

APRIL–JUNE 2010

EU still at risk from measles



This year, 2010, is the year set by WHO for the elimination of measles and rubella and yet measles outbreaks are still repeatedly reported in many European countries despite the inclusion of the vaccine into routine childhood vaccination programmes more than 20 years ago. Measles is highly infectious, often spreading rapidly and widely among unvaccinated individuals. Complications frequently occur; in particular pneumonia, otitis, and diarrhoea in young children. Approximately one of every 1 000 cases is affected by acute encephalitis, which often results in permanent brain damage, and one of every 1 000–5 000 cases dies, predominantly resulting from respiratory and neurologic complications. Since the beginning of 2010, the measles outbreak which started in April 2009 in Bulgaria, has been accelerating. As of 17 April 2010, the cumulative number of cases reported is 15 650, of which 13 401 were reported in 2010. Children under 15 years old account for about 70% of those cases. Further, most of the cases had not been immunised and the fatal cases (18 in total) died within hours of admission to hospital. In February 2010, a joint ECDC/WHO EURO team visited the country to assess the ongoing outbreak and the risk for further spread in Europe, as well as to assist in the definition of strategies for control. Immunisation campaign efforts targeting

susceptible populations started in May 2009 and have been intensified in 2010.

Although outbreaks frequently start in sub-groups of populations which are prone to low vaccine coverage for different reasons, there is a high potential for measles to spread in the general population because of the sub-optimal vaccination coverage. The ongoing outbreak in Bulgaria illustrates the Member States' interdependence when it comes to the fight against infectious diseases. In fact any localised outbreak in a Member State presents a risk of further spread at national and EU levels. Unless EU Member States develop strategies for prevention and control, future outbreaks of measles are expected to happen. Such strategies encompass enhanced communication to the public and health professionals (to improve early detection), and rapid implementation of catch-up vaccination campaigns. Political commitment and coordination of measures regarding surveillance and control activities, as well as reinforcement of vaccination, are needed to eradicate this disease. The following options may be considered:

- Measles is a vaccine-preventable disease: levels of immunisation should be increased and maintained, and surveillance continuously improved in the EU.

Key points:

- Measles remains a public health concern in the EU, notwithstanding the commitment to measles and rubella elimination by 2010.
 - Measles is a highly infectious disease and outbreaks in sub-groups of populations may spread to the general population.
 - Eradication of measles requires increased commitment, not further research: both measles and rubella can be eliminated by using the current knowledge, tools and immunisation programmes.
 - Communication plays a crucial role in improving compliance with immunisation programmes.
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- The level of awareness among primary care staff for identification and diagnosis of measles cases should be raised.
 - Strengthening routine MMR immunisation and organisation of supplementary campaigns in areas or populations with low immunity/coverage.
 - Usage of the European Immunization Week (24 April – 1 May) for advocacy and risk communication to the general population, high-risk populations, and medical community.
 - A review of approaches to increase access to immunisation for hard-to-reach populations and an evaluation of whether those sub-populations affected by measles are also at risk for developing other vaccine-preventable diseases.

Without a renewed commitment from public health institutions in the Member States, the EU will not attain the goal of eradication of measles by 2010.

For more information: www.ecdc.europa.eu

Are seasonal and pandemic influenza vaccines effective?



In June 2009, WHO declared an influenza pandemic caused by a new A(H1N1) influenza virus. Since then various specific pandemic vaccines have been developed and a number of them are currently marketed in the EU. Information on pandemic vaccine effectiveness was considered essential for public health decision-making and for the regulatory management of licensed vaccines.

Assessing influenza vaccine: a crucial annual exercise

Influenza vaccines have to be reformulated each season in order to cope with the naturally occurring mutations in influenza viruses. Each year the WHO's Global Influenza Surveillance Network selects which viruses are most likely to predominate in the coming influenza season. The vaccines are then produced using these strains. This means that vaccine effectiveness varies from year to year depending on how good the match is between the flu strains used in the vaccine and those actually circulating. It is important to monitor the vaccine's effectiveness after it is distributed. Early estimates of vaccine effectiveness contribute to the success of vaccination campaigns and help maintain public and provider confidence in vaccination programmes. This is particularly relevant during influenza pandemics when vaccines may differ in their composition from seasonal vaccines or may be recommended for groups that are not usually targeted for vaccination during influenza seasons. In such instances the acceptability of vaccines,

and ultimately their success in reducing the burden of disease, depends on the availability of strong evidence on vaccine safety and effectiveness. If the effectiveness is found to be poor, complementary or alternative public health measures (e.g. antivirals) can be recommended. Further, monitoring vaccine effectiveness can encourage additional research to develop more effective vaccines.

The I-MOVE project

In order to obtain influenza vaccine effectiveness estimates as early as possible after the start of seasonal epidemics or pandemics, ECDC could rely on the experience of a project known as I-MOVE (Influenza Monitoring of Vaccine Effectiveness) in Europe.

The I-MOVE project, established by ECDC in 2007 and coordinated by the company EpiConcept, is a network of EU countries that can conduct vaccine effectiveness studies using common protocols. The first seven pilot studies were successfully conducted during the influenza season 2008/09 in six countries and showed that the 2008/09 seasonal influenza vaccine had a protective effect.

Assessing the pandemic influenza vaccine effectiveness

To estimate the effectiveness of 2009 pandemic vaccines, ECDC expanded the original scope and size of the I-MOVE project. This was achieved by increasing the number of patients

Key points:

- Preliminary results from various ECDC-funded observational studies show that the effectiveness of 2009 pandemic vaccines was good.
- Availability of vaccine effectiveness estimates strongly contribute to the success of vaccination campaigns.
- Since the end of 2007, ECDC has been assessing the effectiveness of seasonal and pandemic influenza vaccines through the I-MOVE project, a network of 18 EU Member States.

recruited in each study, by including all age groups and by increasing the number of study centres (11 studies in nine EU countries).

Preliminary results from an international study including data from seven countries (France, Hungary, Ireland, Italy, Romania, Portugal and Spain), one study in the UK and one in a region of Spain (Navarra) consistently showed good vaccine effectiveness of the pandemic vaccines. Such encouraging results are not surprising given the high level of immune response shown in the clinical trials, and given the excellent match between the vaccine virus strain and the circulating virus.

Limitations and unexpected issues

The vaccine only became available late in the pandemic, and coverage in many countries was much lower than anticipated. This means that the number of patients that could be included in the studies was not as high as we had hoped, and this makes some of the planned analyses difficult. For example, it was not possible to provide effectiveness estimates separately by vaccine brand. However, the consistency of results between studies done in countries where vaccine types and distribution was different provides some indirect indication of brand-wide pandemic vaccine effectiveness.

For more information: www.ecdc.europa.eu

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