Reaching hepatitis C elimination targets among MSM in UK in the era of HIV pre-exposure prophylaxis

Louis MacGregor, Monica Desai, Natasha Martin, Jane Nichols, Ford Hickson, Peter Weatherburn, Matthew Hickman, Peter Vickerman
Aims of this research

• Can we reach HCV elimination:
  • WHO target of reducing HCV incidence by 90% by 2030? [1]
  • Or more ambitious NHS target of reaching this target by 2025?

• Are PrEP users at higher risk of HCV?
  • PrEP is highly effective at preventing HIV infection [2], but what about implications for HCV?
  • PrEP targeted to high-risk MSM, so have higher HCV prevalence
  • PrEP will reduce HIV infections within high-risk MSM
  • Emerging evidence suggests PrEP is likely to result in risk compensation

• Can we routine PrEP and HIV care appointments be used to eliminate HCV?
  • Low-cost HCV screening opportunity every 3-6 months.

A brief overview of the model

HIV-HCV co-infection. (Lower spontaneous clearance, higher HCV infectiousness).


Reduced condom use in HIV-HIV partnerships. 13% versus 68% in other pairings.

Scaling PrEP coverage from 2018. 12.5% coverage by 2020.

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A brief overview of the model

New HCV Direct acting antivirals.
≥ 90% efficacy regardless of HIV.

Faster completion of HCV treatment.
From ~2.2 years from diagnosis to 6 months.

Increased frequency of HCV testing.
In HIV diagnosed, PrEP users and others.

Behavioural change (risk compensation)?
Lower condom use in PrEP users 68% → 34%.
Impact of HCV Screening in PrEP users

Results without risk compensation

PrEP alone on average reduces HCV incidence by 10%

With yearly screening in PrEP users this increases to 41%

Results with risk compensation

HCV incidence increases 60% with PrEP

Extra screening in PrEP users counters this increase in HCV incidence

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Can screening high risk MSM hit the WHO target?

**HCV incidence reduction by 2030**

- Annual HCV screening of HIV diagnosed MSM: 49% Reduction
- Annual HCV screening of all MSM using PrEP: 41% Reduction
- Annual HCV screening of both high risk groups: 74% Reduction
- Quarterly HCV screening of both high risk groups: 84% Reduction

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**Screening required in HIV negative non-PrEP users**

<table>
<thead>
<tr>
<th>WHO Target (2030)</th>
<th>NHS Target (2025)</th>
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<tbody>
<tr>
<td>Yearly in high risk subgroups</td>
<td>Yearly in high risk subgroups</td>
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<tr>
<td>→ 4 years</td>
<td>→ 2 years</td>
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<tr>
<td>Biannually in high risk subgroups</td>
<td>Biannually in high risk subgroups</td>
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<td>→ 5 years</td>
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<td>Quarterly in high risk subgroups</td>
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<tr>
<td>→ 6 years</td>
<td>→ 3 years</td>
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<tr>
<td>Yearly in high risk subgroups and with risk compensation</td>
<td>Biannual in high risk subgroups and with risk compensation</td>
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<tr>
<td>→ 3 years</td>
<td>→ 2 years</td>
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• 2030 and 2025 HCV elimination targets can be reached through enhanced screening
  • 2030 target → *yearly* screening of HIV diagnosed and PrEP MSM, and of other MSM every 4 years.
  • 2025 target → *biannual* screening of HIV diagnosed and PrEP MSM, and of other MSM every 2 years.

• The introduction of widespread PrEP may actually lower the incidence of HCV (provided PrEP is accompanied by minimal changes to sexual behaviours)

• Risk compensation increases HCV incidence and required HCV testing for HCV elimination
  • But elimination remains possible

• Routine care appointments are adequate for increasing HCV testing to eliminate HCV
  • This can be done alongside HIV testing to minimise extra resources needed
  • However, completion of HCV treatment needs to be within 6 months of diagnosis
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