Need for Chronic Viral Hepatitis Monitoring System

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National Strategy on HBV and HCV

Main targets:
• Monitoring
• Prevention
• Early Diagnosis
• Access to Care

Should involve:
• National Leadership
• Public Health Networks
• Advocacy Groups
• Prioritized HBV, HCV Research
HBV/HCV Involves Several Policy Areas

- **Health Policy** (vaccination, diagnosis, screening, prevention, treatment)
- **Social Policy** (adoption, pregnancy, schools, institutionalized living, drug abuse)
- **Civil Liberties Policy** (migration, travel)

The overlap indicates the intersecting areas where policies need to be addressed.
Why is management of Viral Hepatitis Suboptimal?

- Low priority for most policy makers and governments
- Funding constraints lead to lack of resources for management of Hep B/C
- Low awareness of burden and infectiousness of disease
- Poor management of prevention, diagnosis, treatment of Hep B/C

- Physicians
- Citizens, patients
- Budget holders
- Policy makers
Why do we need viral hepatitis monitoring in The Netherlands?

- To assess the magnitude of the problem of viral hepatitis
  - To clarify mortality statistics
  - To assess the effect of immigration and travel
- To monitor the effect of treatment. Because there is effective treatment nowadays.
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Transmission

Mother to Child: HBV

Sexual Contact: HBV (HCV)

Blood: HBV (HCV)
HBV/HCV Disease Continuum

- **Acute infection**
- **Asymptomatic carrier**
- **Chronic Hepatitis**
- **Cirrhosis**
- **HCC**
- **Resolution**
- **Stabilization**
- **Compensated**
- **Decompensation**
- **Transplantation**
- **Death**

30–50 years
HBsAg prevalence in Europe

Chronic HBV:
14 millions
36,000 deaths/yr
Epidemiology of hepatitis B in EU

• 7000 to 8000 newly diagnosed cases per year in EU
• Most affected age group: 25-44 year, followed by 15-24 year
• Men 1.8 times more affected than women
• Clustered to sub-populations
  – Injecting drug users
  – Sex workers
  – Men who have sex with men
  – HIV patients
  – Prisoners
  – Immigrants from high endemic regions
• HBsAg prevalence varies widely in Europe
AntihCV prevalence in Europe

Chronic HCV: 9 million
86,000 deaths/yr
Epidemiology of hepatitis C in EU

- 27,000 to 29,000 newly diagnosed cases per year in EU
- Most affected age group: 25-44 year, followed by 15-24 yr
- Men 1.9 times more affected than women
- Clustered to sub-populations – no sexual transmission
  - Injected drug users
  - HIV patients
  - Prisoners
  - Immigrants from high endemic regions
- HCV prevalence: high variability across MS
  - Low: ≤0.5% in Scandinavian countries, Austria, The Netherlands
  - High: ≥3% in Bulgaria, Greece, Italy, Romania
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Stuurman Chun Wei Cheung (34) van de Nederlandse mannenacht (roeien) overleed zaterdag op 14 oktober aan leverkanker. Zijn grootste succes was een zilveren medaille op de Olympische Spelen van 2004 in Athene. Met het Amsterdamse Nereus won Cheung twee keer de Varsity. Twee maanden geleden eindigde de nationale mannenacht als derde op het WK.
## Worldwide Mortality

<table>
<thead>
<tr>
<th>WHO Regio</th>
<th>Hepatitis B &amp; C</th>
<th>HIV/AIDS</th>
<th>TBC</th>
<th>Malaria</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Original</td>
<td>Recalculation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Africa</td>
<td>29,078</td>
<td>90,822</td>
<td></td>
<td></td>
</tr>
<tr>
<td>America</td>
<td>12,941</td>
<td>74,091</td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Mediterrane</td>
<td>14,289</td>
<td>76,584</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Europa</td>
<td>9,068</td>
<td>145,184</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZO Azie</td>
<td>50,382</td>
<td>579,755</td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Pacific</td>
<td>40,321</td>
<td>314,360</td>
<td></td>
<td></td>
</tr>
<tr>
<td>World</td>
<td>156,079</td>
<td>1,380,796</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Number of Death due to HCC and Cirrhosis caused by viral hepatitis.

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De prevalence of Hepatitis B

China: 8 - 10%

Nederland: 0.1 - 0.2%
Universal Hepatitis B Vaccination program

Fig 1. Global status of countries using HepB vaccine in their national immunization system, May 2002

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.
## Migrant population and migration rates in Europe

<table>
<thead>
<tr>
<th>Country</th>
<th>Total population (millions)</th>
<th>Migrants (N)</th>
<th>Migrants (%)</th>
<th>Net migration rate (per 1000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>82.5</td>
<td>8,000,000</td>
<td>9.7</td>
<td>NK</td>
</tr>
<tr>
<td>France</td>
<td>64</td>
<td>4,800,000</td>
<td>7.5</td>
<td>NK</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>60.6</td>
<td>4,600,000</td>
<td>7.6</td>
<td>NK</td>
</tr>
<tr>
<td>Italy</td>
<td>58.9</td>
<td>2,700,000</td>
<td>4.6</td>
<td>9.7</td>
</tr>
<tr>
<td>Spain</td>
<td>44.7</td>
<td>4,800,000</td>
<td>10.7</td>
<td>15</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>16.5</td>
<td>1,714,000</td>
<td>10.4</td>
<td>NK</td>
</tr>
<tr>
<td>Greece</td>
<td>11.3</td>
<td>1,150,000</td>
<td>10.2</td>
<td>NK</td>
</tr>
<tr>
<td>Belgium</td>
<td>10.4</td>
<td>985,000</td>
<td>9.5</td>
<td>1.22</td>
</tr>
<tr>
<td>Portugal</td>
<td>10.7</td>
<td>560,000</td>
<td>5.2</td>
<td>3.4</td>
</tr>
<tr>
<td>Sweden</td>
<td>9.2</td>
<td>1,100,000</td>
<td>11.9</td>
<td>1.7</td>
</tr>
<tr>
<td>Denmark</td>
<td>5.5</td>
<td>350,000</td>
<td>6.4</td>
<td>6.1</td>
</tr>
<tr>
<td>Austria</td>
<td>8.3</td>
<td>1,000,000</td>
<td>12</td>
<td>NK</td>
</tr>
<tr>
<td>Poland</td>
<td>38.1</td>
<td>–</td>
<td>–</td>
<td>−0.69</td>
</tr>
<tr>
<td>Romania</td>
<td>22.3</td>
<td>–</td>
<td>–</td>
<td>−0.16</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>7.3</td>
<td>–</td>
<td>–</td>
<td>−4.3</td>
</tr>
</tbody>
</table>

Low national prevalence can mask the areas of high endemicity within the country
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Results of Antiviral Therapy

Chronic Hepatitis B
- No response: 10%
- Virus suppression: 60%
- "Cure": 30%

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Chronic Hepatitis C

<table>
<thead>
<tr>
<th>Therapy</th>
<th>Cure (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IFN 24 wk 1990</td>
<td>6</td>
</tr>
<tr>
<td>IFN 48 wk 1996</td>
<td>13</td>
</tr>
<tr>
<td>IFN Ribavirine 1998</td>
<td>41</td>
</tr>
<tr>
<td>PEG-IFN 2000</td>
<td>39</td>
</tr>
<tr>
<td>PEG-IFN Ribavirine 2001-2006</td>
<td>61</td>
</tr>
</tbody>
</table>
Viral hepatitis monitoring in The Netherlands

What should be done?
Hepatitis Monitoring

Mission statement
To strengthen surveillance in order to reinforce detection, prevention and control of HBV and HCV in The Netherlands.

- Financial support for a national monitoring system for chronic HBV/HCV, as well as for treatment monitoring
- Monitoring/ data acquisition overlapping with HIV but in part separate organisational structure
- Disseminate the results to stakeholders for timely public health actions at national and EU level