Adult Vaccination Strategies and Vaccine Coverage in Europe, 2010

Collaboration between VENICE II project and ECDC

VENICE II

Authors of the report
Principal Investigators: Elisabeth E. Kanitz\textsuperscript{1,2}, Fortunato D’Ancona\textsuperscript{1}
VENICE II Research Team: Cristina Giambi\textsuperscript{1}, Daniel Levy Bruhl\textsuperscript{3}, Paweł Stefanoff\textsuperscript{4}, Darina O’Flanagan\textsuperscript{5}
VENICE National Gatekeepers and Contact Points

1. National Centre for Epidemiology, Surveillance and Health Promotion (CNESPS), Istituto Superiore di Sanità, Rome, Italy;
2. European Programme for Intervention Epidemiology Training (EPIET), European Centre for Disease Prevention and Control (ECDC);
3. Institut de Veille Sanitaire, Saint-Maurice, France;
4. National Institute of Public Health-National Institute of Hygiene, Warsaw, Poland
5. Health Protection Surveillance Centre, Dublin, Ireland
Acknowledgments

The VENICE Project would like to take this opportunity to thank all the gatekeepers, contact points and members of the work packages for their contributions to this report. The time generously provided by each person in answering the questionnaire and subsequent follow up is greatly appreciated.

Abbreviations

BCG    Bacillus Calmette-Guérin
ECDC   European Centre for Disease Prevention and Control
EEA    European Economic Area
EU     European Union
HCW    Health Care Workers
Hib    Haemophilus influenzae type B
HPV    Human Papilloma Virus
ISS     Istituto Superiore di Sanità
MSs    Member States
NVPO   National Vaccine Program Office within the U.S. Department of Health and Human Services
TBE    Tick borne encephalitis
Td     Tetanus-diphtheria vaccine
VENICE Vaccine European New Integrated Collaboration Effort

ISO 3166-1 Country Codes

AT    Austria
BE    Belgium
BG    Bulgaria
CY    Cyprus
CZ    Czech Republic
DK    Denmark
EE    Estonia
FI    Finland
FR    France
DE    Germany
GR    Greece
HU    Hungary
IS    Iceland
IE    Ireland
IT    Italy
LV    Latvia
LT    Lithuania
LU    Luxembourg
MT    Malta
NL    The Netherlands
NO    Norway
PL    Poland
PT    Portugal
VENICE National Gatekeepers and Contact Points for this survey

Austria       Jean-Paul Klein, Daniela Schmid
Belgium       Pierre Van Damme, Martine Sabbe
Bulgaria      Mira Kojouharova
Cyprus        Soteroulla Soteriou, Chrystalla Hadjianastassiou
Czech Republic Bohumir Kriz
Denmark       Steffen Glismann
Estonia       Natalia Kerbo, Irina Filippova
Finland       Tuija Leino
France        Daniel Levy-Bruhl
Germany       Sabine Reiter
Greece        Theodora Stavrou
Hungary       Zsuzsanna Molnàr
Iceland       Thorolfur Gudnason
Ireland       Suzanne Cotter
Italy         Fortunato D’Ancona, Maria Cristina Rota
Latvia        Juris Perevoscikovs
Lithuania     Egle Valikoniene
Luxemburg     Françoise Berthet
Malta         Charmaine Gauci, Tanya Melillo
The Netherlands Hester de Melker, Alies van Lier
Norway        Berit Feiring
Poland        Pawel Stefanoff
Portugal      Teresa Fernandes, Paula Valente
Romania       Chicin Gratiana
Slovakia      Helena Hudecova, Jarmila Lancova
Slovenia      Alenka Kraigher
Spain         Josefa Masa-Calles, Isabel Pachón del Amo
Sweden        Annika Linde
United Kingdom Richard Pebody
Background

Vaccine-preventable diseases have long had the attribute of being “childhood diseases”, although affecting people of all ages. In times when vaccination coverage in children reach high levels, the epidemiology and implications of these diseases change, and adults can play an important role:

- not all adults were adequately vaccinated in childhood;
- the immune system can become less reactive and acquired immunity through vaccination in childhood can diminish with increasing age and make older people susceptible again;
- exposure to pathogens becomes less frequent in populations with high vaccination coverage in children, and therefore the people become infected at older age;
- vaccine-preventable diseases can take a more severe course with increasing age;
- unprotected adults can play an important role in transmission cycle of vaccine-preventable diseases.

There is no comprehensive information available to policy makers on a European scale on the current status of vaccination programs for adults, how they are implemented and monitored. Vaccination strategies in adults seem neglected. As part of the overall objective of VENICE project to improve understanding on vaccination programmes in European Union (EU) members states (MSs), Norway and Iceland, a need was recognized to fill this gap of information. VENICE II decided to launch a survey in collaboration with the U.S. National Vaccine Program Office (NVPO), in an effort to obtain data from and to inform vaccination strategies for adults in all high income and industrial countries worldwide.

Objectives of the study

The aim of the study was to gain an overview of vaccination strategies in adults in the European Union (EU) member states (MSs), Norway and Iceland in 2010 to produce a comprehensive summary document of vaccination strategies in adults.

Specific objectives:
- To describe vaccination policies and country-specific recommendations;
- To describe funding strategies;
- To assess availability of vaccination coverage data.

Methods

Study design

A cross-sectional electronic survey was conducted in June-August 2010.

This survey was a collaborative study between the European Centre of Disease Control and Prevention (ECDC), the VENICE II Project, the National Vaccine Program Office (NVPO) within the U.S. Department of Health and Human Services and EU and European Economic Area (EEA) Member States (MS). Each MS previously identified and enrolled gatekeepers, who are responsible for conducting all VENICE surveys inside their countries (http://venice.cineca.org/participating_countries.html).

Currently, 27 EU and two EEA (NO and IS) countries are participating in the VENICE II project.
Data collection

An electronic standardized questionnaire was developed which consisted of 120 questions (Annex 1) using the online software SurveyMonkey (http://it.surveymonkey.com/home.aspx). Gatekeepers in each MS entered data directly on-line. The questionnaire covered general aspects of adult vaccination strategies (age threshold for adulthood and availability of a schedule or summary document with recommendations for adults). For 14 vaccine-preventable diseases, questions on recommendation for adults, funding mechanisms and availability of coverage estimates in adults were asked. Questions were closed-ended, with optional space for input of free text. ¹

The questionnaire was piloted by the Italian Istituto Superiore di Sanità (ISS) and the NVPO. After the pilot study, the questionnaire was reviewed and amended as necessary.

Data on seasonal influenza, hepatitis B, tick-borne encephalitis (TBE) and human papilloma virus (HPV) vaccination were already available from recent VENICE surveys.

A validation of the survey results was planned, by asking the gatekeepers to revise this report.

Data handling

A standardized questionnaire was developed using the online software SurveyMonkey (www.surveymonkey.com). Each gatekeeper received an email with a unique link to the online questionnaire in June 2010. The electronic questionnaire was filled directly online by gatekeepers in each country, or by an expert nominated by the gatekeeper.

MSs were asked to complete the electronic questionnaire between 10th June and 4th July 2010. The accompanying letter to MSs explained the objectives and rationale of the study. Non-responders were reminded twice by email, and the deadline extended until 20th August 2010.

The data file was downloaded for analysis on 20th August 2010.

Data analysis

The main indicators analysed included:

a. Availability of a schedule or summary document specific for adults;

b. Number of recommended vaccines for adults, by country;

c. For each vaccine:
   i) Recommendation for adults (general recommendation or specific groups);
   ii) Funding mechanism for vaccine;
   iii) Availability of coverage estimates.

¹ We did not specifically ask for recommendations for travellers. However, when gatekeepers indicated recommendations for travellers this is mentioned separately in the results section “Results by vaccine”, but this data may be incomplete.
Results

All vaccine recommendations refer to the official national vaccination strategies for prophylactic vaccinations for adults who have been fully vaccinated during childhood; this is relevant only to vaccines which are recommended already in childhood. In this analysis, the special group of “travellers” are not included in the general analysis (recommendations, funding and coverage estimates), but mentioned separately.

Response

The survey response was 100% (29/29 countries). The response for data validation 79% (23/29 countries). The countries that validated are BE, BG, CY, CZ, DE, DK, EE, ES, FR, GR, IE, IT, LV, MT, NL, NO, PL, PT, RO, SK, SI, SE, UK.

Definition of “adults”

The median age threshold for adulthood – for the purpose of vaccination - was 18 years (range 15-19). In 23 countries the age threshold is 18 years (AT, BE, BG, CY, CZ, DE, DK, EE, FI, FR, GR, HU, IE, IS, IT, LV, LU, MT, NO, PT, RO, SK, UK), in two countries (LT and ES) it is 15 years, and in two countries (PL, SI) 19 years. NL does not have a definition for this purpose with a strict age boundary; SE did not answer this question.

Availability of a summary document or schedule for adult vaccination recommendations

Six countries (AT, ES, FR, GE, IS, UK) have a comprehensive summary document or schedule describing all vaccines which are recommended for adults (including risk groups and timing of vaccination, if applicable). 17 countries (BG, CY, CZ, DK, EE, FI, GR, HU, LV, LU, MT, NL, NO, PT, RM, SL, SK) have a schedule specifying recommendations for at least one vaccine for adults. In six countries (BE, IE, IT, LT, PL, SE) there is no specific schedule available for any adult vaccination recommendation (the recommendations are included in a disease specific document and not in a schedule or summary document that include all the vaccinations for adults).
Table 1. Availability of adult vaccination schedule summary document of recommendations

<table>
<thead>
<tr>
<th>Comprehensive schedule</th>
<th>Schedule for ≥ 1 vaccine</th>
<th>No specific schedule for adults</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT, ES, FR, DE, IS, UK (n=6)</td>
<td>BG, CY, CZ, DK, EE, FI, GR, HU, LV, LU, MT, NL, NO, PT, RM, SK, SI (n=17)</td>
<td>BE, IE, IT, LT, PL, SE (n=6)</td>
</tr>
</tbody>
</table>

The references to the comprehensive schedules are:


IS: http://landlaeknir.is/pages/858


Number of vaccines recommended for adults

EU- and EFTA countries recommend between four vaccines (HU, IS, LT) to 16 vaccines (EE) for adults. The median number of vaccines recommended for adults in a country is ten vaccines (mean=9.8).

Figure 2. Number of recommended vaccines for adults, by country

The graph in figure 3 shows how many countries have vaccine recommendations for adults by vaccine-preventable disease, and by which mechanisms vaccines are recommended (general vs. specific). A general recommendation means a recommendation for all adults; a specific recommendation means that a vaccine is recommended only for certain groups of adults (e.g. specific age groups, occupational risk group or persons with underlying conditions etc).

Seasonal influenza and hepatitis B are recommended in all surveyed countries for specific groups, except AT EE which recommends seasonal influenza vaccination for all adults (without public funding), and EE which
recommends hepatitis B vaccine for all adults (without funding). 24/29 countries (83%) recommend tetanus and diphtheria vaccines, which are generally recommended to all adults every 10 years. Pneumococcal polysaccharide vaccination is recommended in 22/29 countries (76%) for specific age groups. Rabies pre-exposure vaccination is recommended for risk groups in 19/29 countries (66%). Hepatitis A vaccination is recommended for adults in 18/29 countries for high-risk groups, except EE which recommends it for all adults (however without public funding). Rubella vaccine is recommended for susceptible women in 17/29 countries (59%). Also, 16/29 countries recommend meningococcal vaccine for specific age or risk groups. Vaccine for tick-borne encephalitis (TBE) is recommended in 15/28 countries (54%) in Europe, seven of which have general recommendations for all adults where TBE is endemic. Fourteen countries recommend varicella vaccination for adults, of which one country (BE) recommends it for all adults. Measles and mumps vaccine recommendations are less common (12/29 and 5/29, respectively), and recommended only for specific risk groups or as catch up for specific age groups. Eleven countries recommend polio vaccine for adults, three of which recommend it for all adults (AT, FR, LU). Nine countries (31%) have specific recommendations for pertussis vaccination for adults: five countries recommend it to all adults every ten years, and four countries for specific groups. Seven countries (21%) recommend BCG vaccine for risk groups; two countries (DE and HU) contra-indicate use of BCG vaccine in adults. Human papilloma virus (HPV) vaccine is recommended for young women in five countries (AT, BG, EE, FR and GR).

![Figure 3. Number of countries by recommended adult vaccine](image-url)

Figure 3 shows how many countries have funding mechanisms to support vaccination recommendations for adults. In pink are the number of countries in which the cost for the vaccination is entirely paid out-of-pocket by the recipient, and in green countries which have some funding mechanism for the cost of the vaccination (e.g. publicly funded, funded by the official health insurance, or employer in case of some occupational risk groups; funded fully or partially). This graph shows that recommendations do not imply funding.
Figure 4. Number of countries by funding of recommended vaccines

![Bar chart showing the number of countries by funding of recommended vaccines.]

Only seasonal influenza and Hepatitis B programmes are monitored in most countries (figure 5). For other vaccines, a majority of countries have no vaccination coverage estimates to monitor their programmes.

Figure 5. Availability of coverage estimates for recommended adult vaccines

![Bar chart showing the availability of coverage estimates for recommended adult vaccines.]

- **Seasonal flu**: Unknown
- **Hepatitis B**: No estimate available
- **Tetanus**: No estimate available
- **Diphtheria**: No estimate available
- **Pneumococcal**: No estimate available
- **Rabies**: No estimate available
- **Hepatitis A**: No estimate available
- **Rubella**: No estimate available
- **Meningococcal**: No estimate available
- **TBE**: No estimate available
- **Varicella**: No estimate available
- **Measles**: No estimate available
- **Polio**: No estimate available
- **Pertussis**: No estimate available
- **BCG**: No estimate available
- **Hib**: No estimate available
- **Mumps**: No estimate available
- **HPV**: No estimate available
- **Herpes zoster**: No estimate available
Table 2. Summary overview of recommended vaccines for adults by country and vaccine

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>-</td>
<td>Rg</td>
<td>Rg</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>14</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Belgium</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>-</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rg</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>(Rsp)</td>
<td>Rsp</td>
<td>11</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>13</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>Cyprus</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>8</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Czech</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>-</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rg</td>
<td>-</td>
<td>Rsp</td>
<td>Rg</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>7</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Denmark</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rg</td>
<td>Rg_s</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>10</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Estonia</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rg_s+Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>16</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>Finland</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rg_s</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>9</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>France</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>15</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Germany</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rg_s+Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>15</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Greece</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>11</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Hungary</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Ireland</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>12</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Island</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Italy</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>10</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Latvia</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rg_s+Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>6</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Lithuania</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rg_s+Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>11</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Malta</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>6</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>6</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Norway</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>12</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Poland</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>7</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Portugal</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>10</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Romania</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>5</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Slovakia</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>10</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Slovenia</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>14</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Spain</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>14</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Sweden</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>5</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>UK</td>
<td>Rsp</td>
<td>Rg</td>
<td>Rg</td>
<td>Rg</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td>Rsp</td>
<td>Rsp</td>
<td>-</td>
<td></td>
<td>-</td>
<td>15</td>
<td>0</td>
<td>15</td>
</tr>
</tbody>
</table>

Rg: Recommended for all adults  
Rg_s: Recommended for all adults some parts of the country  
Rsp: Recommended for specific groups of adults (e.g. age groups, occupational risk groups, persons with underlying conditions etc.)  
(Rsp): Recommended for specific groups of adults (see above), but recommendation not yet implemented  
Contra: Contraindication for use in adults  
- : No specific recommendation for adults
Results by vaccine

Tetanus

Recommendations for adults

Twenty-four countries recommend prophylactic tetanus vaccination for adults (i.e. persons who are not injured). Twenty-two countries (AT, BE, BG, CY, CZ, DK, EE, FI, FR, DE, GR, IT, LV, LT, LU, NO, PL, PT, RO, SI, SK, ES) recommend tetanus vaccination for all adults (routinely) every ten years (except SK which recommends every 15 years). One country (MT) has recommendations for specific risk groups. Six countries (HU, IE, IS, NL, SE, UK) have no specific recommendation for adults.

Table 3. Tetanus recommendations for adults

<table>
<thead>
<tr>
<th>General adult recommendation</th>
<th>Specific risk or age group recommendation</th>
<th>No specific recommendation for adults</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, GR, IT, LV, LT, LU, NO, PL, PT, RO, SK, SI (n=22)</td>
<td>MT, NL (n=2)</td>
<td>HU, IE, IS, SE, UK (n=5)</td>
</tr>
</tbody>
</table>

AT: Adults <64-years every ten years, >60-years every five years;
BE, BG, CY, CZ, DK, EE, FI, FR, DE, GR, IT, LV, LT, LU, NO, PL, PT, RO, SI: All adults every ten years; BE, PT: always given as Td;
ES: For adults who received the recommended five doses of Tetanus-diphtheria (Td) during childhood only one dose at 65 years is recommended;
MT: High-risk groups;
NL: Occupational risk groups;
SK: All adults every 15 years.

Travellers: Seven countries (BE, ES, IE, FR, MT, NL, UK) recommend to update tetanus vaccination for adult travellers depending on destination of travel.

Funding

Eighteen countries (BE, BG, CY,CZ, DE, EE, ES, FI, FR, GR, IT, LV, LT, LU, MT, PT, SK, SI) have funding mechanisms to fully or partially bear the cost for adult groups who are recommended tetanus vaccination. In four countries (DK, NO, PL, RO) the tetanus vaccine recipients have to bear the cost of the vaccination themselves.

Table 4. Availability of funding mechanisms for recommended groups for tetanus vaccination

<table>
<thead>
<tr>
<th>Funding mechanism for recommended groups</th>
<th>No funding mechanism for recommended groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE, BG, CY,CZ, DE, EE, ES, FI, FR, GR, IT, LV, LT, LU, MT, NL, PT, SK, SI (n=19)</td>
<td>DK, NO, PL, RO (n=4)</td>
</tr>
</tbody>
</table>

AT: Not specified;
BE: Fully funded;
DE: Recommended vaccines are offered free of charge by the statutory health insurances (SHI) (90% of the German population have a SHI, the rest is insured privately);
DK: Only funded for individuals with underlying medical conditions;
FR: Partly funded;
NL: Payed by employer.

**Availability of coverage estimates**

Coverage estimates for tetanus vaccine in adults is available in six countries (BE, BG, DE, FR, LV, PT).

Table 5. Availability of coverage estimates for tetanus vaccination in adults

<table>
<thead>
<tr>
<th>Country (n=6)</th>
<th>Coverage (%)</th>
<th>Population</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE</td>
<td>61</td>
<td>Adults &gt;18 years, Belgian Health Interview Survey 2008 (<a href="http://www.iph.fgov.be/epidemio/hisia/index.htm">http://www.iph.fgov.be/epidemio/hisia/index.htm</a>)</td>
<td>2008</td>
</tr>
<tr>
<td>BG</td>
<td>74</td>
<td>Adult population at 25-35-45-55-65 and 75+ years of age</td>
<td>2009</td>
</tr>
<tr>
<td>DE</td>
<td>73</td>
<td>All adults</td>
<td>2009</td>
</tr>
<tr>
<td>FR</td>
<td>73</td>
<td>Adults &gt;18 years, telephone survey (2008-2009, n=25000)</td>
<td>2009</td>
</tr>
<tr>
<td>LV</td>
<td>62</td>
<td>Adults &gt;25 years</td>
<td>2009</td>
</tr>
<tr>
<td>PT</td>
<td>61</td>
<td>Cohort which turns 65 years</td>
<td>2010</td>
</tr>
</tbody>
</table>

Td was indicated by 16/29 countries (55%) to be the most frequently used vaccine in the context of tetanus recommendations for adults (figure 6).

**Diphtheria**

**Recommendations for adults**

Twenty-three countries recommend diphtheria vaccination for adults. Twenty-one countries (AT, BE, BG, CY, DK, EE, FI, FR, DE, GR, IT, LV, LT, LU, NO, PL, PT, RO, SI, SK, ES) recommend diphtheria vaccination for all adults (routinely), in the same intervals and administered together with tetanus vaccination (Td). Two countries (MT, UK) recommend diphtheria vaccine for specific risk groups. Six countries (CZ, HU, IE, IS, NL, SE) have no specific recommendation for adults.
Table 6. Diphtheria recommendations for adults

<table>
<thead>
<tr>
<th>General adult recommendation</th>
<th>Specific risk or age group recommendation</th>
<th>No specific recommendation for adults</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT, BE, BG, CY, DE, DK, EE, ES, FI, FR, GR, IT, LV, LT, LU, NO, PL, PT, RO, SK, SI (n=21)</td>
<td>MT, UK (n=2)</td>
<td>CZ, HU, IE, IS, NL, SE (n=6)</td>
</tr>
</tbody>
</table>

AT: Adults <64 years every ten years, >60 years every five years;
BE, BG, CY, DE, EE, ES, FI, FR, GR, IT, LV, LT, LU, NO, PL, PT, RO, SI: All adults every ten years; BE, ES: always given as Td;
ES: For adults who received the recommended five doses Td during childhood only one dose at 65 years is recommended;
MT: High-risk groups;
SK: All adults every 15 years;
UK: Laboratory workers should get a booster every ten years.

Travellers: Eight countries (BE, ES, IE, IS, FR, MT, NL, UK) recommend to update diphtheria vaccination for adult travellers.

**Funding**

Eighteen countries (BE, BG, CY, DE, EE, ES, FI, FR, GR, IT, LV, LT, LU, MT, PT, SK, SI, UK) have funding mechanisms to fully or partially bear the cost for adult groups who are recommended diphtheria vaccination. In four countries (DK, NO, PL, RO) the diphtheria vaccine recipients have to bear the cost of the vaccination themselves.

Table 7. Availability of funding mechanisms for recommended groups for diphtheria vaccination

<table>
<thead>
<tr>
<th>Funding mechanism for recommended groups</th>
<th>No funding mechanism for recommended groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE, BG, CY, DE, EE, ES, FI, FR, GR, IT, LV, LT, LU, MT, PT, SK, SI, UK (n=18)</td>
<td>DK, NO, PL, RO (n=4)</td>
</tr>
</tbody>
</table>

AT: Not specified;
BE: Fully funded;
DE: Recommended vaccines are offered free of charge by the statutory health insurances (SHI);
FR: Partly funded.

**Availability of coverage estimates**

Coverage estimates for diphtheria vaccine in adults is available in five countries (BE, BG, FR, LV, PT).

Table 8. Availability of coverage estimates for diphtheria vaccination in adults

<table>
<thead>
<tr>
<th>Country (n=5)</th>
<th>Coverage (%)</th>
<th>Population</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE</td>
<td>61</td>
<td>Adults &gt;18 years, Belgian Health Interview Survey 2008 (<a href="http://www.iph.fgov.be/epidemio/hisia/index.htm">http://www.iph.fgov.be/epidemio/hisia/index.htm</a>)</td>
<td>2008</td>
</tr>
<tr>
<td>BG</td>
<td>74</td>
<td>Adult population at 25-35-45-55-65 and 75+ years of age</td>
<td>2009</td>
</tr>
<tr>
<td>FR</td>
<td>34</td>
<td>Comment: Up to 2005, there were no indications for diphtheria booster vaccination in adults in the official schedule</td>
<td>2002</td>
</tr>
<tr>
<td>LV</td>
<td>62</td>
<td>Adults &gt;25 years</td>
<td>2009</td>
</tr>
<tr>
<td>PT</td>
<td>61</td>
<td>Cohort which turns 65 years</td>
<td>2010</td>
</tr>
</tbody>
</table>
Pertussis

Recommendations

Nine countries recommend pertussis vaccination for adults. Five countries (AT, DE, LU, NO, PL) recommend pertussis vaccination for all adults, to be administered together with Td vaccination every ten years. Four countries (BE, ES, FR, SI) recommend pertussis vaccination for specific age or risk groups. Twenty countries (BG, CZ, CY, DK, EE, FI, GR, HU, IE, IT, LV, LT, MT, NL, PT, RO, SK, SE, UK) have no recommendation for adults.

Table 9. Pertussis recommendations for adults

<table>
<thead>
<tr>
<th>General adult recommendation</th>
<th>Specific risk or age group recommendation</th>
<th>No recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT, DE, LU, NO, PL (n=5)</td>
<td>BE, ES, FR, SI (n=4)</td>
<td>BG, CZ, CY, DK, EE, FI, GR, HU, IE, IS, IT, LV, LT, MT, NL, PT, RO, SK, SE, UK (n=20)</td>
</tr>
</tbody>
</table>

AT: Adults <64-years every 10 years, >65-years every five years;  
BE: Recommendation (since 2010) for all adults in contact with young children, including young parents and health care workers (HCW);  
DE: All adults should receive the next Td-vaccination as combined Tdap or TdapIPV vaccination; recommended for health care providers, close contact of babies and women with desire to have children;  
LU, NO, PL: All adults every ten years;  
ES: HCW working with neonates;  
FR: Unique booster at 26-28 years and cocooning strategy for household members at the time of pregnancy or birth;  
SI: One booster given to professional risk groups.

Travellers: No country mentioned pertussis recommendations for adult travellers.

Funding

Six countries (BE, DE, ES, FR, LU, SI) have funding mechanisms to fully or partially pay for the cost of pertussis vaccination for recommended adult groups. In NO the pertussis vaccine recipients have to bear the cost of the vaccination themselves.

Table 10. Availability of funding mechanisms for recommended groups for pertussis vaccination

<table>
<thead>
<tr>
<th>Funding mechanism for recommended groups</th>
<th>No funding mechanism for recommended groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE, DE, ES, FR, LU, SI (n=6)</td>
<td>NO (n=1)</td>
</tr>
</tbody>
</table>

AT, PL: Not specified;  
BE: Partially funded (through the national health insurance);  
DE: Recommended vaccines are offered free of charge by the statutory health insurances (SHI);  
FR: Partly funded;  
SI: Employer bears cost of the vaccine.

Availability of coverage estimates

None of the surveyed countries provided coverage estimates for pertussis vaccine in adults.
Polio

Eleven countries recommend polio vaccination for adults. Three countries (AT, FR and LU) recommend polio vaccination for all adults, to be administered together with Td vaccination every ten years. Eight countries (DE, DK, EE, ES, GR, MT, PT, UK) recommend polio vaccination for specific age or risk groups. Eighteen countries (BE, BU, CY, CZ, FI, HU, IE, IS, IT, LV, LT, NL, NO, PL, RO, SK, SI, SE) have no recommendation for adults.

Table 1. Polio recommendations for adults

<table>
<thead>
<tr>
<th>General adult recommendation</th>
<th>Specific risk or age group recommendation</th>
<th>No recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT, FR, LU (n=3)</td>
<td>DE, DK, EE, ES, GR, MT, PT, UK (n=8)</td>
<td>BE, BU, CY, CZ, Fi, HU, IE, IS, IT, LV, LT, NL, NO, PL, RO, SK, SI, SE (n=18)</td>
</tr>
</tbody>
</table>

DE: Health care workers, laboratory staff at risk of exposure, asylum seekers from endemic areas
DK: Occupational risk groups;
EE: Military missioners;
ES: Laboratory staff and HCW who are at risk of exposure to Polio virus;
GR: HCWs;
LU: All adults receive an IPV booster every 10 years;
MT: 5th dose at 16 years, high-risk groups;
PT: Occupational health and special health conditions;
UK: Laboratory staff should receive a booster dose every ten years.

Travellers: Sixteen countries (BE, DE, EE, ES, FI, FR, GR, IE, IS, MT, NL, NO, PT, RO, SI, UK) recommend polio vaccination for adults travellers to endemic areas.

Funding

Nine countries (DE, DK, ES, FR, GR, LU, MT, PT, UK) have funding mechanisms to fully or partially pay for the cost for polio vaccination for recommended adult group. In one country (EE) the polio vaccine recipients have to bear the cost of the vaccination themselves.

Table 12. Availability of funding mechanisms for recommended groups for polio vaccination

<table>
<thead>
<tr>
<th>Funding mechanism for recommended groups</th>
<th>No funding mechanism for recommended groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE, DK, ES, FR, GR, LU, MT, PT, UK (n=9)</td>
<td>EE (n=1)</td>
</tr>
</tbody>
</table>

AT: Not specified;
DE: Recommended vaccines are offered free of charge by the statutory health insurances (SHI);
DK: Vaccine payed by employer;
FR: Partly funded;
LU: Offered free of charge.

Availability of coverage estimates

Coverage estimates for polio vaccine in adults is available in two countries (FR, LV).
Table 13. Availability of coverage estimates for polio vaccination in adults

<table>
<thead>
<tr>
<th>Country (n=2)</th>
<th>Coverage (%)</th>
<th>Population</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>FR</td>
<td>42</td>
<td>All adults</td>
<td>2002</td>
</tr>
<tr>
<td>LV</td>
<td>&lt;1</td>
<td>&gt;18 years (241 shots in 2009)</td>
<td>2009</td>
</tr>
</tbody>
</table>

Measles

Twelve countries (BE, BG, DE, DK, EE, ES, FR, GR, IE, IT, SI, UK) recommend measles vaccination for specific risk or age groups. Seventeen countries (AT, CY, CZ, ES, FI, HU, IS, LT, LU, LV, MT, NL, NO, PL, RO, SK, SE) have no recommendation for adults (measles vaccine may be given only in outbreak control), however, in BE, BG, DE, EE, ES, IE, NO, PT and UK the combined MMR vaccine will be given to those who are recommended mumps or rubella vaccination.

Table 14. Measles recommendations for adults

<table>
<thead>
<tr>
<th>General adult recommendation</th>
<th>Specific risk or age group recommendation</th>
<th>No recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>BE, BG, DE, DK, EE, ES, FR, GR, IE, IT, SI, UK (n=12)</td>
<td>AT, CY, CZ, FI, HU, IS, LT, LU, LV, MT, NL, NO, PL, PT, RO, SK, SE (n=17)</td>
</tr>
</tbody>
</table>

BE: Catch-up vaccination for specific age groups, in particular women at fertile age (respecting an anti-conceptive period of 1 month) after vaccination;
BG: All persons born prior to 1991, given as MMR;
DE: All unvaccinated persons born after 1970 (recommendation from July 2010), unvaccinated health care providers, personnel in kindergartens and children’s homes, unvaccinated persons with contact to measles cases;
DK: Measles vaccination is recommended to adults in certain age groups who are either unvaccinated, incompletely vaccinated or with unknown vaccination status and who have not had measles (preferably given as MMR, although monovalent measles is also available);
EE: HCWs in contact with patients with haematological diseases or children; women who plan pregnancy (one dose, given as MMR);
ES: Non-immune HCW (given as MMR);
FR: Unvaccinated adults born since 1980, susceptible HCW (MMR);
GR: Persons <30 years of age and immunized with one dose, HCWs;
IE: Non-immune individuals who are born on or after 1978, certain high risk groups, HCWs, contacts of measles cases in outbreaks; individuals born before 1978 can obtain if considered at high risk of exposure (given as MMR);
IT: Adolescents, young adults and at risk individuals (2 doses);
SI: Only for professional exposure and epidemiological indication;
UK: Persons born between 1970 and 1979, should be offered MMR if they are considered at high risk of exposure; persons born between 1980 and 1990 may have only had one dose of MMR - if so a further dose should be given; specific recommendations for HCW - should have satisfactory evidence of protection (2 doses of MMR or antibody).

Travellers: Six countries (AT, BE, DK, ES, IE, MT, PT) recommend measles vaccination for adults travellers depending on travel destination.

Funding

Eight countries (BE, DE, ES, FR, GR, IE, IT, UK) have funding mechanisms to fully or partially pay for the cost for measles vaccination for recommended adult groups. In four countries (BG, DK, EE, SI) the measles vaccine recipients have to bear the cost of the vaccination themselves.
Table 15. Availability of funding mechanisms for recommended groups for measles vaccination

<table>
<thead>
<tr>
<th>Funding mechanism for recommended groups</th>
<th>No funding mechanism for recommended groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE, DE, ES, FR, GR, IE, IT, UK (n=8)</td>
<td>BG, DK, EE, SI (n=4)</td>
</tr>
</tbody>
</table>

BE: Fully funded for catch-up vaccination;  
DE: Recommended vaccines are offered free of charge by the statutory health insurances (SHI);  
FR: Partly funded;  
IE: MMR vaccine provided for all individuals born since 1978 (if non-vaccinated), some older individuals may need it and would be given free if indicated;  
SI: Only funded during outbreak control.

Availability of coverage estimates

Coverage estimates for measles vaccine in adults is available only in Latvia (coverage estimate from 2009: <1%).

Mumps

Two countries (EE, SI) have specific recommendations for mumps vaccination in fully-vaccinated adults for specific risk groups. Catch-up vaccination for incompletely vaccinated adults is recommended in four countries (BG, DE, IE, UK) for particular age groups. Twenty-four countries (AT, BE, CY, CZ, DE, DK, ES, FI, FR, GR, HU, IS, IT, LV, LT, MT, LU, NL, NO, PL, PT, RO, SK, SE) have no recommendation for adults, however, in BE, BG, DE, DK, EE, ES, IE, IT, FR, PT and UK the MMR vaccine will be given to those who are recommended measles or rubella vaccination.

Table 16. Mumps recommendations for adults

<table>
<thead>
<tr>
<th>General adult recommendation</th>
<th>Specific risk or age group recommendation</th>
<th>No recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BG, DE, EE, IE, SI, UK (n=6)</td>
<td>AT, BE, CY, CZ, DK, ES, FI, FR, GR, HU, IS, IT, LV, LT, LU, MT, NL, NO, PL, PT, RO, SK, SE (n=24)</td>
</tr>
</tbody>
</table>

BG: All persons born prior to 1991, given as MMR;  
DE: Incompletely vaccinated risk groups: personnel in paediatrics and kindergartens kindergartens and children’s homes, unvaccinated persons with contact to mumps cases, given as MMR;  
EE: HCWs in contact with patients with haematological diseases or children; women who plan pregnancy (one dose, given as MMR);  
SI: Only for professional exposure;  
IE: All individuals entering university, young adults (<25 years, unless considered at high risk) if not already vaccinated with 2 doses of vaccine, in outbreak situations all individuals < 25 years (given as MMR);  
UK: Same as measles (because given as MMR).

Travellers: No country mentioned a mumps recommendation for adult travellers.

Funding

Three countries (DE, IE, UK) have funding mechanisms to fully or partially pay for the cost for mumps vaccination for recommended adult groups. In three countries (BG, EE, SI) the mumps vaccine recipients have to bear the cost of the vaccination themselves.
Table 17. Availability of funding mechanisms for recommended groups for mumps vaccination

<table>
<thead>
<tr>
<th>Funding mechanism for recommended groups</th>
<th>No funding mechanism for recommended groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE, IE, UK (n=3)</td>
<td>BG, EE, SI (n=3)</td>
</tr>
</tbody>
</table>

Availability of coverage estimates

Coverage estimates for mumps vaccine in adults is available only in Latvia (coverage estimate from 2009: <1%).

Rubella

Seventeen countries (AT, BE, BG, DE, DK, EE, ES, FR, GR, IE, IS, IT, NO, PT, SI, SE, UK) have specific recommendations for rubella vaccination in adults for specific risk groups, of which fourteen countries recommend the vaccine for women at child-bearing age. Catch-up vaccination for incompletely vaccinated adults is recommended in one country (UK) for particular age groups. Twelve countries (CY, CZ, FI, HU, LV, LT, LU, MT, NL, PL, RO, SK) have no recommendation for adults, however, in DE, EE, ES, FR, IE, IT, NO, PT and UK the MMR vaccine will be given to those who are recommended measles or mumps vaccination.

Table 18. Rubella recommendations for adults

<table>
<thead>
<tr>
<th>General adult recommendation</th>
<th>Specific risk or age group recommendation</th>
<th>No recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>AT, BE, BG, DE, DK, EE, ES, FR, GR, IE, IS, IT, NO, PT, SI, SE, UK (n=17)</td>
<td>CY, CZ, FI, HU, LV, LT, LU, MT, NL, PL, RO, SK (n=12)</td>
</tr>
</tbody>
</table>

AT, BE, BG, DK, ES, FR, GR, IE, IS, NO, PT, SE: Sero-negative women at child-bearing age; BE, ES, IE, NO, PT: given as MMR; DK and SE: given as mono-competent rubella vaccine if available, otherwise MMR; DE: All women in child-bearing age should have received two doses of MMR vaccine (preferred) or rubella vaccine. EE: HCWs in contact with patients with haematological diseases or children; women who plan pregnancy (one dose, given as MMR); IT: Same as measles plus women at child-bearing age; SI: For professional exposure; UK: Persons born between 1970 and 1979, should be offered MMR if they are considered at high risk of exposure; persons born between 1980 and 1990 may have only had one dose of MMR - if so a further dose should be given; specific recommendations for HCW - should have satisfactory evidence of protection (2 doses of MMR or antibody).

Funding

Thirteen countries (BE, DE, DK, ES, FR, GR, IE, IS, IT, NO, PT, SE, UK) have funding mechanisms to fully or partially pay for the cost for rubella vaccination for recommended adult groups. In three countries (BG, EE, SI) the rubella vaccine recipients have to bear the cost of the vaccination themselves.

Table 19. Availability of funding mechanisms for recommended groups for rubella vaccination

<table>
<thead>
<tr>
<th>Funding mechanism for recommended groups</th>
<th>No funding mechanism for recommended groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE, DE, DK, ES, FR, GR, IE, IS, IT, NO, PT, SE, UK (n=13)</td>
<td>BG, EE, SI (n=3)</td>
</tr>
</tbody>
</table>

AT: not specified; FR: Partly funded.
Availability of coverage estimates
Coverage estimates for rubella vaccine in adults is available only in Latvia (coverage estimate from 2009: <1%).

Pneumococcal invasive disease (Streptococcus pneumoniae)

Twenty-one countries (AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, GR, IE, IS, LU, NO, PT, SK, SI, SE, UK) recommend pneumococcal vaccination for specific risk groups of adults, out of which seventeen countries recommend the vaccine for the elderly (persons above a certain age). Eight countries (IT, HU, LV, LT, MT, NL, PL, RO) have no recommendation for adults.

Table 20. Pneumococcal recommendations for adults

<table>
<thead>
<tr>
<th>General adult recommendation</th>
<th>Specific risk or age group recommendation</th>
<th>No recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, GR, IE, IS, LU, NO, PT, SK, SI, SE, UK (n=21)</td>
<td>IT, HU, LV, LT, MT, NL, PL, RO (n=8)</td>
</tr>
</tbody>
</table>

AT, BG, CY, ES, FI, GR, IE, NO, SI, SE, UK: adults above 65 years and high risk individuals with underlying medical conditions;
BE, CZ, DE, LU: adults above 60 years and high risk individuals with underlying medical conditions;
DK: Same risk groups as seasonal influenza;
EE: High-risk individuals, social care facility patients;
FR: High-risk individuals;
IS: 60 years of age and older every ten years, immuno-compromised individuals every five years;
PT: Persons with underlying medical conditions;
SK: Compulsory for persons housed in the social care facilities, recommended for persons with underlying medical conditions and persons older than 59 years.

Travellers: No country mentioned pneumococcal recommendations for adult travellers.

Funding

Eleven countries (CY, CZ, DE, ES, FR, GR, IE, LU, SK, SE, UK) have funding mechanisms to fully or partially pay for the cost for pneumococcal vaccination for recommended adult groups. In nine countries (BE, BG, DK, EE, FI, IS, NO, PT, SI) the pneumococcal vaccine recipients have to bear the cost of the vaccination themselves.

Table 21. Availability of funding mechanisms for recommended groups for pneumococcal vaccination

<table>
<thead>
<tr>
<th>Funding mechanism for recommended groups</th>
<th>No funding mechanism for recommended groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>CY, CZ, DE, ES, FR, GR, IE, LU, SK, SE, UK (n=11)</td>
<td>BE, BG, DK, EE, FI, IS, NO, PT, SI (n=9)</td>
</tr>
</tbody>
</table>

AT: not specified;
CZ: Funded by public health insurance;
ES: Some Spanish autonomous regions pneumococcal vaccination free of charge for people >60 years;
FI: Recommended not as part of national programme, therefore not funded;
FR: Partly funded;
NO: Funded only for HIV-positive individuals and persons without spleen.
Availability of coverage estimates

Coverage estimates for pneumococcal vaccine in adults are available in three countries (BE, IE, LV).

Table 22. Availability of coverage estimates for pneumococcal vaccination in adults

<table>
<thead>
<tr>
<th>Country (n=3)</th>
<th>Coverage (%)</th>
<th>Population</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE</td>
<td>13</td>
<td>Adults &gt;60 years</td>
<td>2008</td>
</tr>
<tr>
<td>IE</td>
<td>10</td>
<td>All adult population; national telephone survey. Uptake in person &gt; or = 65 years was 41%, and adults 18-64 years with risk condition was 11%</td>
<td>2006</td>
</tr>
<tr>
<td>LV</td>
<td>&lt;1</td>
<td>18&gt; years</td>
<td>2009</td>
</tr>
</tbody>
</table>

Meningococcal invasive disease (*Neisseria meningitidis*)

Sixteen countries (BG, CY, CZ, DE, EE, ES, FI, FR, GR, IE, LU, NO, PT, SK, SI, UK) recommend meningococcal vaccination for specific risk or age groups. Thirteen countries (AT, BE, DK, HU, IS, IT, LV, LT, MT, NL, PL, RO, SE) have no recommendation for adults. In the questionnaire we did not differentiate between different vaccines (mono menC, bi- or quadrivalent).

Table 23. Meningococcal recommendations for adults

<table>
<thead>
<tr>
<th>General adult recommendation</th>
<th>Specific risk or age group recommendation</th>
<th>No recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>BG, CY, CZ, DE, EE, ES, FI, FR, GR, IE, LU, NO, PT, SK, SI, UK (n=16)</td>
<td>AT, BE, DK, HU, IS, IT, LV, LT, MT, NL, PL, RO, SE (n=13)</td>
</tr>
</tbody>
</table>

BG, DE: High-risk individuals;  
CY, FI: Military;  
CZ: Underlying medical conditions, epidemiological indications;  
DE: Unvaccinated risk groups or risk groups who have not received the 4-valent conjugate vaccine;  
EE: Adults without spleen, immuno-compromised;  
ES: Adults without a spleen or spleen dysfunction;  
FR: Catch-up vaccination for adults under 24 years of age for Men C vaccination;  
GR: Medical indications, military recruits;  
IE: Contact of cases, catch-up vaccination for adults under 23 years of age; individuals with deficiencies in complement or properdin, those with asplenia or splenic dysfunction;  
LU: Catch-up vaccination for adults under 19 years of age;  
NO: Persons below 25 years of age (with or without functioning spleen);  
PT, SI: Underlying medical conditions, epidemiological indications;  
SK: Compulsory for persons in direct contact with infected person, recommended for persons with specific underlying conditions;  
UK: All persons under 25 years should have single dose of MenC; asplenics should receive a further dose of vaccine.

Travellers: Fourteen countries (AT, BE, BG, CY, DE, DK, ES, FR, GR, IE, NL, NO, SI, UK) recommend meningococcal vaccination for adults travellers to certain countries.
**Funding**

Fourteen countries (CY, CZ, DE, ES, FI, FR, GR, IE, LU, NO, PT, SK, SI, UK) have funding mechanisms to fully or partially pay for the cost for meningococcal vaccination for recommended adult group. In two countries (BG, EE) the meningococcal vaccine recipients have to bear the cost of the vaccination themselves.

### Table 24. Availability of funding mechanisms for recommended groups for meningococcal vaccination

<table>
<thead>
<tr>
<th>Funding mechanism for recommended groups</th>
<th>No funding mechanism for all recommended groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>CY, CZ, DE, ES, FI, FR, GR, IE, LU, NO, PT, SK, SI, UK (n=14)</td>
<td>BG, EE (n=2)</td>
</tr>
</tbody>
</table>

CZ: Funded by public health insurance;
DE: Recommended vaccines are offered free of charge by the statutory health insurances (SHI);
FI: Recommended not as part of national programme, therefore not funded;
FR: Partly funded.

**Availability of coverage estimates**

Coverage estimates for meningococcal vaccine in adults are available in two countries (IE, LV).

### Table 25. Availability of coverage estimates for meningococcal vaccination in adults

<table>
<thead>
<tr>
<th>Country (n=2)</th>
<th>Coverage (%)</th>
<th>Population</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>IE</td>
<td>30</td>
<td>18-22 year olds; the uptake for current adults in that age group would be higher as they would have been vaccinated while still in school <a href="http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=2376">http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=2376</a></td>
<td>2002</td>
</tr>
<tr>
<td>LV</td>
<td>&lt;1</td>
<td>&gt;18 years</td>
<td>2009</td>
</tr>
</tbody>
</table>

**Rabies**

Nineteen countries (AT, BG, CY, DE, EE, ES, FI, FR, HU, IE, IT, LV, LU, NO, PT, RO, SK, SI, UK) recommend rabies pre-exposure vaccination for specific adult risk groups. Ten countries (BE, CZ, DK, GR, IS, LT, MT, NL, PL, SE) have no recommendation for adults.

### Table 26. Rabies recommendations for adults

<table>
<thead>
<tr>
<th>General adult recommendation</th>
<th>Specific risk or age group recommendation</th>
<th>No recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>AT, BG, CY, DE, EE, FI, FR, HU, IE, IT, LV, LU, NO PT, RO, SK, SI, UK (n=19)</td>
<td>BE, CZ, DK, GR, IS, LT, MT, NL, PL, SE (n=10)</td>
</tr>
</tbody>
</table>

AT, BG, CY, DE, EE, ES, FI, FR, HU, IE, IT, LV, LU, NO PT, RO, SK, SI, UK: professional risk groups (mainly veterinary personnel, laboratory staff, hunters, bat-handlers).

Travellers: Fourteen countries (AT, BE, BG, CY, DE, DK, ES, FR, FI, IE, IS, NL, PL, UK) recommend rabies vaccination for adults travellers, when travelling for prolonged period in enzootic area.

**Funding**

Fifteen countries (BG, CY, DE, EE, ES, FI, FR, HU, IE, IT, LV, LU, PT, SK, UK) have funding mechanisms to fully or partially pay for the cost for rabies vaccination for recommended adult groups. In three countries (NO, RO, SI) the rabies vaccine recipients have to bear the cost of the vaccination themselves.
Table 2. Availability of funding mechanisms for recommended groups for rabies vaccination

<table>
<thead>
<tr>
<th>Funding mechanism for recommended groups</th>
<th>No funding mechanism for all recommended groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>BG, CY, DE, EE, ES, FI, FR, HU, IE, IT, LV, LU, PT, SK, UK (n=15)</td>
<td>NO, RO, SI (n=3)</td>
</tr>
</tbody>
</table>

AT: not specified;  
DE: Recommended vaccines are offered free of charge by the statutory health insurances (SHI);  
NO: Vaccine must be paid by the vaccinee or the employer;  
PT: Soon it is planned to cover only post-exposure prophylaxis;  
SI: Funded only for students at increased risk.

Availability of coverage estimates  
Coverage estimates for rabies vaccine in adults is available only in Latvia (coverage estimate from 2009: <1%).

Hepatitis A

One country (EE) recommends hepatitis A vaccination for all adults. Seventeen countries (AT, BE, BG, CY, CZ, DE, DK, ES, FR, GR, IE, LU, NL, NO, SK, SI, UK) recommend hepatitis A vaccination for specific age or risk groups. Eleven countries (FI, HU, IS, IT, LV, LT, MT, PL, PT, RO, SE) have no recommendation for adults.

Table 28. Hepatitis A recommendations for adults

<table>
<thead>
<tr>
<th>General adult recommendation</th>
<th>Specific risk or age group recommendation</th>
<th>No recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE (n=1)</td>
<td>AT, BE, BG, CY, CZ, DE, DK, ES, FR, GR, IE, LU, NL, NO, SK, SI, UK (n=17)</td>
<td>FI, HU, IS, IT, LV, LT, MT, PL, PT, RO, SE (n=11)</td>
</tr>
</tbody>
</table>

AT, BE, BG, CY, DE, FR, GR, IE, NO, SK, SI, UK: high risk groups (professional exposure, risky behaviour, underlying illnesses, close contact to hepatitis A patients);  
CZ: Professional exposure;  
DK: Recommended in combination with hepatitis B vaccination for specific risk groups;  
EE: All adults (2 doses);  
ES: Not specified;  
LU: Workers in food industry;  
NL, SI: occupational risk groups.

Travellers: Fourteen countries (AT, BE, BG, CY, DE, DK, ES, FR, GR, IE, IS, NL, SI, UK) recommend hepatitis A vaccination for adults travellers to endemic areas.

Funding

Eleven countries (BE, CY, CZ, DE, DK, ES, GR, IE, NO, SK, UK) have funding mechanisms to fully or partially pay for the cost for hepatitis A vaccination for recommended adult group. In six countries (BG, EE, FR, LU, NL, SI) the hepatitis A vaccine recipients have to bear the cost of the vaccination themselves.

Table 29. Availability of funding mechanisms for recommended groups for hepatitis A vaccination

<table>
<thead>
<tr>
<th>Funding mechanism for recommended groups</th>
<th>No funding mechanism for all recommended groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE, CY, CZ, DE, DK, ES, GR, IE, NO, SK, UK (n=11)</td>
<td>BG, EE, FR, LU, NL, SI (n=6)</td>
</tr>
</tbody>
</table>
AT: not specified;  
BE: free of charge for those with occupational risk through the Fund of Occupational Diseases;  
DE: Recommended vaccines are offered free of charge by the statutory health insurances (SHI);  
NO: Funding mechanism for high risk groups; vaccine for at risk employees are to be offered free of charge be the employer;  
SI: Free of charge only for individuals with specific underlying medical conditions.

**Availability of coverage estimates**

Coverage estimates for hepatitis A vaccine in adults is available only in LV (coverage estimate from 2009: <1%).

**Tuberculosis (Mycobacterium tuberculosis)**

Seven countries (FR, IE, IT, MT, NO, SK, UK) recommend Bacillus Calmette-Guérin (BCG) vaccination for specific adult risk groups. Twenty countries (AT, BE, BU, CY, CZ, DK, EE, ES, FI, GR, IS, LV, LT, LU, NL, PL, PT, RO, SI, SE) have no recommendation for adults. Two countries (DE, HU) have a specific recommendation against BCG vaccination in adults.

**Table 30. BCG recommendations for adults**

<table>
<thead>
<tr>
<th>General adult recommendation</th>
<th>Specific risk or age group recommendation</th>
<th>No recommendation</th>
<th>Contra-indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>FR, IE, IT, MT, NO, SK, UK (n=7)</td>
<td>AT, BE, BU, CY, CZ, DK, EE, ES, FI, GR, IS, LV, LT, LU, NL, PL, PT, RO, SI, SE (n=20)</td>
<td>DE, HU (n=2)</td>
</tr>
</tbody>
</table>

FR, MT: HCW;  
IE: High risk groups; immigrants from areas where high burden of tuberculosis, occupational risk groups (up to 35 years of age), HCWS (up to any age) if Mantoux-negative and BCG scar negative;  
IT: HCW (with negative Mantoux-test and high risk of exposure);  
NO: Persons below 36 years of age coming from high-burden countries; occupation risk groups (HCW);  
SK, UK: occupational risk groups (TBC and respiratory wards, veterinarians, waste facilities, police, asylum workers).

Travellers: Four countries (DK, IE, NL, UK) mentioned BCG recommendations for adult travellers depending on travel destination and vaccination history.

**Funding**

All seven countries (FR, IE, IT, MT, NO, SK, UK) recommending BCG vaccination have funding mechanisms to fully or partially pay for the cost of the vaccination.

**Table 31. Availability of funding mechanisms for recommended groups for BCG vaccination**

<table>
<thead>
<tr>
<th>Funding mechanism for recommended groups</th>
<th>No funding mechanism for all recommended groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>FR, IE, IT, MT, NO, SK, UK (n=7)</td>
<td></td>
</tr>
</tbody>
</table>

NO: BCG vaccine is given free of charge for target groups.

**Availability of coverage estimates**

Coverage estimates for BCG vaccine in adults is available only in Latvia (coverage estimate from 2009: 0%).

~ 24 ~
Varicella

Fourteen countries recommend varicella vaccination for adults. BE recommends varicella vaccination for all adults (who have not had the disease). Thirteen countries (AT, DE, EE, ES, FI, FR, IE, IT, LU, NL, PL, SI, UK) recommend varicella vaccination for adults at specific age or for high risk groups. Fifteen countries (BG, CY, CZ, DK, GR, HU, IS, LV, LT, MT, NO, PT, RO, SK, SE) have no recommendation for adults.

Table 32. Varicella recommendations for adults

<table>
<thead>
<tr>
<th>General adult recommendation</th>
<th>Specific risk or age group recommendation</th>
<th>No recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE (n=1)</td>
<td>AT, DE, EE, ES, FI, FR, IE, IT, LU, NL, SI, UK (n=13)</td>
<td>BG, CY, CZ, DK, GR, HU, IS, LV, LT, MT, NO, PT, RO, SK, SE (n=15)</td>
</tr>
</tbody>
</table>

AT: Sero-negative woman of child-bearing age;
BE: All adults who have not had the disease;
DE: Sero-negative women who want children, high-risk individuals, close contacts of high-risk-individuals, unvaccinated HCWs and new personnel in kindergartens;
EE: Women of child-bearing age, HCWs in contact with patients with haematological diseases or children;
ES: Medical risk groups: immunocompromised persons, person with acute lymphocytic leukemia in remission, persons with leukemia, candidates for organ transplantation and non immune patients with chronic diseases (respiratory, cardiovascular, metabolic and neurologic chronic disease); susceptible HCW; sero-negative family members and close contacts of high risk children;
FI: All women of child-bearing age without serological or clinical history of varicella, women working in health care sector and teaching;
FR: Women of child-bearing age without clinical history of varicella, adults without clinical history of varicella in contact with a case (in the 72 hours following exposure), non immune contacts of immuno-compromised subjects, non immune professionals in contact with small children or with subjects predisposed to severe varicella;
IE: All women of child-bearing age without serological or clinical history of varicella, non-immune HCW, laboratory staff with potential exposure, close contacts of immune-compromised patients;
IT: Patients suffering from chronic renal failure, leukaemia, liver, kidney or bone marrow transplant; susceptible elderly persons, HCWs employed in oncology or transplant units; family contacts of immune-compromised subjects;
LU: Susceptible adolescents, susceptible women in childbearing age, adult risk groups and their contacts (health care professionals, household members);
NL: HCW;
PL: Women of child-bearing age;
SI: Immune-compromised patients, close contacts to immune-compromised, professionally exposed non-immune adults (medical services, pre-school children facility) (2 doses);
UK: At-risk HCW, contacts of immune-compromised patients.

Travellers: No country mentioned varicella recommendations for adult travellers.

Funding

Eight countries (DE, ES, FI, FR, IE, IT, LU, NL) have funding mechanisms to fully or partially pay for the cost for varicella vaccination for recommended adult groups. In three countries (EE, PL, SI) some of the varicella vaccine recipients have to bear the cost of the vaccination themselves.
Table 3. Availability of funding mechanisms for recommended groups for varicella vaccination

<table>
<thead>
<tr>
<th>Funding mechanism for recommended groups</th>
<th>No funding mechanism for all recommended groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE, ES, FI, FR, IE, IT, LU, NL</td>
<td>EE, PL, SI</td>
</tr>
<tr>
<td>(n=8)</td>
<td>(n=3)</td>
</tr>
</tbody>
</table>

AT, BE, UK: not specified;
DE: Recommended vaccines are offered free of charge by the statutory health insurances (SHI);
FI: For women at increased occupational risk the vaccine is partly funded by the government, partly by the employer;
NL: Funded by the institution/company;
SI: Funded only for individuals with underlying conditions.

Availability of coverage estimates
Coverage estimates for varicella vaccine in adults is available only in Latvia (coverage estimate from 2009: <1%).

Herpes zoster
One country (AT) has an official recommendation to vaccinate all >50 year old adults. The UK has a recommendation for >70-year old adults which has not been implemented yet. Also in BE the vaccine is recommended for adults, but was not available at the time of the survey due to production capacity problems.

Haemophilus influenzae type b
Haemophilus influenzae type b (Hib) vaccine is recommended for adults in four countries: DE: For high-risk patients; ES: adults with impaired spleen function, immune-compromised patients (solid organ or hematopoietic cell transplant recipients); IE: persons with asplenia/hyposplenism, complement deficiency, PT: for patients with underlying conditions (free of charge).

Tick-borne encephalitis
A VENICE II survey about tick-borne encephalitis (TBE) surveillance systems and vaccination recommendations was conducted in 2009 (http://venice.cineca.org/final_report_TBE_19-01-2011.pdf). This survey concluded that in 18/28 countries (AT, CZ, DE, DK, EE, FI, FR, GR, HU, IT, LV, LT, NO, PL, RO, SK, SI, SE; one country - LU - did not participate to this survey) there is a risk of TBE-infection, 16 of which have endemic areas.

Vaccination for TBE is recommended for all adults in eight countries: In AT, CZ and SI the recommendation is at national level, in Finland at sub national level and in four countries (DE, SE, EE, LV) only in endemic areas. Among countries which recommend vaccination to the general population only in some areas, three countries have recommendations for specific risk groups (DE, EE, LV) in addition. In seven countries (DK, HU, IT, NO, PL, SK, UK) vaccine recommendations for specific risk groups only – occupational or other – have been formulated.

Among the 15 countries which have TBE vaccination recommendations for adults, eight countries (AT, CZ, DE, FI, HU, IT, LV, UK) have public funding mechanisms to support the recipient; in SI, the vaccine is funded only for specific high-risk occupational groups, not for the general population as recommended; in EE, the vaccine is not publicly funded but employers of high-risk employees pay for the vaccine; in PL the vaccine is funded for some of the recommended high-risk groups; in four countries (DK, NO, SK, SE) the recipient bears the cost of the vaccine.
23 countries (AT, BE, CZ, DE, DK, EE, ES, FI, FR, GR, HU, IE, IS, IT, LV, NL, NO, PL, RO, SE, SI, SK, UK) have recommendations for adults travelling abroad to risk areas.

Seven countries (AT, DE, EE, IS, LV, PL, SI) regularly assess vaccine coverage, five of which provided detailed coverage estimates for 2007 (population not specified).

Table 34. Availability of coverage estimates for TBE in adults

<table>
<thead>
<tr>
<th>Country (n=5)</th>
<th>Coverage (%)</th>
<th>Method</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT</td>
<td>88</td>
<td>Health record data + survey + pharmaceutical sales data</td>
<td>2007</td>
</tr>
<tr>
<td>CZ</td>
<td>17</td>
<td>Annual survey conducted by social research company GfK</td>
<td>2007</td>
</tr>
<tr>
<td>EE</td>
<td>6,2</td>
<td>Health record data</td>
<td>2007</td>
</tr>
<tr>
<td>LV</td>
<td>9,4</td>
<td>Pharmaceutical sales data + monthly reports from vaccination sites</td>
<td>2007</td>
</tr>
<tr>
<td>PL</td>
<td>0,8</td>
<td>Health record data</td>
<td>2007</td>
</tr>
</tbody>
</table>

Seasonal influenza, hepatitis B and human papilloma virus vaccine

Detailed information on vaccination recommendations, funding mechanism and coverage data for seasonal influenza, hepatitis B and HPV vaccine were obtained from the online sources indicated in table 35, and updated if necessary. The results of these surveys have been summarized in figures 2-5.

Table 35. Previous VENICE surveys on seasonal influenza, hepatitis B and HPV vaccination

<table>
<thead>
<tr>
<th>VENICE survey</th>
<th>Year</th>
<th>www</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seasonal influenza</td>
<td>season 2007-2008</td>
<td><a href="http://venice.cineca.org/Final_2009_Seasonal_Influenza_Vaccination_Survey_in_Europe_1.0.pdf">http://venice.cineca.org/Final_2009_Seasonal_Influenza_Vaccination_Survey_in_Europe_1.0.pdf</a></td>
</tr>
</tbody>
</table>

Discussion

The survey results show that many vaccines are available for adults and they often included in the national immunization programme, however a comprehensive strategy for adult vaccination is absent in most countries.

While childhood vaccination is considered a pillar of public health prevention, adults vaccination seems to be less important. Often vaccination recommendations exist but this information is not so easy to find because of the absence, in most of the surveyed countries, of a national summary document dedicated to adult vaccination. Only six countries have a document that summarizes the vaccination strategies in adults, or in all age groups including adults.

The results of this survey show also that vaccination strategies for adults vary across Europe. EU- and EFTA-countries recommend between four to 16 vaccines for adults, with a median of ten vaccines. This reflects the different perceptions of how important vaccinations for adults are regarded or in some way considered. Interestingly, the countries which have produced comprehensive guidelines for adult vaccinations are also the ones which recommend the most vaccines for adults.

All countries have recommendations for adults to be vaccinated with seasonal influenza and hepatitis B vaccine, followed by 24/29 countries with recommendations for prophylactic tetanus and diphtheria vaccination. These findings reflect the epidemiological situation (e.g. TBE, Tuberculosis, hepatitis A and B) and public health priorities in Europe. However, considering the movements of population inside Europe,
more efforts to assess the needs for vaccination of adults should be done. Some other differences pointed out by this study may also reflect different past vaccination histories or coverage (MMR) influencing the relevance of adult population or different perceptions of vaccine effectiveness in adults (BCG, pneumococcal vaccination, diphtheria and tetanus boosters).

Several aspects make the strategies difficult to compare between countries. The definition of “adult” varies across countries, with different ages defining the onset of adulthood in European countries (median lower age threshold 18 years, range 15-19). Also, the meaning of a “recommended vaccine” is not comparable between countries, because recommended (probably included in an official document or in national immunization plan) does not imply funding. Resources to support vaccination are a critical point, and recommendations which are not supported through public funding mechanisms may have an impact on the uptake of the vaccine and create geographic areas with high proportion of susceptibles. However, the decision of whether to fund or not fund a vaccination programme is a question of priorities within every country, and the survey did not investigate how and why every country arrived to the decision of recommending and funding a vaccination strategy, due to the complexity of this information. This could be considered a limitation of the study.

Another important finding of this survey was the poor availability of vaccine coverage data in adults; none of the surveyed countries routinely computed vaccine coverage in adults, except for influenza in 20/29 countries, hepatitis B vaccine (23/29) and Td-vaccine (6/29). Coverage assessment is the only way to assess program success or failure, and lack of monitoring of vaccination coverage shows that vaccination in adults is not regarded a priority and is a neglected field in public health. As with any public health intervention, vaccination recommendations for adults should be accompanied by a monitoring strategy (vaccine-uptake). Some difficulties to collect routinely this information are well known (old cohorts, movements of population, different services in charge of vaccination comparing with vaccination in childhood, absence of specific vaccine schedule, less attention to the problem, lack of recording of past vaccination), however alternative methods like surveys, serological studies or telephone survey should be taken into consideration.

The findings of this survey could serve as a starting point to discuss the need of evidence-based European guidelines, which would serve as a reference document for national policy makers to formulate sound national vaccination strategies for all age groups.
Annex 1 - Survey questionnaire

Introduction

Thank you for taking the time to complete this survey on vaccination coverage and recommendations in adults in EU- and EFTA-countries.

SURVEY DESCRIPTION
Vaccination in adults is a highly relevant and not well-researched topic at European level, and through this survey we hope to gain an overview of vaccination strategies in adults in EU- and EFTA-countries.

VENICE II is conducting this survey in collaboration with the U.S. National Vaccine Program Office (NVPO), in an effort to obtain data from and to inform vaccination strategies for adults in all high-income and industrial countries worldwide.

INSTRUCTIONS
YOU CAN INTERRUPT filling the questionnaire at any time by clicking on the "exit this survey" link in the top right, and your data will be saved for you to continue where you stopped. After completion of the questionnaire you will be able to edit your answers until we officially close the data collection.

Data for Sarsenov flu, Hepatitis B and Human Papilloma Virus (HPV) vaccines are already available from recent specific surveys, and therefore not investigated in detail in this survey.

We are looking forward to receiving your input by Friday, 2 July 2010.

Please don't hesitate to contact Elisabeth Kanitz at Istituto Superiore di Sanità, Rome (elisabeth.kanitz@gmail.com) for questions.

Thank you!

The VENICE II Team

Identification

*1. Please fill in your information below:
   - First name
   - Surname
   - Affiliation
   - Email-address

General - Vaccination recommendations for adults

2. What is the legal age of entry into adulthood in your country (for the purpose of eligibility for certain vaccines/vaccination schedule rather than for consent purposes)?

3. Does the country have an adult immunisation schedule (recommendations by vaccine and groups)?
   - Yes (for at least one vaccine)
   - No

   Other (please specify) or comments:

Vaccination recommendation details
4. What is the year of most recent update of the adult schedule?

5. If available, please provide the web address or publication where the schedule of recommendations can be accessed:

Tetanus, diphtheria, pertussis: vaccine combinations in adults

6. Which vaccine combination(s) are in use in your country for adults?

<table>
<thead>
<tr>
<th>Vaccine Combination</th>
<th>Available on the market</th>
<th>Recommended in adults</th>
<th>Funded or reimbursed (in full or partial)</th>
<th>Most widely used in adults</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetanus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetanus/diphtheria</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetanus/diphtheria/acellular pertussis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetanus/diphtheria-inactivated polio</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetanus/diphtheria/acellular pertussis-inactivated polio</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

Tetanus: recommendation

7. Does the country recommend routine adult vaccination for tetanus?

- Yes
- No - recommendation for adults not specifically mentioned
- Specific recommendation AGAINST adult vaccination

Comments:

Tetanus: recommendation detail

For recommendations, please include the age group(s), vaccine(s), number of doses, and special groups (e.g., travellers, health care providers, high-risk individuals).

8. What is the recommendation?
9. Year when the vaccine was first recommended for any adult population:

Comments:

Tetanus: funding and coverage

10. Does the country publicly fund adult tetanus vaccination? Please tick a box for each column:

<table>
<thead>
<tr>
<th>Group</th>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>&gt;65 years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
<th>Travelers</th>
<th>Other group (please comment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offered free of charge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partly funded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offered at a reduced price by vaccine services*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not funded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

*Offered at a reduced price by vaccine services because of specially negotiated price with manufacturers (but at no cost for the vaccine service)

11. Does the country have legal requirements for private health insurance to pay for tetanus vaccination for adults? Please tick a box for each column:

<table>
<thead>
<tr>
<th>Group</th>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>65+ years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not specified</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please specify):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12. What is the most recent adult vaccine coverage/uptake estimate (if available)?

Tetanus: coverage detail
13. To which year does this coverage estimate apply?

To which population and age group does this coverage estimate apply? Please also use this field for comments.

Diphtheria: recommendation

14. Does the country recommend routine adult vaccination for diphtheria?
   - Yes
   - No - recommendation for adults not specifically mentioned
   - Specific recommendation AGAINST adult vaccination

Diphtheria: recommendation detail

For recommendations, please include the age group(s), vaccine(s), number of doses, and special groups (e.g. travelers, health care providers, high-risk individuals).

15. What is the recommendation?

16. Year when the vaccine was first recommended for any adult population:

   Comments:

Diphtheria: funding and coverage

17. Does the country publicly fund adult diphtheria vaccination? Please tick a box for each column:

<table>
<thead>
<tr>
<th></th>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>&gt;65 years</th>
<th>Underlying medical condition</th>
<th>Disability</th>
<th>At-risk employees</th>
<th>Travellers</th>
<th>Other group (please comment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offered free of charge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partially funded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offered at a reduced price by vaccine services*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not funded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:
18. Does the country have legal requirements for private health insurance to pay for diphtheria vaccination for adults? Please tick a box for each column:

<table>
<thead>
<tr>
<th></th>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>65+ years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not specified</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other (please specify):

19. What is the most recent adult vaccine coverage/uptake estimate (if available)?

Diphtheria: coverage detail

20. To which year does this coverage estimate apply?

To which population and age group does this coverage estimate apply? Please also use this field for comments.

Pertussis: recommendation

21. Does the country recommend routine adult vaccination for pertussis?
   - Yes
   - No - recommendation for adults not specifically mentioned
   - Specific recommendation AGAINST adult vaccination

Comments:

Pertussis: recommendation detail

For recommendations, please include the age group(s), vaccine(s), number of doses, and special groups (e.g. travellers, health care providers, high-risk individuals).

22. What is the recommendation?
23. Year when the vaccine was first recommended for any adult population:

Comments:

Pertussis: funding and coverage

24. Does the country publicly fund adult pertussis vaccination? Please tick a box for each column:

<table>
<thead>
<tr>
<th>Group</th>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>&gt;65 years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
<th>Travelers</th>
<th>Other group (please comment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offered free of charge</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Partly funded</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Offered at a reduced price by vaccine services*</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Not funded</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Not applicable</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

Comments:

*Offered at a reduced price by vaccine services because of specially negotiated price with manufacturers (but at no cost for the vaccine service)

25. Does the country have legal requirements for private health insurance to pay for pertussis vaccination for adults? Please tick a box for each column:

<table>
<thead>
<tr>
<th>Group</th>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>65+ years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Not specified</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>No</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

Other (please specify):

25. What is the most recent adult vaccine coverage/uptake estimate (if available)?

Pertussis: coverage detail
27. To which year does this coverage estimate apply?

To which population and age group does this coverage estimate apply? Please also use this field for comments.

---

**Poliomyelitis (polio): recommendation**

28. Does the country recommend routine adult vaccination for polio?

- Yes
- No - recommendation for adults not specifically mentioned
- Specific recommendation AGAINST adult vaccination

Comments:

---

**Polio: recommendation detail**

For recommendations, please include the age group(s), vaccine(s), number of doses, and special groups (e.g. travellers, health care providers, high-risk individuals).

29. What is the recommendation?

30. Year when the vaccine was first recommended for any adult population:

Comments:

---

**Polio: funding and coverage**
31. Does the country publicly fund adult polio vaccination? Please tick a box for each column:

<table>
<thead>
<tr>
<th>Group</th>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>&gt;65 years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
<th>Travelers</th>
<th>Other group (please comment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offered free of charge</td>
<td>[          ]</td>
<td>[          ]</td>
<td>[          ]</td>
<td>[                             ]</td>
<td>[        ]</td>
<td>[                ]</td>
<td>[        ]</td>
<td>[                            ]</td>
</tr>
<tr>
<td>Partly funded</td>
<td>[          ]</td>
<td>[          ]</td>
<td>[          ]</td>
<td>[                             ]</td>
<td>[        ]</td>
<td>[                ]</td>
<td>[        ]</td>
<td>[                            ]</td>
</tr>
<tr>
<td>Offered at a reduced price by vaccine services*</td>
<td>[          ]</td>
<td>[          ]</td>
<td>[          ]</td>
<td>[                             ]</td>
<td>[        ]</td>
<td>[                ]</td>
<td>[        ]</td>
<td>[                            ]</td>
</tr>
<tr>
<td>Not funded</td>
<td>[          ]</td>
<td>[          ]</td>
<td>[          ]</td>
<td>[                             ]</td>
<td>[        ]</td>
<td>[                ]</td>
<td>[        ]</td>
<td>[                            ]</td>
</tr>
<tr>
<td>Not applicable</td>
<td>[          ]</td>
<td>[          ]</td>
<td>[          ]</td>
<td>[                             ]</td>
<td>[        ]</td>
<td>[                ]</td>
<td>[        ]</td>
<td>[                            ]</td>
</tr>
</tbody>
</table>

*Offered at a reduced price by vaccine services because of specially negotiated price with manufacturers (but at no cost for the vaccine service)

32. Does the country have legal requirements for private health insurance to pay for polio vaccination for adults? Please tick a box for each column:

<table>
<thead>
<tr>
<th>Group</th>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>&gt;65 years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>[          ]</td>
<td>[          ]</td>
<td>[          ]</td>
<td>[                             ]</td>
<td>[        ]</td>
<td>[                ]</td>
</tr>
<tr>
<td>Not specified</td>
<td>[          ]</td>
<td>[          ]</td>
<td>[          ]</td>
<td>[                             ]</td>
<td>[        ]</td>
<td>[                ]</td>
</tr>
<tr>
<td>No</td>
<td>[          ]</td>
<td>[          ]</td>
<td>[          ]</td>
<td>[                             ]</td>
<td>[        ]</td>
<td>[                ]</td>
</tr>
</tbody>
</table>

Other (please specify): [ ]

33. What is the most recent adult vaccine coverage/uptake estimate (if available)? [ ]

**Polio: coverage detail**

34. To which year does this coverage estimate apply? [ ]

To which population and age group does this coverage estimate apply? Please also use this field for comments.

**Varicella: recommendation**
35. Does the country recommend routine adult vaccination for varicella?
- Yes
- No - recommendation for adults not specifically mentioned
- Specific recommendation AGAINST adult vaccination

Comments:

Varicella: recommendation detail

For recommendations, please include the age group(s), vaccine(s), number of doses, and special groups (e.g., travellers, health care providers, high-risk individuals).

36. What is the recommendation?

37. Year when the vaccine was first recommended for any adult population:

Comments:

Varicella: funding and coverage

38. Does the country publicly fund adult varicella vaccination? Please tick a box for each column:

<table>
<thead>
<tr>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>&gt;65 years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
<th>Travellers</th>
<th>Other group (please comment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offered free of charge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partly funded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offered at a reduced price by vaccine services*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not funded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

*Offered at a reduced price by vaccine services because of specially negotiated price with manufacturers (but at no cost for the vaccine service)
39. Does the country have legal requirements for private health insurance to pay for varicella vaccination for adults? Please tick a box for each column:

<table>
<thead>
<tr>
<th></th>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>65+ years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not specified</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other (please specify):

40. What is the most recent adult vaccine coverage/uptake estimate (if available)?

Varicella: coverage detail

41. To which year does this coverage estimate apply?

To which population and age group does this coverage estimate apply? Please also use this field for comments.

Herpes zoster: vaccine availability

42. Is the Herpes Zoster vaccine available on the market for adults in your country?

- Yes
- No

Comments:

Herpes zoster: recommendation

43. Does the country recommend routine adult vaccination for herpes zoster?

- Yes
- No - recommendation for adults not specifically mentioned
- Specific recommendation AGAINST adult vaccination

Comments:
For recommendations, please include the age group(s), vaccine(s), number of doses, and special groups (e.g. travellers, health care providers, high-risk individuals).

44. What is the recommendation?

45. Year when the vaccine was first recommended for any adult population:

Comments:

Herpes zoster: funding and coverage

46. Does the country publicly fund adult herpes zoster vaccination? Please tick a box for each column:

<table>
<thead>
<tr>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>&gt;65 years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
<th>Travellers</th>
<th>Other group (please comment)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Offered free of charge

Partly funded

Offered at a reduced price by vaccine services*

Not funded

Not applicable

Comments:

*Offered at a reduced price by vaccine services because of specially negotiated price with manufacturers (but at no cost for the vaccine service)

47. Does the country have legal requirements for private health insurance to pay for herpes zoster vaccination for adults? Please tick a box for each column:

<table>
<thead>
<tr>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>65+ years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Yes

Not specified

No

Other (please specify):

48. What is the most recent adult vaccine coverage/uptake estimate (if available)?

Herpes zoster: coverage detail
49. To which year does this coverage estimate apply?

To which population and age group does this coverage estimate apply? Please also use this field for comments.

Measles: recommendation

50. Does the country recommend routine adult vaccination for measles?
   - Yes
   - No - recommendation for adults not specifically mentioned
   - Specific recommendation AGAINST adult vaccination

   Comments:

Measles: recommendation detail

For recommendations, please include the age group(s), vaccine(s), number of doses, and special groups (e.g. travelers, health care providers, high-risk individuals).

51. What is the recommendation?

52. Year when the vaccine was first recommended for any adult population:

   Comments:

Measles: funding and coverage
53. Does the country publicly fund adult measles vaccination? Please tick a box for each column:

<table>
<thead>
<tr>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>&gt;65 years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
<th>Travelers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offered free of charge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partially funded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offered at a reduced price by vaccine services*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not funded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

*Offered at a reduced price by vaccine services because of specially negotiated price with manufacturers (but at no cost for the vaccine service)

54. Does the country have legal requirements for private health insurance to pay for measles vaccination for adults? Please tick a box for each column:

<table>
<thead>
<tr>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>65+ years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not specified</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other (please specify):

55. What is the most recent adult vaccine coverage/uptake estimate (if available)?

Measles: coverage detail

56. To which year does this coverage estimate apply?

To which population and age group does this coverage estimate apply? Please also use this field for comments.

Mumps: recommendation
57. Does the country recommend routine adult vaccination for mumps?

- Yes
- No - recommendation for adults not specifically mentioned
- Specific recommendation AGAINST adult vaccination

Comments:

### Mumps: recommendation detail

For recommendations, please include the age group(s), vaccine(s), number of doses, and special groups (e.g. travellers, health care providers, high-risk individuals).

58. What is the recommendation?

59. Year when the vaccine was first recommended for any adult population:

Comments:

### Mumps: funding and coverage

60. Does the country publicly fund adult mumps vaccination? Please tick a box for each column:

<table>
<thead>
<tr>
<th>Group</th>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>&gt;65 years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
<th>Travellers</th>
<th>Other group (please comment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offered free of charge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partially funded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offered at a reduced price by vaccine services*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not funded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

*Offered at a reduced price by vaccine services because of specially negotiated price with manufacturers (but at no cost for the vaccine service)
61. Does the country have legal requirements for private health insurance to pay for mumps vaccination for adults? Please tick a box for each column:

<table>
<thead>
<tr>
<th></th>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>65+ years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not specified</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please specify):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

62. What is the most recent adult vaccine coverage/uptake estimate (if available)?

Mumps: coverage detail

63. To which year does this coverage estimate apply?

To which population and age group does this coverage estimate apply? Please also use this field for comments.

Rubella: recommendation

64. Does the country recommend routine adult vaccination for rubella?

- Yes
- No - recommendation for adults not specifically mentioned
- Specific recommendation AGAINST adult vaccination

Comments:

Rubella: recommendation detail

For recommendations, please include the age group(s), vaccine(s), number of doses, and special groups (e.g. travellers, healthcare providers, high-risk individuals).

65. What is the recommendation?

66. Year when the vaccine was first recommended for any adult population:

Comments:
Rubella: funding and coverage

67. Does the country publicly fund adult rubella vaccination? Please tick a box for each column:

<table>
<thead>
<tr>
<th>Category</th>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>&gt;65 years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
<th>Travelers</th>
<th>Other group (please comment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offered free of charge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Party funded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offered at a reduced price by vaccine services*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not funded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

*Offered at a reduced price by vaccine services because of specially negotiated price with manufacturers (but at no cost for the vaccine service)

68. Does the country have legal requirements for private health insurance to pay for rubella vaccination for adults? Please tick a box for each column:

<table>
<thead>
<tr>
<th>Category</th>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>65+ years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not specified</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other (please specify):

69. What is the most recent adult vaccine coverage/uptake estimate (if available)?

Rubella: coverage detail

70. To which year does this coverage estimate apply?

To which population and age group does this coverage estimate apply? Please also use this field for comments.

Pneumococcal disease: recommendation
71. Does the country recommend routine adult vaccination for pneumococcal disease?

- Yes
- No - recommendation for adults not specifically mentioned
- Specific recommendation AGAINST adult vaccination

Comments:

**Pneumococcal disease: recommendation detail**

For recommendations, please include the age group(s), vaccine(s), number of doses, and special groups (e.g., travellers, health care providers, high-risk individuals).

72. What is the recommendation?

73. Year when the vaccine was first recommended for any adult population:

Comments:

**Pneumococcal disease: funding and coverage**

74. Does the country publicly fund adult pneumococcal disease vaccination? Please tick a box for each column:

<table>
<thead>
<tr>
<th>Offered free of charge</th>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>&gt;65 years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
<th>Travellers</th>
<th>Other group (please comment)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partly funded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offered at a reduced price by vaccine services*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not funded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

*Offered at a reduced price by vaccine services because of specially negotiated price with manufacturers (but at no cost for the vaccine service)
75. Does the country have legal requirements for private health insurance to pay for pneumococcal disease vaccination for adults? Please tick a box for each column:

<table>
<thead>
<tr>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>65+ years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not specified</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other (please specify):

76. What is the most recent adult vaccine coverage/uptake estimate (if available)?

Pneumococcal disease: coverage detail

77. To which year does this coverage estimate apply?

To which population and age group does this coverage estimate apply? Please also use this field for comments.

Hepatitis A: recommendation

78. Does the country recommend routine adult vaccination for Hepatitis A?
   - [ ] Yes
   - [ ] No - recommendation for adults not specifically mentioned
   - [ ] Specific recommendation AGAINST adult vaccination

Comments:

Hepatitis A: recommendation detail

For recommendations, please include the age group(s), vaccine(s), number of doses, and special groups (e.g., travellers, health care providers, high-risk individuals).

79. What is the recommendation?

80. Year when the vaccine was first recommended for any adult population:

Comments:
Hepatitis A: funding and coverage

81. Does the country publicly fund adult Hepatitis A vaccination? Please tick a box for each column:

<table>
<thead>
<tr>
<th>Group</th>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>&gt;65 years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
<th>Travellers</th>
<th>Other group (please comment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offered free of charge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partially funded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offered at a reduced price by vaccine services*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not funded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Offered at a reduced price by vaccine services because of specially negotiated price with manufacturers (but at no cost for the vaccine service)

82. Does the country have legal requirements for private health insurance to pay for Hepatitis A vaccination for adults? Please tick a box for each column:

<table>
<thead>
<tr>
<th>Group</th>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>&gt;65 years</th>
<th>Underlying medical condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not specified</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please specify):</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

83. What is the most recent adult vaccine coverage/uptake estimate (if available)?

Hepatitis A: coverage detail

84. To which year does this coverage estimate apply?

To which population and age group does this coverage estimate apply? Please also use this field for comments.

Meningococcal disease: recommendation
85. Does the country recommend routine adult vaccination for meningococcal disease?

- Yes
- No - recommendation for adults not specifically mentioned
- Specific recommendation AGAINST adult vaccination

Comments:

Meningococcal vaccination: recommendation detail

For recommendations, please include the age group(s), vaccine(s), number of doses, and special groups (e.g. travellers, health care providers, high-risk individuals).

86. What is the recommendation?

87. Year when the vaccine was first recommended for any adult population:

Comments:

Meningococcal disease: funding and coverage

88. Does the country publicly fund adult meningococcal disease vaccination? Please tick a box for each column:

- Offered free of charge
- Partially funded
- Offered at a reduced price by vaccine services*
- Not funded
- Not applicable

Other group (please comment)

*Offered at a reduced price by vaccine services because of specially negotiated price with manufacturers (but at no cost for the vaccine service)
89. Does the country have legal requirements for private health insurance to pay for meningococcal disease vaccination for adults? Please tick a box for each column:

<table>
<thead>
<tr>
<th>Age Group</th>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>65+ years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not specified</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other (please specify):

90. What is the most recent adult vaccine coverage/uptake estimate (if available)?

Meningococcal disease: coverage detail

91. To which year does this coverage estimate apply?

To which population and age group does this coverage estimate apply? Please also use this field for comments.

Meningococcal disease: quadrivalent vaccine

92. Is the quadrivalent vaccine in use in your country? If yes, please explain for which groups of adults and type of funding.

- No
- Yes, please explain:

Rabies: recommendation

93. Does the country recommend routine adult pre-exposure vaccination for rabies?

- Yes
- No - recommendation for adults not specifically mentioned
- Specific recommendation AGAINST adult vaccination

Comments:
For recommendations, please include the age group(s), vaccine(s), number of doses, and special groups (e.g. travellers, health care providers, high-risk individuals).

94. What is the recommendation?

95. Year when the vaccine was first recommended for any adult population:

Comments:

Rabies: funding and coverage

96. Does the country publicly fund adult pre-exposure rabies vaccination? Please tick a box for each column:

<table>
<thead>
<tr>
<th>Group</th>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>&gt;65 years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
<th>Travellers</th>
<th>Other group (please comment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offered free of charge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partially funded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offered at a reduced price by vaccine services*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not funded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

*Offered at a reduced price by vaccine services because of specially negotiated price with manufacturers (but at no cost for the vaccine service)

97. Does the country have legal requirements for private health insurance to pay for pre-exposure rabies vaccination for adults? Please tick a box for each column:

<table>
<thead>
<tr>
<th>Group</th>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>65+ years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not specified</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other (please specify):

98. What is the most recent adult vaccine coverage/uptake estimate (if available)?


Rabies: coverage detail

99. To which year does this coverage estimate apply?

To which population and age group does this coverage estimate apply? Please also use this field for comments.

BCG (Bacillus Calmette-Guérin) vaccine: recommendation

100. Does the country recommend routine adult BCG vaccination?

- Yes
- No - recommendation for adults not specifically mentioned
- Specific recommendation AGAINST adult vaccination

Comments:

BCG vaccine: recommendation detail

For recommendations, please include the age group(s), vaccine(s), number of doses, and special groups (e.g., travelers, health care providers, high-risk individuals).

101. What is the recommendation?

102. Year when the vaccine was first recommended for any adult population:

Comments:

BCG vaccine: funding and coverage
103. Does the country publicly fund adult BCG vaccination? Please tick a box for each column:

<table>
<thead>
<tr>
<th>Group</th>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>&gt;65 years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
<th>Travelers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offered free of charge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partially funded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offered at a reduced price by vaccine services*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not funded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

*Offered at a reduced price by vaccine services because of specially negotiated price with manufacturers (but at no cost for the vaccine service)

104. Does the country have legal requirements for private health insurance to pay for BCG vaccination for adults? Please tick a box for each column:

<table>
<thead>
<tr>
<th>Group</th>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>65+ years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not specified</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other (please specify):

105. What is the most recent adult vaccine coverage/uptake estimate (if available)?

106. To which year does this coverage estimate apply?

To which population and age group does this coverage estimate apply? Please also use this field for comments.

Other vaccines: seasonal influenza, hepatitis B and human papilloma-virus
107. Does the country have legal requirements for private health insurance to pay for seasonal influenza vaccination for adults? Please tick a box for each column:

<table>
<thead>
<tr>
<th>&lt;49 years</th>
<th>50-64 years</th>
<th>65+ years</th>
<th>Underlying medical condition</th>
<th>Disabled</th>
<th>At-risk employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not specified</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please specify):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

108. Does the country have legal requirements for private health insurance to pay for hepatitis B vaccination for adults?

- Not specified
- No
- Yes (please specify which groups):

109. Does the country have legal requirements for private health insurance to pay for human papilloma-virus vaccination for adults?

- Not specified
- No
- Yes (please specify which groups):

Other vaccines

110. Does the country recommend other vaccines for routine adult immunisation not listed above?

- No
- Yes, please list the vaccine(s):

Other vaccines 1: detail

111. Which vaccine (disease):
112. Year when the vaccine was first recommended for any adult population:

113. What is the recommendation?

114. What is the most recent adult vaccine coverage/uptake estimate (if available)?

Please include year of data, and to which population and age group this coverage estimate applies? Please also use this field for comments.

Other vaccines 2: detail

115. Which vaccine (disease)?

116. Year when the vaccine was first recommended for any adult population:

117. What is the recommendation?

118. What is the most recent adult vaccine coverage/uptake estimate (if available)?

Please include year of data, and to which population and age group this coverage estimate applies? Please also use this field for comments.

Catch-up campaigns

119. Are there any relevant catch-up campaigns in adults ongoing (or carried out recently)?

Please explain.

Conclusion

120. Other data and comments: