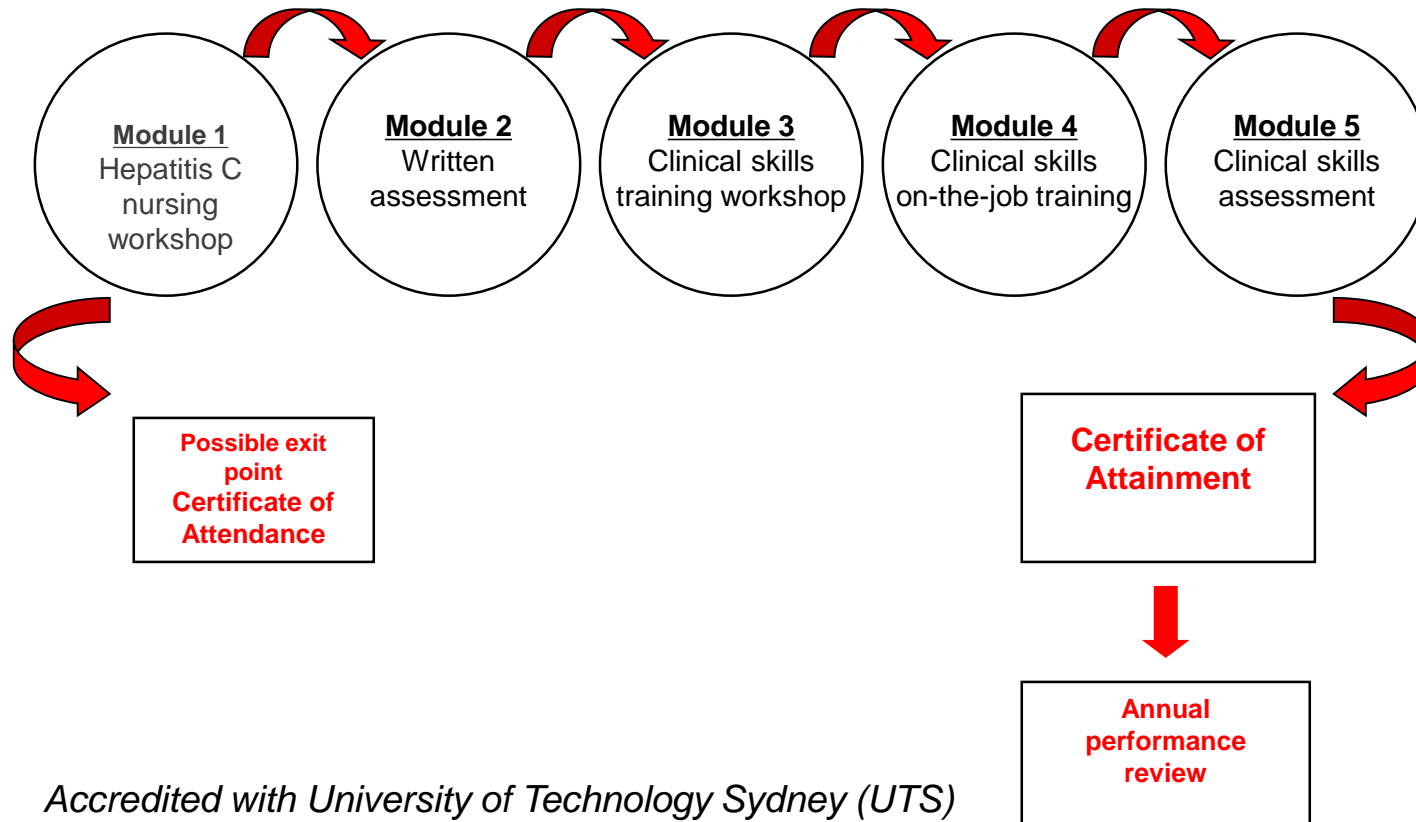
Lloyd A et al, *Clin Infect Dis* 2013, 56:1078–1084

NLMC roll-out (2012-13)

- Implementation of NLMC across the state prisons
- Innovations:
 - Skills-based training of Clinical Nurse Specialists (CNSs), supported by hepatitis-skilled CNCs
 - Targeted mental health assessment by CNCs
 - Portable fibro-elastography
 - Triple therapy – Peg-IFN / RBV plus Boc or Tpv or Sim
 - Ongoing evaluation of safety and efficiency

NLMC – training programme

Education- and skills-based training

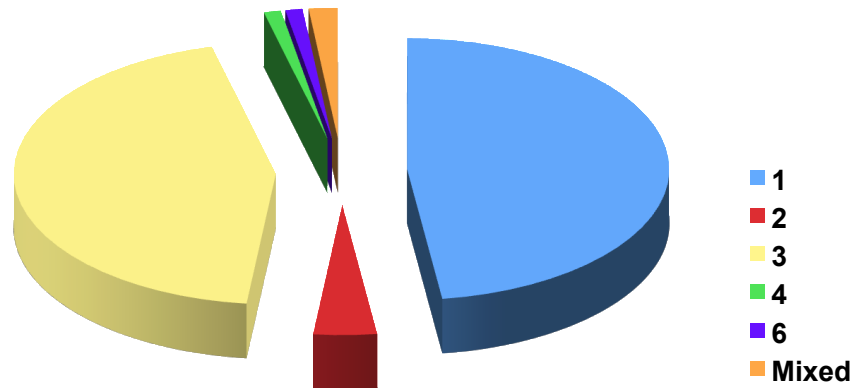


Accredited with University of Technology Sydney (UTS)

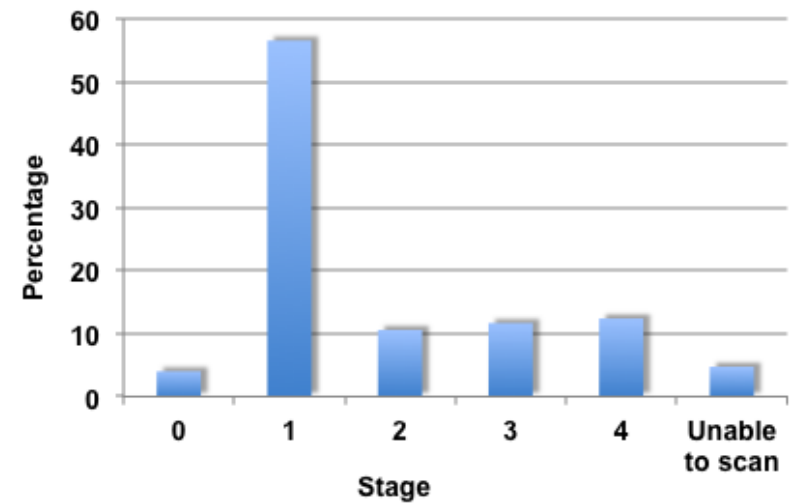
NLMC roll-out

Laboratory characteristics (n=424)

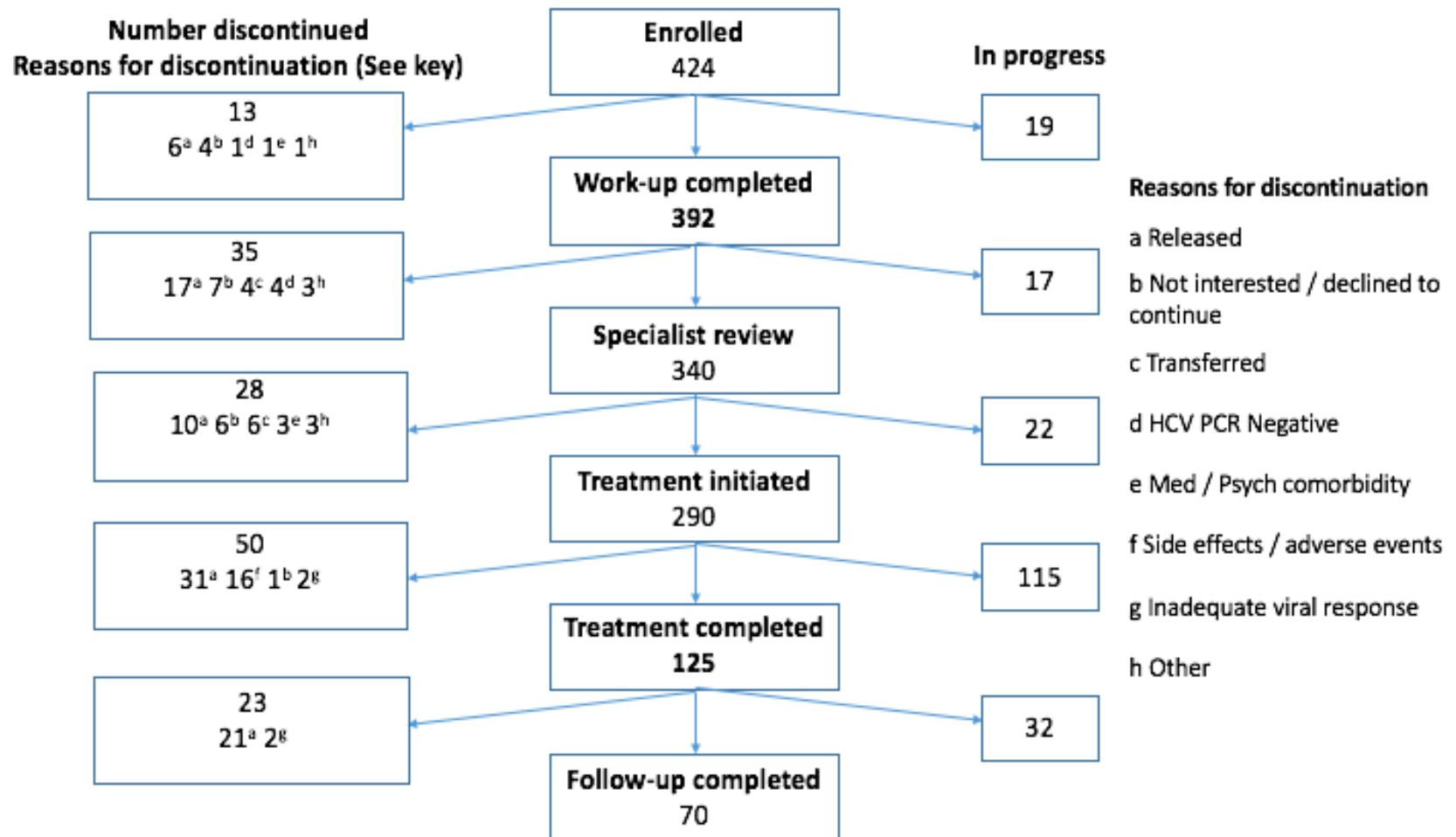
Genotype distribution



Fibrosis stage (Fibroscan)



NLMC roll-out



Prisons Alliance for hepatitis C Treatment: PACT

Aims

1. To develop and evaluate a simplified NLMC for DAAs in NSW prisons
2. To roll out the NLMC into correctional centres in other Australian states

PACT – Aim 1: simplified NLMC for DAA therapy

- Protocols & proformas implemented
- Barriers to scale up identified & resolved
 - pharmacy tech
 - cash flow for drug purchase (before reimbursement)
 - directly observed therapy vs. self-administration
 - triage for face-to-face assessment in the DAA era
 - streamlining of authorisation processes
- Time & motion analysis - mean time per patient treated
 - CNS / CNC time per patient: 75 mins. (vs. 180 mins. in IFN era)
 - Specialist time per patient: 5 mins. (vs. 35 mins. in IFN era)
 - Assessment to treatment initiation: 12 wks (vs. 22 wks in IFN era)
- Efficiencies across the care cascade
 - % treated / assessed: 95% (vs. 29% in IFN era)
 - currently 50 treated per month (vs. 15 per month in IFN era)

Surveillance and Treatment of Prisoners with hepatitis C (SToP-C)

Aim: To evaluate the feasibility and impact of rapid scale-up of DAA treatment on the incidence of HCV infection in the prison setting

Partners: NSW Health, Justice Health, Corrective Services NSW, Hepatitis Australia, NUAA

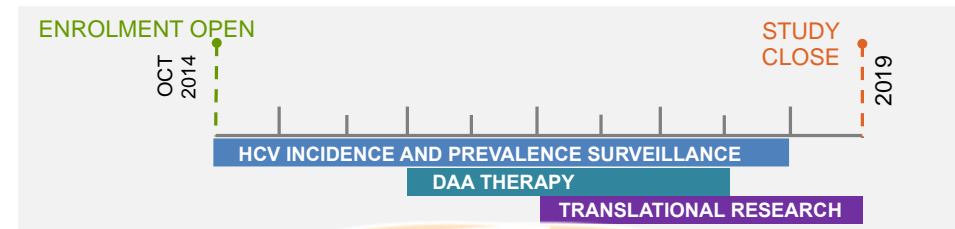
Funding: NHMRC, Gilead Sciences

Study design:

- Surveillance for incidence (target >80%)
- Treatment scale-up (sofosbuvir / velpatasvir) (target >50%)

Progress:

- n=884 enrolled
- n=326 follow-ups



Primary End-point:
Reduction in HCV incidence in cohort across network of 4 SToP-C prisons

Future directions

Possibilities – prisons as a key element of national elimination strategy

- Scale-up of DAA treatment in prisons across Australia (PACT)
 - Key infrastructure, simplified protocols, personnel
 - Simple, pan-genotypic agent(s)
- Elimination from the prison sector
 - Treatment-as-prevention (SToP-C)
 - Roll-out across NSW and then to other states
 - Integrated prevention - OST, NSP

Threats

- Reinfection
- Politics and money



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- SToP-C nurses

Partners

- Justice Health & Forensic Mental Health Network
- Corrective Services, NSW
- NSW Health
- Hepatitis NSW
- NUAA
- Community Restorative Centre

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