



Public Health
England

Health Protection Report

weekly report

Volume 8 Number 13 Published on: 4 April 2014

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Group A streptococcal infections: second update on seasonal activity, 2013/14

On-going surveillance of scarlet fever notifications indicate continuing high levels of notifications in England, with recent weekly totals higher than any on record (weekly level records held since 1982) [1,2]. GP sentinel (syndromic) surveillance is similarly reporting increases in GP consultations for pharyngitis/scarlet fever compared to the same period last year [3]. Increases in scarlet fever have been seen across the United Kingdom [4]. Routine laboratory reports and isolate referrals have not shown any elevation of invasive group A streptococcal (iGAS) disease incidence.

Investigations are underway in an attempt to identify the reasons for the unusual escalation in scarlet fever, including microbiological investigation of strains causing scarlet fever. Letters have been sent to GPs, A&E departments, paediatricians, microbiologists and infectious disease specialists to inform them of the current situation. Guidelines to assist local health protection staff in managing outbreaks of scarlet fever are currently being drafted. Due to rare but potentially severe complications associated with group A streptococcal (GAS) infections, continued vigilance is still recommended.

Scarlet fever

Routine monitoring of surveillance data for England shows that the number of cases have continued to rise with week 13 having the highest total weekly scarlet fever notifications (883) so far this season; bringing the seasonal total to 5012 (week 37 of 2013 to week 13 of 2014; figure 1).

Scarlet fever notifications remain high across England, with rates of infection between 5.2 (West Midlands) and 20.1 (East Midlands) per 100,000 population; after the East Midlands the highest rates are being seen in Avon Gloucestershire and Wiltshire (15.6), Thames Valley (14.5), North East (13.0), Cumbria and Lancashire (10.8), South Midlands and Hertfordshire (10.7) and Greater Manchester (10.6).

The median age of scarlet fever cases this season remains at four years (range <1y to 77y), with a near equal split between males and females (49% males) overall (figure 2). Rates of infection in children ranged from 4.8 per 100,000 population in 10-14 year olds to 17.0 in 1-4

year olds. The rate of infection remains low in adults, less than 1 per 100,000 in all adult age groups, with only 317 (7%) notifications received for persons aged 15 or over.

Figure 1. Weekly scarlet fever notifications in England, 2008/09 onwards

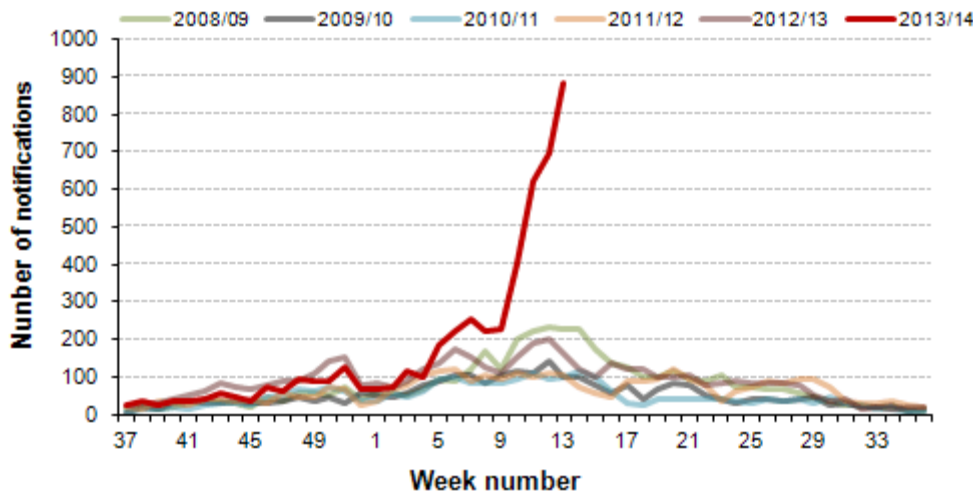
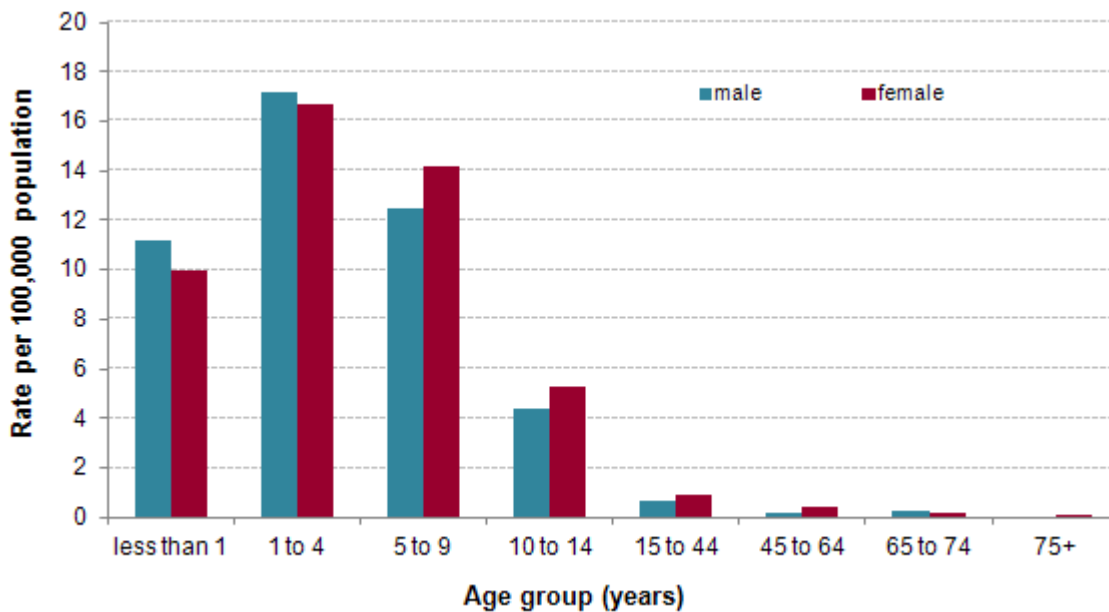


Figure 2. Rate per 100,000 population scarlet fever notifications in England by age and sex, week 37 of 2013 to 13 of 2014



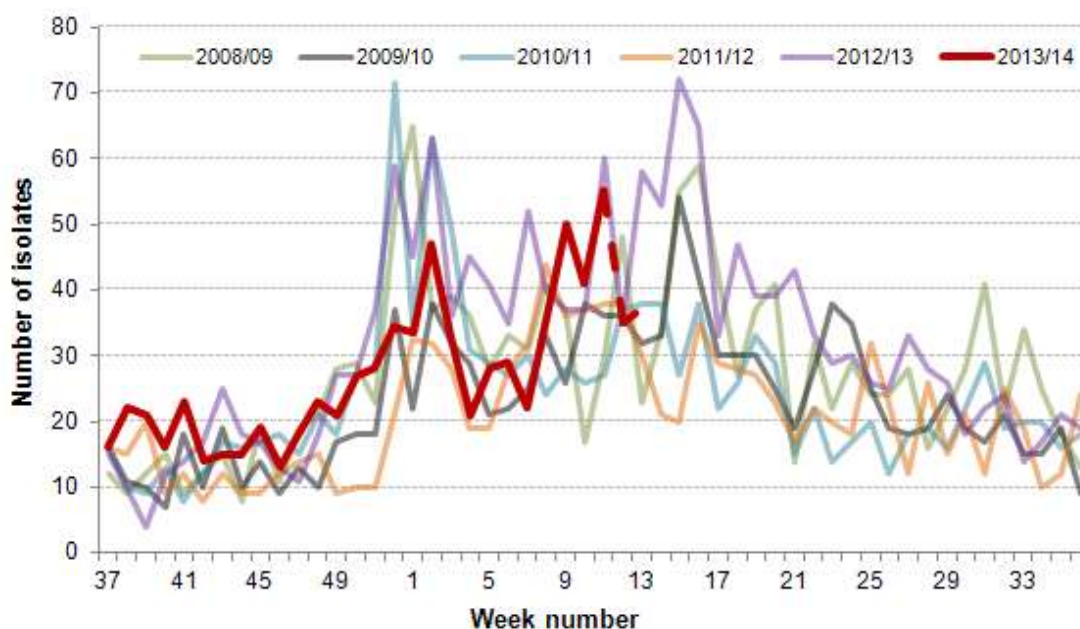
Invasive Group A Streptococcus

The number of iGAS isolate referrals, defined as isolation of GAS from a normally sterile site, to the Respiratory and Vaccine Preventable Bacteria Reference Unit at Colindale PHE from laboratories in England, Wales and Northern Ireland this season has to date not increased in line with scarlet fever incidence, with a total of 793 isolates referred so far (week 37 of 2013 to week 13 of 2014; figure 3). Laboratories in each English region have referred numbers of

isolates below average levels for January to March this season (28 in North East to 77 in the South East), with London being the only region referring more than average over the past five years (57 vs 44). However isolates are still being received for specimens taken in March and as such, these numbers are liable to increase.

Currently the strain type diversity remains similar to what is normally seen; emm1 was the most common type identified so far in 2014 (27%). The proportion of referred isolates that have been identified as emm3 type is slightly increased compared to last season (22% compared with 14%), given the increased severity of disease associated with emm3 strains this warrants increased monitoring.

Figure 3. Weekly count of sterile site GAS isolates referred to the national reference laboratory, England, 2008/09 onwards



Routine laboratory reporting of iGAS infection included antimicrobial susceptibility test results for 80% of reports made this season (weeks 37 2013 to 13 2014). Of these, 6% were non-susceptible to erythromycin, 10% tetracycline and 3% clindamycin, similar to previous years [5]. There have been no reports of penicillin resistance in iGAS isolates in England to date. The median age of patients with iGAS infection was 59 years (range <1y to 102y), with 43% occurring in males, slightly lower than seen previously (previous five seasons 49% to 52% male).

Analysis of scarlet fever notifications over the last century suggest cyclical patterns of incidence, with resurgences occurring on average every four years [6]. The last peak year for scarlet fever was 2008/09, with invasive disease tending to mirror superficial manifestations of GAS infection in some but not all years [7].

Clinicians, microbiologists and HPTs should continue to be mindful of potential increases in invasive disease and maintain a high index of suspicion in relevant patients as early recognition and prompt initiation of specific and supportive therapy for patients with iGAS infection can be life-saving. Invasive disease isolates and those from suspected clusters or outbreaks should be submitted to the Respiratory and Vaccine Preventable Bacteria Reference Unit at Public Health England, 61 Colindale Avenue, London NW9 5HT.

Relevant guidelines are available on the PHE health protection website, as follows:

- on infection control in schools and other childcare settings, including recommended exclusion periods for scarlet fever, at: <http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/SchoolsGuidanceOnInfectionControl/>
- FAQs on scarlet fever at: <http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/ScarletFever/>
- on management of close community contacts of iGAS cases [8] and prevention and control of GAS transmission in acute healthcare/maternity settings [9] at: <http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/StreptococcalInfections/Guidelines>.

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PHE launches new sexual and reproductive health tool

Public Health England has launched a new online data resource – Sexual and Reproductive Health Profiles (SRHPs) – designed to support local authorities, public health leads and others involved in monitoring the sexual and reproductive health of their populations and inform the commissioning of related public health services [1].

The profiles comprise a set of interactive maps, charts and tables illustrating trends and regional variations in a number of sexual health-related indicators. Topics covered by the SRHPs include: teenage pregnancy, abortion, contraception, HIV, sexually transmitted infections and sexual offences [2].

The local authority level indicators mostly draw on data previously in the public domain, but abortion indicator data previously only released at clinical commissioning group level have also been published, as well as updated indicators for hospital admissions due to pelvic inflammatory disease and ectopic pregnancy. In future, the range of indicators included in the SRHPs will be extended.

The sexual health profiles tool is one of seven sets of National Public Health Profiles that have been developed by PHE to facilitate commissioning of public health services [3].

References

1. “PHE launches new sexual and reproductive health tool”, PHE press release, 1 April 2014.
2. Sexual and Reproductive Health Profiles webpages: <http://fingertips.phe.org.uk/profile/sexualhealth>.
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Infection report

Volume 8 Number 13 Published on: 4 April 2014

Respiratory

Laboratory reports of respiratory infections made to CIDSC from PHE and NHS laboratories in England and Wales: weeks 10-13/2014

Data are recorded by week of report, but include only specimens taken in the last eight weeks (ie recent specimens).

Table 1. Reports of influenza infection made to PHE Colindale, by age group

Week	Week 10	Week 11	Week 12	Week 13	Total
Week ending	9/3/14	16/3/14	23/3/14	30/3/14	
Influenza A	172	195	154	115	636
Isolation	25	18	16	6	65
DIF *	24	29	31	9	93
PCR	105	138	96	90	429
Other †	18	10	11	10	49
Influenza B	2	7	5	10	24
Isolation	1	–	1	–	2
DIF *	–	–	–	–	1
PCR	–	5	3	8	16
Other †	1	2	1	2	6

* DIF = Direct Immunofluorescence.

† Other = "Antibody detection - single high titre" or "Method not specified".

Table 2. Respiratory viral detections by any method (culture, direct immunofluorescence, PCR, four-fold rise in paired sera, single high serology titre, genomic, electron microscopy, other method, other method unknown), by week of report

Week	Week 10	Week 11	Week 12	Week 13	Total
Week ending	9/3/14	16/3/14	23/3/14	30/3/14	
Adenovirus *	55	53	53	59	220
Coronavirus	30	25	18	8	81
Parainfluenza †	29	29	45	29	132
Rhinovirus	137	162	155	176	630
RSV	67	58	51	32	208

* Respiratory samples only.

† Includes parainfluenza types 1, 2, 3, 4 and untyped.

Table 3. Respiratory viral detections by age group: weeks 6-9/2014

Age group (years)	<1 year	1-4 years	5-14 years	15-44 years	45-64 years	≥65 years	Un-known	Total
Adenovirus *	1	138	22	21	24	14	–	220
Coronavirus	1	33	5	14	6	22	–	81
Influenza A	2	120	31	188	168	122	–	631
Influenza B	–	3	3	6	8	4	–	24
Parainfluenza †	–	1	–	–	–	–	–	1
Rhinovirus	3	63	7	16	19	24	–	132
Respiratory syncytial virus	25	334	52	79	82	58	–	630

* Respiratory samples only.

† Includes parainfluenza types 1, 2, 3, 4 and untyped.

Table 4 Laboratory reports of infections associated with atypical pneumonia, by week of report

Week	Week 10	Week 11	Week 12	Week 13	Total
Week ending	9/3/14	16/3/14	23/3/14	30/3/14	
<i>Coxiella burnetii</i>	–	–	1	1	2
Respiratory <i>Chlamydia</i> sp. *	–	1	1	3	5
<i>Mycoplasma pneumoniae</i>	15	11	10	7	43
<i>Legionella</i> sp.	9	–	6	–	15

*Includes *Chlamydia psittaci*, *Chlamydia pneumoniae*, and *Chlamydia* sp detected from blood, serum, and respiratory specimens.

Table 5 Reports of Legionnaires Disease cases in England and Wales, by week of report

Week	Week 10	Week 11	Week 12	Week 13	Total
Week ending	9/3/14	16/3/14	23/3/14	30/3/14	
Nosocomial	1	–	–	–	1
Community	5	–	5	–	10
Travel Abroad	3	–	1(1*)	–	4
Travel UK	–	–	–	–	–
Total	9	–	6	–	15
Male	6	–	5	–	11
Female	3	–	1	–	4

* Non-pneumonic case(s).

Fourteen cases were reported with pneumonia and one case was reported with non-pneumonic infection. Eleven males aged 38 - 81yrs and four females aged 58 - 67yrs. Ten cases had community-acquired infection and one case was reported to be associated with hospital infection. Two deaths were reported in an 81yrs old male and a 65yrs old female.

Four cases were reported with travel association: India (1), Italy (1), Malta (1) and Mauritius/United Arab Emirates (1).

Table 6. Reports of Legionnaires Disease cases in England and Wales, by PHE Centre: weeks 10-13/2014

Region/Country	Noso- comial	Community	Travel Abroad	Travel UK	Total
North of England					
North East	–	1	–	–	1
Cheshire & Merseyside	–	–	–	–	–
Greater Manchester	–	–	–	–	–
Cumbria & Lancashire	–	–	–	–	–
Yorkshire & the Humber	–	–	1(1*)	–	1
South of England					
Devon, Cornwall & Somerset	–	–	–	–	–
Avon, Gloucestershire & Wiltshire	–	–	1	–	1
Wessex	–	1	–	–	1
Thames Valley	–	1	1	–	2
Sussex, Surrey & Kent	–	–	–	–	–
Midlands & East of England					
East Midlands	–	2	–	–	2
South Midlands & Hertfordshire	–	–	–	–	–
Anglia & Essex	–	–	–	–	–
West Midlands	–	1	–	–	1
London Integrated Region					
London	1	4	–	–	5
Public Health Wales					
Mid & West Wales	–	–	–	–	–
North Wales	–	–	1	–	1
South East Wales	–	–	–	–	–
Miscellaneous					
Other	–	–	–	–	–
Not known	–	–	–	–	–
Total	1	10	4	–	15

* Non-pneumonic case(s).