Public Health England

Health Protection Report
weekly report

Volume 8 Numbers 10 Published on: **14 March 2014**

Current News

- **Tuberculosis in big cities in Europe**
- **Measles cases with links to the ongoing outbreak in the Philippines**

SMIs

- **B51: Screening for *Nesseria mengititidis***
- **Q7: GLP when undertaking serology assays for infectious diseases**

Infection Reports

Enteric

- **General outbreaks of food-borne illness, laboratory reports of common GI infections and hospital norovirus outbreaks (E&W, weeks 5-8/2014); and salmonella infections (E&W, January 2014, provisional)**

Volume 8 Number 10 Published on: **14 March 2014**

Tuberculosis in big cities in Europe

Evidence of higher tuberculosis incidence rates in west European cities, compared with rates in non-urban areas, was first reported more than a decade ago, since when the European Union has expanded eastwards to encompass countries with higher TB rates than in the then "EU 15" [1]. Yet, overall, national TB notification rates have declined across the EU in recent years (at a mean annual rate of 4.4% a year) and fell below 100 notifications per 100,000 population for the first time in EU/EEA countries in 2010 [2].

However, the decline in national TB notification rates masks significant disparities in risk of infection within countries, according to the results of a survey of national TB programme managers in EU/EEA countries recently published in *Eurosurveillance* [2]. The authors of the paper – representing the ECDC-sponsored Tuberculosis in European Union Big Cities Working Group – collected data from national programme managers so as to allow an analysis of case distribution and infection rates within low-, intermediate- and high-incidence countries and their big cities. They developed "big city rate ratios" – using the big city notification rate as the numerator, and the country rate, excluding big city TB cases and populations, as denominator.

The analysis revealed notification rates twice the national rate in 15 big cities, all in low-incidence EU countries [2]. The authors describe the phenomenon as "TB epidemiology transition" – notification rates in big cities increasing at the same time as national rates decline – and suggest it should be of wider concern than for country capitals alone, since many of the cities with high rate ratios had fewer than one million inhabitants.

EU cities with high rate ratios included Birmingham, Brussels, London and Rotterdam, which had the highest rate ratios; Copenhagen, Milan, Olso, Paris and Turin (each with a rate ratio of 2.8); and Amsterdam, Rome, Frankfurt, Cologne, Athens and Genoa, which had having lower ratios (ranging from 2.0 to 2.7).

A complementary paper published with the survey report, comprises a consensus statement – produced by 18 leading European TB experts and technical partners – proposing a multi-pronged approach to facilitating TB control in metropolitan centres, including 32 recommendations under nine potential intervention categories [3,4].

Public Health England will publish a national strategy on targeting those most in need of screening for TB and treatment later in 2014 [4].

References

1. D Falzon, "The city, its people, their health and tuberculosis", *Euro. Surveill*. **19**(9): editorial, 6 March 2014.

2. De Vries G, Aldridge RW, Cayla JA, Hass WH, Sandgren A, van Hest NA and Abubakar I, "Epidemiology of tuberculosis in big cities of the European Union and European Economic Area countries", *Euro. Surveill*. **19**(9), 6 March 2014.

3. Van Hest NA, Aldridge RW, de Vries G, Sandgren A, Hauer B, Hayward A, *et al* , "Tuberculosis control in big cities and urban risk groups in the European Union: a consensus statement", *Euro. Surveill*. **19**(9), 6 March.

4. "EU-wide agreement on how to crack down on TB in cities", PHE press release, 7 March 2014.

Measles cases with links to the ongoing outbreak in the Philippines

Following a very successful measles catch-up campaign in 2013, measles activity in England has declined dramatically [1]. There were only 24 confirmed measles cases in the final quarter of 2013 [2], compared to 559 in the same quarter of 2012, and numbers have remained low during 2014. Since 1 December 2013, however, Public Health England has received 13 reports of measles in persons returning from the Philippines, where there is a large outbreak affecting the National Capital Region (Manila) and other regions of the country [3]. Of these 13 cases in English residents, 12 have been confirmed and nine have been genotyped by the Virus Reference Department at PHE. The sequences comprise four closely related B3 strains. In addition, PHE are aware of several cases epidemiologically related to measles associated with travel to Philippines, including household contacts and cases probably acquired during air travel (on a flight or at an airport).

This week in *Eurosurveillance*, an outbreak of 27 measles cases (22 laboratory confirmed) has been reported on a Mediterranean cruise ship; onset occurred between 20 February and 1 March 2014 [4]. The ship had around 3,300 passengers on board, of whom 86% were EU nationals; 124 (4%) were British nationals. Of the 968 crew members aged 26-36 years, most (71%) were from Asia. Of the 27 measles cases reported, 21 were among crew members [4].

The cruise ship outbreak appears to have the characteristics of a point source, with a single (unidentified) index case presumed to be symptomatic around 4-10 February 2014. The identical B3 strain sequences obtained from 10 cases supports this hypothesis. The outbreak strain (MVs/Tonbridge.GBR/5.14) is identical to one identified by PHE in an individual who was clearly infected in the Philippines. This individual was infectious during his return flight, but diagnosed after arrival in England. In contrast to what might be inferred from the *Eurosurveillance* report, the epidemiological and microbiological findings are therefore consistent with the cruise ship outbreak being linked to the on-going outbreak in the Philippines, and not due to indigenous measles in the UK.

References

1. "Measles figures down following successful catch-up programme", PHE press release, 4 march 2014.

2. PHE *Health Protection Report* **8**(8), February 28, 2014.

3. World Health Organization, Western Pacific Region. Representative Office Philippines. Measles situation in the Philippines – FAQs. January 2014.

4. Lanini S, Capobianchi MR, Puro V, Filia A, Del Manso M, Kärki T, *et al* – the central task force for the measles outbreak. Measles outbreak on a cruise ship in the western Mediterranean, February 2014, preliminary report. *Euro Surveill.* **19**(10), 13 March 2014.

Recently issued SMIs

The following two recently issued SMIs have been published.

B51 Screening for *Neisseria meningitidis*

This recently issued SMI describes the investigation of swabs for the presence of *Neisseria meningitidis*. Screening for *Neisseria meningitidis* (the meningococcus) should be performed when investigating a suspected case of meningococcal disease, for screening contacts of a case, and in outbreak situations to determine the extent of carriage and/or the need for prophylaxis.

Reference

PHE health protection website: Standards for Microbiology Investigations › SMI Bacteriology (B) › B51 – Screening for *N. mengititidis*.

Q7 Good Laboratory Practice when undertaking serology assays for infectious diseases

This recently-issued, quality-related guidance SMI describes the essential components of a good microbial serology service. A broad definition of serology is used in this document to include both antibody and antigen tests that are performed, usually on blood samples, to detect infection or immunity.

Reference

PHE health protection website: Standards for Microbiology Investigations › Quality-related guidance (Q) › Q7 – GLP when undertaking serology assays.

Infection reports

Volume 8 Number 10 Published on: 14 March 2014

Enteric

General outbreaks of foodborne illness in humans, England and Wales: weeks 5-8/2014

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
Avon, Gloucester and Wilts.	Campylobacter	Restaurant	January	2	Not known	Not known	N/a
London	Norovirus	Restaurant	January	12	2	Oysters	D
North West London	Not known	Restaurant	January	41	Not known	Not known	N/a
Sussex, Surrey and Kent	Norovirus suspected	Pub	January	6	–	Roast turkey and pork	D

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 5-8/2014

Laboratory reports	Number of reports received				Total reports	Cumulative total	
	05/14	06/14	07/14	08/14	1-8/14	1-8/14	1-8/13
Campylobacter	400	920	881	813	3014	3014	2979
Escherichia coli O157 *	–	10	1	2	13	13	20
Salmonella †	28	90	56	14	188	188	334
Shigella sonnei	10	18	22	18	68	68	55
Rotavirus	35	69	73	68	245	245	435
Norovirus	97	178	193	174	642	642	755
Cryptosporidium	24	43	35	24	126	126	209
Giardia	29	76	68	74	247	247	240

*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): January 2014

Details of 373 serotypes of salmonella infections recorded in December are given in the table below. In January 2014, 93 salmonella infections were recorded.

Organism	Cases: January 2014
S. Enteritidis PT4	4
S. Enteritidis (other PTs)	95
S. Typhimurium	59
S. Virchow	3
Others (typed)	212
Total salmonella (provisional data)	**373**

Suspected and laboratory-confirmed reported norovirus outbreaks in hospitals, with regional breakdown: outbreaks occurring in weeks 5-8/2014

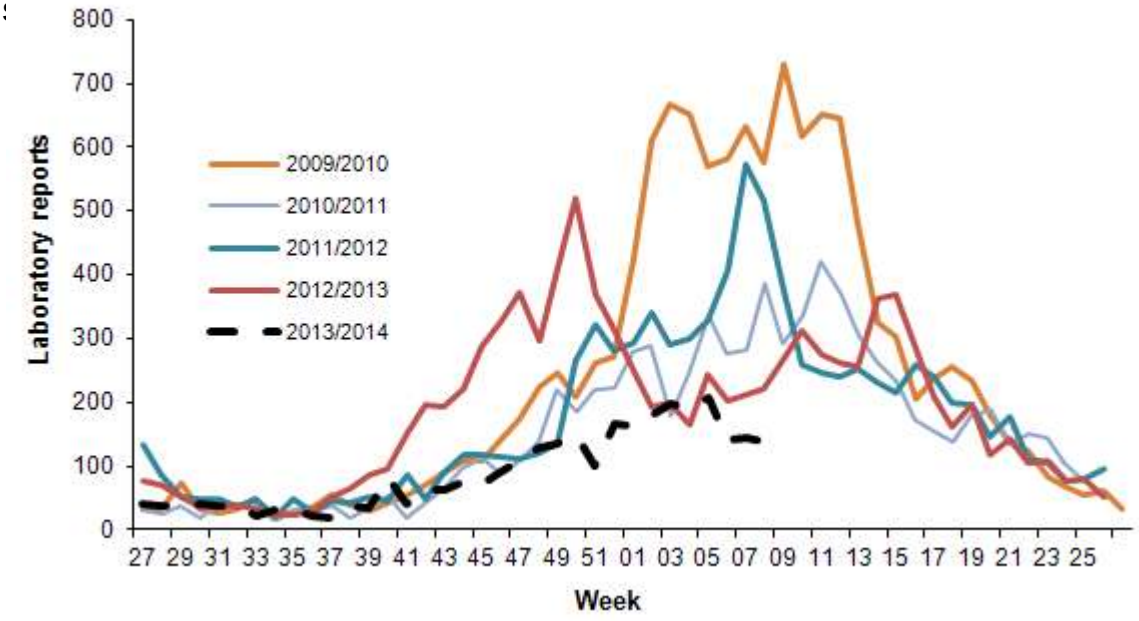
The hospital norovirus outbreak reporting scheme (HNORS) recorded 57 outbreaks occurring between weeks 5 and 8, 2014, 50 of which (88%) led to ward/bay closures or restriction to admissions. Thirty-seven outbreaks (65%) were recorded as laboratory confirmed due to norovirus.

For the calender year 2014– between week 1 (January 2014) and week 8 (week beginning 17 February) – 136 outbreaks have been reported. Ninety-two per cent (125) of reported outbreaks resulted in ward/bay closures or restrictions to admissions and 68 per cent (92) were laboratory confirmed as due to norovirus.

Suspected and laboratory-confirmed reported norovirus outbreaks in hospitals, with regional breakdown: outbreaks occurring in weeks 5-8/2014

Region/ PHE Centre	Outbreaks between weeks 5-8/2014			Total outbreaks 1-8/2013		
	Outbreaks	Ward/bay closure*	Lab-confirmed	Outbreaks	Ward/bay closure*	Lab-confirmed
Avon, Gloucestershire and Wiltshire	12	12	9	28	28	19
Bedfordshire, Hertfordshire and Northamptonshire	–	–	–	–	–	–
Cheshire and Merseyside	–	–	–	–	–	–
Cumbria and Lancashire	2	2	2	8	8	5
Devon, Cornwall and Somerset	5	4	3	13	12	9
Greater Manchester	2	2	2	5	5	4
Hampshire, Isle of Wight and Dorset	2	2	2	7	7	6
Lincolnshire, Leicestershire, Nottinghamshire and Derbyshire	4	4	3	10	9	7
London	5	5	4	5	5	4
Norfolk, Suffolk, Cambridgeshire and Essex	–	–	–	–	–	–
North east	5	5	1	16	15	11
Sussex, Surrey and Kent	1	1	1	4	4	4
Thames Valley	1	1	–	2	2	–
West Midlands	11	11	4	30	29	16
Yorkshire and the Humber	7	1	6	8	1	7
Total	**57**	**50**	**37**	**136**	**125**	**92**

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



In the current season to date † (from week 27, 2013, to week 8, 2014), there were 3052 laboratory reports of norovirus. This is 45% lower than the average number of laboratory reports for the same period in the seasons between 2007/08 and 2011/2012 (5549)*. 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