Fall in HCV incidence in HIV+ MSM in London following expansion of access to DAA therapy

Lucy Garvey, Colette Smith, Christof Stingone, Indrajit Ghosh, Alison Rodger, Lakshmi Jain, Chandni Sood, Tabitha Mahungu, Carolyn Freeman, Subathira Dakshina, Filippo Ferro, Laura Waters, Ashley Brown, Graham Cooke, Sanjay Bhagani
Background

- Transformation of hepatitis C (HCV) care with directly acting antivirals (DAAs) making effective and tolerable treatment possible
- WHO targets for elimination of HCV as a public health threat by 2030, including a 90% reduction in new HCV infections\(^1\)
- BHIVA - aims to cure HCV in 100% of HIV/HCV patients by 2021\(^2\)

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\(^2\) [https://www.bhiva.org/BHIVA-calls-for-accelerated-efforts-to-prevent-and-cure-hepatitis-C-infection](https://www.bhiva.org/BHIVA-calls-for-accelerated-efforts-to-prevent-and-cure-hepatitis-C-infection), BHIVA HCV Micro-elimination statement, 10 October 2018
Predicted impact of scaling up treatment in HIV+MSM
Aims and Setting

- Use real world experience to examine trends in incidence of acute HCV in HIV+ MSM between 2013-2018 (pre and post DAAs)
- 3 central London HIV clinics which provide care for over 6000 HIV+ MSM

Royal Free NHS Trust  
Imperial College Healthcare NHS Trust  
Mortimer Market Centre
HCV Treatment Access

2015: NHS England (NHSE) DAA treatment programme; decompensated cirrhotics priority

2016-date: access for all HCV disease stages; priority if significant fibrosis; monthly allocations per region; long waiting lists in some areas

Exceptions to NHSE treatment remain:
• Acute HCV infection not permitted until >6-months viraemia
• 2nd course of DAAs not permitted for HCV reinfection

All 3 centres also research active during the study period:
2016-2018: acute HCV/HIV (including TARGET 3D, REACT) and chronic non-cirrhotic HCV/HIV clinical trials (including STOP HCV)
Methods

Period of study:
• July 2013- June 2018; data reported by 6-month interval

Data collected:
• Number of acute HCV episodes: first and subsequent (reinfections)
• Number of HIV+MSM under active FU (denominator)
• Type of HCV treatment selected
• Timing of treatment initiation relative to acute HCV diagnosis

Definitions\textsuperscript{1,2}:
• **Acute HCV:** positive HCV RNA test plus a negative anti-HCV test within 12 months; or positive HCV RNA test with an acute ALT rise and no other identifiable cause

• **Acute HCV reinfection:** positive HCV RNA test with prior confirmed spontaneous clearance, SVR following HCV treatment or with evidence of genotype switch

Results: July 2013- June 2018

- 256 acute HCV diagnoses
- 211 first infections and 45 reinfections
Results: Parameters at time of acute HCV diagnosis

<table>
<thead>
<tr>
<th></th>
<th>Number (n)</th>
<th>256</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, median [IQR]</td>
<td>43 years</td>
<td>[35,48]</td>
</tr>
<tr>
<td>On ART at time of acute HCV episode, n (%)</td>
<td>230 (90%)</td>
<td>83% (2013) to 100% (2018)</td>
</tr>
<tr>
<td>HIV RNA &lt;50 c/mL at time of acute HCV</td>
<td>217 (85%)</td>
<td>83% (2013) to 94% (2018)</td>
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</tbody>
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HCV genotype:
- G1a: 75%
- G4: 11%
- G3: 7%
- G1b: 4%
- Not known (n=5) includes spontaneous clearers (n=4)
- LTFU (n=1)

Diagram: Pie chart showing the distribution of HCV genotypes.
Results: Incidence Rate/1000 HIV+MSM PYFU

Peak IR July-Dec 2015:
- All acute HCV 17/1000 [95% CI 13, 22]
- First acute HCV 15/1000 [95% CI 10, 19]
Results: Incidence Rate Reduction

Incidence Rate per 1000 HIV+ MSM PYFU

- Incidence of all infections
- Incidence of first infections

Year

Q34 2013 Q12 2014 Q34 2014 Q12 2015 Q34 2015 Q12 2016 Q34 2016 Q12 2017 Q34 2017 Q12 2018

Incidence of all infections:
- 68% reduction in ALL infection
- 79% reduction in FIRST infection
Results: Reinfection proportion of acute HCV diagnoses

<table>
<thead>
<tr>
<th></th>
<th>Reinfection (n)</th>
<th>First infection (n)</th>
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<tbody>
<tr>
<td>Q34 2013</td>
<td>9</td>
<td>21</td>
</tr>
<tr>
<td>Q12 2014</td>
<td>21</td>
<td>19</td>
</tr>
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<td>Q34 2014</td>
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<td>Q12 2015</td>
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<td>Q34 2015</td>
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<td>Q12 2016</td>
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<td>28</td>
</tr>
<tr>
<td>Q34 2016</td>
<td>15</td>
<td>28</td>
</tr>
<tr>
<td>Q12 2017</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>Q34 2017</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Q12 2018</td>
<td>43</td>
<td>9</td>
</tr>
</tbody>
</table>
Results: Incidence and reinfection proportion
Results: HCV treatment pathway

- not treated/LTFU
- generics
- PEG IFN RBV
- clinical trial (average 10m)
- DAAs NHSE (average 23m)
- spontaneous clearance (16%)
Results: HCV treatment timing

Average time (months) between acute HCV diagnosis and starting HCV treatment (n=196)*

*Excluded spontaneous clearers (n=40), non-treated or LTFU by Q3 2018 (n=20)
Limitations

- Data collected retrospective and not part of a formal study process

- HIV+MSM in one city therefore findings may not be replicated in other settings
  - *HCV clinical trials available in all centres which may not be representative*

- HCV transmission dynamics in national/international networks and HCV in HIV-neg MSM on PreP in London not evaluated
Conclusions

- Reduction in acute HCV in HIV+MSM since 2015 peak:
  - Peak likely to represent fall off in IFN-based therapies, ‘warehousing effect’
  - Reduction coincides with wider access to DAAs and shorter time to treatment

- Reduction in incidence falls short of WHO target to reduce new infections by 90%:
  - This would require IR to fall to 1.7/1000 HIV+MSM PYFU

- Reinfection remains high and maybe increasing:
  - Highlighting ongoing need to promote and improve risk reduction strategy and design appropriate screening policies in HIV+ and HIV- MSM
Conclusions

Without expanding access of DAAs via NHSE (to include early months of infection and reinfection), progress in reducing incidence may plateau and the opportunity for HCV micro-elimination in HIV+ MSM may be lost.
Patients and staff from HIV Clinics of Royal Free Hospital NHS Trust, Mortimer Market Clinic and Imperial College Healthcare NHS Trust in London

- Sanjay Bhagani
- Graham Cooke
- Colette Smith
- Alison Rodger
- Christof Stingone
- Indrajit Ghosh
- Lakshmi Jain
- Chandni Sood
- Tabitha Mahungu
- Carolyn Freeman
- Subathira Dakshina
- Filippo Ferro
- Laura Waters
- Ashley Brown
If clinics wish to collaborate to extend national dataset of incident HCV infection and monitor progress towards elimination in HIV+ population,

please contact:

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on behalf of BHIVA Microelimination Group