Content

• History of HepB immunization in Estonia
• Current Immunization Programme
• Immunization coverage in Estonia (focusing on hepatitis)
• Immunization impact (focusing on hepatitis)
• Conclusions
History of HepB immunization

- Screening of pregnant women since 1996

**Vaccination of risk groups since 1996:**
- Neonates of HBsAg positive mothers
- Occupational risk groups (healthcare workers, rescue workers, police etc.)

**Universal vaccination:**
- 13 year-old children since 1999
- New-borns since 2000 in Tallinn and since 2003 countrywide
Immunization programme
(Regulation of the Minister of Social Affairs nr 2, 8.01.2014)

- 12 hours  HepB 1
- 1–5 days  BCG
- 1 month  HepB 2
- 2 months  RV1
- 3 months  IPV 1, DTPa 1, Hib 1, RV2
- 4,5 months  IPV 2, DTPa 2, Hib 2; RV3*
- 6 months  IPV 3, DTPa 3, Hib 3, HepB 3
- 1 year  MMR 1
- 2 years  DTPa 4, IPV 4, Hib 4
- 6-7 years  DTPa 5, IPV 5
- 12 years  HepB 1,2,3*
- 13 years  MMR 2, HepB 1,2,3**
- 15-16 years  dTpa 6
- 17 years  dT 7***
- 25, 35.. years (every 10 years)  dT 7
Vaccination coverage in 2 year-old children, 2008-2014
Vaccination coverage (HepB3) in counties in 1 year-old children, 2014

Tallinn
Harjumaa
Hiiumaa
Ida-Virumaa
Narva
Jõgevamaa
Järvamaa
Läänemaa
Lääne-Virumaa
Põlvamaa
Pärnumaa
Raplamaa
Saaremaa
Tartumaa
Valgamaa
Viljandimaa
Võrumaa

Average
Vaccination coverage (HepB3) in Estonia in 2 year-old children, 2008-2014
## Percent of refusals to vaccinate in age group 0-14 y, 2012-2014

<table>
<thead>
<tr>
<th>Vaccinations</th>
<th>Refused to vaccinate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2012</td>
</tr>
<tr>
<td><strong>Diphtheria-tetanus</strong></td>
<td>2.1%</td>
</tr>
<tr>
<td><strong>Pertussis (0-10year-old)</strong></td>
<td>2.6%</td>
</tr>
<tr>
<td><strong>Mumps Rubella Measles</strong></td>
<td>2.5%</td>
</tr>
<tr>
<td><strong>Polio</strong></td>
<td>2.1%</td>
</tr>
<tr>
<td><strong>Hepatitis B</strong></td>
<td>2.8%</td>
</tr>
<tr>
<td><em>Haemophilus influenzae b</em></td>
<td>1.8%</td>
</tr>
<tr>
<td><strong>Tuberculosis</strong></td>
<td>1.4%</td>
</tr>
</tbody>
</table>
Acute HepB cases age distribution in Estonia, 1997-2014
Acute HepB incidence in Estonia, 1990-2014
Hepatitis B: the percentage of 15-19 year-old teenagers of total incidence and vaccination coverage, 2001 - 2014
Hepatitis A. Number of vaccinated persons in Estonia, 1999-2014
Vaccination during Hepatitis A outbreak in Viljandi County, 2011 - 2012

<table>
<thead>
<tr>
<th>Year</th>
<th>0-14 year-old</th>
<th>15-17 year-old</th>
<th>Adults</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>512</td>
<td>60</td>
<td>1379</td>
<td>1951</td>
</tr>
<tr>
<td>2012</td>
<td>267</td>
<td>50</td>
<td>1040</td>
<td>1357</td>
</tr>
</tbody>
</table>
Acute Hepatitis A incidence, 1990-2014
Conclusions

- Countrywide, free of charge, universal HepB vaccination;
- HepB vaccination of new-borns during the first 12 hours of life, catch-up vaccination of children at any age;
- High vaccination coverage in all age groups;
- After introduction of universal vaccination there has been a significant decrease in incidence of HepB in all age groups;
- Since 2010 there have been no cases of acute HepB in children.

Problems during the last 5 years:
- increased incidence of refusals to vaccinate
- slowly decreasing vaccination coverage
Future

• We will continue universal vaccination of newborns and catch-up vaccination of children at any age

• Switch to hexavaccine?
THANK YOU!