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## **Measles clusters in London and East of England**

Measles activity in England has been at historically low levels since the MMR catch-up campaign in 2013, with 103 and 91 cases confirmed during 2014 and 2015, respectively.

However an increase in measles was observed at the end of 2015 with two identified clusters in South East England: one associated with an importation from Somalia (five confirmed); and the second following an importation from Spain (25 confirmed) between October 2015 and January 2016. These close clusters were both B3 genotype virus [1].

Since the beginning of February 2016, cases of measles have been confirmed across London and the East of England (Cambridge, Essex and Hertfordshire), predominantly in unimmunised adolescents and young adults (aged 14-40 years) without a history of recent travel. Many of these cases have been admitted to acute medical wards without isolation including one in intensive care. Of the 20 cases confirmed since 1 February 2016, samples from 10 cases, including cases from all four areas, have been genotyped at the UK reference laboratory in Colindale and nine are the same genotype D8 strain, indicating a common source. The other case (from London) is also a D8 genotype but of a different strain.

Many of these cases have presented to A&E departments rather than primary care and as these cases have been in older age groups without a history of travel, measles has often not been considered as part of the differential diagnosis. As a result, some of the cases have not been notified or investigated in a timely manner.

PHE Health Protection Teams should be aware of the recommendations of the National Measles Guidelines [2] on the management of all suspected cases. Public health management should proceed for all suspected cases with an epidemiological link to a laboratory-confirmed case without the need for laboratory testing. Cases without an epidemiological link should be investigated according to the guidelines. Urgent testing may be required where vulnerable contacts have been identified. Post-exposure prophylaxis should be offered to vulnerable contacts (immunocompromised individuals, infants and pregnant women) according to the Guidance for Post-exposure Prophylaxis for Measles [3].

## References

1. PHE (2015). Laboratory confirmed cases of measles, mumps and rubella, England: October to December 2015, HPR 10(8).
  2. Health Protection Agency (2010). HPA National Measles Guidelines: Local and Regional Services.
  3. Health Protection Agency (2009). Post-exposure measles prophylaxis.
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## Group A streptococcal infections: second update on seasonal activity, 2015/16 (in summary)

Public Health England continues to monitor notifications of scarlet fever cases in England following the high levels recorded last spring. According to the third report on group A *Streptococcus* activity for the current 2015/16 season [1], typical seasonal increases in scarlet fever activity are being reported across England and, as of early-February 2016, activity remains elevated suggesting this may be the third year in a row with high levels of scarlet fever incidence. Invasive disease rates are above average, but remain within the upper bounds of normal seasonal levels for this time of year.

## Reference

1. Group A streptococcal infections: second update on seasonal activity, 2015/2016.  
*HPR* 10(10): bacteraemia / HCAI
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## Infection reports

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### Infection Reports

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### Infection report

#### Group A streptococcal infections: second update on seasonal activity, 2015/16

High levels of scarlet fever continue to be notified in England, with current weekly totals exceeding the record levels seen at this point last season (2014/15) [1]. Steep weekly increases continue to be reported across England as we approach peak season, with sentinel surveillance of GP consultations also showing escalating rates of consultations for scarlet fever [2].

Laboratory notifications of invasive group A streptococcal (iGAS) disease are also indicating elevated incidence highlighting the need for heightened vigilance over the coming months as we enter peak season.

GPs, microbiologists and paediatricians are reminded of the importance of prompt notification of cases and outbreaks to local Public Health England (PHE) Health Protection Teams, obtaining throat swabs (prior to commencing antibiotics) when there is uncertainty about the diagnosis, especially in outbreak situations, and exclusion from school/work until 24 hours of antibiotic treatment has been received [3].

#### Scarlet fever

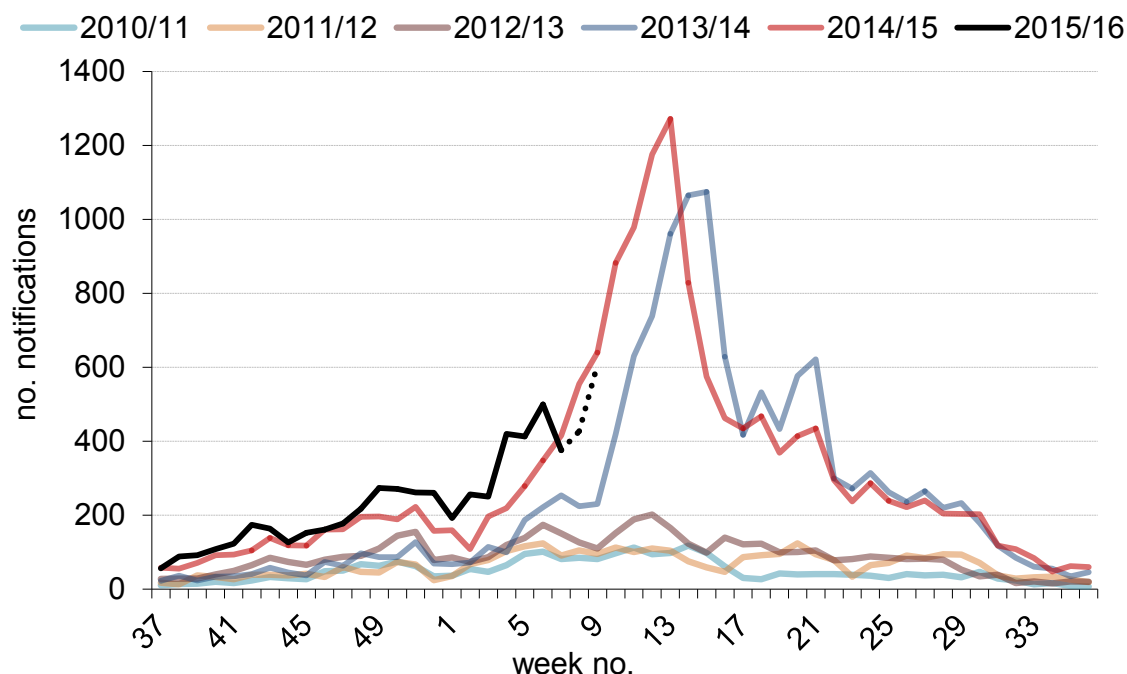
Routine monitoring is showing week-on-week increases in scarlet fever notifications as we approach the height of the season with 607 notifications received to date for patients in England in week 9 of 2016. This brings the total number of notifications of scarlet fever made to PHE so far this season (weeks 37 2015 to 9 2016) to 6157, compared with 5061 and 2416 to for the same period in the last two seasons (figure 1).

Scarlet fever notifications remain high across all parts of England, with all areas notifying higher population rates this season compared to the same point last season, with the exception of Cumbria & Lancashire. The highest rates of notified cases so far this season are in the East Midlands at 18.6 per 100,000 population, followed by Cheshire and Merseyside (15.6), Yorkshire & Humber (15.5), the North East (15.3) and Thames Valley (14.3). The South Midlands & Hertfordshire area has the lowest scarlet fever notification rates (6.5/100,000).

The age distribution of scarlet fever cases notified this season remains similar to previous years, with 91% of cases reported in children under 10 years of age (median four years; range <1 year to 91 year). Notifications are evenly distributed by sex across all age groups.

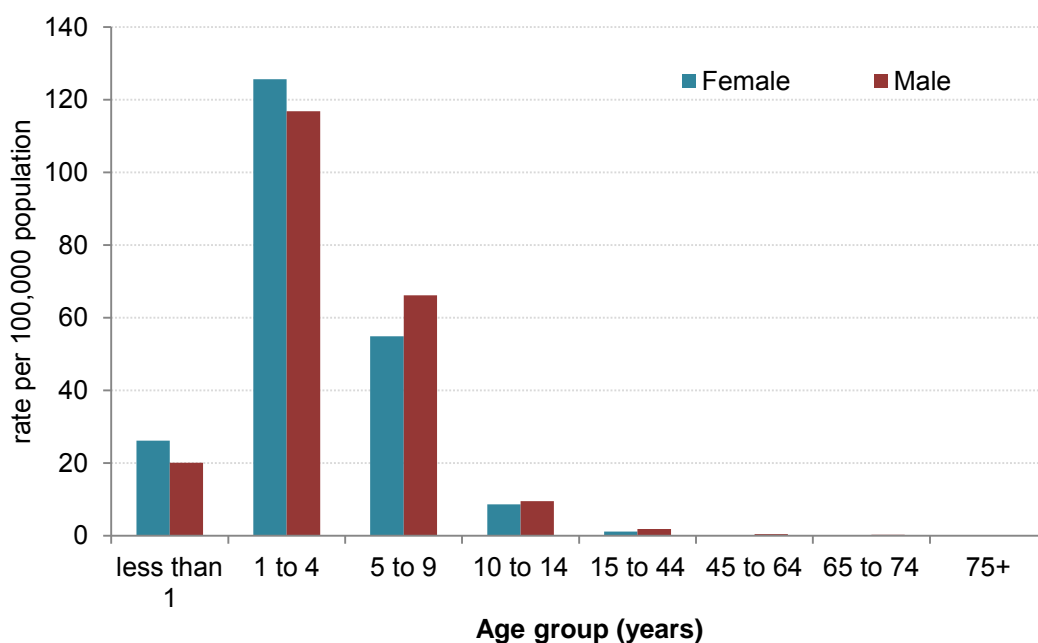
The incidence of scarlet fever in children ranged from 9.1 per 100,000 population in 10 to 14 year olds to 121.5 per 100,000 population in 1 to 4 year olds this season (figure 2). Six per cent of notifications this season are in adults ( $\geq 18$  years old) with rates of  $<1$  per 100,000 population in those over 44 years old.

**Figure 1. Weekly scarlet fever notifications in England, 2010/11 onwards\***



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

**Figure 2. Rate of scarlet fever notifications per 100,000 population by age and sex, England, 2015/16\***



\* week 37 2015 to week 09 2016

## **Invasive group A *Streptococcus***

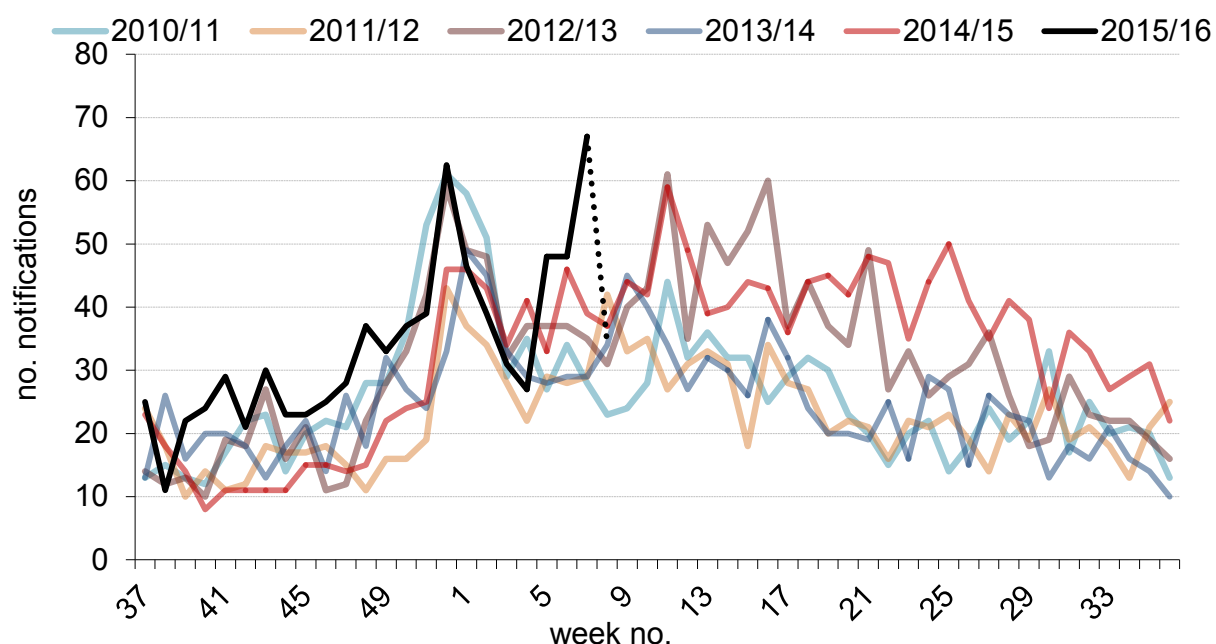
Laboratory reports of iGAS disease notified through routine laboratory surveillance in England total 811 cases so far this season (week 37 to 08 2015/16), higher than the average for the previous five years (618 reports; figure 3). Notifications of iGAS infection spiked in week 7 with 67 notifications made for this week. Twelve of 15 English regions have reported higher than average iGAS cases so far this season (table 1), with the highest population rates in Yorkshire & Humber at 2.2 per 100,000 population, closely followed by the East Midlands (2.2), Devon, Cornwall & Somerset (2.1) and the North East (2.0).

The median age of patients with iGAS infection so far this season is 52 years (range <1 year to 102 years), slightly lower than the same point in the preceding five seasons (54 years to 64 years). Of note, disease incidence in 5-9 year olds in the early part of 2016 are slightly elevated with 20 cases compared with an average of 13 for the previous five years (weeks 1 to 8). Overall, 17% of infections reported so far this season are in children (<10 years), which is within the range of what has been reported at the same point in the previous 5 seasons (mean 14%; range 12% to 17%).

Analysis of referred sterile site isolates indicate *emm* st1 (26% of referred isolates), *emm* st12 (11%) and *emm* st89 (13%) to be the most common types identified so far this season with a reduction in *emm* st3 strains compared to last season (5% vs 13%).

Antimicrobial susceptibility results are within normal levels at this point in the season, with erythromycin non-susceptibility in 7% of GAS sterile site isolates (normal range 5-7%), and other key antimicrobials: tetracycline, 14%; clindamycin, 7%; and penicillin, 0% .

**Figure 3. Weekly count of iGAS laboratory notifications, England, 2010/11 onwards\***



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

**Table 2. iGAS laboratory notifications and rate per 100,000 population by English region in season 2015/16 (weeks 37 to 08)**

Area Name	Weeks 37 to 8				
	seasons 2010/11-2014/15 (5 year average)		2015/16 season		Rate Ratio
	No. cases	Rate	No. cases	Rate	
Anglia and Essex	53	1.3	63	1.5	1.2
Avon, Gloucestershire and Wiltshire	27	1.1	27	1.1	1.0
Cheshire and Merseyside	32	1.3	28	1.2	0.9
Cumbria and Lancashire	23	1.2	31	1.6	1.3
Devon, Cornwall and Somerset	33	1.5	48	2.1	1.4
East Midlands	51	1.3	85	2.2	1.6
Greater Manchester	37	1.4	27	1.0	0.7
Kent, Surrey and Sussex	49	1.1	60	1.3	1.2
London	74	0.9	96	1.1	1.3
North East	33	1.3	52	2.0	1.6
South Midlands and Hertfordshire	20	0.7	33	1.2	1.6
Thames Valley	22	1.1	26	1.2	1.1
Wessex	29	1.1	34	1.3	1.2
West Midlands	63	1.1	80	1.4	1.2
Yorkshire and the Humber	65	1.2	121	2.3	1.8
England	612	1.1	811	1.5	1.3

Routine laboratory notifications of iGAS disease are currently elevated for this time of year. Due to rare but potentially severe complications associated with GAS infections, frontline clinicians and health protection teams should continue to be mindful of potential increases in invasive



disease and maintain a high degree of suspicion in relevant patients. Early recognition and prompt initiation of specific and supportive therapy for patients with iGAS infection can be life-saving.

Since the unusual high levels of scarlet fever reported in 2014, levels of scarlet fever have remained elevated. Weekly numbers are expected to continue to rise until peak season which is likely to be reached any time between now and the next four weeks. Close monitoring, rapid and decisive response to potential outbreaks and early treatment of scarlet fever remains essential, especially given the potential complications associated with GAS infections.

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>  
<https://www.gov.uk/government/publications/infection-control-in-schools-poster>
- FAQs on scarlet fever can be found at: <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 are also available here: <https://www.gov.uk/government/collections/group-a-streptococcal-infections-guidance-and-data>

## References

1. PHE. [Group A streptococcal infections: update on activity during the 2015/16 season](#). *Health Protection Report* 2016; **10**(7): infection report.
2. PHE. [GP in-hours consultations bulletin: 9 March 2016 week 9](#).
3. PHE. [Interim guidelines for the public health management of scarlet fever outbreaks in schools, nurseries and other childcare settings](#).

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### General outbreaks of foodborne illness in humans, England and Wales: weeks 5-8/2016

Preliminary information has been received about the following outbreaks.

PHE Centre/ HPT	Organism	Location	Month of outbreak	Number ill	Cases positive	Suspect vehicle	Evidence
North West London	Campylo- bacter	“Other” (wedding venue)	February	3	–	Not known	N/k
North East and Central London	Campylo- bacter	Hotel	February	Not known	–	Not known	N/k
North East	<i>Clostridium perfringens</i> , including CPE toxin in faeces	Nursing/care home	February	18	6	No food identified / given	None

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## Common gastrointestinal infections, England and Wales, laboratory reports: weeks 5-8/2016

Laboratory reports	Number of reports received				Total reports	Cumulative total	
	5/16	6/16	7/16	8/16	5-8/16	1-8/16	1-8/15
Campylobacter	750	730	645	700	2825	<b>5934</b>	8457
<i>Escherichia coli</i> O157 *	1	8	8	2	19	<b>33</b>	53
Salmonella †	79	59	31	2	171	<b>618</b>	952
<i>Shigella sonnei</i>	12	7	12	11	42	<b>99</b>	213
Rotavirus	31	29	32	33	125	<b>222</b>	621
Norovirus	147	117	194	217	675	<b>1163</b>	2043
Cryptosporidium	42	44	29	45	160	<b>380</b>	407
Giardia	63	51	61	38	213	<b>457</b>	673

\*Vero cytotoxin–producing isolates: data from PHE’s Gastrointestinal Bacteria Reference Unit (GBRU).

† Data from GBRU.

## Salmonella infections (faecal specimens) England and Wales, reports to Public Health England (salmonella data set): January 2016

Details of 447 serotypes of salmonella infections recorded in January 2015 are given in the table below. In February 2016, 171 salmonella infections were recorded.

Organism	Cases: January 2016
S. Enteritidis	94
S. Typhimurium	107
S. Virchow	7
Others (typed)	239
<b>Total salmonella (provisional data)</b>	<b>447</b>

Notes:

1. Phage typing ceased as of 1 November 2015
2. Following the introduction of a new laboratory reporting system (SGSS) in December 2014, direct comparisons with data generated by the previous system (LabBase2) may not be valid.

## Suspected and laboratory-confirmed reported norovirus outbreaks in hospitals, with regional breakdown: outbreaks occurring in 5-8/2016

The hospital norovirus outbreak reporting scheme (HNORS) recorded 26 outbreaks occurring between weeks 5 and 8, 2016, 24 of which led to ward/bay closures or restrictions to admissions. Seventeen outbreaks (65%) were recorded as laboratory confirmed due to norovirus (see table). For the calendar year 2015 – between week 1 (January) and week 8 (week beginning 22 February) – 54 outbreaks have been reported. Ninety-three per cent (50) of reported outbreaks resulted in ward/bay closures or restrictions to admissions and 72% (39) were laboratory confirmed as due to norovirus (see table).

### Suspected and laboratory-confirmed reported norovirus outbreaks in hospitals, with regional breakdown: outbreaks occurring in weeks 5-8/2016

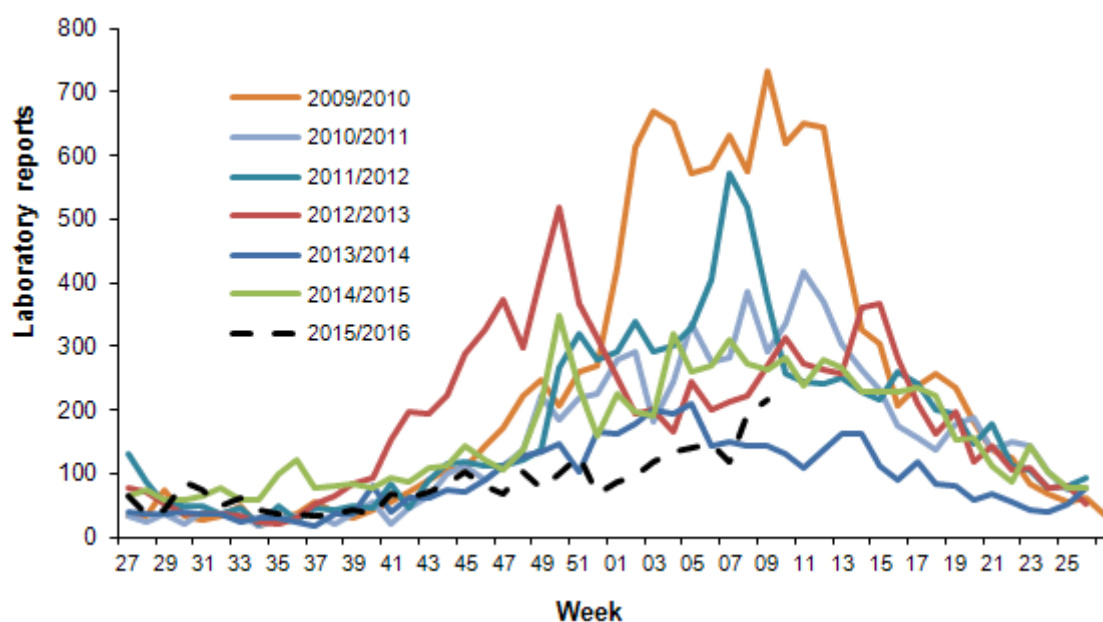
Region/ PHE Centre	Outbreaks between weeks 5-8/2016			Total outbreaks 1-8/2016		
	Outbreaks	Ward/bay closure*	Lab-confirmed	Outbreaks	Ward/bay closure*	Lab-confirmed
Avon, Gloucestershire and Wiltshire	2	2	1	5	5	4
Bedfordshire, Herts. and Northants.	–	–	–	–	–	–
Cheshire and Merseyside	–	–	–	–	–	–
Cumbria and Lancashire	3	3	1	3	3	1
Devon, Cornwall and Somerset	2	2	1	3	3	2
Greater Manchester	1	1	1	1	1	1
Hampshire, IoW and Dorset	3	3	3	9	9	8
Lincolnshire, Leicestershire, Nottinghamshire and Derbyshire	1	1	1	2	2	2
London	1	1	1	2	2	2
Norfolk, Suffolk, Cambs. and Essex	–	–	–	–	–	0
North East	7	6	5	15	13	10
Sussex, Surrey and Kent	–	–	–	2	2	2
Thames Valley	4	4	4	8	8	6
West Midlands	2	1		4	3	2
Yorkshire and the Humber	–	–	–	1	–	1
<b>Total</b>	<b>26</b>	<b>24</b>	<b>17</b>	<b>54</b>	<b>50</b>	<b>39</b>

\* Note: not all outbreaks result in whole wards closures, some closures are restricted to bays only.

## Seasonal comparison of laboratory reports of norovirus (England and Wales)

In the current season to date (from week 27, 2015, to week 8, 2016), there were 1163 laboratory reports of norovirus. This is 57% lower than the average number of laboratory reports for the same period in the seasons between 2009/10 and 2013/2014 (2682). The number of laboratory reports in the most recent weeks will increase as further reports are received.

### Current season's laboratory reports (to week 8, 2016) compared to previous seasons' weekly average (England and Wales)



### Calendar year 2015 (to week 53) norovirus laboratory reports compared to previous years' weekly mean (2010-2014)

