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SALMONELLA BREDENEY OUTBREAK IN EASTERN STATES

Ed Kraa and Debbie Baker
Environmental Health, Food and Nutrition Branch
NSW Health Department

Since February 21, 1995, health authorities in eastern Australia have been notified of more than 100 cases of *Salmonella bredeney*. The outbreak, which is concentrated in the Australian Capital Territory and south-western Sydney, is being investigated by the NSW Public Health Network in co-operation with the Communicable Diseases Network of Australia and New Zealand. NSW is taking a leading role and co-ordinating the investigation. Although no source has been identified yet, a range of food has been sampled. The results of all food sampling has been negative.

ACT Health reported 11 cases of *S bredeney* on February 21. The Institute of Clinical Pathology and Medical Research at Westmead simultaneously reported 34 cases in NSW. Further notifications were received from February 23-27 and March 1-13. The Microbiological Diagnostic Unit, Melbourne University, where the National Salmonella Surveillance Scheme (NSSS) is administered, provided five additional notifications for NSW and four for the ACT. Three cases have been notified in Victoria and one in Queensland.

BACKGROUND

Each year about 1,000 notifications of *Salmonella* infection are received in NSW, and more than 5,000 are received nationally. *S bredeney* is one of 200-300 different serovars of *Salmonella* human pathogens isolated in Australia.

There is no evidence linking this organism with a single animal or environmental reservoir. Recent food, animal and environmental isolations of *S bredeney* received by the NSSS and Australian Salmonella Reference Laboratory (ASRL) were from meat meal (Victoria and Tasmania), pork, sewage and sewage sludge (NSW), egg pulp, meat, chicken layer, chicken feed and porcine intestine (Queensland) and bovine intestine (South Australia).

The average number of notifications for *S bredeney* a year in NSW between 1988 and 1994 was six. The Australia-wide figure was 22 cases (Table 1).

TABLE 1

***SALMONELLA BREDENEY* NOTIFICATIONS (1988-1993 NATIONAL SALMONELLA SURVEILLANCE SCHEME DATA, 1994 NSW HEALTH DATA)**

	Total	NSW	Vic	Qld	SA	WA	Tas	NT
1994	20	2	na	na	na	na	na	na
1993	27	12	1	6	3	4	–	1
1992	27	9	8	4	1	4	–	1
1991	14	3	2	5	–	4	–	–
1990	30	4	1	8	9	2	–	6
1989	21	2	4	2	3	4	–	6
1988	14	4	5	3	–	2	–	–
Mean	21.86	6	4	5	3	3	0	2

na = not available

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Correspondence

Please address all correspondence and potential contributions to:

The Editor,
NSW Public Health Bulletin,
Public Health Division,
NSW Health Department
Locked Bag No 961,
North Sydney NSW 2059
Telephone: (02) 391 9191
Facsimile: (02) 391 9029

Salmonella bredeney *outbreak*

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CASES

Eighty notifications of *S bredeney* have been received for NSW, and 24 for the ACT. Five of the NSW notifications were received in January, 67 in February and six in March. The dates of isolation are not known for two cases. NSW notifications peaked on February 20 (Figure 1) but are spread throughout that month. Notifications continued to be received in March. Because there can be a delay of two-three weeks between laboratory confirmation and notification, the outbreak may be continuing.

The largest number of notifications has been in the 0-5 age group (30 cases, 38 per cent). Seventeen of these 30 cases (57 per cent) were females. Of the total notifications, 44 (55 per cent) were for females (Figure 2). Age is not known for two male cases.

The places of residence of the cases notified were widespread (Figure 3), making a single point source unlikely. Place of residence is not known for one case. The largest number of cases (18) was from south-western Sydney. The 24 ACT cases were likely to have been associated with the NSW cases. Water, other than packed water, is unlikely to be implicated given the wide distribution and the number of different water supplies. The distribution of cases suggests a food widely available in NSW and the ACT but with limited distribution in other States.

INVESTIGATION

All NSW cases are being interviewed using a questionnaire from the *Outbreak Management Plan for Foodborne Illness and Gastroenteritis in an Institution*. This questionnaire seeks information on food history before onset of illness, foods which the cases associated with their illness, and history relating to consumption or routine purchase of a range of high-risk foods. Information is also sought on the retail outlets from which cases obtain food and social functions they may have attended. Contact with animals, pet foods, home-grown vegetables and associated fertilisers and water supplies is also being investigated. Telephone or personal interviews are being undertaken by Public Health Units in consultation with notifying doctors.

Data obtained using this questionnaire have suggested associations with several possible foods. These foods are being investigated by food sampling, both at retail level, to obtain a range of "use by" dates, and at factory level.

Information on the distribution of these foods has been obtained to try to match the distribution of foods with the place of residence of cases.

Results of food sampling have been negative.

A case-control study controlling for age, sex and geographical location is being undertaken.

FIGURE 1

***SALMONELLA BREDENEY* NOTIFICATIONS IN NSW, 1995, BY DATE OF ISOLATION**

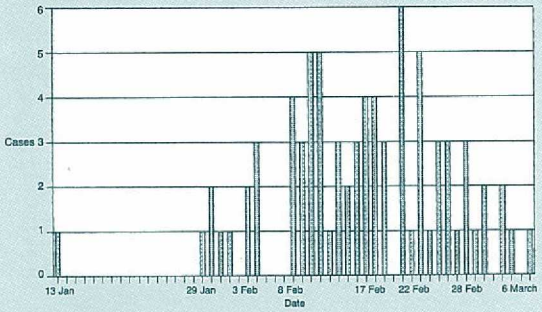

FIGURE 2

***SALMONELLA BREDENEY* NOTIFICATIONS IN NSW, 1995, BY AGE AND SEX**

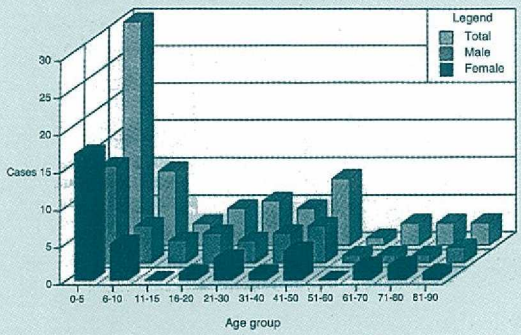

FIGURE 3

***SALMONELLA BREDENEY* NOTIFICATIONS IN NSW, 1995, BY PUBLIC HEALTH UNIT**