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CHILD ABUSE IN NSW

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SUMMARY

This article reports on a collaborative project between the NSW Health Department and the Department of Community Services (DCS) to examine DCS data on notifications of alleged and confirmed child abuse in NSW. The pattern of child abuse is described and recommendations are made to improve surveillance and child protection services.

NOTIFICATION OF CHILD ABUSE CASES

Notifications of suspected child abuse are made to the Department of Community Services, which is required to investigate the cases and take appropriate action under the Children (Care and Protection) Act 1987. If the alleged abuse is substantiated, then the case is confirmed. Cases that are confirmed or not confirmed may be closed or the case may be referred to other services for further counselling or support. Most clients who are confirmed as being abused are referred for further treatment.

INCIDENCE OF REPORTED CHILD ABUSE

For the period April 1992 to March 1993, 25,846 notifications of alleged child abuse were received by the DCS. As more than one notification can be made for a child, the notifications involved 21,009 children. Of the 25,846 notifications, 14,077 notifications of abuse were confirmed, involving 11,147 children.

TYPE OF REPORTED CHILD ABUSE

Four types of abuse are recognised: emotional, neglect, physical and sexual abuse. Frequencies of alleged and confirmed notifications are presented in Table 1. Of the alleged abuse, about one quarter was due to each type. Of the confirmed notifications, 31 per cent of notifications were due to emotional abuse, 30 per cent sexual abuse and 24 per cent physical abuse. Fewer cases of neglect were confirmed.

DEMOGRAPHIC CHARACTERISTICS

Age and sex

Thirty-four per cent of the notifications were children aged less than five, 45 per cent were aged five to 12 years of age, and 17 per cent were aged 13 to 16 years. Children aged three years had the highest rate of alleged abuse (17.3/1,000), followed by those aged two (16.8/1,000) and those aged less than one (16.6/1,000).

A similar number of girls and boys aged less than 12 were reported to DCS, but girls over the age of 12 were twice as likely to be reported compared with boys of this age (Figure 1). Confirmed cases show a similar pattern. This results in a greater number overall of girls being reported (54 per cent of alleged cases and 56 per cent of confirmed cases).

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TABLE 1

TYPES OF ALLEGED AND CONFIRMED ABUSE

Type of abuse	Alleged				Confirmed			
	Notifications		Cases		Notifications		Cases	
	N	(%)	N	(%)	N	(%)	N	(%)
Emotional	6,881	(27)	5,348	(26)	4,321	(31)	3,175	(29)
Neglect	5,840	(23)	4,578	(22)	2,768	(18)	2,029	(18)
Physical	6,252	(24)	5,044	(24)	3,279	(24)	2,635	(24)
Sexual	6,792	(26)	5,993	(29)	3,696	(30)	3,303	(30)
Unknown	81	(0)	46	(0)	13	(0)	5	(0)
Total	25,846	(100)	21,009	(100)	14,077	(100)	11,147	(100)

Child abuse in NSW

► *Continued from page 95*

Notification rates of sexual and physical abuse differed between girls and boys (Figure 2). More girls than boys were notified for sexual abuse at all ages, whereas physical abuse was reported more commonly for girls in the 13-16 age group.

CULTURE

Three quarters of the confirmed cases of abuse were of an English speaking background. Nine per cent of the cases were Aboriginal, and the abuse was more likely to have been emotional or neglect. The remaining confirmed cases were of non-English speaking backgrounds, and were more likely to have been physically abused.

SOURCE OF NOTIFICATION

One quarter of all reports came from relatives or neighbours. Other sources were parents (15 per cent), teachers (14 per cent), health services (13 per cent), and police/prison/court workers (12 per cent). Of the health sources, notifications were mostly made by Health Department social workers (22 per cent), Help Centres/ Care Team/ Sexual Assault Team (15 per cent), Health Department doctors (12 per cent), private doctors (12 per cent) and Health Department nurses (9 per cent).

The sources of referral that were most likely to have been confirmed were the child involved (73 per cent), police/prison or court workers (70 per cent) and Health Department sources (64 per cent). Those least likely to be confirmed were relatives and neighbours (40 per cent), other government departments (43 per cent) and parents (56 per cent).

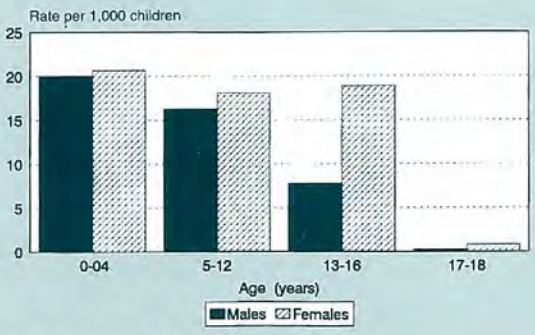
GEOGRAPHICAL DISTRIBUTION

Notification rates of confirmed and non-confirmed child abuse in children aged less than 15 years by Health Areas and Regions[1] are presented in Figure 3. Cases were categorised into Areas and Regions using postcodes. Postcodes which crossed Area/Regional borders were placed into the Area or Region with the greatest proportion of population.

The localities with the highest notification rates were Orana and Far West Region (23.5/1,000), South West Region (21.6/1,000) and the Illawarra Area (20.4/1,000). However, the localities with the highest total number of cases were South Western Sydney (3,491 alleged cases), Western Sydney (3,130 alleged cases) and North Coast

FIGURE 1

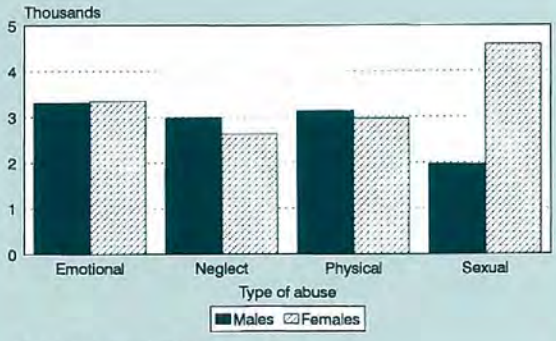
NOTIFICATIONS OF ALLEGED CHILD ABUSE BY AGE AND SEX
APRIL 1992-MARCH 1993



Source: Department of Community Services

FIGURE 2

TYPES OF ALLEGED CHILD ABUSE BY SEX
APRIL 1992-MARCH 1993



Source: Department of Community Services

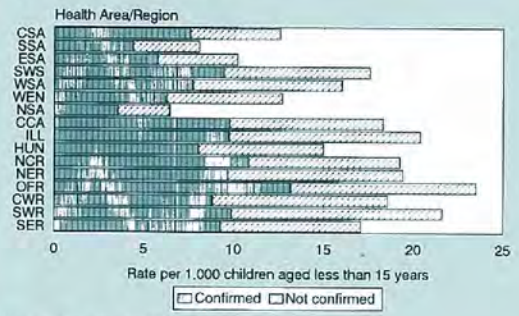
Region (2,007 alleged cases) (Figure 4). Areas with the greatest proportions of repeat notifications for that year were Illawarra (25 per cent), Central Sydney (24 per cent) and Western Sydney (23 per cent). The lowest proportions of repeat cases were in the New England (14 per cent) and North Coast Regions (14 per cent) and the Hunter Area (15 per cent).

CONFIRMATION RATES

Cases of alleged neglect were not confirmed as often as other types of abuse, with only 42 per cent of cases notified

FIGURE 3

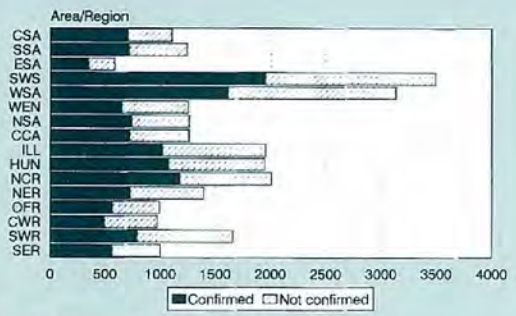
RATE OF CHILD ABUSE CASES – CONFIRMED AND NOT CONFIRMED – BY AREA/REGION CHILDREN AGED LESS THAN 15 YEARS, APRIL 1992-MARCH 1993



Source: Department of Community Services

FIGURE 4

NUMBER OF CHILD ABUSE NOTIFICATIONS – CONFIRMED AND NOT CONFIRMED – BY AREA/REGION APRIL 1992-MARCH 1993



Source: Department of Community Services

Abbreviations for Figures 3 and 4:
CSA = Central Sydney Area; ESA = Eastern Sydney Area; SSA = Southern Sydney Area; SWS = South-Western Sydney Area; WSA = Western Sydney Area; WEN = Wentworth Area; NSA = Northern Sydney Area; CCA = Central Coast Area; ILL = Illawarra Area; HUN = Hunter Area; NCR = North Coast Region; NER = New England Region; OFR = Orana and Far West Region; CWR = Central West Region; SWR = South West Region; SER = South East Region.

confirmed. More than 55 per cent of all the other types of alleged abuse were confirmed.

The Areas and Regions which have the highest confirmation rates are Central Sydney Area (63 per cent), Eastern Sydney Area (59 per cent), North Coast Region (58 per cent) and Northern Sydney Area (58 per cent). The Areas/Regions with the lowest rates were South West Region (47 per cent), Central Western Region (50 per cent) and Wentworth Area and New England Region (both 51 per cent).

URGENCY RATING

Notified cases are given an urgency rating from 1 to 3. Cases rated as 1 require immediate assessment, 2 require assessment within two working days, and 3 require assessment within five working days. Overall, 25 per cent required immediate assessment, 25 per cent within two working days and 49 per cent within five working days.

South West Sydney had 1,076 cases rated as requiring immediate assessment, followed by Western Sydney (769) and Illawarra (509). South Western Sydney had 960 cases requiring assessment within two working days, followed by Western Sydney (822) and Illawarra (568).

Urgent cases requiring either immediate assessment or assessment within two days were most prevalent in Central Sydney (63 per cent of notified cases) and Eastern Sydney (59 per cent of notified cases).

Only 37 per cent of cases in New England Region and 39 per cent of cases in the Hunter Area were rated as urgent or requiring assessment within two working days.

DISCUSSION

These data have provided an estimate of the child abuse prevalence in NSW. Using this information and results from a survey of existing child protection services, the NSW Health Department has developed strategies to enhance child protection services. These are:

- enhancing service provision by defining the structure and function of existing child protection services;
- a substantial financial commitment to the Areas and Districts to allow local development of coherent plans to improve co-ordination of services, particularly achievement of specified role levels;
- establishment of referral links between different levels of child protection services; and
- support of inter-agency collaboration and communication links, with a strong recommendation to Areas and District Health Services to develop and sustain similar links at a local level.

It has been suggested that there may be an association between the availability of services and the numbers of notifications. We consider that the rates presented here are a reasonable indicator of the relative prevalence of abuse as they parallel the distribution of socio-demographic factors, and because most notifications come from sources other than health.

RECOMMENDATIONS

Child abuse has been included in the NSW Health Department's Injury Prevention Strategy since 1990. This is providing the first step towards an integrated approach to address the problem. To achieve targets for prevention, the NSW Health Department, in conjunction with the Area and District Health Services has plans to:

- develop better surveillance systems which focus on outcomes;
- develop strategies to increase health professionals' awareness of the issues and encourage notifications of suspected cases;
- work with other sectors to address the issues; and
- develop and trial prevention strategies.

ACKNOWLEDGMENTS

John Baker, Josie Hudson and Laurie Young
Department of Community Services

1. Data analysis was based on Regions prior to the establishment of Districts with rural restructuring.

OUTBREAK OF ROSS RIVER VIRUS DISEASE IN THE SOUTH WEST DISTRICTS OF NSW, SUMMER 1993

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South West Centre for Public Health

A large outbreak of epidemic polyarthritis (EPA) caused by the arbovirus Ross River virus (RRV) occurred in the south west of NSW during the summer of 1993. A total of 312 cases was reported by laboratories in contrast to 33 cases in 1991 and 29 cases in 1992. Cases occurred from January to June, with 64 per cent occurring in January and February. The outbreak followed heavy rains between October and December 1992. This report describes the outbreak of RRV disease which was the largest in the south west since the Statewide RRV outbreak in 1984 (Figure 5).

The major inland vector of RRV in NSW is the mosquito *Culex annulirostris* and the major coastal vector is *Aedes vigilax*. The clinical symptoms of RRV infection vary but commonly include rash, lethargy and myalgia followed by arthralgia, joint stiffness and joint swelling. A follow-up study of RRV patients in a Western Australian outbreak in 1988-89 showed that only 27 per cent of cases had fully recovered within six months. In addition, more than 33 per cent of cases had at least one month off work[1]. The economic consequences of RRV are likely to be large as attack rates are highest in the working-age groups[2].

METHODS

Notifications were received from five main laboratories – two in NSW and three in Victoria. We defined a case as a resident of the South West Districts whose paired sera showed a fourfold or greater rise in antibody titre, or whose single serum specimen demonstrated RRV-specific IgM antibody. This was in accordance with the NSW Health Department Infectious Disease Manual.

Residence was taken as a proxy for location of infection. Date of the first serological test was used as an estimate of the date of onset of symptoms. We calculated linear trend, attack rates and relative risks with Epi Info version 5[3].

RESULTS

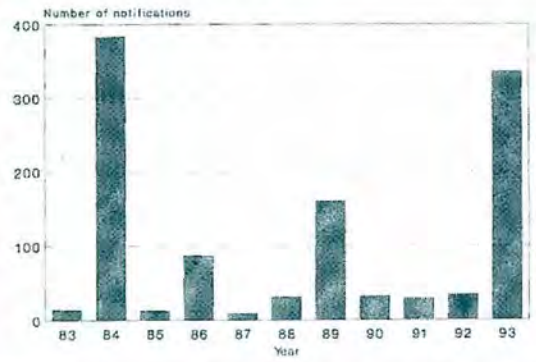
A total of 312 patients with RRV disease was notified from the South West Districts of NSW from January to June 1993, which is a tenfold increase in notifications for the same period in 1992 (Figure 6). Cases appeared in January, peaked in February and had returned to pre-epidemic levels by May when only two cases were reported.

Notifications were grouped into local government areas (LGAs) according to residence. The highest attack rates occurred in the west of the region. Wentworth had the highest attack rate (770/100,000) followed by Deniliquin (539/100,000) and Hay (387/100,000) (Figure 7).

The youngest patient was eight years of age and the oldest was 83. Age-specific attack rates are shown in Table 2. The highest attack rates were in the 30-49 age groups (linear trend test $x^2 = 20.68$ $p < 0.0001$). Female cases exceeded males by 173 to 135 (1.3:1) but this was not statistically significant. An anomaly was the relative risk of disease in women aged 60-69 years compared with men of the same age (RR = 9.87, $p < 0.0003$).

FIGURE 5

ARBOVIRAL NOTIFICATIONS IN THE SOUTH WEST DISTRICTS 1983-1993*

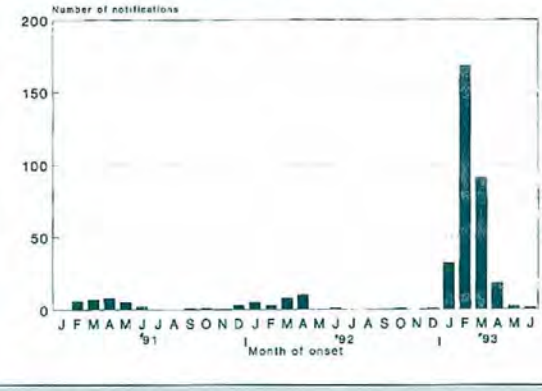


* The majority of notifications are RRV infections but those before 1989 are not serologically proven.

Source: IDSS, NSW Health Dept

FIGURE 6

NUMBER OF CASES OF RRV INFECTION BY MONTH OF ONSET, SOUTH WEST DISTRICTS JANUARY 1991-JUNE 1993



Source: IDSS, NSW Health Dept

DISCUSSION

This outbreak represents the largest number of RRV cases reported in the South West Districts since the Statewide RRV outbreak in NSW in 1984, which was preceded by a long drought, followed by excessive January rainfall. In the 1993 outbreak, heavy rains occurred from October to December 1992 and January rainfall was average. January temperatures in 1993 were below average and it is likely this delayed and reduced the size of the outbreak.

Residential address has limitations as a proxy for location of infection because cases may have been bitten elsewhere. Acknowledging this, there was a preponderance of cases in the centre and west of the region. These areas were flooded between October and December 1992, providing large areas of water for mosquito breeding. Irrigation used extensively in this area may have produced further breeding sites.

The reason for the large number of elderly female cases in this outbreak is unknown. Date of onset among the elderly

FIGURE 7

MAP OF THE SOUTH WEST DISTRICTS SHOWING ATTACK RATES OF RRV INFECTION BY LOCAL GOVERNMENT AREA DURING THE 1993 OUTBREAK

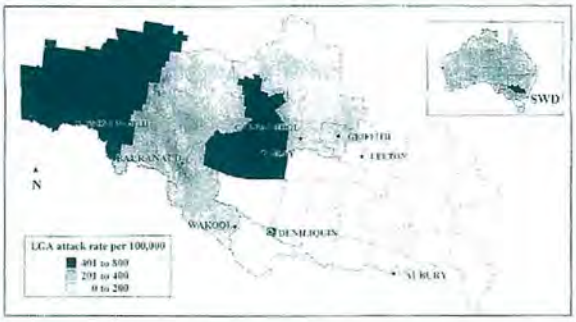


TABLE 2

NUMBER OF CASES AND ATTACK RATE OF ROSS RIVER VIRUS INFECTION BY AGE GROUP, SOUTH WEST DISTRICTS, 1993

Age group in years	Number of cases	Population per age group	Attack rate per 100,000
0-9	5	42,674	11.7
10-19	18	41,306	43.5
20-29	57	36,903	154.3
30-39	83	39,185	211.8
40-49	67	31,662	211.6
50-59	39	23,845	163.5
60-69	22	21,589	101.9
70+	9	19,018	47.3
Total	*312	256,182	123.2

* Includes 12 cases with unknown age.

females varied widely and there was no suggestion of a common exposure. Children under nine years and adults over 70 experienced low attack rates. Little is known about the seroprevalence of arbovirus antibodies in children as most of the studies have been done in adults. It may be that children are infected with RRV but have mild illness which is unrecognised. The lower attack rates in the elderly may reflect a higher level of immunity as seroprevalence of RRV antibodies increases with age[4].

The investigation of this outbreak has exposed several deficiencies in the NSW arbovirus notification system. In the South West Districts where RRV is endemic, many GPs make clinical diagnoses and do not order confirmatory serology. It is likely the laboratory-based notification system underestimates the true number of cases.

A recent article describes a case of RRV infection as "confirmed" if seroconversion is demonstrated in paired sera and "presumptive" if RRV-specific IgM is present in a single specimen, or stable antibody levels are demonstrated in paired sera[5]. The NSW notification form does not provide sufficient details of the number of sera tested or results to allow cases to be classified as "confirmed" or "presumptive".

Arboviral antibodies are most commonly measured by an enzyme-linked immunosorbent assay (ELISA) method using either "laboratory-made" reagents or reagents from a commercially available kit. Assays using reagents from commercial kits are said to have 10-14 per cent false positive rate[5], compared with a 3 per cent false positive rate reported by the Institute of Clinical Pathology and Medical Research, Westmead NSW, which uses a "laboratory-made" reagent based on neutralisation inhibition standards (personal communication, Ms Linda Huston). Knowledge of the laboratory and type of assay reagent used is important when interpreting RRV notification data. This information is not available on the NSW notification form.

Arboviral serology is complex and interpretation of results can be difficult. Many general practitioners make a diagnosis of RRV on a single positive IgM result. If IgG is also present, it may not be possible to determine whether the patient is seroconverting or has had a past infection. RRV IgM usually indicates recent infection but has been found in convalescent sera up to 12 months after initial infection[6]. GPs need education on the importance of paired sera and the limitations of a single IgM result.

If correlation of notifications with meteorological and mosquito data is to be attempted, details of location and date of infection must be known. This information is not recorded on the NSW notification forms. The Northern Territory Department of Health and Community Services uses a specific arboviral notification form, which documents date and place of infection, laboratory and assay used and serology results, including the number of sera tested. (Mr Peter Whelan, personal communication.) The form is completed by general practitioners at the time of diagnosis, or by the Health Department at the time of notification. Implementation of a similar form in NSW could greatly improve the system. Alternatively, RRV notifications could be managed only by Public Health Units servicing areas where RRV cases regularly occur. In this setting, a general practitioner sentinel system may be appropriate. If we are to continue with the current notification system, individual case follow-up to obtain these details is needed. This is time-consuming and may be impractical during an outbreak.

Whatever system is chosen, our reasons for collating data on RRV infections should be clear. The information collected should enable the confirmation of a case and the likely place and time of infection to enable appropriate and timely control measures.

ACKNOWLEDGMENTS

The authors acknowledge Mr Peter Whelan and Ms Linda Huston for their comments and Dr Angela Merianos, National Centre for Epidemiology and Population Health, for her advice and review of the manuscript.

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UNDERTAKING MASS MENINGOCOCCAL VACCINATION: CRITERIA AND EXPERIENCES

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An outbreak of meningococcal disease in the Northern Sydney Area provided an opportunity for the Area's Public Health Unit (PHU) to review the criteria for undertaking a mass vaccination program and to relate its experiences to other public health professionals. An outbreak was declared in August 1994 after two students attending the same high school developed meningococcal disease within six days of each other. The students were separated by one school year and close contact between them could not be established although the sister of the second case was in the same class as the index case.

Local Accident and Emergency departments and general practitioners (GPs) were alerted but no additional cases were identified. The initial response of the PHU included the distribution of a letter to household and close personal contacts of each of the affected students giving general information about meningococcal disease and advising them to obtain a prescription for an antibiotic (Rifampicin) from their GP. Information about the disease was provided to the school's other students at school meetings and to their parents by letters from the PHU and the school's principal.

After the laboratory report that both meningococcal cases were serogroup C, a meeting of public health, paediatric and infectious disease experts was called by the Area's Director of Public Health to decide what further action might be required. The decision to undertake a mass vaccination program was made using the following criteria:

- an outbreak had occurred as defined by two or more epidemiologically linked cases occurring within a 30-day period in a definable population, i.e. a school[1];
- the meningococci isolated from the two patients were identical as determined by serogrouping and antibiotic sensitivity (ideally subgrouping should be performed);
- the population to be vaccinated was clearly defined – in this case all the current students and staff at the school;
- the vaccine was effective in the age range of the defined population and was protective against the serogroup responsible for the two reported cases. Also, sufficient vaccine was available to vaccinate the defined population;
- the epidemiology of meningococcus in NSW indicates that winter and spring have the highest risk of transmission[2]; and
- the benefit was considered to outweigh the cost with respect to:
  - the cost of the vaccine
  - the staff and logistics required
  - the excessive public anxiety which might be created as a result of media attention.

Two vaccination clinics scheduled one week apart were thought necessary because of the numbers to be vaccinated and the problems of trying to get all 700 students to attend one clinic. For example, 5-10 per cent of students are ill and absent from school on any one day.

The logistics required to vaccinate the students and to prepare the necessary letters and media releases occupied four PHU members full-time for three working days before the first vaccination clinic. Answering telephone inquiries from the public and GPs placed additional demands on the PHU staff over the following week. The school distributed about 700 letters to students which explained to their parents the necessity for a vaccination clinic and enclosed a consent form to be returned before the clinic was to be held. Because only one-third of consent forms had been returned the day before the first clinic, an emergency meeting of all students was called that afternoon. They were advised of the advantages of being vaccinated and offered additional forms if they had lost the first one.

TABLE 3

CRITERIA FOR MASS MENINGOCOCCAL VACCINATION

- Two or more linked cases in a definable population.
- Identical meningococci identified from two (or more) cases.
- The defined population can be vaccinated in a mass program.
- The vaccine is effective:
  - i against the isolated meningococcal serogroup, and
  - ii in the defined population.
- The benefit outweighs the cost with respect to:
  - i the cost of the vaccine
  - ii manpower and logistics required
  - iii the excessive public anxiety which might be created due to media attention.

The task of calculating the vaccination uptake rate and identifying students not vaccinated at the first clinic was undertaken by PHU staff who collected consent forms and ticked off vaccinated students on class lists. The time required to mix individual doses of the vaccine with its diluent was the most important factor limiting the rate of vaccination during this clinic. The efficient running of the clinic required sufficient numbers of qualified immunisers; these were arranged by the PHU's public health nurse who drew on hospital, community and council sources.

To increase the uptake at the second clinic, the parents of all students who had not been vaccinated were posted a letter explaining the benefits of vaccination. By the end of the two clinics 590 students (about 85 per cent of the total) and 69 members of staff had been vaccinated.

Allaying public anxiety about meningitis is usually thought to be the most important public health task following an outbreak. By means of telephone contact, letters and meetings, PHU staff worked closely with the school community and GPs to allay anxiety and ensure the successful management of the mass vaccination program. All media inquiries were channelled to the Director of the PHU.

We considered the vaccination program to be successful and at the time of writing this report (six weeks after the index case) no additional cases associated with the outbreak had been notified.

---

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POSSIBLE CASE OF HUMAN BRUCELLOSIS

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A 49-year-old male from the Dubbo district became ill on a trip to Queensland and was admitted to hospital with pyrexia of unknown origin on January 17, 1993. Symptoms included a high fever, rigors, a nervous twitch and night sweats.

HISTORY

Between January 5 and 7, 1993, the patient assisted with the slaughter and butchering of an 18-month-old steer on a property in the Coonabarabran Rural Lands Protection District. The property had just been sold and all remaining livestock was being disposed of. Neither of the other two people assisting in the slaughtering and butchering displayed any ill-health since early January.

The herd testing data obtained on tail tag numbers showed the herd of origin of the slaughtered steer had been certified brucellosis-free since 1984. Abattoir monitoring of seven cattle from the property between October 1990 and June 1992 had also been negative for brucellosis.

The patient maintained that until his involvement with the slaughtering of the steer he had had no association with cattle for the past 20 years nor had he previously suffered an illness similar to that he experienced in January. As a young man he worked on a station near Armidale that was confirmed to have brucellosis.

CLINICAL COURSE

The patient remained in hospital for three weeks, during which he was clinically diagnosed as having Ross River fever. The diagnosis was presumably made on the basis of clinical signs and initial positive serology but repeat serology returned a negative result and the first result was later considered to be a false positive. When discharged, no definitive diagnosis had been established. Only after discharge did the results of other serology tests which were positive for brucella become available.

Discharge papers sent to the patient's medical practitioner suggested it may be worthwhile to perform repeat serology for brucellosis and cytomegalovirus. Subsequent serology appeared to confirm a diagnosis of brucellosis infection. The three sera were retested at the Institute of Clinical Pathology and Medical Research at Westmead Hospital in April. Results are shown in Table 4.

TABLE 4

BRUCELLA SEROLOGY TESTING RESULTS APRIL 1993

Date	Standard Agglutination Test (SAT)	AHG (Coombs) Test
17.1.93	Titre<20	80
1.2.93	Titre 160	320
22.3.93	Titre<160	320

DISCUSSION

The infectious agents of brucellosis in humans are *Brucella abortus, B. melitensis, B. suis* and *B. canis* of which two – *B. abortus* and *B. suis* – are endemic in Australia[1].

B. abortus affects cattle and other *boviae. B. suis* usually affects pigs but can be transmitted to cattle[2]. Human brucellosis occurs most commonly in people such as farmers, veterinarians and abattoir workers, who are occupationally exposed to infected domestic animals, or in people who drink unpasteurised cows' milk. Brucellosis is a systemic disease with acute or insidious onset, characterised by continued, intermittent or irregular fever of variable duration, headache, weakness, profuse sweating, chills, arthralgia, depression, weight loss and generalised aching. Localised suppurative infections may occur. Infections are frequently subclinical and unrecognised. Onset is variable, commonly ranging from 5-60 days but can be as long as several months. Duration can also vary, ranging from several days to occasionally a year or more[3]. Blood cultures are recommended for unequivocal diagnosis of brucellosis.

A national brucella and tuberculosis eradication campaign was begun in the early 1970s. The campaign targeted bovine *B. abortus* with a number of control strategies. A vaccination program initially targeted at heifer calves, followed by a vaccination program for adult cattle, was undertaken. Blood samples were collected at abattoirs for testing and, where positive, tail tag tracing was undertaken, followed by herd testing on implicated properties. Bulk milk samples from dairy farms were also tested and implicated properties were similarly herd tested. Properties that came to notice because of abortion problems were also followed up with herd testing. Subsequently a program of testing every cattle herd in NSW was undertaken. Herds which had no history of brucellosis were tested at least three times. Herds with problems were followed up at two-month intervals. Compensation was paid to farmers for stock that was destroyed.

The program was effective and Australia was declared free of bovine brucellosis in July 1989. Human brucellosis declined concomitantly until the mid-1980s, when an increase was observed in Central and South-East Queensland – predominantly due to *B. suis* associated with feral pig hunting and processing.

Blood cultures were not performed in this case and it is not possible to distinguish *B. abortus* from *B. suis* infection on serology alone. There was no history of exposure to feral pigs during the travel to Queensland and it is unlikely that this was a case of *B. suis* infection following recent exposure to feral pigs. It is possible the serology reactions were due to a very old infection in the light of the patient's contact with *B. abortus*-infected cattle on the Armidale property some 20 years previously. The incubation period seems very short if the source of infection was the animal slaughtered 10 days before the onset of illness, however this is not impossible. As the man travelled to Queensland after the slaughtering of the steer the incubation period for any *B. suis* infection acquired in Queensland would be even shorter.

Investigation of human cases should try to identify any animal contacts in the three months before onset. Isolation by blood culture should be attempted in suspected cases of human brucellosis as it is of importance to identify the infective organism to assist in determining the source and the possibility of *B. abortus* infection in the domestic animal population.

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1. Robson JM, Harrison MW, Wood RN, Tilse MH, McKay AB and Brodribb TR. Brucellosis: re-emergence and changing epidemiology in Queensland. *Medical Journal of Australia* 1993;159:153-158.
2. Gilbert GL. Brucellosis: continuing risk. *Med J Aust* 1993;159:147-148.
3. Benenson AS. *Control of Communicable Diseases in Man*. 15th edition, Washington: American Public Health Association, 1990.

NOTIFICATIONS

HAEMOPHILUS INFLUENZAE TYPE B (Hib) NOTIFICATIONS CONTINUE TO DECREASE

The downward trend of Hib notifications reported in recent issues of the *Public Health Bulletin* has continued. A total of 48 notifications for Hib disease was received between January and August 1994 (1.2/100,000 population). For the same period in 1993 there were 107 notifications for Hib disease. The notification rate in 1993 was 2.2/100,000 population.

For people less than five years of age, 30 notifications were received between January and August 1994. The notification rate has decreased from 23.9/100,000 population in 1993 to 10.1/100,000 population this year. This encouraging trend is attributable to the immunisation program for children less than five years of age.

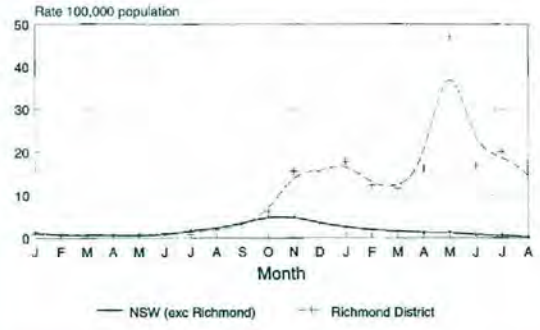
PERTUSSIS (WHOOPING COUGH) NOTIFICATIONS DECREASING

The notification rate for pertussis from January to August 1994 was 19.9/100,000 population, a decrease from 25.5/100,000 population for 1993. Pertussis notifications continued to be high in the Richmond Health District but there has been a marked decline over the past three months (Figure 8). For January-August 1994, the notification rate for the Richmond District was 235.0/100,000 population. The transient decline in the Richmond District notification rate at the beginning of 1994 probably reflects a decline in pertussis transmission during the school holidays.

The local Public Health Unit responded to persistently high rates of notification of pertussis by giving advice to local immunisation providers about enhanced immunisation schedules and the role of chemoprophylaxis in minimising transmission of pertussis.

FIGURE 8

PERTUSSIS NOTIFICATIONS, NSW JANUARY 1993-AUGUST 1994



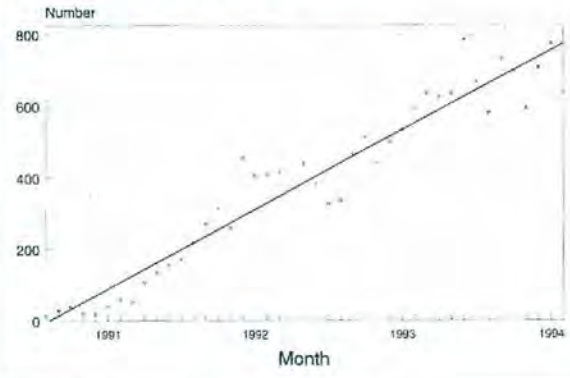
Source: IDDS

INTERPRETING TRENDS IN HEPATITIS C NOTIFICATIONS

The NSW Health Department receives notifications for acute disease (an indicator of incident cases), and for unspecified illness (an indicator of prevalent cases). Hepatitis C notifications are reported in the *NSW Public Health Bulletin* and supplied to the Communicable Diseases Network for publication in the *Communicable Diseases Intelligence*. There are more than 700 notifications for hepatitis C-unspecified a month in NSW and this number is rising by 20-30 cases a month (Figure 9). However, this trend is not indicative of an increase in hepatitis C transmission and notifications of acute hepatitis C have remained low. There were 41 notifications of acute hepatitis C in 1991, 42 in 1992, 31 in 1993 and nine notifications so far this year.

FIGURE 9

HEPATITIS C – UNSPECIFIED, NOTIFICATIONS NSW, JANUARY 1991-JULY 1994



Source: IDSS

The most likely reason for the increase in notification of hepatitis C-unspecified is that more people are being tested. Hepatitis C testing has become widely available since its introduction in 1990. There has been a corresponding increase in hepatitis C awareness among health professionals and in the wider community, so more people are being referred for testing. Many of those who have been tested acquired hepatitis C before testing became available.

Another factor which needs to be considered when interpreting notification of hepatitis C-unspecified is that a single case of hepatitis C may be notified more than once. That is, over the past four years individuals may have been tested several times, thus contributing more than one notification to the total. Also, a proportion of notifications represents false positive test results. Although tests for hepatitis C have improved, it is difficult to interpret a positive test result in the absence of other clinical or laboratory evidence of infection.

NSW HEPATITIS C TASKFORCE

In response to the growing interest in and concern about hepatitis C infection in NSW, the NSW Health Department has recently established a Hepatitis C Taskforce. The terms of reference of the taskforce are to:

- consider the epidemiology of hepatitis C in NSW;
- advise on improvements to the surveillance of hepatitis C in NSW;
- advise on education and prevention strategies for hepatitis C in NSW;
- consider the cost-effectiveness of proposed disease control and treatment protocols within the NSW healthcare system;
- advise on the implementation of the recommendations of the NHMRC Hepatitis C Taskforce Report; and
- identify gaps in existing policy on service provision in NSW.

MEASLES NOTIFICATIONS DOWN FROM LAST YEAR

From January to August 1994, 370 measles notifications were received (8.7/100,000) – a decrease from 583 notifications for the same period last year. For notified measles cases, the mean age remains stable at 8.2 years (range two months to 64 years). Fifteen per cent of cases notified occurred in neonates and infants (≤ one year of age) while 56 per cent occurred in children over the age of five years and 25 per cent were in people aged 12 years or more.

INFLUENZA SURVEILLANCE

During August influenza activity continued to increase, maintaining higher levels than at the same time last year (Figure 10).

During the first half of August, seven PHUs in the NSW GP Sentinel Surveillance Network reported cases of influenza-like illness (ILI). The average weekly consultation rate for ILI peaked at 4.3 per cent in the first week of August. The reported rate for Northern Districts PHU decreased from a peak of 10 per cent in the first week to 5 per cent in the third week of August. Consultation rates from South East PHU also appear to have peaked from a high of 8 per cent in the first week to 6 per cent in the third week of August.

There is no clear upward trend in school absentee rates based on data from 19 of the 34 schools.

Laboratory reports of influenza cases continued at moderate levels in August.

Westmead ICPMR Virology has reported 35 influenza A virus isolates this year. Of those which have been fully identified, all have been of the A Guangdong/25/93 strain, a slight variant of the A Beijing/32/92 strain which is in the current vaccine. A moderate number of serological diagnoses has been reported so far this year, almost all being influenza A.

The Eastern Sydney Laboratory Surveillance Program reported 42 cases of influenza A and two cases of influenza B. Of the total, there were 24 isolations of influenza A and one of influenza B by viral culture, two diagnoses of influenza A based on fourfold or greater rises in titre, and 17 single high titres (16 of influenza, one of influenza B) in patients with a compatible clinical history.

FIGURE 10

INFLUENZA-LIKE ILLNESS NSW

(Source: NSW Sentinel GP Network)

DEATH DATA – INFECTIOUS DISEASES

A total of 143 infectious diseases notifications for 1992 was for deaths from infectious diseases (0.9 per cent of total notifications). For 1993, 55 notifications were for deaths (0.5 per cent of total notifications). Slight improvements in the recording of death in the Infectious Diseases Surveillance System (IDSS) have been noted in 1992 over 1991. During 1993 there was a decrease from 15 per cent to 12 per cent of notifications coded for death.

TABLE 5

DEATHS FROM INFECTIOUS DISEASES, JULY 1991-JUNE 1992: COMPARISON OF AUSTRALIAN BUREAU OF STATISTICS (ABS) AND INFECTIOUS DISEASES SURVEILLANCE SYSTEM (IDSS) DATA

Condition	ABS	IDSS
AIDS	308	51
Arboviral infection	–	1
Gastroenteritis	15	1
H Influenzae type B infection	*	8
Hepatitis (unspecified)	25	–
Hepatitis A	2	–
Hepatitis B	14	3
Hepatitis C	–	7
Hydatid disease	2	–
Legionnaires' disease	4	10
Listeriosis	1	–
Measles	1	–
Meningococcal infection	14	2
Mycobacterial – atypical	1	10
Mycobacterial tuberculosis	89	19
Salmonella infection	–	1

* 15 death notifications were received for Gram negative septicaemia, including *Haemophilus influenzae* type b infection.

The table highlights the non-concordance between the two data sources for mortality from notifiable infectious diseases in NSW. The discrepancies for specific conditions highlight differences in these collections:

- AIDS: Australian Bureau of Statistics (ABS) data would be the more accurate source of information; IDSS receives notifications for AIDS at the time of diagnosis of an AIDS-defining condition; death is poorly recorded on IDSS.
- Gastroenteritis: As gastroenteritis is an acute condition, it would be expected to be notified and recorded in IDSS. ABS coding may embrace non-notifiable conditions, or diarrhoea as a prodrome to death, but not of an infectious nature (e.g. carcinomatogis, toxic causes).
- *Haemophilus influenzae* type b: No specific code is used by ABS to identify deaths from this organism.
- Measles: differences between IDSS and ABS may be due to the long period between infection and death for some complications of measles; notifications are recorded for the year of disease onset.
- Meningococcal infection: the discrepancy between ABS and IDSS for this condition may highlight a residual of under-reporting by medical practitioners. Since November 1991, Hospital Chief Executive Officers and laboratories have been responsible for the notification of these conditions.
- Tuberculosis: as with other chronic conditions, ABS will be recording a mix of current and past disease; a minority of death certificates for TB will be as a primary cause of death; IDSS more accurately reports deaths from TB.

TABLE 6

INFECTIOUS DISEASE NOTIFICATIONS FOR 1994 FOR NOTIFICATIONS RECEIVED BY AUGUST 31, 1994 BY SELECTED MONTH OF ONSET

Condition	May	Jun	Jul	Aug	Total
Adverse event after immunisation	2	3	1	1	7
AIDS	12	13	18	7	50
Arboviral infection	66	35	6	2	109
Foodborne illness (NOS)	16	10	3	1	30
Gastroenteritis (instit.)	18	26	41	24	109
Gonorrhoea	21	21	28	15	85
H influenzae epiglottitis	4	4	–	–	8
H influenzae infection (NOS)	1	1	–	–	2
H influenzae meningitis	1	4	–	2	7
H influenzae septicaemia	1	2	1	1	5
Hepatitis A – acute viral	36	46	35	18	135
Hepatitis B – acute viral	13	6	5	1	25
Hepatitis B – chronic/carrier	54	46	35	10	145
Hepatitis B – unspecified	346	279	281	101	1,007
Hepatitis C – acute viral	1	–	2	4	7
Hepatitis C – unspecified	703	762	587	261	2,313
Hepatitis D – unspecified	–	2	1	–	3
Hepatitis E – acute viral	1	–	–	–	1
Hepatitis, acute viral (NOS)	–	–	1	–	1
HIV infection	40	27	35	31	133
Hydatid disease	1	3	2	–	6
Legionnaires' disease	4	8	9	1	22
Leprosy	1	1	–	–	2
Leptospirosis	2	1	–	2	5
Listeriosis	–	–	–	1	1
Malaria	11	20	11	9	51
Measles	21	16	35	24	96
Meningococcal infection (NOS)	1	2	2	2	7
Meningococcal meningitis	3	7	6	14	30
Meningococcal septicaemia	4	3	5	3	15
Mumps	–	1	–	–	1
Mycobacterial atypical	37	20	4	2	63
Mycobacterial infection (NOS)	14	8	11	1	34
Mycobacterial tuberculosis	19	20	5	4	48
Pertussis	143	68	73	42	326
Q fever	27	20	14	4	65
Rubella	5	–	1	1	7
Salmonella (NOS)	53	48	35	15	151
Salmonella bovis morbificans	1	–	1	–	2
Salmonella typhimurium	27	21	17	3	68
Syphilis	74	72	61	36	243
Tetanus	1	–	–	–	1
Typhoid and paratyphoid	–	2	4	1	7
Total	1,785	1,628	1,376	644	5,433

TABLE 7

SUMMARY OF NSW INFECTIOUS DISEASE NOTIFICATIONS AUGUST 1994

Condition	Number of cases notified			
	Period		Cumulative	
	Aug 1993	Aug 1994	Aug 1993	Aug 1994
Adverse reaction	2	1	14	23
AIDS	28	7	250	199
Arboviral infection	9	2	604	340
Brucellosis	1	–	3	–
Cholera	–	–	–	–
Diphtheria	–	–	–	–
Foodborne illness (NOS)	7	1	89	123
Gastroenteritis (instit.)	9	24	284	179
Gonorrhoea	32	15	246	213
H influenzae epiglottitis	4	–	30	18
H influenzae B – meningitis	7	2	47	12
H influenzae B – septicaemia	3	1	20	10
H influenzae infection (NOS)	–	–	10	8
Hepatitis A	38	18	421	337
Hepatitis B	378	112	2,559	2,517
Hepatitis C	637	265	4,002	4,917
Hepatitis D	1	–	8	8
Hepatitis, acute viral (NOS)	1	–	6	4
HIV infection	46	31	392	297
Hydatid disease	–	–	1	9
Legionnaires' disease	3	1	47	44
Leprosy	1	–	2	2
Leptospirosis	1	2	11	12
Listeriosis	–	1	6	5
Malaria	21	9	130	134
Measles	176	24	583	370
Meningococcal meningitis	13	14	41	49
Meningococcal septicaemia	8	3	27	20
Meningococcal infection (NOS)	1	2	8	9
Mumps	1	–	2	2
Mycobacterial tuberculosis	34	4	285	173
Mycobacterial – atypical	17	2	256	232
Mycobacterial infection (NOS)	6	1	27	53
Pertussis	130	42	471	840
Plague	–	–	–	–
Poliomyelitis	–	–	–	–
Q fever	42	4	276	161
Rubella	82	1	354	31
Salmonella infection (NOS)	59	18	687	713
Syphilis	78	36	500	610
Tetanus	1	–	5	2
Typhoid and paratyphoid	1	1	19	20
Typhus	–	–	–	–
Viral haemorrhagic fevers	–	–	–	–
Yellow fever	–	–	–	–

Abbreviations used in this Bulletin:
CSA Central Sydney Health Area, SSA Southern Sydney Health Area, ESA Eastern Sydney Health Area, SWS South Western Sydney Health Area, WSA Western Sydney Health Area, WEN Wentworth Health Area, NSA Northern Sydney Health Area, CCA Central Coast Health Area, ILL Illawarra Health Area, HUN Hunter Health Area, NC North Coast Public Health Unit, ND Northern District Public Health Unit, WNSW Western New South Wales Public Health Unit, CW Central West Public Health Unit, SW South West Public Health Unit, SE South East Public Health Unit, OTH Interstate/Overseas, U/K Unknown, NOS Not Otherwise Stated.

Please note that the data contained in this Bulletin are provisional and subject to change because of late reports or changes in case classification. Data are tabulated where possible by area of residence and by the disease onset date and not simply the date of notification or receipt of such notification.

TABLE 8

**INFECTIOUS DISEASE NOTIFICATIONS FOR 1994
FOR NOTIFICATIONS RECEIVED BY AUGUST 31, 1994
BY PUBLIC HEALTH UNIT**

Condition	CSA	SSA	ESA	SWS	WSA	WEN	NSA	CCA	ILL	HUN	NC	ND	WD	CW	SW	SE	U/K	Total
Adverse event after immunisation	–	–	1	2	5	3	–	1	–	–	2	1	–	–	3	5	–	23
AIDS	27	11	65	9	30	17	14	2	7	1	13	2	–	1	–	–	–	199
Arboviral infection	–	3	3	–	–	–	10	3	5	36	190	55	21	3	9	2	–	340
Foodborne illness (NOS)	1	10	7	24	14	8	5	13	1	3	24	–	3	7	2	1	–	123
Gastroenteritis (instit)	63	2	–	10	42	19	1	1	–	1	10	–	–	30	–	–	–	179
Gonorrhoea	21	14	85	7	11	1	8	3	5	6	4	16	19	3	6	4	–	213
H. influenzae epiglottitis	1	2	1	2	1	2	2	3	2	–	2	–	–	–	–	–	–	18
H. influenzae meningitis	1	–	–	4	2	–	1	–	–	–	1	–	1	2	–	–	–	12
H. influenzae septicaemia	–	–	–	1	1	–	2	1	–	1	2	–	1	–	–	1	–	10
H. influenzae infection (NOS)	–	–	–	–	1	–	1	3	1	–	1	–	–	–	1	–	–	8
Hepatitis A – acute viral	18	13	35	37	24	6	24	3	5	16	35	40	5	16	59	1	–	337
Hepatitis B – acute viral	4	2	23	3	3	–	–	–	1	–	8	2	3	1	–	3	–	53
Hepatitis B – chronic/carrier	–	–	191	1	98	5	12	12	–	19	17	9	4	5	–	2	–	375
Hepatitis B – unspecified	261	285	78	679	289	18	301	14	39	43	35	9	5	4	24	5	–	2,089
Hepatitis C – acute viral	–	–	–	–	–	–	1	–	–	–	–	–	4	–	–	4	–	9
Hepatitis C – unspecified	459	275	916	515	458	98	470	150	209	308	575	99	34	90	131	121	–	4,908
Hepatitis D – unspecified	–	2	2	–	–	–	1	–	–	–	3	–	–	–	–	–	–	8
Hepatitis E – acute viral	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Hepatitis, acute viral (NOS)	–	–	2	–	–	–	–	–	–	1	–	–	–	–	–	–	–	3
HIV infection	46	16	114	16	12	4	15	5	3	6	5	–	–	–	2	1	52	297
Hydatid disease	1	2	2	–	–	–	–	–	1	1	–	–	1	1	–	–	–	9
Legionnaires' disease	3	2	1	7	11	1	9	–	3	5	–	–	–	2	–	–	–	44
Leprosy	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	2
Leptospirosis	1	–	–	–	–	–	–	–	–	3	5	2	–	–	1	–	–	12
Listeriosis	–	–	2	–	–	–	–	–	1	1	–	–	1	–	–	–	–	5
Malaria	12	8	14	9	10	3	34	2	6	6	9	8	–	2	4	7	–	134
Measles	28	13	14	26	34	29	19	3	12	30	84	35	24	12	1	6	–	370
Meningococcal meningitis	3	7	2	7	4	2	4	3	2	5	3	1	2	1	1	2	–	49
Meningococcal septicaemia	–	3	–	5	2	–	4	1	–	3	2	–	–	–	–	–	–	20
Meningococcal infection (NOS)	–	1	–	1	2	–	–	–	–	–	–	4	1	–	–	–	–	9
Mumps	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	2
Mycobacterial atypical	39	12	64	20	8	11	31	6	1	24	11	2	–	1	2	–	–	232
Mycobacterial tuberculosis	22	27	18	30	26	2	19	1	7	8	4	3	2	1	3	–	–	173
Mycobacterial infection (NOS)	7	3	3	4	3	1	20	1	–	1	4	1	2	–	3	–	–	53
Pertussis	17	59	50	52	90	31	41	13	36	43	340	17	19	15	5	12	–	840
Q fever	2	1	–	1	1	1	–	1	–	20	22	47	46	15	4	–	–	161
Rubella	–	–	2	–	9	1	5	1	–	–	4	5	1	–	3	–	–	31
Salmonella (NOS)	19	35	29	43	35	20	43	15	9	28	60	30	21	11	19	5	–	422
Salmonella bovis morbificans	–	1	1	1	1	2	2	–	1	2	–	–	–	–	–	–	–	11
Salmonella typhimurium	20	22	13	10	51	14	36	13	17	19	12	10	9	10	22	2	–	280
Syphilis	84	35	168	85	38	4	42	10	7	3	28	30	64	6	4	2	–	610
Tetanus	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	1	–	2
Typhoid and paratyphoid	4	2	2	2	3	1	–	–	–	–	1	3	–	–	–	2	–	20

TABLE 9

**SELECTED INFECTIOUS DISEASE NOTIFICATIONS FOR 1994
FOR NOTIFICATIONS RECEIVED BY AUGUST 31, 1994
BY PUBLIC HEALTH UNIT**

Condition	CSA	SSA	ESA	SWS	WSA	WEN	NSA	CCA	ILL	HUN	NC	ND	WD	CW	SW	SE	Total
Adverse event after immunisation	–	–	1	2	5	3	–	1	–	–	2	1	–	–	3	5	23
H. influenzae epiglottitis	1	2	1	2	1	2	2	3	2	–	2	–	–	–	–	–	18
H. influenzae meningitis	1	–	–	4	2	–	1	–	–	–	1	–	1	2	–	–	12
H. influenzae septicaemia	–	–	–	1	1	–	2	1	–	1	2	–	1	–	–	1	10
H. influenzae infection (NOS)	–	–	–	–	1	–	1	3	1	–	1	–	–	–	1	–	8
Measles	28	13	14	26	34	29	19	3	12	30	84	35	24	12	1	6	370
Mumps	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	2
Pertussis	17	59	50	52	90	31	41	13	36	43	340	17	19	15	5	12	840
Rubella	–	–	2	–	9	1	5	1	–	–	4	5	1	–	3	–	31
Tetanus	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	1	2

TABLE 10

**FOODBORNE INFECTIOUS DISEASE NOTIFICATIONS FOR 1994
FOR NOTIFICATIONS RECEIVED BY AUGUST 31, 1994
BY PUBLIC HEALTH UNIT**

Condition	CSA	SSA	ESA	SWS	WSA	WEN	NSA	CCA	ILL	HUN	NC	ND	WD	CW	SW	SE	Total
Foodborne illness (NOS)	1	10	7	24	14	8	5	13	1	3	24	–	3	7	2	1	123
Gastroenteritis (instit.)	63	2	–	10	42	19	1	1	–	1	10	–	–	30	–	–	179
Hepatitis A – acute viral	18	13	35	37	24	6	24	3	5	16	35	40	5	16	59	1	337
Listeriosis	–	–	2	–	–	–	–	–	1	1	–	–	1	–	–	–	5
Salmonella (NOS)	19	35	29	43	35	20	43	15	9	28	60	30	21	11	19	5	422
Salmonella bovis morbificans	–	1	1	1	1	2	2	–	1	2	–	–	–	–	–	–	11
Salmonella typhimurium	20	22	13	10	51	14	36	13	17	19	12	10	9	10	22	2	280
Typhoid and paratyphoid	4	2	2	2	3	1	–	–	–	–	1	3	–	–	–	2	20

TABLE 11

**SURVEILLANCE OF NON-NOTIFIABLE SEXUALLY TRANSMITTED DISEASES
JANUARY-AUGUST 1994
(Diagnoses from sexual health centres unless otherwise stated in footnote)**

* First diagnosis; 1. 01/01/94-30/04/94; 2. 01/01/94-31/01/94; 3. 01/01/94-31/07/94; 4. 01/01/94-31/03/94; 5. 01/01/94-31/08/94; 6. 01/01/94-31/05/94; 7. No SHC in Region; 8. Laboratory and SHC data 01/01/94-31/08/94; 9. No data yet received for 1994.

AHS Infection		CSA[1]	SSA[2]	ESA[3]	SWS[4]	WSA[4] + WEN	NSA[5]	CCA[5]	ILL[5]	HUN[6]	NC[3]	ND[3]	WNSW[8]	CW[7]	SW[8]	SE[9]	Total
Chlamydia trachomatis	Male	1	–	30	2	6	2	1	4	8	–	5	6	–	3	–	68
	Female	1	–	40	5	7	1	1	4	12	1	17	17	–	8	–	114
	Total	**2**	**–**	**70**	**7**	**13**	**3**	**2**	**8**	**20**	**1**	**22**	**23**	**–**	**11**	**–**	**182**
Donovanosis	Male	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	Female	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	Total	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
*Genital herpes	Male	3	1	173	3	12	8	12	–	13	7	2	1	–	5	–	240
	Female	4	3	100	5	9	6	11	4	14	6	12	4	–	7	–	185
	Total	**7**	**4**	**273**	**8**	**21**	**14**	**23**	**4**	**27**	**13**	**14**	**5**	**–**	**12**	**–**	**425**
*Genital warts	Male	11	6	479	69	74	18	33	36	64	30	4	6	–	8	–	838
	Female	8	6	193	32	37	18	18	13	24	9	16	13	–	10	–	397
	Total	**19**	**12**	**672**	**101**	**111**	**36**	**51**	**49**	**88**	**39**	**20**	**19**	**–**	**18**	**–**	**1,235**
Nongonococcal urethritis	Male	3	1	350	23	55	13	27	10	35	12	6	7	–	4	–	546
	Female	–	–	–	–	3	2	–	–	–	–	–	2	–	2	–	9
	Total	**3**	**1**	**350**	**23**	**58**	**15**	**27**	**10**	**35**	**12**	**6**	**9**	**–**	**6**	**–**	**555**
Lymphogranuloma venereum	Male	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	Female	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	Total	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**

PUBLIC HEALTH EDITORIAL STAFF

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The Bulletin aims to provide its readers with population health data and information to motivate effective public health action. Articles, news and comments should be 1,000 words or less in length and include a summary of the key points to be made in the first paragraph.

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