VIRUSES VACCINES AND ERADICATION
Thursday 6 June 2019 • QEI Centre, London

Professor Graham Foster
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Barts Health NHS Trust, London
HCV
Is elimination in site for the UK?

Graham R Foster
Professor of Hepatology
Barts Liver Centre
National HCV clinical lead
HCV Elimination (England)

• What we are doing

• How will we know when we have won?
NHSE Elimination

• A new deal with industry with a fixed drug price, a significant investment from industry to help case finding

• Massive investment from NHSE to case find

• A package of additional, case finding measures
HCV Infrastructure
HCV – ODN support

ODNs control the local delivery solutions
They know the area, they know what is needed
HCV – global support

Prison support

ODN 1
ODN 2
ODN 3
ODN 4
ODN 5
........
ODN 22
HCV – global support

Prison support

Drug service mapping and peers

ODN 1  ODN 2  ODN 3  ODN 4  ODN 5  ..........  ODN 22
HCV – global support

Prison support

Drug service mapping and peers

Needle exchange pharmacies
## HCV – global support

<table>
<thead>
<tr>
<th>ODN</th>
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<td>3</td>
<td>4</td>
<td>5</td>
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<td>22</td>
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- **Prison support**
- **Drug service mapping and peers**
- **Needle exchange pharmacies**
- **GP testing**
HCV – towards elimination
How are we doing?

All HCV genotypes: SVR12 95.6% (95.2–95.9)
HCV – towards elimination
How are we doing?

All HCV genotypes: SVR12 95.6% (95.2–95.9)
How are we doing?

Deaths from HCV or HCC in patients with HCV (PHE report on HCV 2016)
HCV Elimination (England)

• What we are doing

• How will we know when we have won?
WHO Targets

• 80% reduction in HCV incidence

• 65% reduction in HCV related deaths
WHO Targets

- 80% reduction in HCV incidence
- 65% reduction in HCV related deaths

BUT

- What is the starting number?
PHE UAM estimates

Graph showing changes in HCV antibody prevalence over injecting duration (y) for different time periods:
- pre-1980
- 1980-1989
- 1990-1999
- 2000 onwards

Legend:
- Observed
- Predicted
# HCV Metrics

<table>
<thead>
<tr>
<th>UAM #</th>
<th>Survey returns</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
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<tr>
<td>1</td>
<td>Hackney</td>
<td>39</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>Contact lost</td>
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<tr>
<td>139</td>
<td>Newham CGL</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>9</td>
<td>Awaiting reply</td>
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<td>116</td>
<td>Waltham Forest CGL</td>
<td>55</td>
<td>18</td>
<td>17</td>
<td>30</td>
<td>Participating</td>
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<td>407</td>
<td>Ilford/Redbridge WDP</td>
<td>18</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Redbridge newly trained: participating in 2019</td>
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<tr>
<td>410</td>
<td>Tower Hamlets</td>
<td>30</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Contact lost</td>
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</table>
Figure 1 Posterior distributions for the number of chronic HCV infections under 60 years by risk group. All ...
Figure 1 Posterior distributions for the number of chronic HCV infections under 60 years by risk group. All ...
Figure 1 Posterior distributions for the number of chronic HCV infections under 60 years by risk group. All ...
HCV Metrics

• We have absolutely no idea how many people are infected

• We have no idea how much transmission is going on
WHO Targets

• 80% reduction in HCV incidence

• 65% reduction in HCV related deaths

• What is the mortality in HCV treated patients?
Adverse Events Over Time for Virological Responders- 15 months (English EAP)

Cheung et al J Hepatology 2016:65:741
Which Patients Benefit from Viral Clearance?

Adverse event free survival at 15 months

<table>
<thead>
<tr>
<th>Baseline liver disease</th>
<th>MELD &lt; 15</th>
<th>MELD &gt;= 15</th>
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<tr>
<td>CPA</td>
<td>N = 71</td>
<td>N = 58</td>
</tr>
<tr>
<td>CPB</td>
<td>N = 61</td>
<td>N = 235</td>
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<tr>
<td>CPC</td>
<td>N = 30</td>
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</table>

* p < 0.05

NS
WHO Targets

• 80% reduction in HCV incidence

• 65% reduction in HCV related deaths

• What is the mortality in HCV treated patients?

• We don’t know the long term mortality
Victory over HCV

• Measuring the unmeasurable is not possible

• We need an international consensus with outcomes that are measurable
Victory over HCV
The winners podium
HCV is no longer a major public health problem when:

- Prevalence in new prison entrants is....
- Mortality/ transplant rates are not rising
- Surveillance at drug services shows new infection rate of.... in new recruits
Eliminating HCV

• Achievable

• England aspires to be one of the first to do so

• Knowing when we have eliminated may be the biggest challenge