



DISEASE SURVEILLANCE 2007

No. 1/2, 2008

A changing vaccination programme

In October 2007 vaccination against invasive pneumococcal infection was introduced in the form of a heptavalent pneumococcal conjugated vaccine to children under the age of two years, EPI-NEWS 37a+b/07. This is the first disease to be added to the Danish childhood vaccination programme since 1993 when the Hib vaccine was introduced. Coming years are expected to bring a decrease in the number of invasive pneumococcal infections, including sepsis and meningitis in small children. Furthermore, among children we will probably see a limited decrease in the number of less serious pneumococcal infections, such as otitis media. Additionally, data from other countries indicate that the overall transmission force may decrease, which will reduce the number of pneumococcal infections in the elderly. Therefore, the potential overall public health impact may be considerable.

It is, however, essential to monitor the infections closely in the future. Over time, the vaccine-related pneumococcal serotypes may be replaced by other serotypes which are not covered by the vaccine. If this happens, the impact of the vaccination programme could be less significant than expected.

Other changes to the vaccination programme will be implemented shortly. In 2007 it was decided to give the MMR 2 vaccination in connection with the 4-year-examination; this will take effect as from the spring of 2008, EPI-NEWS 48/07. The objective is – by increasing vaccination coverage at an early age – to enhance the herd immunity in the population. This may contribute to impede the free circulation of measles virus in accordance with a WHO objective for 2010. The need to intensify such efforts is emphasised by recent measles outbreaks in European countries, see www.euvac.net. 2007 also saw a health technology assessment on vaccination against human papilloma virus (HPV) as a preventive measure against cervical cancer. The National Board of Health has subsequently recommended the introduction of HPV vaccination to the Danish childhood vaccination programme. The final decision will be made by the Ministry of Health and Prevention, the government and the Danish parliament. Finally, in 2007, free influenza vaccination

was extended to persons with certain chronic diseases, EPI-NEWS 38/07. This may explain the record-breaking number of vaccines handed out by the SSI in 2007 – in excess of 720,000 doses. It is not known how many of these vaccines have been given to risk groups and how many have been administered to otherwise healthy persons. Measured by the number of vaccines handed out, there is no doubt that the influenza vaccination programme is the most comprehensive activity within the total vaccination offer available to the Danish population.

Given the ongoing development of the vaccination programme, quality assurance and assessment of costs and effects are pivotal. It is therefore encouraging that the National Board of Health only recommended the introduction of HPV vaccination in conjunction with the formation of a national vaccination register, which should cover all vaccines.

Q-fever

In 2007 considerable attention was devoted to Q-fever, which is a zoonosis caused by *Coxiella burnetii*, EPI-NEWS 46/06 and 51/07. Q-fever is found in many Danish herds of cattle and may therefore comprise a hazard for persons employed in cattle farming. The majority of infections are mild and self-limiting, but pregnant women are at risk of abortion or premature birth, and persons with certain chronic conditions are at risk of experiencing serious manifestations. To determine the importance of Q-fever for public health and enhance prevention measures, more knowledge is required in this area.

Water and food-borne outbreaks

In a period of globalisation, Danes may be infected by a wide range of gastrointestinal infections in a variety of ways. This became evident early in 2007 when wastewater from a sewage treatment facility contaminated the drinking water supply in the northern part of the town of Køge, EPI-NEWS 10/07. The outbreak was characterised by an unusually broad spectrum of aetiologies, which reflects the diversity of microbial contaminants in the wastewater from a larger Danish town. In 2007, more than 200 Danes were notified with shigellosis caused by contaminated imported baby corn, EPI-NEWS 35/07. Even though the withdrawal of the baby corn was

initiated shortly after the outbreak was acknowledged, it became one of the largest outbreaks of food-borne bacterial gastroenteritis in recent years. In continuance of the ETEC and Salmonella outbreaks caused by imported basil in 2006, EPI-NEWS 51/06, these cases illustrate the new food-related risks associated with imported fruit and vegetables from areas where production hygiene may be problematic.

Consequences of antibiotics consumption

Denmark is a spearhead with regards to low occurrence of resistant bacteria and rational use of antibiotics. However, recent years have seen a negative trend in this field. A well-known example is the increase in MRSA infections; a problem which is possibly being controlled, EPI-NEWS 22/07. But other problems, e.g. the increase in the use of broad-spectrum antibiotics such as cephalosporins, fluoroquinolones and carbapenems, demand attention. Such consumption may contribute to increased antimicrobial drug resistance, EPI-NEWS 46/07, and to a rise in the number of antibiotic-associated diarrhoea cases caused by *Clostridium difficile*. In some studies, one particularly virulent type – Cl. difficile ribotype 027 – has been associated with the consumption of fluoroquinolones. This type, which was also found in Denmark in 2007, EPI-NEWS 26/07, comprises a challenge for hospital hygiene standards. It is associated with a higher morbidity and mortality than most traditional Cl. difficile variants.

The avian influenza threat

In 2007 avian influenza type H5N1 spread further, and Africa and Asia received much attention as the areas where avian influenza has the greatest impact. Human cases have continuously been reported to the WHO and the infection has been transferred in connection with very poor hygienic conditions. Avian influenza does not independently comprise a threat to public health provided it is handled correctly. There is no evidence to support that avian influenza type H5N1 should be mutating to a form that more easily transfers to or between humans. However, any developments are still monitored closely.

(K. Mølbak, Dept. of Epidemiology)

9 January 2008

Individually notifiable diseases

Number of notifications received in the Department of Epidemiology, SSI (2008 figures are preliminary)

| Table 1 | Week 1 2008 | Cum. 2008 ¹⁾ | Cum. 2007 ¹⁾ |
|--------------------------------|----------------|----------------------------|----------------------------|
| AIDS | 1 | 1 | 0 |
| Anthrax | 0 | 0 | 0 |
| Botulism | 0 | 0 | 0 |
| Cholera | 0 | 0 | 0 |
| Creutzfeldt-Jakob | 1 | 1 | 1 |
| Diphtheria | 0 | 0 | 0 |
| Food-borne diseases | 6 | 6 | 7 |
| of these, infected abroad | 1 | 1 | 1 |
| Gonorrhoea | 3 | 3 | 4 |
| Haemorrhagic fever | 0 | 0 | 0 |
| Hepatitis A | 1 | 1 | 2 |
| of these, infected abroad | 0 | 0 | 2 |
| Hepatitis B (acute) | 0 | 0 | 0 |
| Hepatitis B (chronic) | 3 | 3 | 7 |
| Hepatitis C (acute) | 0 | 0 | 0 |
| Hepatitis C (chronic) | 2 | 2 | 5 |
| HIV | 3 | 3 | 4 |
| Legionella pneumonia | 1 | 1 | 1 |
| of these, infected abroad | 0 | 0 | 0 |
| Leprosy | 0 | 0 | 0 |
| Leptospirosis | 0 | 0 | 1 |
| Measles | 0 | 0 | 0 |
| Meningococcal disease | 0 | 0 | 0 |
| of these, group B | 0 | 0 | 0 |
| of these, group C | 0 | 0 | 0 |
| of these, unspec. + other | 0 | 0 | 0 |
| Mumps | 0 | 0 | 0 |
| Neuroborreliosis | 2 | 2 | 4 |
| Ornithosis | 0 | 0 | 0 |
| Pertussis (children < 2 years) | 0 | 0 | 3 |
| Plague | 0 | 0 | 0 |
| Polio | 0 | 0 | 0 |
| Purulent meningitis | | | |
| Haemophilus influenzae | 0 | 0 | 0 |
| Listeria monocytogenes | 0 | 0 | 1 |
| Streptococcus pneumoniae | 0 | 0 | 3 |
| Other aethiology | 0 | 0 | 0 |
| Unknown aethiology | 0 | 0 | 0 |
| Under registration | 8 | 8 | - |
| Rabies | 0 | 0 | 0 |
| Rubella (congenital) | 0 | 0 | 0 |
| Rubella (during pregnancy) | 0 | 0 | 0 |
| Shigellosis | 2 | 2 | 2 |
| of these, infected abroad | 1 | 1 | 0 |
| Syphilis | 2 | 2 | 2 |
| Tetanus | 0 | 0 | 0 |
| Tuberculosis | 7 | 7 | 6 |
| Typhoid/paratyphoid fever | 1 | 1 | 0 |
| of these, infected abroad | 1 | 1 | 0 |
| Typhus exanthematicus | 0 | 0 | 0 |
| VTEC/HUS | 3 | 3 | 0 |
| of these, infected abroad | 1 | 1 | 0 |

¹⁾ Cumulative number 2008 and in corresponding period 2007

Selected laboratory diagnosed infections

Number of specimens, isolates, and/or notifications received in SSI laboratories

| Table 2 | Week 1 2008 | Cum. 2008 ²⁾ | Cum. 2007 ²⁾ |
|--|-----------------|----------------------------|----------------------------|
| Bordetella pertussis (all ages) | 1 | 1 | 3 |
| Gonococci | 10 | 10 | 6 |
| of these, females | 2 | 2 | 0 |
| of these, males | 8 | 8 | 6 |
| Listeria monocytogenes | 0 | 0 | 2 |
| Mycoplasma pneumoniae | | | |
| Resp. specimens ³⁾ | 1 | 1 | 23 |
| Serum specimens ⁴⁾ | 4 | 4 | 10 |
| Streptococci ⁵⁾ | | | |
| Group A streptococci | 4 | 4 | 5 |
| Group B streptococci | 3 | 3 | 1 |
| Group C streptococci | 1 | 1 | 1 |
| Group G streptococci | 5 | 5 | 1 |
| S. pneumoniae | 60 | 60 | 46 |
| Table 3 | Week 51 2007 | Cum. 2007 ²⁾ | Cum. 2006 ²⁾ |
| MRSA | 11 | 667 | - |
| Pathogenic int. bacteria ⁶⁾ | | | |
| Campylobacter | 19 | 3847 | 3205 |
| S. Enteritidis | 6 | 561 | 560 |
| S. Typhimurium | 3 | 350 | 408 |
| Other zoon. salmonella | 7 | 716 | 688 |
| Yersinia enterocolitica | 3 | 271 | 212 |
| Verocytotoxin-producing E. coli | 3 | 159 | 146 |
| Enteropathogenic E. coli | 6 | 197 | 265 |
| Enterotoxigenic E. coli | 3 | 305 | 242 |

²⁾ Cumulative number 2008 and in corresponding period 2007

³⁾ Resp. specimens with positive PCR

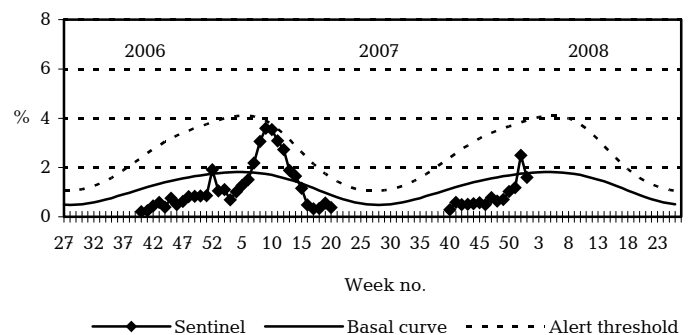
⁴⁾ Serum specimens with pos. complement fixation test

⁵⁾ Isolated in blood or spinal fluid

⁶⁾ See also www.germ.dk

Sentinel surveillance of the influenza activity

Weekly percentage of consultations, 2006/2007/2008



Sentinel: Influenza consultations (as percentage of total consultations)

Basal curve: Expected frequency of consultations under non-epidemic conditions

Alert threshold: Possible incipient epidemic