



MRSA 2004

In 2004, a total of 549 persons were found positive for methicillin-resistant *Staphylococcus aureus* (MRSA) in Denmark; 408 had infection and 141 were healthy carriers found by screening. There has been a significant increase from 243 cases in 2003 and 100 cases in 2002, EPI-NEWS 04/04. On the basis of 625 recorded cases as of 1 October this year, a continued increase to a total of approx. 830 new MRSA cases is expected in 2005, [figure 1](#).

More than 90% of the isolates belonged to five clonal families. Assessed on the basis of information from general practitioners and hospitals, most infections are acquired in Denmark. In 62% of the cases, the diagnosis is made after investigation performed in the primary sector, [figure 2](#).

MRSA in the primary sector

MRSA infections diagnosed in the primary sector are divided up according to patient contact to hospital/rest home within the past 12 months. In 2004, 64% of the cases had not had such contact. These are known internationally as community acquired (CA) and were dominated by skin and soft tissue infections. CA-MRSA infections were usually caused by isolates belonging to two clonal complexes, CC80 and CC8, which are associated with skin and soft tissue infection.

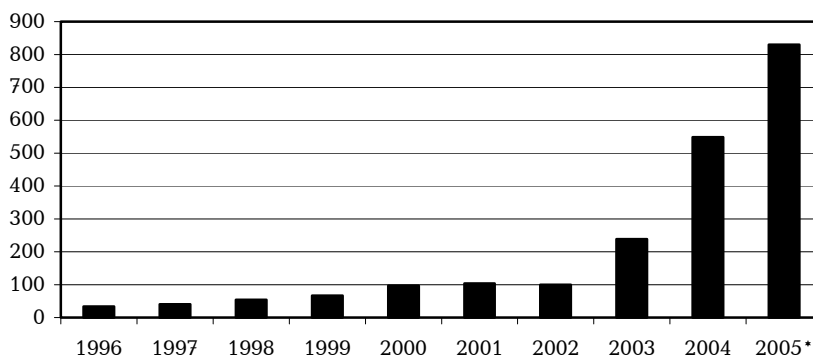
CA-MRSA was primarily found in children and adults < 40 years of age. During the last two years, the number of CA-MRSA infections has tripled among children aged 1-10 years; in 2004, this age group constituted 23% of all CA-MRSA infections. Of these, half were children of immigrants.

In 2004, there were clusters of MRSA-positive persons in rest homes, which in several cases resulted in secondary infection in connection with admission to hospital. Residents of rest homes often have risk factors to catch/carry MRSA, e.g. eczema, wounds or urinary catheters, which impedes the treatment of carrier status. In addition, residents of rest homes often have a great need for care, which increases the risk of spread of MRSA to staff and other residents.

Hospital acquired MRSA

In 2004, there was an increase in the number of MRSA infections acquired in hospital (HA). In particular, 22

Figure 1. Number of newly diagnosed MRSA cases in Denmark, 1996-2005



Estimated as of 1 October 2005*

cases of MRSA bacteraemia were diagnosed, representing 1.3% of all *S. aureus* bacteraemias. This is the highest incidence in more than 30 years.

Geographic incidence

The incidence of MRSA varied greatly at regional level. The highest incidence was in Vejle County, and was related to a hospital associated outbreak caused by one MRSA clone (CC22). As a result of this, a series of tightened hygienic measures and increased screening were launched. The outbreak is now almost under control. In the greater Copenhagen area and in Aarhus County, there was a relatively high incidence; both places with CA-MRSA and transmission related to hospital/rest homes caused by several different MRSA clones.

Investigation of healthcare staff

Identification of carriers of infection among healthcare staff is among the measures that may reduce the risk of spread of MRSA.

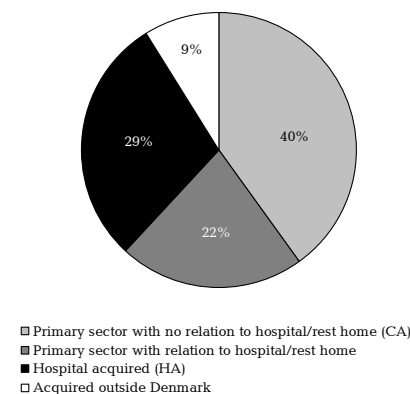
Since 1998, an exemption to Article 4 of the 1996 Danish health information Act has been provided for the investigation of healthcare staff with possible exposure to MRSA in foreign hospitals and the like.

As a consequence of the increasing incidence of MRSA in Denmark, the Ministry of Employment has prolonged the exemption for a further three years. At the same time, the exemption is extended to also include staff with possible exposure in Denmark and the rest of Scandinavia.

National guidelines

An expert group under the leadership of Statens Serum Institut has prepared proposals for new guide-

Figure 2. MRSA infections by presumed place of acquisition



lines for combating MRSA. Based on these recommendations, the National Board of Health is currently working on a set of national guidelines for the prevention of MRSA.

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WOUND BOTULISM AMONG IV DRUG USERS IN GERMANY

From the German federal state of North Rhine-Westphalia, there have been reports of 10 cases of wound botulism among IV drug users. It is presumed that the infection is due to contaminated heroin; it is not known whether this might have been brought to Denmark. Healthcare staff and others in contact with injecting drug addicts are encouraged to have an increased awareness of symptoms consistent with botulism, e.g. double vision, drooping eyelids, dysphagia and dysarthria. Botulism, including wound botulism, is notifiable in Denmark.

(S. Cowan, Department of Epidemiology)

Individually notifiable diseases

Number of notifications received in the Department of Epidemiology, SSI (2005 figures are preliminary)

Table 1	Week 46 2005	Cum. 2005 ¹⁾	Cum. 2004 ¹⁾
AIDS	1	51	41
Anthrax	0	0	0
Botulism	0	0	0
Cholera	0	0	1
Creutzfeldt-Jakob	0	2	7
Diphtheria	0	0	0
Food-borne diseases	15	509	570
of these, infected abroad	0	123	102
Gonorrhoea	4	438	316
Haemorrhagic fever	0	0	0
Hepatitis A	0	62	214
of these, infected abroad	0	20	59
Hepatitis B (acute)	0	31	38
Hepatitis B (chronic)	5	130	126
Hepatitis C (acute)	0	1	4
Hepatitis C (chronic)	10	283	279
HIV	5	237	267
Legionella pneumonia	0	104	95
of these, infected abroad	0	41	30
Leprosy	0	0	0
Leptospirosis	0	9	10
Measles	0	2	0
Meningococcal disease	0	79	85
of these, group B	0	38	48
of these, group C	0	21	11
of these, unspec. + other	0	20	26
Mumps	0	7	1
Neuroborreliosis	1	82	115
Ornithosis	1	19	6
Pertussis (children < 2 years)	1	136	207
Plague	0	0	0
Polio	0	0	0
Purulent meningitis			
Haemophilus influenzae	0	2	4
Listeria monocytogenes	0	2	2
Streptococcus pneumoniae	0	96	87
Other aethiology	0	15	8
Unknown aethiology	0	13	13
Under registration	1	15	-
Rabies	0	0	0
Rubella (congenital)	0	0	0
Rubella (during pregnancy)	0	0	0
Shigellosis	5	98	82
of these, infected abroad	4	78	68
Syphilis	2	113	114
Tetanus	0	2	0
Tuberculosis	7	395	364
Typhoid/paratyphoid fever	1	32	21
of these, infected abroad	0	29	19
Typhus exanthematicus	0	1	0
VTEC/HUS	1	136	136
of these, infected abroad	0	47	29

¹⁾ Cumulative number 2005 and in corresponding period 2004

Selected laboratory diagnosed infections

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

Table 2	Week 46 2005	Cum. 2005 ²⁾	Cum. 2004 ²⁾
Bordetella pertussis (all ages)	11	446	901
Gonococci	9	400	365
of these, females	2	43	45
of these, males	7	357	320
Listeria monocytogenes	0	35	34
Mycoplasma pneumoniae			
Resp. specimens ³⁾	33	886	390
Serum specimens ⁴⁾	16	699	414
Streptococci ⁵⁾			
Group A streptococci	1	92	107
Group B streptococci	1	72	78
Group C streptococci	2	24	20
Group G streptococci	3	106	94
S. pneumoniae	13	955	1058

Table 3	Week 44 2005	Cum. 2005 ²⁾	Cum. 2004 ²⁾
Pathogenic int. bacteria ⁶⁾			
Campylobacter	88	3,295	3,330
S. Enteritidis	11	582	470
S. Typhimurium	12	489	406
Other zoon. salmonella	12	501	452
Yersinia enterocolitica	6	210	197

²⁾ Cumulative number 2005 and in corresponding period 2004

³⁾ Resp. specimens with positive PCR

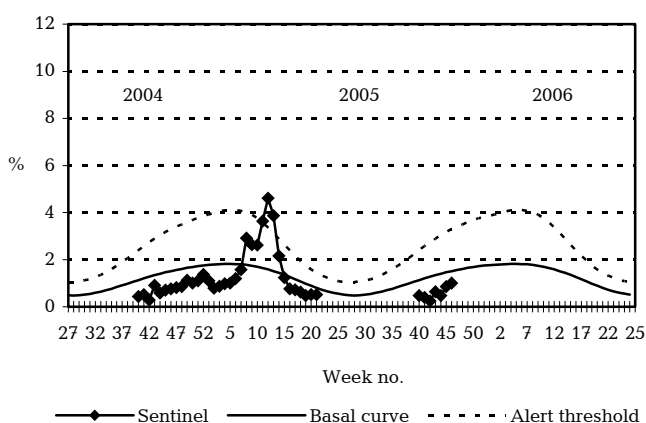
⁴⁾ Serum specimens with pos. complement fixation test

⁵⁾ Isolated in blood or spinal fluid

⁶⁾ See also www.germ.dk

Sentinel surveillance of the influenza activity

Weekly percentage of consultations, 2004/2005/2006



Sentinel: Influenza consultations (as percentage of total consultations)

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

Alert threshold: Possible incipient epidemic