



# Health Protection Report

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## **No evidence of new variant *Chlamydia trachomatis* in England and Wales**

Initially isolated in Sweden in 2006, new variant *C. trachomatis* (nvCT) is of public health importance as it contains a 377bp deletion in a portion of the plasmid that is the target area for some *C. trachomatis* nucleic acid amplification tests (NAAT). Consequently, affected platforms generate false negative results when presented with this strain. Despite being present within the Swedish population at a high prevalence, reports of nvCT outside of Sweden remain relatively rare and have been confined to isolated cases [1]. In August 2008 a single case of nvCT was reported in Scotland [2].

As yet there have been no reports of nvCT in England and Wales despite three large studies having been conducted. Sillis *et al*, in 2007, screened 1680 genital specimens giving a negative result on an affected platform sourced from four centres in England and retested them on an unaffected platform. Despite finding 29 discrepant specimens (ie those giving a positive result on only one of the two platforms), none were determined to be nvCT [3]. An alternative study screened 1112 specimens which had been confirmed as CT positive, using an unaffected platform, for the presence of the 377bp nvCT deletion. All typable specimens (95.9%) were confirmed as wildtype CT [4]. Finally, in a recent unpublished prospective study (undertaken between August 2007 and January 2008), urine specimens from 695 men with urethritis from 14 different centres throughout the UK who tested negative for CT at their local laboratory were forwarded for confirmatory testing. This approach produced 14 discordant specimens, none of which were identified as nvCT.

The Health Protection Agency's (HPA) Sexually Transmitted Bacteria Reference Laboratory (STBRL) has recently performed a telephone survey which aimed to establish the range and usage of CT NAAT testing platforms in England and Wales (unpublished data). It was determined that only 10% (11/108) of the laboratories surveyed used the only remaining nvCT-affected NAAT platform, Cobas Amplicor (Roche). The remaining 90% of laboratories used CT NAAT technology which can detect both wild type and nvCT. Such data are reassuring as it is thought that the rapid increase in prevalence of nvCT in Sweden was as a result of the selection pressure that was created by the almost exclusive use of the Cobas Amplicor platform (Roche). In England and Wales, given the range of CT NAAT platforms used, it is unlikely that such an event would occur. However, STBRL will be working with a number of diagnostic laboratories to ensure that the situation regarding nvCT in England and Wales is closely monitored.

### **Current recommendations to diagnostic laboratories in England and Wales**

- Laboratories using either COBAS Taqman CT v2.0 (Roche) or Abbott Real Time CT/NG (Abbott) should ensure that they are using the latest kit versions, which are able to detect nvCT [5].
- Laboratories performing testing on two platforms (including the Roche Cobas test), should consider using the Cobas Amplicor test (Roche) for confirmation rather than primary testing.
- Laboratories who are using the Cobas Amplicor platform (Roche) as their only method of *C. trachomatis* detection should carry on using this approach but be vigilant for obvious decreases in the number of positives cases.
- All laboratories should look for new alerts containing updated information.

The STBRL has established assays which are able to detect nvCT and would be pleased to assist with any potential discrepant results that may be due to the variant strain: email [stbri@hpa.org.uk](mailto:stbri@hpa.org.uk)

## References

1. Savage EJ, Ison CA, van de Laar MJ. Results of a Europe-wide investigation to assess the presence of a new variant of *Chlamydia trachomatis*. *Euro Surveill.* 2007; 12(10): E3-4.
2. New variant *Chlamydia trachomatis* in Scotland. *Health Protection Scotland Weekly Report* [online], 42(39), 24 September 2008.
3. Sillis M, Skidmore S, Mallinson H, Todd T, Coupland L, Oliver P, et al. No evidence of the *Chlamydia trachomatis* variant in the UK. *Sex Transm Infect.* 2007 Oct; 83(6): 488-9.
4. Alexander S, Ison C. Is new variant *Chlamydia trachomatis* present in England and Wales? *Sex Transm Infect.* 2008 Feb; 84(1): 29-31.
5. Health Protection Scotland. Alert: new variant *Chlamydia trachomatis* detected in Scotland. <http://www.documents.hps.scot.nhs.uk/labs/sbstirl/2008-09-alert-nv-c-trachomatis.pdf>.

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## ACDP consultation on updated BBV guidelines

The Health and Safety Executive has published for public consultation the final draft version of revised guidance on legal and safety management aspects of occupational exposure to blood-borne viruses, prepared by the Advisory Committee on Dangerous Pathogens (ACDP) [1]. The new guidance deals specifically with HIV and hepatitis B and C but is relevant to all workplaces where there may be occupational risk to bodily fluids containing BBVs. The final version is to be published as a web-based guide later this year, replacing the original ACDP guidance [2] that has not been available in electronic form.

As in the original 1996 version, the guidance covers virology, legal issues, risk assessment and control, and incident management. However, whereas the 1996 guidance focussed on risks in the healthcare sector and laboratories, the updated version covers a wider range of workplace situations where exposure to BBV is possible.

The revised document also provides references (hyperlinked in the final version) to existing, specialist guidance material relevant to a wide range of at-risk occupations, where this is available. This covers, for example, workers in local authorities (eg refuse collection and street cleaning), the emergency services and prisons, as well as other lower-risk situations. Within healthcare, sources of specific advice for laboratories, dentistry, care homes, health-care-related laundry services, etc, are signposted.

Comments are invited on individual sections of the guidance, including on its structure, before Monday 17th November. Suggestions for questions that might be included in a "questions and answers" section are also invited.

## References

1. The draft guidance, Protection Against Blood-borne Infections in the Workplace: HIV and Hepatitis (PDF format), and an electronic response form with instructions for responders is available at: <http://www.hse.gov.uk/biosafety/diseases/blood-borne-virus.htm>
2. *Protection against blood-borne infections in the workplace: HIV and hepatitis* (ACDP) 1995, HMSO, ISBN 0 11 321953 9.

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## Confirmed measles cases in England and Wales – an update to August 2008

The total number of laboratory confirmed cases of measles in England and Wales with onset dates between 1 January and the end of August this year has reached 884. The proportion of oral fluid tests that were positive during August was 37% for London and 16% for the rest of England and Wales.

Only 80 cases were confirmed during August (table 1), the first monthly decline since February. This is in contrast to 2007 when the confirmed cases peaked in August (figure 1).

Most of the recent cases were reported from outside London and are linked to travelling communities across England. Cases were reported from several traveller sites in North West, East Midlands and East of England regions. Local HPUs are working with PCTs to offer immunisation to any unvaccinated children as part of the MMR catch-up programme [1]. In addition, several cases were in France during their incubation period and one family (three cases) was diagnosed in Portugal.

Overall this year, the highest proportion of cases is in children of nursery and primary school age (figure 2). The observed decrease in August was expected as it coincides with school holidays. However, coverage of MMR at two years of age remains sub-optimal [2]. A recently published study predicting the number of children susceptible to measles in the population suggests the possibility of a measles epidemic is very real [3].

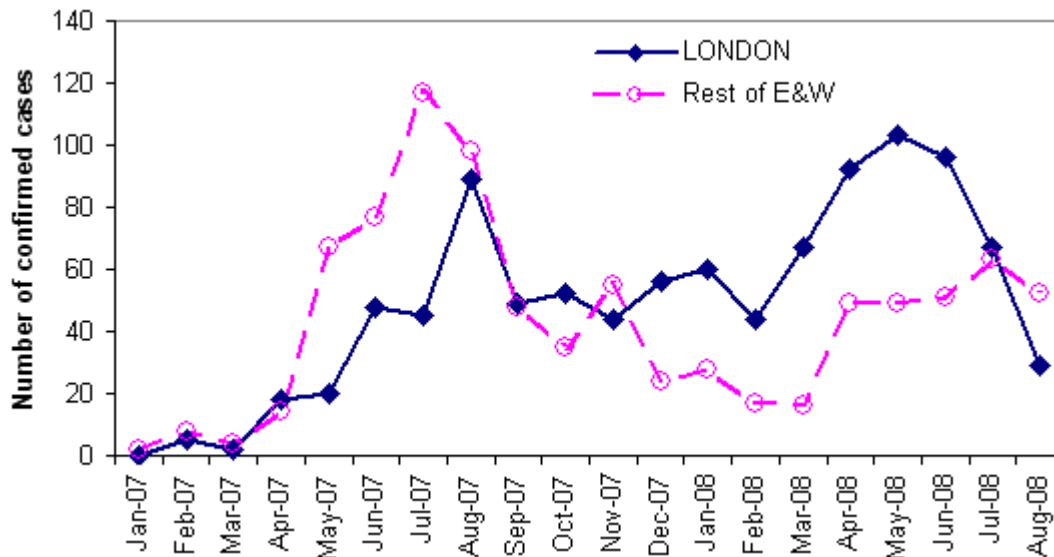
### References

1. MMR catch-up programme announced, *Health Protection Report*, 2(32), <http://www.hpa.org.uk/hpr/archives/2008/news3208.htm#mmr>.
2. COVER programme, April to June 2008: Quarterly vaccination coverage statistics for children aged up to five years in the United Kingdom, *Health Protection Report*, 2(39), <http://www.hpa.org.uk/hpr/archives/2008/hpr3908.pdf>.
3. Choi YH, Gay N, Fraser G, Ramsay M, The potential for measles transmission in England (in press).

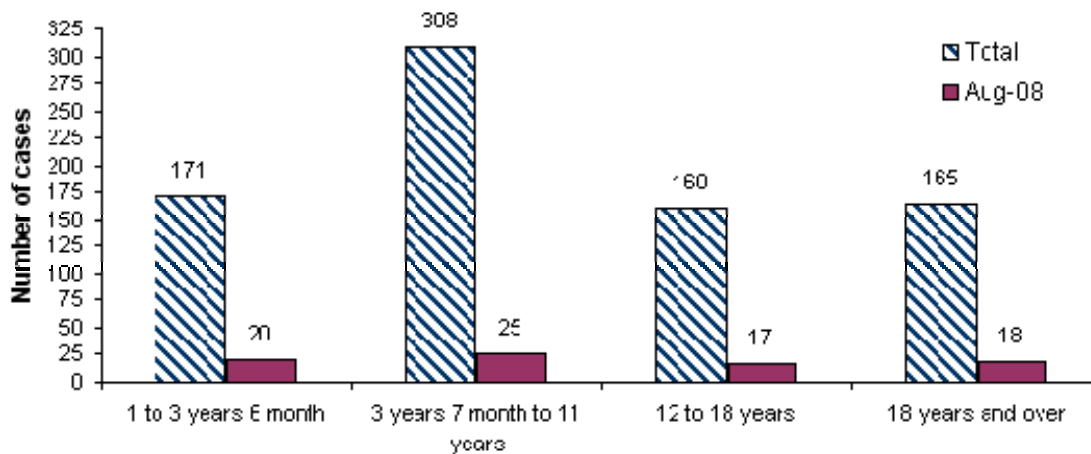
**Table 1. Confirmed cases of measles by region and month of onset, England and Wales: January – August 2008**

Month	London	East Mids	East of England	North East	North West	South East	South West	West Mids	Wales	York & Humber
Jan-08	60	1	8	1	1	1	–	3	1	12
Feb-08	44	–	4	3	–	7	–	–	–	3
Mar-08	67	1	1	–	–	6	1	1	1	5
Apr-08	92	–	8	3	1	6	15	2	–	14
May-08	103	1	6	–	23	6	7	3	–	5
Jun-08	96	–	10	1	22	7	3	5	–	3
Jul-08	67	1	11	–	22	17	3	7	–	2
Aug-08	30	6	5	–	15	17	–	6	–	1
<b>Total</b>	<b>559</b>	<b>10</b>	<b>53</b>	<b>8</b>	<b>84</b>	<b>67</b>	<b>29</b>	<b>27</b>	<b>2</b>	<b>45</b>

**Figure 1. Number of laboratory confirmed cases in England and Wales by month of onset: January 2007 – August 2008**



**Figure 2. Confirmed cases by age groups targeted by the MMR catch-up programme, England and Wales: January – July 2008**



### Start of the 2008/09 flu reporting season

The first week of October is the beginning of the influenza activity monitoring season and signals the return of reporting on influenza and other respiratory virus surveillance. A welcome note indicating the start of the 2008/09 season was published on Wednesday 1 October [1] and the HPA National Influenza Reports will now be published fortnightly until such time as activity begins to increase; they will then be published weekly. A short summary of activity will be made available in the weeks between the fortnightly reports. The first full influenza report will be published on Wednesday 15 October [2].

### References

- [http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb\\_C/1211441457161](http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1211441457161)
- These reports can be found at:  
[http://www.hpa.org.uk/infections/topics\\_az/influenza/seasonal/activity0708/weekly\\_summary.htm](http://www.hpa.org.uk/infections/topics_az/influenza/seasonal/activity0708/weekly_summary.htm)

### Further information

Influenza season 2007/08 summary:

[http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb\\_C/1195733836222](http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1195733836222).

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## Infection reports

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### Respiratory

- ▶ Laboratory reports of respiratory infections made to Cfl from HPA and NHS laboratories in England and Wales: weeks 36-39/2008

### Travel

- ▶ Imported infections, England and Wales: April to June 2008
- 

### Respiratory

#### Laboratory reports of respiratory infections made to Cfl from HPA and NHS laboratories in England and Wales: weeks 36-39/2008

Data are recorded by week of report, but include only specimens taken in the last eight weeks (ie recent specimens).

**Table 1 Reports of influenza infection made to Cfl, by week of report: weeks 36-39/2008**

Week	Week 36	Week 37	Week 38	Week 39	Total
Week ending	07/09/08	14/09/08	21/09/08	28/09/08	
<b>Influenza A</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>11</b>
Isolation	–	–	–	–	–
*DIF	–	–	–	–	–
Four-fold rise in paired sera	–	–	–	–	–
PCR	1	1	–	2	4
†Other	3	–	2	2	7
<b>Influenza B</b>	<b>1</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>1</b>
Isolation	–	–	–	–	–
*DIF	–	–	–	–	–
Four-fold rise in paired sera	–	–	–	–	–
PCR	–	–	–	–	–
†Other	1	–	–	–	1
<b>Influenza (untyped)</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>
Isolation	–	–	–	–	–
*DIF	–	–	–	–	–
Four-fold rise in paired sera	–	–	–	–	–
PCR	–	–	–	–	–
†Other	–	–	–	–	–

\* DIF = Direct Immunofluorescence.

† 'Other' = 'Antibody detection - Single high titre' or 'Method not specified'.

**Table 2 Respiratory viral detections by any method (culture, direct immunofluorescence, PCR, four-fold rise in paired sera or single high serology titre, genomic, electron microscopy, other method or other method unknown), by week of report: weeks 36-39/2008**

Week	Week 36	Week 37	Week 38	Week 39	Total
Week ending	07/09/08	14/09/08	21/09/08	28/09/08	
Adenovirus*	20	4	13	12	49
Coronavirus	–	–	1	–	1
Parainfluenza†	22	11	8	8	49
Rhinovirus	18	15	28	42	103
Respiratory Syncytial Virus (RSV)	28	10	15	22	75

\* Respiratory samples only. Excludes diagnoses made by electron microscopy (EM)

† Includes parainfluenza types 1, 2, 3, 4 and untyped.

**Table 3 Respiratory viral detections by age group: weeks 36-39/2008**

Age group (years)	<1 year	1-4 years	5-14 years	15-44 years	45-64 years	≥65 years	Un-known	Total
Adenovirus*	14	8	8	11	6	1	1	49
Coronavirus	–	–	–	1	–	–	–	1
Influenza A	4	–	–	4	2	1	–	11
Influenza B	–	–	–	–	–	1	–	1
Parainfluenza†	22	5	2	8	10	2	–	49
Rhinovirus	33	25	5	15	19	5	1	103
Respiratory syncytial virus (RSV)	49	18	–	4	3	1	–	75

\* Respiratory samples only.

† Includes parainfluenza types 1, 2, 3, 4 and untyped.

**Table 4 Laboratory reports of infections associated with atypical pneumonia, by week of report: weeks 36-39/2008**

Week	Week 36	Week 37	Week 38	Week 39	Total
Week ending	07/09/08	14/09/08	21/09/08	28/09/08	
<i>Coxiella burnetii</i>	–	–	–	1	1
Respiratory <i>Chlamydia</i> sp.*	8	5	4	2	19
<i>Mycoplasma pneumoniae</i>	12	7	16	6	41
Legionella sp.	11	13	11	16	51

\* Includes *Chlamydia psittaci*, *Chlamydia pneumoniae*, and *Chlamydia* sp detected from blood, serum, and respiratory specimens.

**Table 5a Reports of Legionnaires' Disease cases in England and Wales, by week of report: weeks 36-39/2008**

Week	Week 36	Week 37	Week 38	Week 39	Total
Week ending	07/09/08	14/09/08	21/09/08	28/09/08	
Nosocomial	0	0	1	0	–
Community	10	8	6 (1*)	9	37
Travel Abroad	1	4	4	4	13
Travel UK	0	1	0	3	7
<b>Total</b>	<b>11</b>	<b>13</b>	<b>11</b>	<b>16</b>	<b>57</b>
Male	8	13	6	9	48
Female	3	0	5	7	9

(\*) Non-pneumonic case(s)

Fifty-one cases were reported with pneumonia and one with non-pneumonic infection; 36 males aged 35–84yrs and 15 females aged 37–95yrs. Thirty-three cases had community acquired infection. Four deaths were reported in females aged 61–95yrs.

Seventeen cases were travel associated: Cyprus (2), Czech Republic (1), France (1), France/Italy (1), Greece (2), Mexico (1), Portugal (1), Spain (2), Ukraine (1), United Kingdom (4) and United States of America (1).

**Table 5b Reports of Legionnaires' Disease cases by region of report in England and Wales: weeks 36-39/2008**

Region/country	Nosocomial	Community	Travel abroad	Travel UK	Total
North East	–	–	–	–	0
Yorkshire & Humber	–	1	5	1	7
East Midlands	–	5	–	–	5
East of England	–	3	1	1	5
London	1	16 (1*)	4	–	21
South East	–	1	1	2	4
South West	–	–	1	–	1
West Midlands	–	3	–	–	3
North West	–	3	–	–	3
Wales	–	1	1	–	2
Unknown	–	–	–	–	–
<b>Total</b>	<b>1</b>	<b>33</b>	<b>13</b>	<b>4</b>	<b>51</b>

(\*) Non-pneumonic case(s)

## Travel

### Imported infections, England and Wales: April to June 2008

The data presented in this report should be interpreted in conjunction with the report *Illness in England, Wales and Northern Ireland associated with foreign travel – a baseline report to 2002* [1], especially the content under the section 'Sources of data on travel-associated illness and their limitations for analysis'. All data presented are provisional and subject to change; the confirmed final data will be presented on an annual basis. All data presented in table 1 are for laboratory reports with specimen dates within the second quarter of 2008 unless specified otherwise. Travel-associated infections are generally under-reported as information on travel history is incomplete through routine reporting mechanisms. For some infections listed in table 1 such as malaria, the arboviruses, leishmaniasis, schistosomiasis, filariasis, trypanosomiasis, and *Rickettsia* spp, it is assumed that although no country of travel is given in the laboratory report, they are all foreign travel-related as they are not known to occur in the UK.

**Table 1. Laboratory confirmed reports of infections associated with foreign travel, England and Wales: second quarter 2008**

Organism	Total reports for Q2 (Apr - Jun)				Cumulative totals for Jan - Jun			
	2008*		2007		2008*		2007	
	Travel-related	All reports	Travel-related	All reports	Travel-related	All reports	Travel-related	All reports
<b>Gastrointestinal Infections</b>								
<b>Bacterial</b>								
<i>Salmonella</i> spp	546	2190	540	2471	933	3875	987	4749
<i>Campylobacter</i> spp	282	13469	297	14055	509	21522	556	22432
<i>Shigella flexneri</i>	14	107	3	90	25	199	10	167
<i>Shigella dysenteriae</i> †	20	33	12	18	27	45	13	23
<i>Shigella sonnei</i>	34	190	41	319	48	285	63	499
<i>Shigella boydii</i> †	29	44	22	44	46	71	39	73
Other (species unknown)	1	39	–	30	3	85	–	51
<i>Salmonella</i> Typhi	35	69	37	70	69	134	61	129
<i>Salmonella</i> Paratyphi (A,B,C)	43	76	35	70	82	138	61	109
<i>Vibrio cholerae</i> O1†	4	4	14	14	4	4	14	15
<i>Vibrio parahaemolyticus</i>	1	4	1	3	1	9	3	9
<b>Protozoal</b>								
<i>Entamoeba histolytica</i>	2	43	–	34	5	76	3	66
<i>Giardia lamblia</i>	54	741	61	658	113	1398	130	1270
<i>Cryptosporidium</i>	13	688	7	618	23	1085	21	1065
<i>Cyclospora</i> spp	4	10	5	12	6	14	6	16

<b>Intestinal helminths</b>									
<i>Strongyloides</i> spp	2	7	1	5	2	13	1	12	
Hookworm	5	9	–	4	8	16	2	8	
<i>Ascaris</i> spp (round worm)	–	12	3	14	2	24	5	23	
<i>Trichuris</i> spp (whip worm)	2	6	–	3	3	11	1	7	
<i>Hymenolepis</i> spp	–	–	–	1	–	–	1	3	
<i>Taenia</i> spp (tape worm)	4	25	4	29	4	41	10	53	
<i>Gnathostoma</i> spp	–	–	–	1	–	–	–	1	
<i>Diphyllobothrium latum</i> (fish tape worm)	1	2	–	–	1	3	–	–	
<b>Arthropod-borne infections</b>									
Malaria - total ‡	300	300	341	341	541	541	624	624	
<i>Plasmodium falciparum</i>	240	240	235	235	434	434	442	442	
<i>Pl. vivax</i>	37	37	69	69	62	62	108	108	
<i>Pl. malariae</i>	2	2	6	6	7	7	13	13	
<i>Pl. ovale</i>	20	20	27	27	35	35	53	53	
<i>Pl. unspesified</i>	–	–	–	–	–	–	–	–	
Mixed	1	1	4	4	3	3	8	8	
<b>Arboviruses</b>									
Dengue virus ††	23	23	34	34	54	54	50	50	
Chikungunya virus ††	3	3	3	3	4	4	8	8	
Ross river virus ††	–	–	–	–	–	–	–	–	
Sandfly fever virus ††	–	–	–	–	–	–	1	1	
Eastern Equine Encephalitis ††	–	–	–	–	–	–	–	–	
West Nile virus ††	–	–	–	–	–	–	–	–	
<b>Leishmaniases</b>									
Cutaneous	3	3	3	3	11	11	8	8	
Visceral	5	6	4	7	8	9	6	9	
Unspecified	–	5	–	1	–	5	4	5	
<b>Filariases</b>									
<i>Loa loa</i>	–	1	–	–	–	1	–	–	
<i>Wuchereria bancrofti</i>	–	–	–	–	–	–	–	–	
<i>Mansonella perstans</i>	–	–	–	–	1	1	–	–	
<i>Onchocerca volvulus</i>	–	–	–	–	–	–	–	–	
Unspecified	–	–	–	–	–	–	–	–	
<b>Trypanosomiasis</b>									
	–	–	–	–	–	–	1	1	

Miscellaneous								
Schistosome infections								
<i>Schistosoma mansoni</i>	2	2	1	2	4	4	1	2
<i>Schistosoma haematobium</i>	2	8	–	4	9	15	3	17
<i>Schistosoma</i> spp	–	4	3	10	8	12	4	16
Other infections								
Legionnaires' disease**	33	71	54	126	52	127	65	181
<i>Coxiella burnetii</i> (Q fever)	–	15	2	13	–	21	2	19
<i>Rickettsia</i> spp ††	20	20	19	19	30	30	30	30

All data extracted from Labbase 09.09.08 unless otherwise specified.

\* All data for 2008 are provisional and may be subject to change.

† Data on cholera, *S.boydii* and *S.dysenteriae* supplied by the Cfl Laboratory of Enteric Pathogens.

‡ Data for malaria supplied by the HPA Malaria Reference Laboratory and are provisional. Trends are best interpreted on an annual basis.

\*\* Data on legionnaires' disease supplied by the Legionella Section of the Respiratory Diseases Department of Cfl.

†† Data from the Special Pathogens Reference Unit, Centre for Emergency Preparedness and Response.

### Gastrointestinal infections

Gastrointestinal infections are the most common travel-associated infection, affecting travellers worldwide. "Travellers' diarrhoea" affects between 20% and 60% of overseas travellers [2] and may be viral, bacterial, or protozoal in origin; the risk of illness usually depends on the country visited.

#### *Salmonella* spp (non-typhoidal)

There were 2,190 laboratory reports of *Salmonella* spp, of which 546 (25%) were associated with recent travel abroad. *Salmonella* Enteritidis was the most common serovar associated with travel abroad (198/546, 36%), of which phage types (PT) 1, 14B, 21, 4, 53, 8, and 6 were most commonly reported [table 2]. Of note this quarter is that since the quarterly reports began in 2003, PT 53 has been reported for the first time in the second quarter of the year and was mainly associated with travel to the Maldives.

**Table 2. Laboratory reports of *Salmonella* Enteritidis associated with foreign travel, England and Wales: second quarter 2008.**

Country of travel	Salmonella Enteritidis phage types (PTs)									Total
	PT 1	PT 14B	PT 21	PT 4	PT 53	PT 8	PT 6	Other	PT not known	
Maldives	8	–	–	–	12	–	–	–	4	24
Greece	–	5	12	2	–	1	–	1	1	22
Turkey	–	1	2	3	–	3	7	–	1	17
Spain	5	4	–	–	–	1	–	2	2	14
Morocco	4	1	–	–	–	–	–	–	3	8
Tunisia	–	–	–	–	–	7	1	–	–	8
Portugal	4	1	–	–	–	–	–	–	2	7
Egypt	1	–	–	1	–	–	–	3	1	6
India	1	–	–	1	1	–	–	3	–	6
Cyprus	–	1	2	–	–	1	–	–	–	4
Malaysia	–	–	–	–	–	–	–	–	4	4

Bulgaria	-	-	-	-	-	-	-	3	-	3
Dominican Republic	1	-	-	2	-	-	-	-	-	3
Thailand	-	-	-	1	-	-	-	2	-	3
Cuba	-	-	-	-	-	-	1	-	1	2
Germany	-	-	-	2	-	-	-	-	-	2
Mexico	-	-	-	1	-	-	-	-	1	2
Pakistan	-	1	-	-	-	-	-	-	1	2
Sri Lanka	1	1	-	-	-	-	-	-	-	2
Swaziland	-	-	-	1	-	-	-	-	1	2
<b>Sub-total</b>	<b>25</b>	<b>15</b>	<b>16</b>	<b>14</b>	<b>13</b>	<b>13</b>	<b>9</b>	<b>14</b>	<b>22</b>	<b>141</b>
Other (N=20)	4		3	4	1	2	-	3	3	20
Country not stated	5	8	3	3	3		2	9	4	37
<b>Total</b>	<b>34</b>	<b>23</b>	<b>22</b>	<b>21</b>	<b>17</b>	<b>15</b>	<b>11</b>	<b>26</b>	<b>29</b>	<b>198</b>

Other serovars reported included *S. Typhimurium* (66/546, 12%), *S. Stanley* (26, 5%), *S. Virchow* (19, 3%), and *S. Agona* (16, 3%) [table 3].

**Table 3. Laboratory reports of other *Salmonella* spp associated with foreign travel, England and Wales: second quarter 2008.**

Country of travel	S Typhimurium	S Stanley	S Virchow	S Agona	Other	Total
Thailand	7	14	2	3	22	48
Egypt	7	-	7	1	32	47
India	6	3	3	1	29	42
Pakistan	3	5	1	2	14	25
Cuba	1	-	-	3	6	10
Morocco	-	-	-	-	9	9
Spain	3	-	-	1	2	6
Mexico	-	-	-	-	6	6
Africa	1	-	-	-	5	6
Mauritius	5	-	-	-	1	6
Nigeria	2	-	-	-	4	6
Turkey	-	-	-	1	4	5
Sri Lanka	-	-	-	-	5	5
The Gambia	-	-	2	-	3	5
Ghana	1	-	-	-	4	5
Tunisia	3	-	-	-	1	4
<b>Sub-total</b>	<b>39</b>	<b>22</b>	<b>15</b>	<b>12</b>	<b>147</b>	<b>235</b>
Other (N=34)	13	0	2	2	38	55
Country not stated	14	4	2	2	36	58
<b>Total</b>	<b>66</b>	<b>26</b>	<b>19</b>	<b>16</b>	<b>221</b>	<b>348</b>

**Campylobacter** spp

There were 13,469 laboratory reports of *Campylobacter* spp, of which 282 (2%) were associated with recent travel abroad. Spain and India tend to be the most common countries of travel associated with travel-associated *Campylobacter* spp, reflecting travel patterns of UK residents [table 4].

**Table 4. Laboratory reports of *Campylobacter* spp associated with foreign travel, England and Wales: second quarter 2008.**

Country of travel	<i>Campylobacter</i> spp
Spain	59
India	32
Turkey	15
Portugal	15
France	14
Thailand	12
Morocco	11
Egypt	8
Italy	8
Greece	7
Pakistan	7
Nepal	7
Bulgaria	5
South Africa	5
Malta	4
Kenya	4
Poland	4
Tunisia	3
Cyprus	3
Sri Lanka	3
Africa	3
Australia	3
<b>Sub-total</b>	<b>232</b>
Other (N=30)	38
Country not stated	12
<b>Total</b>	<b>282</b>

### ***Shigella* spp**

In total, there 413 reports of shigella infection in the second quarter of 2008, of which 98 (24%) were associated with foreign travel. Travel history information was available for 65% of both *S. boydii* and *S. dysenteriae* reports, but for only 24% for *S. sonnei* and *S. flexneri*. Countries of travel are listed for each species in table 5.

**Table 5. Laboratory reports of *Shigella* spp associated with foreign travel, England and Wales: second quarter 2008**

Country of travel	<i>Shigella</i> species					Total
	<i>S. flexneri</i>	<i>S. sonnei</i>	<i>S. sp</i>	<i>S. boydii</i>	<i>S. dysenteriae</i>	
India	1	10	–	6	5	22
Egypt	2	3	–	5	8	18
Pakistan	–	9	–	6	1	17
Cambodia	–	–	–	2	1	3
Madagascar	3	–	–	–	–	3
Nepal	1	2	–	–	–	3
Afghanistan	1	1	–	–	–	2
Cameroon	–	1	–	1	–	2
Morocco	–	–	–	1	1	2
Sudan	1	–	–	–	1	2
Ghana	–	–	1	1	–	2
Hong Kong	–	1	–	–	1	2
Kenya	–	–	–	1	1	2
<b>Sub-total</b>	<b>10</b>	<b>27</b>	<b>1</b>	<b>23</b>	<b>19</b>	<b>80</b>
Other (N=12)	4	4	–	4	–	12
Country not stated	–	3		2	1	6
<b>Total</b>	<b>14</b>	<b>34</b>	<b>1</b>	<b>29</b>	<b>20</b>	<b>98</b>

### ***Cholera***

There were four reports of *Vibrio cholerae* serogroup O1, compared to 14 reported in the same period in 2007; countries of travel reported were Pakistan (three) and Egypt (one).

### ***Cryptosporidium***

During the second quarter, there were 688 reports of *Cryptosporidium* via Co-Surv of which, 13 reports (2%) stated recent travel abroad. Countries of travel reported were Pakistan (four), Malta (two), India (two), South Africa, Nepal, Turkey, Fiji, and Mexico (all one each). Sentinel surveillance submission forms to the UK Cryptosporidium Reference Unit (CRU) during the same time frame included 17 (6.2%) travel abroad-related cases [Rachel Chalmers, Head of UK Cryptosporidium Reference Unit, NPHS Wales, personal communication, 25 September 2008]. Travel-related cases were identified as nine *Cryptosporidium hominis* with travel to Pakistan (three), India (two), Ireland, Majorca, Mexico and Turkey (all one each); six *Cryptosporidium parvum* with travel to Pakistan, Turkey, France, Malta, Europe unspecified and a cruise (all one each); one *Cryptosporidium meleagridis* with travel to Goa, India, and an untyped case with reported travel to the Himalayas. Travel-related *Cryptosporidium* is under-estimated by routine surveillance.

## ***Giardia lamblia***

There 741 giardia infections reported, of which 54 (7%) were associated with recent travel abroad. Most commonly reported countries of travel were India (20 reports), Egypt (five), Pakistan (three), Bangladesh (three), and 22 other countries worldwide.

Other intestinal protozoa

Other intestinal protozoa reported were *Entamoeba histolytica*; two out of a total of 43 were associated with recent foreign travel; countries reported were Egypt and Asia unspecified. There were ten reports of infection with *Cyclospora*, of which four were associated with recent travel abroad; countries reported were China, Myanmar, Philippines, and Asia unspecified (all one each).

## **Enteric fever**

During the second quarter of 2008, there were 69 reports of *S. Typhi* and 76 reports of *S. Paratyphi* (73 *S. Paratyphi A* and three *S. Paratyphi B*).

Fifty-one percent (35/73) of *S. Typhi* and 57% of *S. Paratyphi* (43/76) reports were associated with recent travel abroad. Countries of travel are listed in table 6. The Indian sub-continent remains the most reported region of travel for cases of enteric fever and is mainly associated with those visiting friends and relatives in their country of ethnic origin [3].

**Table 6. Laboratory reports of enteric fever associated with foreign travel, England and Wales: second quarter 2008**

Country of travel	<i>Salmonella</i> spp			Total
	<i>S. Paratyphi A</i>	<i>S. Paratyphi B</i>	<i>S. Typhi</i>	
India	17	–	15	32
Pakistan	15	1	7	23
Bangladesh	1	–	4	5
Nepal	1	–	2	3
Brazil	–	–	1	1
Egypt	–	–	1	1
India , Pakistan	1	–	–	1
Philippines	–	–	1	1
Sierra Leone	1	–	–	1
Country not stated	6	–	4	10
<b>Total</b>	<b>42</b>	<b>1</b>	<b>35</b>	<b>78</b>

## Intestinal helminths

In the second quarter of 2008, there were 61 reports of intestinal helminth infection, of which 14 were associated with recent foreign travel [table 7]. Helminth infections can persist in the body for months and it may not be possible to say for certain where these infections were acquired; they are probably associated with new entrants to the UK as well as short-term travellers.

**Table 7. Intestinal helminths associated with recent foreign travel, England and Wales: second quarter 2008**

Organism	Country of travel (reports)
<i>Diphyllobothrium latum</i>	Rwanda (1)
Hookworm sp	Philippines (1), Africa (1), Jordan (1), Nigeria (1), Not stated (1)
<i>Strongyloides stercoralis</i>	Africa (1), The Gambia (1)
<i>Taenia saginata</i>	Eritrea (1), Far East (1), India and Thailand (1)
<i>Taenia</i> sp	Ethiopia (1)
<i>Trichuris trichiura</i>	Asia (1), Venezuela (1)

## Arthropod-borne infections

### Malaria

During the second quarter of 2008, there were 300 cases of malaria reported in the United Kingdom, 80% (240 cases) of which were caused by the parasite, *Plasmodium falciparum* and 12% (37 cases) were caused by *P. vivax*. Where country of travel was known, 80% (145/182) of malaria cases caused by *P. falciparum* were reported to have been acquired in West Africa, and 67% (20/30) of *P. vivax* cases were reported to have been acquired in Asia.

### Dengue

Twenty-three cases (includes four confirmed and 19 probable) were reported by the HPA Special Pathogens Reference Unit (SPRU) in the second quarter. Of those, 18 had information about country of travel. The majority of cases reported recent travel to Asia or South America. Countries of travel reported were Brazil (four), Thailand (three), India, Malaysia, Sri Lanka (two each), Bolivia, Colombia, Honduras, Singapore, and South Africa (one each).

### Chikungunya

There were three probable cases of chikungunya infection reported by the SPRU; countries of travel were Thailand, Maldives, and Nigeria.

### Leishmaniasis

There were 14 cases of leishmaniasis reported in the second quarter, three of which were presumed to be cutaneous leishmaniasis associated with travel to Afghanistan, Belize, and Sudan (all one each); six were presumed visceral leishmaniasis associated with recent travel to Spain (two), Cyprus, Malaysia, Malta (all one each); one report had no travel history. There was a further report of leishmaniasis of unspecified type, also with no travel history.

## Other infections

### Schistosomiasis

There were 14 reports of infection with *Schistosoma* spp, eight *S. haematobium* and two *S. mansoni*. Two *S. haematobium* reports had information about travel; one travelled to Malawi and the other to Zimbabwe, and two *S. mansoni* reports specified travel to Uganda and Sudan.

### Rickettsial infections

There were 19 cases of Rickettsia spotted fever (nine confirmed, 10 probable) reported by the SPRU in the second quarter. Ten cases had reported travel to South Africa, and the remaining nine cases had no travel history. There was one probable case of epidemic typhus, which stated travel to Malaysia.

### Legionnaires' Disease

There were 71 cases of Legionnaires' disease reported in the first quarter, of which 33 (46%) were associated with travel abroad. Four of the travel-associated cases died. Most cases are sporadic but three of the travel-associated cases were possibly involved four different outbreaks occurring Italy, France, Germany and Greece.

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