EXECUTIVE SCIENCE UPDATE
Quarterly newsletter for Policy Makers
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ECDC report finds vaccination of adolescent girls is an effective strategy against cervical cancer

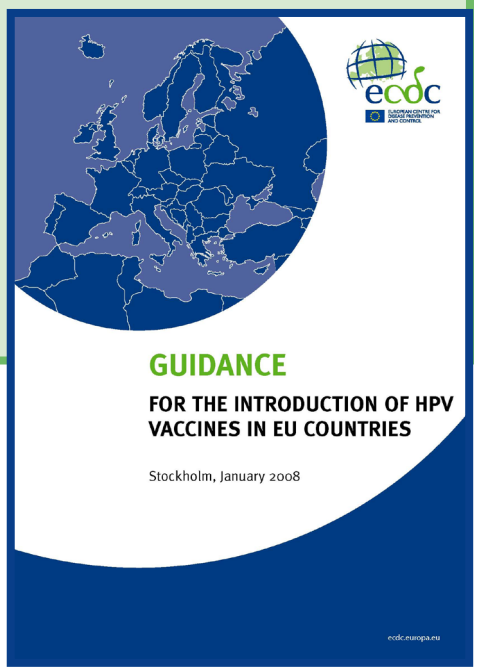
- Vaccinating adolescent girls against the human papillomavirus (HPV) is likely to reduce the number of women who develop cervical cancer.
- There is evidence from some countries that the introduction of HPV vaccination programmes may be cost effective as a cancer prevention measure.
- However, since the vaccine will not prevent all cervical cancer, national screening programmes must be maintained.

Following the authorisation of two HPV vaccines, ECDC was asked to review available scientific evidence on their likely public health impact. ECDC set up a panel of independent experts to conduct a thorough analysis of issues relating to HPV vaccination programmes, including their impact on existing cervical cancer screening programmes, the target populations, delivery options, cost effectiveness, and the need for monitoring and evaluation.

The conclusions of this panel were then reviewed by ECDC scientists and ECDC's Advisory Forum (which brings together senior scientists from the Member States). Finally, ECDC published on 21 January 2008 a report on 'Guidance for the Introduction of HPV vaccines in EU countries'. The report states that vaccinating young adolescent girls against HPV is likely to reduce the number of women who develop cervical cancer. However, since the virus types included in the vaccine only cause one part of all cervical cancers, and since vaccine will not protect those who are already infected, cervical cancer screening programmes should be maintained, even for women who have been vaccinated.

The primary target group to consider for routine vaccination is girls at the age just before sexual activity (and therefore HPV infections). School based immunisation is likely to be the lowest cost option for delivery of HPV vaccines to young adolescent girls.

There is evidence from some countries that introduction of HPV vaccination programmes may be cost effective as a cancer prevention measure. However, healthcare costs vary across Europe, so this analysis needs to be done by individual Member States. The impact of the HPV vaccines will need to be evaluated systematically.



Post-licensure evaluation will need to determine uptake, compliance, long-term efficacy, effectiveness and safety of the vaccines, as well as the integration of vaccination with other strategies such as organised cervical cancer screening. Coordination between vaccine monitoring and cancer control programmes will be critical to assess the impact of the vaccine and its benefits compared with other existing prevention interventions such as screening.

While the ECDC report provides evidence on when and how HPV vaccination programmes could be effective, decisions on whether to introduce them lie entirely with the EU Member States.

For more information see:
http://ecdc.europa.eu/pdf/HPV_report.pdf

High resistance to antiviral drug oseltamivir discovered in some European countries

TQ-AG-08-002-EN-C

- A strain of seasonal influenza resistant to the drug oseltamivir (Tamiflu) is circulating in Europe this winter;
- This drug-resistant influenza virus does not appear to be any more dangerous than 'normal' seasonal influenza viruses;
- EU and national health authorities are investigating how this virus emerged and what its implications are;
- Following this discovery in the EU, WHO is investigating the global implications.

In January, the European Surveillance Network for Vigilance Against Viral Resistance (VIRGIL, funded by the EU) discovered that some influenza viral isolates circulating in European countries were resistant to the antiviral drug oseltamivir (trade name Tamiflu).

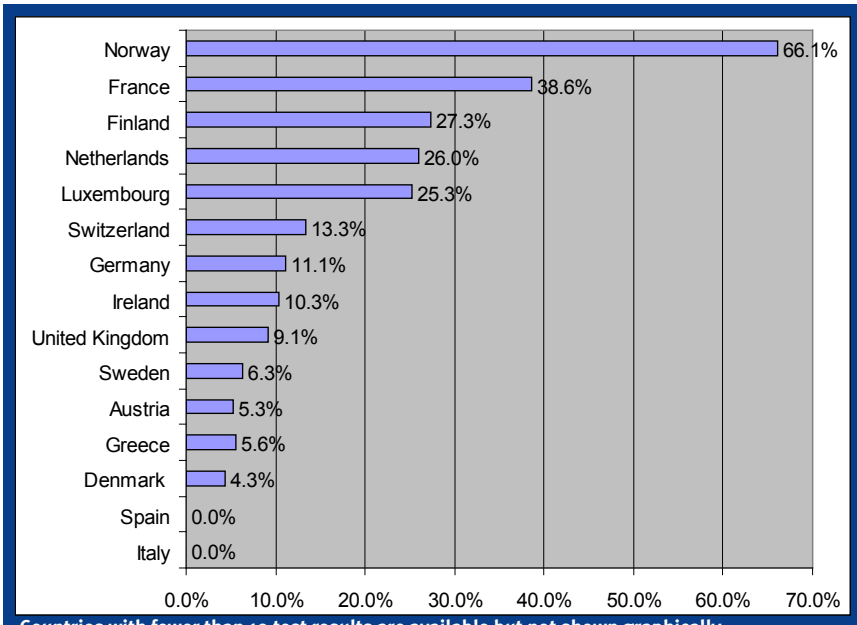
Since 2004, VIRGIL has routinely monitored a sample of isolates of 'normal', seasonal influenza virus for antiviral resistance in several European countries. Testing of the isolates for the current season began in late January. It was then found that samples from four of the first 10 countries contained mutated seasonal influenza A(H1N1) viruses that displayed a high level of resistance to oseltamivir. The proportion of resistant isolates was especially high in Norway, where the issue was first detected. By 28 February, 1,497 samples from 22 European countries had been tested by VIRGIL and National Influenza Centres – of these, 294 samples from 15 countries showed some evidence of resistance to oseltamivir. Oseltamivir-resistant flu viruses have been seen previously, but this the first time in the world that such a virus has been found that is 'fit' enough to transmit and survive in competition with other human viruses.

An interim risk assessment was published by ECDC on 27 January 2008 based on the preliminary findings. In the same week, a peer-reviewed article was published by VIRGIL in the infectious disease journal Eurosurveillance, with an accompanying editorial by ECDC, in close collaboration with the European Influenza Surveillance Scheme (EISS, funded by the EU) and VIRGIL.

Following the European finding, testing was undertaken elsewhere and it has become clear that this is a global issue. Resistant viruses have been detected in North America, China (Hong Kong), Australia and Japan, the country that is thought to have the highest level of oseltamivir use. There is no obvious relationship between these viruses and oseltamivir use and it is not clear where the viruses first emerged. WHO is coordinating further investigations at a global level, while ECDC, working with WHO European Region, EISS, VIRGIL and the European Commission, is coordinating investigations in EU and EEA/EFTA countries. The implications of these important findings are not yet clear, and will partially depend on whether they persist through the season – or disappear.

Percentage oseltamivir resistance in A(H1N1) seasonal influenza virus detected in Europe (EU, EEA and EFTA countries)

Influenza Season 2007–8. Results available as of Feb 28–2008



Countries with fewer than 10 test results are available but not shown graphically

Countries with fewer than 10 test results in which resistance has been found: Belgium and Portugal

Countries with fewer than 10 test results in which no resistance has been found: Czech Republic, Hungary, Latvia, Slovakia and Slovenia

Countries in the EISS network for which no test results are available: Bulgaria, Cyprus, Estonia, Lithuania, Malta, Poland and Romania

For more information see:
http://www.ecdc.europa.eu/Health_topics/influenza/faq.html
http://www.eurosurveillance.org