



# Health Protection Report

weekly report

**Current Issue:** Volume 1 Number 11 **Published on:** 16 March 2007



## Current News

- ▶ An outbreak of *Salmonella* Schwarzengrund in England and Wales November 2006 to February 2007
- ▶ Consultation on proposals for the development of a national network for the delivery of food, water and environmental microbiology services

## Infection reports

### Bacteraemia

- ▶ *Proteus* spp, *Morganella morganii*, and *Providencia* spp bacteraemia, England, Wales, and Northern Ireland: 2001-2006

## HPR subscription

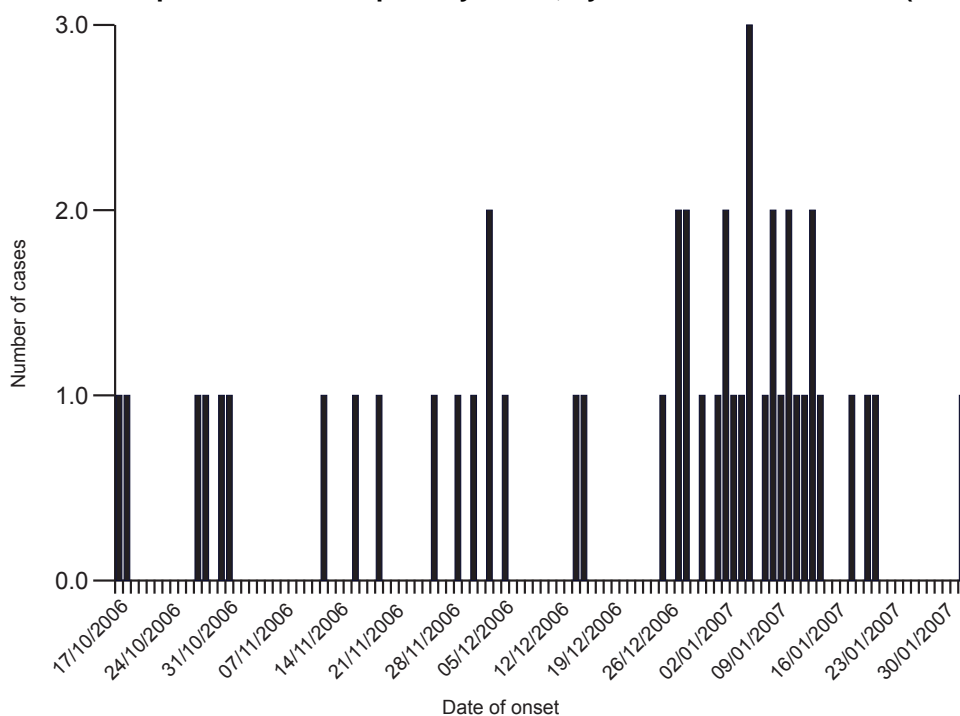
To subscribe to the Health Protection Report, please email [cdr@hpa.org.uk](mailto:cdr@hpa.org.uk)

- ▶ An outbreak of *Salmonella* Schwarzengrund in England and Wales November 2006 to February 2007
- ▶ Consultation on proposals for the development of a national network for the delivery of food, water and environmental microbiology services

## An outbreak of *Salmonella* Schwarzengrund in England and Wales November 2006 to February 2007

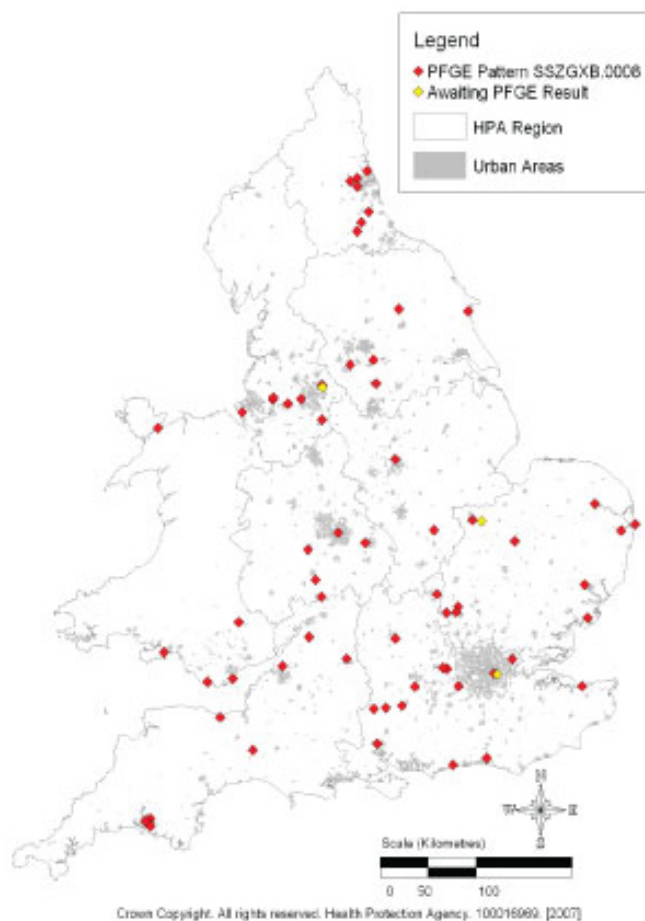
Since 6 November 2006, the Health Protection Agency (HPA) Centre for Infections (Cfi) has confirmed 98 isolates of fully sensitive *Salmonella* Schwarzengrund compared to 20 in the same time period in 2005/6 (figure 1) [1] .

**Figure 1 Epidemic curve of primary cases, by recorded date of onset (n=46)**



All cases were followed up to obtain basic epidemiological information. Two reported foreign travel, one was asymptomatic, and one was a secondary case leaving 94 primary indigenous cases. Of these 94 cases, 81 shared the pulsed field gel electrophoresis (PFGE) profile SSZGXB.0008. For the outbreak, a case was defined as a resident of England and Wales with a confirmed, fully sensitive *S. Schwarzengrund* infection with the PFGE profile SSZGXB.0008 reported on or after 6 November 2006 (figure 2). Patients who reported foreign travel or contact with a person with gastrointestinal symptoms in the five days preceding onset were excluded from this definition. The median age of cases was 52 years (range 0 to 96 years). Forty-seven cases were female and 34 were male. Twelve cases were hospitalised and one is known to have died, although, the salmonella infection was only recorded as a secondary cause of death.

**Figure 2 Geographic distribution of cases of *S. Schwarzengrund* infection as of 1 February 2007 by case location (n=74)**



Detailed food histories were obtained from eighteen cases in order to develop a hypothesis for the route of infection. Cases frequently reported consumption or handling of poultry, or consumption of cheese. Further examination of these factors failed to identify a particular brand, retailer, or product. Poultry and cheese are commonly eaten foods and combined with the fact that transmission appears to have ceased at the beginning of February 2007, makes an analytical study impractical. The PFGE profile prevalent during this increase was indistinguishable from that of a strain of *S. Schwarzengrund* that caused an outbreak in Scotland between October and December 2006 [2].

## References

1. HPA. National increase in fully sensitive *Salmonella* Schwarzengrund infections in England and Scotland. Health Protection Report [serial online] 2007 [accessed 14 March 2007]; 1(4): news. Available at <<http://www.hpa.org.uk/hpr/archives/2007/hpr0407.pdf>>.
2. Health Protection Scotland. Increase in cases of *Salmonella* Schwarzengrund. HPS eWeekly Report. [serial online] 2007 [accessed 15 March 2007]; 41(3). Available at <<http://www.documents.hps.scot.nhs.uk/ewr/pdf2007/0703.pdf>>.

---

## **Consultation on proposals for the development of a national network for the delivery of food, water and environmental microbiology services**

The Health Protection Agency has published a consultation document on proposals for the development of a national network for the delivery of food, water and environmental (FW&E) microbiology services.

The HPA provides FW&E microbiology services from laboratories throughout England. The laboratories support investigations and surveillance undertaken by Local Authorities and Port Health Authorities. As official control laboratories, the FW&E services also support the functions of the Food Standards Agency. In addition the laboratories also support public health investigations initiated by the Local and Regional Services division of the HPA. There is a requirement to modernise and create a national HPA FW&E microbiology network, and the consultation document highlights the background to the changes that are needed.

Full details about the consultation, and the full documentation, can be found on the HPA website at <http://www.hpa.org.uk/consultations/2007/FWE.htm>. The deadline for responses is 30 April 2007, and a definitive plan will be published by 30 June 2007.

# Bacteraemia

Last updated: 16 March 2007 , Volume 1, No 11

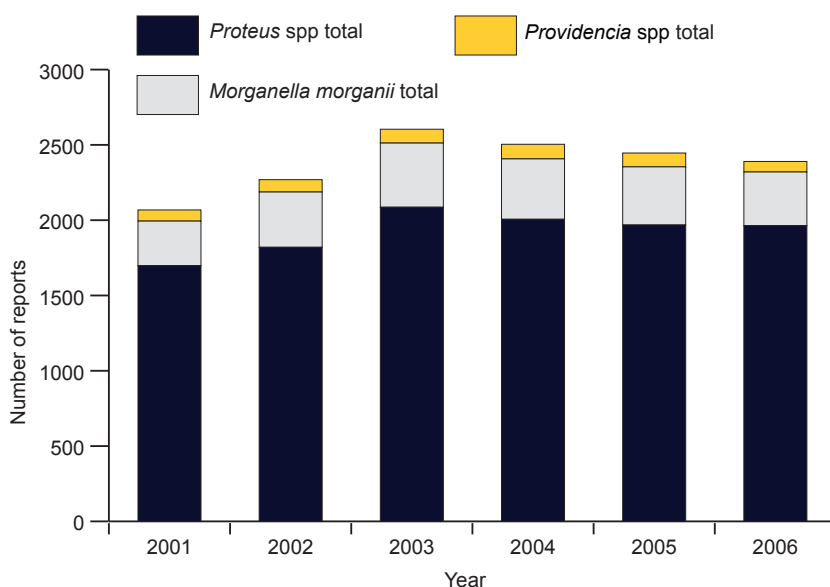
Next update: 21 April 2007

## Proteus spp, Morganella morganii, and Providencia spp bacteraemia, England, Wales, and Northern Ireland: 2001-2006

### Proteus spp, Morganella morganii, and Providencia spp bacteraemia, England, Wales, and Northern Ireland: 2001-2006

There is a 2.3% decrease in the total reports of *Proteus* spp, *Morganella morganii*, and *Providencia* spp bacteraemia reported via the voluntary surveillance scheme in 2006 (2390 reports), compared to 2005 (2446 reports) (figure 1). Between 2001 and 2006, the greatest number of reported bacteraemia attributable to these organisms was greatest in 2003 (2604 reports). The decrease in reporting for these organisms since 2003 contrasts to a general increase in the reports of bacteraemia caused by any organism from 2003 (86,460 reports) to 2006 (95,300 reports). As a percentage of all reported bacteraemias, the proportion attributable to either *Proteus* spp, *Morganella morganii*, or *Providencia* spp has decreased from 3.0% in 2003 to 2.5% in 2006. The proportion of reports for each species relative to the total number of reports for all Proteeae (ranging from 80% to 82% for *Proteus* spp; 14% to 16% for *Morganella morganii*; and 2% to 3% for *Providencia* spp) has not changed from 2001 to 2006.

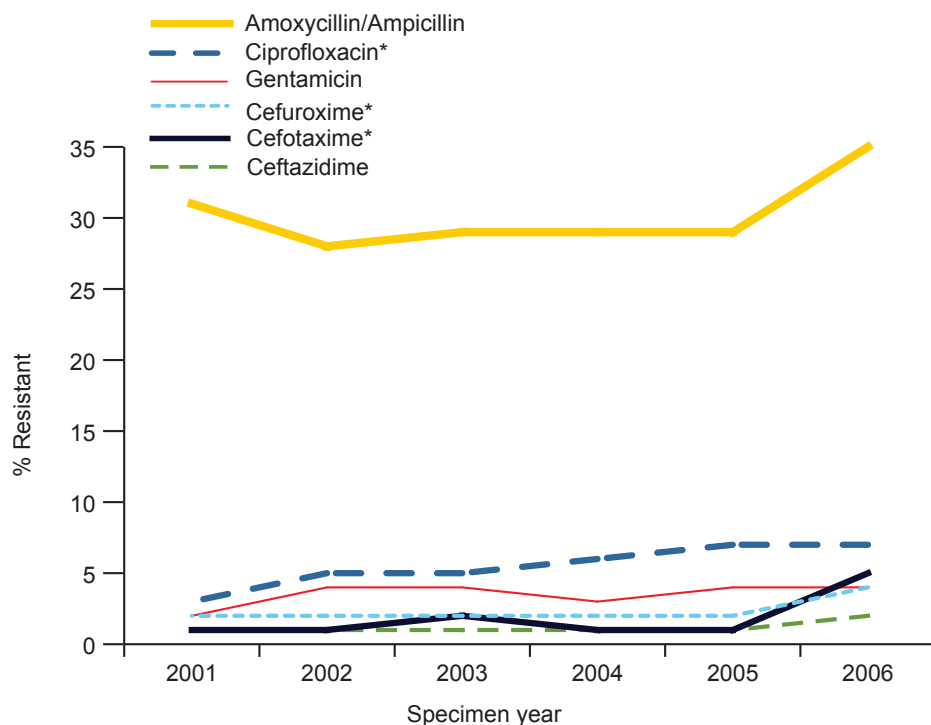
Figure 1 *Proteus* spp, *Morganella morganii*, and *Providencia* spp bacteraemia reports 2001-2006\*



\*Data extracted 26th February 2007

For *Proteus mirabilis* – which is inherently the most susceptible of the *Proteeae* – there have been significant increases in resistance to cefuroxime (4%), cefotaxime (5%), and ciprofloxacin (7%) from 2001 to 2006; no significant increased resistance rates were observed for amoxicillin/ampicillin (35%), ceftazidime (2%), or gentamicin (4%) during this period (figure 2). It is not clear whether the rises in cephalosporin resistance reflect the spread of extended-spectrum beta-lactamases (ESBLs) in this species.

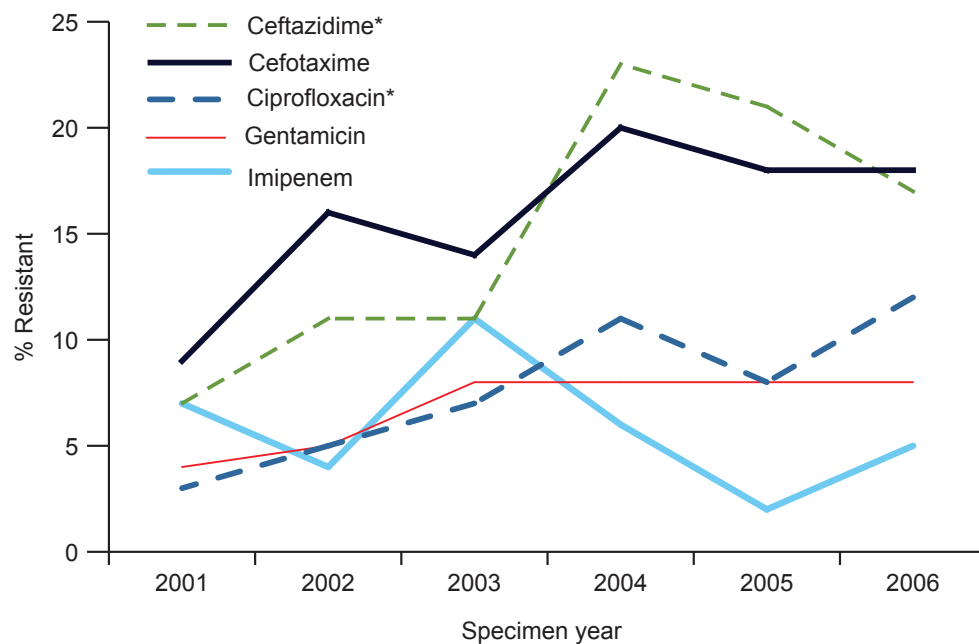
**Figure 2 *Proteus mirabilis*: antibiotic resistance trends (2001 to 2006)**



\* p-value <0.05 for chi-square test for trend.

For *Morganella morganii* isolates, rates of resistance to ciprofloxacin (12%), and ceftazidime (17%) are significantly higher than those reported in 2001 (p-value <0.005) (figure 3). Ceftazidime resistance here mostly reflects hyper-production of chromosomal AmpC  $\beta$ -lactamases. There is no significant trend in the rates or resistance to cefotaxime (18%), gentamicin (8%), or imipenem (5%) from 2001 and 2006.

**Figure 3 *Morganella morganii*: antibiotic resistance trends (2001 to 2006)**



\* p-value <0.05 for chi-square test for trend.

There were no statistically significant resistance trends for either *Proteus vulgaris* or *Providencia stuartii*, although analysis is not possible for some antibiotics (in particular for imipenem and cefotaxime) owing to the small number of tested isolates. The proportion of isolates reported with susceptibility data has increased every year between 2001 to 2006.

With the exception of reports for *Proteus* spp and *Morganella morganii* in the 15 to 44 years age group, the number of bacteraemia reports was higher for males than for females in all age groups, and the prevalence increased with patient age with the greatest number of reports relating to individuals aged 65 years and over.

The analyses presented are based on data extracted from our voluntary surveillance database on 26 February 2007 for the period from 2001 to 2006. The data presented here differ in some instances from data in earlier publications due to the addition of late reports to the database. Further data tables and graphs concerning these species can be viewed on the HPA website at

[http://www.hpa.org.uk/infections/topics\\_az/bacteraemia/pmp\\_menu.htm](http://www.hpa.org.uk/infections/topics_az/bacteraemia/pmp_menu.htm)