

## Communicable Disease Report

### Epinet, Epibase, Epi info

This outline describes three epidemiological applications of computer technology.

**EPINET.** Fifty-two public health laboratories and a number of CCDCs now receive news and information via the Epinet mark II system based at CDSC. It is used primarily to send messages or files to other Epinet users and a warning light signals the arrival of messages. It also stores viewdata pages locally in a communications device (Arcom) and contains a dial up facility for external viewdata services.

**EPIBASE.** Epibase is a recently introduced database and communications application for the electronic transmission of laboratory reports from PHLs to CDSC and will replace the paper forms currently used for mailing laboratory reports. It allows patient-based reports to be created by direct keyboard entry or by importing and merging records from other laboratory systems. Epibase provides users with organism-specific prompts for the documentation of clinical and epidemiological features. Reports are transmitted to CDSC by a menu driven system which uses the same Arcom unit as Epinet. Epibase, and the laboratory report files it contains, however, are not part of the Epinet messaging system. Enquiries relating to the design and operation of Epibase should be addressed to the Information Systems Centre help desk at Colindale (081 200 1295 extn 4369). Information about the use or objectives of the system can be obtained from one of the pilot test sites (Cardiff, Dorchester, Nottingham and Reading PHLs) or CDSC (081 200 6868 extns 4428 or 4417).

**EPI INFO.** This was developed by the Centers for Disease Control in Atlanta to assist with the investigation of outbreaks. It enables databases to be created, files to be merged and validated, statistical analyses to be performed, and questionnaires to be designed. Some CCDCs have an electronic district surveillance package devised by CDSC Wales (using Epi Info version 5) that enables notifications of infectious disease to be entered and analysed. A more detailed outline of Epi Info has been published in the *CDR review*<sup>1</sup>.

### New PHLs salmonella dataset

At present, two sets of salmonella data are produced by the PHLs. One comes from the identification of strains sent to the Division of Enteric Pathogens and the other from reports of laboratory isolations sent to the Communicable Disease Surveillance Centre. From 1 January 1992, a new common report form will be used by laboratories both for requests to DEP for the identification of cultures, and for reports to CDSC of isolates that are not referred to DEP. The new system will reconcile the databases and reduce the workload for laboratories which will not have to report separately to CDSC those cultures which have been sent to DEP for identification.

The new report form, with or without an accompanying culture, should be sent to DEP. The epidemiological information will be transmitted electronically from DEP to CDSC on the day of receipt. The results of typing by DEP will be reported to the source laboratory as usual, and will also be sent directly from DEP to CDSC. These developments follow a recommendation in the 1990 report of the Richmond Committee<sup>2</sup> (Part 1, page 22, section 3.46).

1. Bruce JC, Swan AV. Epi info: the outbreak investigator's all-in-one computer toolkit. *Communicable Disease Report* 1991; 1: R78-80
2. Anon. Report of the Committee on the Microbiological Safety of Food, Part 1 (chairman Sir Mark Richmond). HMSO: London, 1990.

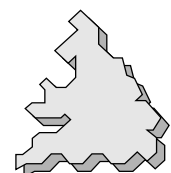
### Acute respiratory infections

**Respiratory tract infections:**  
weeks 91/47 - 50

**Mycobacterial infections:**  
weeks 91/47 - 50

**Bacteraemia and bacterial meningitis:**  
weeks 91/47 - 50

### Unusual infections

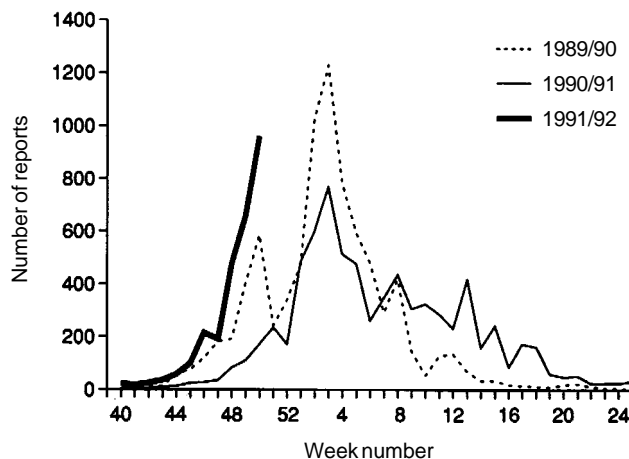


### Acute respiratory infections

Reports to CDSC of infections due to respiratory syncytial virus have increased almost tenfold in the last four weeks to nearly 1000 in week 50 (Figure). This is consistent with the anticipated rise in infections due to this organism. Of the 2758 laboratory reports received since week 40 of 1991, 88% of infections were in children less than one year old and a further 93% in children from the 1-4 year age group. The current epidemic of *Mycoplasma pneumoniae* is continuing, with between 50 and 100 reports being received each week.

Indices of influenza activity in England and Wales continue to run at low levels. Few laboratory reports of influenza virus infections have been received by CDSC, although the PHLS Virus Reference Laboratory has confirmed 6 isolates since September – all influenza A of the H<sub>3</sub>N<sub>2</sub> subtype. High rates of upper respiratory tract illness, associated with slightly elevated rates of influenza-like illness, have been reported in boarding school pupils through the Medical Officers of Schools Association (MOSA) scheme, but none of these reports has so far been linked with influenza virus.

**Figure** Weekly respiratory syncytial virus infections, by date of laboratory report to CDSC



### Respiratory tract infections, England and Wales: laboratory reports, weeks 91/47 – 50

Laboratory reports	Number of reports received				Total reports 91/47-50	Cumulative total 1991
	91/47	91/48	91/49	91/50		
Adenovirus (excluding EM faeces)	36	33	37	31	137	2292
Coronavirus	–	3	1	2	6	56
Influenza A	–	3	2	3	8	125
Influenza B	3	–	–	1	4	1977
Parainfluenza	6	7	8	12	33	606
RS virus	191	477	656	960	2284	9582
Rhinovirus	7	6	15	9	37	354

**Comment**

**Adenovirus** (excluding EM faeces and Group F): 19 patients had eye infections, 5 had pneumonia, 11 had bronchiolitis and 1 had croup. M 3y with suspected meningitis.

**Influenza A** (6 single titres, 2 isolates of subtype H<sub>3</sub>N<sub>2</sub>): three patients had pneumonia.

**Influenza B** (all single titres): one patient had pneumonia.

**Parainfluenza:** type 1, 9; type 2, 11; type 3, 9; type 4, 3; untyped

1. One patient had pneumonia, 9 had bronchiolitis, 3 had croup.

**RS virus:** two regions reported more than 10% of cases: N Western (335) and SW Thames (238). 89% of patients were aged less than 1 year. Ten patients had pneumonia, 571 had bronchiolitis and 2 had croup.

**Rhinovirus:** two patients had pneumonia, 8 had bronchiolitis

Laboratory reports	Number of reports received				Total reports 91/47-50	Cumulative total 1991
	91/47	91/48	91/49	91/50		
<i>Chlamydia psittaci</i>	5	9	6	6	26	403
<i>Coxiella burnetii</i>	–	–	1	1	2	75
<i>Legionella pneumophila</i>	–	–	2	10	12	150
<i>Mycoplasma pneumoniae</i>	70	73	52	76	271	3048

and 1 had croup.

**Chlamydia psittaci:** twelve patients had pneumonia. Six patients had contact with birds: cockatiels 1, parrots 2, parakeets 1 and pigeons 1; one patient was a poultry worker. An outbreak of 3 cases was reported on a renal ward.

**Legionella pneumophila:** 8 males, 4 females, age range 35-76 years. Eight patients had pneumonia. Two patients died: F 41y with possible hospital acquired disease, and M 68y. Recent travel abroad 3: France 1, Spain, Tunisia 1; one patient

had travelled within the UK.

**Mycoplasma pneumoniae:** three regions reported more than 10% of cases: S Western (40), Wessex (38) and East Anglia (30). Sixty-seven cases (24%) were aged less than 10 years. One

hundred and twenty-seven patients had pneumonia. Eleven patients had skin manifestations including 3 with Stevens-Johnson syndrome, 2 with erythema nodosum, one with Henoch-Schönlein purpura and 5 with other rashes. One

**Mycobacterial infections, England and Wales: laboratory reports, weeks 91/47 – 50**

patient had Guillain-Barré syndrome.

**Mycobacterium tuberculosis** 144: 60 males, 58 females, 26 sex not stated.

Pulmonary infections 93: 41 males, 36 females, 16 sex not stated. Twenty-two were sputum smear positive. One patient was aged less than 15 years and 27 were aged 65 years or over. There were two deaths (M 91y and F 33y). There were 13 isolates from pleural aspirates and one from post mortem lung biopsy.

Disseminated 5: 1 male, 3 females, 1 sex not stated. Three from the Indian subcontinent.

Lymph nodes 14: 5 male, 8 female, 1 sex not stated. Seven from the Indian subcontinent.

Genito-urinary 4: 3 female, 1 sex not stated.

Bone/joint 3: 1 male, 2 female. One from the Indian subcontinent.

Abdomen 2: 1 male, 1 sex not stated.

Abscess 22: 8 male, 9 female, 5 sex not stated.

Skin 1: sex not stated.

**M. bovis** 4: M 59y after renal transplant (urine); M 62y with palm lesion; male, age not stated, and F 26y with pulmonary infection (both sputum smear positive).

**M. kansasii** 5: M 73y and four females aged 45y-61 years, all with pulmonary infection.

**M. xenopi** 8: three males aged 54-59 years and five females aged 30-71 years, all with pulmonary infection.

**Avium intracellulare group** 19: M 5y with submandibular abscess and M 5y with neck abscess. Four males aged 29-77 years and 3 females aged 56-83 years all with pulmonary infection (3 sputum smear positive). M 39y (blood), M 41y (blood, faeces, sputum) and M 29y with pulmonary infection all had AIDS. M 41y and M 46y (blood, faeces). M 28y, M34y and M 52y (all blood) were all HIV-1 antibody positive. Immunodeficient M 29y, with pulmonary infection and cryptosporidium infection, died. F 56y (lymph nodes, abscess).

**M. malmoense** 5: F 43y, F 53y and three males aged 61-77 years, all had pulmonary infection (1 sputum smear positive).

**Bacteraemia and bacterial meningitis, England and Wales: laboratory reports, weeks 91/47 – 50**

Laboratory reports	No. of reports received		Age		Total received	Cumulative total 1991
	blood only	CSF only or CSF & blood	<1m	≥65y		
<b>Staphylococci</b>						
<b>S. aureus</b>	381	5	17	170	386 (1) *	4242
Coagulase negative	177	4	19	37	181	2436
<b>Streptococci</b>						
group A	42	–	–	17	42	520
group B	49	4	19	17	53	700
group C & G	41	–	–	27	41	411
enterococci	123	1	5	58	124	1416
α- and non-haemolytic	118	3	4	38	121	1414
<b>S. pneumoniae</b>	265	19	6	136	284	3708

\* methicillin-resistant strains of *Staphylococcus aureus*

**Bacteraemia**

**Staphylococci:**

**S. aureus:** 17 of 66 patients with IV-lines were on haemodialysis; 7 of 29 patients with septic arthritis/osteomyelitis had prosthetic joints. HIV-1 antibody positive patient, age not stated, with haemophilia (blood isolate). Twenty-two patients had pneumonia. Fourteen patients had UTI/GU surgery. Four patients aged 48-71 years had infected vascular grafts. Eight patients had post partum infection. Immunosuppressed F 50y had infected shingles. One MRSA was reported by NW Thames: male, age not stated, (blood and IV-line isolates).

Also reported: M 81y and female, age not stated, had septic arthritis (joint isolate); M 68y (pleural fluid isolate).

**Coagulase negative:** 5 of 87 patients with IV-lines were on haemodialysis. Three patients had UTI. M 66y with CAPD (blood isolate). Female, age not stated, with CSF shunt (blood isolate).

**Streptococci:**

**group A:** 16 patients had skin infection, including M 89y with infected shingles; male, age not stated, had erythema multiforme (blood isolate); F 27y had puerperal infection; F 12y had sinusitis and orbital cellulitis (blood isolate); 72y, sex not stated, had nephrotic syndrome (blood isolate).

Also reported: M 86y with chest infection (pleural fluid isolate). M 67y with neutropenia had myonecrosis (post mortem leg muscle and spleen isolates).

**group B:** 19 neonates. Two patients had skin infection. Six patients had UTI including 4 women with post partum infection. F 79y had endophthalmitis (blood isolate).

Also reported: M 30y had septic arthritis (synovial fluid). Female, age not stated, had osteomyelitis (bone isolate).

**group C, 6 and group G, 34:** 11 patients had skin infections, including M 57y with leukaemia. Three had UTI/GU surgery.

Premature male neonate (blood isolate; HVS isolate from mother). M 43y on haemodialysis (blood isolate).

**enterococci:** *S. bovis* 13; *S. equinus* 2; *S. faecalis* 57; *S. faecium* 30. Twenty-two patients had IV-lines, including 2 on haemodialysis. M 49y and M 1m had burns. Ten patients had biliary tract disease/surgery. M 78y with joint prosthesis (blood isolate). F 31y with liver transplant (blood and liver abscess aspirate isolates).

**α- and non-haemolytic:** *S. milleri* 17; *S. mitis* 24; *S. morbillorum* 2; *S. mutans* 3; *S. salivarius* 7; *S. sanguis* 53. Fifteen patients had biliary tract disease/surgery, including one after ERCP. Two

patients had UTI. *S. milleri*, 3 neonates (all blood isolates), including F 1d whose mother had HVS isolate also).

***S. pneumoniae*:** 107 patients had pneumonia, including 6 children under 4 years and 2 aged 6 and 8 years, respectively. F 62y and F 56y had previous splenectomy (blood isolate); F 4y had burns. Eighteen patients were immunosuppressed, including HIV-1 antibody positive F 33y. Four patients with lymphoma, 5 patients with leukaemia, 5 patients with myeloma and one patient with myelodysplasia. F 78y had mastoiditis (blood isolate). Seven patients aged 9 months - 81 years had otitis media, including M 1y with meningitis (all blood isolates).

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>	381	29	5	14	66	16	10 (2)	1 (-)
Coagulase negative	177	-	-	-	87	4	9 (2)	-
<b>Streptococci</b>								
group A	42	4	-	1	1	-	-	-
group B	49	1	-	1	-	-	-	-
group C & G	41	1	-	-	-	-	2 (2)	-
enterococci	123	-	-	-	22	-	7 (3)	1 (1)
α- and non-haemolytic	118	-	-	-	13	-	18 (3)	1 (1)
<i>S. pneumoniae</i>	265	3	-	3	-	-	2 (1)	-

### Meningitis

#### Staphylococci:

***S. aureus*:** F 3m (also had coagulase negative isolate); M 1y and M 63y with CSF shunt (CSF isolates); M 75y (blood and CSF isolates); F 40y after clipping of Berry aneurysm (CSF and bone flap isolates).

**Coagulase negative:** M 3m and F 3m with CSF shunt (CSF isolates). M 12d with IV-line (blood, CSF and IV-line tip isolates).

#### Streptococci:

**group B:** F 1d (blood, CSF, external ear and umbilical isolates);

M 2d (CSF isolate); M 21d (blood and CSF isolates); M 1m (CSF isolate).

***S. faecium*:** M 17d (blood and CSF isolates).

***S. milleri*:** F 74y (blood and meningeal swab isolates).

***S. pneumoniae*:** 13 patients aged 3 months - 67 years had both CSF and blood isolates, including F 1y with sickle cell anaemia. Five patients aged 2 days - 2 years had CSF isolate only. F 52y had otitis media (blood and CSF isolates). Six patients aged 9 months - 87 years (blood isolate only).

### Unusual infections

***Bacillus sp*:** M 11y with IV-line (blood and IV-line tip isolates).

***Capnocytophaga ochracea*:** F 11y with leukaemia (blood isolate).

***Corynebacterium sp* 2:** *C. jeikeium*, M 59y with IV-line had

bowel perforation (blood isolate). *C. xerosis*, M 38y with IV-line (blood isolate).

**Diphtheroids:** F 31y with BMT (blood isolate).

***Hafnia alvei*:** M 39y (blood isolate).

From week 91/01, data in CDR is from England and Wales only, unless otherwise stated.

Weekly numbers are provisional and should not be used to indicate trends