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Group A streptococcal infections: second report on seasonal activity in England, 2019/20

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Group A streptococcal infections: second report on seasonal activity in England, 2019/20

Scarlet fever surveillance has identified a drop in recent notification levels, also reflected in weekly GP consultation data [1,2]. This recent reduction at a point when we would expect to be moving towards the seasonal peak may in part be due to lower attendance at GPs in light of COVID-19 messaging to the public. This is of concern given the importance of prompt treatment with antibiotics to limit further spread as well reducing risk of potential complications.

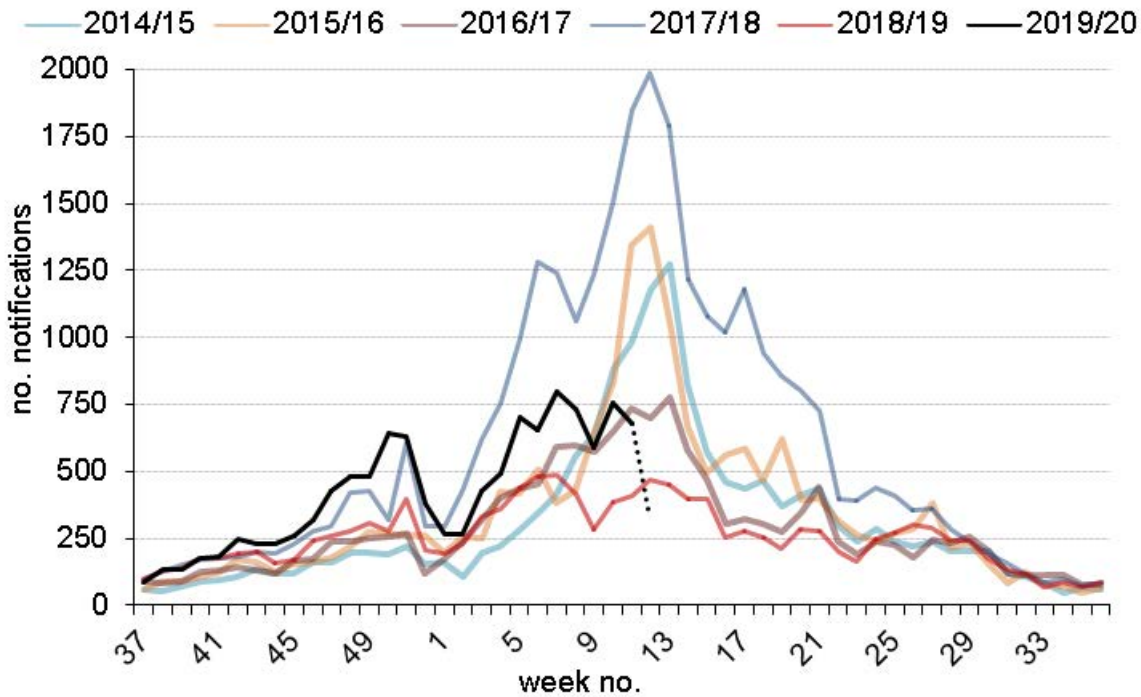
The number of laboratory notifications of invasive group A streptococcal (iGAS) disease are above average compared to the past five seasons, but within range of what is normally reported at this time of year.

GPs, microbiologists and paediatricians are reminded of the importance of prompt notification of cases and outbreaks of scarlet fever to local Public Health England (PHE) Health Protection Teams (HPTs), obtaining throat swabs (prior to commencing antibiotics) when there is uncertainty about the diagnosis, and exclusion of cases from school/work until 24 hours of antibiotic treatment has been received [3]. Due to rare but potentially severe complications associated with GAS infections, clinicians and HPTs should continue to be mindful of potential increases in invasive disease and maintain a high degree of clinical suspicion when assessing patients.

Scarlet fever

Scarlet fever notifications in England increased in line with the usual seasonal pattern up to week 10 of 2020, with a marked decrease in numbers since then (figure 1) [1]. A total of 11,739 notifications of scarlet fever have been received to date this season in England (weeks 37 to 12, 2019/20) compared to an average of 10,355 (range: 7,897 to 17,454) for this same period in the previous five years. Weekly notification totals of 797 and 731 were recorded in recent weeks (weeks 7 and 8) followed by a reduction in week 9 (590 notifications) and subsequent increase for weeks 10 and 11 (755 and 681 respectively). A provisional total of 324 notifications were made for week 12, with the potential for late reports to still be received.

Figure 1. Weekly scarlet fever notifications in England, 2014/15 onwards*

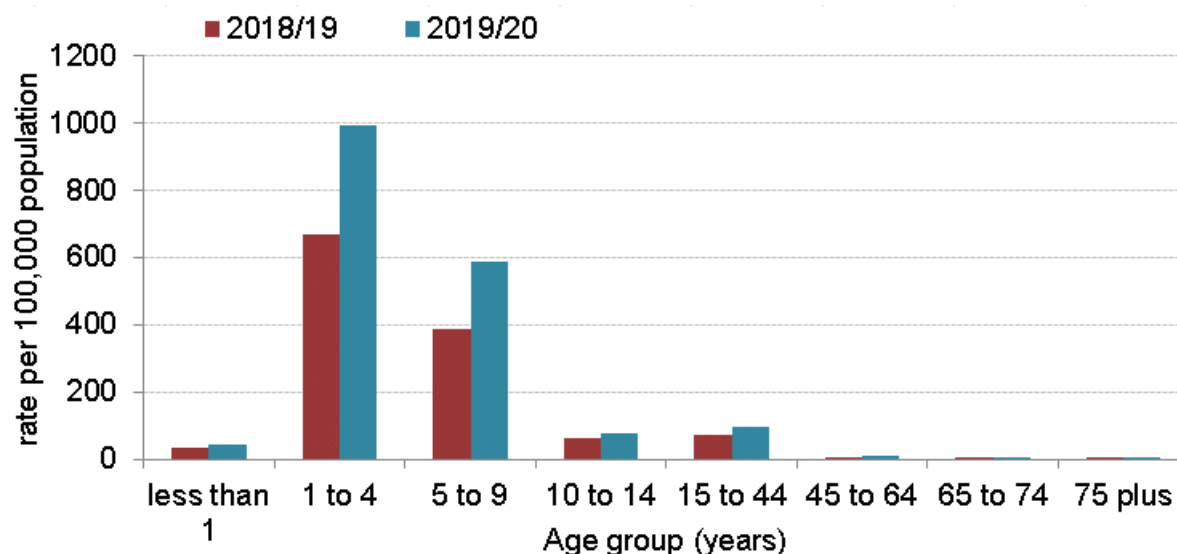


* Dashed line (week 12) indicates numbers may increase as further notifications expected.

Scarlet fever notifications to date this season showed some variation across England, ranging between 15.4 (London) and 36.3 (North West) per 100,000 population; after the North West the highest observed rates were in Yorkshire and the Humber (27.5), East Midlands (24.7) and the North East (21.9) regions.

The age distribution of scarlet fever cases notified so far for this season remains similar to previous years, with only 5% cases in adults (aged 18 years and over; 581 notifications) and 10% being children under 10 years (10,499 notifications; median 4y; range <1y to 78y). Rates of infection were highest in 1 to 4 year olds at 1,007 per 100,000 population, followed by 597/100,000 in the 5 to 9 year olds (figure 2). Rates were much lower in the adult population with 94/100,000 population in the 15 to 44 year olds, and 10/100,000 in those aged 45 to 64 years.

Figure 2. Rate per 100,000 population scarlet fever notifications (weeks 37 to 12) in England by age and sex; 2019/20

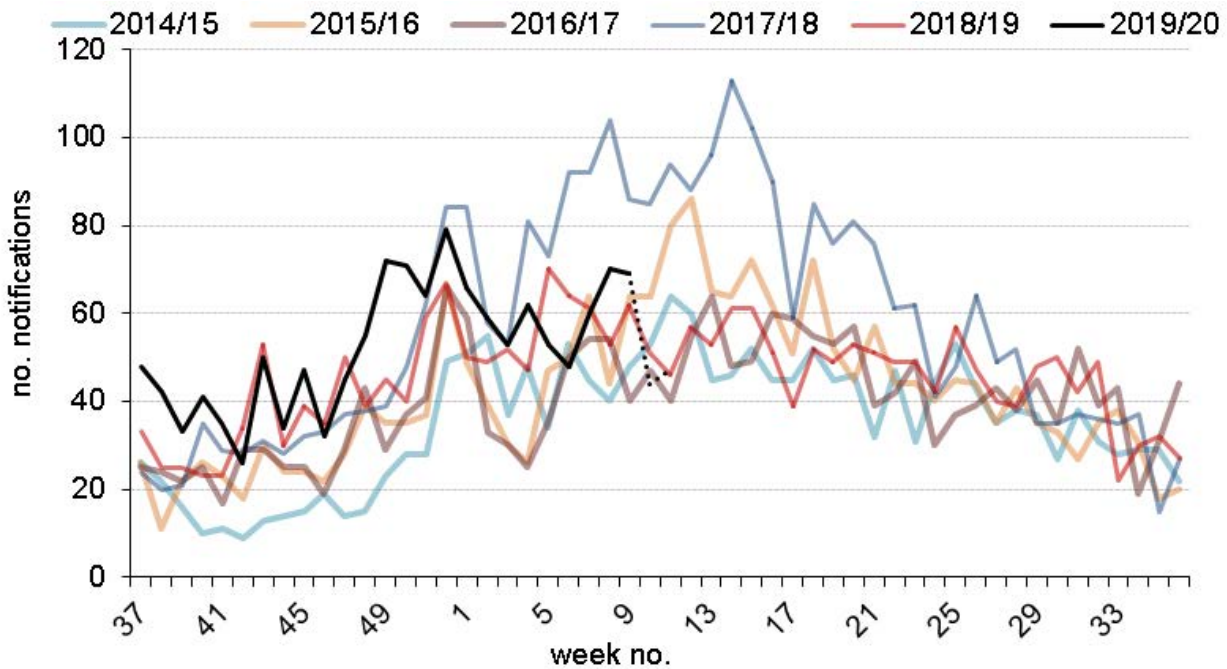


Invasive group A streptococcal infection

So far this season (week 37 to 11, 2019/20), there have been 1,423 notifications of iGAS disease reported through laboratory surveillance in England, higher than the average (1,106) for the previous five years (range 840 to 1,491; figure 3). Highest rates were reported in the Yorkshire and Humber region (3.7 per 100,000 population), followed by the North West and South East (both 3.0/100,000), North East and West Midlands (both 2.7/100,000) regions. All region except for the Yorkshire and Humber and London regions had higher rates compared to the same point last season.

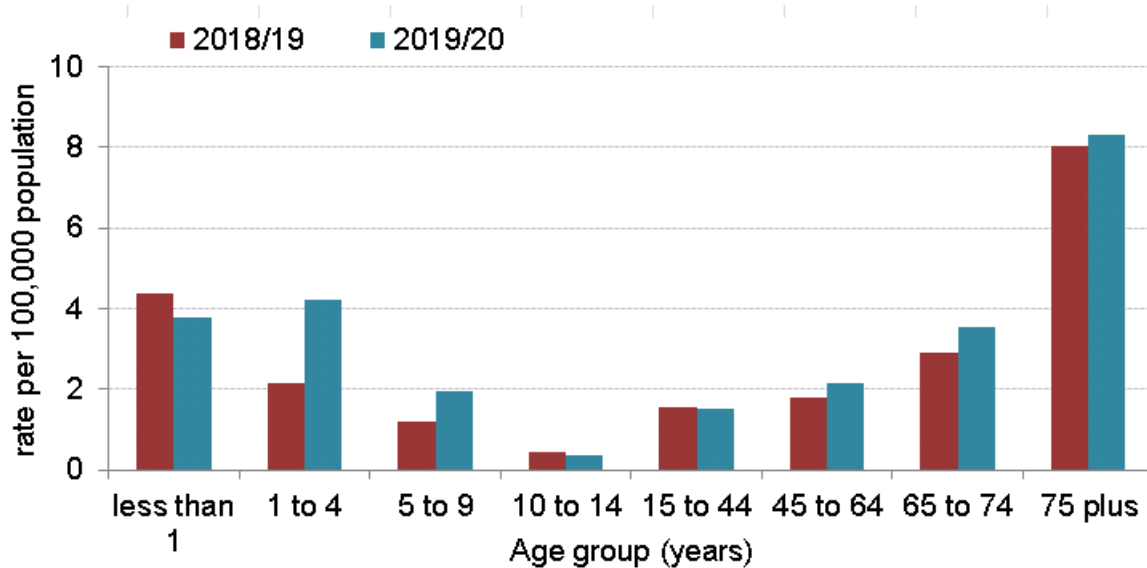
The median age of patients with iGAS infection so far this season is 55 years (range <1y to 100y), which is within the range seen at this point in the preceding five seasons (52y to 60y). Fourteen per cent of infections reported this season are in children (<10y), which is higher than the average for the previous five seasons (13%) but within the normal range seen (10% to 16%). Rates of infection were highest in the 75 years and over age group at 9 per 100,000 population, followed by 4/100,000 in the 1 to 4 year, the less than 1 year and the 65 to 74 year age groups (figure 4).

Figure 3. Weekly laboratory notifications of invasive GAS infection, England, 2014/15 onwards*



* Dashed line (weeks 10 and 11) indicates numbers may increase as further notifications expected.

Figure 4. Rate per 100,000 population iGAS notifications (weeks 37 to 11) in England by age and sex; 2019/20



Antimicrobial susceptibility results from routine laboratory surveillance indicate tetracycline resistance in 20% of GAS sterile site isolates between September 2019 and March 2020, higher than at the same point last season (17%), continuing the increasing trend in resistance over the last five years. Susceptibility testing of iGAS isolates against erythromycin indicated 8% were found resistant (compared with 9% last season), and for clindamycin, 7% were resistant at this point in the season (compared with 8% last season). Isolates remained universally susceptible to penicillin.

Discussion

Further to the steep increases in scarlet fever notification in early 2020, reductions in notifications have been seen in recent weeks, contrasting with the usual seasonal rise at this time of year. Notifications and GP consultations for scarlet fever both suggested elevated levels in early 2020 compared to 2019 [2]. Whilst peak activity typically occurs between weeks 11 and 15 (mid-March to mid-April), notifications have fallen during this period. The reasons for this are unclear at present and may include delayed notification or reduced GP attendance in light of COVID-19 messaging given the overlapping clinical presentation with scarlet fever (sore throat, fever). Prompt treatment of scarlet fever with antibiotics is recommended to limit onward transmission and reduce risk of possible complications. Renewed messaging to encourage contact with GP practices for patients with specific symptoms (e.g. rash), should be considered [5]. Whilst dramatic reductions in attendance at nurseries and schools will limit the spread of group A streptococci, outbreaks may still occur necessitating rapid and decisive response. Early treatment of scarlet fever remains vital, especially given the potential for complications associated with GAS infections [6,7].

The number of cases of iGAS disease notified through routine laboratory surveillance in England remains elevated at this point of the 2019/20 season, although in range of that seen in recent years. 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 superficial isolates 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:

<https://www.gov.uk/government/publications/scarlet-fever-managing-outbreaks-in-schools-and-nurseries>

- Scarlet fever: symptoms, diagnosis and treatment factsheet:

<https://www.gov.uk/government/collections/scarlet-fever-guidance-and-data>

- 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:

<https://www.gov.uk/government/collections/group-a-streptococcal-infections-guidance-and-data>

Weekly notifiable disease reports are published each week for a timelier update, these can be found at: <https://www.gov.uk/government/collections/notifications-of-infectious-diseases-noids>

References

1. PHE (2020). [Group A streptococcal infections: first report on seasonal activity in England, 2019/2020](#). *Health Protection Report* **14**(3): infection (news) report.
2. PHE (2020). [GP in-hours consultations bulletin: 18 March, week 11](#).
3. PHE. [Guidelines for the public health management of scarlet fever outbreaks in schools, nurseries and other childcare settings](#).
4. PHE (2019). [Voluntary surveillance of pyogenic and non-pyogenic streptococcal bacteraemia in England, Wales and Northern Ireland: 2018](#). *Health Protection Report* **13**(41).
5. PHE (2019) [Scarlet fever: symptoms, diagnosis and treatment factsheet](#)
6. Lamagni T, *et al* (2018). Resurgence of scarlet fever in England, 2014–16: a population-based surveillance study. *The Lancet Infectious Diseases* **18**(2): 180-187.
7. Watts V, *et al* (2019). Increased risk for Invasive Group A Streptococcus disease for household contacts of scarlet fever cases, England, 2011–2016. *Emerging Infectious Diseases* **25**(3): 529-537.

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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.

Public Health England, Wellington House, 133-155 Waterloo Road, London SE1 8UG.

Tel: 020 7654 8000 www.gov.uk/phe

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Queries relating to this document should be directed to:

HCAI-AMR Department,

National Infection Service, PHE Colindale,

61 Colindale Avenue, London NW9 5EQ.

hcai.amrdepartment@phe.gov.uk



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