

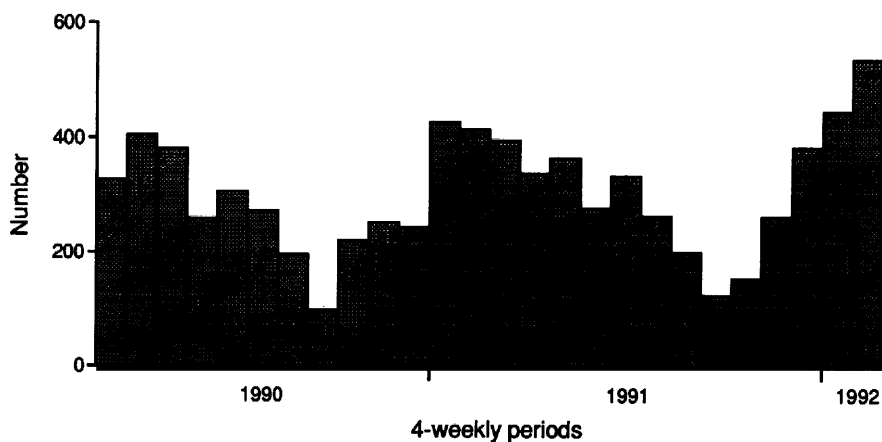
## Communicable Disease Report

### **A nosocomial outbreak of *Streptococcus pneumoniae* infection**

An outbreak of penicillin-resistant *Streptococcus pneumoniae* (type 9) infection has been reported from an acute medical ward of a hospital in the West Midlands. Of seven elderly patients affected, four had pneumonia and three had septicaemia, one of whom has died. Dates of onset were between 30 December 1991 and 21 January 1992. Control measures include: isolation of cases, treatment with erythromycin, and restriction on the movement of patients to and from the affected ward. All patients on the ward, and staff with medical conditions that might put them at particular risk, have been offered immunisation with the polyvalent vaccine.

The number of laboratory reports of blood and CSF isolates of *S. pneumoniae* received by CDSC usually peaks at this time of year (Figure). Almost 50% of the 538 reports received during weeks 92/03-06 included a diagnosis of pneumonia (see pp 31-2). The proportion of strains showing reduced susceptibility or resistance to penicillin has increased in recent years. Amongst isolates referred to the Antibiotic Reference Laboratory in 1991 for investigation of antimicrobial resistance, 42% were in this category. Resistance rates at local level are likely to be about 2-3%, as shown in a recent study from an adjacent area<sup>1</sup>.

**Figure** Laboratory reports of *Streptococcus pneumoniae* infection in England and Wales



Several episodes of hospital cross-infection with penicillin-resistant *S. pneumoniae* have been reported<sup>1</sup> and the Division of Hospital Infection is currently aware of five nosocomial clusters. A review of antibiotic resistant pneumococci will be published shortly in the *CDR review*.

1. Ridgway EJ, Allen KD, Galloway A, Rigby A, O'Donoghue M. Penicillin resistant pneumococci in a Merseyside hospital. *J Hosp Infect* 1991;17:15-23.

### **Putting safety into practice**

The Association of Clinical Microbiologists is holding an update course on the above topic on the afternoon of Wednesday 4 March 1992 at Colindale. The programme includes contributions on biological agents and developments in Europe, hepatitis B, HIV, transmissible degenerative encephalopathies, and the 'new Howie'. The course fee is £20 (ACM members - £10). Further information is available from Dr T Harrison, Division of Microbiological Reagents, Central Public Health Laboratory, 61 Colindale Avenue, London NW9 5HT (telephone 081 200 4400, ext 3967).

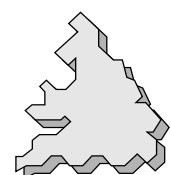
### **Influenza**

**Respiratory tract infections:**  
weeks 92/03 - 06

**Mycobacterial infections:**  
weeks 92/03 - 06

**Bacteraemia and bacterial meningitis:**  
weeks 92/03 - 06

### **Unusual infections**



## Influenza

**England and Wales:** Consultation rates for new episodes of influenza or influenza-like illness, from the general practitioner reporting schemes in England, Wales and Scotland, continue at relatively low levels. The weekly totals of deaths attributed to influenza, and other respiratory causes, have also fallen to levels seen in years of limited influenza activity. The number of laboratory reports of influenza A increased in week 92/06 to 176 compared with 103 reported in week 92/05; 40 of these were reported as influenza A isolates. Seven influenza B infections were also reported during this week.

**Outbreaks:** Since 1 December 1991, CDSC has received 22 reports of outbreaks of influenza or influenza-like illness – twelve have occurred in schools, eight in hospital wards for elderly people, one in a residential home for the elderly and one in an army cadet training camp. Influenza A virus infection has been identified in twelve of the outbreaks and streptococcal infection in another; no causative organism has been identified in the remainder. In the school outbreaks, most cases have been reported to be mild, with few complications and lasting 24-48 hours, whilst in the elderly the picture is of a more severe illness lasting 3-5 days and with a number of deaths.

There is some anecdotal evidence from schools to suggest that the illness is more severe and attack rates higher in unvaccinated individuals. The number of outbreaks reported appears to have diminished after a peak in early/mid January.

**Virological surveillance:** PHLS laboratories have examined and reported approximately 350 to 550 respiratory specimens per week for influenza A virus by culture or immunofluorescence as described earlier (*Communicable Disease Report* 1992; 2: 13). In the last two weeks for which results are available (weeks beginning 18 January and 25 January 1992) the percentage of positive specimens has increased to 5-7%. The number of specimens reported has remained at a steady level while the number of reporting laboratories decreased to 26 in the last week.

**Comment:** Despite a gradual increase in the number of laboratory reports of influenza infection, and an increase in the proportion of specimens examined revealing influenza A infection, there is only limited evidence of influenza activity in the community. Outbreaks, reported in January, may have contributed to the laboratory reports but the number of new outbreaks has now diminished and the overall number of laboratory reports is similar to that seen in years of limited influenza activity.

### Respiratory tract infections, England and Wales: laboratory reports, weeks 92/03 – 06

Laboratory reports	Number of reports received				Total reports 92/03-06	Cumulative total 1992
	92/03	92/04	92/05	92/06		
Adenovirus (excluding EM faeces)	38	37	56	39	170	288
Coronavirus	4	2	–	1	7	12
Influenza A	84	162	103	177	526	578
Influenza B	4	1	–	7	12	24
Parainfluenza	9	6	9	9	33	62
RS virus	844	501	383	301	2029	5212
Rhinovirus	6	4	4	14	28	59

#### Comment

**Adenovirus** (excluding EM faeces and Group F): 36 patients had eye infections, 11 had pneumonia and 14 had bronchiolitis.

**Influenza A** (275 single titres; 79 rising titres; 127 isolates): 120 patients had pneumonia, 24 had bronchiolitis. M 14y had transverse myelitis, M 30y had encephalitis, M 11y had Guillain-Barré syndrome and F 32y had possible viral meningitis. Outbreaks were reported at 3 hospitals and one school.

**Influenza B:** one patient had pneumonia.

**Parainfluenza:** type 1, 8; type 2, 1; type 3, 21; type 4, 2; untyped 1. Twelve patients had bronchiolitis and 4 had croup.

**RS virus:** two regions reported more than 10% of cases: Trent (215 cases) and Mersey (232). 82% of cases were aged less than 1 year.

**Rhinovirus:** one patient had pneumonia, 7 had bronchiolitis.

Laboratory reports	Number of reports received				Total reports 92/03-06	Cumulative total 1992
	92/03	92/04	92/05	92/06		
<i>Chlamydia psittaci</i>	7	3	6	8	24	47
<i>Coxiella burnetii</i>	–	1	2	2	5	8
<i>Legionella pneumophila</i>	5	2	4	6	17	20
<i>Mycoplasma pneumoniae</i>	80	60	62	73	275	470

**Chlamydia psittaci:** fifteen patients had pneumonia. Eight patients had contact with birds: cockatiels 2, budgerigars 2, poultry 1, unspecified 3. One patient worked in a pet shop. One spontaneous abortion following contact with sheep.

**Coxiella burnetii:** one patient had endocarditis, 3 had pneumonia.

**Legionella bozemanii:** F 23y whose infection may have been hospital acquired.

**Legionella pneumophila:** 12 males, 4 females, age range 34-71 years. Fifteen had pneumonia and one had influenza-like illness. F 54y, M 66y and M 69y all died. Recent travel abroad 5: Crete, Cyprus, Italy, St Lucia and Tunisia. Three cases were involved in an outbreak at an army camp in September/October 1991. M 34y and M 71y whose infection may have been hospital acquired.

**Mycoplasma pneumoniae:** four regions reported more than

10% of cases: SE Thames (49 cases), SW Thames (37), S Western (34) and W Midlands (32). One hundred and two cases (37%) were aged less than 15 years. One hundred and twelve patients had pneumonia and 2 had bronchiolitis. One patient had haemolytic anaemia and 9 had skin manifestations including 2 with Stevens-Johnson syndrome and 2 with erythema nodosum.

## Mycobacterial infections, England and Wales: laboratory reports, weeks 92/03 – 06

**Mycobacterium tuberculosis** 93: 57 males, 33 females, 3 sex not stated. Pulmonary infections 65: 45 males (1 HIV-1 antibody positive), 20 females. Fourteen patients were sputum positive. Three patients were aged less than 15 years and 22 were aged 65 years or over. M 82y, M 84y and F 76y all died. There were 6 isolates from pleural aspirates and 2 from lung biopsies. Disseminated 2: both female. Lymph nodes 13: 5 males (1 HIV-1 antibody positive), 8 females. Ten from the Indian subcontinent. Genitourinary 3: 2 male, 1 female. Bone/joint 2: both female. Abscess 7: 4 male, 1 female, 2 sex not stated. Skin 1.

**M. bovis** 1: M 71y had pulmonary infection (sputum smear

positive).

**M. kansasii** 5: M 35y, M 60y, M 61y, M 70y and M 70y all had pulmonary infection (one sputum smear positive).

**Avium intracellulare group 6:** M 45y (axillary lymph node), HIV-1 antibody positive M 42y with pulmonary infection, M 41y with AIDS (blood, faeces). F 4y (groin tissue), F 16y with lymphadenopathy, F 77y (finger tissue).

**M. malmoense** 5: M 27y, M 57y, F 76y, F 79y and F 79y all had pulmonary infection (one sputum smear positive).

**M. scrofulaceum** 1: M 72y had pulmonary infection.

**Mycobacterium sp** 1: M 62y.

## Bacteraemia and bacterial meningitis, England and Wales: weeks 92/03 – 06

Laboratory reports of blood and CSF isolates of bacteria are grouped into four categories and published in a weekly sequence:

1. Staphylococci and streptococci (excluding anaerobic cocci).
2. Enterobacteriaceae ie, *Citrobacter*, *Enterobacter*, *Escherichia coli*, *Klebsiella*, *Proteus* and *Salmonella species*.
3. Environmental and anaerobic bacteria ie, *Bacteroides*, *Clostridia*, *Acinetobacter*, *Aeromonas*, *Pseudomonas*, *Serratia* and anaerobic cocci.
4. *Neisseria meningitidis*, *Haemophilus species* and *Listeria monocytogenes*.

This week's CDR contains reports for category 1. Less commonly reported causes of bacteraemia or bacterial meningitis are listed under **Unusual infections**.

Laboratory reports	No. of reports received		Age		Total received	Cumulative total 1992
	blood only	CSF only or CSF & blood	<1m	≥65y		
<b>Staphylococci</b>						
<b>S. aureus</b>	393	3	7	170	396 (3) *	639
Coagulase negative	192	5	17	39	197	353
<b>Streptococci</b>						
group A	66	1	1	31	67	87
group B	47	8	22	11	55	103
group C & G	29	–	1	18	29	49
enterococci	104	1	5	55	105	187
α- and non-haemolytic	105	1	6	35	106	168
<b>S. pneumoniae</b>	498	40	6	308	538	854

\* methicillin-resistant strains of *Staphylococcus aureus*

### Bacteraemia

#### Staphylococci:

**S. aureus:** 28 of 103 patients with IV-lines were on haemodialysis, including HIV-1 antibody positive M 35y. Twenty patients had pneumonia, including M 52y with empyema. Nineteen patients had UTI/GU surgery including 3 patients with pyelonephritis. Two patients with haemophilia, including HIV-1 antibody positive M 31y had septic arthritis/osteomyelitis. Two women had infection following Caesarean section. M 28y had infected chickenpox.

Three methicillin-resistant strains were reported: NE Thames 2 (1 blood isolate; 1 blood and surgical wound isolates); N Western 1 (blood isolate).

Also reported: M 14y had septic arthritis/osteomyelitis (bone isolate). M 67y with joint prosthesis and F 90y had septic arthritis/osteomyelitis (both joint isolates). F 15y and F 60y on CAPD (peritoneal dialysate isolate). Immunosuppressed F 52y (PM lung, group A streptococcus also isolated).

**Coagulase negative:** premature M 5d (*Candida parapsilosis* also isolated). Premature F 5w, a twin (*Candida parapsilosis* also isolated, other twin also had *C. parapsilosis* infection and died). Five of 91 patients with IV-lines were on haemodialysis. M 31y was HIV-1 antibody positive and M 45y had AIDS.

**Streptococci:**

**group A:** 14 patients had skin infection, including M 79y with facial cellulitis and epiglottitis. Eleven patients aged 54-84 years had pneumonia. 2y, sex not stated, had skin rash and pharyngitis. F 33y had otitis media (blood and middle ear isolates). F 17y and F 65y both had peritonitis. F 31y had peritonitis following Caesarean section. M 13y had frontal sinus abscess. F 26y had pyometrium.

Also reported: M 11y had quinsy (throat isolate). F 80y (peritoneal fluid isolate). Male, age not stated, with septic arthritis (synovial fluid and throat isolate).

**group B:** 22 neonates. Five women had infection following Caesarean section. F 80y had pyonephrosis (blood and kidney isolates).

**group C, 5 and group G, 24:** nine patients had skin infection, including one elderly male patient with infected lymph node biopsy site in groin. One patient had infection following

Caesarean section (blood and HVS isolates).

**enterococci:** *S. avium* 1; *S. bovis* 11; *S. duran* 1; *S. faecalis* 50; *S. faecium* 20. Three of 13 patients with IV-lines were on haemodialysis. Eight patients had biliary tract disease/surgery. Fifteen patients had UTI/GU surgery.

**α- and non-haemolytic:** *S. milleri* 21; *S. mitior* 1; *S. mitis* 19; *S. mutans* 3; *S. salivarius* 3; *S. sanguis* 48. Three patients had biliary tract disease/surgery. *S. milleri*, M 79y had liver abscess (blood and aspirated pus isolates). M 48y had intra-abdominal abscess. F 61y with cardiac transplant (blood and nasal antrum isolates). M 31y injecting drug user (blood and pus isolates). *S. mitis*, F 69y after pericardiocentesis.

Also reported: *S. milleri*, F 18y with branchial cyst abscess (pus isolate, *Eikenella corrodens* also isolated).

**S. pneumoniae:** 264 patients had pneumonia, including 10 children aged less than 4 years. M 67y who had previous pneumonectomy. M 63y with previous splenectomy. M 1m had orbital cellulitis. F 1y with sickle cell anaemia. Two female infants 1y had otitis media. Thirty-one patients were immunosuppressed, including 12 with myeloma, 7 with leukaemia, 5 with lymphoma, one with bone marrow transplant and one with AIDS.

Laboratory reports	Total bacteraemia	Acute bone/joint	Age		IV/CVP lines	Pace-makers	Endocarditis (with prostheses)	IVDA (with endocarditis)
			<15y	≥65y				
<b>Staphylococci</b>								
<i>S. aureus</i>	393	32	4	16	103	7	13 (3)	6 (1)
Coagulase negative	192	–	–	–	91	4	6 (1)	–
<b>Streptococci</b>								
group A	66	3	–	1	1	–	–	1 (–)
group B	47	4	–	1	1	1	–	–
group C & G	29	4	–	3	1	–	1 (–)	1 (–)
enterococci	104	–	–	–	14	–	13 (3)	1 (–)
α- and non-haemolytic	105	2	–	–	12	1	21 (1)	2 (–)
<i>S. pneumoniae</i>	498	7	2	4	3	–	1 (–)	1 (–)

**Meningitis**

**Staphylococci:**

**S. aureus:** M 24y with leukaemia; M 43y injecting drug user with prosthetic heart valve (blood, CSF and PM brain isolates); M 56y after neurosurgery.

**Coagulase negative:** M 30y, M 52y, M 54y, male, age not stated and F 1y, all with CSF shunts.

**Streptococci:**

**group A:** F 1m (CSF isolate).

**group B:** 7 babies aged 1 day - 1 month (all blood and CSF isolates). F 71y (blood and CSF isolates).

**S. faecalis:** M 50y after lumbar laminectomy. M 65y had meningitis with no CSF isolate (blood isolate).

**S. milleri:** F 13y had brain abscess (blood isolate).

**S. sanguis:** F 54y (CSF isolate). M 2m had meningitis with no CSF isolate (blood isolate).

**S. pneumoniae:** 16 patients aged 1 month - 64 years, including M 14y with sinusitis. Twenty-three patients aged 6 months - 86 years, including M 1y with sickle cell anaemia, M 62y with previous splenectomy, M 45y and F 59y with otitis media, M 68y with Wegener's granulomatosis and male, age not stated, with CSF shunt (all blood and CSF isolates). F 5m (blood, CSF and throat isolates). Nine patients aged 1 month - 91 years had meningitis with no CSF isolate (all blood isolates).

**Unusual infections**

**Aerococcus viridans:** F 69y had endocarditis (blood isolate).

**Bacillus sp 2:** *B. cereus*, M 65y with renal transplant had prosthetic heart valve (blood isolate). *Bacillus sp*, M 34y with multiple fractures after road traffic accident (blood isolate).

**Moraxella sp 2:** F 75y; adult patient, age and sex not stated, with lymphoma had IV-line (both blood isolates).

**Providencia stuartii:** F 48y had pelvic abscess after biliary surgery (blood isolate).

Data are for England and Wales only, unless otherwise stated.  
Weekly numbers are provisional and should not be used to indicate trends.