Cost-effectiveness of screening for chronic hepatitis B and C among migrants

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Content

- Introduction
  - screening migrants for chronic hepatitis B and C
  - cost-effectiveness analyses
- Literature review
- Results
- Discussion
- Conclusions / recommendations
Screening migrants for chronic HBV and HCV

- Treatment of chronically infected individuals is cost-effective
- Migrants: high prevalence of chronic hepatitis B and C
- How can these patients be detected in a cost-effective manner?

- Screening programme
  - prevalence
  - participation
  - referral
  - start antiviral treatment
Cost-effectiveness analyses

- Costs
  - screening programme
  - treatment
- Benefits
  - health care costs avoided
  - QALYs gained
- Cost/benefit
  - cost per case detected
  - cost per QALY
Markov model HBV progression
Infection with hepatitis B and C virus in Europe:
A systematic review of prevalence and cost-effectiveness of screening

Susan JM Hahné1*, Irene K Veldhuijzen2, Lucas Wiessing4, Tek-Ang Lim3, Mika Salminen3 and Marita van de Laar3

- Presented here:
  - Results from this paper
  - Update with new papers up to 2014
Methods literature review

- Published literature (Medline, Scopus, NHS economic evaluation database)
- English language
- Jan 2000-2012
- Data extraction form
- Indicators
  - costs per newly identified chronic hepatitis case
  - costs per (quality adjusted) life year gained
Results literature review: papers included

- Records identified through database searching (n = 468)
- Additional records identified through other sources (n = 3)

Records after duplicates removed (n = 471)

- Records screened (n = 471)
- Records excluded (n = 427)

Full-text articles assessed for eligibility (n = 44)

- Full-text articles excluded, with reasons (n = 15)

Studies included in qualitative synthesis (n = 29)

- Migrant screening (n = 4) all concerning HBV
- 2013/2014 papers on migrant screening (n = 3)

- 2000-2014 papers on migrant screening (n = 7)
Results literature review: Costs per QALY

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Country</th>
<th>Migrant population</th>
<th>Infection</th>
<th>Result*</th>
<th>Cost effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hutton</td>
<td>2007</td>
<td>USA</td>
<td>Asian/pacific islanders</td>
<td>HBV</td>
<td>€ 31.692</td>
<td>Yes</td>
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<tr>
<td>Veldhuijzen</td>
<td>2010</td>
<td>NL</td>
<td>1st generation from endemic countries</td>
<td>HBV</td>
<td>€ 8.694</td>
<td>Yes</td>
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<tr>
<td>Rein</td>
<td>2011</td>
<td>USA</td>
<td>Mainly Asian</td>
<td>HBV – cost per case detected</td>
<td>€ 499 - € 3.818</td>
<td>Yes</td>
</tr>
<tr>
<td>Wong</td>
<td>2011</td>
<td>CA</td>
<td>Multiple countries of birth</td>
<td>HBV</td>
<td>€ 46.260</td>
<td>Yes, moderately</td>
</tr>
<tr>
<td>Rossi</td>
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* in 2010 Euros
## Results literature review: Costs per QALY

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<td>Miners</td>
<td>2013</td>
<td>UK</td>
<td>Indian subcontinent</td>
<td>HCV</td>
<td>€ 27.144</td>
<td>Could be</td>
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<td>Urbanus</td>
<td>2013</td>
<td>NL</td>
<td>Antenal, Multiple countries of birth</td>
<td>HCV</td>
<td>€ 47.113</td>
<td>Yes, modest</td>
</tr>
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* in 2010 Euros
Sensitivity analysis

- Prevalence ↑ (4)
- Disease progression rates ↑ (4)
- Cost of antiviral treatment ↓ (3)
- Effectiveness of treatment ↑ (3)
- % visiting specialist / accepting treatment ↑ (3)
- Participation ↑ (2)
- Screening age ↓ (2)
- Probability of leaving the country ↓ (1)
HBV vaccination after screening

- Not cost-effective
  - Large costs
  - Small effect on morbidity and mortality for susceptible adults
  - No effect on morbidity and mortality among those already chronically infected
Conclusion

- Screening and treatment of migrants is (reasonably) cost-effective

- Cost-effectiveness depends on:
  - Prevalence
  - Disease progression rates
  - Cost and effectiveness of treatment
  - Successful referral and treatment uptake
Discussion

● Need analyses of integrated screening strategies
  - combine hepatitis B and C, and HIV
  - combine with TB
  - other diseases more prevalent in migrants?

● Most (cost-)effective approach to screening?
  - outreach
  - opportunistic
  - systematic
  - in existing programmes

● See www.hepscreen.eu
Acknowledgements

Irene Veldhuijzen - Netherlands
Mika Salminen - Finland
Lucas Wiessing - Portugal
Tek Ang Lim - Sweden
Marita van der Laar - Sweden