

Outcomes of Treatment for Hepatitis C Virus Infection in the Prison Setting

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Statewide Hepatitis Program, Victorian Prisons

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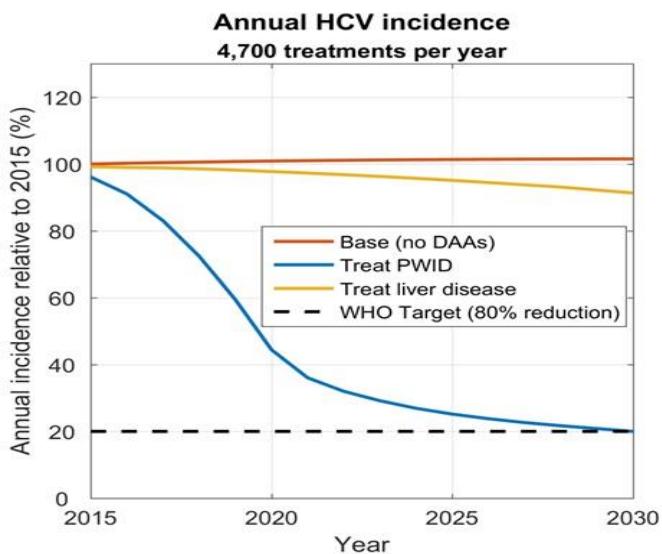
Burnet Institute Melbourne²

Department of Justice and Regulation³



Elimination of HCV

Australia targets 80% reduction in HCV incidence by 2030



- In Australia, treatment scale-up must be among PWID to reach the WHO's incidence target.
 - In Victoria, aim ~ **1500** PWID/yr
- Targeting treatment is necessary.

Victorian Prisons = public health opportunity

- Sufficient scale up will contribute to elimination
- HCV is common in prisons
 - Prevalence 40x higher within prison
 - Incidence 9.4% per year amongst PWID
- Barriers to HCV treatment in prisons:
 - Short prison sentences
 - Frequent transfer between prisons
 - Limited specialist access
 - IFN toxicity, duration
 - Funding for antiviral drugs
- Minimal HCV treatments prior to 2015



ABS report, 2015; 3rd National Hepatitis C Strategy, 2010 – 2013; 2007 National Prison Entrants' Bloodborne Virus and Risk Behaviour Survey; Luciani F, et al. *Addiction* 2014;109,1695–706

Statewide Hepatitis Program

- State-sponsored
 - Department of Justice and Regulation
- Nurse-led
 - 2 full-time nurse specialists
 - protocol-driven assessment & management
 - portable FibroScan
 - delivers care locally to each prison
 - minimizes prisoner movement
- Supervising hepatologists
 - 3 part-time hepatologists (0.25 FTE)
 - F2F and via tele-medicine
- Centralised pharmacy distribution
 - PBS S100 criteria provides access to prisoners
 - 16 treatments / week
- Centralised medical record (J-Care {DoJ})



Aims

- i. Describe the population living with chronic HCV infection in the Victorian prison system

- ii. Evaluate the efficacy of DAA therapy for HCV delivered by the Statewide Hepatitis Program in the Victorian prison system

Method

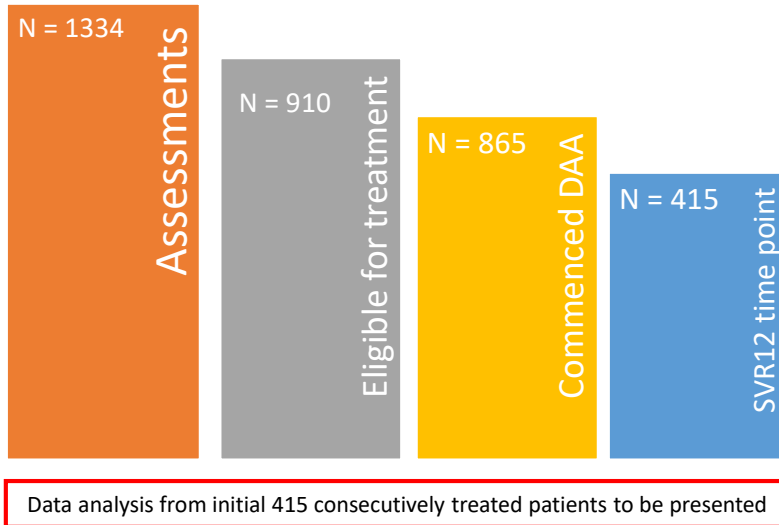
- 415 initial consecutively treated prisoners
 - Treatment started 1st November 2015
 - SVR12 timepoint prior to 1st July 2017

- Key outcomes of interest
 - Population characteristics
 - Treatment outcome (EOTR, SVR12)
 - Overall (intent-to-treat)
 - Complete data capture (“per protocol”)

- Statistical analysis was performed using SAS V2.0

Results: Assessments and treatments

1st November 2015 – 1st July 2017



Results: Prisoner Characteristics

	N = 415
Age (mean)	39.5
Male gender (%)	90 %
Ethnicity (%)	
- Caucasian	68 %
- Indigenous	12 %
Body Mass Index (mean kg/m ²)	30 [27-34]
ALT U/L (median, IQR)	88 [55-146]
HCV RNA IU/mL (median, IQR)	685,000 [192,000-2,616,500]
HCV Genotype (%)	
- 1a	44 %
- 1b	3 %
- 3	50 %
- 2	2 %
- 6	1 %
LSM kPa (%)	
- < 9.5	72 %
- 9.5 – 12.5	10 %
- >12.5	18 %
Cirrhotic (n, %)	21 %
- Compensated	18 %
- Decompensated	3 %

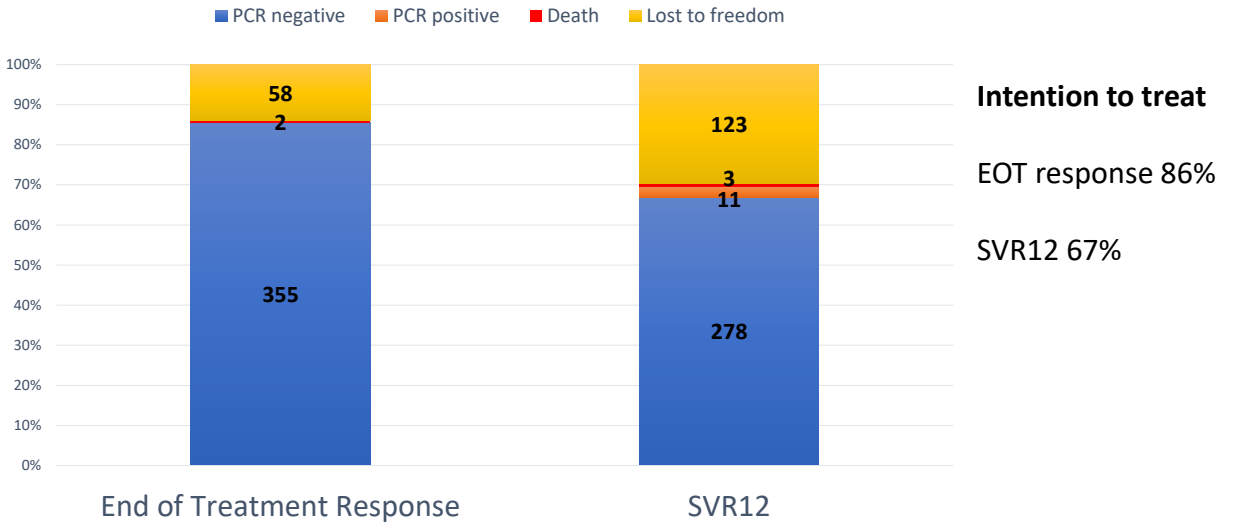
Results: Prisoner Characteristics

	N = 415
HBV co-infection	
- HBsAg positive	2 %
- Anti-HBc positive	30 %
- Anti-HBs positive	81 %
HIV co-infection	2 %
PWID	
- Ever	94 %
- Month prior to incarceration	68 %
- Age started (median, IQR)	17 [15-21]
- Ever shared while in prison	57 %
Drug of choice	
- Heroin	60 %
- Amphetamines	36 %
- Prescription / other	4 %
OST	
- Methadone	52 %
- Suboxone	3 %
Mental health history	
- Self-reported	70 %
- Psychotropic medication	50 %
HCV care	
- Never sought specialised HCV care	86 %
- Treatment experienced	6 %

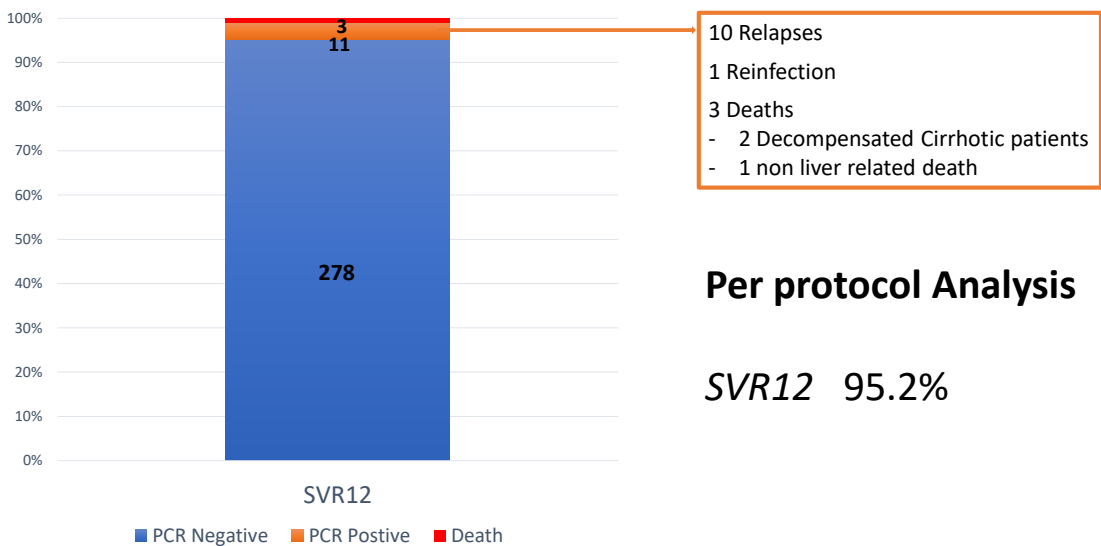
Results: Service Characteristics

	N = 415
Assessments:	
- Nurse only contact	82 %
- Telehealth and/or Face-to-face with specialist	18 %
Referral to assessment, days (mean, IQR)	48 [17-62]
Number of prisoner movements	
- 1+ movement while on treatment	27 %

Results: HCV treatment outcomes – Intention to Treat

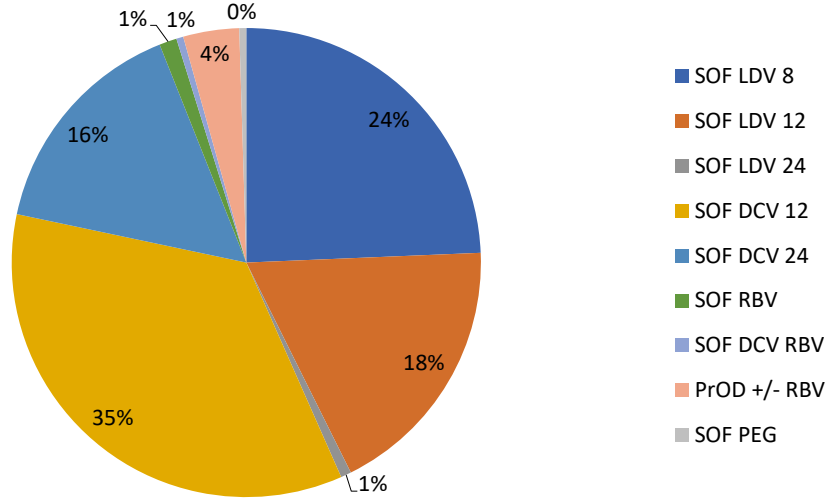


Results: Prisoners who have SVR12 result available

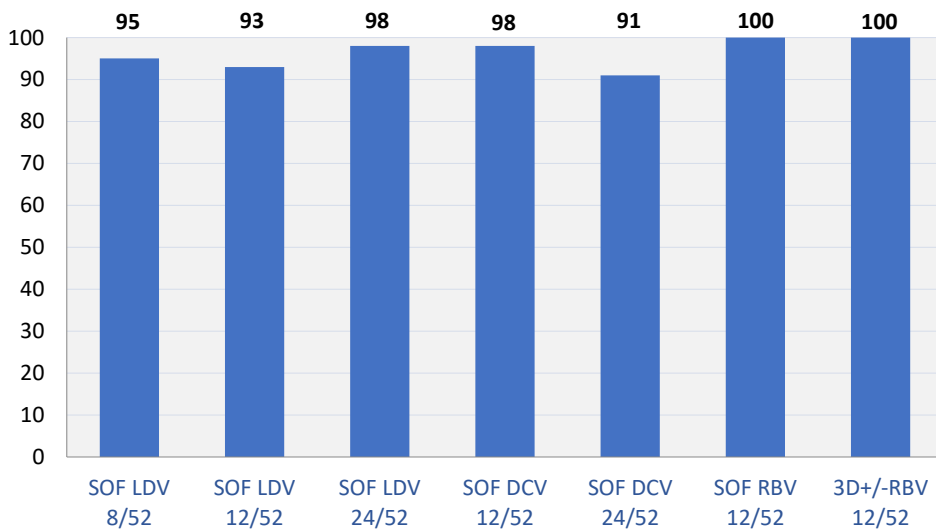


Results: DAA treatment Regimens (N=415)

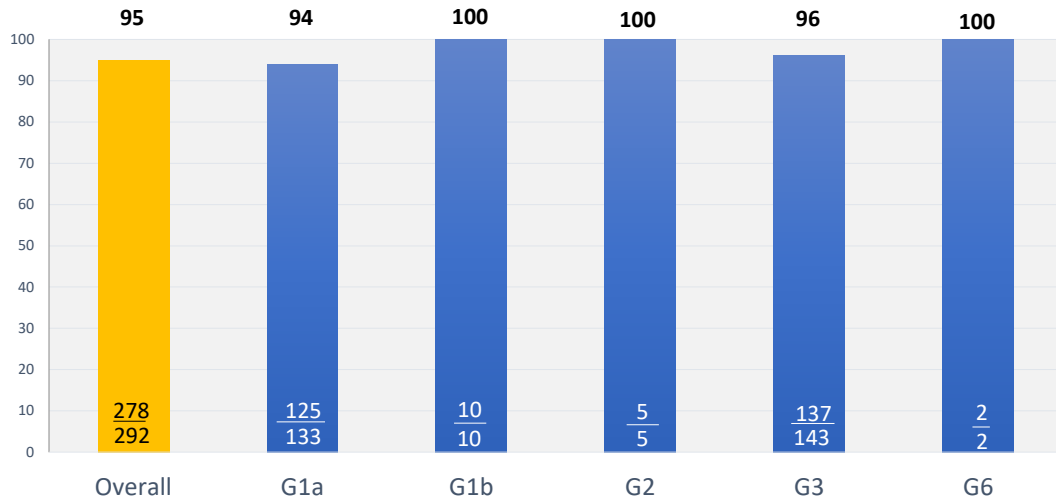
1st November 2015 – 1st January 2017



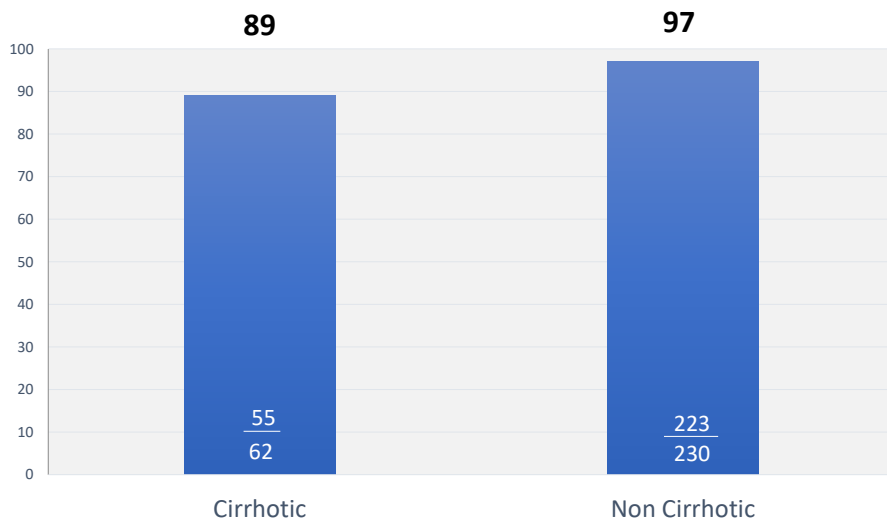
Results: SVR 12 rates by treatment regimen



Results: SVR12 rate by genotype



Results: SVR12 rates by cirrhosis status



Results: Relapsed patients

Genotype	Medication(s)	Duration	Cirrhosis?	Shared IVDU	Retreatment
1a	SOF LDV	8 weeks	No	No	Yes
1a	SOF LDV	8 weeks	No	Yes	Yes
1a	SOF LDV	8 weeks	No	No	Yes
1a	SOF LDV	8 weeks	No	Yes	No
1a	SOF LDV	12 weeks	No	Yes	No
3a	SOF DCV	12 weeks	No	No	No
3a	SOF DCV	12 weeks	No	Yes	No
3a	SOF DCV	24 weeks	Yes	No	Yes
3a	SOF DCV	8/24 weeks	Yes	Yes	Yes
3a	SOF DCV	13/24 weeks	Yes	No	Yes

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Results: Deaths and reinfection

Deaths

Genotype	Medication(s)	Duration	Time of death	Cause of death
3a	SOF DCV	24 weeks	Prior to EOT	Decompensated liver failure
1a	SOF LDV	12 weeks	Prior to EOT	Decompensated liver failure
1a	SOF LDV	12 weeks	Between EOT and SVR12	Cardiac Arrest

Reinfection

Initial genotype	Treatment experience	Medication	Duration	Reinfection timepoint	Repeated genotype
1a Cirrhotic	Naïve	SOF LDV	12 weeks	EOT → SVR12	3a
3a Non cirrhotic	Naïve	SOF DCV	12 weeks	Post SVR12	3a

Conclusions:

- HCV treatment can be delivered safely, effectively and in high numbers in the prison setting using an innovative nurse-led model of care
- Excellent treatment responses are observed.
- The prison setting provides an excellent opportunity to engage and treat high risk individuals, and should be part of public health platforms that support the elimination of HCV

Acknowledgements

Pharmacy team - Annabelle Gibson, Aoife Waldron

St. Vincent's Correctional Health Service

- Kris Mihaly
- Kirsten Rodgers
- Stephen Vale
- Charles Roth

Burnet Institute

- Margaret Hellard
- Mark Stooove

University of NSW

- Andrew Lloyd

Hepatitis Victoria

- Melanie Eagle

Department of Justice, Victoria

- Jan Noblett
- Larissa Strong
- Rebecca Redpath
- Camilla Preston
- Paul Desmond

Correct Care Australasia

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