



# CDR WEEKLY

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### Gonococcal Resistance to Antimicrobials Surveillance Programme (GRASP) Annual report: year 2004 collection

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The Gonococcal Resistance to Antimicrobials Surveillance Programme (GRASP) 2004 report has now been published (1) and is available on the HPA Website. This report summarises findings from the fifth year of data collection in which 1938 isolates were analysed.

GRASP was launched in June 2000, as a collaborative surveillance programme and in 2004 was coordinated by the Health Protection Agency's Centre for Infections (CFI). GRASP has proven to be a successful collaboration with 24 participating laboratories and 26 Genitourinary Medicine (GUM) clinics participating in the project and over 11,000 isolates collected since 2000. Information on these isolates have produced reliable trend data on prevalence estimates of gonococcal antimicrobial resistance in England and Wales, and most importantly, these prevalence estimates have informed national antimicrobial prescribing policy (2,3).

The methodology for GRASP has been described previously (4,5). Briefly, during the months of June, July, and August, 24 laboratories in England and Wales submit all isolates of gonococci to the Sexually Transmitted Bacteria Reference Laboratory (STBRL) for antibiotic susceptibility testing (MICs) on the following antimicrobials: penicillin, ciprofloxacin, spectinomycin, tetracycline, ceftriaxone, cefixime and azithromycin. Laboratory information is linked to patient demographic and behavioural data collected at the associated genitourinary medicine (GUM) clinics.

Table 1 illustrates the total percentage of GUM isolates resistant to selected antimicrobials in the GRASP collection in 2004 compared to 2003. Overall 14% of GRASP isolates were resistant to ciprofloxacin ( $\geq 1\text{mg/L}$ ) in 2004 a significant increase from the 9% observed in 2003 ( $p < 0.05$ ), which is comparable with the prevalences currently seen in several European countries (6,7,8). As observed in previous years the prevalence of ciprofloxacin resistance varied significantly by region remaining above 5% in all regions in 2004, ranging from 6% in Yorkshire and Humberside to 36% in the North East. The prevalence of ciprofloxacin resistance in heterosexual males remained stable at 11% in 2004, but was significantly higher than the 5% prevalence observed in females. In 2004, the prevalence of ciprofloxacin resistance in men who have sex with men (MSM) rose significantly to 27%, more than double the 11% prevalence observed in 2003.

**Table Percentage and number of isolates resistant to specific antimicrobials from all GRASP laboratories, England and Wales : 2003 to 2004 (GUM patients only)**

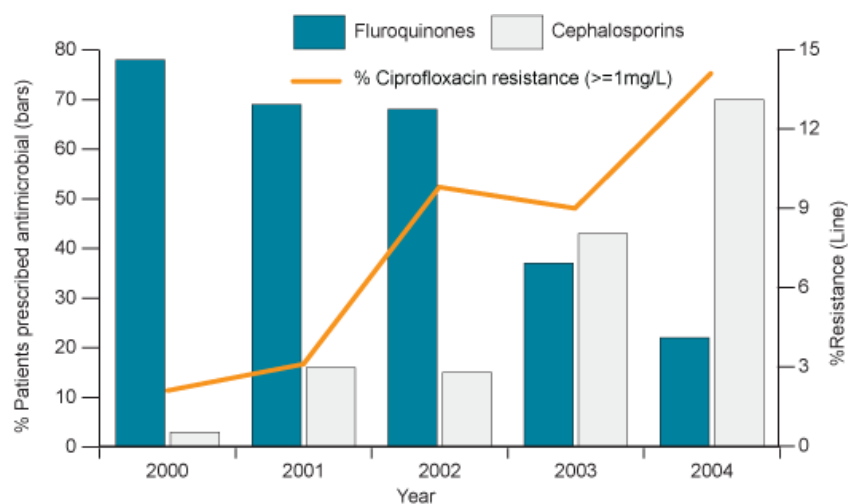
Antimicrobial	London % (N)		Non-London % (N)		Total % (N)	
	2003	2004	2003	2004	2003	2004
<b>Penicillin</b> ( $\geq 1\text{mg/l}$ or $\geq$ lactamase +)	8.5 (80/936)	14.1 (117/830)	10.8 (112/1039)	8.6 (79/918)	<b>9.7</b> <b>(192/1975)</b>	<b>11.2</b> <b>(196/1748)</b>
<b>Tetracycline</b> ( $\geq 2\text{mg/L}$ )	47.1 (441/936)	52 (435/836)	30.2 (314/1039)	37.7 (348/923)	<b>38.2</b> <b>(755/1975)</b>	<b>44.5</b> <b>(783/1759)</b>
<b>Ciprofloxacin</b> ( $\geq 0.125\text{-}0.5\text{mg/L}$ )	3.1 (29/936)	1.4 (12/834)	2.9 (30/1039)	1.7 (15/910)	<b>3</b> <b>(59/1975)</b>	<b>1.6</b> <b>(27/1744)</b>
<b>Ciprofloxacin</b> ( $\geq 1\text{mg/L}$ )	7.9 (74/936)	16.6 (138/834)	9.9 (103/1039)	11.9 (108/910)	<b>9</b> <b>(177/1975)</b>	<b>14.1</b> <b>(246/1744)</b>

<b>Ciprofloxacin (≥ 0.125mg/L)</b>	11 (103/936)	18 (150/834)	12.8 (133/1039)	13.5 (123/910)	<b>12 (236/1975)</b>	<b>15.7 (273/1744)</b>
<b>Azithromycin (≥ 1mg/L)</b>	1.3 (12/934)	1.6(13/833)	0.5(5/1039)	2(18/914)	<b>0.9(17/1973)</b>	<b>1.8(31/1747)</b>
<b>Spectinomycin (≥ 128mg/L)</b>	– (0/936)	0.4 (3/833)	– (0/1039)	– (0/916)	– (0/1975)	<b>0.2 (3/1749)</b>
<b>Ceftriaxone (≥ 0.125mg/L)</b>	– (0/936)	– (0/833)	– (0/1039)	– (0/923)	– (0/1975)	– (0/1754)
<b>Cefixime (≥ 0.25mg/L)</b>	–	– (0/831)	–	– (0/908)	–	– (0/1739)

Overall, 11% of isolates demonstrated penicillin resistance in 2004, remaining stable compared to the 10% prevalence seen in 2003. Plasmid-mediated penicillin resistance was observed in 6% of isolates (PPNG or PP/TRNG), the same prevalence as seen in 2003. Tetracycline resistance was observed in 45% of isolates in 2004, a significant increase on the 38% observed in 2003 ( $p < 0.005$ ). Azithromycin resistance was identified in 2% of isolates in 2004, a small but significant increase compared to the 1% observed in 2003 ( $p < 0.05$ ). As in previous years, spectinomycin resistance (MIC = 128mg/L) remained rare in 2004, with 0.2% of isolates demonstrating resistance (3/1749). In 2004, no isolates demonstrated decreased susceptibility to ceftriaxone (MIC = 0.125mg/L) or cefixime (MIC = 0.25mg/L).

Current guidelines recommend the use of third generation cephalosporins ceftriaxone or cefixime as first line therapies (4). Seventy per cent of GRASP individuals were treated with a cephalosporin in 2004, of whom over half were prescribed cefixime. Despite no longer being recommended as a first-line therapy, fluoroquinolones (ciprofloxacin or ofloxacin) were prescribed to nearly a quarter of patients in 2004 (figure). The continued use of fluoroquinolones as a first-line therapy for uncomplicated gonococcal infection is particularly worrisome considering the high prevalence of resistance seen in heterosexual males and MSM and across some regions of England and Wales. No isolates demonstrated decreased susceptibility to either cefixime or ceftriaxone in 2004, indicating current treatment guidelines remain appropriate in England and Wales, but it is essential that the appropriate cephalosporin is used to prevent emergence of resistance (8).

**Figure 1 Changes in the prescribing practices at participating GRASP GUM clinics and prevalence of ciprofloxacin resistance (≥1mg/L) in England and Wales : 2000 to 2004**



In 2004 the burden of gonococcal infection remained highly concentrated within demographic and behavioural risk groups in England and Wales, with young people, MSM, and ethnic minorities, bearing a disproportionate burden of disease. As in previous years, the 2004 collection found relatively few changes in risk factors, and in clinical and behavioural presentations of gonococcal infection.

The 2004 GRASP findings illustrate the public health importance of the continued surveillance in the patterns and distribution of gonococcal antimicrobial resistance. This activity is intended to ensure that prevention and treatment strategies remain responsive to the changing epidemiology of this sexually transmitted infection.

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## The Influenza immunisation programme 2005/06

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A letter from the Chief Medical Officer, the Chief Nursing Officer and the Chief Pharmaceutical Officer outlining the influenza immunisation programme for 2005/06 has been published. Copies can be obtained from the Department of Health (DH) website at: <<http://www.dh.gov.uk/Aboutus/MinistersAndDepartmentLeaders/ChiefMedicalOfficer/CMOPublications/CMOLetters/fs/en>>. Two new groups have been added to the national programme of those recommended to receive flu vaccine this year. These are people with chronic liver disease, including cirrhosis, and people who are the main carers for an elderly or disabled person whose welfare may be at risk if the carer falls ill.

The other groups are all those aged 65 years or over, and those aged 6 months or more in the following clinical risk groups: chronic respiratory disease including asthma, chronic heart disease, chronic renal disease, diabetes, or immunosuppression due to disease or treatment. People living in long-stay residential care homes are also recommended to receive vaccine as are NHS employees directly involved in patient care. The HPA Centre for Infection will again carry out rapid monitoring of vaccine uptake among the risk groups on behalf of the Department of Health (DH). Data reporting is via a web based system introduced last year and will be carried out between the months of October and January.

### Vaccine supplies

The DH is aware that some vaccine suppliers have delayed delivery dates, some by as much as two to four weeks. Affected practices may therefore be unable to offer vaccine during October. No shortages of vaccine are expected, however, and all practices should receive sufficient vaccine to complete their immunisation programme within the timeframe recommended, but because of the delays, vaccine uptake monitoring will be extended to include vaccines given in January 2006.

Any queries regarding vaccine supplies or the flu programme should be made by email to <[Jeff.Porter@dh.gsi.gov.uk](mailto:Jeff.Porter@dh.gsi.gov.uk)>, or telephone: 020 7972 1656.

## Situation Update: influenza A (H5N1) in Asia

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The recent outbreaks of highly pathogenic avian influenza A (H5N1) in east and south east Asia represent the most plausible candidate for a pandemic human influenza strain since the last influenza pandemic in 1968 (1). Initial reports of poultry outbreaks were received in 2003 and were soon followed by sporadic reports of human infection, especially in north Viet Nam of late. Human-to-human transmission has probably occurred, but as yet there have been no confirmed reports of the sustained transmission that would show evolution towards the start of a pandemic (2).

### Human cases of influenza A (H5N1)

The first case of human infection with avian influenza A (H5N1) occurred in Viet Nam in 2003. Since then, 112 confirmed human infections have occurred in four south east Asian countries, and 57 people have died as a result.

The World Health Organization (WHO) has recently reported one laboratory confirmed, one probable, and one suspected case of influenza A (H5N1) human infection in a small family cluster in Indonesia. A man and his two daughters, all of whom died, were hospitalised with respiratory symptoms at the beginning of July, and local investigations into the source of the outbreak have yet to confirm the source of the infection. Although there is still some uncertainty, the lack of infection in the family contacts is leading the investigators to believe that this cluster resulted from contact with infected birds (3).

Three further cases from Viet Nam were reported to WHO at the beginning of August. Two of these cases have since died. Concern remains that one or more of these cases could have been infected by another human, but this has not been confirmed (4).

WHO recognises that human H5N1 infections have occurred in three distinct periods. In the first, spanning the period: December 2003, to October 2004, 35 cases were reported from Thailand and Viet Nam of which 24 (67%) died. The second period, between October 2004 and July 2004, resulted in a further nine cases, of which eight (89%) died. During the third period of human H5N1 infection, which dates from December 2004 to the present, two further countries, Indonesia and Cambodia, have reported a small number of human infections and reports of human infection from Thailand have ceased. In this period, 68 people have been infected, 25 (37%) of whom have died.

### Outbreaks of influenza A (H5N1) in poultry stocks

Local and international efforts to contain poultry and wild bird outbreaks of influenza A (H5N1) in the Asian continent have not been universally successful. Avian influenza infection in poultry stock and wild birds continues in many of the countries originally affected in 2004, and the recent outbreak of H5N1 in Russia has led to heightened concern about the spread of H5N1 into Europe by infected migratory birds. The poultry outbreaks in Russia, which occurred in July, are thought to have started after contact with wild waterfowl (5).

News on outbreaks of influenza H5 (N untyped) in Kazakhstan was released on the World Organisation for Animal Health's website on 2 August 2005(6). Although the subtype of avian influenza has not been confirmed, the European Commission has asked member states to implement a ban on all imports of feathers and live birds from Russia and Kazakhstan. No ban is required for eggs, poultry meat, or meat products as there is no trade of these products between these countries and the European Union. Russia and Kazakhstan have, however, joined the nine other countries (Cambodia, China, Indonesia, Laos, Malaysia, North Korea, Pakistan, Thailand, and Viet Nam) not allowed to export the birds, or their meat or products to the European Union. The Standing Committee on the Food Chain will review the decision when it meets in September (7).

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## Containment of a potential influenza pandemic at source

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Two keynote papers from separate epidemiological modelling groups have recently been published. Both predict that, given enough antivirals, use of other measures (eg school closures), local cooperation, operational efficiency in implementation, and above all else a rapid response, a pandemic could be controlled at a potential source in rural south east Asia.

The first study assumed that an infected individual would spread the virus to 1.8 other people ( $R^0 = 1.8$ ). This study modelled a combination of geographically targeted treatment and prophylaxis (that 90% of cases are detected and treated and 90% of persons within a 5 Km radius of the pandemic source would receive prophylaxis) which would require in the order of 2 to 3 million courses of antiviral drugs, alongside additional social-distancing and quarantine measures (1).

The second study suggests that social distancing measures and targeted prophylaxis of contacts could halt a pandemic, and would require up to one million courses of antiviral drugs. In this study,  $R^0$  was assumed to be 1.6, but pre-vaccination of the population [were this to be a practical future option] would allow targeted prophylaxis to prevent a pandemic even if  $R^0$  rose as high as 2.1 (2).

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## Large outbreak of *Salmonella Hadar* in Spain associated with pre-cooked chicken

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A large outbreak of salmonella gastroenteritis has been reported in Spain, with 2138 cases, including one fatality reported by 8 August 2005. Reported cases have been epidemiologically and microbiologically linked to a single brand of pre-cooked, vacuum-packed roast chicken which was commercially distributed throughout Spain.

The National Reference Laboratory for Salmonella and Shigella (LNRSSE) has received 90 salmonella isolates from patients and six from chicken samples. Results of the 35 strains studied so far (30 human, five chicken) confirm the identification of *Salmonella Hadar*, and in 34 strains, phage type (PT) 2 has been identified. The isolates are resistant to ampicillin, cefalotine, streptomycin, nalidixic acid, and tetracycline. The pulsed field gel electrophoresis (PFGE) profiles of human and chicken samples are indistinguishable.

On 28 July 2005, the Centro Nacional de Epidemiología (National Centre for Epidemiology, CNE) received a report from the autonomous region of Valencia of the detection of eight household clusters of gastroenteritis involving a total of 25 cases, all with clinical presentation of salmonella infection. On the same day, two more autonomous regions reported similar outbreaks and Agencia Española de Seguridad Alimentaria (the Spanish Food Safety Agency: <http://www.aesa.msc.es>) started investigating the source. On 29 July, an alert was sent to the health authorities throughout Europe via the Early Warning and Response System (EWRS) and Enter-net <[http://www.hpa.org.uk/hpa/inter/enter-net\\_menu.htm](http://www.hpa.org.uk/hpa/inter/enter-net_menu.htm)>.

On 28 and 29 July, all implicated chicken products were recalled from commercial outlets, and a mass media campaign to ensure people avoided consuming brand A chicken, that they have already bought, was launched throughout Spain. Since 1 January 2005, the Health Protection Agency's Laboratory of Enteric Pathogens (LEP) has reported on 33 human cases of *Salmonella Hadar* in England and Wales. Eleven isolates are S.Hadar PT 2, and seven are resistant to ampicillin and nalidixic acid and have low levels of resistance to streptomycin, tetracyclines, and ciprofloxacin. Five of these resistant strains have been reported by the LEP since 9 August 2005. One of the five cases has a history of travel to Spain, one to Majorca, and travel information has been requested on the remaining three. Further molecular typing is to be undertaken.





More details of the outbreak can be found on the Eurosurveillance website at <<http://www.eurosurveillance.org/ew/2005/050804.asp#>> (1).

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## Enteric

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### General outbreaks of foodborne illness in humans, England and Wales: weeks 28-31/05

Preliminary information has been received about the following outbreaks.

Health Protection Unit	Organism	Location of food prepared or served	Month of outbreak	Number ill	Cases positive	Suspect vehicle	Evidence
County Durham	S. Enteritidis PT4	School	June	5	5	None	–
East Midlands	S. Enteritidis PT4	Club	June	>1	>1	None	–
County Durham	S. Enteritidis PT4	Restaurant	July	>1	>1	None	–
Suffolk	S. Enteritidis PT25	Restaurant	June	4	4	None	–
Suffolk	S. Enteritidis PT25	Restaurant	July	>1	>1	None	–
Northumberland	S. Typhimurium U288	Retailer	June	9	5	None	–

M (microbiological): identification of an organism of the same type from cases and in the suspect vehicle, or vehicle ingredient(s), or detection of toxin in faeces or food; D (descriptive): other evidence, usually descriptive, reported by local investigators as indicating the suspect vehicle or food; S (statistical): a significant statistical association between consumption of the suspect vehicle(s) and being a case.

### Salmonella infections, (faecal specimens) England and Wales, reports to the HPA (salmonella data set): June 2005

Details of serotypes of 829 salmonella infections recorded in June 2005 are given in the table below. In July 2005, 1104 salmonella infections were recorded and preliminary information was received about six outbreaks (see table above).

	June 2005
S. Enteritidis (PT4)	100
S. Enteritidis (other PTs)	367
S. Typhimurium	122
S. Virchow	22
Others (typed)	218
<b>Total Salmonella</b>	<b>829</b>
<b>(provisional data)*</b>	

\*Figures quoted from the Health Protection Agency salmonella data set are for isolates confirmed and typed by Laboratory of Enteric Pathogens (LEP).

## Common gastrointestinal infections, England and Wales, laboratory reports: weeks 28-31/05

Laboratory reports	Number of reports received				Total reports	Cumulative total to	
	28/05	29/05	30/05	31/05	28-31/05	31/05	31/04
<i>Campylobacter</i>	986	914	483	71	2454	22,880	26,450
<i>Escherichia coli</i> O157*	34	34	30	41	139	422	302
<i>Salmonella</i> †	258	277	304	285	1124	5013	5667
<i>Shigella sonnei</i>	14	3	6	–	23	460	414
Rotavirus	30	26	15	2	73	12,481	13,368
Norovirus	1	2	3	–	6	2201	1646
Cryptosporidium	38	42	22	4	106	1049	1580
Giardia	47	43	39	6	135	1354	1798

\*Vero cytotoxin-producing isolates (data from Health Protection Agency's Laboratory of Enteric Pathogens (LEP).

† Data from Health Protection Agency's Laboratory of Enteric Pathogens.

NA= Not available at time of publication.

## Typhoid and paratyphoid, England and Wales, laboratory reports: April to June 2005

Organism and phage type	Number of cases	Infection acquired abroad			Excreters and carriers
		Yes	No	Not reported	
<b>S. Typhi</b>					
B2	2	1	–	1	–
D1	2	1	–	1	–
E1	33	20	–	13	–
E9	5	3	–	2	–
E14	2	2	–	–	–
J1	1	1	–	–	–
M1	1	–	–	1	–
N	3	1	–	2	–

O	3	–	–	3	–
Untypable Vi	3	2	–	1	–
Untypable Vi-1	5	5	–	-	–
Vi negative	1	–	–	1	–
Degraded	5	2	–	3	–
46	1	–	–	1	–
<b>Total</b>	<b>67</b>	<b>38</b>	–	<b>29</b>	–
<b>S. Paratyphi A</b>					
1	12	5	–	7	–
1A	16	8	–	8	–
2	8	6	–	2	–
4	10	4	–	6	–
12	1	1	–	-	–
13	19	9	–	10	–
Untypable	1	–	–	1	–
RDNC	4	3	–	1	–
<b>Total</b>	<b>71</b>	<b>36</b>	–	<b>35</b>	–
<b>S. Paratyphi B</b>					
Battersea	1	–	–	1	–
Taunton	4	3	–	1	–
<b>Total</b>	<b>5</b>	<b>3</b>	–	<b>2</b>	–

Sixty-seven cases of *Salmonella* typhi infection were reported in the second quarter of 2005. Thirty-eight cases were infected abroad (Indian subcontinent 32, abroad [country not stated] 4, Indonesia 1, Nigeria 1). In 29 cases the country of infection was not stated.

Seventy-one cases of *S. paratyphi* A infection were reported. Thirty-six cases were infected abroad (Indian subcontinent 34, abroad [country not stated] 2). In 35 cases, the country of infection was not stated.

Five cases of *S. paratyphi* B infection were reported. Three cases were infected abroad (Indian subcontinent 1, South America 2). In two cases, the country of infection was not stated.

## Emerging Infections/ CJD

### Emerging infections update: February to June 2005

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## Emerging infections update: February to June 2005

Monthly summaries of notable events and developments of potential public health importance are shown in the table below. Important events are identified through horizon scanning activities using multiple sources including ProMED online <<http://www.promedmail.org>> and the World Health Organization's (WHO) Disease Outbreak News <<http://www.who.int/csr/don/en/>>. Further details on a selection of the notifiable events/incidents are given below table 1, with relevant links and references where appropriate.

**Table 1 Summary of notable events/incidents of potential public health significance**

Month reported	Incident	Location
Feb-2005	Avian influenza	Vietnam, Cambodia
	<i>Lymphogranuloma venereum</i> <a href="http://www.hpa.org.uk/cdr/archives/2005/cdr3005.pdf">http://www.hpa.org.uk/cdr/archives/2005/cdr3005.pdf</a>	United Kingdom (UK), Spain, United States (US)
	Plague	Democratic Republic of Congo
	Poliomyelitis	Saudi Arabia, Ethiopia
	Novel retroviruses (*HTLV-3, HTLV-4)	Cameroon
	Rabies post-transplantation	Germany
	Cardiomyopathy of unknown cause	Sri Lanka
	<i>Vibrio parahaemolyticus</i>	Chile
Mar-2005	Avian influenza	Vietnam, Cambodia, Democratic People's Republic of Korea
	Brucellosis (suspected, but later found to have been negative in April 2005)	UK (Derbyshire)
	Chagas disease	Southern Brazil
	Influenza A virus, new haemagglutinin type	Europe
	Marburg haemorrhagic fever	Angola
	Plague	Democratic Republic of Congo
	State Veterinary Service launch <a href="http://www.svs.gov.uk">http://www.svs.gov.uk</a>	England and Wales
	Cardiomyopathy of unknown cause	Sri Lanka
Apr-2005	Avian influenza	Vietnam, Cambodia, Democratic People's Republic of Korea
	Brucellosis, suspected - negative	UK (Derbyshire)
	Marburg haemorrhagic fever	Angola
	Poliomyelitis	Yemen, Indonesia
	Respiratory illness	China
	WNV Phase 1 vaccine trial	US

<b>May-2005</b>	Avian influenza	Vietnam, Cambodia, China, Indonesia
	Bat lyssavirus <a href="http://www.hpa.org.uk/cdr/archives/2005/cdr2205.pdf">http://www.hpa.org.uk/cdr/archives/2005/cdr2205.pdf</a>	UK
	Ebola haemorrhagic fever	Republic of Congo
	Global issues in antimicrobial resistance	Emerging Infectious Diseases journal issue
	International Health Regulations (1)	
	Lymphocytic choriomeningitis virus (LCMV) infection, transplant recipients	US
	Marburg haemorrhagic fever	Angola
	Meningococcal disease	India (New Delhi)
	Monkeypox (suspected)	Democratic Republic of Congo
	Poliomyelitis	Yemen, Indonesia
	Tasmanian Devil Facial Tumour disease	Tasmania
	West Nile surveillance	UK
<b>Jun-2005</b>	Acute haemorrhagic fever syndrome	Sudan
	Avian influenza	Vietnam, China, Indonesia, Japan
	BSE and vCJD	Portugal, France (vCJD)Austria, US (BSE)
	<i>Clostridium difficile</i> <a href="http://www.hpa.org.uk/cdr/archives/2005/cdr3105.pdf">http://www.hpa.org.uk/cdr/archives/2005/cdr3105.pdf</a>	UK
	Ebola haemorrhagic fever	Republic of Congo
	Marburg haemorrhagic fever	Angola
	Meningococcal disease	India (New Delhi)
	Poliomyelitis	Yemen, Indonesia, Angola
	Undiagnosed neurological illness	China, Guatemala, India
	West Nile virus	US, firstcase in 2005, non-viraemic transmission, urine antigen detection

Human T-cell lymphotropic virus.

#### **Avian influenza H5N1, Asia**

The Health Protection Agency Emerging Infections/Zoonoses Department continues to monitor the avian influenza situation, however, this is reported separately and will not be included here.

#### **Ebola haemorrhagic fever (EHV), Republic of Congo**

A total of 12 cases of Ebola haemorrhagic fever (EHV), including ten deaths, were reported after elephant hunters from a village in Cuvette-Ouest region ate meat from a chimpanzee they found dead in the forest. The outbreak began in April 2005 and was rapidly and successfully controlled.

#### **Encephalitis viruses, US:**

- Eastern Equine Encephalitis virus: the public has been advised to reduce exposure to mosquitoes in the aftermath of hurricane Dennis and the associated local flooding which has increased breeding sites. Two human cases, one fatal, have been reported in Alabama, together with seven equine infections. Nearby Florida has had 103 positive horses, but no human cases yet.
- West Nile virus: case reporting in the United States (US) has been slow and low in number so far this season. To date, only 41 human cases have been reported in 2005 compared to 265 cases the same time last year. Enhanced surveillance for human West Nile virus (WNV) infection acquired in the United

Kingdom (UK) started on 1 June 2005 and will continue until the end of October 2005  
<[http://www.hpa.org.uk/cdr/pages/emerg\\_inf\\_cjd.htm#wnv](http://www.hpa.org.uk/cdr/pages/emerg_inf_cjd.htm#wnv)>.

### **Lymphocytic choriomeningitis virus (LCMV), transplant recipients, US**

Lymphocytic choriomeningitis virus (LCMV) is a rodent-borne arenavirus normally affecting mice, hamsters, and guinea-pigs. As a zoonosis it is usually acquired from such rodents via contaminated aerosols and fomites. Most human cases are asymptomatic or mild, and most commonly occur through exposure to secretions or excretions from infected rodents. A severe illness occurred in four recipients of solid organ transplants (liver, lungs, and kidneys) from a common donor. All four (three of whom died) had evidence of infection with LCMV (via immunohistochemical staining, Reverse Transcriptase-PCR, serology, and virus isolation). Two cornea recipients were asymptomatic. A hamster from the donor's home was positive for LCMV, and genetic sequencing to enable comparison of patient and rodent virus isolates is planned. Human-to-human transmission of LCMV has not been reported, with the exception of vertical transmission from mother to fetus. A single cluster of transplant-associated meningoencephalitis deaths associated with LCMV infection has been reported before. Acute LCMV infection in an organ donor is thought to be a rare event. Guidance on precautionary measures to avoid LCMV transmission from rodents has recently been issued by the Centers for Disease Control (2).

### **Marburg haemorrhagic fever, Angola**

The outbreak that began in Uige province in October 2004 has now resulted in 368 cases and 323 deaths (3). The outbreak has not yet been extinguished and contacts are still being followed up, although the number of new cases has declined in recent weeks.

### **Plague**

A large outbreak of plague began in December 2004 at a mine in Zobia, a remote diamond producing town in the Democratic Republic of Congo. A total of 130 cases including 57 deaths were confirmed, the majority of which occurred from mid-December to mid-February 2005 (4). With the exception of two cases of septicaemic plague, all cases were pneumonic. Fears over transmission at the mine led many people to flee the region, greatly complicating control efforts. The Congolese health system has been weakened by years of conflict, and contact tracing was further complicated by instability in the area. Local customs such as washing and dressing the bodies of the dead before burial are likely to have propagated the outbreak. The vast majority (98%) of human plague cases occur in Africa, although plague is also endemic in countries of the former Soviet Union, the Americas, and Asia.

### **Poliomyelitis – current situation**

Progress towards interruption of wild polio virus transmission has been hampered by a resurgence of polio cases in several countries recently. Control in India, the largest remaining polio-endemic country remains successful, and surveillance of acute flaccid paralysis (AFP) continues to exceed targets (a non-polio AFP rate of more than 1 case per 100,000 population aged over 15 years and adequate stool specimen collection from more than 80% of AFP cases). A total of 225 cases of polio were reported in India in 2003, this figure declined to 134 in 2004, the lowest incidence of polio in India since the polio eradication initiative began. Twenty-three cases of polio have been reported in India, to date, in 2005 (as of 2 August) (5), and reports suggest that interruption of WPV transmission in India by the end of 2005 is feasible (6).

Outbreaks of polio have affected the following countries in recent months:

**Angola:** two cases of polio have recently been detected in Angola, the first in a 17 month old girl in Luanda with a history of polio vaccination, and second case in Lobito, 400 miles south of Luanda. These are the first polio cases detected in Angola since 2001. The viruses isolated from both cases are genetically linked type-1 wild polioviruses originating in India, suggesting importation and local transmission.

**Indonesia:** an outbreak of polio that began in April 2005 has so far resulted in 205 cases. The first case was detected in an 18 month old non-immunised child in a village in west Java, the virus was identified as wild poliovirus type-1. Genetic analysis indicated that the virus originated in West Africa and is similar to viruses isolated recently in Yemen and Saudi Arabia, and entered the country via Sudan. Indonesia had not previously had a wild poliovirus case since 1995. Emergency vaccination campaigns were carried out in May and June and two National Immunization Days are planned, targeting 24.4 million children.

**Yemen:** an outbreak of polio that began in February 2005, and was reported in April 2005 has now led to a total of 369 cases of wild poliovirus type-1. Prior to these cases, wild poliovirus had not been detected since AFP surveillance began in 1996. Most of the cases are from the Hudeida governate on the Red Sea coast, and the virus is believed to have originated in Nigeria. Low immunisation rates among children in many provinces facilitated spread, and intensified immunisation campaigns have been carried out.

**Ethiopia:** 14 cases of type-1 poliovirus have been detected since February 2005. No polio cases had previously been detected in Ethiopia since 2001. The cases have been virologically linked to the outbreak in Sudan.

**Madagascar:** two cases of polio have been reported in southern Madagascar, derived from live oral polio vaccine.

#### **Simian foamy virus (SFV), primate-to-human transmission, Asia**

The first case of transmission of simian foamy virus (SFV) from a primate to a human in Asia has been reported in Bali. SFV antibodies and DNA were detected in a man who reported having been bitten and scratched by macaques at a monkey temple. Analysis of his virus showed close phylogenetic relationship with SFV from macaques at the same temple. Human-primate contact is relatively common at monkey temples across Asia, many are tourist attractions and behaviour such as feeding the animals increases the risk of bites and scratches (7). SFV infection in non-human primates is asymptomatic, and no disease has been detected in humans known to have been infected with the virus to date. SFV has infected hunters in Cameroon following exposure to bushmeat (8). The illegal trade in bushmeat increases the potential for transmission of simian viruses to humans. The risk to the UK from this trade has been assessed by the Department for Environment, Food, and Rural Affairs (DEFRA) (9).

#### ***Streptococcus suis*, China**

The Chinese Ministry of Health has reported an outbreak of severe illness in numerous towns and villages in Sichuan province, associated with an outbreak of *Streptococcus suis* type 2 in pigs. A total of 206 human cases have been reported since 25 July 2005, including 38 deaths. *Streptococcus suis* type 2 has been identified in several human and animal samples. No evidence of human-to-human transmission has been reported and most cases have a history of exposure to sick/dead pigs. Disease onset is rapid, clinical features include fever, nausea, and vomiting, and in severe cases subcutaneous haemorrhage, meningitis, toxic shock, and coma. The size of the outbreak, the clinical features and high mortality rate are unusual, and laboratory investigations are continuing. Sichuan is China's largest pig-producing centre, and over 450 infected pigs have been destroyed so far. *Streptococcus suis* is an important pathogen of pigs, and can be present in pig herds in the UK. Human cases are, however, rare and usually occur among butchers, abattoir workers, or others with occupational contact with pigs. Classically, infection in humans produces a fever and signs of meningitis and hearing loss. Several agencies including the HPA, the Veterinary Laboratory Agency, and the Institute of Animal Health have been convened by WHO Geneva to address this outbreak.

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