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News

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UK seasonal influenza annual report 2013/14 in summary

Although community levels of influenza in the UK were low in the 2013/14 season, a considerable number of influenza-confirmed hospitalisations and ICU/HDU admissions were reported, with a higher peak seen compared to 2012/13, according to the annual epidemiological report published by Public Health England [1].

Virological activity occurred late in the 2013/14 season, with influenza outbreaks primarily in hospital settings. Influenza A(H1N1)pdm09 predominated across the UK and, as seen in 2010/11 when this virus last dominated, the start of the season occurred with severe presentation of disease and the impact was largely seen in young adults, with little impact in the elderly.

The annual report, prepared by the Respiratory Diseases Department of PHE's Centre for Infectious Disease Surveillance and Control (Colindale), in collaboration with the health protection bodies of the Devolved Administrations, and other national data providers, also includes summary information for the UK on flu-related mortality and morbidity, and on vaccine uptake data.

In respect of mortality and morbidity, influenza-confirmed admissions to hospital and intensive care were observed, with peak ICU/HDU numbers higher than seen in the previous winter. Cumulative excess all-cause mortality was low this season, with no significant excess seen in any age group; this likely resulted from a combination of mild winter temperatures and the subtype of influenza virus circulating predominantly impacting on young adults, rather than the elderly.

In respect of vaccine uptake, the report records cumulative uptake of vaccinations administered from GP practices in England in 2012/13 and notes that vaccine uptake was similar to previous years in the elderly, in individuals in a pre-defined clinical risk group and in pregnant women, while an increase was seen in healthcare workers compared to 2012/13 in England. The new childhood live attenuated influenza vaccine (LAIV) programme was successfully initiated in 2013/14 in 2-3 year olds in primary care and a series of geographical pilots targeting 4-11 year olds in England to evaluate different models of delivery. Data from several seasons will be needed to fully assess the impact of the new universal childhood LAIV programme as it is gradually rolled out.

Activity from other circulating respiratory viruses was similar to levels reported in recent years. Two novel respiratory viruses which emerged in 2012/13, Middle East Respiratory Syndrome coronavirus (MERS CoV) in the Middle East and avian-origin influenza A(H7N9) in Eastern China, both of which have high reported case fatality ratios, have continued to result in human cases in 2013/14. No further imported laboratory confirmed MERS-CoV infections since those reported in 2012/13 have been identified in the UK, with no imported laboratory confirmed cases of influenza A(H7N9) infection detected. Surveillance and public health measures established in the UK for travellers returning with severe disease are on-going while the risk remains.

Reference

1. Public Health England. *Surveillance of influenza and other respiratory viruses in the United Kingdom: Winter 2013/14* (633 KB PDF). Downloadable from the PHE health protection website: Publications › Infectious diseases › Influenza › [Surveillance of influenza and other respiratory viruses in the UK: Winter 2013 to 2014](#).

Group A streptococcal infections: sixth update on seasonal activity

Increased levels of invasive and non-invasive group A streptococcal (GAS) infection typically occur between December and April, with the peak season usually in March/April. Surveillance of scarlet fever continues to show elevated levels of notified cases in all parts of England despite seasonal declines that have been noted since May [1]. Routine laboratory reports and isolate referrals of invasive GAS (iGAS) disease remain at usual seasonal levels.

In this sixth update, preliminary results from the microbiological analysis of scarlet fever isolates, submitted from across the country as a means to identify possible reasons for the widespread upsurge seen this year, indicate a range of types with *emm* 3 the most common.

Scarlet fever

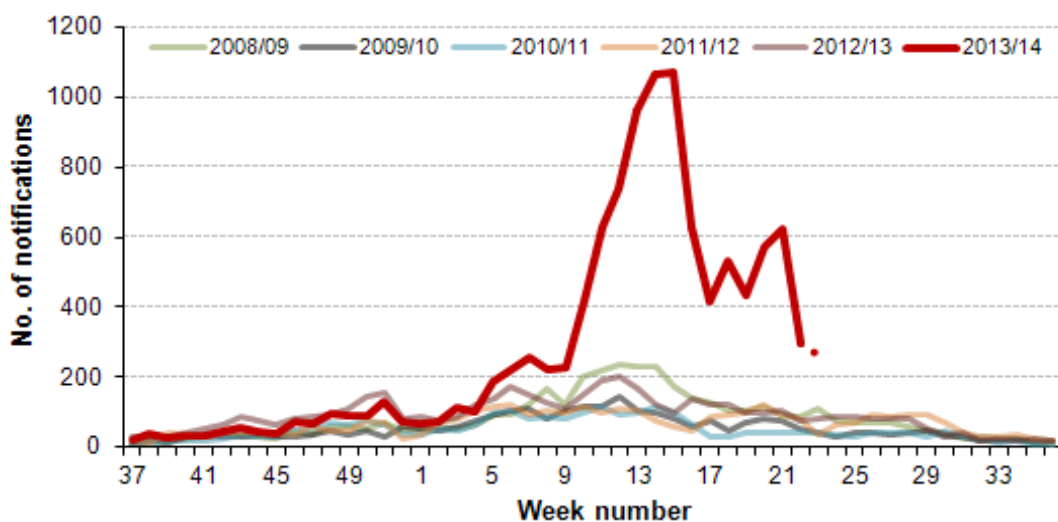
A total of 11,019 notifications of scarlet fever have been made so far this season (week 37 2013 to week 23 2014) in England. Scarlet fever notifications peaked in weeks 14 and 15 of 2014 with just over 1000 notifications made each week (figure 1). Numbers of notifications have fluctuated since then, with 262 received to date in week 23.

All areas in England continued to report higher scarlet fever levels for the last four weeks (week 20 to 23) than for the same period last year, from two to 10 times as high. The highest cumulative rates of notification so far this season were seen in the East Midlands (43.4), Avon, Gloucestershire and Wiltshire (35.0), Thames Valley (27.0), North East (26.6), and Cumbria and Lancashire (25.9).

Eighty seven per cent of notifications received this season have been in children aged less than 10 years; the median age is four years (range <1y to 90y). The sex ratio of notifications remains similar with 49% being in males overall.

As of 11/06/2014, 410 *S. pyogenes* isolates from clinical specimens, taken from patients with scarlet fever between 6 January 2014 and 3 June 2014, have been received and processed by the Respiratory and Vaccine Preventable Bacteria Reference Unit (RVPBRU) in Colindale PHE. Sequence typing using the *emm* gene indicates that 21 differing sequence types (st) are present in the population of patients with scarlet fever, with the predominant types being *emm* st3 and *emm* st12.

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



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

Invasive Group A Streptococcus

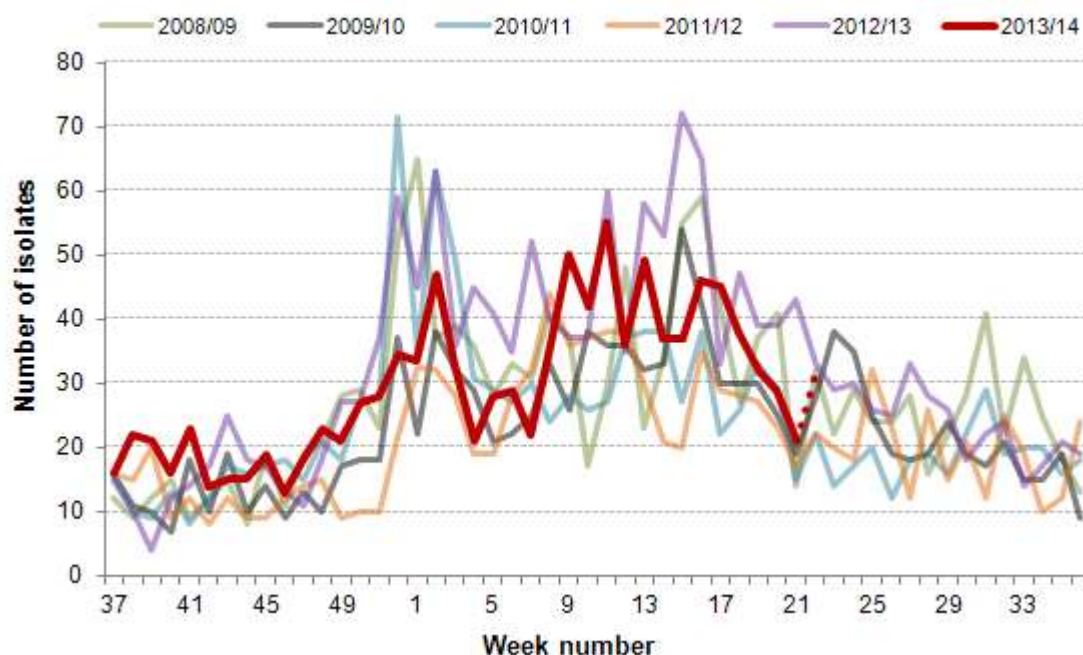
The number of iGAS isolate referrals, defined as isolation of GAS from a normally sterile site, to the RVPBRU at Colindale PHE from laboratories in England, Wales and Northern Ireland continues to remain within normal levels this season. A total of 1123 isolates were referred for specimens taken between week 37 of 2013 to week 22 of 2014 (figure 2). This compares to a range of 837 to 1332 for the same period in the previous five years.

Laboratories in three of the English regions have referred numbers of isolates above average (previous five years) for January to May this season, the East Midlands (66), London (100) and the South East (133). Isolates may still be received for specimens taken in May and as such, these numbers could increase.

Analysis of iGAS *emm* strain diversity remains similar to what is normally seen with *emm* st1 and *emm* st3 the most common types identified between January and May 2014, with *emm* st1 marginally dominant in April 2014.

No changes have been identified in iGAS isolate antimicrobial susceptibility patterns from routine laboratory reporting this year (weeks 1-22), with 6% non-susceptible to erythromycin, 8% tetracycline and 4% clindamycin, similar to previous years [2]. There have been no reports of penicillin resistance in iGAS isolates in England to date.

Figure 2. Weekly count of sterile site GAS isolates referred to the national reference laboratory, England, 2008/09 onwards*



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

Whilst the levels of scarlet fever have reduced substantially from the levels seen in March and April 2014, incidence still remains elevated compared to recent years. Resurgence in disease incidence was seen following the Easter school holidays, with more recent weeks seeing sequential declines. Close monitoring and rapid and decisive response to potential outbreaks remains essential given the continued elevation in scarlet fever incidence. 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/FAQs are available on the PHE health protection website, as follows:

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

References

1. PHE. Group A streptococcal infections: fourth update on seasonal activity, 2013/14. *HPR* 8(17): news.
2. PHE. Voluntary surveillance of pyogenic and non-pyogenic streptococcal bacteraemia in England, Wales and Northern Ireland: 2012.

PHE business plan 2014/15

Public Health England has published a new-format Business Plan for 2014/15 [1] summarising its achievements during 2013/14 and detailing how it will fulfil its remit in support of broader Department of Health priorities for the health and care system as a whole in the year ahead.

The business plan reiterates the agency's four key functions – health protection; improving health and wellbeing, and population health; and building the capability and capacity of the public health system – and lists important examples of its commitments, actions and capabilities under each of these headings.

In a first “remit letter”, published alongside the PHE business plan, the Government sets out a number of strategic priorities for the agency in 2014/15 (and will do so each year in future) [2]. Health protection deliverables listed as priorities include: publication of a first report on antimicrobial use and antimicrobial resistance in England; extension of the scope of genomic sequencing to expedite communicable disease surveillance and control; and further extension and improvement of immunisation programmes, including procurement of the meningococcal B vaccine and extension of the recently piloted flu vaccination programme for school-age children.

References

1. *Who we are and what we do: PHE business plan for 2014 to 2015* [2MB PDF], 12 June.
2. PHE remit letter: 2014 to 2015 [1MB PDF], 12 June.

***B. cereus* infections in neonatal intensive care**

Cases of *Bacillus cereus* bacteraemia among neonates being treated in neonatal intensive care units in England continue to be investigated by Public Health England and the Medicines and Healthcare Products Regulatory Agency (MHRA), working closely with other health organisations [1].

Investigations to date have suggested the source of infections was contamination, during a single day of production, of batches of an intravenous liquid nutritional product (total parental nutrition, TPN) that are no longer in circulation. Since evidence to date suggests this was an isolated incident, and since appropriate, immediate action has been taken at manufacturing facility to avoid a reoccurrence, the critical product continues to be supplied to patients while the investigation proceeds.

As at 12 June, the number of blood poisoning cases covered by the investigation – those who received potentially-affected intravenous liquid – stood at 22, including 18 confirmed *B. cereus* cases. Two of the confirmed cases have died, the death of at least one of which does not appear to be related to *B. cereus* infection [1].

Although no new infections have been reported since 2 June, PHE continues to work with clinicians to review information about children in hospital and the number of cases linked to the cluster therefore may fluctuate if previously unrecognised cases come to light or cases previously thought to be part of the outbreak are excluded. PHE will continue to work with the MHRA on the investigation to ensure all possible lessons from the incident are identified.

Reference

1. “Update on investigation into *Bacillus cereus* infections”, PHE press release, 12 June 2014.
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Travel health

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Guidance for Hajj and Umrah pilgrims

The Ministry of Health in the Kingdom of Saudi Arabia (KSA) has issued its requirements and recommendations for pilgrims intending to perform Hajj and/or Umrah 1435 (2014) [1]. Although the World Health Organization has not issued any travel restrictions in relation to MERS-CoV, as for 2013, the KSA Ministry of Health has recommended that certain vulnerable groups postpone performing Hajj and Umrah rituals this year for their own safety [2].

The National Travel Health Network and Centre (NaTHNaC) has updated its guidance, incorporating the updated KSA recommendations, which can be accessed from its website [3].

References

1. National Travel Health Network and Centre (NaTHNaC) Clinical Update. "Advice for pilgrims: Hajj and Umrah 1435 (2014)", 10 June 2014.
2. Kingdom of Saudi Arabia. Ministry of Health. [Health Regulations for travellers to Saudi Arabia for Umrah & Pilgrimage \(Hajj\)-1435 \(2014\)](#).
3. NaTHNaC Health Information Sheet, "Advice for pilgrims: Hajj and Umrah 1435 (2014)".

Infection reports

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Enteric

- ▶ **General outbreaks of foodborne illness in humans, England and Wales: weeks 18-22/2014**
 - ▶ **Common gastrointestinal infections, England and Wales, laboratory reports: weeks 18-22/2014**
 - ▶ **Salmonella infections (faecal specimens) England and Wales, reports to Public Health England (salmonella data set): April 2014**
 - ▶ **Suspected and laboratory-confirmed reported norovirus outbreaks in hospitals, with regional breakdown: outbreaks occurring in weeks 18-22/2014**
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General outbreaks of foodborne illness in humans, England and Wales: weeks 18-22/2014

Preliminary information has been received about the following outbreaks.

PHE Centre/ Health Protect'n Team	Organism	Location of food prepared or served	Month of outbreak	Number ill	Cases positive	Suspect vehicle	Evidence
West Midlands	Cryptosporidium	Holiday lettings	April	11	Not known	Private water supply	D
South East London	Hepatitis E	Supermarket	May	2	Not known	Possibly food purchase	D
West Midlands West	Not known	Private party	May	7	Not known	Not known	N/k
West Midlands East	Salmonella enteritidis	Heartlands Hospital	June	5	Not known	Not known	N/k
North West London	Bacillus cereus	Hospital	May	7	Not known	Not known	N/k

D = Descriptive epidemiological evidence: suspicion of a food vehicle in an outbreak based on the identification of common food exposures, from the systematic evaluation of cases and their characteristics and food histories over the likely incubation period by standardised means (such as standard questionnaires) from all, or an appropriate subset of, cases.

Common gastrointestinal infections, England and Wales, laboratory reports: weeks 18-22/2014

Laboratory reports	Number of reports received					Total reports	Cumulative total	
	18/14	19/14	20/14	21/14	22/14		18-22/14	1-22/13
Campylobacter	1023	974	1362	1545	1396	6300	21472	19309
Escherichia coli O157 *	21	18	18	29	14	100	176	156
Salmonella †	108	93	96	85	25	407	1882	2213
Shigella sonnei	18	25	18	15	16	92	439	315
Rotavirus	142	143	152	149	92	678	2941	13353
Norovirus	77	77	48	50	48	300	2714	4955
Cryptosporidium	125	73	76	74	40	388	1187	1417
Giardia	69	60	73	72	53	327	1425	1369

*Vero cytotoxin-producing isolates: data from CIDSC's Laboratory of Gastrointestinal Pathogens (LGP), PHE Colindale.

† Data from CIDSC-LGP.

Salmonella infections (faecal specimens) England and Wales, reports to Public Health England (salmonella data set): April 2014

Details of 403 serotypes of salmonella infections recorded in April are given in the table below.

In May 2014, 341 salmonella infections were recorded.

Organism	Cases: April 2014
S. Enteritidis PT4	7
S. Enteritidis (other PTs)	90
S. Typhimurium	68
S. Virchow	5
Others (typed)	233
Total salmonella (provisional data)	403

Suspected and laboratory-confirmed reported norovirus outbreaks in hospitals, with regional breakdown: outbreaks occurring in weeks 18-22/2014

The hospital norovirus outbreak reporting scheme (HNORS) recorded 25 outbreaks occurring between weeks 18 and 22, 2014, 24 of which (96 per cent) led to ward/bay closures or restriction to admissions. Thirteen outbreaks (52 per cent) were recorded as laboratory confirmed due to norovirus.

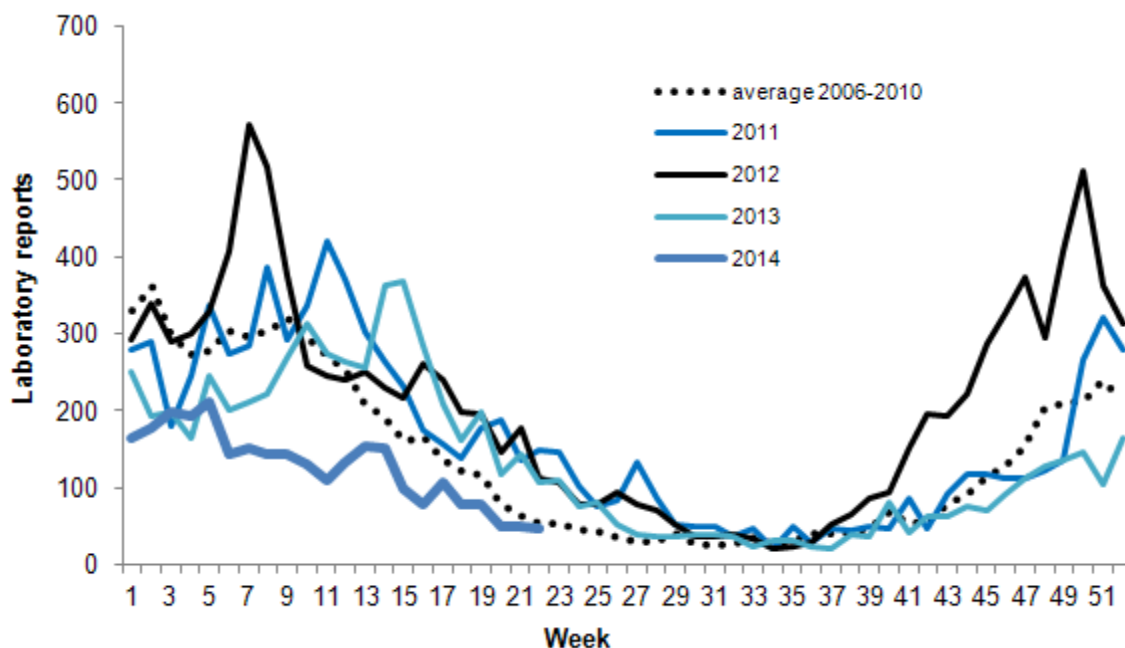
From week 01 (January 2014) to week 22 (week beginning 26 May 2014) 350 outbreaks have been reported. Ninety-three per cent (324) of reported outbreaks resulted in ward/bay closures or restrictions to admissions and 68 per cent (237) were laboratory confirmed as due to norovirus.

Suspected and laboratory-confirmed reported norovirus outbreaks in hospitals, with regional breakdown: outbreaks occurring in weeks 18-22/2014

Region/ PHE Centre	Outbreaks between weeks 18-22/2014			Total outbreaks 1-22/2013		
	Outbreaks	Ward/bay closure*	Lab- confirmed	Outbreaks	Ward/bay closure*	Lab- confirmed
Avon, Gloucestershire and Wiltshire	3	3	2	43	43	27
Bedfordshire, Hertfordshire and Northamptonshire	–	–	–	–	–	–
Cheshire and Merseyside	–	–	–	1	1	1
Cumbria and Lancashire	1	1	–	12	11	7
Devon, Cornwall and Somerset	5	5	3	34	33	19
Greater Manchester	–	–	–	5	5	4
Hampshire, Isle of Wight and Dorset	4	4	2	22	22	13
Lincolnshire, Leicestershire, Nottinghamshire and Derbyshire	–	–	–	28	27	19
London	–	–	–	6	–	–
Norfolk, Suffolk, Cambridgeshire and Essex	–	–	–	–	–	–
North east	3	3	2	37	31	25
Sussex, Surrey and Kent	2	2	2	14	14	9
Thames Valley	3	3	1	10	10	4
West Midlands	2	2	–	50	49	26
Yorkshire and the Humber	2	1	1	88	71	78
Total	25	24	13	350	324	237

* 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, 2013, to week 22, 2014), there were 4470 laboratory reports of norovirus. This is 42% lower than the average number of laboratory reports for the same period in the seasons between 2007/08 and 2011/2012 (7746)*. The number of laboratory reports in the most recent weeks will increase as further reports are received.

† The norovirus season runs from July to June (week 27 in year one to week 26 in year two) in order to capture the winter peak in one season.

* Last season – 2012/2013 – the season began earlier than normal so comparisons between this current and last season would not be valid..

Current weekly norovirus laboratory reports compared to weekly average 2006/2010

