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Group A streptococcal infections: seasonal activity, 2017/18: third report

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Group A streptococcal infections: third report on seasonal activity in England, 2017/18

Surveillance of scarlet fever in England indicates a decline in notifications in recent weeks, however reported cases remain higher than the same period in the last four seasons (weeks 37 to 14, 2013/14 to 2016/17), a pattern reflected within the weekly GP consultation data [1,2]. This may indicate that we have passed the peak of the scarlet fever season but could in part reflect a delay in primary care access or reporting over the Easter bank holidays.

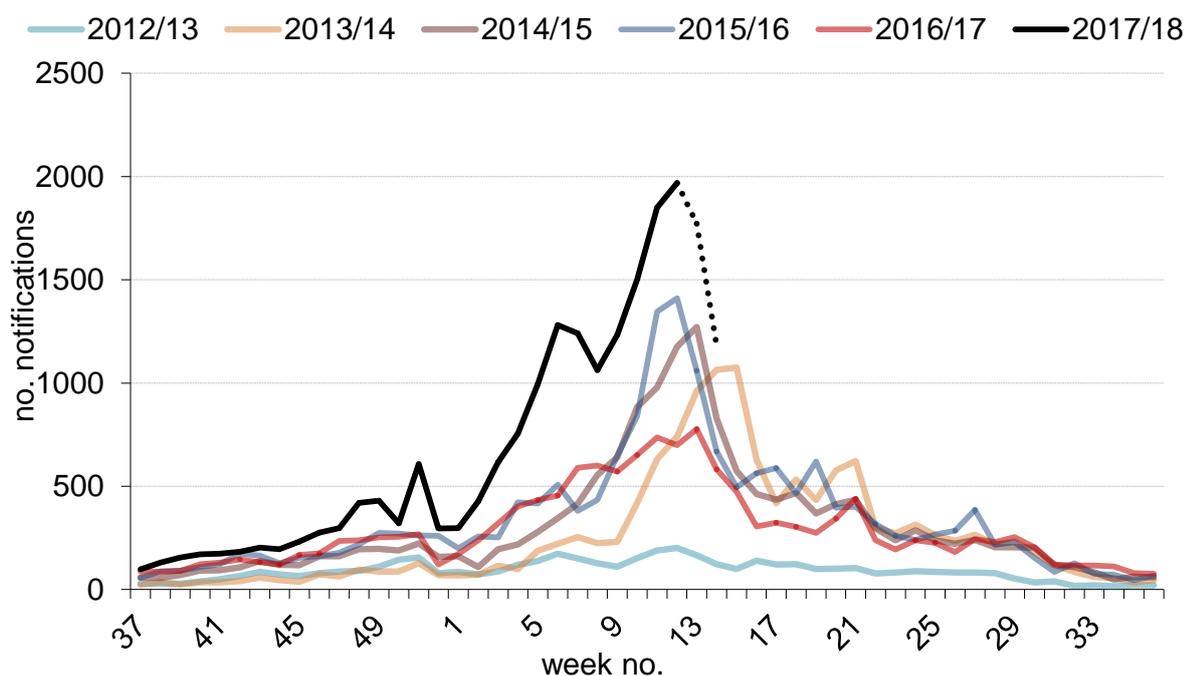
GPs, microbiologists and local authorities are asked to remain alert, and are reminded of the actions to be taken for every case, including: prompt notification to local Public Health England (PHE) Health Protection Teams (HPTs); obtaining throat swabs (prior to commencing antibiotics) when there is uncertainty about a diagnosis or when a case is part of an outbreak; and reinforcing the need for excluding cases or possible cases from school/work until antibiotic treatment has been commenced for a period of 24 hours [3].

The number of laboratory notifications of invasive group A streptococcal (iGAS) disease indicate continued elevation compared to recent seasons with possible early signs of decline. Frontline clinicians and microbiologists should be mindful of increases in invasive disease as the season progresses 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.

Scarlet Fever

Monitoring of scarlet fever notifications showed continued increases up to week 12 of 2018 when 1,968 notifications were made for patients in England (figure 1). Notifications to date for weeks 13 (1,772) and 14 (1,180) are lower than for week 12 but likely to increase as further notifications are received. This brings the total number of notifications of scarlet fever made so far this season (week 37, 2017 to week 14, 2018) to 20,372, more than double the average for this point since the upsurge began in 2013/14 (9,461; range 6,231 to 11,558). GP consultations for scarlet fever also indicate higher levels of scarlet fever this season compared with the last 5 years, with a decline in recent weeks, coinciding with Easter holidays [3].

Figure 1. Weekly scarlet fever notifications in England, 2012/13 onwards*



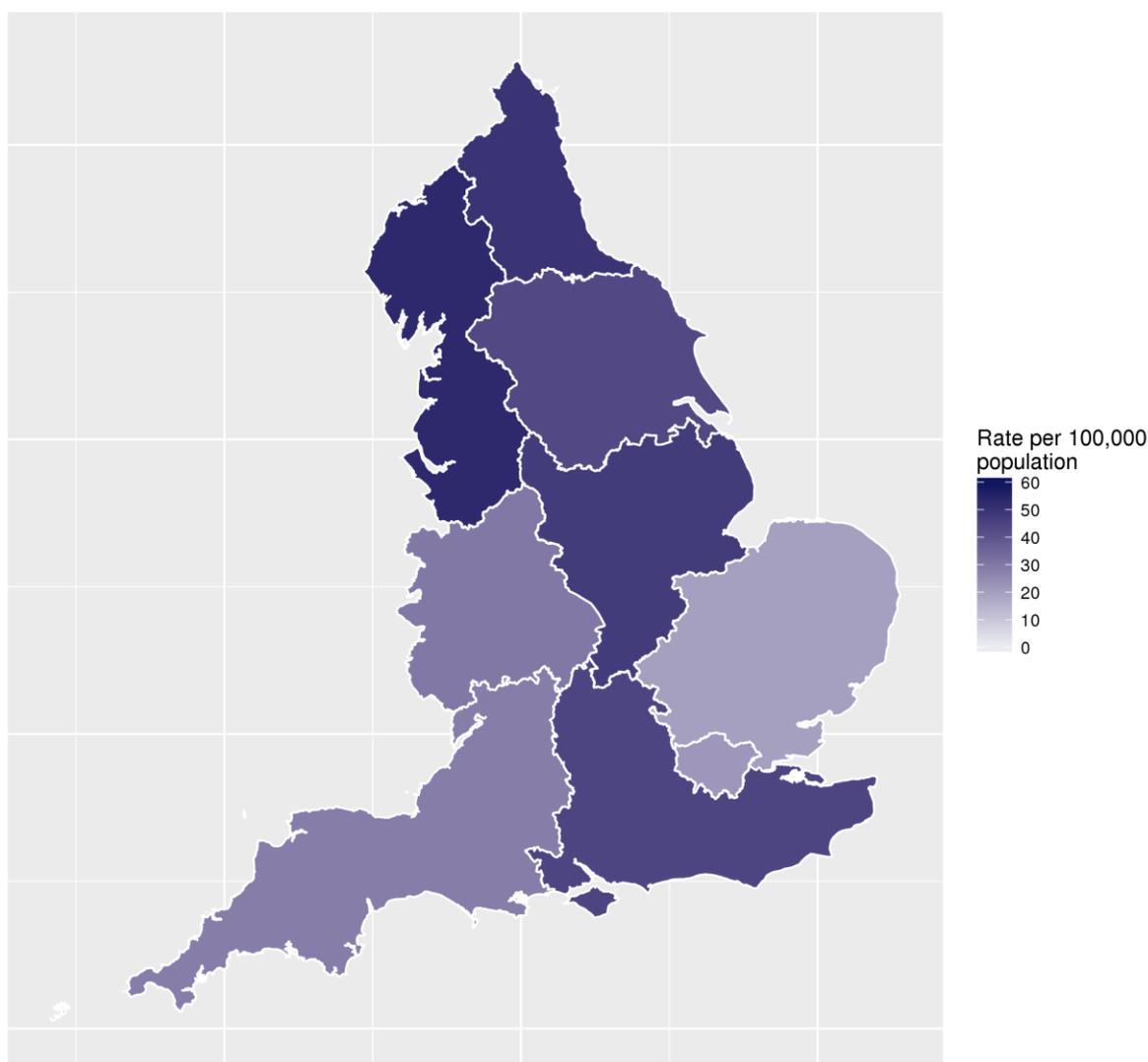
* Dashed line indicates that numbers may increase as further notifications expected.

Scarlet fever notifications showed some variation across England, with rates ranging between 19.7 (East of England) and 54.0 (North West) per 100,000 population (figure 2); after the North West the highest observed rates are in the North East (50.5), East Midlands (48.0) and the South East (45.2). All regions reported higher rates of scarlet

fever notification compared to the same point last season, with the North East, South East, North West, Yorkshire & the Humber and South West reporting rates more than twice as high.

The age distribution of scarlet fever cases notified so far for this season remains similar to previous years, with 89% being children under 10 years (median 4y; range <1y to 106y). The incidence of scarlet fever in children ranged from 46 per 100,000 population in less than 1 year olds to 1488/100,000 population in 1 to 4 year olds this season. Amongst adults, rates of infection decline with age from 138/100,000 in 15 to 44 year olds to 2/100,000 in the over 75s.

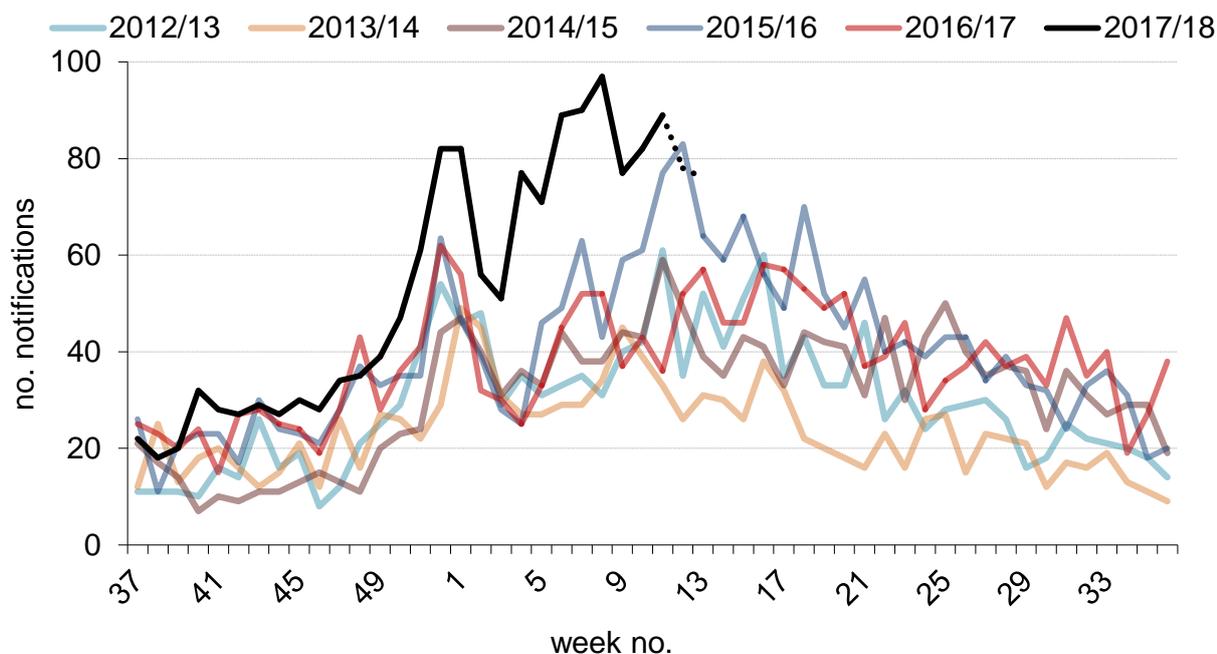
Figure 2. Rate per 100,000 population scarlet fever notifications in England by English region; weeks 37 to 14, 2017/18



Invasive Group A streptococcal infection

So far this season (week 37 to 13 2017/18), there have been 1,574 laboratory notifications of iGAS disease reported through routine laboratory surveillance in England; this is 73% higher than the average for the previous five years (911 notifications; range 755 to 1,134 figure 3). All nine English regions have higher rates of iGAS infection compared with the same point last season. The highest rates were reported in the Yorkshire & Humber region (3.7 per 100,000 population), followed by the North East (3.6/100,000), East Midlands and North West regions (both 3.5/100,000).

Figure 3. Weekly laboratory notifications of invasive GAS infection, England, 2012/13 onwards*



* Dashed line indicates that numbers may increase as further isolates expected

The median age of patients with iGAS infection so far this season is 56 years (range <1y to 104y), within the range seen at this point in the last five seasons (52y to 64y). Fourteen per cent of infections reported so far this season are in children (<10y), slightly higher than reported at this point last season (12%), but within the boundaries of what is normally seen (range 13% to 17%; 2013/14 to 2015/16). Compared with last season all age groups are seeing an increase in rates of iGAS infection, with the highest rates in the elderly at 8.7 per 100,000 population.

Characterisation of iGAS isolates referred to the Respiratory and Vaccine Preventable Bacteria Reference Unit from laboratories in England shows a diverse range of *emm* types (January to March 2018) with a continued dominance of *emm* 1 (27% of referred isolates) as per last season. Of note this season is the increase in the proportion of isolates that are *emm* 3 (14%) and *emm* 5 (10%) compared with last season (4% and 3% respectively).

Antimicrobial susceptibility results from routine laboratory surveillance indicate erythromycin non-susceptibility in 6% of GAS sterile site isolates, the same observed at this point in the last few seasons. The susceptibility testing of iGAS isolates against other key antimicrobials (tetracycline, 13%; clindamycin, 5%; and penicillin, 0%) indicates no change in resistance patterns. There are no confirmed reports of penicillin resistance in invasive or non-invasive GAS isolates.

Discussion

Rates of scarlet fever notification remain elevated but with early indications of a downturn in seasonal activity, as expected at this time of year. Weekly numbers of scarlet fever notifications this season have been higher than any previously recorded (weeks 11-13; weekly records available since 1982). Considered alongside the high numbers of GP consultations reported this season, this suggests genuinely exceptional levels of scarlet fevers [3].

While rates of scarlet fever remain high, close monitoring, rapid and decisive response to potential outbreaks and early treatment of scarlet fever is vital, especially given the potential complications associated with GAS infections.

The number of cases of iGAS disease notified through routine laboratory surveillance in England during 2018 is of concern, with weekly reports approaching 100 during February and March. Whether this increase is related to the heightened scarlet fever activity, or influenza activity, a known predisposing factor, is unknown. 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/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/FAQs are available on the PHE website, as follows:

- Guidelines on infection control in schools and other childcare settings, including recommended exclusion periods for scarlet fever and guidelines on management of scarlet fever outbreaks, can be found at:
<https://www.gov.uk/government/publications/scarlet-fever-managing-outbreaks-in-schools-and-nurseries>
- FAQs on scarlet fever can be found at:
<https://www.gov.uk/government/publications/scarlet-fever-symptoms-diagnosis-treatment>
- Guidelines for the management of close community contacts of invasive GAS cases and the prevention and control of GAS transmission in acute healthcare and maternity settings are also available here: <https://www.gov.uk/government/collections/group-a-streptococcal-infections-guidance-and-data>
- Weekly notifiable disease reports are published each week for a more timely but less detailed update; these can be found at:
<https://www.gov.uk/government/collections/notifications-of-infectious-diseases-noids>

References

1. PHE (2018). [Group A streptococcal infections: second report on seasonal activity in England, 2017/18](#). *Health Protection Report* **12**(9): infection (news) report.
2. PHE. [GP in-hours consultations bulletin: 12 April 2018 week 14](#)
3. PHE. [Guidelines for the public health management of scarlet fever outbreaks in schools, nurseries and other childcare settings](#).

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. We do this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. We are an executive agency of the Department of Health, and are a distinct delivery organisation with operational autonomy to advise and support government, local authorities and the NHS in a professionally independent manner.

About Health Protection Report

Health Protection Report is a national public health bulletin for England and Wales, published by Public Health England. It is PHE's principal channel for the dissemination of laboratory data relating to pathogens and infections/communicable diseases of public health significance and of reports on outbreaks, incidents and ongoing investigations.

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