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Treatment approach announced for pandemic flu

The Government announced, on 2 July, an end to the containment phase in the management of the current pandemic flu outbreak in the UK [1].

The announcement was made as further clusters were identified around the country where there is good evidence of significant levels of transmission of swine flu within the community. As a result, public health interventions to reduce spread were deemed no longer appropriate and the focus has moved to the treatment of individual patients with antivirals.

The move to using antivirals for treatment only is consistent with the approach being taken in other countries across the world including the USA, Canada, Australia, New Zealand, Chile, Mexico and elsewhere.

Since the first cases were seen in the UK the policy has been to contain the spread of the virus using various public health interventions including giving antivirals to those who were symptomatic (as a treatment) as well as to their close contacts (to prevent them from developing the disease). This was successful in containing the spread but could not have been sustained indefinitely.

Diagnosis of cases will henceforth be on the basis of clinical observation rather than laboratory testing. Those who have flu-like symptoms will be assessed by a doctor and if diagnosed with swine flu will be given antivirals to manage their illness. Routine swabbing of suspected cases will cease (although a proportion of patients will be tested for surveillance purposes) and the Health Protection Agency will no longer trace close contacts or provide antivirals to limit spread.

Treatment

All those who have contracted swine flu will continue to be offered antiviral drugs and doctors have been advised to give priority to early treatment with antivirals of people in higher risk groups: this includes those with long-term lung, kidney, neurological, liver or heart disease; children under five; people over 65; those with diabetes mellitus; the immunosuppressed (whether caused by disease or treatment); patients who have had drug treatment for asthma within the past three years; and pregnant women.

The Chief Medical Officer for England has written to healthcare professionals with the latest information and guidance [2].

Development of existing influenza surveillance systems

The Health Protection Agency's role will continue to be to provide scientific advice to Government and to use the established surveillance systems to monitor the spread and incidence of the disease.

HPA has internationally respected surveillance systems for monitoring incidence and assessing the impact of flu, which it has operated through the normal “flu season” over the last few years. These systems have effectively informed policy and planning, and evaluation of interventions (particularly the uptake of seasonal flu vaccine), and have been identified in pandemic preparedness plans as central to surveillance activities in the pandemic situation.

These systems will, however, be augmented by additional surveillance activities that are relevant to the pandemic situation, eg continuing assessment of the severity of disease associated with this novel virus, and monitoring for changes in the characteristics of the virus.

References

1. "Treatment approach announced for pandemic flu", (HPA press release of 2 July 2009). HPA website: National Press Releases.

2. Department of Health. "New H1N1v influenza: current situation and next steps", 2 July 2009.

Multi-resistant hospital bacteria linked to India and Pakistan

A National Resistance Alert, issued in January 2009 [1], warned of an increasing number of carbapenem-resistant strains of Enterobacteriaceae being identified in UK hospital patients, a significant proportion of whom had received medical treatment abroad.

Three categories of carbapenem-destroying enzymes ("carbapenemases") were recognised among submissions during 2008, and deemed to be of potential major public health concern, by the HPA Centre for Infection's Antibiotic Resistance Monitoring and Reference Laboratory (ARMRL): (i) metallo-beta-lactamases [2, 3]; (ii) KPC enzymes [2, 4] and (iii) OXA-48 enzyme, prevalent among K. pneumoniae in Turkey [5]. The metallo enzymes were "VIM" types, often linked to patients previously hospitalised in countries of the Eastern Mediterranean.

It has now become clear that a further metallo-beta-lactamase type – designated NDM-1 ("New Delhi Metallo-1") – is swiftly emerging. Four isolates producing this enzyme have been recognised among submissions from 2008, with 18 more so far in 2009. The total of 22 bacteria with NDM-1 enzyme represent the largest single group of carbapenemase producers referred to ARMRL and comprise *K. pneumoniae* (14), *Escherichia coli* (4), *Citrobacter freundii* (2), *Enterobacter cloacae* (1) and *Morganella morganii* (1) from 19 patients at 17 hospitals. Typing by the HPA's Laboratory for Healthcare Associated infections shows that they are clonally diverse, with no outbreaks and only one instance of possible transmission between two patients.

Critically, at least 9/19 affected patients have had recent hospitalisation in India or Pakistan. Similarly, the patient from whom the first NDM-1 enzyme producer was described – in Sweden in 2008 – had prior medical contact in India [6]. One UK patient, who developed a bloodstream infection with an *E. coli* that produced NDM-1 enzyme had received treatment for a haematological malignancy in both India and the UK; two others had undergone cosmetic surgery in India and one of these presented to a UK hospital with a wound infection that grew a mixed microbial flora including *K. pneumoniae* with NDM-1 enzyme; others had received renal or liver transplantation in Pakistan.

Epidemiological data for NDM-1 enzyme within India are limited and anecdotal, but ARMRL has reports of the enzyme from isolates from multiple cities, with a sharp rise in carbapenem resistance in Delhi since 2006 (whether due to NDM enzyme or not). *E. coli* with NDM-1 enzyme have also been also found by a collaborator in Karachi, Pakistan. Carbapenems are widely available in the Indian subcontinent, are widely used owing to prevalent cephalosporin resistance, and have doubtless exerted selection pressure.

ARMRL data suggest that isolates with NDM-1 enzyme have been repeatedly imported to the UK from the Indian subcontinent, though there may now also be UK circulation since some affected patients have no immediately identifiable overseas links. This situation resembles that with producers of VIM and KPC carbapenemases where we have seen multiple importations via patients previously hospitalised in Greece, Cyprus and Israel along with locally acquired infections. However the population flow between the UK and the Indian subcontinent is larger with some elective medical tourism as well as some patients who, for family reasons, divide treatment between the UK and India or Pakistan.

Carbapenems are the only antibiotics reliably active against many otherwise multi-resistant gram-negative opportunist bacteria, particularly those with extended-spectrum beta-lactamases (ESBLs) [7, 8]. The growing emergence and diversity of carbapenemase producing strains is therefore a major concern.

Treatment presents major challenges. Most isolates with NDM-1 enzyme are resistant to *all* standard intravenous antibiotics for treatment of severe infections. Polymyxin is usually active *in vitro* (though not vs. *M. morganii*, an intrinsically resistant species) but of uncertain clinical efficacy, especially in pneumonia, owing to poor lung penetration. Tigecycline is often active *in vitro*, but has low serum levels, is unsuitable for urinary infections and, more generally, is of unproven efficacy in severe infections. ARMRL is urgently reviewing the activity of both developmental and old, otherwise abandoned, antibiotics against producers.

ARMRL therefore urges hospitals to be vigilant to multi-resistant gram-negative bacteria in patients with recent hospital contact in the Indian subcontinent as well as the Eastern Mediterranean. If *Enterobacteriaceae* are found resistant to any carbapenem they should be sent to ARMRL for investigation [9]. Great care should be taken to prevent onward transmission of producers. Comprehensive infection control advice can be provided by the HPA's Laboratory of Healthcare-Associated Infection [10] but key aspects include isolation of sources and screening of cases and close hospital contacts for gut carriage.

References

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9. ARMRL director: Dr David Livermore: david.livermore@hpa.org.uk.

10. LHCAI director: Professor Barry Cookson:barry.cookson@hpa.org.uk

Salmonella and *E. coli* bacteria found in packets of shelled nuts

A recent study carried out by the Health Protection Agency and the Local Authorities Co-ordinators of Regulatory Services (LACORS) has revealed the presence of salmonella and *E. coli* bacteria in a small number of samples of ready-to-eat shelled nuts.

Consumption of shelled nuts (kernels) has increased, reflecting a growing preference for snacks that are both healthy and convenient. The study was undertaken to explore the microbiological safety of a selection of these products including brazil nuts, cashews and peanuts amongst others.

Between October 2008 and March 2009, councils collected 2,866 samples of nut kernels of different varieties were collected from randomly selected retail premises such as supermarkets and health food shops. Testing of the kernels showed that at least 99% were of a satisfactory or acceptable quality in microbiological terms. However, 0.1% of samples were found to be unsafe due to the presence of salmonella, which is unacceptable in ready-to-eat foods. *E. coli* , the presence of which indicates poor hygiene, was found in a total of 0.8% of the samples; and in 0.03% of samples the level of *E. coli* was assessed as being too high and therefore unsatisfactory in microbiological terms.

Reference

1. HPA/LACORS. Assessment of the microbiological safety of edible nut kernels on retail sale in the UK with a focus on *Salmonella* spp. Downloadable from the HPA website at Food Sampling.

Respiratory

Laboratory reports of respiratory infections, England and Wales: weeks 23-26/2009

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 CfI, by week of report: weeks 23-26/2009

Week	Week 23	Week 24	Week 25	Week 26	Total
Week ending	**7/6/09**	**14/6/09**	**21/6/09**	**28/6/09**	
Influenza A	**17**	**49**	**49**	**119**	**234**
Isolation	–	–	–	1	**1**
DIF	7	2	1	6	**16**
PCR	7	44	46	111	**208**
Other	3	3	2	1	**9**
Influenza B	**4**	**5**	**3**	**1**	**13**
Isolation	–	1	–	–	**1**
DIF	2	-	–	–	**2**
PCR	–	3	2	1	**6**
Other	2	1	1	–	**4**
Influenza (untyped)	**–**	**–**	**–**	**–**	**–**
Isolation	–	–	–	–	**–**
DIF	–	–	–	–	**–**
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, single high serology titre, genomic, electron microscopy, other method, other method unknown), by week of report: weeks 23-26/2009

Week	Week 23	Week 24	Week 25	Week 26	Total
Week ending	7/6/09	14/6/09	21/6/09	28/6/09	
Adenovirus*	38	49	35	50	**172**
Coronavirus	–	6	3	2	**11**
Parainfluenza†	25	49	40	44	**158**
Rhinovirus	59	107	84	75	**325**
Respiratory Syncytial Virus (RSV)	11	15	14	15	**55**

* Respiratory samples only. Excludes diagnoses made by electron microscopy.
† Includes parainfluenza types 1, 2, 3, 4 and untyped

Table 3. Respiratory viral detections by age group: data for weeks 23-26/2009

Age group (years)	<1 year	1-4 years	5-14 years	15-44 years	45-64 years	≥65 years	Un-known	Total
Adenovirus*	28	38	19	56	24	6	1	**172**
Coronavirus	2	–	1	5	2	1	–	**11**
Influenza A	4	11	47	121	34	14	3	**234**
Influenza B	–	1	2	4	2	3	–	**12**
Parainfluenza†	31	23	8	49	28	17	2	**158**
Rhinovirus	74	27	26	122	65	8	3	**325**
Respiratory syncytial virus (RSV)	18	10	3	9	8	7	–	**55**

* 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 23-26/2009

Week	Week 23	Week 24	Week 25	Week 26	Total
Week ending	7/6/09	14/6/09	21/6/09	28/6/09	
Coxiella burnettii	1	1	–	1	**3**
Respiratory *Chlamydia* sp.*	2	3	4	2	**11**
Mycoplasma pneumoniae	5	10	16	23	**54**
Legionella sp.	**1**	**2**	**4**	**8**	**15**

* 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 23-26/2009

Week	Week 23	Week 24	Week 25	Week 26	Total
Week ending	**7/6/09**	**14/6/09**	**21/6/09**	**28/6/09**	
Nosocomial	–	–	1	1	**2**
Community	1	–	1	3	**5**
Travel Abroad	–	2	2	4	**8**
Travel UK	–	–	–	–	**–**
Total	**1**	**2**	**4**	**8**	**15**
Male	1	2	2	4	**9**
Female	–	–	2	4	**6**

Fifteen cases were reported with pneumonia; nine males aged 50-69yrs and six females aged 54-79yrs. Five cases had community acquired infection and two acquired infection in hospital.

Eight cases were travel associated: Cuba (1), France/Switzerland (1), Italy (2), Italy/Switzerland (1), Spain (1), Turkey (1) and United States of America (1).

Table 5b Reports of Legionnaires' disease cases by region of report in England and Wales: weeks 23-26/2009

Region/country	Nosocomial	Community	Travel abroad	Travel UK	Total
North East	–	–	–	–	**–**
Yorks & Humber	1	1	1	–	**3**
East Midlands	–	1	2	–	**3**
East of England	–	–	1	–	**1**
London	1	2	1	–	**4**
South East	–	–	–	–	**–**
South West	–	1	–	–	**1**
West Midlands	–	–	1	–	**1**
North West	–	–	1	–	**1**
Wales	–	–	1	–	**1**
Other	–	–	–	–	**–**
Total	**2**	**5**	**8**	**–**	**15**

Travel

Imported infections, England and Wales: January to March 2009

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 first quarter of 2009 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: first quarter 2009

Organism	Total reports for Q1 (Jan - Mar)				Cumulative totals for Jan - Mar			
	2009*		2008		2009*		2008	
	Travel-related	All reports	Travel-related	All reports	Travel-related	All reports	Travel-related	All reports
Gastrointestinal Infections								
Bacterial								
Salmonella spp	320	1222	390	1701	320	1222	390	1701
Campylobacter spp	225	9953	233	8272	225	9953	233	8272
Shigella flexneri	17	93	11	94	17	93	11	94
Shigella dysenteriae †	10	13	7	12	10	13	7	12
Shigella sonnei	18	207	14	96	18	207	14	96
Shigella boydii †	15	21	17	27	15	21	17	27
Other (species unknown)	1	39	2	47	1	39	2	47
Salmonella Typhi	29	60	34	65	29	60	34	65
Salmonella Paratyphi (A,B,C)	23	51	39	62	23	51	39	62
Vibrio cholerae **O1**†	–	–	–	–	–	–	–	–
Vibrio parahaemolyticus	1	2	–	5	1	2	–	5
Protozoal								
Entamoeba histolytica	1	28	3	33	1	28	3	33
Giardia lamblia	44	661	61	671	44	661	61	671
Cryptosporidium	15	578	10	397	16	579	10	397

Cyclospora spp	2	3	2	4	2	3	2	4
Intestinal helminths								
Strongyloides spp	–	5	–	6	–	5	–	6
Hookworm	1	2	3	8	1	2	3	8
Ascaris spp (round worm)	1	10	2	13	1	10	2	13
Trichuris spp (whip worm)	1	3	1	5	1	3	1	5
Hymenolepis spp	–	2	–	–	–	2	–	–
Taenia spp (tape worm)	3	17	1	17	3	17	1	17
Gnathostoma spp	–	1	–	–	–	1	–	–
Diphyllobothrium latum (fish tape worm)	–	5	–	1	–	5	–	1
Arthropod-borne infections								
Malaria - total ‡	283	283	241	241	283	283	241	241
Plasmodium falciparum	229	229	194	194	229	229	194	194
Pl. vivax	26	26	25	25	26	26	25	25
Pl. malariae	10	10	5	5	10	10	5	5
Pl. ovale	17	17	15	15	17	17	15	15
Pl. unspecified	–	–	–	–	–	–	–	–
Mixed	1	1	2	3	1	1	2	3
Arboviruses								
Dengue virus ‡‡	19	19	31	31	19	19	31	31
Chikungunya virus ‡‡	3	3	2	2	3	3	2	2
Ross river virus ‡‡	–	–	–	–	–	–	–	–
Sandfly fever virus ‡‡	–	–	–	–	–	–	–	–
Eastern Equine Encephalitis ‡‡	–	–	–	–	–	–	–	–
West Nile virus ‡‡	–	–	–	–	–	–	–	–
Leishmaniases								
Cutaneous	–	–	–	8	–	–	–	8
Visceral	–	2	–	3	–	2	–	3
Unspecified	–	1	1	3	–	1	1	3
Filariases								
Loa loa	–	1	–	–	–	1	–	–
Wuchereria bancrofti	–	–	–	–	–	–	–	–
Mansonella perstans	–	1	–	1	–	1	–	1

Onchocerca volvulus	–	–	–	–	–	–	–	–
Unspecified	–	1	–	–	–	1	–	–
Trypanosomiasis	–	–	–	–	–	–	–	–
Miscellaneous								
Schistosome infections								
Schistosoma mansoni	–	–	–	2	–	–	–	2
Schistosoma haematobium	5	22	2	7	5	22	2	7
Schistosoma spp	1	6	–	8	1	6	–	8
Other infections								
Legionnaires' disease**	17	48	19	56	17	48	19	56
Rickettsia spp ‡‡	17	17	10	10	17	17	10	10
Lassa fever ‡‡	3	3	–	–	3	3	–	–

All data extracted from Labbase 02.06.09 unless otherwise specified.
* All data for 2009 are provisional and may be subject to change.
† Data on cholera, *S.boydii* and *S.dysenteriae* supplied by the CfI Laboratory of Enteric Pathogens.
‡ Data for malaria, for whole of UK, 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 CfI.
‡‡ 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 1222 laboratory reports of *Salmonella* spp, of which 320 (26%) were associated with recent travel abroad. *Salmonella* serovar Enteritidis was the most common serotype associated with travel abroad (104/320, 33%), of which phage type (PT) 1 was the most commonly reported (22/104, 21%), followed by *S*. Typhimurium (49 reports, 15%) and *S*. Virchow (21 reports, 7%). The 10 most reported countries of travel for *Salmonella* are listed in table 2.

Table 2. Laboratory reports of other *Salmonella* spp associated with foreign travel, England and Wales: first quarter 2007

Country of travel	*S* Enteritidis	*S* Typhimurium	*S* Virchow	Other *Salmonella* spp	Total
India	7	8	1	29	**45**
Egypt	30	2	1	8	**41**
Thailand	4	3	3	15	**25**
Kenya	4	2	1	7	**14**
The Gambia	–	–	5	8	**13**
Pakistan	–	1	1	9	**11**
Morocco	5	3	–	2	**10**
Tunisia	8	1	–	–	**9**
Bangladesh	–	1	3	5	**9**
Mauritius	4	3	–	1	**8**
Other countries (N=47)	32	17	4	41	**94**
Country not stated	10	8	2	21	**41**
Total	**104**	**49**	**21**	**146**	**320**

Campylobacter spp

There were 9953 laboratory reports of *Campylobacter* spp, of which 225 (2%) were associated with recent travel abroad (table 3).

Table 3. Laboratory reports of *Campylobacter* spp associated with foreign travel, England and Wales: first quarter 2009.

Country of travel	*Campylobacter* spp
India	60
Thailand	21
Morocco	20
Spain	19
Egypt	11
Pakistan	9
France	5
South Africa	4
Sri Lanka	4
Mexico	4
Other countries (N=39)	**57**
Country not stated	11
Total	**225**

Shigella spp

In total, there 373 reports of shigella infection in the first quarter of 2009, of which 61 (16%) were associated with foreign travel. Travel history information was available for 74% for both *S. boydii* and *S. dysenteriae* reports, but for only 22% for *S. sonnei* and *S. flexneri*. Countries of travel are listed for each species in table 4.

Table 4. Laboratory reports of *Shigella* spp associated with foreign travel, England and Wales: first quarter 2009

Country of travel	*Shigella* species					Total
	S. flexneri	*S. sonnei**	*S. boydii*	*S. dysenteriae*	*Shigella* sp	
Egypt	6	7	2	–	–	**15**
India	2	3	6	3	–	**14**
Pakistan	2	1	4	4	–	**11**
Bangladesh	1	–	1	–	–	**2**
Sub-Saharan Africa	5	2	2	3	1	**13**
Spain	1	–	–	–	–	**1**
United Arab Emirates	–	2	–	–	–	**2**
Kuwait	–	1	–	–	–	**1**
Papua New Guinea	–	1	–	–	–	**1**
Country not stated	–	2	–	–	–	**2**
Total	**17**	**19**	**15**	**10**	**1**	**62**

* One case of *S. sonnei* had more than one country of travel so is included twice in table.

Cryptosporidium

There were 578 reports of cryptosporidium infection, of which 15 (3%) were associated with recent foreign travel. Countries of travel reported were India (three), Pakistan (two), and Egypt, Chile, Kenya, Cyprus, USA, Asia (unspecified), Cameroon, Malawi and Syria (one each); one report had no country stated. Sentinel surveillance submission forms to the UK Cryptosporidium Reference Unit (CRU) during the same time frame included 13 (8% of total) travel abroad-related cases [3]. Countries of travel reported to CRU were Bulgaria (one *Cryptosporidium parvum*), Burma (one *Cryptosporidium hominis*), Chile (one *C. hominis*), Egypt (one *C. hominis*), India (three *C. hominis*, one *C. meleagridis*), Malawi and Ethiopia (one not typable), Pakistan (one *C. hominis*), South Africa (one *C. parvum*), Spain (one C. parvum) and one had no country of travel stated (*C. parvum*).

Giardia lamblia

There were 661 giardia infections reported, of which 44 (7%) were associated with recent foreign travel. Countries of travel reported were India (17), Egypt (five), Pakistan (three), Nepal (three); 13 other countries (spread worldwide) were reported (17 reports; some travelled to more than country) and two reports had no country stated.

Other intestinal protozoa

Other intestinal protozoa reported were *Entamoeba histolytica*; one out of a total of 28 was associated with recent foreign travel to Singapore. There were three reports of *Cyclospora*, of which one was associated with travel to Peru and one had been on a cruise (destinations not stated).

Enteric fever

During the first quarter of 2009, there were 60 reports of *S.* Typhi and 51 reports of *S.* Paratyphi A.

Forty-eight percent (29/60) of *S*. Typhi and 45% *S*. Paratyphi (23/51) reports were associated with recent foreign travel. Countries of travel are listed in table 5. 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 [4].

Table 5. Laboratory reports of enteric fever associated with foreign travel, England and Wales: first quarter 2009

Resort country	*Salmonella* spp		Total
	S. Paratyphi A	*S*. Typhi	
India	10	10	**20**
Pakistan	6	10	**16**
Bangladesh	1	2	**3**
Nigeria	–	2	**2**
Angola	–	1	**1**
Egypt	–	1	**1**
Panama	1	–	**1**
Philippines	1	–	**1**
South Africa	–	1	**1**
South America unspecified	1	–	**1**
Sri Lanka	1	–	**1**
Country not stated	2	2	**4**
Total	**23**	**29**	**52**

Intestinal helminths

In the first quarter of 2009 there were 47 reports of intestinal helminth infections, of which six were reported to be associated with recent foreign travel. Three cases of infection with *Taenia saginata* stated recent travel to India (one), Thailand (one), and one had no country stated. One case of hookworm infection was associated with travel to Papua New Guinea; one case of *Ascaris lumbricoides* was associated with travel to Viet Nam and one case of *Trichuris trichiura* had no country stated. 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.

Arthropod-borne infections

Malaria

During the first quarter of 2009, there were 283 cases of malaria reported in the United Kingdom, a 17% increase compared to the same period in 2008. The majority (81%, 229 cases) were caused by the parasite, *Plasmodium falciparum* and 9% (26 cases) were caused by *P. vivax*. Where region of travel was known (139/187), 74% of malaria cases caused by *P. falciparum* were reported to be acquired in West Africa, and 65% (15/23) of *P. vivax* cases were reported to be acquired in Asia.

Dengue

Nineteen cases (all probable) were reported by the HPA Special Pathogens Reference Unit (SPRU) in the first quarter. All but one had information about foreign travel. Six cases were associated with travel to

Thailand, three to India; the remaining cases had travelled to Australia, Brazil, Cambodia, Fiji, French Guiana, Indonesia, Malaysia, Singapore, and Trinidad and Tobago (all one case each).

Chikungunya
Three cases of chikungunya (one probable and two suspected) were reported by SPRU during the first quarter. Countries of travel reported were India, Malaysia and Pakistan.

Leishmaniasis
There were three cases of leishmaniasis reported in the first quarter, two presumed to be visceral leishmaniasis and one of unknown type; none of them had a country of travel stated.

Other infections

Schistosomiasis
Of 28 reports of infection with *Schistosoma* spp, 22 were *S. haematobium* and six were unknown. Only six reported recent travel abroad of which two had been to Africa (one *S.* sp and one *S. haematobium*), the remainder were *S. haematobium* with reported travel to Malawi (one), Tanzania (one) and one had no country stated.

Rickettsial infections
There were 17 cases of rickettsial infection reported by the SPRU in the first quarter. Fifteen were spotted fever (one confirmed, eight probable, and six suspected) of which five cases had no country of travel, seven had travelled to South Africa (one also to Mozambique); other countries reported were India, Senegal and Afghanistan (one report each). There were two reports of epidemic typhus (one confirmed, one suspected) and both had no country of travel stated.

Legionnaires' disease
There were 48 cases of Legionnaires' disease reported in the first quarter, of which 17 (35%) were associated with foreign travel. Three of the 17 cases were associated with travel to the United Arab Emirates and one case was part of an outbreak in Italy.

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Radiation

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HPA response to the ICRP recommendations

Scientists at the Health Protection Agency have published their advice to UK bodies following new international guidance on ionising radiation [1].

The International Commission on Radiological Protection (ICRP) published updated recommendations on protection against ionising radiation in 2007. The Health Protection Agency (HPA) has now published its advice on applying those recommendations.

Broadly the HPA has welcomed the ICRP's recommendations and says that much of the advice is already being applied in the UK.

After reviewing ICRP guidance, the HPA recommends that the Government tightens control of public radiation exposure at any new-build nuclear power stations or radioactive waste disposal sites to a level of less than 0.15 millisieverts (mSv) a year. The average annual dose that a person receives from natural ionising radiation is 2.2 mSv a year.

Part of the ICRP report looks at management of, and responses to, radiation emergencies. The HPA has concluded the ICRP's guidance is helpful and is calling on all appropriate bodies to review their plans on how the aftermath of an incident could be managed.

References

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