Control and Elimination within Australia of Hepatitis C from people living with HIV

Associate Professor Gail Matthews  September 2015

Is HCV elimination possible?

Key definitions:

Eradication: Permanent reduction to zero of the worldwide incidence of infection caused by a specific agent as a result of deliberate efforts

Elimination: Reduction to zero of the incidence of a specified disease in a defined geographical area as a result of deliberate efforts

Control: The reduction of disease incidence, prevalence, morbidity or mortality to a locally acceptable level as a result of deliberate efforts

Why now?

Why is it important?

Why Australia?

Concentrated geographical location

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Why Australia?

HIV treatment and care cascade in Australia

26,800

- Linked to care: 78%
- Retained in care: 76%
- Receiving ART: 66%
- HIV RNA Suppressed: 62%

Why Australia?

78% Linked to care
76% Retained in care
66% Receiving ART
62% HIV RNA Suppressed

A unique opportunity exists within the Australian setting to demonstrate the rapid and comprehensive upscaling of treatment access within a defined and well characterized population to eliminate HCV.

Primary Objective
- To evaluate the impact of a rapid scale-up of IFN-free HCV treatment on HCV transmission among people with HIV

Primary Endpoint
- Change in HCV incidence from pre- to post-scale-up of IFN-free HCV treatment

CEASE-D

Establish a database of HIV/HCV in Australia: surveillance and samples

CEASE-m (modelling)
CEASE-d (database)
CEASE-e (education)
CEASE-t (therapy)

Sites

INITIAL SITES (5)
- St Vincent's Hospital
- Taylor Square Private Clinic
- Holdsworth House
- East Sydney Doctors
- Alison Street Clinic

FURTHER SITES (17)
- Cairns
- Brisbane
- Adelaide
- Melbourne
- Sydney

DBS
- Detection of viraemia – individual and population
- Genotyping
- Phylogenetic linkage – clusters

Fibroscan
- Distribution of fibrosis
- Regression of fibrosis at population level

Behavioural questionnaires
- Drug and alcohol use
- Sexual risk, reinfection risk
- Changes in risk behaviour post therapy
Baseline characteristics

- 202 participants enrolled to date
- 98% male
- 82% Caucasian
- 89% GBM
- 85% HCV RNA detectable
- 26% HIV RNA detectable
- 26% prior HCV treatment

Liver Disease Staging

HCV Genotype

Antiretroviral therapy eligibility in CEASE

- n=121

CEASE-D

Establish a database of HIV/HCV in Australia: surveillance and samples

CEASE-m (modelling)

Inform numbers needed to reduce incidence and prevalence (TAP)

CEASE-d (database)

Large scale roll out through treatment access programs/phase 4 studies/PBS

CEASE-e (education)

CEASE

CEASE-t (therapy)

S100 HCV prescriber programs for primary care and others

CEASE-t: therapeutic intervention

Widespread DAA access

Research studies

Early access programs

PBS listing

Geographical high density targeting, I-STEP

Establishment of reinfection cohorts

Behaviour/adherence outcomes

SOF/LDV: GT 1
SOF/DCV: GT 1,2,3,4,5
SOF/RBV: GT 2

No fibrosis restriction

Summary: why is CEASE possible?

- Australia has relatively small HIV-HCV co-infected population
- Unique situation with high engagement in care and S100 community prescribing for HIV therapy
- Concentrated geographical location of patients
- Ongoing high rates of new HCV infections in this population – many through drug and sexual risk behaviour associated with crystal use
- Potential PBS access to pangenotypic regimens with no fibrosis restriction = treatment for all
- High rates of treatment willingness amongst community (patients and physicians)
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AGHI: Ms Vanessa Towell
Hepatitis NSW: Mr Stuart Lowndes
NSW Health: Ms Libby Topp
NUAA: Ms Mary Harrod
Positive Link NSW: Mr Craig Cooper

Funding

Current ARV use in CEASE by class

<table>
<thead>
<tr>
<th>Antiretroviral agent class</th>
<th>Individuals receiving cART (n=151)*</th>
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</thead>
<tbody>
<tr>
<td>NRTI/NNRTI, n (%)</td>
<td></td>
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<tr>
<td>Abacavir</td>
<td>37 (25)</td>
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<tr>
<td>Lamivudine</td>
<td>42 (28)</td>
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<tr>
<td>Tenofovir</td>
<td>99 (66)</td>
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<tr>
<td>Emtricitabine</td>
<td>94 (62)</td>
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<tr>
<td>(Abacavir/lamivudine FDC)</td>
<td>19 (13)</td>
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<tr>
<td>(Tenofovir/emtricitabine FDC)</td>
<td>52 (34)</td>
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<tr>
<td>NNRTI, n (%)</td>
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</tr>
<tr>
<td>Efavirenz</td>
<td>28 (19)</td>
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<tr>
<td>Etravirine</td>
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<tr>
<td>Nevirapine</td>
<td>9 (6)</td>
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<tr>
<td>Rilpivirine</td>
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<tr>
<td>PI, n (%)</td>
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<tr>
<td>Atazanavir</td>
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<tr>
<td>Atazanavir/ritonavir</td>
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<tr>
<td>Darunavir/ritonavir</td>
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<tr>
<td>Lopinavir/ritonavir</td>
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<tr>
<td>Entry inhibitors, n (%)</td>
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<td>Maraviroc</td>
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<tr>
<td>Integrase inhibitors, n (%)</td>
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<tr>
<td>Dolutegravir</td>
<td>28 (19)</td>
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<tr>
<td>Elvitegravir/cobicstat</td>
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<tr>
<td>Raltegravir</td>
<td>38 (25)</td>
</tr>
</tbody>
</table>

*Individuals receiving cART (n=151)