HBV prevention and control programmes in the European Region of WHO

Dr Nedret Emiroglu,
Director, Division of Health Programmes
WHO Regional Office for Europe
Countries Using HepB Vaccine in National Immunization Schedule, 2008

Source: WHO/IVB database, 193 WHO Member States. Data as of August 2009
Date of slide: 11 August 2008

No  (16 countries [of which 3 given at adolescence] or 8%)
Yes  (175 countries or 91%)
Yes(P)  (2 country or 1%)

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. © WHO 2009. All rights reserved.
Countries where Hepatitis B is not in routine infant immunization schedule in 2008

Data source: IVB Database
Last update: August 2009

- **Hepatitis B is in routine adolescent immunization schedule (3 countries)**
- **Hepatitis B is partially in routine infant immunization schedule (1 countries)**
- **Hepatitis B not in routine infant immunization schedule (19 countries)**
Hep B Vaccine implementation status
WHO European Region, 2009

46 of 53 countries introduced universal hep B immunization programmes,
7 countries in WE cover only risk groups

Number of countries having introduced HepB vaccine* and global infant HepB3 coverage, 1989-2008

* Year of introduction can be the year of partial introduction
** Includes India and Sudan with partial introduction


Excluding 3 countries where HepB administered for adolescence
Global and regional coverage estimates, 2008
BCG, DTP3, Measles HepB3 and Hib3

Immunization coverage rates, WHO European Region, 1995-2008

- DTP3
- HepB3
- MCV
Hep B3 immunization coverage, 2008

Hep B3 Coverage
- 80% - 90%
- 90% - 95%
- > 95%
- No Data
Number of Member States introduced Hep B birth dose 2000-2008

- 2000 or prior: 53
- 2001: 58
- 2002: 66
- 2003: 73
- 2004: 77
- 2005: 78
- 2006: 81
- 2007: 82
- 2008: 84
### Hepatitis B birth dose, 2008

<table>
<thead>
<tr>
<th>Region</th>
<th>Total Member States</th>
<th>No. Member States with hepatitis B vaccine in schedule*</th>
<th>No. Members States with hepatitis B vaccine starting at birth</th>
<th>No. Members States with hepatitis B vaccine starting at birth and</th>
<th>Birth dose coverage (%) (No. birth doses administered/live births)</th>
</tr>
</thead>
<tbody>
<tr>
<td>African</td>
<td>46</td>
<td>44</td>
<td>5</td>
<td>5</td>
<td>3%</td>
</tr>
<tr>
<td>American</td>
<td>35</td>
<td>34</td>
<td>12</td>
<td>9</td>
<td>35%</td>
</tr>
<tr>
<td>Eastern Mediterranean</td>
<td>21</td>
<td>20</td>
<td>10</td>
<td>8</td>
<td>22%</td>
</tr>
<tr>
<td>European</td>
<td>53</td>
<td>42</td>
<td>28</td>
<td>19</td>
<td>23%</td>
</tr>
<tr>
<td>Southeast Asian</td>
<td>11</td>
<td>11</td>
<td>6</td>
<td>5</td>
<td>10%</td>
</tr>
<tr>
<td>Western Pacific</td>
<td>27</td>
<td>26</td>
<td>23</td>
<td>19</td>
<td>74%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>193</strong></td>
<td><strong>177</strong></td>
<td><strong>84</strong></td>
<td><strong>65</strong></td>
<td><strong>25%</strong></td>
</tr>
</tbody>
</table>

* India and Sudan introduced HepB in part of the country

** Countries not reporting HepB birth dose coverage are excluded from the calculation
Summary of achievements

• Universal hep B vaccination has been integrated into routine immunization programmes in most of the countries
• The poorest (LIC & LMIC) countries successfully introduced hep B vaccine with GAVI support
• All high endemic countries provide birth dose
• Catch-up vaccination and vaccination of risk groups is being implemented
• Hepatitis B vaccine introduction was used as a model for introduction of other underutilized and new vaccines
WHO position paper on Hepatitis B vaccines
October 2009

• WHO position paper (2004)
  – Routine vaccination of all infants against HBV infection should become an integral part of national immunization schedules worldwide
  – High coverage has the greatest overall impact on the prevalence of chronic HBV infection and should be the highest priority

• WHO position paper (2009)
  – Hep B vaccination at birth – 3.5 less risk becoming infected with HBV¹ (relative risk, 0.28)
  – Delaying of 1st dose to 7 days after birth significantly increase risk of HBV infection²

WHO position paper on Hepatitis B vaccines
October 2009

• All infants should receive their first dose of hepatitis B vaccine as soon as possible after birth, preferably within 24 hours.

• The birth dose is crucial in areas of high hepatitis B endemicity, but important even in intermediate and low endemicity areas.

• To complete the primary series the birth dose should be followed by 2 doses, spaced by $\geq 4$ weeks, e.g. at the time of the first and third doses of DTP vaccine, or, if programmatic more convenient, by 3 doses coinciding with DTP or other routine infant vaccines.

• There is no evidence to support the need for a booster dose following 3 (or 4) doses of hepatitis B vaccine in routine immunization programmes.
WHO position paper on Hepatitis B vaccines
October 2009

• WHO position paper (2004)
  – Catch-up strategies targeted at older age groups or groups with risk factors should be considered as a supplement to routine infant vaccination in countries of intermediate or low hepatitis B endemicity

• WHO position paper (2009)
  – Determination of high-risk groups through seroprevalence studies on HBV infection
    • IDUs, MSM, SW, HCW, travellers, people with multiple sex partners, etc.
  – HIV-positive individuals should be vaccinated as early as possible
WHO position paper on Hepatitis B vaccines
October 2009

• Delivery of hepatitis B vaccine within 24 hours of birth should be a performance measure for all immunization programmes

• Catch-up vaccination for children should be considered for cohorts with low coverage

• The need for catch-up vaccination in older age groups, including adolescents and adults, is determined by the baseline epidemiology of HBV infection in the country

• The importance of vaccinating people with particular risk factors for acquiring HBV infection is emphasized
WHO position paper on Hepatitis B vaccines
October 2009

• A comprehensive approach to eliminating HBV transmission must address infections acquired perinatally and during early childhood, as well as those acquired by teenagers and adults

• WHO strongly recommends that all regions and associated countries develop goals for hepatitis B control appropriate to their epidemiological situation

• Process indicators and the use of outcome measures are critical to verifying achievement goals

• Serological surveys of HBsAg prevalence, supplemented by surveillance for acute disease and collection of mortality data, will serve as tools to measure the impact of vaccination
Reported acute Hepatitis B cases in the European Region of WHO:

- **Source:** WHO/UNICEF Joint Reporting Form

GAVI Support for HepB Vaccine initiated.

*countries reporting*
Acute Hepatitis B Incidence per 100,000
2004
Acute Hepatitis B Incidence per 100,000
2007
Epidemiology of HCV, HBV and HIV

WHO European Region

<table>
<thead>
<tr>
<th>HIV infected</th>
<th>HCV (%)</th>
<th>HBV (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDU</td>
<td>70-95</td>
<td>7-10</td>
</tr>
<tr>
<td>MSM</td>
<td>1-12</td>
<td>9-17</td>
</tr>
<tr>
<td>Heterosexuals</td>
<td>9-27</td>
<td>4-6</td>
</tr>
</tbody>
</table>
## Hepatitis prevalence in IDU, Russia

<table>
<thead>
<tr>
<th>Population</th>
<th>City</th>
<th>HBV</th>
<th>HCV</th>
<th>Co-infections</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDU</td>
<td>Moscow (2009)</td>
<td>-</td>
<td>63,4%</td>
<td>68%</td>
</tr>
<tr>
<td></td>
<td>(2006)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IDU (NEP)</td>
<td>St. Pete (2007)</td>
<td>34%</td>
<td>96,8%</td>
<td>23,5% (HBsAg/HCV)</td>
</tr>
<tr>
<td>IDU (ACP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IDU</td>
<td>Volgograd (2006)</td>
<td>-</td>
<td>70%</td>
<td></td>
</tr>
<tr>
<td>IDU</td>
<td>Barnaul (2006)</td>
<td>-</td>
<td>54%</td>
<td></td>
</tr>
<tr>
<td>IDU</td>
<td>Toljiyati (2005)</td>
<td>-</td>
<td>86,7%</td>
<td>52% (HCV/HIV)</td>
</tr>
</tbody>
</table>
Hepatitis B Control Challenges
Need to improve Hepatitis B coverage

- In 2007, >44 million infants not immunized with 3 doses HepB
- More than 75% of the unvaccinated children are from 10 countries (in millions):

<table>
<thead>
<tr>
<th>Country</th>
<th>Number (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>24.1</td>
</tr>
<tr>
<td>Nigeria</td>
<td>3.1</td>
</tr>
<tr>
<td>China</td>
<td>1.36</td>
</tr>
<tr>
<td>Indonesia</td>
<td>1.11</td>
</tr>
<tr>
<td>Japan</td>
<td>1.07</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>0.79</td>
</tr>
<tr>
<td>United Kingdom of Great Britain &amp; Northern Ireland</td>
<td>0.72</td>
</tr>
<tr>
<td>Pakistan</td>
<td>0.7</td>
</tr>
<tr>
<td>Niger</td>
<td>0.62</td>
</tr>
<tr>
<td>France</td>
<td>0.54</td>
</tr>
</tbody>
</table>

## What is behind the high reported coverage?

<table>
<thead>
<tr>
<th>Country</th>
<th>Age group (years old)</th>
<th>Reported coverage</th>
<th>Prevalence of anti-HBs (+) &amp; anti HBc (-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy</td>
<td>1-3</td>
<td>90%</td>
<td>&gt;80%</td>
</tr>
<tr>
<td></td>
<td>13-15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belgium</td>
<td>&lt;4</td>
<td>60%</td>
<td>80%</td>
</tr>
<tr>
<td></td>
<td>14–15</td>
<td></td>
<td>70-80%</td>
</tr>
<tr>
<td>Luxemburg</td>
<td>4</td>
<td>49%</td>
<td>80%</td>
</tr>
<tr>
<td>Romania</td>
<td>3-4</td>
<td>98%</td>
<td>63%</td>
</tr>
<tr>
<td>Slovakia</td>
<td>1</td>
<td>&gt; 95%</td>
<td>83%</td>
</tr>
<tr>
<td></td>
<td>12–15</td>
<td></td>
<td>&lt;15%</td>
</tr>
<tr>
<td>Germany</td>
<td>17–20</td>
<td></td>
<td>10%</td>
</tr>
</tbody>
</table>

Birth dose and timeliness

- Countries implementing newborn immunization do not have reporting system to monitor birth dose coverage

- Administration of birth dose in countries where high proportion of women deliver at home

- Need to purchase monodose hepB vaccine in countries introducing pentavalent vaccine with GAVI support

- Collaboration with maternal and child health programmes to promote administration of the birth dose of hepatitis B vaccine

- Support in strengthening of national reporting and monitoring systems to improve the quality of data on the birth dose
Surveillance of Hepatitis in Europe

- Routine surveillance in most countries introduced recently, and varying quality, even in EU

- Lack of standardization of hepatitis surveillance in the following:
  - Populations being tested
  - Mandatory or voluntary reporting
  - Case definition (varies within the region)
  - Case reporting (differs in acute and/or chronic, confirmed or not confirmed)
  - Sources of case reports differ or unclear (clinics and/or laboratories, govt and/or private sector or other)

- Inadequate data to describe the true infection trends and disease burden
  - risk groups
  - sub-national and geographical distribution

- HCV represents the most common form of viral hepatitis in the EU
Way Forward
Global commitment and goal

- Brazil supported by China, Oman and Afghanistan succeeded in adding VH to the agenda for the 62 WHA in May 2009, but because of H1N1 and shortened agenda
- Discussion of the resolution postponed until WHO Executive Board meeting in 2010
Setting a regional goal…

- November 2008 SAGE strongly recommended all Regions/associated countries to develop goals for HBV control appropriate to their epidemiologic situations.
- March 2009 European Technical Advisory Group of Experts recommended WHO EURO to develop a regional strategy on prevention and control of viral hepatitis.
- Process indicators continue to be based on HepB3 coverage and HepB birth dose (with improved birth dose definition and monitoring).
- However, use of outcome measures are critical to verification of achievement of such goals.
- Serologic surveys of HBsAg prevalence, representative of the target population, will serve as the primary tool to measure the impact of immunization and achievement of the control goals, supplemented by acute disease surveillance and mortality data.
Strengthening routine immunization

- Strengthen efforts to increase routine immunization with innovative approaches, political commitment, and societal support

- Strengthening routine immunization through optimized mix of service delivery strategies – reaching “hard-to-reach”

- Strengthening evidence-based decision making and communication through NITAGs

- Ensuring health care staff are trained with the right mix of skill sets and knowledge to deliver immunizations

- Increasing ability of countries to mobilize and efficiently use domestic and supplemental external resources
Strengthening hepatitis surveillance

• Development of surveillance guidelines
  – Acute infections
  – Chronic carriage
  – Behavioral and risk factor surveillance
  – Case definition
  – Laboratory networks
  – Testing strategies

• Establishment of expert advisory group

• Support to countries to strengthen surveillance at national and regional levels for hepatitis related morbidity, mortality
Advocacy and communication

• Increasing immunization programme visibility and public awareness via European Immunization Week
European Immunization Week 2009
20-26 April 2009

www.euro.who.int/eiw
e-mail: vaccine@euro.who.int

33 Member States involved this year
“Back to Basics”
A reminder to countries:

Vaccination is safe!

Vaccination is an effective public health tool that can prevent disease and deaths

Existing strategies are highly effective when fully implemented

www.euro.who.int/ eiw2009