

Communicable Disease Report

Serious unexplained illness among drug injectors

Epidemiological and microbiological investigations of the serious unexplained illness among injecting drug users (IDUs) described last week in *CDR Weekly*¹ have now identified 64 cases (32 fatal) who have been admitted to hospital or have died with an unexplained illness in the United Kingdom and Ireland since 19 April 2000. Blood and tissue cultures from several patients have yielded multiple organisms including group A streptococcus, *Staphylococcus aureus*, *Clostridium* species, and *Bacillus* species, but a definitive cause has not been identified. There is no evidence of *Bacillus anthracis* infection. The PHLS Central Public Health Laboratory and the PHLS Anaerobe Reference Unit at Cardiff are assisting with the examination of specimens.

For the purpose of focusing surveillance and microbiological investigations the following case definition has been developed in collaboration with investigators in Scotland, Ireland, and the United States (see forthcoming *MMWR*):

'an IDU admitted to hospital or found dead since 1 April 2000 with soft tissue inflammation (abscess, cellulitis, fasciitis, or myositis) at an injection site AND either severe systemic toxicity (total peripheral white blood cell count > 30 x 10⁹/L and sustained systolic pressure < 90 mmHg despite fluid resuscitation) or evidence at necropsy of a diffuse toxic or infectious process including pleural effusion and soft tissue oedema or necrosis at an injection site.'

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Outbreaks of VTEC O157 infection linked to consumption of unpasteurised milk

Two recent outbreaks of Vero cytotoxin producing *Escherichia coli* (VTEC) O157 infection in England provide further evidence of the hazard to human health posed by consumption of unpasteurised milk. One also shows how easily VTEC O157 may spread between small children. Guidelines for the control of VTEC O157 infection were published recently¹.

Four people in north west England became ill between 20 April and 13 May 2000 in the first outbreak, which was detected in late April. Three of the cases were adults who had drunk unpasteurised milk sold by a local farm. The fourth, a child, was not known to have done so, but unpasteurised milk from the same farm was consumed in the household. This case also had other risk factors including contact with pet animals that visited the farm. The outbreak strain was confirmed by the PHLS Laboratory of Enteric Pathogens (LEP) as *E. coli* O157 phage type (PT) 21/28 Vero cytotoxin type (VT) 2 resistant to ampicillin, streptomycin, and sulphonamides. Pulsed field gel electrophoresis (PFGE)

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Hepatitis C lookback exercise

A hospital in the West Midlands of England has written to 723 patients of a health care worker who is an asymptomatic carrier of hepatitis C virus (HCV). The health care worker's infection came to light when a patient with acute HCV infection was found to have no risk factors other than surgery at the University Hospital Birmingham NHS Trust in September 1999. The health care worker was a member of the surgical team that had treated the patient. Genotyping showed that both patient and health care worker were infected with HCV type 2b (responsible for about 5% of infections in the United Kingdom), and sequencing showed the two viruses to be similar.

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General outbreaks of foodborne illness, England and Wales: weeks 19-22/00

Preliminary information has been received about the following outbreaks. Final information will be published in the quarterly report

Health authority	Organism	Place of outbreak	Month of outbreak	Number ill	Cases positive	Suspect vehicle	Evidence
Oxfordshire	<i>Salmonella enteritidis</i> PT4	Residential institution	April	4	4	None	–
Nottingham	<i>S. enteritidis</i> PT4	Hall	May	5	5	None	–
West Kent	<i>S. enteritidis</i> PT6	School	May	4	4	None	–
Gateshead and South Tyneside	<i>S. thompson</i> PT23	Retailer	May	>9	9	Cooked chicken	M
Wigan and Bolton	<i>S. typhimurium</i> DT104	Hospital	May	>1	1	None	–
Dorset	Scombrototoxin	Restaurant	May	3	*	Tuna	–
North Nottingham	Unknown	Restaurant	April	70	–	None	–

M (microbiological): identification of an organism of the same type from cases and in the suspect vehicle, or vehicle ingredient(s), or detection of toxin in faeces or food

* not applicable

Salmonella infections, England and Wales: reports to the PHLS (salmonella data set*)

Details of serotypes of the 551 salmonella infections recorded in April are given in the adjacent table. In May 2000, 777 salmonella infections were recorded and preliminary information was received about five outbreaks (see table above).

	April 2000
<i>Salmonella</i> (provisional total)	551
<i>S. enteritidis</i> (PT4)	135
<i>S. enteritidis</i> (other PTs)	132
<i>S. typhimurium</i>	90
<i>S. virchow</i>	13
Others (typed)	181

* figures quoted from the PHLS salmonella data set are for isolates confirmed and typed by PHLS Laboratory of Enteric Pathogens (LEP)

Common gastrointestinal infections, England and Wales: laboratory reports, weeks 19-22/00

Laboratory reports	Number of reports received				Total reports 19-22/00	Cumulative totals for weeks 01 -22	
	19/00	20/00	21/00	22/00		2000	1999
<i>Campylobacter</i>	1303	1017	1329	1162	4811	18330	18757
<i>Escherichia coli</i> O157*	8	21	26	26	81	185	307
<i>Shigella sonnei</i>	24	9	22	22	77	277	418
Rotavirus	1043	652	232	332	2259	13213	11774
SRSV	109	38	44	23	214	1066	1314
<i>Cryptosporidium</i>	105	111	108	83	407	1420	1561
<i>Giardia</i>	81	78	83	81	323	1492	1589

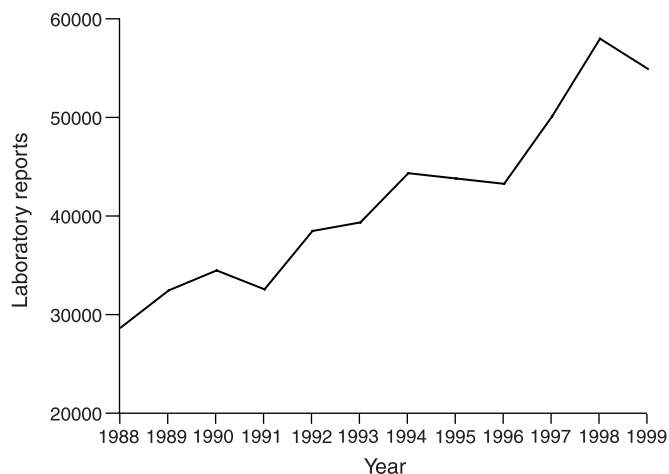
* Vero cytotoxin producing isolates (data from LEP)

Surveillance of campylobacter infection in England and Wales

Campylobacter remains the most commonly reported bacterial cause of acute gastroenteritis in England and Wales. In 1999, 54 987 confirmed cases were reported to the PHLS Communicable Disease Surveillance Centre (CDSC) by laboratories in England and Wales, 5.5% less than in 1998, when the incidence reported was the highest ever (figure).

The reporting rate was higher for males (111.7 per 100 000) than for females (94.2/100 000), and the incidence in the South West region (146.7/100 000) was significantly higher than elsewhere (100.6/100 000) ($P < 0.001$).

Figure Incidence of campylobacter infection, England and Wales: 1988 to 1999



Serious unexplained illness among drug injectors (continued from page 203)

The cases under investigation that have died, and meet this case definition, have not had other clearly identified infections that could explain the cause of death nor evidence of drug overdose. Since 19 April, 35 IDUs have been admitted to hospital or have died in Scotland with a serious unexplained illness; the cases include 17 deaths². In Dublin, 15 IDUs have been admitted to hospital since 14 April, eight of whom have died².

In England and Wales from 24 April to 2 June 14 IDUs were admitted to hospital with a severe systemic or inflammatory reaction requiring intensive care or high dependency treatment, including seven who died. According to current information, six of these cases (five of whom have died) met the specific case definition above. The median age of these six cases was 34 years (range 30 to 48), four were men, and all lived in the North West Region. The median highest white cell count recorded was $51.9 \times 10^9/L$ (range 39.7 – 82.0). All six had progressive symptoms for a median of three days (range 1 to 4) between the onset of illness and hospital admission. Among the cases who died in hospital, a median of three days elapsed between admission and death (range 0 to 3). Pleural effusion was a prominent feature at necropsy.

Early surgical intervention should be considered in the management of possible cases, including exploration, drainage, and/or debridement of any injection site infection together with microbiological sampling. In addition to surgical and supportive therapy, specific antimicrobial therapy should include one or more agents known to be active against anaerobes (such as penicillin, metronidazole, and clindamycin, possibly in combination). Clindamycin may have some specific advantages in these cases, but it should not be given alone as resistance to this antibiotic has been described.

A detailed protocol for specimen collection and examination for the investigation of suspected cases has been devised. In England and Wales this is available from the PHLS Communicable Disease Surveillance Centre (CDSC). Particular care should be exercised to maximise opportunities for the recovery of fastidious anaerobes. Microbiologists, infectious disease physicians, and other clinicians should report any additional cases that meet the case definition to their consultant in communicable disease control and to the investigation team at CDSC (tel 020 8200 6868, ext 4238, 3430, 4930, 3436, 3036, 4462). To improve case ascertainment consideration should be given to investigating severely ill IDUs with very high white cell counts of which haematology departments may be aware.

1. CDSC. Serious unexplained illness among drug injectors. *Commun Dis Rep CDR Wkly* 2000; **10**: 195.
2. Greater Glasgow Health Board, Scottish Centre for Infection and Environmental Health. Serious unexplained illness among injecting drug users in Scotland and the Republic of Ireland – update. *Eurosurveillance Weekly* [online] 2000; **4**: 000608 [cited 8 June 2000] <www.eurosurv.org/2000/000608.htm>

Outbreaks of VTEC O157 infection linked to consumption of unpasteurised milk (continued from page 203)

showed that all the human isolates were indistinguishable from each other and from strains of PT21/28 VT2 from the primary milk filter leading into the bulked milk tank. *E. coli* O157 PT21/28 VT2 with the same resistance type as the human and milk filter isolates was obtained from 64 of the 127 cattle sampled on the farm. The farmer immediately stopped selling unpasteurised milk voluntarily. A pasteurisation order is currently in place.

The second outbreak, of two cases, was reported from south west England in mid May. The index case, a 5 year old child who was admitted to hospital with haemolytic uraemic syndrome, had drunk unpasteurised milk on the family farm. The second case (who had diarrhoea) was in the same class at school and the two are known to have held hands with each other. LEP confirmed the presence of *E. coli* O157 phage type 2 VT2 in the clinical specimens, a sample of raw milk, and isolates from dairy cattle on the farm. The strains were indistinguishable by PFGE.

The PHLS is aware of four further outbreaks of VTEC O157 infection since April this year, and a recent outbreak affected a scout camp in Scotland².

1. Subcommittee of the PHLS Advisory Committee on Gastrointestinal Infections. Guidelines for the control of infection with Vero cytotoxin producing *Escherichia coli* (VTEC). *Commun Dis Public Health* 2000; **3**: 14-23. <www.phls.co.uk/publications/CDPHvol3/No1/vtec.pdf>
2. Howie H. *E. coli* O157 infection in Grampian. *SCIEH Weekly Report* 2000; **34**: 135.

Hepatitis C lookback exercise (continued from page 203)

The hospital identified 723 patients who had undergone exposure prone procedures in which this health care worker had taken part in the past five years. The patients are being offered counselling, and testing for HCV infection is being arranged through their general practitioners. Over 70% of the affected patients live in Birmingham, and all but nine are residents of the West Midlands. Consultants in communicable disease control in the relevant districts have been informed. A helpline has been set up (tel: 0800 783 0520).

Current guidance in the United Kingdom recommends that lookback exercises should be undertaken if a health care worker with HCV infection is shown to be associated with transmission of infection¹. This is the third such lookback in England this year².

1. CDSC. Hepatitis C virus transmission from health care worker to patient. *Commun Dis Rep CDR Wkly* 1995; **5**: 121.
2. CDSC. Two hepatitis C lookback exercises – national and in London. *Commun Dis Rep CDR Wkly* 2000; **10**: 125.8.

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

Registered as a newspaper.

Notifications of infectious diseases

Doctors in England and Wales have a statutory duty to notify a 'proper officer' of the local authority (usually the consultant in communicable disease control) of cases of certain infectious diseases (*CDR Review 1993; 3: R19-25*). Notifications of infectious diseases, not all of which are microbiologically confirmed, prompt local investigation and action to control the diseases. Proper officers are required each week to inform the Registrar General of the

number of cases of each disease that have been notified. The responsibility for collating the weekly returns from proper officers, and publishing analyses of local and national trends has been transferred to CDSC from ONS (*CDR Weekly 1997; 7: 145*). Data published here – and an expanded form of table 2 with data to district level – are also available in an electronic format to Epinet subscribers on the PHLS network.

Table 1 Notifications of infectious diseases* in the past 6 weeks, with totals for the current year compared with corresponding periods of the two preceding years

		Week						Cumulative totals to week 21 [†]			Cumulative totals from mid-year to week 21 [†]		
		16/00	17/00	18/00	19/00	20/00	21/00	1998 (i)	1999 (ii)	2000 (iii)	97/98(a)	98/99(b)	99/00(c)
Tuberculosis	Cases [‡]	154	100	147	148	135	129	2303	2516	2809	5152	5669	5788
Scarlet fever	Cases	45	56	34	58	43	29	1929	1171	1049	3222	2303	1770
Malaria	Cases	6	7	14	23	11	31	459	306	310	1335	871	942
Leptospirosis	Cases	–	–	–	1	1	–	10	11	12	24	31	23
Food poisoning formally notified ascertained	Cases	1096	1047	1134	1707	1669	2011	28635	28595	26390	82999	82543	73690
	Cases	507	537	527	862	885	1023	16428	16784	13958	47557	47651	39869
	Cases	589	510	607	845	784	988	12207	11811	12432	35442	34892	33821
Typhoid fever presumed contracted	Cases	5	4	5	4	1	2	45	68	51	129	132	115
	abroad [§]	4	4	5	4	1	2	38	58	49	110	116	108
	GB	1	–	–	–	–	–	7	10	2	19	16	7
Paratyphoid fever presumed contracted	Cases	1	–	1	5	1	5	46	48	28	101	114	90
	abroad [§]	1	–	1	5	1	5	44	45	26	96	104	85
	GB	–	–	–	–	–	–	2	3	2	5	10	5
Dysentery	Cases	21	33	30	35	38	30	538	584	539	1561	1716	1352
Viral hepatitis	Cases	50	64	43	75	68	59	1220	1309	1357	3024	2995	3147
Hepatitis A	Cases	17	31	19	31	24	26	635	687	536	1743	1423	1381
Hepatitis B	Cases	17	19	11	15	26	16	317	297	391	690	792	869
Hepatitis C	Cases	11	10	11	26	16	11	186	250	374	370	629	786
Other and unknown	Cases	5	4	2	3	2	6	82	75	56	221	151	111
Meningitis meningococcal	Cases	37	40	48	57	42	33	972	1038	1062	1923	1989	1957
	Cases	19	20	28	28	17	22	583	596	595	1074	1093	1059
	influenzal (<i>Haemophilus influenzae</i>)	Cases	–	–	1	–	–	–	12	9	18	30	24
other specified	Cases	11	13	16	17	15	9	275	303	323	607	612	615
unspecified	Cases	7	7	3	12	10	2	102	130	126	212	260	247
Meningococcal septicaemia (without meningitis)	Cases	32	49	28	34	32	33	710	959	902	1336	1616	1596
Acute encephalitis infective	Cases	–	–	2	1	–	–	11	12	5	26	27	13
	Cases	–	–	1	1	–	–	9	8	3	17	17	11
	post-infectious	Cases	–	–	1	–	–	–	2	4	2	9	10
Whooping cough	Cases	5	8	16	11	14	12	663	429	221	2375	1215	813
Tetanus	Cases	–	–	–	–	–	–	–	1	–	5	8	2
Measles	Cases	52	40	60	53	52	39	1920	1096	1145	3779	2567	2239
Mumps	Cases	43	46	50	65	43	46	699	659	966	1593	1400	1799
Rubella	Cases	33	40	42	41	40	34	1741	932	811	3233	2078	1625
Ophthalmia neonatorum	Cases	1	–	2	9	4	2	85	76	69	199	172	145
Special cases													
Cholera	Cases	–	–	1	1	–	2	23	11	10	43	33	25
Diphtheria	Cases	–	1	–	–	–	1	7	10	7	15	24	14
Typhus fever	Cases	–	–	–	–	1	–	–	3	1	–	9	1

All figures include late returns

* includes notifications from Port Health Authorities

† Cumulative totals commencing week ended (i) 2 Jan (ii) 8 Jan (iii) 7 Jan

‡ Cumulative totals from mid-year commencing week ended (a) 5 July (b) 4 July (c) 9 July

§ Includes cases of unstated origin

¶ Excluding chemoprophylaxis

Table 2 Notifications of infectious diseases in week 21/00 (health regions, counties, and unitary authorities)

Area	Measles	Mumps	Rubella	Dysentery	Scarlet fever	Whooping cough	Viral hepatitis	TB all forms*	Meningitis†	Food poisoning notified§	ascertained#	Malaria
Northern and Yorkshire	5	10	1	4	1	1	7	21	4	86	126	3
Cumbria	–	–	–	–	–	–	–	–	–	4	11	–
Durham	–	–	–	–	–	–	–	–	–	19	9	–
North Yorkshire	–	–	–	–	–	–	–	1	–	18	27	–
Northumberland	–	–	–	–	–	–	–	2	–	–	8	–
Tyne and Wear¶	1	2	1	–	–	–	1	2	–	7	25	–
West Yorkshire¶	3	8	–	4	1	1	4	11	3	15	37	3
<i>City of Kingston upon Hull</i>	–	–	–	–	–	–	1	–	1	1	–	–
<i>Darlington</i>	–	–	–	–	–	–	–	–	–	1	6	–
<i>East Riding of Yorkshire</i>	–	–	–	–	–	–	–	1	–	2	–	–
<i>Hartlepool</i>	–	–	–	–	–	–	–	1	–	1	–	–
<i>Middlesbrough</i>	–	–	–	–	–	–	–	3	–	1	–	–
<i>Redcar and Cleveland</i>	–	–	–	–	–	–	–	–	–	–	–	–
<i>Stockton-on-Tees</i>	–	–	–	–	–	–	–	–	–	13	–	–
<i>York</i>	1	–	–	–	–	–	1	–	–	4	3	–
Trent	2	2	5	–	6	–	2	12	3	77	95	1
Derbyshire	–	–	1	–	2	–	–	–	–	13	7	–
Leicestershire	–	–	1	–	1	–	–	–	1	18	–	–
Lincolnshire	–	–	–	–	–	–	–	–	–	3	25	–
Nottinghamshire	–	–	–	–	–	–	–	–	–	20	14	–
South Yorkshire¶	–	1	1	–	3	–	1	7	2	11	15	1
<i>Derby</i>	1	–	1	–	–	–	–	–	–	2	2	–
<i>Leicester</i>	–	–	–	–	–	–	–	5	–	–	9	–
<i>North East Lincolnshire</i>	1	–	–	–	–	–	1	–	–	7	9	–
<i>North Lincolnshire</i>	–	–	–	–	–	–	–	–	–	–	4	–
<i>Nottingham</i>	–	1	1	–	–	–	–	–	–	1	10	–
<i>Rutland</i>	–	–	–	–	–	–	–	–	–	2	–	–
Eastern	1	1	5	2	2	–	1	5	2	105	120	1
Bedfordshire	–	1	1	2	1	–	–	2	–	6	9	–
Cambridgeshire	–	–	–	–	–	–	–	–	–	15	16	–
Essex	–	–	1	–	1	–	–	2	1	26	22	1
Hertfordshire	–	–	2	–	–	–	–	–	1	3	22	–
Norfolk	–	–	1	–	–	–	1	–	–	8	36	–
Suffolk	–	–	–	–	–	–	–	–	–	12	6	–
<i>Luton</i>	1	–	–	–	–	–	–	1	–	14	9	–
<i>Peterborough</i>	–	–	–	–	–	–	–	–	–	6	–	–
<i>Southend-on-sea</i>	–	–	–	–	–	–	–	–	–	8	–	–
<i>Thurrock</i>	–	–	–	–	–	–	–	–	–	7	–	–
London	12	5	6	8	4	–	13	46	2	185	22	22
Greater London	12	5	6	8	4	–	13	46	2	185	22	22
South East	3	4	8	6	3	4	5	12	5	174	198	–
Buckinghamshire	–	–	–	–	–	–	–	–	–	2	14	–
East Sussex	–	1	–	–	–	–	–	–	1	7	14	–
Hampshire	2	–	1	–	–	1	1	–	2	30	43	–
Kent	1	–	4	2	1	2	2	3	1	23	8	–
Northamptonshire	–	1	–	–	–	–	–	2	–	8	18	–
Oxfordshire	–	–	–	–	–	–	2	1	–	3	37	–
Surrey	–	–	1	1	1	1	–	–	–	37	22	–
West Sussex	–	1	–	–	–	–	–	6	–	17	27	–
<i>Bracknell Forest</i>	–	–	–	–	–	–	–	–	–	9	–	–
<i>Brighton and Hove</i>	–	–	–	–	–	–	–	–	–	3	1	–
<i>Isle of Wight</i>	–	–	–	–	–	–	–	–	–	–	–	–
<i>Medway Towns</i>	–	–	1	–	–	–	–	–	–	6	–	–
<i>Milton Keynes</i>	–	–	–	–	–	–	–	–	–	2	3	–
<i>Newbury</i>	–	–	1	–	–	–	–	–	–	6	–	–
<i>Portsmouth</i>	–	–	–	–	1	–	–	–	–	3	–	–
<i>Reading</i>	–	1	–	–	–	–	–	–	1	1	–	–
<i>Slough</i>	–	–	–	–	–	–	–	–	–	5	1	–
<i>Southampton</i>	–	–	–	–	–	–	–	–	–	3	10	–
<i>Windsor and Maidenhead</i>	–	–	–	1	–	–	–	–	–	6	–	–
<i>Wokingham</i>	–	–	–	2	–	–	–	–	–	3	–	–
South West	3	7	1	2	1	1	14	7	8	127	109	1
Cornwall and Isles of Scilly	–	1	–	–	–	–	–	–	–	6	18	–
Devon	1	–	1	–	–	–	–	–	–	8	17	1
Dorset	–	–	–	–	–	–	3	–	2	13	–	–
Gloucestershire	–	2	–	–	–	–	–	2	3	6	1	–
Somerset	–	3	–	–	–	1	1	–	–	41	–	–
Wiltshire	1	–	–	–	–	–	1	–	1	20	–	–
<i>Bath and NE Somerset</i>	–	–	–	–	–	–	2	1	1	1	4	–
<i>Bournemouth</i>	–	–	–	–	–	–	1	–	–	3	–	–
<i>Bristol</i>	1	–	–	2	–	–	1	4	–	2	27	–
<i>North Somerset</i>	–	–	–	–	–	–	1	–	–	5	7	–
<i>Plymouth</i>	–	–	–	–	–	–	2	–	1	–	15	–
<i>Poole</i>	–	–	–	–	–	–	1	–	–	9	–	–
<i>South Gloucestershire</i>	–	–	–	–	–	–	–	–	–	–	15	–
<i>Swindon</i>	–	1	–	–	–	–	–	–	–	11	–	–
<i>Torbay</i>	–	–	–	–	1	–	1	–	–	2	5	–

Area	Measles	Mumps	Rubella	Dysentery	Scarlet fever	Whooping cough	Viral hepatitis	TB all forms*	Meningitis†	Food poisoning notified§	ascertained#	Malaria
West Midlands	5	9	5	2	6	2	–	10	1	87	143	1
Shropshire	1	–	–	–	–	–	–	–	–	–	18	–
Staffordshire	–	–	–	–	–	–	–	–	1	25	7	–
Warwickshire	–	–	–	–	–	1	–	–	–	6	12	–
West Midlands†	4	8	5	2	5	1	–	10	–	33	78	1
Worcestershire	–	1	–	–	–	–	–	–	–	13	9	–
<i>Hereford</i>	–	–	–	–	1	–	–	–	–	7	–	–
<i>Stoke-on-Trent</i>	–	–	–	–	–	–	–	–	–	3	12	–
<i>Telford and Wrekin</i>	–	–	–	–	–	–	–	–	–	–	7	–
North West	8	7	1	5	4	4	10	14	7	146	110	2
Cheshire	1	–	–	–	–	–	–	3	–	9	20	–
Cumbria	–	–	–	–	–	–	–	–	–	2	18	–
Greater Manchester†	5	1	–	2	3	2	5	6	3	48	30	2
Lancashire	–	3	1	–	1	2	2	1	–	56	11	–
Merseyside	2	–	–	3	–	–	1	–	3	23	12	–
<i>Blackburn</i>	–	3	–	–	–	–	–	2	–	2	8	–
<i>Blackpool</i>	–	–	–	–	–	–	–	–	–	4	5	–
<i>Halton</i>	–	–	–	–	–	–	–	1	1	–	–	–
<i>Warrington</i>	–	–	–	–	–	–	2	1	–	2	6	–
Wales	–	1	2	1	2	–	7	2	1	36	65	–
<i>Blaenau Gwent</i>	–	–	–	–	–	–	–	–	–	–	2	–
<i>Bridgend</i>	–	1	–	–	–	–	–	–	–	8	–	–
<i>Caerphilly</i>	–	–	–	–	–	–	–	–	–	1	–	–
<i>Cardiff</i>	–	–	–	–	–	–	1	1	–	3	10	–
<i>Carmarthenshire</i>	–	–	1	1	–	–	1	–	–	–	–	–
<i>Ceredigion</i>	–	–	–	–	–	–	–	–	–	1	–	–
<i>Conwy</i>	–	–	–	–	–	–	–	–	–	5	5	–
<i>Denbighshire</i>	–	–	–	–	–	–	1	–	–	8	4	–
<i>Flintshire</i>	–	–	–	–	–	–	1	–	–	1	6	–
<i>Gwynedd</i>	–	–	1	–	1	–	1	–	–	–	7	–
<i>Isle of Anglesey</i>	–	–	–	–	–	–	2	–	–	–	3	–
<i>Merthyr Tydfil</i>	–	–	–	–	–	–	–	–	–	2	–	–
<i>Monmouthshire</i>	–	–	–	–	–	–	–	–	–	–	7	–
<i>Neath and Port Talbot</i>	–	–	–	–	1	–	–	–	–	1	–	–
<i>Newport</i>	–	–	–	–	–	–	–	–	–	–	6	–
<i>Pembrokeshire</i>	–	–	–	–	–	–	–	1	–	–	–	–
<i>Powys</i>	–	–	–	–	–	–	–	–	–	–	1	–
<i>Rhondda, Cynon, Taff</i>	–	–	–	–	–	–	–	–	–	5	3	–
<i>Swansea</i>	–	–	–	–	–	–	–	–	–	–	–	–
<i>Torfaen</i>	–	–	–	–	–	–	–	–	–	–	–	–
<i>Vale of Glamorgan</i>	–	–	–	–	–	–	–	–	–	–	5	–
<i>Wrexham</i>	–	–	–	–	–	–	–	–	1	1	6	–

* Excluding prophylaxis. † All forms. § Formally notified. # Ascertained by other means. ††Metropolitan county.

Unitary authorities are shown in italics.

Notifications in week 21/00 of infectious diseases not shown in table 2

Cholera: two cases; in Greater London and in Worcestershire.

Yorkshire, West Midlands, and Wrexham.

Diphtheria: one case; in South Yorkshire (known to be a non-toxicogenic strain).

Ophthalmia neonatorum: two cases; in Nottinghamshire and in West Yorkshire.

Meningitis (meningococcal): 22 cases; three in Merseyside, two in each of Dorset, Greater London, and West Yorkshire, and one in each of Bath and North East Somerset, City of Kingston upon Hull, East Sussex, Gloucestershire, Greater Manchester, Hampshire, Hertfordshire, Kent, Plymouth, Reading, Staffordshire, Wiltshire, and Wrexham.

Paratyphoid fever: five cases; two presumed to have been contracted abroad – both from West Midlands, and three of unknown origin – two from Greater London, and one from West Midlands.

Typhoid fever: two cases; both presumed to have been contracted abroad – from Lancashire and from West Midlands.

Meningococcal septicaemia (without meningitis): 33 cases; five in Greater London, three in Greater Manchester and in Tyne and Wear, two in Devon, and one in each of Blackpool, Bournemouth, Buckinghamshire, Conwy, Cornwall and Isles of Scilly, Denbighshire, Dorset, East Sussex, Flintshire, Hampshire, Hertfordshire, Leicestershire, Lincolnshire, Luton, Merseyside, Milton Keynes, Northamptonshire, South

No cases of acute encephalitis, acute poliomyelitis, anthrax, leptospirosis, meningitis influenzae (*Haemophilus influenzae*), plague, rabies, relapsing fever, smallpox, tetanus, typhus, viral haemorrhagic fever, or yellow fever were notified.

Table 3 Weekly analysis report of notifications above expected rates in week 21/00

District	County	Observed number	Expected number	Ratio observed/expected	District	County	Observed number	Expected number	Ratio observed/expected
Dysentery					Measles				
Wandsworth	Greater London	3	0.15	19.51	Haringey	Greater London	3	0.16	18.48
Wirral	Merseyside	3	0.19	15.60	Meningitis (all)				
Wokingham	Wokingham	2	0.08	24.29	Cheltenham	Gloucestershire	2	0.07	29.42
Food poisoning (all)					Fareham	Hampshire	2	0.07	30.57
Bristol	Bristol	29	15.58	1.86	Knowsley	Merseyside	2	0.10	20.36
Chichester	West Sussex	11	4.05	2.72	Meningitis (meningococcal)				
Denbighshire	Denbighshire	12	3.56	3.37	Knowsley	Merseyside	2	0.07	30.53
Fylde	Lancashire	10	2.90	3.45	Mumps				
Harrogate	North Yorkshire	24	5.66	4.24	Birmingham	West Midlands	6	1.03	5.84
Luton	Luton	23	7.05	3.26	Blackburn	Blackburn	3	0.15	19.67
North East Lincolnshire	North East Lincolnshire	16	6.22	2.57	Bradford	West Yorkshire	6	0.49	12.12
Runnymede	Surrey	9	2.94	3.06	Hyndburn	Lancashire	2	0.08	25.23
Sedgemoor	Somerset	12	3.93	3.05	Sedgemoor	Somerset	2	0.08	23.63
South Hams	Devon	9	3.08	2.93	Rubella				
South Lakeland	Cumbria	15	3.90	3.84	Stevenage	Hertfordshire	2	0.06	33.66
South Ribble	Lancashire	15	4.01	3.74	Scarlet fever				
Southwark	Greater London	19	9.02	2.11	Birmingham	West Midlands	4	0.64	6.21
Spelthorne	Surrey	10	3.48	2.88	Tuberculosis *				
Sutton	Greater London	19	6.78	2.80	Bradford	West Yorkshire	7	1.20	5.82
Test Valley	Hampshire	11	4.12	2.67	Ealing	Greater London	15	0.73	20.59
Food poisoning (formally notified)					Ellesmere Port and Neston	Cheshire	3	0.20	14.86
Bracknell Forest	Bracknell Forest	9	2.13	4.23	Haringey	Greater London	6	0.53	11.28
Cambridge	Cambridgeshire	9	2.27	3.96	Leicester	Leicester	5	0.74	6.78
Denbighshire	Denbighshire	8	1.81	4.42	Viral hepatitis (all)				
Easington	Durham	8	1.91	4.19	Camden	Greater London	3	0.21	14.23
Fylde	Lancashire	10	1.47	6.79	Isle of Anglesey	Isle of Anglesey	2	0.08	26.09
Hambleton	North Yorkshire	7	1.66	4.22	Tower Hamlets	Greater London	3	0.20	15.22
Hart	Hampshire	7	1.66	4.21	West Dorset	Dorset	2	0.10	19.55
Lichfield	Staffordshire	8	1.85	4.33	Whooping cough				
Luton	Luton	14	3.59	3.90	Preston	Lancashire	2	0.03	60.01
Malvern Hills	Worcestershire	9	1.81	4.97	Note: This table shows those districts from which the rates of notifications reported this week were significantly higher than expected (P<0.005). The number of notifications in each district is shown in the third column (observed). The number expected if the national rate is applied to the district population is shown in the fourth column (expected). The fifth column shows by how many times the number of notifications exceeds the expected number (ratio observed/expected). Caution must be exercised when interpreting this table, as listing is wholly dependent on comparable reporting of notifiable infectious diseases from all districts of England and Wales and on local patterns of disease.				
Mendip	Somerset	10	1.95	5.13					
Merton	Greater London	13	3.54	3.67					
Poole	Poole	9	2.75	3.28					
Runnymede	Surrey	9	1.50	6.02					
Sedgemoor	Somerset	12	2.00	6.00					
South Ribble	Lancashire	15	2.04	7.36					
South Somerset	Somerset	13	2.97	4.37					
Southwark	Greater London	19	4.59	4.14					
Stockport	Greater Manchester	16	5.75	2.78					
Stockton-on-Tees	Stockton-on-Tees	13	3.52	3.69					
Sutton	Greater London	19	3.45	5.51					
Swindon	Swindon	11	3.44	3.20					
Trafford	Greater Manchester	12	4.32	2.78					
Wandsworth	Greater London	14	5.24	2.67					
West Lancashire	Lancashire	8	2.18	3.67					
Woking	Surrey	7	1.79	3.92					
Malaria									
Bradford	West Yorkshire	3	0.29	10.37					
Greenwich	Greater London	5	0.13	39.47					
Hackney	Greater London	7	0.12	60.15					
Haringey	Greater London	3	0.13	23.46					
Kensington and Chelsea	Greater London	3	0.09	32.52					

* excluding prophylaxis

General outbreaks of foodborne illness in humans, England and Wales: quarterly report

Table 1 Final information on general outbreaks¹ of foodborne illness: October to December 1999

Local authority	Organism	Location of food prepared or served	Number ill ²	Cases positive	Suspect vehicle ³	Evidence ⁴
Trafford	<i>Salmonella enteritidis</i> PT4	Restaurant	9	7	None	–
Lincoln	<i>S. enteritidis</i> PT4	Residential institution	3	3	None	–
Mendip	<i>S. enteritidis</i> PT6	Restaurant	3	3	Honeycomb ice cream made with raw shell eggs	M
Bedfordshire	<i>S. enteritidis</i> PT13A	Residential institution	NA	NA	NA	NA
Kingston upon Thames	<i>S. enteritidis</i> PT4, 5, and 7	Restaurant	14	13	Aromatic duck, spring onion, and cucumber	M
North Tyneside	<i>S. enteritidis</i> PT8 and 23	Restaurant	35	29	Cooked chicken	D
Tameside	<i>S. hadar</i> PT2	Retailer	12	11	Roast beef	M
National	<i>S. haifa</i>	Population	NA	NA	NA	NA
Denbighshire	<i>S. newport</i> PT15	Caterer	27	5	Coronation chicken	S
Oxford	<i>S. thompson</i> PT6	Retailer	9	3	Sliced ham and Mexican chicken	M
NE Lincolnshire	<i>Clostridium perfringens</i>	Private house	28	3	Chicken	D
Bridgnorth	<i>C. perfringens</i>	School	92	1	Coronation chicken	M
Bristol	Scambrotoxin	Restaurant	2	*	Tuna steaks	M
Corporation of London	Scambrotoxin	Public house	2	*	Tuna	M
Newcastle	SRSV	Restaurant	13	2	Cheese and salad	S
Derwentside	SRSV	Retailer	57	6	None	–
Nottingham	Unknown	Stadium	39	–	Salad	S
Easington	Unknown	Caterer	4	–	Curry	D
Hinchley and Bosworth	Unknown	Public house	27	–	Pork	D
Chester	Unknown	Restaurant	9	–	Rice	–

1. General outbreaks involve members of more than one household
2. The number known to have been ill
3. Local investigations may not provide conclusive evidence of vehicles of infection. Vehicles are therefore designated 'suspect'.
4. M (microbiological): identification of an organism of the same type from cases and in the suspect vehicle, or vehicle ingredient(s), or detection of toxin in faeces or food

- S (statistical): a significant statistical association between consumption of the suspect vehicle(s) and being a case
 D (descriptive): other evidence, usually descriptive, reported by local investigators as indicating the suspect vehicle
 * not applicable
 NA (information not available): summary report not yet received

Table 2 Outbreaks¹ of salmonella infection: January to March 2000

Outbreak type	<i>S. enteritidis</i>		<i>S. typhimurium</i>	Other serotypes	Total
	PT4	Other PTs			
General ²	6	–	–	1	7
Household ³	11	7	8	7	33
Acquired abroad ⁴	1	1	1	1	4
Total	18	8	9	9	44

1. An 'outbreak' represents two or more related laboratory confirmed infections in humans of whom at least one was ill, or two or more related cases of illness in humans of whom at least one had confirmed infection with salmonella

2. 'General outbreaks' involve members of more than one household
3. 'Family outbreaks' involve members of one household only
4. Family and general outbreaks in which infection was acquired outside England and Wales

SALMONELLA SEROTYPES RECORDED IN THE PHLS SALMONELLA DATA SET

January to March 2000

All serotypes recorded in the PHLS salmonella data set in the first quarter of 2000 are listed below. There were more than ten reports of 16 serotypes (table), two to ten reports of 49 serotypes, and one report of 46 serotypes.

Two to ten reports of each of the following serotypes were received (number of reports in brackets):

	January to March 2000 (provisional)
Salmonella (total)	1630
<i>S. arizonae</i>	15
<i>S. bareilly</i>	14
<i>S. blockley</i>	11
<i>S. braenderup</i>	11
<i>S. bredeney</i>	15
<i>S. enteritidis</i>	729
<i>S. hadar</i>	43
<i>S. heidelberg</i>	20
<i>S. infantis</i>	14
<i>S. java</i>	21
<i>S. montevideo</i>	15
<i>S. newport</i>	34
<i>S. oranienberg</i>	12
<i>S. typhimurium</i>	321
<i>S. virchow</i>	59
<i>S. weltevreden</i>	11
Others (unnamed)	28
Others (typed)	257

(2) <i>S. aberdeen</i>	(8) <i>S. kottbus</i>
(4) <i>S. adelaide</i>	(3) <i>S. larochelle</i>
(2) <i>S. agama</i>	(3) <i>S. manhattan</i>
(9) <i>S. agona</i>	(3) <i>S. marina</i>
(3) <i>S. albany</i>	(9) <i>S. mbandaka</i>
(5) <i>S. anatum</i>	(2) <i>S. minnesota</i>
(2) <i>S. arechavaleta</i>	(2) <i>S. mississippi</i>
(2) <i>S. bovis-morbificans</i>	(7) <i>S. muenchen</i>
(3) <i>S. brandenburg</i>	(3) <i>S. nima</i>
(3) <i>S. chester</i>	(5) <i>S. ohio</i>
(3) <i>S. colindale</i>	(5) <i>S. oslo</i>
(8) <i>S. derby</i>	(9) <i>S. panama</i>
(2) <i>S. dublin</i>	(3) <i>S. pomona</i>
(2) <i>S. duisburg</i>	(8) <i>S. poona</i>
(2) <i>S. emek</i>	(2) <i>S. rissen</i>
(4) <i>S. give</i>	(6) <i>S. rubislaw</i>
(4) <i>S. gold-coast</i>	(8) <i>S. saint-paul</i>
(2) <i>S. grumpensis</i>	(5) <i>S. schwarzengrund</i>
(4) <i>S. haifa</i>	(5) <i>S. senftenberg</i>
(2) <i>S. hull</i>	(10) <i>S. stanley</i>
(2) <i>S. ibadan</i>	(3) <i>S. stanleyville</i>
(4) <i>S. indiana</i>	(2) <i>S. tel-el-kebir</i>
(8) <i>S. javiana</i>	(7) <i>S. thompson</i>
(7) <i>S. kentucky</i>	(2) <i>S. wangara</i>
(2) <i>S. kiambu</i>	

One report of each of the following serotypes was received:

<i>S. agoueve</i>	<i>S. coleypark</i>	<i>S. houten</i>	<i>S. leeuwarden</i>	<i>S. orion</i>
<i>S. ajiobo</i>	<i>S. corvallis</i>	<i>S. hvittingfoss</i>	<i>S. litchfield</i>	<i>S. pakistan</i>
<i>S. altona</i>	<i>S. cubana</i>	<i>S. irumu</i>	<i>S. livingstone</i>	<i>S. plymouth</i>
<i>S. apapa</i>	<i>S. curacao</i>	<i>S. isangi</i>	<i>S. london</i>	<i>S. reading</i>
<i>S. bardo</i>	<i>S. durban</i>	<i>S. ituri</i>	<i>S. mikawasima</i>	<i>S. romanby</i>
<i>S. beaudesert</i>	<i>S. florida</i>	<i>S. kandla</i>	<i>S. mosselbay</i>	<i>S. tilene</i>
<i>S. binza</i>	<i>S. galiema</i>	<i>S. kaneshie</i>	<i>S. muenster</i>	<i>S. uganda</i>
<i>S. bonn</i>	<i>S. glostrup</i>	<i>S. kedougou</i>	<i>S. negev</i>	<i>S. vejle</i>
<i>S. borbeck</i>	<i>S. haardt</i>	<i>S. kisangani</i>	<i>S. okatie</i>	<i>S. waycross</i>
<i>S. cerro</i>				