National seasonal influenza vaccination programmes in Europe

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Over 90,000 excess deaths among the elderly during winter 2014-2015.

Source: EuroMoMo and Mølbak et al 2015 EuroSurveillance
Influenza vaccine effectiveness*, by influenza subtype and age group, I-MOVE, week 47/2014 to week 9/2015

<table>
<thead>
<tr>
<th>Subtype</th>
<th>All ages</th>
<th>0-14 years</th>
<th>15-59 years</th>
<th>60 years+</th>
</tr>
</thead>
<tbody>
<tr>
<td>A(H3N2)</td>
<td>22.8</td>
<td>37.0</td>
<td>18.4</td>
<td></td>
</tr>
<tr>
<td>A(H1N1)</td>
<td>83.6</td>
<td>43.7</td>
<td>46.7</td>
<td>-5.6</td>
</tr>
<tr>
<td>Influenza B</td>
<td>55.3</td>
<td>67.4</td>
<td>53.4</td>
<td>51.2</td>
</tr>
</tbody>
</table>

No heterogeneity $I^2 \geq 50.0\%$ or $p<0.05$; based on crude country-specific VE.

* 1-stage pooled estimate adjusted for age (RCS), onset date (RCS), chronic condition, sex. Exceptions are for A(H1N1) among elderly where crude is used and for influenza B among elderly where adjusted for age (RCS) and onset date (RCS) only.
## Seasonal influenza vaccination recommendations

<table>
<thead>
<tr>
<th></th>
<th>Older age groups</th>
<th>Chronic medical conditions</th>
<th>Health-care workers</th>
<th>Children</th>
<th>Pregnant women</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>European Council Recommendation 2009</strong></td>
<td>☑️</td>
<td>☐️*</td>
<td>☑️*</td>
<td>☑️</td>
<td></td>
</tr>
<tr>
<td><strong>WHO recommendations 2012</strong></td>
<td>☑️</td>
<td>☑️</td>
<td>☑️</td>
<td>☑️</td>
<td>☑️</td>
</tr>
</tbody>
</table>

*Target 75% coverage by 2015*
Influenza vaccine coverage surveys conducted by VENICE, 2008-2014

EU recommendation Dec 2009

Season 2006-07*
Season 2007-08
Pandemic 2009-10
Season 2008-09, 2009-10
Season 2010-11
Season 2011-12
Season 2012-13


Some countries provided data for season 2003-04 or 2005-06; most countries provided data for season 2006-07
The same methodology for all surveys

Collaborative studies
Questionnaire administration
• On-line on VENICE website
• Limited access
Completion
• National experts in each MS

In this presentation
• Data combined from last five surveys for seasonal influenza
• Liechtenstein and Croatia participated in the survey in 2014 for first time
• Vaccination coverage in UK presented for England, Northern Ireland, Scotland, Wales
Objectives of VENICE survey

The first survey
• To collect baseline information on seasonal influenza
  – Country specific vaccination recommendations for targeted and risk groups
• To obtain
  – Available data on vaccination coverage

The following surveys
• To update
  – Country specific vaccination recommendations for targeted and risk groups
• To obtain
  • Latest data on vaccination coverage
• To identify
  • Changes and compliance with EC and WHO recommendations

among the EU/EEA countries during different influenza seasons
Results
Seasonal influenza vaccine recommendation for older age groups in EU/EEA MS (n=30)

- ≥ 50 years
- ≥ 55 years
- ≥ 59 years
- ≥ 60 years
- ≥ 65 years

Data refers to 2012-13 influenza season

In Liechtenstein vaccine is recommended for those ≥65 years only

In Ireland NITAG recommends vaccine for ≥ 50 years but programme focus on ≥ 65 years only
Seasonal influenza vaccination coverage in older age groups in EU/EEA MSs (n=24)

EU target for 2014-15 influenza season

- Sweden: reports were received for only around 60% of the population for 2009-10 influenza season
- Norway: 2008-09 and 2009-10 coverage results calculated for those ≥65 and clinical risk groups together
Seasonal influenza vaccine recommendations for children and adolescents in EU/EEA MSs (n=30)

Data refers to 2012-13 influenza season

In Malta vaccine is recommended for those ≥6 months – <5 years
In Liechtenstein there is no recommendation to vaccinate healthy children and adolescents
## Seasonal influenza vaccine recommendations for Chronic medical conditions in EU/EEA

<table>
<thead>
<tr>
<th>Chronic medical conditions</th>
<th>Influenza season</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2008-09 (n=27)</td>
</tr>
<tr>
<td>Respiratory (pulmonary) disease</td>
<td>27</td>
</tr>
<tr>
<td>Cardiovascular disease</td>
<td>27</td>
</tr>
<tr>
<td>Renal disease</td>
<td>25</td>
</tr>
<tr>
<td>Immunosuppression due to disease or treatment</td>
<td>25</td>
</tr>
<tr>
<td>Hepatic diseases</td>
<td>15</td>
</tr>
<tr>
<td>Haematologic /metabolic disorders</td>
<td>26</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>24</td>
</tr>
<tr>
<td>Children on long-term aspirin therapy</td>
<td>18</td>
</tr>
<tr>
<td>Morbid obesity&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-</td>
</tr>
</tbody>
</table>

<sup>a</sup> Data refers to **seasonal influenza vaccine recommendations in 2009-10** pandemic influenza season

<sup>b</sup> Body Mass Index ≥40kg/m2
Seasonal influenza vaccination coverage among those with chronic medical conditions in EU/EEA MSs (n=7)

- Norway: 2008-09 and 2009-10 coverage results calculated for those ≥65 and clinical risk groups together.

EU target for influenza season 2014-15

**2012-13 median 50%**
# Seasonal influenza vaccine recommendations for Pregnant women in EU/EEA MSs

<table>
<thead>
<tr>
<th>Recommendations for pregnant women</th>
<th>Influenza season</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2008-09 (n=27)</td>
</tr>
<tr>
<td>Recommended</td>
<td>10</td>
</tr>
<tr>
<td>Any trimester</td>
<td>-</td>
</tr>
<tr>
<td>2(^{nd}) and 3(^{rd}) trimester</td>
<td>-</td>
</tr>
<tr>
<td>No recommendation</td>
<td>17</td>
</tr>
</tbody>
</table>

\(^a\) Data refers to *seasonal influenza vaccine recommendations in 2009-10* pandemic influenza season

\(^b\) For all pregnant women in 2012-13 in 25 countries; for those with additional clinical risk in two countries
Seasonal vaccination coverage among pregnant women in EU/EEA MSs (n=6)

# Seasonal influenza vaccine recommendations for Occupational groups in EU/EEA MSs

<table>
<thead>
<tr>
<th>Occupational groups</th>
<th>Influenza season</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2008-09 (n=27)</td>
</tr>
<tr>
<td>HCWs</td>
<td>22</td>
</tr>
<tr>
<td>Essential services (police &amp; firemen)</td>
<td>5</td>
</tr>
<tr>
<td>Military</td>
<td>6</td>
</tr>
<tr>
<td>Poultry industry</td>
<td>13</td>
</tr>
<tr>
<td>Families that raise poultry, pigs or waterfowl</td>
<td>4</td>
</tr>
<tr>
<td>Educational</td>
<td>-</td>
</tr>
<tr>
<td>Public transport</td>
<td>-</td>
</tr>
<tr>
<td>Energy sector</td>
<td>-</td>
</tr>
<tr>
<td>Border control/Immigration/custom staff</td>
<td>-</td>
</tr>
</tbody>
</table>

\(^a\) Data refers to seasonal influenza vaccine recommendations in 2009-10 pandemic influenza season.
Seasonal influenza vaccination coverage among HCWs in EU/EEA MSs (n=15)

*Health care workers in GPs practice/Outpatient health care settings.
Survey limitations

Comparison of vaccination coverage difficult
• Different methodologies to estimate vaccination coverage

Data for clinical risk groups
• Difficult to estimate denominator and numerator

Population surveys - variety of methodologies used
• Household, mail, face to face, telephone surveys
Conclusions

• **Recommendations for influenza vaccination**
  – Standard in most of the EU/EEA MS
  – Comply with EC and WHO recommendations
  – Implementation varies across countries

• **Challenges in vaccination coverage monitoring**
  – For clinical risk groups, pregnant women and HCWs
  – Some countries for older age groups
Conclusions - Vaccination coverage

- For the older population
  - Suboptimal in most of the countries (except Netherlands and UK)
  - Did not increase in five influenza seasons
  - Do not meet 2009 council recommendation targets

- HCWs and those with chronic medical conditions
  - Half countries monitor for HCWs
  - One third countries monitor for chronic medical conditions
  - Moderate or low for these groups of individuals
  - Did not increase in five influenza seasons

- Pregnant women
  - One third countries monitor vaccination coverage
  - Moderate in UK, but low in the remaining countries
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- Robert Koch Institute, Berlin, Germany

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