Public Health England

Health Protection Report
weekly report

This is a PDF consolidation of the news items and infection reports published in HPR numbers 3 and 4, on 24 and 31 January 2013, respectively.

Volume 8 Numbers 3-4 Published on: **24 and 31 January 2014**

Current News

Infection Reports

* Published in *HPR* **8**(3) on 24/1/2014.

** Published in *HPR* **8**(4) on 31/1/2014.

HSE/industry advice on vaccination of welders

Following a Department of Health recommendation in 2011, that welders should be added to the list of patient groups for whom pneumococcal vaccination is recommended [1], the Health and Safety Executive has published guidance for employers who may be considering a vaccination programme [2].

The guidance – developed jointly with industry bodies, the manufacturers' organisation EEF and the Cast Metals Federation – makes clear that vaccination may be used as a precautionary protective step but will not normally be considered to be part of the hierarchy of controls required under the Control of Substances Hazardous to Health Regulations 2002 [3].

Factors to be taken into account by employers in reaching a decision about whether or not vaccination should be offered include: the efficacy of COSHH control measures; the quantity of welding or metal fume generated and the duration of exposure; and the employee's age, smoking history and whether they have a pre-existing medical condition. In some circumstances, for example, it might be decided to limit the availability of the vaccine to older workers only.

The guidance relates to those exposed to welding or metal fume arising from arc welding, oxy-fuel gas cutting or during casting processes, who may be at increased risk of pneumococcal lobar pneumonia as a result, and includes a decision-making flowchart to inform decision-making by employers or their occupational health service providers.

References

1. *Immunisation against Infectious Disease* (the “Green Book”) (third edition), November 2012: https://www.gov.uk/government/collections/immunisation-against-infectious-disease-the-green-book.

2. “Pneumonia vaccination for employees exposed to welding fume” (EIS44), January 2014 [170 KB-PDF]. Information sheet downloadable free of charge from the HSE website: Publications > Free leaflets > Engineering.

3. See HSE information sheet.

Laser pointers warning from CRCE

‘Toy' lasers are damaging the eyes of children, according to claims made in a recent scientific paper in the Royal College of Ophthalmologists' journal *Eye*. The paper included case reports of damage done to youngsters' eyes following exposure to the beams from lasers and ‘toy' lasers [1].

Scientists at Public Health England's Centre for Radiation, Chemical and Environmental Hazards have long said that powerful lasers should not be available to the public.

John O'Hagan, head of laser and optical radiation dosimetry at CRCE, told *Health Protection Report*: “Lasers are not toys. If used incorrectly, even if only briefly, they can cause real and lasting damage to the eye – parents should not allow their children to use these devices.

“We have been measuring the power of lasers for many years and are increasingly finding that those available to buy online can be considerably more powerful than they claim to be. We've tested some lasers which were labelled as relatively low power – they turned out to be extremely powerful devices capable of significant damage to the eye.

“Because of the relative ease with which these devices can be bought – this is a problem which is not going to go away, so parents need to be aware of the dangers these devices pose and keep them out of the hands of children.”

Information about lasers is available from the legacy HPA website [2].

References

1. "‘Toy' laser macular burns in children”, *Eye* (2014), 17 January 2014. Royal College of Ophthalmologists.

2. “Laser pointers”. Legacy HPA website: Radiation › Understanding Radiation › Understanding Radiation – Topics › Lasers.

Seasonal flu levels increasing in the UK

On 27 January the Department of Health issued guidance on the use of antiviral drugs for the management of patients in England who are at high risk of developing complications from flu [1]. This followed rises in some indicators of influenza activity in late January (GP consultation rates, levels of influenza positivity in specimens from patients presenting with influenza-like illness, etc).

Influenza-confirmed admissions to intensive care units was the most affected indicator increasing during the week-ending 30 January, with 31 new ICU admissions with confirmed influenza. No related deaths had been reported as at 30 January.

Other key/summary points from the PHE Weekly National Influenza Report published on 30 January (covering data for week-ending 26 January) [2], relating to the UK as a whole, were:

- influenza positivity remains elevated through the Respiratory DataMart scheme;
- the weekly primary care influenza/influenza-like illness (ILI) consultation rate remained low;
- seven new acute respiratory disease outbreaks were reported (three in hospitals, two in care homes, one in a school and one in a nursery);
- 31 new admissions to intensive care units with confirmed influenza were reported through the UK Severe Influenza Surveillance System.

International respiratory viruses situation

Evidence of the start of the 2013/14 influenza season across other parts of Europe were summarised in an ECDC/*Eurosurveillance* Rapid Communication, including discussion of the virological findings to date [3].

Following a new WHO Risk Assessment relating to a second wave of avian influenza A(H7N9) in China, Public Health England issued advice to travellers returning from the region [4]. .

References

1. Chief Medical Officer letter, 27 January, 2014.

2. The PHE Weekly National Influenza Report is published on Thursday afternoons throughout the flu season presenting information relating to flu and flu-like illness reports. Available from the legacy HPA website at: Infections A-Z › Seasonal Influenza › Epidemiological Data › PHE Weekly National Influenza Report.

3. "Influenza season 2013/14 has started in Europe with influenza A(H1)pdm09 virus being the most prevalent subtype", ECDC. Eurosurveillance Rapid Communication, 30 January 2014.

4. "Travellers should be aware of the risk of avian flu", PHE news story. PHE website.

Clostridium difficile Ribotyping Network: 2011-2013 report

The *Clostridium difficile* Ribotyping Network (CDRN) for England and Northern Ireland has continued to provide a public health service enabling infection control teams to determine the prevalent ribotypes, including whether strains with epidemic potential are present, and if cases clustering/outbreaks are occurring. In its latest report, the rate of referral of *C. difficile* infection (CDI) cases to CDRN, as a proportion of all *C. difficile* episodes reported in England, has continued to increase and is now approximately 35% [1].

Since the introduction of CDRN the reports of *C. difficile* in England have fallen markedly [2]. Reports of deaths associated with CDI also started to decrease the year after CDRN commenced [3], which could be due to enhanced control of the epidemic ribotype *C. difficile* 027.

C. difficile ribotype 027 (and 078) strains are associated with significantly increased mortality [4]. Successful control of the epidemic 027 strain in England has occurred coincident with a reduction both in the incidence of CDI and in *C. difficile* associated mortality [2,3], suggesting that the timely data provided by CDRN has enabled healthcare institutions to respond to changes in CDI presentation and/or incidence [5].

The antibiotics most frequently reported for CDI cases referred to CDRN have changed [1,5]. The previous preponderance of cases associated with cephalosporins or fluoroquinolnes has been replaced by cases associated with co-amoxyclav or piperacillin-tazobactam. The markedly decreased usage in England of cephalosporins and fluoroquinolones, their replacement by co-amoxyclav and piperacillin-tazobactam as the most often used broad spectrum antibiotics, the frequent receipt of multiple agents, alongside other potential confounding factors, makes it difficult to determine the relative risk of CDI for individual antimicrobial agents.

The incidence of CDI reports continues to decrease, albeit at a reduced rate [1]. Whilst there is emerging evidence that case-case transmission is not the most common way that *C. difficile* is transmitted in hospitals [6], all hospitals are encouraged to consider submitting samples, according to the CDRN criteria, so that they can be best placed to continue to prevent and control CDI. Use of enhanced fingerprinting is recommended to optimise the control and prevention of CDI [7]. Referral to CDRN increases the chances of identifying emergent *C. difficile* ribotypes. Lastly, CDRN (Leeds) now has *C. difficile* whole genome sequencing capability that offers new ways to investigate CDI.

References

1. Public Health England. *Clostridium difficile* Ribotyping Network (CDRN) for England and Northern Ireland: 2011–13 report. Legacy HPA website: Publications › Infectious diseases › Gastrointestinal illness reports and guidance.

2. Health Protection Agency. Results of the mandatory *Clostridium difficile* reporting scheme. Available at: http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1195733750761.

3. Office for National Statistics. Deaths involving *Clostridium difficile*: England and Wales, 2012. Available at: http://www.ons.gov.uk/ons/rel/subnational-health2/deaths-involving-clostridium-difficile/2012/stb-deaths-involving-clostridium-difficile-2012.html.

4. Walker AS, Eyre DW, Wyllie DH, Dingle KE, Griffiths D, Shine B, *et al*. Infections in Oxfordshire Research Database (IORD). Relationship between bacterial strain type, host biomarkers, and mortality in *Clostridium difficile* infection. *Clin Infect Dis* 2013; **56**:1589-600.

5. Wilcox MH, Shetty N, Fawley WN, Shemko M, Coen P, Birtles A, *et al*. Changing epidemiology of *Clostridium difficile* infection following the introduction of a national ribotyping-based surveillance scheme in England. *Clin Infect Dis* 2012; **55**: 1056-63.

6. Eyre DW, Cule ML, Wilson DJ, Griffiths D, Vaughan A, O'Connor L, *et al*. Whole genome sequencing reveals diverse sources for *C. difficile* infection. *New Eng J Med* 2013; **369**: 1195-205.

7. Fawley WN and Wilcox MH, on behalf of the *Clostridium difficile* Ribotyping Network for England and N. Ireland (CDRN). An enhanced DNA fingerprinting service to investigate potential *Clostridium difficile* infection case clusters sharing the same PCR-ribotype. *J Clin Microbiol* 2011; **49**: 4333-4337.

8. Eyre DW, Fawley WN, Best EL, Griffiths D, Stoesser NE, Crook DW, *et al*. Comparison of multilocus variable number tandem repeat analysis and whole genome sequencing for investigation of *Clostridium difficile* transmission. J Clin Microbiol 2013; **51**: 4141-9.

Vaccine update for immunisation practitioners

Latest PHE has published *Vaccine Update 211* [1] which includes articles and news covering:

- the pertussis vaccination-in-pregnancy programme;
- flu vaccination uptake in healthcare workers to December 2013;
- child flu vaccination pilots;
- "freshers' vaccination" programme;
- porcine gelatine in vaccines;
- immunisation myths: "The flu vaccine can give you flu";
- professional development events, February 2014.

Reference

1. *Vaccine Update* (issue 211, January 2014). Downloadable from the legacy PHE website: https://www.gov.uk/government/organisations/public-health-england/series/vaccine-update.

Syndromic surveillance schemes under Public Health England

Since 1 April 2013, PHE's national syndromic surveillance schemes, and associated routine bulletins and reports, have been undergoing development so as to further improve the agency's ability to identify potential public-health threats and to facilitate assessment of their likely impact. In particular, some surveillance schemes operated by the then Health Protection Agency have been significantly developed allowing syndromic surveillance outputs to be made available on a daily, as opposed to weekly, basis.

The PHE Remote Health Advice system includes national NHS 111 data collated and analysed by a collection of syndromic indicators on a daily basis, presented in the PHE Remote Health Advice Weekly Bulletin [1]. This system replaced the HPA/NHS Direct Syndromic Surveillance System in November 2013.

Similarly, the HPA/QSurveillance national general practitioner system was replaced in April 2013 by a new PHE GP ‘in hours' syndromic surveillance scheme providing routine collection of daily GP morbidity data for the first time, also providing expanded coverage across England. These data are collated and presented in the PHE GP In Hours Weekly Bulletin [1].

The syndromic surveillance single summary report is emailed weekly and each of the above syndromic surveillance bulletins are posted weekly, and are downloadable from, the Real-time Syndromic Surveillance Team pages on the legacy HPA website [1].

Note

1. The PHE Syndromic Surveillance pages can be accessed via the legacy HPA website: Infectious Diseases › Infections A-Z › Real-time Syndromic Surveillance, where outputs are published weekly although data are analysed daily and alerts communicated on a daily basis.

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Infection reports

Volume 8 Numbers 3-4 Published on: **24 and 31 January 2014**

Bacteraemia *

Polymicrobial bacteraemia and fungaemia in England, Wales and Northern Ireland, 2012

Immunisation**

Hepatitis A and C: laboratory reports (England and Wales): July to September 2013

Quarterly report from the sentinel surveillance study of hepatitis testing in England: data for July to September 2013

* Published in *HPR* **8**(3) on 24/1/2014.

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Infection reports

Volume 8 Number 4 Published on: 31 January 2014

Bacteraemia

Polymicrobial bacteraemia and fungaemia in England, Wales and Northern Ireland, 2012

These analyses are based on data extracted from the Public Health England (PHE) voluntary surveillance database, LabBase2, on 3 December 2013 for the period of January 2008 to December 2012 in England, Wales and Northern Ireland.

This report covers voluntary reports of poly- and monomicrobial bacteraemia and fungaemia made to Public Health England (PHE), the analysis is limited to blood culture specimens reported on LabBase2.
The data presented here differ in some instances from data in earlier publications due to the inclusion of late reports. Rates were calculated using 2012 mid-year resident population estimates based on the 2011 census for England, Wales, and Northern Ireland [1][2].

Geographical analyses within this report break the English reports into Government Office regions rather than the Public Health Centre areas created in April 2013 when Public Health England was established; this is due to the availability of data in this breakdown at the time of producing the report.

The report includes analyses on the trends, age and sex distribution, geographical distribution in cases of bacteraemia caused by polymicrobial and fungaemia.

Key Points

- Trends in reporting are shown for 2008 to 2012 including total bacteraemia and fungaemia, total number of patient episodes and number of polymicrobial patient episodes.
- There were 95,647 patient episodes in 2012 reported in England, Wales and Northern Ireland, where 8,223 (8.6%) were identified as polymicrobial and 87,424 monomicrobial infections. This represented a 1.5% increase on the number of patient episodes reported in 2011 (94,166 episodes).
- Of 8,223 polymicrobial episodes reported, 7,185 (87.4%) involved two different organisms, 905 (11.0%) involved three different organisms and 133 (1.6%) involved four or more organisms.
- There were 8,101 polybacteraemia episodes reported, which accounts for 98.5% of the total polymicrobial episodes.

- The proportion and number of poly- and monomicrobial patient episodes seem to have fluctuated slightly in recent years. Between 2008 and 2012, there has been an overall decline of 0.3% in the number of patient episodes (total of 95,931 patient episodes in 2008, of which 8,439 (8.8%) were polymicrobial). However, there has been a slight increase in patient episodes since 2010 (total of 92,867 patient episodes in 2010, of which 7,550 (8.1%) were polymicrobial).

Methods

Episodes of polymicrobial bloodstream infections are defined as the isolation of two or more different organisms from the same blood culture. Data for this report were derived from PHE's national database ("LabBase2") on 3 December 2013. Microbiology laboratories in England, Wales and Northern Ireland voluntarily submit microbiology data to LabBase2 on an ongoing basis. Specimen data reported to LabBase2 are based on each individual organism that has been identified in the specimen. If more than one organism is identified from a single patient specimen then each organism is given a *different* unique identifying number in LabBase2; none of these records are linked. Consequently, the identification of patient episodes during which two or more different organisms are present requires identifying specimen records with the following identical variables: specimen date, laboratory, patient date of birth, gender and patient soundex code.

The incidence of polymicrobial episodes was calculated using mid-year 2012 residential population denominators for England, Wales, and Northern Ireland [1][2]. Regional analysis was performed with reference to the English boundaries introduced in April 2002. Confidence limits were calculated using commercial software (Stata Statistical software: v12, College Station, Texas, Stata Corporation).

The rates of polymicrobial episodes in this report should be interpreted with caution as the data are derived from voluntary reports. In addition it is possible that some of the episodes reported may reflect a contaminant in the cultures rather than a true polymicrobial infection, so the real rates may be lower than reported.

Trends in total reports: 2008 to 2012

- 95,647 patient episodes involving either bacteraemia and/or fungaemia were identified from reports received from laboratories in England, Wales, and Northern Ireland in 2012 (table 1). This represented an overall decrease of 0.3% in the number of patient episodes recorded in 2008 (95,931 episodes), but a steady increase (circa 1.5% each year) compared to 2010 and 2011 (92,867 and 94,166 patient episodes, respectively).
- Based on positive blood cultures reported in 2012, 8,223 patient episodes (8.6% of all patient episodes) were identified as polymicrobial and 87,424 were identified as monomicrobial.
- The highest percentage of all patient episodes considered as polymicrobial infections occurred in 2008 (8.8%) and after a slight decline to 8.1% of patient episodes in 2010, has risen again to 8.6% in 2012.

Table 1. Trends in reports of bacteraemia and fungaemia in England, Wales and Northern Ireland: 2008 to 2012*

	2008	2009	2010	2011	2012
Total reported bacteraemia†	103,800	101,848	99,737	101,316	103,236
Total reported fungaemia†	1,882	1,784	1,798	1,881	1,826
Number of patient episodes	95,931	94,190	92,867	94,166	95,647
Number of polymicrobial patient episodes	8,439	8,220	7,550	7,864	8,223
Percentage of patient episodes that are polymicrobial	8.8%	8.7%	8.1%	8.4%	8.6%

*Data extracted on 3 December, 2013.
†Total reports can include multiple records for one patient; i.e. a polymicrobial infection will be recorded for each organism for that one patient as separate reports.

Total reports: 2012

- Of the 8,223 polymicrobial patient episodes in 2012, 7,185 involved two different organisms, 905 involved three different organisms and 133 involved four or more organisms (table 2).
- The most frequently reported organism involved in polymicrobial infections were *Escherichia* species (table 3), 99.8% (2,813 reports) of which were *Escherichia coli*. This species continues to exceed coagulase-negative staphylococci, which were the most frequent organisms reported from 2007 to 2009 [3].
- The most frequently reported monomicrobial bloodstream infection was also caused by an *Escherichia* species, 99.9% (27,268 reports) of which were *Escherichia coli.*
- The 8,223 polymicrobial patient episodes involved 108 different genera (table 4).
- There were 8,101 polybacteraemia episodes reported, representing 98.5% of all polymicrobial patient episodes. 7,071 polybacteraemia episodes involved two different organisms, 897 involved three different organisms and 133 involved four or more organisms.

Table 2. Number of organisms involved in polymicrobial infectious episodes, 2012*

Number of organisms	Episodes	(%)
Two	7185	(87.4%)
Three	905	(11.0%)
Four	112	(1.4%)
Five	21	(0.3%)
More than five	0	(0.0%)

*Data extracted on 3 December, 2013.

Table 3. The 10 most frequently reported genera/organisms in polymicrobial and monomicrobial bacteraemic episodes, 2012*

Rank	Polymicrobial	Rank	Monomicrobial
1	*Escherichia*	1	*Escherichia*
2	*Staphylococcus, coagulase negative*	2	*Staphylococcus, coagulase negative*
3	*Streptococcus, non-pyogenic*	3	*Staphylococcus aureus*
4	*Enterococcus*	4	*Streptococcus, non-pyogenic*
5	*Klebsiella*	5	*Klebsiella*
6	*Coliform*	6	*Streptococcus, pyogenic*
7	*Pseudomonas*	7	*Enterococcus*
8	*Staphylococcus aureus*	8	*Pseudomonas*
9	*Proteus*	9	*Proteus*
10	*Enterobacter*	10	*Candida*

*Data extracted on 3 December, 2013.

Table 4. Organisms reported in monomicrobial and polymicrobial bacteraemia and fungaemia, England, Wales and Northern Ireland: 2012*

	Bloodstream infection: Monomicrobial			Polymicrobial		
Organism	**n†**	**(%)§**	**Rank**	**n†**	**(%)§**	**Rank**
Escherichia	27,276	(31.2)	1	2,818	(34.27)	1
Staphylococcus, coagulase negative	13,048	(14.92)	2	2,788	(33.9)	2
Staphylococcus aureus	8,405	(9.61)	3	700	(8.51)	8
Streptococcus, non-pyogenic	7,163	(8.19)	4	1,993	(24.24)	3
Klebsiella	5,089	(5.82)	5	1,525	(18.55)	5
Streptococcus, pyogenic	4,003	(4.58)	6	382	(4.65)	11
Enterococcus	3,691	(4.22)	7	1,856	(22.57)	4
Pseudomonas	3,093	(3.54)	8	711	(8.65)	7
Proteus	1,960	(2.24)	9	560	(6.81)	9
Candida	1,462	(1.67)	10	257	(3.13)	13
Enterobacter	1,457	(1.67)	11	457	(5.56)	10
Bacteroides	932	(1.07)	12	253	(3.08)	14
Micrococcus	751	(0.86)	13	105	(1.28)	23
Clostridium	724	(0.83)	14	262	(3.19)	12
Propionibacterium	709	(0.81)	15	92	(1.12)	24
Serratia	684	(0.78)	16	143	(1.74)	19
Diphtheroids	572	(0.65)	17	181	(2.20)	17
Haemophilus	534	(0.61)	18	68	(0.83)	25
Bordetella	513	(0.59)	19	2	(0.02)	75
Citrobacter	493	(0.56)	20	210	(2.55)	15
Acinetobacter	474	(0.54)	21	208	(2.53)	16
Salmonella	459	(0.53)	22	14	(0.17)	45
Corynebacterium	394	(0.45)	23	114	(1.39)	22
Stenotrophomonas	330	(0.38)	24	124	(1.51)	21
Coliform	272	(0.31)	25	793	(9.64)	6
Morganella	266	(0.30)	26	149	(1.81)	18
Bacillus	238	(0.27)	27	129	(1.57)	20
Mycobacterium	175	(0.20)	28	8	(0.10)	52
Moraxella	145	(0.17)	29	39	(0.47)	28
Listeria	131	(0.15)	30	2	(0.02)	75
Fusobacterium	122	(0.14)	31	17	(0.21)	39
Campylobacter	117	(0.13)	32	7	(0.09)	54
Peptostreptococcus	115	(0.13)	33	24	(0.29)	34
Aerococcus	80	(0.09)	34	65	(0.79)	26
Neisseria	79	(0.09)	35	32	(0.39)	29
Pantoea	78	(0.09)	36	25	(0.30)	33
Prevotella	77	(0.09)	37	16	(0.19)	43
Aeromonas	75	(0.09)	38	59	(0.72)	27
Streptococcus	59	(0.07)	39	22	(0.27)	37
Gemella	58	(0.07)	40	32	(0.39)	30
Achromobacter	57	(0.07)	41	17	(0.21)	39
Providencia	54	(0.06)	42	28	(0.34)	32
Pasteurella	50	(0.06)	43	10	(0.12)	48
Lactobacillus	49	(0.06)	44	29	(0.35)	31
Staphylococcus	49	(0.06)	44	12	(0.15)	47
Borrelia	45	(0.05)	46	0	--	--

* Data extracted on 3 December, 2013.

† Number of reports.

§ As a percentage of polymicrobial episodes.

Table 4 – continued

	Bloodstream infection:					
	Monomicrobial			Polymicrobial		
Organism	**n[†]**	**(%)[§]**	**Rank**	**n[†]**	**(%)[‡]**	**Rank**
Lactococcus	44	(0.05)	47	24	(0.29)	34
Actinomyces	41	(0.05)	48	17	(0.21)	39
Raoultella	40	(0.05)	49	24	(0.29)	34
Ochrobactrum	37	(0.04)	50	16	(0.19)	43
Burkholderia	32	(0.04)	51	14	(0.17)	45
Brevibacterium	30	(0.03)	52	6	(0.07)	57
Cryptococcus	30	(0.03)	52	4	(0.05)	62
Rothia	28	(0.03)	54	10	(0.12)	48
Chryseobacterium	27	(0.03)	55	8	(0.10)	52
Veillonella	24	(0.03)	56	7	(0.09)	54
Brevundimonas	24	(0.03)	56	3	(0.04)	69
Rhizobium	23	(0.03)	58	10	(0.12)	48
Leuconostoc	21	(0.02)	59	21	(0.26)	38
Eggerthella	21	(0.02)	59	9	(0.11)	51
Roseomonas	21	(0.02)	59	2	(0.02)	75
Hafnia	20	(0.02)	62	17	(0.21)	39
Kluyvera	19	(0.02)	63	7	(0.09)	54
Granulicatella	18	(0.02)	64	6	(0.07)	57
Abiotrophia	17	(0.02)	65	6	(0.07)	57
Alcaligenes	16	(0.02)	66	5	(0.06)	61
Peptococcus	12	(0.01)	67	4	(0.05)	62
Rhodotorula	12	(0.01)	67	4	(0.05)	62
Capnocytophaga	12	(0.01)	67	1	(0.01)	86
Rhodococcus	12	(0.01)	67	0	--	--
Shigella	10	(0.01)	71	1	(0.01)	86
Actinobacillus	9	(0.01)	72	0	--	--
Aspergillus	9	(0.01)	72	0	--	--
Kingella	8	(0.01)	74	4	(0.05)	62
Bifidobacterium	8	(0.01)	74	3	(0.04)	69
Brucella	8	(0.01)	74	0	--	--
Eubacterium	7	(0.01)	77	6	(0.07)	57
Erysipelothrix	7	(0.01)	77	4	(0.05)	62
Microsporum	7	(0.01)	77	2	(0.02)	75
Leptospira	7	(0.01)	77	0	--	--
Sphingobacterium	7	(0.01)	77	0	--	--
Arcanobacterium	6	(0.01)	82	4	(0.05)	62
Arthrobacter	6	(0.01)	82	3	(0.04)	69
Eikenella	6	(0.01)	82	2	(0.02)	75
Kocuria	6	(0.01)	82	2	(0.02)	75
Fusarium	6	(0.01)	82	1	(0.01)	86
Acremonium	6	(0.01)	82	0	--	--
Yersinia	6	(0.01)	82	0	--	--
Gardnerella	5	(0.01)	89	1	(0.01)	86
Ralstonia	5	(0.01)	89	1	(0.01)	86
Saccharomyces	5	(0.01)	89	1	(0.01)	86
Flavobacterium	4	(0.00)	92	4	(0.05)	62
Anaerococcus	4	(0.00)	92	3	(0.04)	69
Comamonas	4	(0.00)	92	3	(0.04)	69
Aggregatibacter	4	(0.00)	92	1	(0.01)	86
Pneumocystis	4	(0.00)	92	0	--	--
Delftia	3	(0.00)	97	1	(0.01)	86

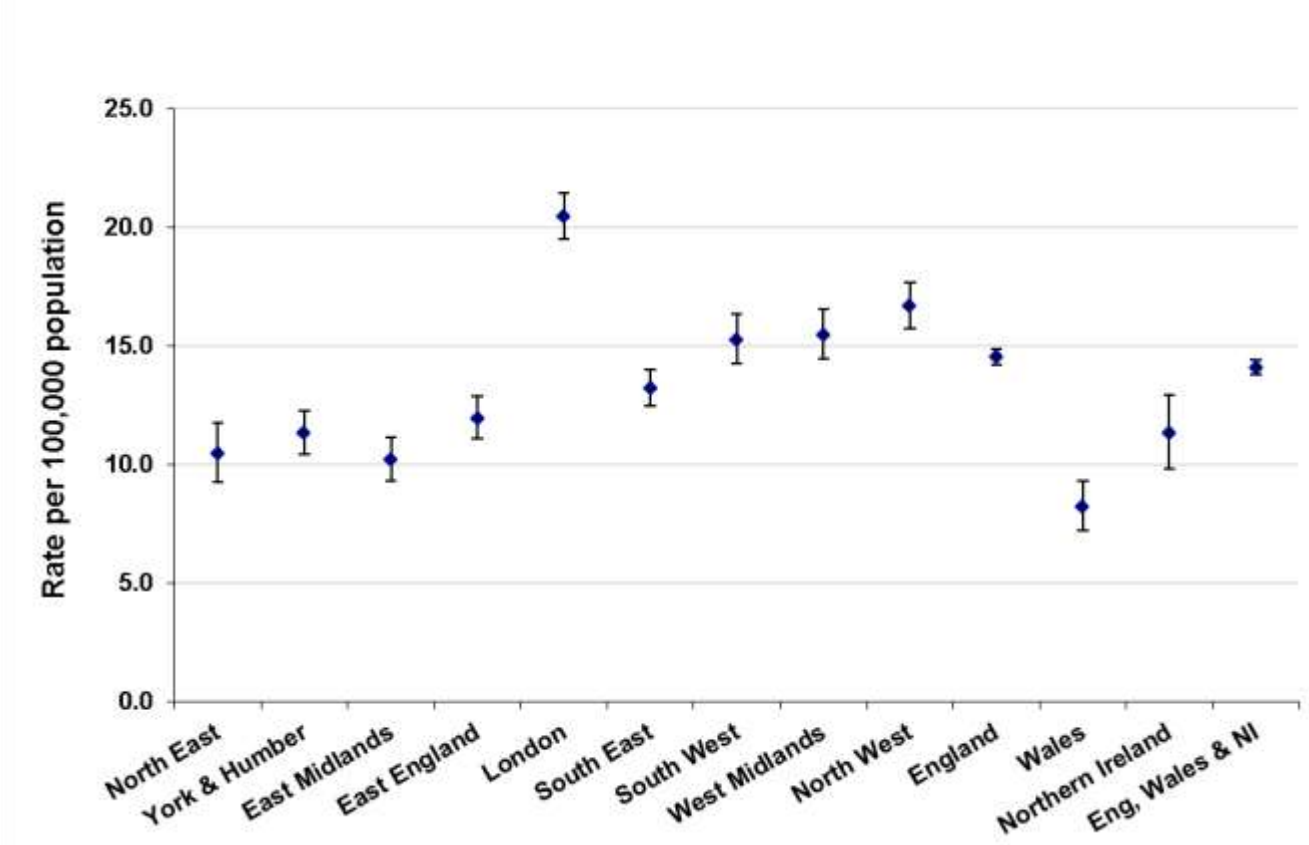
Table 4 - continued

	Bloodstream infection:					
	Monomicrobial			Polymicrobial		
Organism	**n†**	**(%)§**	**Rank**	**n†**	**(%)‡**	**Rank**
Dermabacter	3	(0.00)	97	1	(0.01)	86
Leclercia	3	(0.00)	97	1	(0.01)	86
Sphingomonas	3	(0.00)	97	1	(0.01)	86
Trichophyton	3	(0.00)	97	1	(0.01)	86
Cardiobacterium	3	(0.00)	97	0	--	--
Dialister	3	(0.00)	97	0	--	--
Leptotrichia	3	(0.00)	97	0	--	--
Pediococcus	3	(0.00)	97	0	--	--
Stomatococcus	2	(0.00)	106	3	(0.04)	69
Chryseomonas	2	(0.00)	106	2	(0.02)	75
Agrobacterium	2	(0.00)	106	1	(0.01)	86
Branhamella	2	(0.00)	106	1	(0.01)	86
Parvimonas	2	(0.00)	106	1	(0.01)	86
Peptoniphilus	2	(0.00)	106	1	(0.01)	86
Porphyromonas	2	(0.00)	106	1	(0.01)	86
Pandoraea	2	(0.00)	106	0	--	--
Vibrio	2	(0.00)	106	0	--	--
Myroides	1	(0.00)	115	2	(0.02)	75
Chromobacterium	1	(0.00)	115	1	(0.01)	86
Chrysosporium	1	(0.00)	115	1	(0.01)	86
Actinobaculum	1	(0.00)	115	0	--	--
Arcobacter	1	(0.00)	115	0	--	--
Blastoschizomyces	1	(0.00)	115	0	--	--
Cedecea	1	(0.00)	115	0	--	--
Cladosporium	1	(0.00)	115	0	--	--
Desulfovibrio	1	(0.00)	115	0	--	--
Gordonia	1	(0.00)	115	0	--	--
Janibacter	1	(0.00)	115	0	--	--
Luteimonas	1	(0.00)	115	0	--	--
Malassezia	1	(0.00)	115	0	--	--
Nocardia	1	(0.00)	115	0	--	--
Oerskovia	1	(0.00)	115	0	--	--
Oligella	1	(0.00)	115	0	--	--
Phialophora	1	(0.00)	115	0	--	--
Prototheca	1	(0.00)	115	0	--	--
Psychrobacter	1	(0.00)	115	0	--	--
Rahnella	1	(0.00)	115	0	--	--
Rhizomucor	1	(0.00)	115	0	--	--
Scedosporium	1	(0.00)	115	0	--	--
Scopulariopsis	1	(0.00)	115	0	--	--
Trichosporon	1	(0.00)	115	0	--	--
Trueperella	1	(0.00)	115	0	--	--
Vagococcus	1	(0.00)	115	0	--	--
Weeksella	1	(0.00)	115	0	--	--
Anaerobiospirillum	0	--	--	2	(0.02)	75
Edwardsiella	0	--	--	2	(0.02)	75
Shewanella	0	--	--	2	(0.02)	75
Alloiococcus	0	--	--	1	(0.01)	86
Facklamia	0	--	--	1	(0.01)	86
Geotrichum	0	--	--	1	(0.01)	86
Paenibacillus	0	--	--	1	(0.01)	86
Total	**87,424**			**8,223**	100	

Regional Distribution

- The overall rate of polymicrobial episodes in England, Wales and Northern Ireland is 14.08 per 100,000 population (figure 1). By country, the reported rates (per 100,000 population) were 14.52, 8.20, and 11.30 in England, Wales and Northern Ireland, respectively. The rates for England and Northern Ireland were higher than the 2011 rates of 13.79 and 10.42 per 100,000, respectively. The rate for Wales however was lower compared to data from 2011 (9.69 per 100,000). Notably, point estimates for Wales and Northern Ireland have relatively wide confidence intervals.
- Within England, the lowest rate of polymicrobial episodes was recorded for the East Midlands region (10.18 per 100,000). The highest rates was recorded for London (20.44 per 100,000), this is substantially higher than the rate in London in the previous year (2011; 18.23 per 100,000).

Figure 1. Regional distribution of polymicrobial bacteraemia/fungaemia episodes (per 100,000 population) in England, Wales and Northern Ireland: 2012*

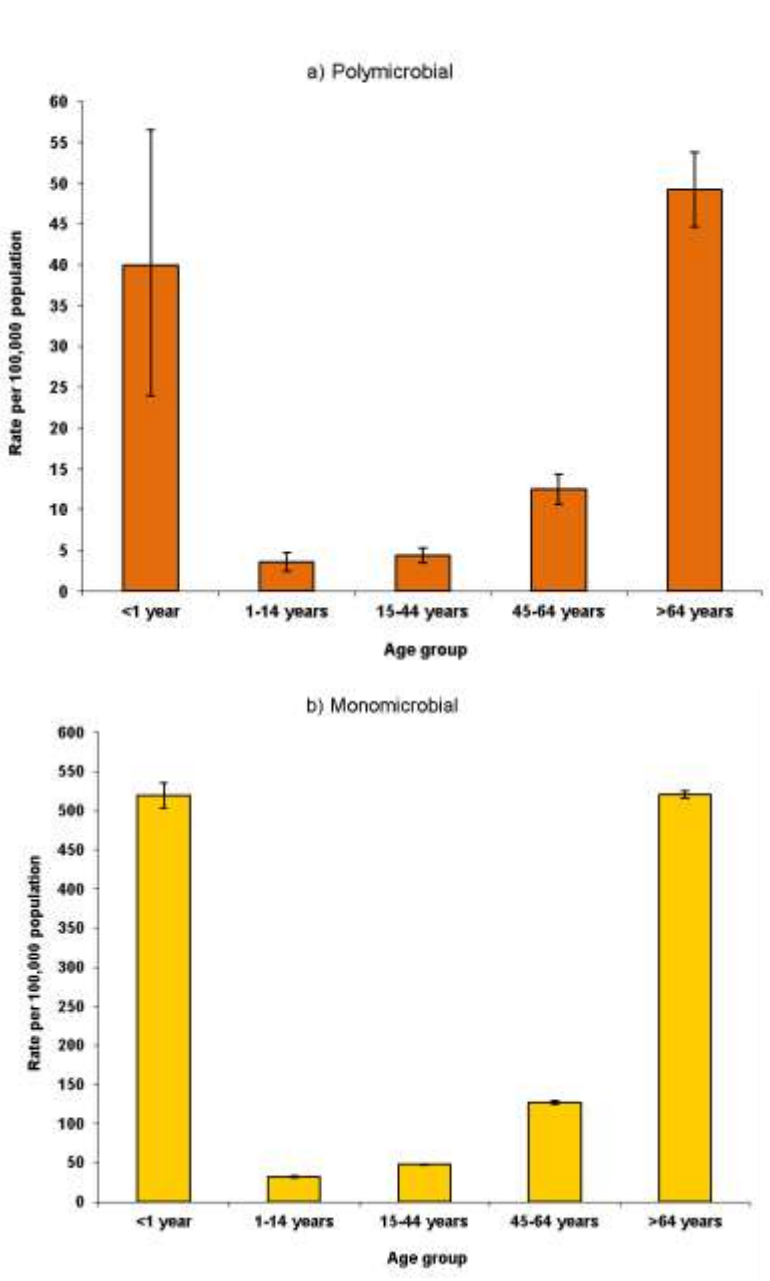


*Data extracted on 3 December, 2013.

Age Distribution

- The age distribution of poly- and monomicrobial bacteraemia and fungaemia for 2012 is presented in figure 2. The highest rate of polymicrobial bacteraemia was observed for those aged 65 years and over (49.22 per 100,000), followed by those aged less than one year (40.01 per 100,000). The age group with the lowest rates were recorded for those aged one to fourteen years (3.60 per 100,000), followed by those aged from 15 to 44 years (4.41 per 100,000). This is concordant with the pattern seen in previous years (2008-2011) [3].
- Rates of monomicrobial bacteraemia were also highest amongst the oldest and youngest age groups, with those aged 65 and greater and those aged less than one year having the highest rates at 521.30 and 519.74 per 100,000 respectively. The lowest rates were recorded for those aged from one to fourteen years (32.71 per 100,000), followed by those aged 15 to 44 years (48.01 per 100,000).

Figure 2. Age-specific rates of (a) polymicrobial and (b) monomicrobial episodes, England, Wales and Northern Ireland: 2012*



*Data extracted on 3 December, 2013.

Discussion

- The total numbers of patient episodes, bacteraemias, fungaemias and polymicrobial patient episodes was highest in 2008 (103,800; 1,882; 95,931 and 8,439, respectively) and have since fluctuated in a narrow band (table 1). The slight year-on-year increase in reports from 2010 to 2012 may be due an increase in reporting or increasing *Escherichia coli* [3] bloodstream infections.
- As with previous years, the majority of polymicrobial bloodstream infections this past year (2012) were due to bacterial infections (98.5%).
- The increasing importance of *Escherichia coli* bacteraemia [4] is emphasised by the increasing prominence of *Escherichia* spp. in polymicrobial bloodstream infections (see tables 3 and 4). *Escherichia* spp. have now become the most ubiquitous organisms found in polymicrobial bloodstream infections having previously been the third most common in 2007 and second most common in both 2008 and 2009 [3].
- The majority of regional rates as well as the overall rate of polymicrobial bloodstream infections in 2012 have shown a slight increase compared to 2011. The East of England region presented the greatest increase in rates between 2011 and 2012 from 9.36 per 100,000 population [2011] to 11.95 per 100,000 population [2012], whilst the reverse was evident in the East Midlands region (rate decreased from 12.57 per 100,000 population [2011] to 10.18 per 100,000 population [2012]). The East Midlands region now represents the lowest rate of polymicrobial infections in England, while the highest rate was recorded for London (20.44 per 100,000). Wales has also fluctuated in recent years (7.77 per 100,000 population [2010], 9.69 per 100,000 population [2011] and 8.20 per 100,000 population [2012]).
- As seen in previous years, the highest poly- and monomicrobial bloodstream infections were observed in the youngest (<1 year) and oldest age groups (those aged 65 years and greater) (figure 2). The reason for this age distribution requires further investigation.

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Infection reports

Volume 8 Number 4 Published on: 31 January 2014

Immunisation

Hepatitis A and C: laboratory reports (England and Wales): July to September 2013

Laboratory reports of hepatitis A (E&W): July-September 2013

There were a total of 56 laboratory reports of hepatitis A reported to PHE during the third quarter of 2013 (July-September). This was a 36.4% decline on the number of reports during the second quarter of 2013 (n=88) and a 22.2% decline on the same quarter in 2012 (n= 72).

Age-group and sex were well reported (100% complete). Twenty-three (41.1%) reports were among the 15-44 year old age group, a further 22 (39.3%) reports were from those aged over 44 years and 11 (19.6%) reports were from the under 15 year age group.

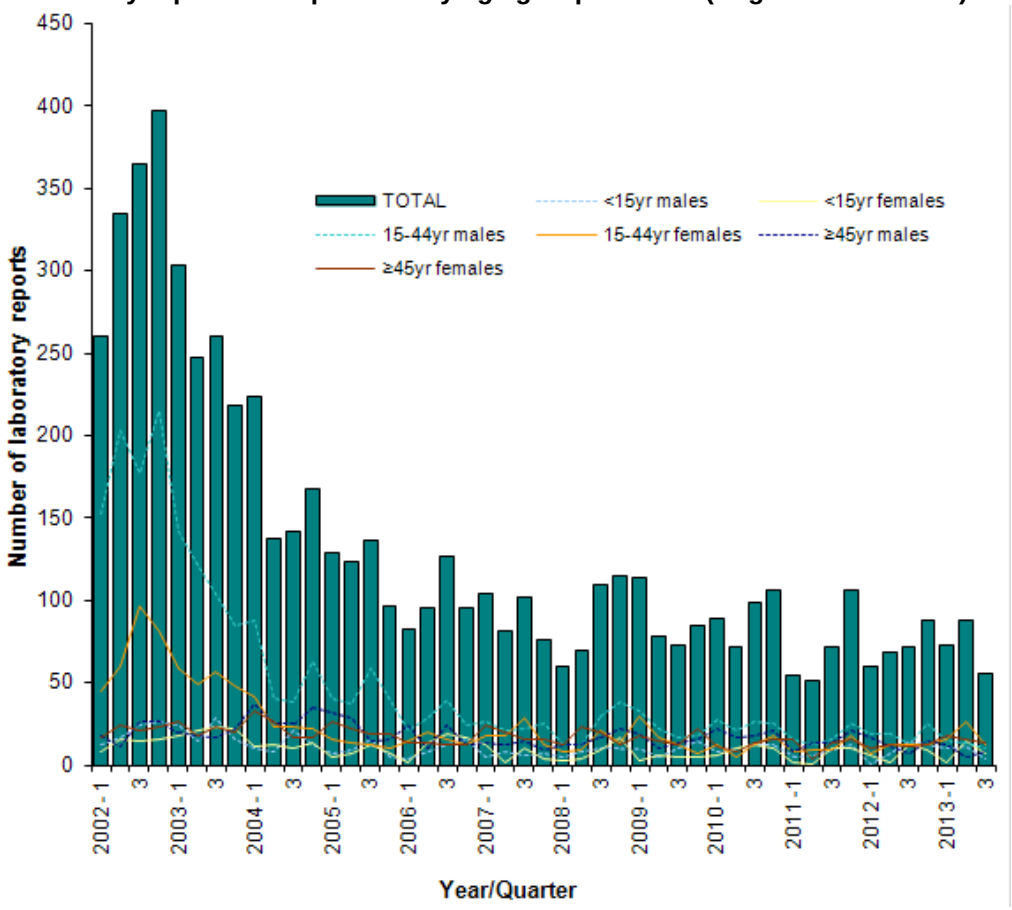
Males accounted for 39.2% of all reports. More females were reported than males among all age-groups; this varied slightly with 63.6% of females among both the under 15 years and over 44 years age groups, and 56.5% of females in the 15-44 year old age group.

Males accounted for 58.1% of all reports. A similar proportion of males and females were reported among those aged under 15 years old and 15-44 years old (57.1% and 67.6% males respectively). However, more females were reported among those aged over 44 years (69.3% females).

Laboratory reports of hepatitis A in England and Wales, July-September 2013

Age group	Male	Female	Unknown	Total
<1 year	–	–	–	**–**
1-4 years	1	–	–	**1**
5-9 years	2	3	–	**5**
10-14 years	1	4	–	**5**
15-24 years	3	9	–	**12**
25-34 years	5	3	–	**8**
35-44 years	2	1	–	**3**
45-54 years	3	–	–	**3**
55-64 years	2	4	–	**6**
≥65 years	3	10	–	**13**
Unknown	–	–	–	**–**
Total	**22**	**34**	**–**	**56**

Laboratory reports of hepatitis A by age group and sex (England and Wales): January 2002 to Sept. 2013



Laboratory reports of hepatitis C (E&W), July-September 2013

There were a total of 2,893 laboratory reports of hepatitis C reported to the HPA between July and September 2013. This was a 7.5% decline on the previous quarter (n=3,126), and a similar number of reports as the same quarter in 2012 (n=2,862).

Age-group and sex were well reported (>97% complete). Where known males accounted for 69.6% of reports (1,981/2,893), which is consistent with previous quarters. Adults aged 25-44 years accounted for 55.2% of the total number of hepatitis C reports.

Laboratory reports of hepatitis C in England and Wales, July-September 2013

Age group	Male	Female	Unknown	Total
<1 year	6	2	–	**8**
1-4 years	5	1	1	**7**
5-9 years	1	1	–	**2**
10-14 years	1	–	–	**1**
15-24 years	71	60	4	**135**
25-34 years	468	260	17	**745**
35-44 years	624	203	12	**839**
45-54 years	481	169	5	**655**
55-64 years	226	104	2	**332**
≥65 years	85	59	1	**145**
Unknown	13	7	4	**24**
Total	**1,981**	**866**	**46**	**2,893**

Infection reports

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Immunisation

Quarterly report from the sentinel surveillance study of hepatitis, HIV and HTLV testing in England: data for July to September 2013

The sentinel surveillance of blood-borne virus testing in England began in 2002 with hepatitis C and has subsequently expanded to include testing for hepatitis A, B, D, E, HIV and HTLV, providing information on trends in testing, individual risk exposures and clinical symptoms, as a supplement to the routine surveillance data. The study collects information on testing carried out in participating sentinel centres regardless of test result and therefore can also be used to estimate prevalence in those individuals tested. Data from 24 laboratories are detailed in this report. The data presented here are for individuals who were first reported to the sentinel surveillance scheme during the third quarter (July to September) of 2013.

1. Hepatitis A IgM testing

During the third quarter of 2013, 7,033 individuals were tested at least once for hepatitis A-specific IgM antibody (anti-HAV IgM), a marker of acute hepatitis A infection. Overall, 0.5% (n=33) of individuals tested positive, which varied by region.

Gender and age were reported for the majority of individuals (>99.8 %). As in previous quarters, where available, a higher proportion of males were tested than females (55.2% vs. 44.8%; Table 1). The mean age of individuals tested was 47.0 years (range 0.0-103.5 years), whereas the mean age of those testing positive was 43.0 years (range 3.3-89.9 years). The largest age-group tested were aged 65 and over. The highest overall percentage of individuals testing positive was among those of 1-14 years, although few were tested in this age-group.

Table 1. Number of individuals tested, and testing positive, for anti-HAV IgM in participating centres, July - September 2013*.

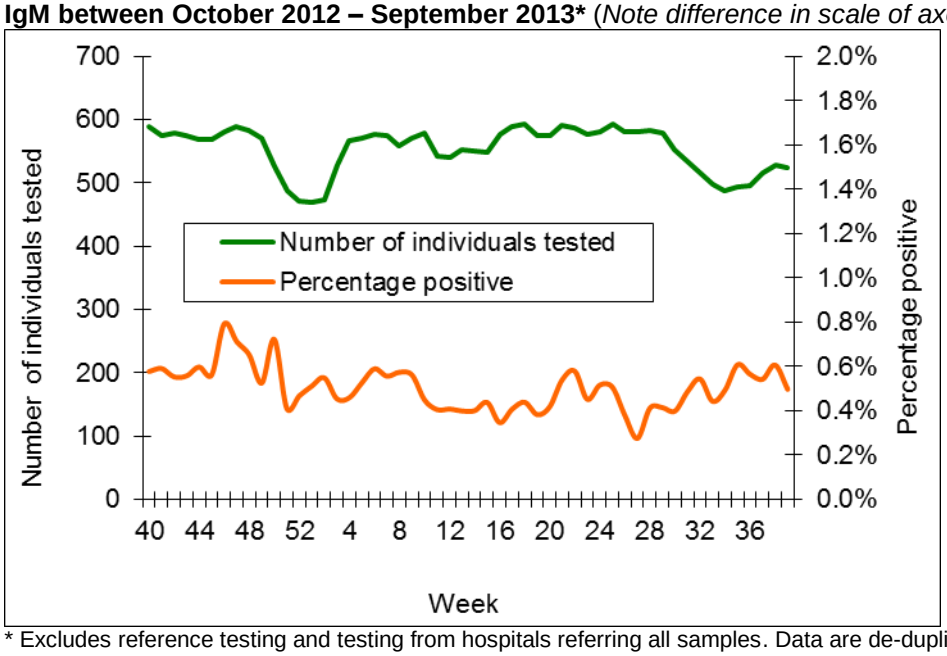
Age group	Female		Male		Unknown		Total	
	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)
Under 1 year	24	0 (0.0)	33	0 (0.0)	0	0 (0.0)	57	0 (0.0)
1-14 years	80	2 (2.5)	108	2 (1.9)	0	0 (0.0)	188	4 (2.1)
15-24 years	358	4 (1.1)	422	3 (0.7)	3	0 (0.0)	783	7 (0.9)
25-34 years	465	0 (0.0)	712	5 (0.7)	6	0 (0.0)	1,183	5 (0.4)
35-44 years	396	0 (0.0)	699	3 (0.4)	2	0 (0.0)	1,097	3 (0.3)
45-54 years	543	1 (0.2)	679	2 (0.3)	3	0 (0.0)	1,225	3 (0.2)
55-64 years	534	1 (0.2)	506	2 (0.4)	0	0 (0.0)	1,040	3 (0.3)
≥65 years	731	6 (0.8)	710	2 (0.3)	2	0 (0.0)	1,443	8 (0.6)
Unknown	9	0 (0.0)	7	0 (0.0)	1	0 (0.0)	17	0 (0.0)
Total, all age groups	**3,140**	**14 (0.4)**	**3,876**	**19 (0.5)**	**17**	**0 (0.0)**	**7,033**	**33 (0.5)**

* Excludes reference testing and testing from hospitals referring all samples. Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional.

Excluding centres for whom testing data was not available in previous quarters, testing data for the period July to September 2013 (0.5%; 32/6,792) to data received for the same time periods of 2012 and 2011, the number of individuals tested in 2013 was slightly lower than 2012 and 2011, 2012(0.4%; 31/7,085) and 2011(0.3%; 21/7,340).

Figure 1 shows the five-weekly moving average for number of people tested for anti-HAV IgM and percentage positive between October 2012 and September 2013, inclusive, for participating sentinel laboratories.

Figure 1. Five-weekly moving average of number of people tested, and percentage positive, for anti-HAV IgM between October 2012 – September 2013* (*Note difference in scale of axes compared with Figs. 2 and 3)*



* Excludes reference testing and testing from hospitals referring all samples. Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional.

2. Hepatitis B surface antigen (HBsAg) testing

Pregnant women are routinely offered hepatitis B screening as part of their antenatal care. Data from the test request location and freetext clinical details field accompanying the test request were reviewed to distinguish individuals tested for HBsAg as part of routine antenatal screening (section 2a) from those tested in other settings and for other reasons (section 2b). It is possible that some women undergoing antenatal screening may not be identified as such and may therefore be included in section 2b as non-antenatal testing.

a) Antenatal HBsAg screening

During the third quarter of 2013, 17,434 women were identified as undergoing antenatal screening for HBsAg, representing 24.0.% (17,434/72,705) of all individuals tested in participating sentinel laboratories, of whom 0.3% (n=60) tested positive. Among the 60 HBsAg positive women identified, 56 (93.3%) had HBeAg results available, and of whom, 14.3% were HBeAg positive.

a) Non-antenatal HBsAg testing

During the third quarter of 2013, excluding dried blood-spot and antenatal testing, 55,271 individuals were tested for HBsAg in participating sentinel laboratories, of whom, 1.1% (n=605) tested positive. The North West and London had the highest proportion of individuals testing positive (1.3%). The North East and South East Coast (1.1%) also had a high proportion of individuals testing positive, this may reflect more targeted testing of risk groups and/or genuinely higher prevalence in people being tested in these regions.

Gender and age-group were reported for the majority of individuals (>98.9%), and where available, slightly more males were tested compared to females (52.1% and 47.9% respectively; Table 2). As reported previously, the proportion testing positive for HBsAg was higher among males than females (1.5% v 0.7%). Where age was known, the greatest number of tests were performed was among those aged 25-34 years and the highest percentage positive was among the 35-44 years old age group. The mean age of individuals tested was 38.8 years (range 0.0-104.0 years) and of those testing positive was 37.6 years (range 0.0-87.2 years). The prevalence of HBsAg among tested individuals of unknown gender (3.0%) is higher than both males and females (1.5% and 0.7% respectively). This may reflect a change to the testing of individuals in settings such as prisons, drug services and GUM clinics where few demographic details on patients (such as gender) were available and where service users may be at higher risk of hepatitis B infection.

Table 2. Age and gender of individuals tested for HBsAg in participating centres (excluding antenatal testing), July - September 2013*

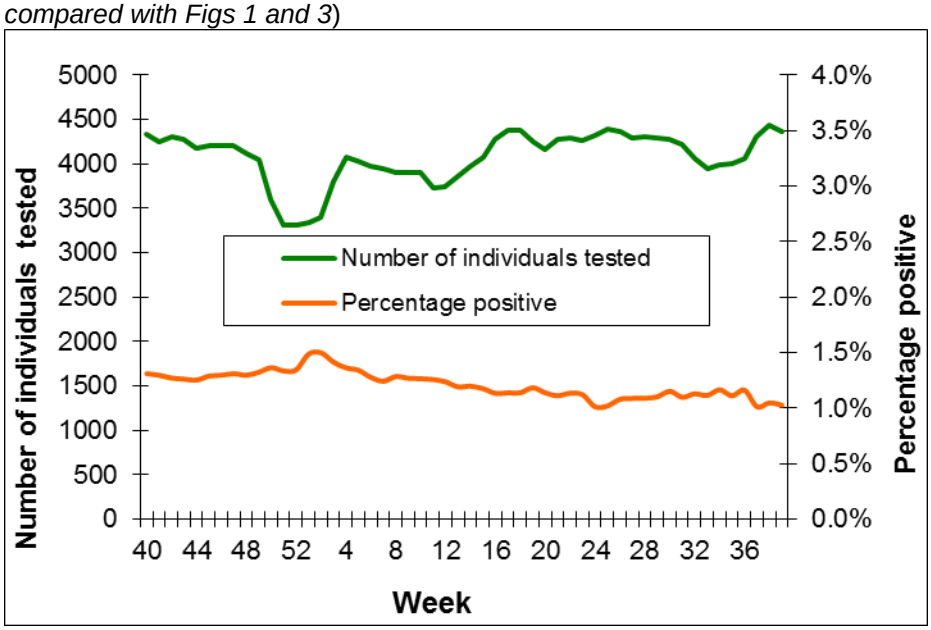
Age group	Female		Male		Unknown		Total	
	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)
Under 1 year	89	0 (0.0)	84	1 (1.2)	59	4 (6.8)	230	1 (0.4)
1-14 years	467	1 (0.2)	521	7 (1.3)	6	0 (0.0)	994	8 (0.8)
15-24 years	5,611	33 (0.6)	4,710	48 (1.0)	150	3 (2.0)	10,471	84 (0.8)
25-34 years	8,252	57 (0.7)	8,286	147 (1.8)	114	3 (2.6)	16,652	207 (1.2)
35-44 years	4,368	37 (0.8)	5,714	108 (1.9)	82	4 (4.9)	10,164	149 (1.5)
45-54 years	2,806	25 (0.9)	3,793	59 (1.6)	26	1 (3.8)	6,625	85 (1.3)
55-64 years	1,949	9 (0.5)	2,348	32 (1.4)	8	0 (0.0)	4,305	41 (1.0)
≥65 years	2,618	10 (0.4)	2,953	16 (0.5)	6	0 (0.0)	5,577	26 (0.5)
Unknown	32	0 (0.0)	70	1 (1.4)	151	3 (2.0)	253	4 (1.6)
Total, all age groups	**26,192**	**172 (0.7)**	**28,477**	**419 (1.5)**	**602**	**18 (3.0)**	**55,271**	**605 (1.1)**

* Excludes dried blood spot, oral fluid, reference testing and testing from hospitals referring all samples. Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional.

Excluding centres for whom testing data was not available in previous quarters, testing data for the period July to September 2013 (1.0%; 517/52,064) to data received for the same time periods of 2012 and 2011, indicated a increase in the number of individuals tested and a slight decrease in the proportion of individuals testing positive for HBsAg in 2013 compared to both 2012 (1.3%; 617/47,464) and 2011 (1.5%; 726/47,702).

Figure 2 shows the five-weekly moving average for number of people tested for HBsAg and percentage positive between October 2012 and September 2013 inclusive, for participating sentinel laboratories.

Figure 2. Five-weekly moving average of number of individuals tested, and percentage positive, for HBsAg between October 2012 - September 2013*. (excluding antenatal testing)* (*Note difference in scale of axes compared with Figs 1 and 3*)



* Excludes reference testing and testing from hospitals referring all samples. Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional.

3. Hepatitis C testing

During the third quarter of 2013, excluding dried blood spot testing, 47,546 individuals were tested for hepatitis C-specific antibodies (anti-HCV), of whom 1.9% (n=887) tested positive. Of the 887 individuals testing positive for anti-HCV, 611 (68.9%) were also tested for HCV RNA by PCR (qualitative and/or quantitative), of whom, 379 were PCR positive (62.0%) indicating an active infection.

Gender and age were reported for the majority of individuals (>98.9%), and where available, there was a slightly higher proportion of males tested compared to females (54.2% vs.45.8%; Table 3). As reported previously the proportion testing positive was also higher among males than among females (2.4% vs.1.2%). The mean age of individuals tested was 40.7 years (range 1.0-104.0 years) and of those testing positive was 43.5 years (range 15.8-102.5 years). As with the previous quarter the largest group tested were aged 25-34 years, whereas the highest proportion testing positive was among those aged 45-54 (3.2%).

Table 3. Age and gender of individuals tested for anti-HCV in participating centres, July - September 2013*

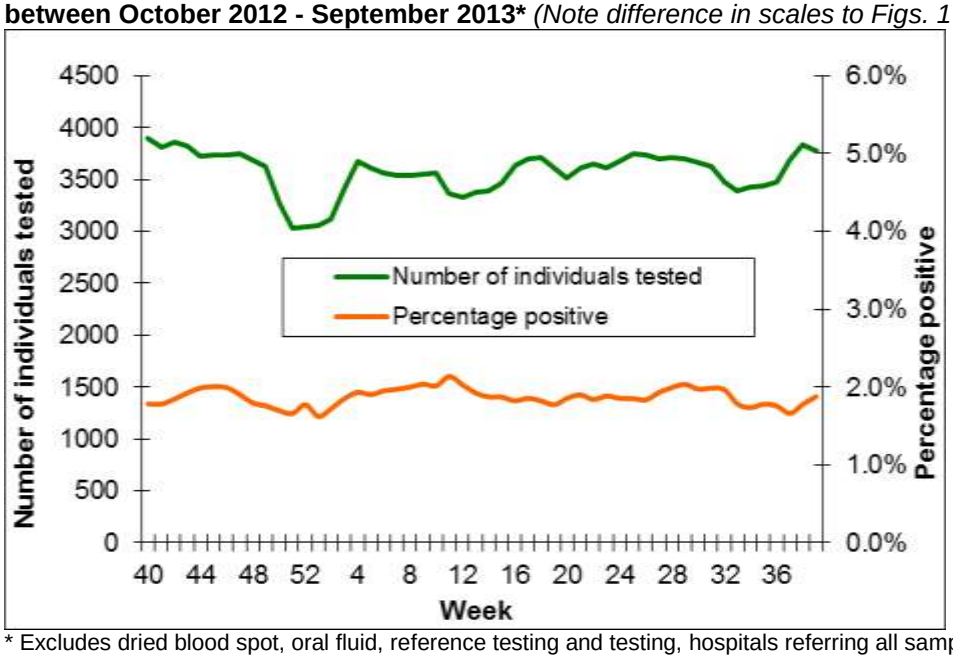
Age group	Female		Male		Unknown		Total	
	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)
1-14 years	349	0 (0.0)	405	0 (0.0)	4	0 (0.0)	758	0 (0.0)
15-24 years	3,912	24 (0.6)	3,624	29 (0.8)	137	0 (0.0)	7,673	53 (0.7)
25-34 years	6,230	70 (1.1)	7,007	138 (2.0)	104	3 (2.9)	13,341	211 (1.6)
35-44 years	3,802	54 (1.4)	5,467	185 (3.4)	74	6 (8.1)	9,343	245 (2.6)
45-54 years	2,619	58 (2.2)	3,733	144 (3.9)	24	3 (12.5)	6,376	205 (3.2)
55-64 years	1,926	30 (1.6)	2,287	85 (3.7)	7	0 (0.0)	4,220	115 (2.7)
≥65 years	2,644	17 (0.6)	2,914	36 (1.2)	7	0 (0.0)	5,565	53 (1.0)
Unknown	39	0 (0.0)	66	2 (3.0)	165	3 (1.8)	270	5 (1.9)
Total, all age groups	**21,521**	**253 (1.2)**	**25,503**	**619 (2.4)**	**522**	**15 (2.9)**	**47,546**	**887 (1.9)**

* Excludes dried blood spot, oral fluid, reference testing and testing, hospitals referring all samples and individuals aged less than one year (as positive tests may reflect maternal antibody rather than true infection). Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional.

Excluding centres for whom testing data was not available in previous quarters, testing data for the period July to September 2013 (1.9%; 840/43,402) to data received for the same time periods of 2012 and 2011, indicated a slightly higher number of people tested over time and a decrease in the proportion testing positive compared to both 2012 (2.2%; 908/41,550) and 2011 (2.3%; 990/42,238).

Figure 3 shows the five-weekly moving average for number of people tested for anti-HCV and percentage positive between October 2012 and September 2013 inclusive, for participating sentinel laboratories. Overall a slight decline in the proportion positive overtime is apparent.

Figure 3. Five-weekly moving average of number of people tested, and percentage positive, for anti-HCV between October 2012 - September 2013* *(Note difference in scales to Figs. 1 and 2)*



* Excludes dried blood spot, oral fluid, reference testing and testing, hospitals referring all samples and individuals aged less than one year (as positive tests may reflect maternal antibody rather than true infection). Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional.

4. Hepatitis D testing

The sentinel surveillance study collects data on testing for hepatitis D-specific total antibody (HDV TA). A positive HDV results does not necessarily represent an incident infection and these data should be interpreted accordingly.

During the third quarter of 2013, a total of 531 individuals were tested at least once for HDV TA. Overall 4.7% (n=25) of individuals tested positive, although this varied by region. Where gender was available (>98.1%), a higher proportion of males tested (58.9%) than females, a greater proportion of females tested positive compared to males (8.2% v 2.2% respectively). The mean age of individuals tested was 38.5 years (range 0.0-92.5 years), whereas the mean age of those testing positive was 45.7 years (range 21.2-70.1 years).

Excluding centres for whom testing data was not available in previous quarters, testing data for the period July to September 2013 (5.0%; 25/499) to data received for the same time periods of 2012 and 2011 indicated an decrease in the number of people tested over time and an increase in the proportion testing positive when compared to both 2012 (4.6%; 27/588) and 2011 (3.1%; 21/677).

5. Hepatitis E IgM testing

The sentinel surveillance study collects data on testing for hepatitis E-specific IgM antibody (anti-HEV IgM), a marker of acute hepatitis E infection.

During the third quarter of 2013, a total of 2,327 individuals were tested at least once for anti-HEV IgM. Overall, 6.6% (n=155) of individuals tested positive, although this varied by region. Where gender was available (>96.6%), a higher proportion of males (51.4%) were tested than females. The proportion testing positive for anti-HEV IgM was higher among males than females (7.9% v 4.5%). The mean age of individuals tested was 48.9 years (range 0.0-101.5 years), whereas the mean age of those testing positive was 54.5 years (range 14.7-88.1 years)

Excluding centres for whom testing data was not available in previous quarters, testing data for the period July to September 2013 (6.7%; 152/2,277) to data received for the same time periods of 2012 and 2011 indicated an increase in the number of people tested over time, when compared to both 2012 (6.5%; 118/1825) and 2011 (8.4%; 116/1388).

6. HIV testing

Pregnant women are routinely offered HIV screening as part of their antenatal care. Data from the test request location and freetext clinical details field accompanying the test request were reviewed to distinguish individuals tested for HIV as part of routine antenatal screening (section 6a) from those tested in other settings and for other reasons (section 6b). It is possible that some women undergoing antenatal screening may not be identified as such and may therefore be included in section 6b as non-antenatal testing. Data are presented throughout for adults aged >=16 years old at the time of test.

a) Antenatal HIV screening

During the third quarter of 2013, 11,328 women were identified as undergoing antenatal screening for HIV, representing 12.7% (11,328/88,954) of all individuals tested in participating sentinel laboratories. Overall 0.1% (n=13) of women tested positive.

b) Non-antenatal HIV testing

During the third quarter of 2013, excluding dried blood-spot and antenatal testing, 77,626 individuals, were tested at least once for HIV among participating sentinel laboratories. Overall, 0.8% (n=641) of individuals tested positive.

Gender and age were reported for the majority of individuals (>95.4%), and a slightly higher proportion of females (51.0%) were tested than males, although this may include a small number of women undergoing routine antenatal screening. The proportion testing positive was higher among males than among females (1.3% v 0.3%; Table 4). The mean age of individuals tested was 33.9 years (range 16.0-102.8 years), whereas the mean age of those testing positive was 38.0 years (range 16.0-102.5 years).The largest group tested were aged 25-34 years, whereas the highest percentage of individuals testing positive was among those aged 45-54 (1.8%) and 35-44 (1.4%).

Table 4. Age and gender of individuals tested for HIV in participating centres (excluding antenatal testing), July - September 2013*

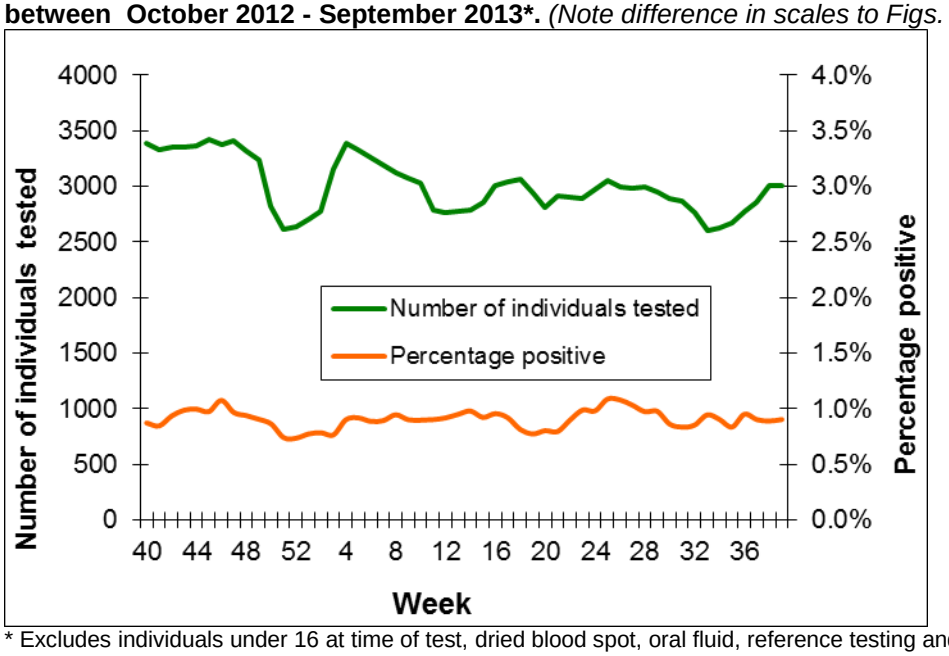
Age group	Female		Male		Unknown		Total	
	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)
16-24 years	12,952	19 (0.1)	9,534	60 (0.6)	384	1 (0.3)	22,870	80 (0.3)
25-34 years	14,206	30 (0.2)	13,337	173 (1.3)	289	1 (0.3)	27,832	204 (0.7)
35-44 years	5,838	42 (0.7)	6,899	139 (2.0)	140	2 (1.4)	12,877	183 (1.4)
45-54 years	2,901	27 (0.9)	3,819	95 (2.5)	56	1 (1.8)	6,776	123 (1.8)
55-64 years	1,276	8 (0.6)	2,063	28 (1.4)	19	0 (0.0)	3,358	36 (1.1)
≥65 years	1,509	2 (0.1)	2,081	10 (0.5)	8	0 (0.0)	3,598	12 (0.3)
Unknown	29	0 (0.0)	66	1 (1.5)	220	2 (0.9)	315	3 (1.0)
Total, all age groups	**38,711**	**128 (0.3)**	**37,799**	**506 (1.3)**	**1,116**	**7 (0.6)**	**77,626**	**641 (0.8)**

* Excludes dried blood spot, oral fluid, reference testing and testing from hospitals referring all samples. Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional.

Excluding centres for whom testing data was not available in previous quarters, testing data for the period July to September 2013 (1.2%; 617/53,142) to data received for the same time periods of 2012 and 2011 indicated an slight decrease in the number of people tested and a slight increase in the proportion of individuals testing positive compared to 2012 (1.1%; 601/55,470) and an increase in the number of people tested and the proportion of individuals testing positive in 2011 (1.0%; 527/51,526)

Figure 4 shows the five-weekly moving average for number of people tested for HIV and percentage positive between October 2012 and September 2013 inclusive, for participating sentinel laboratories.

Figure 4. Five-weekly moving average of number of people tested, and percentage positive, for HIV between October 2012 - September 2013*. *(Note difference in scales to Figs. 1 and 2)*



* Excludes individuals under 16 at time of test, dried blood spot, oral fluid, reference testing and testing, hospitals referring all samples. Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional.

7. HTLV testing

During the third quarter of 2013, a total of 1,769 individuals were tested at least once for HTLV among 12 participating laboratories. Overall, 1.3% (n=23) of individuals tested positive. Where gender was available (>94.0%), a slightly lower proportion of males (47.9%) were tested than females. whereas an higher proportion of females tested positive(1.8%).The mean age of individuals tested was 45.0 years (range 0.0-88.2 years), whereas the mean age of those testing positive was 51.5 years (range 27.9-77.8 years).

8. Dried blood spot testing

Three sentinel laboratories provide dried blood spot testing facilities. Anti-HCV dried blood spot testing data have also been made available by Concateno Plc. The data provided by Concateno Plc, however, represents indicative results only and are not intended to be used for diagnosis.

a). HBsAg testing

During the third quarter of 2013, a total of 2,957 individuals were tested at least once for HBsAg by dried blood spot testing. Overall, 0.5% (n=15) of individuals tested positive.

b). Anti-HCV testing

During the third quarter of 2013, 8,481 individuals were tested at least once for hepatitis C-specific antibodies (anti-HCV) by dried blood spot testing. Concateno Plc tested 5,014 individuals of whom 8.4% (n=423) has a reactive test result. A further 3,467 individuals were tested by sentinel laboratories, of whom 18.6% (n=646) tested positive. The proportion of positive test results among individuals who were tested by sentinel laboratories may reflect differences in testing; for example dried blood spot testing has been trialled in pharmacies and other primary care settings as well as by specialist drug services. Samples tested by DBS by Concateno include, but not limited to, those taken in/by drug action teams and prison services

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