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CDR WEEKLY



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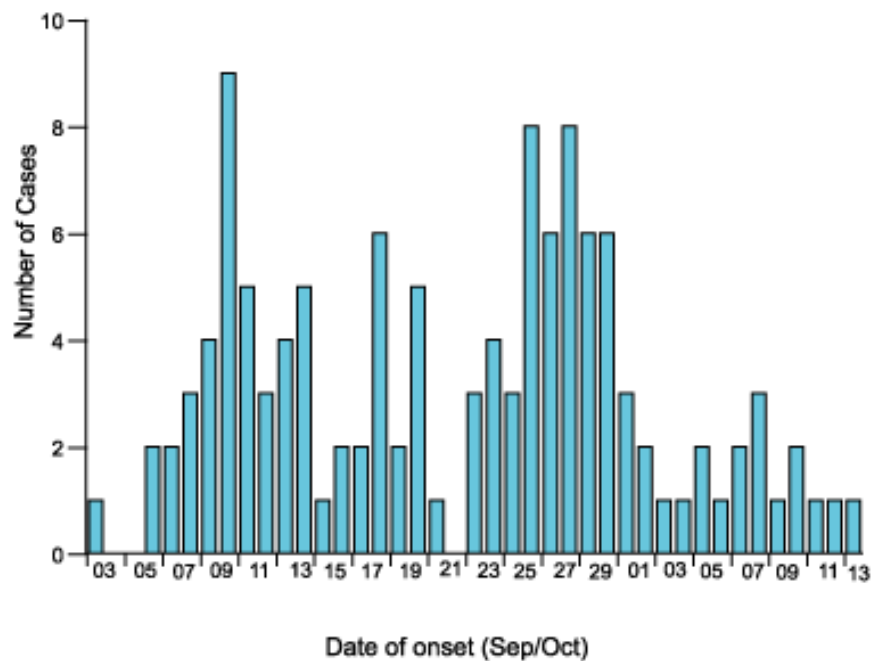
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National outbreak of Salmonella Enteritidis PT 14b: update

The cumulative total number of cases of gastroenteritis infected with the outbreak strain of Salmonella Enteritidis PT 14b (not known to be linked with foreign travel) reported by the PHLS Laboratory of Enteric Pathogens (LEP) since 26 September is now 224. All of the outbreak related strains examined so far have similar plasmid profile and pulsed field gel electrophoresis patterns. The dates of onset for confirmed cases reported since 26 September, where available, range from 3 September to 13 October 2002 (Figure) and the epidemic curve is consistent with continuing exposure to a source of infection. There have been two deaths in people with other significant medical conditions.

Epidemic curve (N=122)



Where local control measures have been implemented, the number of new cases is declining. Despite this the geographical distribution of cases continues to widen.

In a national case-control study buying food from local bakers' shops (OR = 4.89; 95% CI 1.68 to 14.23; P = 0.002), eating food from sandwich bars (OR = 3.58; 95% CI 1.16 to 10.98; P = 0.02) and buying food from local butchers' shops (OR = 3.55; 95% CI 1.19 to 10.60; P = 0.02) were significantly associated with illness in a multivariable regression model.

In the north west and the south east, where there were particular concentrations of cases, local investigations, including environmental and food sampling, have been undertaken. Food and environmental samples tested at Chester PHL were all negative as were food samples tested by the London Food, Water and Environmental Microbiology Laboratory (LFWE). Two environmental samples from a bakery in London, examined by the LFWE were positive for Salmonella. One isolate has been confirmed by the LEP as *S. Enteritidis* PT1 and one as *S. Enteritidis* PT4.

Environmental Health Officers in London and Cheshire, in liaison with the PHLs Environmental Surveillance Unit, found that, at the time of their visits in October, after the commencement of the outbreak, a raw material common to the bakeries was imported raw shell eggs. The LFWE has tested 360 imported whole raw shell eggs (60 samples of six pooled whole eggs) from a wholesaler who supplied one of the bakeries. Two of the samples were positive for *S. Enteritidis* PT 6a, resistant to nalidixic acid (Nx) and with reduced susceptibility to ciprofloxacin (CpL).

The Food Standards Agency has re-issued advice to food businesses reminding them to use pasteurised egg, instead of "ordinary eggs", in any product that will not be cooked or will be only lightly cooked before eating (1).

1. Salmonella outbreaks prompt Agency to issue hygiene alert. Food businesses advised to use properly cooked or pasteurised eggs (Ref: R491 – 28). [Accessed 16th October 2002]. Available at <http://www.food.gov.uk/news/pressreleases/salmonellaoutbreak>

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Nosocomial outbreak of Salmonella Enteritidis PT 6a (Nx, CpL)

During an ongoing investigation into a nosocomial outbreak of *S. Enteritidis* PT 6a (Nx, CpL) in London, where raw shell eggs were being used, LFWE tested 402 raw shell eggs obtained from the premises. Two-hundred and forty of these were labelled as imported and four of the 40 samples of six pooled whole eggs tested positive. The LEP confirmed the presence of *S. Enteritidis* PT 6 (one sample), *S. Enteritidis* PT 13a (one sample) and *S. Enteritidis* PT 14b (one sample). Of the 27 samples from the unlabelled eggs (162 eggs) one sample was positive for *S. Enteritidis* PT 6. Results on the final isolate are pending. Since the raw eggs have been withdrawn from use no further cases have occurred. Hospitals in particular are reminded that advice issued by the Chief Medical Officer in 1988 that raw shell eggs should be replaced with pasteurised eggs in recipes in institutions with high risk groups is extant and must be adhered to if vulnerable patients are not to be put at risk.

This advice has been encapsulated in advice issued by the Food Standards Agency available at <http://www.food.gov.uk/safereating/foodadvice/eggs>

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Q fever associated with a packaging plant, Newport Dock, South Wales

A recent cluster of Q fever cases (infection with *Coxiella*) have been identified within the Newport Dock area in South Wales. To date most of the cases of acute Q fever have been diagnosed in workers and sub-contractors at a single plant on the Dock.

Two-hundred and fourteen people who have worked at the plant since 15 July 2002 have been interviewed and preliminary serological results are available on 210. Seventy-two people have antibodies to Q fever identified by CFT. Fifty-nine cases have been confirmed with acute Q fever (CFT \geq 256 or 4-fold increase in CFT or IgM positive) and 13 are considered as probable cases. A further 14 are considered as possible cases. Active case finding and an investigation to identify possible sources of the infection is taking place.

The source of the infection has not yet been identified but airborne transmission of *Coxiella* spores is suspected. Workers at the affected plant, which manufactures corrugated cardboard products, handle only inert organic materials and have no occupational contact with animals or animal products.

For further information, or if clinicians are aware of any patient with symptoms consistent with Q fever or a pneumonic illness and who has visited the Newport area since 15th July 2002, they should contact Dr Lika Nehaul, CCDC, Gwent Health Authority (tel: 01495 765129/765118, e-mail: Lika.Nehaul@gwent-ha.wales.nhs.uk or CDSC Wales (tel: 029 20 521997).

Further Reading

CDSC. Outbreak of Q fever in the French Alps, Chamonix Valley (Haute-Savoie). *Comm Dis rep CDR Wkly* [serial online] 2002; [cited 12 September 2002]; **12** (37) : news. Available at <http://www.phls.org.uk/publications/cdr/archive02/news/news3702.html>

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Invasive meningococcal infections, England and Wales: laboratory reports, weeks 29-32/02

	Method of diagnosis			Total reports 29-32/02	Cumulative total* 2002
	CSF and blood		Other sites		
	culture	non-culture**	culture		
Group A	0	0	0	0	1
Group B	35	30	2	67	972
Group C	5	4	0	9	122
Group W135	3	2	0	5	65
Group X	0	0	0	0	3
Group Y	0	0	0	0	17
Group Z	0	0	0	0	0
Group 29E	0	0	0	0	0
Ungroupable	–	–	–	–	1
Ungrouped	–	4	–	–	91
Total	43	40	2	85	1272

* combined CDSC and Meningococcal Reference Unit data. ** latex antigen, microscopy, polymerase chain reaction.

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Surveillance of viral infections in donated blood: England and Wales, 2001

Donated blood is collected from volunteer (unpaid) adult donors who do not acknowledge any medical conditions, travel history, or behaviours, that are known to be associated with an increased risk of blood-borne infections. Donors who have any markers of infection detected by any method are informed, told to stop donating blood, and are referred to appropriate services for further care. Repeat blood donors have

attended to donate blood previously but their previous donations may not have been tested for some of these markers.

During 2001 all blood donations were individually tested for hepatitis B virus surface antigen (HBsAg), hepatitis C virus antibodies (anti-HCV), HIV antibodies (anti-HIV) and treponemal antibodies. Donations are released to the blood supply only if none of these markers of infection are detected. Additionally, nucleic acid testing for HCV RNA was applied (initially on minipools of donations followed by resolution of positive pools to identify individual positive donations) to over 95% of all blood donations. Fresh-frozen plasma was only released if found negative for HCV RNA by nucleic acid testing. (This release criterion has subsequently been added to components with a shorter shelf-life: red cells (May 2001) and platelets (August 2001).

A total of 226 (9.05 per 100,000 donations) of 2,498,209 donations collected by the English and Welsh blood services during 2001 had markers of viral infections (including 1 HCV NAT positives) (table 1). Of these 226 infected donations, 153 (69%) had HCV, 57 (24%) had HBV, and 16 (7%) had anti-HIV. The anti-HCV negative, HCV RNA positive donations detected during 2001 was collected from a repeat donor with a recent infection who subsequently seroconverted for anti-HCV. New donors contributed 10% of all blood donations, but 80% of infected donations. Blood donations have been tested for anti-HIV since 1985 and for anti-HCV since 1991. The annual rates of these two markers in donations of blood from new and repeat blood donors are shown in figures 1 and 2.

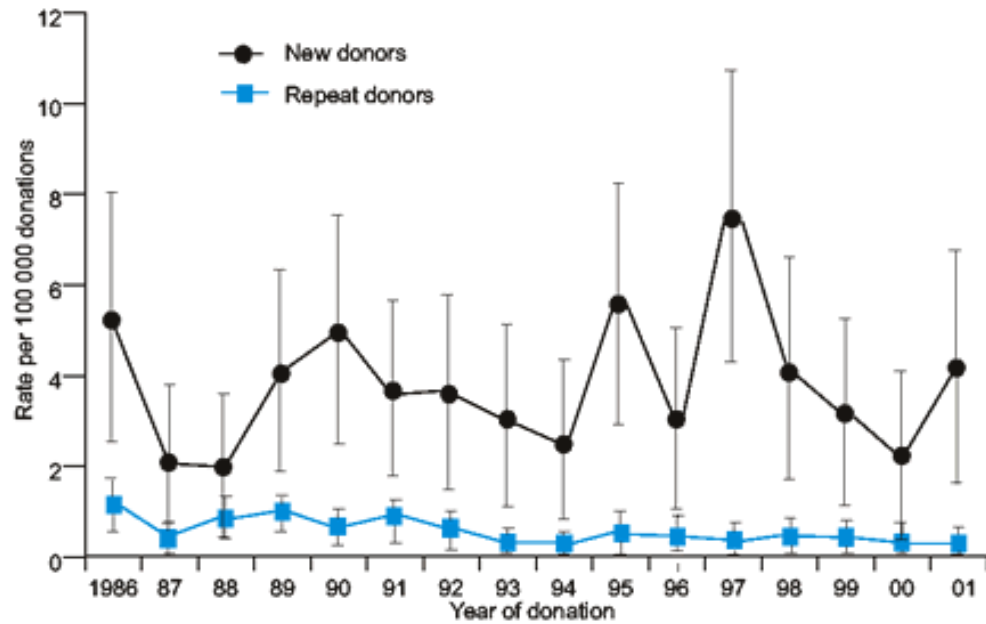
Table 1. Infections detected in blood donations collected in England & Wales during 2001

Infections in blood donors				
Donations with confirmed marker of infection	HBV (HBsAg)	HC (anti-HCV/HCV RNA)²	HIV (anti-HIV)	Any of these three markers
All donations	57	153	16	226
– per 100,000 donations tested	2.28	6.12	0.64	9.05
– 1 in x donations	43,828	16,328	156,138	11,054
Donations from new donors	45	125	10	180
– per 100,000 donations tested	18.73	52.02	4.16	74.91
– 1 in x donations	5340	1922	24029	1335
Donations from repeat donors¹	12	28	6	46
– per 100,000 donations tested	0.53	1.24	0.27	2.04
– 1 in x donations	188,160	80,640	376,320	49,085

1 May include donations from repeat donors newly tested for markers of infection.

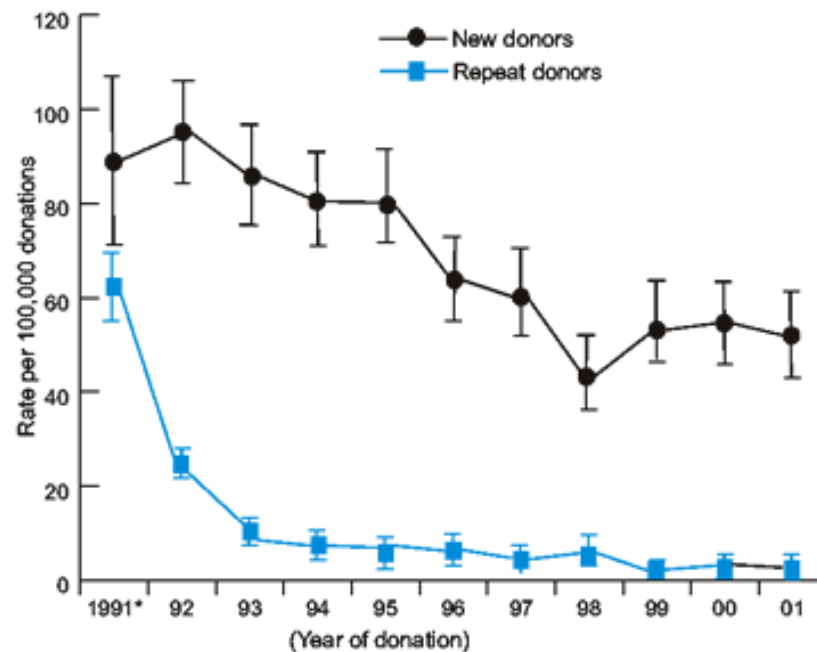
2 Including one anti-HCV negative donor positive for HCV RNA by nucleic acid testing.

Figure 1. HIV infected blood donations: England & Wales Donations collected from 1/10/85 to 31/12/2001



Error bars show 95% confidence

Figure 2. HCV infected blood donations: England & Wales Donations collected from 1/9/91 to 31/12/2001



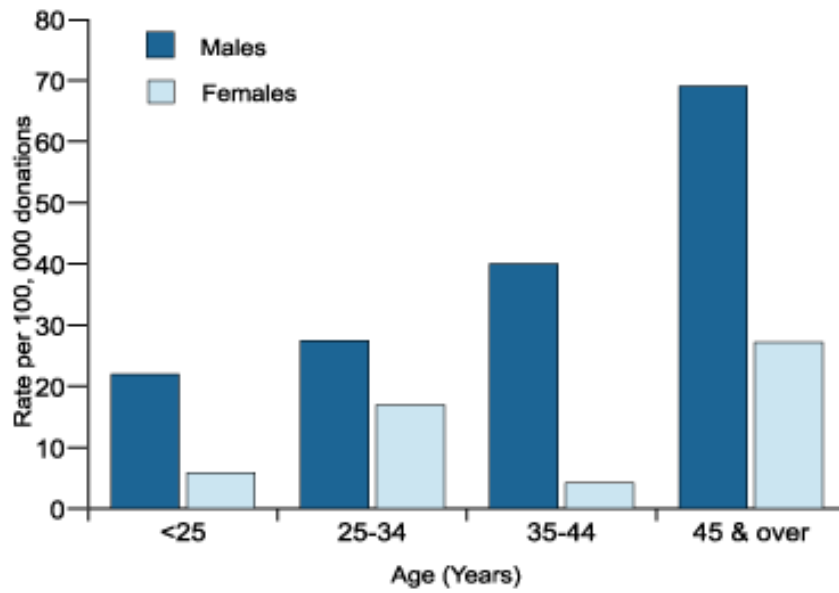
* September to December only

Error bars show 95% confidence

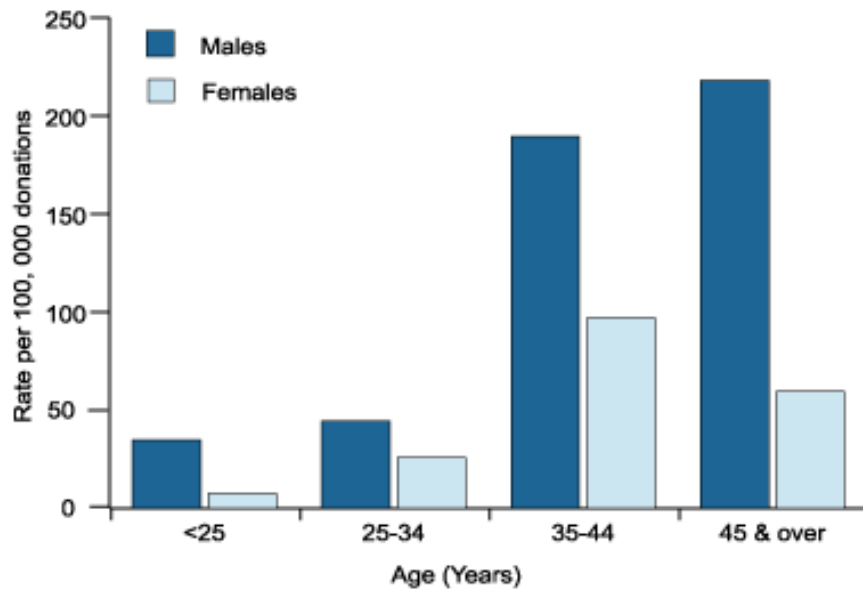
The annual prevalence of HBsAg, anti-HCV and anti-HIV amongst blood donors in England and Wales have been generally stable in recent years, and low compared to the rest of Europe. The prevalence of anti-HCV has decreased throughout the 1990s. The prevalence of HBsAg and anti-HCV by age group and sex of donors is shown in (figure 3).

Figure 3. Age and sex of infected blood donors: newly tested donors¹ Donations collected during 2001

a) HBsAg



b) Anti-HCV



Testing of all blood donations for antibodies to HTLV I/II (using minipools constructed for HCV RNA testing) began in August 2002 and data will be published in next year's report.

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