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Current Issue: Volume 1 Number 46 **Published on:** 16 November 2007

Current News

- Guidelines for Hajj pilgrims, 2007

New radon data for England and Wales

- National Chlamydia Screening Programme launches new website

Infection reports

Bacteraemia

- Pyogenic and non-pyogenic streptococcal bacteraemia, England, Wales, and Northern Ireland: 2006
- Polymicrobial bacteraemia 2006

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News

Guidelines for Hajj pilgrims, 2007

The National Travel Health Network and Centre (NaTHNaC) has issued its annual guidance detailing all the health requirements and recommendations that Hajj pilgrims need to consider before they leave for their trip [1]. This is available on the NaTHNaC website at http://nathnac.org/pro/clinical_updates/Hajj13Nov07.htm.

Hajj, the Muslim pilgrimage to Mecca , is the largest annual gathering of its kind in the world. All adult Muslims, who are physically and financially able to do so, have a religious obligation to make the pilgrimage once in their lifetime, and each year over two million Muslims from around the world gather in Mecca [2]. The Hajj takes place between the eighth and thirteenth day of the last month of the Islamic lunar calendar, and therefore falls at different dates each year. The next Hajj will take place between 18 and 23 December 2007.

The key vaccine recommendations are:

- Proof of vaccination with quadrivalent ACW135Y meningococcal vaccine for all pilgrims is required by the Saudi Arabian Ministry of Health in order to issue an entry visa.
- Yellow fever vaccine requirements for those arriving from countries/areas at risk of yellow fever transmission in line with the International Health Regulations [3].
- Polio vaccine as recommended by the Saudi Arabian Ministry of Health and the World Health Organization [4].
- One of the rites for male Hajj pilgrims is to have their head shaved; sharing blades may increase their risk of blood borne infections. Hepatitis B vaccine is recommended for all pilgrims. Male pilgrims are also advised to take their own disposable razors to prevent infection with other non-vaccine preventable blood borne infections such as hepatitis C.
- Influenza vaccine is recommended by the Saudi Arabian Ministry of Health for all pilgrims. All those who would be eligible for influenza vaccine in the UK [5] should ensure they receive it before they go.

More details on the above vaccines as well as other routine vaccinations that are recommended are in the NaTHNaC guidelines [1], along with more general advice on how to prevent other infectious and non-infectious hazards that pilgrims may encounter on their trip. The NaTHNaC Country Information Page for Saudi Arabia provides further advice on possible health risks http://nathnac.org/ds/c_pages/country_page_SA.htm. Health professionals should be aware that pilgrims may combine their pilgrimage with travel to other destinations with additional health considerations. The complete NaTHNaC Country Information Pages are available at http://nathnac.org/ds/map_world.aspx. All travellers are advised to seek medical advice at least six to eight weeks before their trip to ensure that they are adequately prepared.

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1. National Travel Health Network and Centre (NaTHNaC). *Guidelines for Hajj pilgrims.* Clinical update: 13 November 2007. Accessed 13 November 2007. Available at <http://nathnac.org/pro/clinical_updates/Hajj13Nov07.htm>.

2. Shafi S, Memish Z, Gatrad A, Sheikh A. Hajj 2006: communicable disease and other health risks and current official guidance for pilgrims. *Euro Surveill* 2005;**10** (12): E051215.2. Available at <http://www.eurosurveillance.org/ew/2005/051215.asp#2>.

3 World Health Organization. International Health Regulations (2005) [accessed 13 November 2007]. Available at <http://www.who.int/csr/ihr/en/>.

4. World Health Organization. Health conditions for travellers to Saudi Arabia pilgrimage to Mecca (Hajj). *Wkly Epid Record* 2007;**82** :385-8. Available at<http://www.who.int/wer/2007/wer8244.pdf>.

5.Salisbury D, Ramsay M, Noakes K (eds). *Immunisation against infectious disease, 2006* . TSO; Norwich: 2006. Available at <http://www.dh.gov.uk/en/Policyandguidance/Healthandsocialcaretopics/Greenbook/DH_4097254>

New radon data for England and Wales

The Health Protection Agency and the British Geological Survey have jointly produced new information on radon Affected Areas in England and Wales [1]. There is detailed information for individual properties available from a new website, www.UKradon.org, and a new atlas, giving an overview of radon Affected Areas by 1 km squares of the national grid. This material replaces the existing *Radon Atlas of England and Wales (NRPB-W26)*. Copies of the new atlas have been sent to every local authority in England and Wales.

This report presents an overview of the results of detailed mapping in England and Wales of radon
potential, defined as the estimated percentage of homes in an area above the radon Action Level.
The work was carried out jointly by the Health Protection Agency and the British Geological Survey and was based on the results of measurements of radon in 460,000 homes. The method allows variations in radon potential both between and within geological units to be mapped. The resulting map, which defines radon affected areas in England and Wales, includes much more detail than could be shown in an atlas. The full detail is instead published as a dataset which can be licensed for use in geographical information systems. The estimated radon potential for an individual home can be obtained through www.UKradon.org. The atlas presents a simplified version of the map, so is indicative rather than definitive as each 1 km grid square is coloured according to the highest radon potential found within it.

Reference
Miles JCH, Appleton JD, Rees DM, Green BMR, Adlam KAM, Myers AH. *Indicative Atlas of Radon in England and Wales HPA-RPD- 033*. Chilton: Health Protection Agency, 2007. ISBN 978-0-85951-608-2.. Available at <http://www.hpa.org.uk/radiation/publications/hpa_rpd_reports/2007/hpa_rpd_033.htm>. Printed copy, £14.00 + 10% postage and packing, available from CRCE Information Office (Tel: 01235 822742 / 822603, email: ChiltonInformationOffice@hpa.org.uk.

National Chlamydia Screening Programme launches new website

The National Chlamydia Screening Programme (NCSP) has launched a new website at www.chlamydiascreening.nhs.uk . The site provides information on chlamydia screening to two target audiences: sexual health professionals, and to people aged under 25 years.

The website features a postcode finder which enables young people to find their local screening venue. It also features comprehensive information on chlamydia and how it can affect health.

Bacteraemia Routine Data Reports

Pyogenic and non-pyogenic streptococcal bacteraemia, England, Wales, and Northern Ireland: 2006

These analyses are based on data extracted from our voluntary surveillance database (LabBase2*) on 5 November 2007 for the period 2003 to 2006. The exception to this is for data on group A streptococcal (GAS) infections for which an enhanced surveillance system was set up in the UK in 2003 as part of the Strep-EURO programme [1,2] . Although the project has now been completed, the augmented data collection mechanism established, which pools reports from LabBase2 and the Streptococcus and Diphtheria Reference Unit (SDRU), is still in place.

Rates were calculated using 2006 mid-year resident population estimates based on the 2001 census for England, Wales, and Northern Ireland. In infants, rates were calculated using a provisional estimate of the number of live births in 2006 as the denominator (data from ONS and Northern Ireland Statistics and Research Agency). Regional analyses were made according to the Government Office Regions introduced in April 2002. Additional figures and tables giving regional breakdowns of antimicrobial resistance, multiple resistance patterns and age and sex-specific rates can be found on the HPA website at http://www.hpa.org.uk/infections/topics_az/strepto/HPAStreptococcalInfections Epidemiologicaldata.htm

The data presented here differ in some instances from data in earlier publications due to the addition of late reports to LabBase2.

Group A streptococci
Data from enhanced surveillance have shown little change in the numbers of reports of group A streptococcal (GAS) bacteraemia between 2005 and 2006, from 1252 to 1272 (table 1). The rate of GAS bacteraemia reported in England, Wales and Northern Ireland for 2006 was 2.3 per 100,000 population (95% CI 2.2 to 2.4). Rates of reported GAS bacteraemia were higher in England (2.37) than Wales (1.38) or Northern Ireland (1.49), although there was wide variation within England, from 1.7/100,000 in London, the East Midlands and the North East to 3.1/100,000 in the West Midlands (table 2a).

Table 1: Laboratory reports of streptococcal bacteraemia, England, Wales, and Northern Ireland: 2003-2006

Streptococcus spp	2003	2004	2005	2006
Pyogenic streptococci	**3916**	**3710**	**3536**	**3759**

group A streptococci	1688	1535	1252	1272
group B streptococci	1226	1176	1249	1442
group C streptococci	275	255	276	291
group G streptococci	727	744	776	754
Non-pyogenic streptococci	**2413**	**2520**	**2643**	**2818**
anginosus group	**612**	**631**	**678**	**726**
Steptococcus anginosus	146	193	174	175
Streptococcus constellatus	169	160	206	203
Streptococcus intermedius	57	77	74	90
Streptococcus milleri group	203	179	177	215
Streptococcus group F	37	22	47	43
bovis group	**235**	**231**	**214**	**252**
Streptococcus bovis (untyped)	186	187	177	213
Streptococcus bovis biotype I	20	20	17	12
Streptococcus bovis biotype II	14	14	12	17
Streptococcus equinus	12	9	7	7
Streptococcus alactolyticus	3	1	1	3
mitis group	**1005**	**1074**	**1052**	**1164**
Streptococcus mitis	27	50	50	45
Streptococcus oralis	310	340	341	365
"*Streptococcus mitis* group"	663	680	655	746
mutans group	**45**	**41**	**48**	**44**
Streptococcus mutans	45	40	47	44
Streptococcus sobrinus	0	1	1	0
salivarius group	**189**	**226**	**282**	**291**
Streptococcus salivarius	161	195	249	259
Streptococcus vestibularis	28	31	33	32

sanguinis group	**327**	**317**	**369**	**341**
Streptococcus gordonii	21	14	26	23
Streptococcus sanguinis	4	10	8	16
Streptococcus parasanguinis	64	58	73	85
"*Streptococcus sanguinis* group"	238	235	262	217
Other streptococci	**1648**	**1792**	**1746**	**1890**
Streptococcus acidominimus	45	47	52	53
Streptococcus suis	2	0	3	3
Streptococcus uberis	3	4	6	8
"Anaerobic streptococcus"	40	48	31	37
Streptococci not fully identified	1558	1693	1654	1789
Total	**7977**	**8022**	**7925**	**8467**
Genera closely related to streptococci	**330**	**432**	**436**	**499**
Abiotrophia spp.	11	20	26	34
Aerococcus spp.	79	98	106	133
Gemella spp.	80	92	98	111
Globicatella sanguis	0	0	0	2
Leuconostoc spp.	29	35	31	43
Pediococcus spp.	4	3	4	3
Peptostreptococcus spp.	127	184	171	173

Table 2a: Region-specific rates (per 100,000 population) of pyogenic streptococcal bacteraemia: England, Wales and Northern Ireland, 2006

Country/Region	rate per 100,000 population			
	Group A	Group B	Group C	Group G
North East	1.68	2.07	0.67	0.55
Yorkshire & Humber	2.70	3.27	0.80	1.83
East Midlands	1.67	2.11	0.25	0.99
East of England	2.69	3.19	0.48	1.85
London	1.74	2.21	0.33	0.96
South East	1.89	1.80	0.30	0.97
South West	2.73	2.71	0.57	1.52
West Midlands	3.07	3.84	0.84	2.25
North West	3.02	2.54	0.66	1.44
England	2.37	2.61	0.52	1.39
Wales	1.38	1.89	0.74	1.38
Northern Ireland (N.I.)	1.49	3.50	0.23	0.46
England, Wales and N.I.	2.29	2.60	0.52	1.36

Table 2b: Region-specific rates (per 100,000 population) of non-pyogenic streptococcal bacteraemia: England, Wales and Northern Ireland, 2006

Country/Region	rate per 100,000 population				
	"Anginosus Group"	"Bovis Group"	"Mitis Group"	"Salivarius Group"	"Sanguinis Group"
North East	1.06	0.35	3.40	0.86	0.35
Yorkshire & Humber	1.83	0.49	2.12	0.56	0.43
East Midlands	0.92	0.27	1.31	0.30	0.25
East of England	1.43	0.54	2.14	0.54	0.98
London	1.00	0.44	1.76	0.51	0.20
South East	1.20	0.38	1.47	0.36	0.72
South West	1.60	0.60	2.03	0.57	0.88
West Midlands	1.79	0.61	2.94	0.97	0.69
North West	1.42	0.36	3.46	0.53	0.88
England	**1.36**	**0.45**	**2.22**	**0.55**	**0.62**
Wales	**0.61**	**0.40**	**0.78**	**0.17**	**0.67**
Northern Ireland (N.I.)	**1.03**	**0.63**	**0.92**	**0.40**	**0.46**
England, Wales and N.I.	**1.31**	**0.45**	**2.10**	**0.52**	**0.61**

The highest reported rates of GAS bacteraemia were in those aged less than 1 year (5.6/100000, 95% CI 4.0 to 7.7) and in adults aged 75 years and over (7.9/100000, 95% CI 7.1 to 8.8). Rates of GAS bacteraemia among young adults showed a slight decrease in 2006 from 1.5 in 2005 to 1.4/100,000 in 2006, consistent with the decline in IDU-related infection

identified through isolate ref errals to SDRU [3]. Rates of GAS bacteraemia reports were higher in males than females across all age groups.

Reported resistance rates to clindamycin, erythromycin, and tetracycline were 5.8%, 5.1% and 16.8% respectively in 2006 (table 3). While tetracycline and erythromycin resistance have remained relatively stable since 2003, prevalence of clindamycin resistance has fluctuated substantially. Penicillin resistance has not been seen to date in the UK or elsewhere and remains the therapeutic drug of choice for GAS infections. Erythromycin resistance was commonly associated with combined resistance to other antibiotics, with 38% and 82% of erythromycin isolates being resistant to clindamycin and tetracycline respectively. Of the 124 isolates reported as having been tested against all three agents, only one (0.8%) was reported as resistant to all three.

Table 3 Antibiotic resistance data for streptococcal bacteraemia reports: England, Wales, and Northern Ireland: 2003-2006

Group	Antibiotic	2003		2004		2005		2006	
		no. tested	(% resistant)	no. tested	(% resistant)	no. tested	(% resistant)	no. tested	(% resistant)
group A	clindamycin	478	(2%)	209	(7%)	158	(3%)	171	(6%)
	erythromycin	1058	(5%)	899	(4%)	648	(5%)	708	(5%)
	tetracycline	760	(17%)	567	(14%)	386	(16%)	464	(17%)
group B	clindamycin	165	(10%)	162	(6%)	155	(9%)	210	(8.6%)
	erythromycin	824	(7%)	856	(8%)	862	(10%)	1029	(11.2%)
	tetracycline	536	(76%)	566	(78%)	567	(76%)	715	(80.1%)
group C	clindamycin	31	(6%)	50	(16%)	41	(12%)	38	(8%)
	erythromycin	174	(12%)	173	(17%)	195	(14%)	197	(9%)
	tetracycline	110	(29%)	97	(38%)	123	(24%)	129	(23%)
group G	clindamycin	91	(11%)	123	(6%)	114	(5%)	115	(6%)
	erythromycin	534	(16%)	575	(14%)	569	(18%)	552	(19%)
	tetracycline	338	(50%)	382	(50%)	409	(50%)	397	(47%)
"anginosus"	erythromycin	365	(7%)	399	(8%)	430	(10%)	455	(9%)
	penicillin	413	(3%)	461	(3%)	491	(4%)	558	(4%)
	tetracycline	211	(16%)	218	(12%)	233	(22%)	324	(15%)
"bovis"	erythromycin	122	(13%)	145	(16%)	120	(15%)	148	(21%)
	penicillin	139	(6%)	167	(4%)	138	(9%)	180	(9%)
	tetracycline	72	(56%)	88	(47%)	84	(58%)	109	(59%)
"mitis"	erythromycin	584	(36%)	631	(36%)	636	(40%)	696	(43%)
	penicillin	627	(21%)	721	(22%)	756	(22%)	862	(25%)
	tetracycline	328	(29%)	305	(31%)	380	(31%)	469	(32%)
"salivarius"	erythromycin	111	(20%)	124	(35%)	161	(31%)	186	(33%)
	penicillin	122	(22%)	160	(22%)	192	(29%)	220	(28%)
	tetracycline	73	(22%)	78	(21%)	109	(18%)	128	(17%)

"sanguinis"	erythromycin	189	(28%)	193	(28%)	230	(36%)	230	(33%)
	penicillin	219	(18%)	225	(21%)	270	(24%)	280	(20%)
	tetracycline	132	(25%)	111	(23%)	146	(35%)	160	(29%)

A total of 764 GAS blood culture isolates were submitted to SDRU in 2006 from laboratories in England, Wales and Northern Ireland . The most common *emm* /M-types identified were *emm* /M1 (25%), *emm* /M89 (16%), *emm* /M12 (16%), *emm* /M28 (8%) and *emm* /M87 (6%), which between them accounted for 70% of isolates typed.

Group B streptococci

Reports of bacteraemia due to group B streptococcus (GBS) in England, Wales and Northern Ireland increased substantially between 2005 and 2006, from 1249 to 1442 (15% increase), placing GBS ahead of GAS as the leading cause of streptococcal bacteraemia. The overall rate of reports from laboratories in England, Wales and Northern Ireland was 2.60 (95% CI 2.47 to 2.74) per 100,000 population (table 2a), with rates substantially higher in Northern Ireland (3.50) than England (2.61) or Wales (1.89), a pattern also seen in 2005.

The overall rate of GBS reports across all age groups was 2.6 /100,000 (95% CI 2.5 to 2.7) in 2006, although considerably higher in infants at 62.4/100,000 (95% CI 56.6-68.6). Rates were higher for males than females across all age groups. The biggest increase in rates of reports between 2005 and 2006 was seen for women aged from 45 to 64 years, with rates of reports increasing from 1.06 to 1.75/100,000.

GBS infections in infants are typically classified into early-onset (between 0 and 6 days old) and late-onset (between 7 and 90 days old). The reported rate of GBS bacteraemia per 1000 live births was 0.37 (95% CI 0.33 to 0.42) for early-onset disease and 0.24 (95% CI 0.20 to 0.28) for late-onset disease in 2006 (table 4), both having increased from 2005 (0.31 and 0.20 for early- and late-onset respectively).

Table 4: Number and rate (per 1000 live births) of group B streptococcal bacteraemia reports in infants 0-90 days old in England, Wales, and Northern Ireland: 2006

Country	All cases (0-90 day old)			Early onset (0-6 days old)			Late onset (7-90 days old)		
	number	rate	(95% CI)	number	rate	(95% CI)	number	rate	(95% CI)
England	366	0.58	(0.52-0.64)	221	0.35	(0.30-0.40)	145	0.23	(0.19-0.27)
Wales	25	0.74	(0.48-1.10)	17	0.51	(0.29-0.81)	8	0.24	(0.10-0.47)
Northern Ireland (N.I.)	18	0.77	(0.46-1.22)	10	0.43	(0.21-0.79)	8	0.34	(0.15-0.68)
England , Wales and N.I.	409	0.61	(0.55-0.67)	248	0.37	(0.33-0.42)	161	0.24	(0.20-0.28)

The proportion of GBS bacteraemia reports accompanied by susceptibility data has increased since 2003 although only 15% reports included results for clindamycin in 2006. Resistance of GBS blood culture isolates to clindamycin, erythromycin and tetracycline was noted in 8.6%, 11.1% and 80.1% of reports respectively, with erythromycin resistance showing a steady increase from 7% in 2003 (table 3). Of the 150 isolates reported as being tested against all three agents, 11 (7%) were found to be resistant to all three.

Group C and G streptococci
Voluntary reporting has shown a general increase in the numbers of reports of bacteraemia caused by group C streptococcus (GCS) from 275 in 2003 to 291 in 2006 (table 1). Reports of bacteraemia due to group G streptococcus (GGS) fluctuated over the same period, with 754 reports being made for 2006. The rate of reported bacteraemia due to GCS in England, Wales, and Northern Ireland in 2006 was 0.5 per 100,000 (95% CI 0.5 to 0.6) and the highest regional rate was observed in the West Midlands at 0.8/100,000 (table 2a). The rate of GGS bacteraemia reports in England, Wales and Northern Ireland was 1.4/100,000 (95% CI 1.3 to 1.5) with the highest reported rates being again detected in the West Midlands with 2.3/100,000.

The age distributions of rates of both GCS and GGS bacteraemia reports were concentrated in the elderly, with rates tending to be higher in males than females in all age groups.

Reported resistance to clindamycin, tetracycline and erythromycin showed no clear trends between for GGS or GCS between 2003 and 2006, with the exception of erythromycin resistance in GGS isolates, which increased steadily from 15% to 19% (table 3). Of the 27 GCS isolates tested for all three agents, none were reported as multiply resistant. One of the 91 GGS (1%) isolates tested against all three antibiotics showed multiple resistance.

Non-pyogenic streptococci
Reports of bacteraemia due to non-pyogenic streptococci increased steadily between 2003 and 2006 from 2413 to 2818 reports for all groups combined (table 1). The largest increases were observed for the ‘salivarius' group where reports increased by 54% since 2003. All other groups also increased, with the exception of the ‘mutans' group which showed little change.

Reporting rates for England, Wales and Northern Ireland in 2006 ranged from 0.5 per 100,000 population (95% CI 0.4-0.5) for bacteraemia due to ‘bovis group' streptococci to 2.1/100,000 (95% CI 2.0-2.2) for the ‘mitis group' (table 2b). Distribution of non-pyogenic streptococcal bacteraemia reports by age-group and sex showed a concentration in the youngest and oldest age groups, and in most cases among males compared to females.

Since 2003, the proportion of bacteraemia reports accompanied by susceptibility data has increased markedly for all non-pyogenic groups, with over 70% including information on susceptibility to penicillin. In contrast to the pyogenic streptococci, where penicillin resistance has not been observed, between 4 and 27% of isolates from non-pyogenic groups were reported as penicillin resistant, the highest frequency being observed in the ‘salivarius group'. Erythromycin resistance was also high in the non-pyogenic groups compared to the pyogenic groups, with over 20% of isolates from non-pyogenic groups reported as erythromycin resistant, with the exception of the ‘anginosus group' (9%) (table 3). The highest levels of tetracycline resistance were observed in the ‘bovis group' where 59% of isolates were reported as resistant.

Substantial numbers of reports continue to be made of streptococcal bacteraemia in which the organism is not fully identified (1789 in 2006). Precise species identification of isolates would improve the monitoring of disease trends of non-pyogenic streptococci and related genera in particular. The Streptococcus and Diphtheria Reference Unit offers a referred (charged for) taxonomic identification service for streptococci and other related Gram-positive, catalase-negative genera from systemic and other significant infections. However, a free-of-charge reference service will continue to be available for urgent public health investigations, outbreaks and incident management, either hospital or community based.

Laboratories are requested to send any pyogenic streptococcal isolates exhibiting a decreased sensitivity to penicillin to the Antibiotic Resistance Monitoring and Reference Laboratory (ARMRL) for confirmation. Both laboratories are based at the Health Protection Agency, Centre for Infections in Colindale. In addition, any streptococci (pyogenic or non-pyogenic) with suspected glycopeptide or linezolid resistance should be referred for further investigation.

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3. Health Protection Agency, Health Protection Scotland, National Public Health Service for Wales, CDSC Northern Ireland, and CRDHB. *Shooting Up: Infections among injecting drug users in the United Kingdom 2006.* London: Health Protection Agency; 2007.

Footnote
*LabBase2 is the database that collects laboratory reports of all microorganisms isolated at nearly 400 NHS and other laboratories throughout England and Wales . The database is managed and accessed at the Centre for Infections.

Polymicrobial bacteraemia 2006

Episodes of polymicrobial bloodstream infections are defined as the isolation of two or more different organisms from the same blood culture. These analyses are for specimens collected in 2006 for England, Wales, and Northern Ireland and are based on data extracted from the HPA's voluntary surveillance database (5 November, 2007). The data presented here differ in some instances from data in earlier publications due to the addition of late reports to the database.

91,878 patient episodes involving bacteraemia and/or fungaemia were identified from all reports received from laboratories in England Wales, and Northern Ireland in 2006 (table 1). This represents a 38% increase on the number of patient episodes recorded in 2002 (68,003 episodes). This increase may be real or due to increased ascertainment by reporting laboratories.

For specimens collected in 2006, 7530 patient episodes (8.2% of all patient episodes) were identified as polymicrobial and 84,348 were identified as monomicrobial.

Of the 7530 polymicrobial patient episodes, 6621 involved two different organisms, 779 involved three different organisms and 130 involved four or more organisms.

There has been an 84% increase in the number of polymicrobial patient episodes from 4,101 in 2002 to 7,530 in 2006. As a percentage of all reported patient episodes, polymicrobial infections accounted for 8.2% in 2006, compared with 6.0% in 2002.

The ten most frequently reported organisms involved in polymicrobial acteraemias/fungaemias are (in descending order): *Enterococcus,* coagulase-negative *Staphylococcus, Escherichia,* non-pyogenic *Streptococcus, Staphylococcus aureus, Klebsiella, Pseudomonas, Enterobacter, Proteus,* and Coliforms.

The overall rate of polymicrobial episodes in England, Wales, and Northern Ireland is 13.6 per 100,000 population (figure 1). By country, the reported rates (per 100,000 population) were 14.0, 9.3, and 9.9 in England, Wales, and Northern Ireland, respectively.

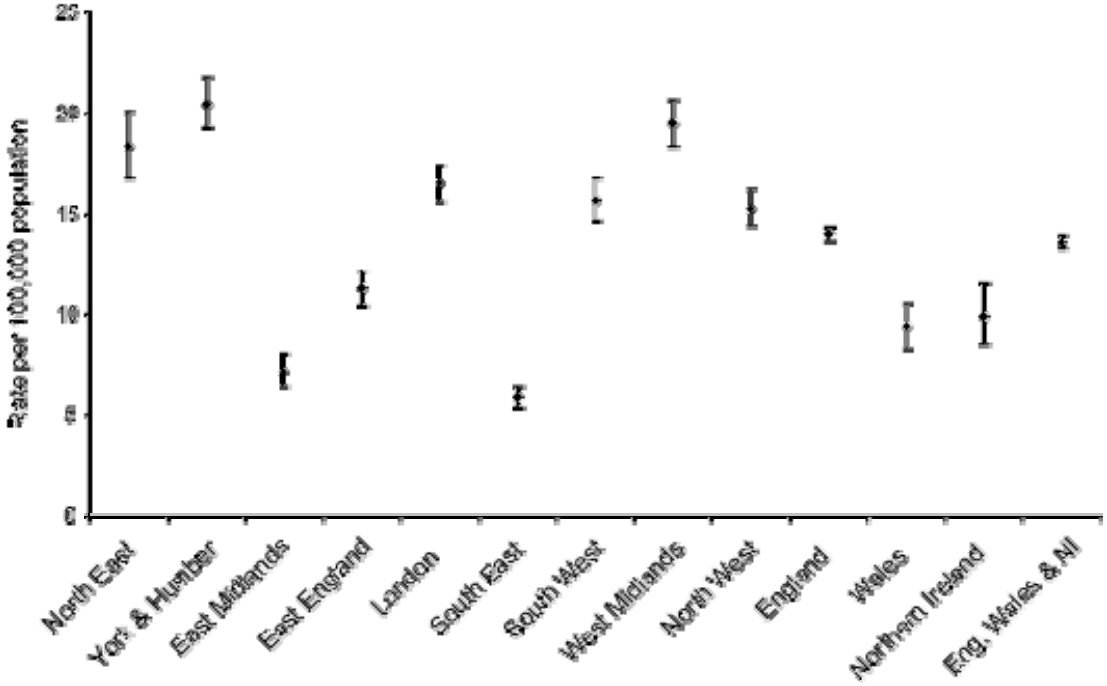
Within England, the lowest rate of polymicrobial episodes was recorded for the South East (5.9 per 100,000), while the highest rates was recorded for Yorkshire and Humberside (20.5 per 100,000).

Table 1: Trends in reports of bacteraeamias and fungaemias in England, Wales, and Northern Ireland: 2002 to 2006*

	2002	2003	2004	2005	2006
Total reported bacteraemia	71,371	86,176	87,881	92,071	98,506
Total reported fungaemia	1,254	1,491	1,640	1,829	1,958
Number of patient episodes	68,003	80,836	82,086	86,092	91,878
Number of polymicrobial patient episodes	4,101	5,972	6,532	6,786	7,530
Percentage of patient episodes that are polymicrobial	6.0%	7.4%	8.0%	7.9%	8.2%

* Data abstracted on 5 November, 2007

Figure 1 Regional distribution of polymicrobial bacteraemia/fungaemia episodes (per 100,000 population) in England, Wales, and Northern Ireland: 2006*



* Data abstracted on 5 November, 2007

For further information, see the HPA website at
http://www.hpa.org.uk/infections/topics_az/bacteraemia/polymic06/default.htm