



# Health Protection Report

weekly report

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### **Enteric fever study aids targeting of health protection advice**

A one-year pilot study of enhanced surveillance of typhoid and paratyphoid fever (enteric fever) in England, Wales, and Northern Ireland (EWNI) has contributed valuable information to the evidence base for health protection advice, and identified population subgroups and travel-related factors associated with risk of disease [1].

Between 1996 and 2006, cases of enteric fever reported through routine surveillance increased by an annual average of 6% in EWNI, with 2006 seeing the highest number reported for 10 years [1]. The information available through routine surveillance is, however, limited: only around 70% of cases have travel history information and none have information on country of birth, ethnicity, reason for travel, and typhoid vaccination status. All of this information is essential to identify risk groups and target preventive action and the enhanced surveillance pilot aimed to address these shortcomings by seeking more detailed information on cases. It was conducted during 2006/2007 by the HPA as part of its collaboration with the National Travel Health Network and Centre (NaTHNaC). Cases of enteric fever are routinely confirmed and reported by the HPA's Laboratory of Enteric Pathogens (LEP). The Travel and Migrant Health Section of the HPA's Centre for Infections co-ordinated the surveillance and the data was collected by local health protection teams.

During the study period (1 May 2006 to 30 April 2007) a total of 406 surveillance forms were returned (203 typhoid, 198 paratyphoid A, and five paratyphoid B). London accounted for the largest proportion of reported cases (40%), followed by West Midlands, Yorkshire and Humberside, and the South East.

Results from the pilot study showed that the vast majority of cases of enteric fever were in persons of Indian, Pakistani or Bangladeshi ethnicity, either UK or non-UK born, who had travelled from the UK to their own or their family's country of origin to visit friends and relatives. This population group, particularly those who were non-UK born, were also the least likely to have sought pre-travel health advice and to have received a typhoid vaccination before their trip. India was the most reported country of travel, but the rate of cases per 100,000 visits was highest in those travelling to Bangladesh. Furthermore, the rate of enteric fever was at least six-fold higher in those travelling to visit friends and relatives compared to those travelling for other reasons. It is recommended that awareness needs to be raised in at-risk communities and their health care practitioners of the need to take preventive measures against enteric fever when travelling to endemic areas.

Over two-thirds of all cases had isolates of *Salmonella* Typhi and *Salmonella* Paratyphi A that exhibited reduced susceptibility to ciprofloxacin and concomitant resistance to nalidixic acid. The proportion is much increased compared to 35% of *S. Typhi* isolates and 23% of *S. Paratyphi A* isolates exhibiting reduced susceptibility to ciprofloxacin reported by the LEP in 2001. Cases acquired in India and Bangladesh had the highest proportion of such isolates.

The pilot has demonstrated the usefulness of enhanced surveillance of enteric fever in identifying who is at risk in order to target preventive action. It is anticipated that enhanced surveillance of enteric fever will continue in order to assess effectiveness of prevention strategies and to monitor trends in antibiotic resistance that might impact on treatment choice.

The full report and a London regional supplement are available to download from the HPA website [1]. (Other regional supplements are being made available to HPA regional colleagues.)

## References

1. HPA. *Pilot of enhanced enteric fever surveillance in England, Wales and Northern Ireland: 1 May 2006 – 30 April 2007*. London: HPA, 2008. Available at <http://www.hpa.org.uk/publications/PublicationDisplay.asp?PublicationID=120>

## Further information

Further information about typhoid and paratyphoid and their prevention is available on the NaTHNaC website at <http://www.nathnac.org/pro/factsheets/typhoid.htm>.

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## HPA consultation on children's environmental health strategy

The Health Protection Agency has published, for public consultation, proposals for a Children's Environment and Health Strategy for the United Kingdom [1].

The consultation document considers areas that need to be addressed to meet the UK's commitments to the Children's Environment and Health Action Plan for Europe (CEHAPE), launched in June 2004 by the World Health Organisation [2].

The CEHAPE consists of four regional priority goals covering

- water, sanitation and health
- unintentional injuries, obesity and physical activity
- indoor and outdoor air pollution
- chemical, physical and biological hazards.

The aim is to reduce the risks of environmental hazards causing health problems such as asthma, birth defects, gastrointestinal disease related to water and food, and accidental injuries and obesity.

The consultation document is published by the HPA on behalf of a UK intergovernmental group and the Agency seeks feedback from interested parties, which should be sent to the CEHAPE Consultation Officer at [cehape@hpa.org.uk](mailto:cehape@hpa.org.uk) before 13 June 2008.

## References

1. Children's Environment and Health Strategy for the United Kingdom: a consultation document. Available at: <http://www.hpa.org.uk/consultations/2008/CEHAPE.htm>

2. Children's Environment and Health Action Plan for Europe (CEHAPE) Available at : [www.euro.who.int/childhealthenv/policy/20020724\\_2](http://www.euro.who.int/childhealthenv/policy/20020724_2)

## Further information

A summary of current UK initiatives that address children's environment and health issues is available at: <http://www.hpa.org.uk/cehape/>

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## World TB day

The theme of World Tuberculosis (TB) Day 2008, on Monday, 24 March, is the contribution of individuals – nurses, doctors, other health professionals and those who have received treatment – in prevention and control of the disease. Using the slogan, '*I am stopping TB*', World TB Day marks the start of a two-year campaign to challenge people worldwide to help in prevention and control activities and to draw attention to the lives and stories of those affected by the disease.

In 2006 there were approximately 9.2 million new cases (139 per 100,000 population) globally and 1.7 million deaths from TB, according to the World Health Organization's 2008 Global TB control report [1]. WHO estimates the number of new cases per head of population has been falling globally since 2003. Due to population growth, however, the absolute number of new cases has continued to rise.

The WHO report highlights two aspects of the epidemic that present major challenges to sustaining progress in the fight against TB. The first is multi-drug resistant TB which has now reached record levels (500,000 new cases in 2006). The second is the continued impact of HIV co-infection (709,000 new cases in 2006) which drives the TB epidemic in many parts of the world, especially Africa.

Provisional HPA data on the number of cases of TB reported in the United Kingdom in 2007 indicate that the annual number of cases has remained stable compared to the provisional total for 2006 (table). Rates of TB, however, remain at the highest level since the mid 1980s. Provisional data should be viewed with caution when interpreting trends as the final number of TB cases for 2007 is likely to change from the provisional figure due to the receipt of late reports, de-notifications and the removal of duplicates.

**Table Provisional number of TB cases and rates per 100,000 population reported in the UK: 2006 to 2007**

Country	2006		2007	
	Number of cases	Rate*	Number of cases	Rate*
England	7942	15.6	7837	15.4
Wales	168	5.7	193	6.5
Northern Ireland	61	3.5	65	3.7
Scotland	384	7.5	401	7.8
<b>Total</b>	<b>8555</b>	<b>14.1</b>	<b>8496</b>	<b>14.0</b>

\*All rates calculated from the Office for National Statistics mid-year population estimates for 2006 (2007 estimates not yet available)

To coincide with World TB Day, the March 2008 issue of the Health Protection Agency's *Tuberculosis Update* newsletter provides latest information on scientific developments in vaccine and drug research, new project initiatives, and current activities at local and regional level [2]. This shows the continuing commitment of the UK to stopping TB, both at home and overseas.

The HPA acknowledges the assistance of colleagues within its Local and Regional Services network, and of Health Protection Scotland, the National Public Health Service for Wales and the Communicable Disease Surveillance Centre Northern Ireland, in providing provisional TB figures referred to above.

## References

1. *Global tuberculosis control: surveillance, planning, financing*. WHO report 2008. Geneva: World Health Organization (WHO/HTM/TB/2008.393), 2008. Available at: <http://www.who.int/tb/en/>
2. HPA Centre for Infections. *Tuberculosis update*. London: HPA, March 2008. Available at: [http://www.hpa.org.uk/infections/topics\\_az/tb/pdf/newsletter\\_2008\\_march.pdf](http://www.hpa.org.uk/infections/topics_az/tb/pdf/newsletter_2008_march.pdf)

## Further information

The 18 March issue of the European Centre for Disease Prevention and Control's (ECDC) *Eurosurveillance* weekly was devoted to the subject of European TB prevention, control and surveillance. The four different articles that make up the issue are introduced in an editorial, *Stopping TB in Europe: some progress but still not there*, *Euro Surveill* 2008; **13** (12) [serial online]. Available at: [http://www.eurosurveillance.org/edition/v13n12/080318\\_2.asp](http://www.eurosurveillance.org/edition/v13n12/080318_2.asp).

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## UK national knowledge on TB week

The UK National Knowledge Service (NKS) – Tuberculosis (TB) Pilot, in cooperation with the National Electronic Library for Infection (NeLI), is hosting National Knowledge on TB Week (NKW-TB) between March 24 and March 30.

NKW-TB week provides access to best available evidence on prevention, treatment, and investigation of the disease, including a comprehensive collection of peer-reviewed primary research articles and systematic reviews. Categories for which updates have been provided include: treatment, clinical management and diagnosis, strain typing, public health, vaccination and drug resistance.

Specialists also provide commentaries on topical issues including interferon gamma release assay (IGRA), the status of TB in Europe and extensively-resistant TB (XDR). Available at: [http://www.neli.org.uk/IntegratedCRD.nsf/TBNKW\\_2008?OpenForm](http://www.neli.org.uk/IntegratedCRD.nsf/TBNKW_2008?OpenForm)

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# Infection reports

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## Bacteraemia

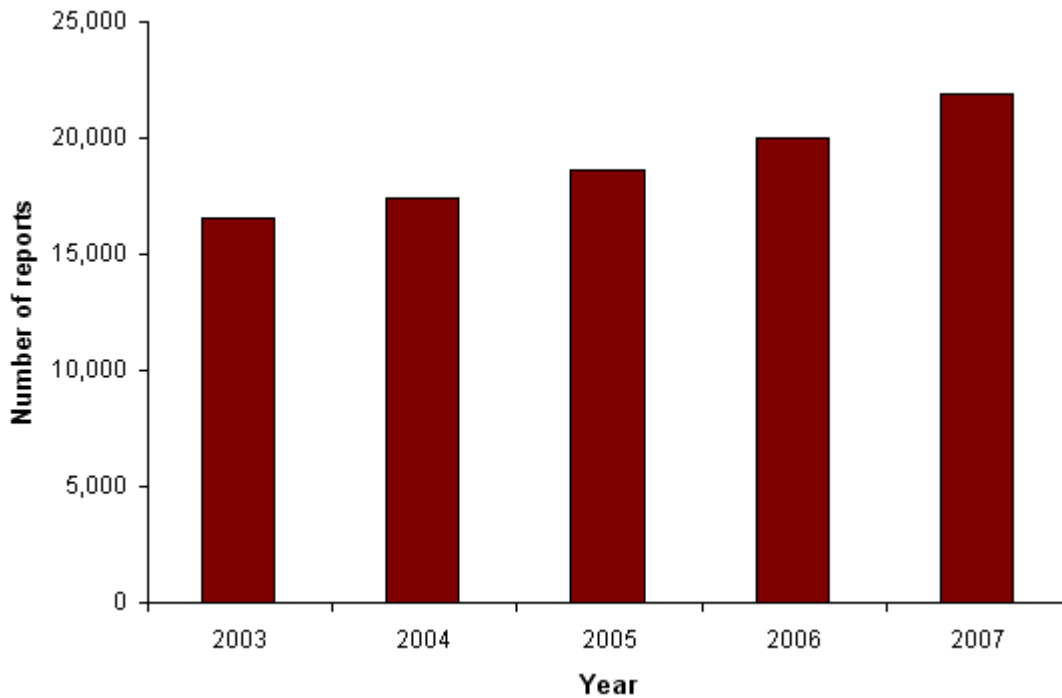
- ▶ **Voluntary reports of bacteraemia due to *Escherichia coli* made to the HPA between 2003 and 2007 from participating laboratories in England, Wales and Northern Ireland**
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### **Voluntary reports of bacteraemia due to *Escherichia coli* made to the HPA between 2003 and 2007 from participating laboratories in England, Wales and Northern Ireland**

Key points arising from voluntary reports of bacteraemia due to *Escherichia coli* made to the Health Protection Agency between 2003 and 2007 from participating laboratories in England, Wales and Northern Ireland are listed below. (Data were extracted on 26 February 2008 and are provisional.)

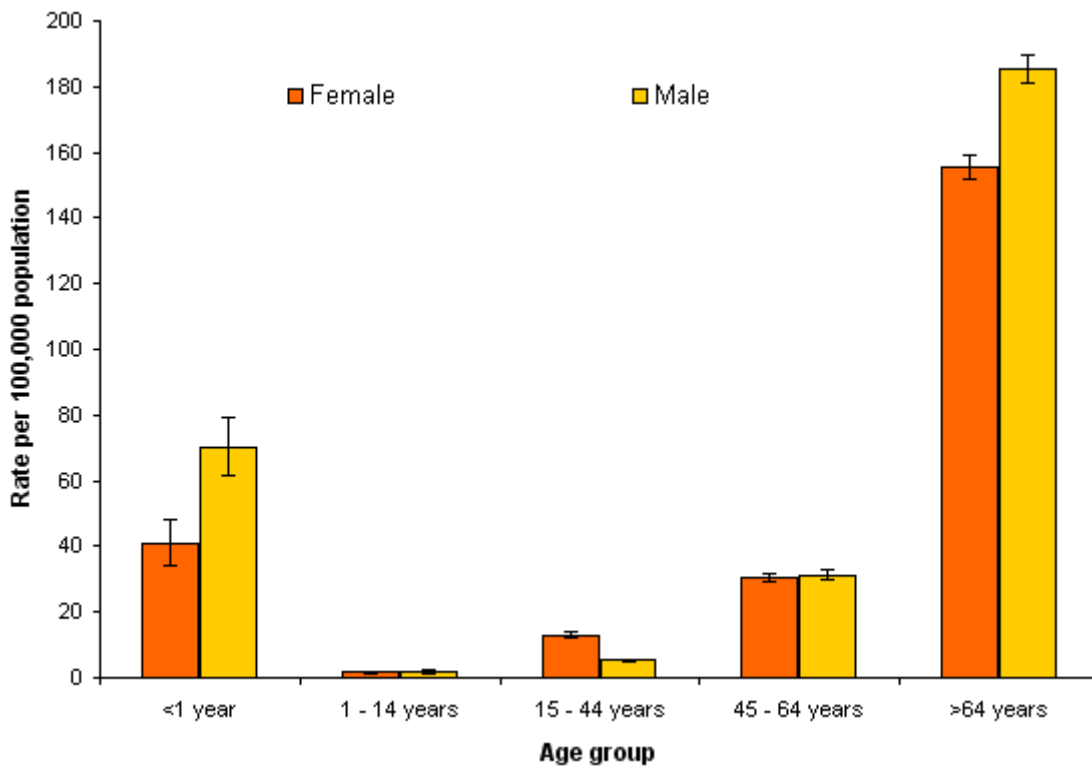
- ▶ *E. coli* has overtaken *Staphylococcus aureus* as the most frequent cause of bacteraemia voluntarily reported by laboratories in England, Wales, and Northern Ireland to the Health Protection Agency [1].
- ▶ There was a 9% increase in the total number of reports of *E. coli* bacteraemia via the voluntary surveillance scheme in 2007 (21,904 reports) compared to 2006 (20,007 reports) (figure 1).
- ▶ Since 2003 there has been a 32% increase in *E. coli* bacteraemia reports, greater than the 24% increase in reports for all bacteraemia (85,354 to 105,928) via the voluntary surveillance scheme during the same time period. The increase may be due to either increased incidence and/or increased ascertainment. Reports for 2007 are provisional as of 26 February 2008 and are expected to increase due to late reporting.
- ▶ *E. coli* bacteraemia is significantly more frequent among men than women, in those aged under one year, and in those aged 65 years and over; however *E. coli* bacteraemia is significantly more frequent among women in the 15 to 44 year age group (figure 2).
- ▶ The overall reported incidence of *E. coli* bacteraemia for England, Wales and Northern Ireland is 39.5 per 100,000 population.
- ▶ In contrast with analyses in previous years, there have been no significant increases in the rates of non-susceptibility for any key antimicrobials in the past year; however, rates are still much higher in 2007 than they were in 2003.
- ▶ The percentage of isolates testing non-susceptibility to either ciprofloxacin or gentamicin remains unchanged from 2006 at 23% and 9%, respectively.
- ▶ While the percentage of isolates testing non-susceptible to the extended-spectrum cephalosporins ceftazidime and cefotaxime has not changed since 2006 (12%), this rate is still twice that reported in 2003 (4-5%). The increased non-susceptibility to cephalosporins since 2003 largely reflects the emergence and spread of strains of *E. coli* producing extended-spectrum  $\beta$ -lactamases (ESBLs) [2,3].
- ▶ All isolates tested for either imipenem or meropenem remained fully susceptible.

**Figure 1. *Escherichia coli* bacteraemia in England, Wales and Northern Ireland: 2003 to 2007\***



\* Data extracted 26 February, 2008.

**Figure 2. *Escherichia coli* bacteraemia reports in 2007 by age and sex\***



\* Data extracted 26 February, 2008.

## References

1. HPA. *Surveillance of healthcare associated infections report 2007*. London: Health Protection Agency, 2007. Available at <http://www.hpa.org.uk/publications/PublicationDisplay.asp?PublicationID=108>
  2. HPA. *Investigations into multi-drug resistant ESBL-producing Escherichia coli strains causing infections in England. September 2005*. London: Health Protection Agency, 2006. Available at <http://www.hpa.org.uk/publications/PublicationDisplay.asp?PublicationID=26>
  3. Potz N, Hope R, Warner M, Johnson A, Livermore D. CTX-M-producing *Escherichia coli* now the dominant cephalosporin-resistant *Enterobacteriaceae*. *Clin Microbiol Infect* 2005; **11** (Suppl 2): 48.
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