The Hungarian Hepatitis Committee.
National program for chronic viral hepatitis elimination.

Bela Hunyady, Gabor Horvath
## HBV quick facts, Hungary

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated HBV prevalence in 2019</td>
<td>0.2% (20,000)</td>
</tr>
<tr>
<td>Diagnosed with HBV by 2015</td>
<td>7,500</td>
</tr>
<tr>
<td>Waiting list for HBV treatment</td>
<td>No</td>
</tr>
<tr>
<td>% of population eligible for reimbursement</td>
<td>99%</td>
</tr>
<tr>
<td>Number treated for HBV in 2015</td>
<td>NA = 651, pegIFN = 158, pegIFN+NA = 213</td>
</tr>
<tr>
<td>Predominant HBV genotypes</td>
<td>A: 51%, D: 46% (not routinely analyzed)</td>
</tr>
<tr>
<td>Immunization program</td>
<td>13 yrs old, born after 1986 Newborns of HBV infected mothers, HCW</td>
</tr>
</tbody>
</table>
# HCV quick facts, Hungary

| Estimated viremic HCV prevalence in 2019 %, (number of infected) | 0.4% (40 000) |
| Waiting list for HCV treatment | No |
| % of population eligible for reimbursement | 90-95% |
| Number of cured with IFN-based Tx with IFN-free Tx | 10,000 (5,500 (1,200 in 2019)) |
| Predominant genotypes | G1b: 85-91% (2000-2017) (in prisons: G1a=60%, G1b=24%, G3=16%) |

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</thead>
<tbody>
<tr>
<td></td>
<td>N/A</td>
<td>30%</td>
<td>2%</td>
<td>N/A</td>
<td>15%</td>
<td>53%</td>
</tr>
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</table>
National Hepatitis Committee

- Established by Minister of Human Capacities in 2018
- Members: experts on the field of hepatology
- Mission:
  - Advise (health)politicians on how to achieve WHO 2030 global elimination goal
  - Form a national chronic viral hepatitis elimination program
  - Negotiations with (health)politicians and other stakeholders
  - Represent Hungary on WHO, EU, EC and other viral hepatitis summits
Members of National Hepatitis Committee

- Prof Dr Zsuzsa Schaff, chair, member of Hungarian Academy of Sciences
- Prof Dr Béla Hunyady, co-chair, full professor
- Dr Judit Gervain, associate professor
- Dr Árpád Gógl, previous health minister
- Dr Gábor Horváth, senior gastroenterology specialist
- Dr Mihály Makara, senior Idtropical medicine specialist
- Prof Dr Ferenc Szalay, professzor emeritus
- Dr István Tornai, associate professor
- Dr Klára Werling, associate professor
Issues solved in viral hepatitis elimination (95% screening+linkage to care)

• Blood donors (mandatory)
• Haemodialysed (mandatory)
• Haemophiliacs (recommended, routine)
• Co-infected with HBV, HIV (recommended, routine)
• Organ transplanted (recommended, routine)
• Mandatory HBV screening/vaccination for HCWs from 1998
• Sufficient budget for mandatory HBV vaccination of qualifying persons
  — Adolescents at age 13 from 1999, or at birth if mother HBV infected
  — HCWs
• Sufficient budget for HBV and HCV therapy
• National guidelines for screening, diagnosis, treatment, follow up
• Reliable HCV treatment registry
To be completed in 2020 (screening+linkage to care)

• HCV screening and therapy for HCWs
  – Mandatory screening by June 2020 (already started)
  – Automatic reimbursed therapy

• Development of screening registry for HCWs is under the way
Elements of planned national chronic viral hepatitis elimination program in Hungary

- Prevention
- Screening
- Linkage to care
- Access to reimbursed therapy for all infected person (IFN-free for HCV)
- Logistic and IT developments (screening-registry)
- Sustainability (harm-reduction programs, regular tests for high risk populations)
- Compliance with human rights and data protection (GDPR)
- Harmonization with societal needs and interests
Prevention

- **Awareness/education**
  - population, decision-makers, health care professionals, etc
- **Safe healthcare**
  - safe procedures/blood products, strict regulations, audits
- **Safe non-medical procedures**
  - Strict regulations and audits is tattoo, acupuncture, piercing saloons, etc.
- **Safe sex**
  - Promotion of condom-use
  - Strict regulations and audits, regular screenings amongst sex-workers
- **Prevention of individuals at risk**
  - Prevention/management of adverse childhood experiences (ACE)
  - Prevention of iv. drug use
  - Extension of harm-reduction programs and social services
- **Extension and follow up of HBV immunization**
  - Non-medical staff in health-care system, armed forces, sex-workers, MSM
  - Non-vaccinated pregnant women
  - Anti-HBs follow up for vaccinated individuals with high risk
Estimated numbers to be screened and treated to achieve WHO goal in Hungary

<table>
<thead>
<tr>
<th></th>
<th>Est. viremic prevalence per 10M</th>
<th>Est. viremic incidence per 100 000</th>
<th>To be treated per year for WHO goal</th>
<th>To be screened per year for WHO goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBV</td>
<td>20,000</td>
<td>0,4</td>
<td>???</td>
<td>???</td>
</tr>
<tr>
<td>HCV</td>
<td>40,000</td>
<td>15-20???</td>
<td>3-4,000</td>
<td>400-500,000 40-50,000*</td>
</tr>
</tbody>
</table>

*If screening/treatment includes PWID and/or MSM population outside prison*
Must be screened populations

- Persons with elevated liver enzymes
  - Reflex HBV/HCV serology?
- STD clinics attendees
  - Risk-assessment based screening or reflex HBV/HCV serology
- Biological-, immunosuppressive-, chemotherapy recipients
- PWID
- MSM
- Incarcerated persons
- Persons under criminal supervision
- Non-medical staff in healthcare facilities
Screening and therapy of HCV in prisons (2007-2016)

- Screened: 25,384
- Anti-HCV positive: 1,669 (6.6%)
- HCV PCR positive: 967 (58%)
- Started therapy (IFN): 643 (64%)
- SVR: 425 (66%)

Werling at al. CEHC 2018, Warsaw, Poland
<table>
<thead>
<tr>
<th>Location</th>
<th>Number (N)</th>
<th>Anti-HCV+</th>
<th>HCV PCR+</th>
<th>GT 1/a</th>
<th>GT 1/b</th>
<th>GT 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vác</td>
<td>435</td>
<td>54</td>
<td>39</td>
<td>20</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Solt</td>
<td>142</td>
<td>22</td>
<td>12</td>
<td>5</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Állampuszta</td>
<td>264</td>
<td>16</td>
<td>11</td>
<td>4</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Vác</td>
<td>110</td>
<td>13</td>
<td>5</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Szombathely</td>
<td>117</td>
<td>8</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Tököl</td>
<td>360</td>
<td>34</td>
<td>25</td>
<td>14</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Márianosztra</td>
<td>359</td>
<td>53</td>
<td>35</td>
<td>20</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Sándorháza</td>
<td>240</td>
<td>45</td>
<td>33</td>
<td>13</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Balassagy.</td>
<td>143</td>
<td>13</td>
<td>14</td>
<td>8</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Eger</td>
<td>100</td>
<td>12</td>
<td>12</td>
<td>5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Győr</td>
<td>202</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>SUM, n (%)</strong></td>
<td><strong>2,472</strong></td>
<td><strong>272 (11%)</strong></td>
<td><strong>192 (7.75%)</strong></td>
<td><strong>96 (60%)</strong></td>
<td><strong>39 (24%)</strong></td>
<td><strong>26 (16%)</strong></td>
</tr>
</tbody>
</table>
Easy to find populations recommended for screening

- Ministry of Defence (armed forces)
  - At admission to army
  - High school/college students
- Ministry of Interior
  - Police
  - Catastrophe services
  - Anti-terror units
  - Correction facilities
    - Screening program by civil organizations, industry support
  - High school/college students
- Pregnant women
  - Screened currently only for HBV
Further recommendations for screening

• Risk-assessment based HBV and HCV screening at various providers
  – GPs
  – Occupational medicine
  – Emergency units
  – Dental facilities
  – Etc.

• Individuals to be identified
  – Blood product recipients, persons with major surgery before 1993
  – Children of infected mothers
  – Sexual partners of infected persons
  – Persons after acupuncture, tattoo, piercing
  – Immigrants from high prevalence countries
<table>
<thead>
<tr>
<th>QUESTION</th>
<th>YES</th>
<th>NO</th>
<th>DON'T KNOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosed with hepatitis B or hepatitis C</td>
<td>10</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Received blood transfusion (i.e. at delivery)/blood products/organ</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>transplantation before 1993</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intravenous or intranasal drug abuse ever</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Current or previous long term healthcare worker</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Prolonged or repeated hospitalisations, or major surgery</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Refused from blood donation ever</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Haemodialysis ever</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Liver enzyme (ALT/GPT) elevation repeatedly</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Born in a country with high prevalence of viral hepatitis B or hepatitis C</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Born before 1970</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mother has/had hepatitis B or hepatitis C</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Mother has/had got liver disease of unknown aetiology</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sexual partner is infected with hepatitis B or hepatitis C?</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Vaccinated against hepatitis B</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Donated blood/plasma or tested negative for hepatitis B and hepatitis C (both!) within the last 10 years</td>
<td>-5</td>
<td>0</td>
<td>-1</td>
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</tbody>
</table>
PWID population

• Main reservoir
  – Estimated size: 40,000 person
  – Prevalence: 50-60%
  – Many are seen in correction facilities
  – GT1a and GT3 are the dominant genotypes
  – *WHO goal can not be achieved without success in this population*

• Political will and support are mandatory
  – Iv. drug use is linked to adverse childhood experiences (ACE)
  – Prevention, screening and treatment should be societal responsibility
  – De-criminalization, new regulations, universal healthcare coverage, extension of low-threshold services are mandatory
PWID population: stakeholders

**Government**
- Parliament
- Ministry of Finance
- Ministry of Interior
- Ministry of Human Capacities
  - Secretary of Health
  - National Institute of Environmental Health
  - Hungarian National Drug Focal Point
  - Secretary of Social Affairs

**Medical Societies**
- Society of Addictology
- Federation of the Hungarian Drugtherapeutic Institutes
- Society of Gastroenterology/hepatology
- Society of Infectology and Clinical Microbiology

**Civil Organizations, NGOs**
- Foundations (INDIT, MBA, etc)
Initiatives in PWID population so far

• Round-table for stakeholders
• Contact with authorities
  – Ministry of Human Capacities, Ministry of Interior
• Ongoing screening and therapeutic programs
  – Organized by civil and health-professionals’ organizations
Elements of planned PWID program in Hungary

- Identification of „musts” (regulatory, organizational, logistic, IT, etc.)
- Recommendations on changes of laws and legislations
- Recommendations on drug-prevention and HCV prevention programs
  - ACE prevention services
  - Extension of low-threshold services (needle exchange programs, etc.)
  - Diversion to high-threshold services, OST programs
- On site screening, diagnosis, and therapy for HCV
  - Voluntary at low-threshold facilities (with compensation) and correction units
  - Automatic/opt out at addiction clinics and rehabilitation units
  - Client-management: social workers, peers, NGOs,
  - Simplification (if regular guideline can not be followed)
    - Serology quick test, rapid PCR (potentially dry blood spot PCR)
    - GT, routine lab tests, fibrosis tests might be skipped
    - Mobile screening/diagnostic and therapeutic units
How close is Hungary to chronic viral hepatitis elimination?

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>not exists</th>
<th>poor</th>
<th>average</th>
<th>sufficient</th>
<th>excellent</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Political will</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Financial coverage of therapy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>No treatment restrictions (fibrosis, drugs, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Human capacity (physicians, nurses, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>National screening programs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Linkage to care programs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Is WHO target for HCV realistic in 2030?</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

UNTIL NATIONAL ELIMINATION PROGRAM WAS FULLY OPERATIONAL, MICROELIMINATION PROGRAMS TO BE CONTINUED!