Prevalence and 95% confidence intervals of gastroschisis at birth in registries that showed significant increases. Rates are per 10 000 births

			Earliest		Latest		
Registry	No of cases	No of births	Rate (95% CI)	Year	Rate (95% CI)	Year	PRR (95% CI)
Australia	593	4 140 849	0.88 (0.42 to 1.62)	1981	2.65 (2.06 to 3.35)	1997	1.08 (1.06 to 1.10)
Finland	97	947 072	0.92 (0.33 to 2.00)	1984	1.92 (0.96 to 3.44)	1998	1.11 (1.05 to 1.16)
France (central east)	180	1 932 649	0.15 (0.00 to 0.82)	1978	1.46 (0.82 to 2.42)	1998	1.04 (1.01 to 1.06)
France (Paris)	92	659 523	0.00 (0.00 to 1.04)	1981	2.69 (1.29 to 4.95)	1998	1.11 (1.07 to 1.16)
Ireland (Dublin)	30	395 528	0.00 (0.00 to 1.47)	1980	1.56 (0.30 to 4.58)	1998	1.15 (1.07 to 1.23)
Japan	361	2 931 758	1.01 (0.43 to 2.00)	1974	2.28 (1.43 to 3.46)	1998	1.03 (1.02 to 1.05)
Mexico	161	820 987	1.20 (0.38 to 2.81)	1980	4.93 (2.87 to 7.90)	1998	1.06 (1.03 to 1.10)
Norway	265	1 403 783	0.99 (0.36 to 2.17)	1974	3.07 (1.82 to 4.86)	1998	1.04 (1.02 to 1.06)
South America	353	3 565 511	0.12 (0.00 to 0.67)	1974	2.88 (2.07 to 3.90)	1998	1.16 (1.13 to 1.18)

PRR=Prevalence rate ratio per annual change according to Poisson regression model.

To assess whether such an increase might be explained by a diagnostic shift of the abdominal wall defects, we analysed the time trends of omphalocele in these registries. One registry (Australia) had a mild decrease of omphalocele, three registries had significant increases, and the remaining six registries had no temporal trend. The distributions of gastroschisis and omphalocele over time were not negatively correlated.

Comment

Prevalence of gastroschisis at birth increased in nearly half of the registries studied, beginning at the end of the 1980s in several areas. Such an increase may be even greater than shown here, because of possible under-reporting of cases among selective pregnancy terminations,[4] particularly in areas such as France and the Netherlands, where the proportion of selective terminations is high. The increased prevalence of gastroschisis is unlikely to be explained by a systematic shift in the classification of abdominal wall defects. The speed at which the increase has occurred suggests environmental rather than genetic risk factors.

Selective termination and systematic shift in classification should be assessed in a multicentre case-control study. Because children of young mothers are more susceptible to gastroschisis,[5] shifts in maternal age distribution should also be investigated. Geographical spread and magnitude show that increased prevalence of gastroschisis at birth is "epidemic."

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Mortality from methicillin resistant *Staphylococcus aureus* in England and Wales: analysis of death certificates

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The number of infections caused by methicillin resistant *Staphylococcus aureus* (MRSA) is increasing every year in England and Wales.[1 2] These infections are more difficult to treat than others because of the resistance of the bacterium to first line antibiotics. The impact of these infections on mortality has been unknown; data on the mortality caused by MRSA infections is not routinely available because the international classification of diseases (ICD) has no code for these infections. The evidence that the infections are associated with a higher mortality than methicillin sensitive *S aureus* infections is equivocal.[1] We used death certificates to examine the evidence that mortality due to MRSA and staphylococcal infections in England and Wales is increasing.

Methods and results

In 1993 redevelopment of the processing systems for death registrations in England and Wales enabled death registration data to be analysed by all conditions mentioned on death certificates (rather than by the final underlying cause alone).[3] ICD-9 (ICD, 9th revision) was in use during the period of this study.

We examined all death registrations in the Office for National Statistics database with ICD-9 codes 05.0, 08.4, 038.1, 041.1, 320.3, and 482.4, indicating staphylococcal infection, on any part of the death certificate for deaths that occurred between 1 January 1993 and 31 December 1998. We manually identified the inclusion of MRSA by noting the text entered on

Death registrations with staphylococcal ICD-9 codes by year of death. Results are numbers (percentages)

Year of death	1993	1994	1995	1996	1997	1998	Total 1993-8
No of certificates with any mention of MRSA	47 (7.5)	88 (11.4)	187 (18.3)	290 (22.8)	377 (26.2)	398 (25.0)	1387 (20.6)
Staphylococcal infection final underlying cause of death	216 (34.3)	249 (32.3)	344 (33.7)	435 (34.2)	483 (33.6)	546 (34.3)	2273 (33.8)
Total deaths with any mention of staphylococcal codes	630 (100)	772 (100)	1020 (100)	1271 (100)	1439 (100)	1591 (100)	6723 (100)

ICD-9=international classification of diseases, 9th revision.
MRSA=methicillin resistant *Staphylococcus aureus*.

each line of the death certificate, including underlying and contributory conditions. We calculated age group specific annual mortality using mid-year population estimates from the Office for National Statistics.

MRSA was mentioned on 1387/6723 (20.6%) death certificates that included an ICD-9 code for staphylococcal infection (table). The percentage of certificates mentioning MRSA increased from 7.5% in 1993 to 25.0% in 1998. The final underlying causes of death indicated by death certificates that also mentioned MRSA included infections, neoplasms, and disease of nearly every system of the body.

The number of certificates mentioning staphylococcal infection and the number of deaths with staphylococcal infection as the underlying cause increased each year. Each year, a similar proportion of certificates mentioned staphylococcal infection as the underlying cause of death; in these certificates, the proportion mentioning MRSA increased from 8% in 1993 to 44% in 1998 (13/156 *v* 114/258). MRSA accounted for all of the increase in deaths due to staphylococcal infection in this period: MRSA in staphylococcal septicaemia increased from 3% to 28% (3/87 v 37/134), staphylococcal pneumonia from 13% to 44% (6/47 *v* 24/54), and unspecified bacterial infection, staphylococcus from 19% to 83% (4/21 *v* 53/64).

In certificates mentioning MRSA where staphylococcal infection was the final underlying cause of death, mortality was higher in men and in older people. For 86% of the certificates, the age of the person who died was over 64. In 1998 mortality ranged from 0.4 per 100 000 for women aged 45-64 to 14.8 per 100 000 for men over 84.

Comment

Infections due to MRSA seem to be an increasing cause of mortality in England and Wales. Improved reporting is unlikely to explain the increase. The greatest rise in MRSA occurred for deaths in which invasive staphylococcal infection was given as the final underlying cause, so antimicrobial resistance probably influenced the success of medical management.

Our study highlights the limitations of using routine mortality data for monitoring the impact of MRSA. There is no code for this infection in either ICD-9 or ICD-10. The Office for National Statistics could introduce routine automated searches of computerised text or assign one of the unused ICD-10 "U" codes available for special studies to MRSA.

Further improvements in surveillance and control of healthcare associated infection and mortality should be a priority if MRSA related deaths are to be prevented.[4] Recent initiatives, such as the requirement since April 2001 for all NHS trusts to report *S aureus* bacteraemia, will help towards achieving this goal.[5]

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Does declaration of competing interests affect readers' perceptions? A randomised trial

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Conflict of interest has been defined as a set of conditions in which professional judgment concerning a primary interest (such as patient welfare or the validity of research) can be influenced by a secondary interest (such as financial gain).[1] Despite increasing evidence that conflict of interest influences authors' conclusions,[2–4] we found no research into the effect on readers' perceptions of research. We studied whether a declaration of financial competing interest influences readers' perceptions of the interest, importance, relevance, validity, and believability of a study.

Participants, methods, and results

We randomly selected 300 *BMJ* readers from the BMA's membership database, which contains indi-

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