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THE NSW MIDWIVES' DATA COLLECTION 1990

The NSW Midwives' Data Collection (MDC), previously known as the Maternal and Perinatal Data Collection, is a Statewide surveillance program which monitors patterns of pregnancy care services and pregnancy outcomes. For every birth in NSW the attending midwife completes a form (or its electronic equivalent) giving demographic, medical and obstetric information on the mother, and information on the labour, delivery and condition of the infant. The forms are sent to the Epidemiology and Health Services Evaluation Branch, where they are checked and compiled into a database.

The MDC has existed for several years, and reports on births in 1986 and 1987 have been published[1,2]. MDC staff have concentrated on improving the timeliness of reporting, and this article presents preliminary results for births in the first six months of 1990. The 1990 MDC was streamlined considerably compared with that of previous years and a new, simplified data collection form was issued. While this omits some of the detail obtained in the past, it includes for the first time items on epidural anaesthesia and episiotomy.

In the past the MDC relied on the goodwill and enthusiasm of midwives and hospital administrators, whose cooperation in complying with notification procedures has been excellent. Under a Regulation of the Public Health Act passed in November 1991, births must now be notified, and all the particulars required on the Midwives' Data Collection form must be supplied. While this does not alter the long-established practice of midwives and hospitals, it provides a statutory basis for the surveillance of pregnancy outcomes.

SCOPE AND DEFINITIONS

The Collection records information on *births* of liveborn or stillborn infants of at least 20 weeks' gestation or having a birthweight of at least 400 grams. Information is also available on *confinements*. A confinement is the delivery of one or more liveborn or stillborn infants. The delivery of twins counts as two births but one confinement.

PARITY AND PLURALITY

For the period January 1 to June 30, 1990, the Collection recorded a total of 42,969 births resulting from 42,631 confinements. Of the births, 97.7 per cent were singletons and 1.7 per cent twins. Thirty-nine per cent of the births were to primiparae (women giving birth for the first time), while 61 per cent were to multiparae (women giving birth for the second or subsequent time).

OBSTETRIC INTERVENTIONS

The proportion of births following an induced labour was lower in January-June 1990 (17.9 per cent) than 1987 (20.1 per cent). However, as Table 1 shows, the reported incidence of augmentation increased (23.4 per cent in 1990, compared with 17.4 per cent in 1987). These changes may be

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explained partly by a change in the design of the data-collection items for augmentation and induction, with improved clarity in the new form.

The proportions of births by caesarean section and forceps delivery were slightly lower in January-June 1990 than 1987 (Table 2). Use of the ventouse and forceps rotation delivery were recorded for the first time as separate categories in 1990. Of the 5,565 births by forceps, 761 (1.8 per cent of all births, January-June 1990) followed forceps rotation deliveries.

Episiotomies were reported as having been done for a total of 6,699 births (15.6 per cent). This figure is unexpectedly low, and probably reflects under-reporting. Episiotomies were reported in 23.8 per cent of births to primiparae and in 10.3 per cent of births to multiparae.

Epidural anaesthesia was reported for 7,602 births (17.7 per cent). Anecdotal evidence again suggests under-reporting is a possibility. In Level 6 hospitals the proportion of births with epidurals was 31.8 per cent, while in private hospitals it was 24.9 per cent. The proportions of births under epidural anaesthesia varied according to the type of delivery as follows:

Normal vaginal delivery	8.5 per cent
Forceps	42.4
Forceps rotation	62.9
Ventouse	22.7
Vaginal breech	17.4
Elective caesarean section	34.9
Emergency caesarean section	36.2
Delivery type not recorded	7.8

PERINATAL OUTCOMES

There were 22,073 births of male infants (51.4 per cent) and 20,614 females (48.0 per cent). Seventeen infants were of indeterminate sex, and sex was not recorded for 265 (0.6 per cent).

The distribution of birthweights for infants born in January-June 1990 was almost identical to that for infants born in 1987 (Table 3).

A total of 255 stillbirths and 154 neonatal deaths was notified to the MDC. Based on this, the perinatal death rate for NSW during January-June 1990 would be 9.5/1,000 total births. However, the Midwives' Collection is known to underestimate perinatal mortality, especially neonatal mortality, because the form is usually completed very soon after delivery. Definitive perinatal mortality rates depend on linkage with perinatal death registration data.

MATERNAL AGE

Compared with 1987, the proportions of births to women in their 20s were slightly decreased, while those to women in their 30s were slightly increased (Table 4).

HEALTH AREA/REGION OF RESIDENCE

Nearly one-quarter of all the births were to women resident in the Western Sydney and South-Western Sydney Health Areas, about 18 per cent were to women resident in the Hunter, Central Coast and Illawarra Areas, while 26 per cent were to women living in the rural Regions (Table 5).

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TABLE 1

ONSET AND AUGMENTATION OF LABOUR
ALL BIRTHS NOTIFIED TO THE NSW MDC,
1987 AND JANUARY-JUNE 1990

Labour	Number of births (Jan-June 1990)	Per cent (Jan-June 1990)	Per cent (1987) n = 82,126
Spontaneous	20,980	48.8	54.4
Augmented	10,030	23.4	17.4
Induced (pharmacological)	1,140	2.7	2.3
Induced (surgical)	592	1.4	2.0
Induced (combined)	5,928	13.8	15.8
No labour	3,886	9.0	8.1
Other	306	0.7	0.0
Not recorded	107	0.3	0.0
Total	42,969	100	100

TABLE 2

TYPE OF DELIVERY
ALL BIRTHS NOTIFIED TO THE NSW MDC,
1987 AND JANUARY-JUNE 1990

Delivery	Number of births (Jan-June 1990)	Per cent (Jan-June 1990)	Per cent (1987) n = 82,126
Normal vaginal	29,311	68.2	67.7
Forceps	5,565	13.0	13.9
Ventouse	572	1.3	N/A*
Vaginal breech	631	1.5	1.4
Caesarean (elective)	3,561	8.3	8.1
Caesarean (emergency)	3,047	7.1	7.8
Other/unknown	282	0.7	1.1

*Not recorded as a separate category in 1987.

TABLE 3

BIRTHWEIGHT
ALL BIRTHS NOTIFIED TO THE NSW MDC,
1987 AND JANUARY-JUNE 1990

Birthweight (grams)	Number of births (Jan-June 1990)	Per cent (Jan-June 1990)	Per cent (1987) n = 83,098*
<400	49	0.1	0.1
400-999	202	0.5	0.5
1,000-1,499	218	0.5	0.5
1,500-1,999	473	1.1	1.1
2,000-2,499	1,596	3.7	3.6
2,500-4,499	39,528	92.1	92.5
4,500+	719	1.7	1.6
Not recorded	184	0.4	0.1

*Variation in the total is due to different ways of handling missing data.

TABLE 4

MATERNAL AGE
ALL BIRTHS NOTIFIED TO THE NSW MDC,
1987 AND JANUARY-JUNE 1990

Age (years)	Number of births (Jan-June 1990)	Per cent (Jan-June 1990)	Per cent (1987) n = 82,126
<15	18	0.0	0.0
15-19	2,385	5.6	5.6
20-24	8,742	20.3	22.8
25-29	15,388	35.8	38.3
30-34	11,026	25.7	24.2
35-39	3,861	9.0	7.8
40-44	554	1.3	1.2
45+	27	0.1	0.0
Not recorded	968	2.3	0.0

NOTIFICATIONS STUDY REVEALS DISCREPANCIES

The Public Health Unit (PHU) of the Hunter Area Health Service receives information about notifiable infectious diseases from three groups of health service providers. These health professionals are in private practice (general practitioners and specialists), in hospitals and in laboratories. It is generally believed that, despite the legal requirements, such notifications represent only a small fraction of the real incidence of infectious diseases in the community. It was therefore considered important to carry out an audit of infectious diseases in a defined area such as the Hunter.

It was decided to carry out a study to identify any discrepancy between the number of notifications received by the PHU for specific infectious diseases and the number actually diagnosed, together with possible explanations for such discrepancies. The study would also try to identify possible impediments to optimal notification of infectious diseases under the new Public Health Act 1991.

METHODS

Definition of diseases

Specific diseases of interest for this investigation were selected from those notifiable by laboratories or by the Chief Executive Officer (CEO) of a hospital under the Public Health Act 1991. This group of diseases was chosen to explore potential barriers to notification under the new Act, even though hospital CEOs or laboratories were not required to notify any diseases during the period of the study. A comparison of certain diseases notifiable under the old and new Public Health Acts can be seen in Table 7.

TABLE 7

COMPARISON OF SOME DISEASES NOTIFIABLE UNDER THE OLD AND NEW PUBLIC HEALTH ACTS

PUBLIC HEALTH ACT 1902	PUBLIC HEALTH ACT 1991	
Doctor-notifiable	Hospital CEO-notifiable	Laboratory-notifiable
	H. influenza B (epiglottitis, meningitis, septicaemia)	H. influenza B (blood, CSF)
Hydatid disease	Hydatid disease	
Legionnaires disease	Legionnaires disease	Legionella species
Meningococcal infections	Meningococcal disease (meningitis, septicaemia)	Meningococcal disease (blood, CSF)
Q fever		Q fever

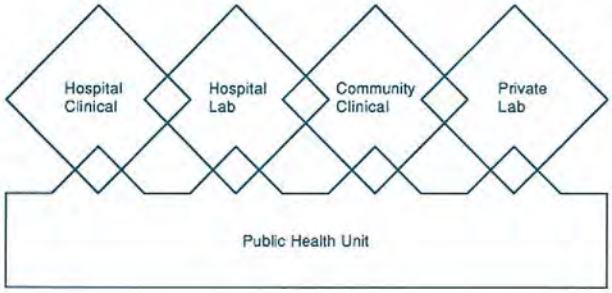
The data were defined by cases of epiglottitis, septicaemia or meningitis caused by *Haemophilus influenza*, of hydatid disease, of infection caused by *Legionella* species, of septicaemia or meningitis caused by *Neisseria meningitidis* and of Q fever which occurred between January 1 and December 31, 1990. Measles was specifically excluded, since the 1990 outbreak in the Hunter was associated with intensive efforts by PHU staff members to obtain measles notifications from doctors, so the year 1990 could not be regarded as typical.

Definition of the study sample

The scarcity of resources made it necessary to define the study sample as all the inpatients at the Royal Newcastle Hospital (RNH) or the Mater Misericordiae Hospital (MMH) between January 1 and December 31, 1990.

FIGURE 1

SCHEMATIC ILLUSTRATION OF THE SYSTEM OF INFECTIOUS DISEASES NOTIFICATION



The RNH and the MMH, representing the "Hospital Clinical" source of notifications (Figure 1) were, in 1990, the Area's tertiary level hospitals for adults and children respectively, and both allowed access to computerised inpatient records. It was anticipated that cases of infectious diseases diagnosed in the hospitals would represent a substantial proportion of all cases for the whole area. In contrast, notifications to the PHU were assumed to represent all formal notifications for the area because the PHUs throughout NSW have a system of automatic transfer of notifications to the PHU of the case's residential address.

RESULTS

The results are shown in Table 8.

TABLE 8

NUMBER OF CASES OF DEFINED NOTIFIABLE DISEASES DIAGNOSED AND REPORTED TO THE PHU BY TWO HOSPITALS AND ASSOCIATED DATA

	A	B	C	D
DISEASE	TOTAL NOTIFIED TO PHU FROM ALL SOURCES	TOTAL DIAGNOSED BY MMH AND RNH	TOTAL NOTIFIED TO PHU BY MMH AND RNH	% NOTIFIED TO PHU BY MMH AND RNH
H. influenza	3	12	–	–
Hydatid disease	–	1	–	–
Legionella sp.	2	–	–	not relevant
N. Meningitidis	10	10	7	70
Q Fever	2	2	1	50
TOTAL	17	25	8	

It may be noted that the frequencies of diagnosed cases in columns B and C for each given disease should be identical, leading to 100 per cent values in column D. *H. influenza* was not a notifiable disease in 1990. The frequencies in column A represent the total number of notifications received by the PHU for cases anywhere in the catchment area. They serve as comparison estimates for remaining frequencies. It can be seen that the selected conditions were poorly notified in 1990.

A search of computer records from the RNH and the MMH revealed no cases of *Legionella* infection. However the two cases received by the PHU were traced and reviewed. One diagnosis was made in an RNH outpatient who was

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Study reveals discrepancies

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recovering from legionnaires disease contracted in Bali, and the other was an inpatient in the RNH whose diagnosis of *Legionella* was incorrectly coded in the medical records.

These results fulfilled the first research aim. It was clear that discrepancies occurred between the number of cases diagnosed and the number reported to the PHU.

Discussion

When a patient first presents to any health service provider with a disease which has been defined as notifiable, a number of events must occur before the case is added to PHU data files. First, the disease must be correctly diagnosed and recorded on the patient's medical record, whether on computer file or card file. Second, the disease must be recognised as notifiable and clearly identified as such in the record. This identification should enable a list of notifiable cases to be compiled without error, by a medical records clerk, for example. Third, information on the case must be communicated to the PHU. These three events constitute an essential chain in the notification of infectious diseases.

Chain of notification under the old Public Health Act

The first event in the notification chain relates to correct diagnosis and recording. Under the old Act the responsibility for notification rested solely with clinicians. However, if laboratory confirmation of a disease was delayed, or proved negative as a result of previous antibiotic therapy, then the clinician would not be able to make a definitive diagnosis. Furthermore, if the final diagnosis is made before the final laboratory reports are filed in the records, inconsistencies can occur. In a review of the 75 MMH records classified as "unspecified septicaemia" during 1990, it was found that on 29 occasions a pathological organism was recovered from blood cultures.

The second event in the notification chain was that the diagnosing doctor had to know that the disease was notifiable. It is difficult to estimate the extent to which visiting medical officers were aware of their legal requirements.

The third event was the notification to the PHU. In a separate audit of all paediatric CSF laboratory specimens received at the MMH in 1990, four cases of *Neisseria meningitidis* were confirmed, but only two were transmitted to the PHU by the attending paediatrician. On one occasion a paediatrician notified the PHU of one patient, but overlooked another with the same disease. In the hospital setting it is likely that unclear lines of responsibility and communication contributed to the failure to notify. It will be useful to compare 1992 data with that of 1990, since the new Public Health Act sets out much clearer lines of responsibility and communication.

Chain of notification under the new Act

The first essential event in the notification chain was the accurate diagnosis of an infectious disease. During examination of RNH records, three cases of clinical epiglottitis, diagnosed on fibreoptic endoscopy, were discovered. These cases were not included in the data of Table 1, since blood cultures were negative in each case, and therefore they did not fit the criteria of disease. *Haemophilus influenza* occurs in up to 100 per cent of children with clinical epiglottitis, although it is one of a few organisms which can cause disease in adults. It can be hypothesised that the three cases may have received antibiotics before blood testing, thus resulting in negative cultures. If the diagnosis of epiglottitis is based on blood cultures alone, it is possible that an epidemic of *H. influenza* epiglottitis could be missed entirely. The requirement of the new Act for hospital CEOs to notify on clinical suspicion may avert this problem.

The second event in the chain refers to the recognition of the disease as notifiable. In hospitals the person making the diagnosis may not necessarily be the notifier, and therefore diagnosis must be accompanied by some clear identifier which can uniquely indicate the notifiable status of the disease. In the hospital system, diagnoses are coded using the ninth revision of the International Classification of Diseases (ICD-9). This code could then be used as an identifier. For example *N. meningitidis* meningitis is uniquely defined under rubric 036.0 and coded as such in hospital medical records. However, two of the infectious diseases of interest in this pilot study cannot be so easily identified under this taxonomy.

The first "problem" disease is legionella pneumonia, which does not appear under such title in ICD-9. An examination of the ICD-9 index shows the disease should be included under rubric 482.8 with the descriptor "Other specified bacteria". This code also includes pneumonia due to *E. coli* and proteus. Thus legionella pneumonia cannot be identified uniquely from the numerical code.

The second disease is *H. influenza* epiglottitis. The only ICD-9 code associated with epiglottitis is 464.3 with the descriptor "Acute epiglottitis — viral epiglottitis". There is no code for bacterial epiglottits. Each of the hospitals in our study adopts different practices in coding epiglottitis[2]. At the RNH, a diagnosis of epiglottitis is included in the code 464.3 (viral epiglottitis), regardless of the fact that epiglottitis is almost always bacterial in origin. Staff of the MMH have been instructed to include epiglottitis under the code 464.0 (Acute laryngitis, and includes laryngitis due to pneumococcus, septic laryngitis and laryngitis not otherwise specified) if the adjective "viral" is not evident. These two policies generated ambiguity and the potential for incorrect coding.

Assuming errorless diagnosis and a unique, easily understood system of identifying relevant diseases as notifiable, the third event in the chain — the task of communicating the appropriate information to the PHU — still has to be carried out under the new Public Health Act. Responsibility for this task must be clearly stated and delegated to relevant staff.

Potential barriers to notification under the new Act

The new Public Health Act requires prescribed infectious diseases to be notified to the PHU by doctors on clinical suspicion, by hospital CEOs (or delegates) on clinical suspicion and by laboratories on confirmation. Similar problems might arise in all three settings, although some potential barriers occur in only one context.

First, the notifiers must be aware of their legal responsibilities. Considerable effort has been made to inform relevant medical personnel of such responsibilities by the Infectious Diseases Section of the Health Department's Epidemiology and Health Services Evaluation Branch[3]. The section is distributing individual "user-friendly" information packages to all relevant health service personnel in the State and is promoting general media publicity.

Second, there must be a clear channel of communication to the PHU. A recommended pathway was described in an earlier *Public Health Bulletin*[4] and will be reinforced in the information packages.

Third, a mechanism must be developed to deal with conflicting diagnoses. The new Act requires notification by doctors and hospital CEOs on clinical suspicion. Subsequent laboratory evidence in some cases may be contradictory.

Fourth, there is the problem where laboratory tests are not developed or sensitive enough to make a diagnosis. Hepatitis E is notifiable by laboratories under the new Act, but there is no adequate diagnostic test.

CONCLUSIONS

It would seem appropriate to inform the Committee of Revision for the ICD about the coding problems. Until ICD-10 or subsequent taxonomy clarifies the coding for some infectious diseases, it would also seem appropriate to require diagnosticians in the hospital system to flag a disease which is notifiable by some simple device of the kind suggested.

It is also time that medical records in all hospital and laboratory facilities were computerised, if only in the name of accountability by audit. It would be inordinately expensive to carry out an audit if searches were hand-made.

The impediments to effective disease notification discussed here relate only to cases from the source "Hospital Clinical" shown in Figure 1. Further barriers may be encountered in cases from the other three sources. Elucidation of these barriers could be achieved by extending this study to include all souces of diagnoses.

RECOMMENDATIONS

It is recommended that:

- a report be made to representatives of the Committee of Revision for the ICD, relating to specific coding problems;
- a clear and uniform plan be established for the identification and transmission of infectious diseases to the PHU in each hospital in NSW;
- all patient records in Health Department facilities be computerised in a uniform manner; and
- all pathology records pertaining to notifiable diseases be maintained on computer and regularly examined by PHU staff. Such a scheme has been recently development in the Hunter Area Pathology Service.

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1. Burns JE, Hendley JO. Epiglottitis. In Mandell GL, Douglas RG, Bennett JE (eds). *Principles and practice of infectious diseases.* Churchill Livingstone, New York, 1990.
2. Personal communication, staff of the RNH and the MMH.
3. Personal communication, C. Roberts and S. Jobson.
4. Roberts C, Rubin G, Levy M. Improving infectious diseases control. *Public Health Bulletin* 1991; 2(a); 86-92.

Midwives' Data Collection

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TABLE 5

MOTHER'S HEALTH AREA/REGION OF RESIDENCE
ALL BIRTHS NOTIFIED TO THE NSW MDC,
JANUARY-JUNE 1990

Area/Region	Number of births	Per cent
Central Sydney	2,092	4.9
Northern Sydney	3,859	9.0
Southern Sydney	3,437	8.0
Eastern Sydney	1,994	4.6
Western Sydney	4,656	10.8
Wentworth	2,249	5.2
Sth-Western Sydney	5,679	13.2
Central Coast	1,807	4.2
Hunter	3,438	8.0
Illawarra	2,546	5.9
North Coast	2,693	6.3
New England	1,736	4.0
South-East	1,416	3.3
South-West	1,667	3.9
Central West	1,326	3.1
Orana Far West	1,264	2.9
Outside NSW	1,110	2.6

TABLE 6

MOTHER'S COUNTRY OF BIRTH
ALL BIRTHS NOTIFIED TO THE NSW MDC,
1987 AND JANUARY-JUNE 1990

Country of birth	Number of births (Jan-June 1990)	Per cent (Jan-June 1990)	Per cent (1987) n = 82,126
Australia (non-Aboriginal)	31,053	73.0	73.0
Australia (Aboriginal)	513	1.2	1.6
New Zealand/Oceania	1,435	3.4	3.1
Europe	3,309	7.8	9.5
Asia	2,822	6.7	5.5
Middle East	1,624	3.8	3.9
America	488	1.2	1.2
Africa	347	0.8	0.9
Not stated	790	1.9	1.3

MATERNAL COUNTRY OF BIRTH

Births to women born in Europe declined in January-June 1990 compared with 1987, while births to women born in Asia increased. Births to Aboriginal women also appeared to fall, although there may have been under-reporting of Aboriginality (Table 6).

Public Health Unit directors receive data, when processed and checked, on all births to residents of the Health Areas or Regions which they serve. These data, which do not contain any personal identification items, enable PHUs to investigate pregnancy outcomes and associated factors on a local basis. Requests for Area/Regional and local information on pregnancy outcomes should be directed to PHUs in the first instance.

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1. Kearney M et al. NSW Maternal and Perinatal Collection Half-Yearly Report January-June 1986. NSW Health Department, Sydney, 1989.
2. Kearney M et al. 1987 Maternal and Perinatal Report. NSW Health Department, Sydney, 1990.

INFANT MORTALITY AND SIDS IN NSW 1969-1987

The infant mortality rate is a cardinal indicator of population health. This article describes trends in infant mortality in NSW from 1969 to 1987, and examines the apparently changing contribution of sudden infant death syndrome. The leading causes of infant death are, in order, deaths due to perinatal conditions, sudden infant death syndrome (SIDS) and birth defects. SIDS accounts for about half of postneonatal deaths[1].

Infancy is defined as the period from birth to the end of the first year of life, and includes the neonatal period. Australia's infant mortality does not compare favourably with other equally developed countries. In 1986 Japan, Singapore and most European countries had lower infant mortality rates than Australia, which ranked 18th[2]. In 1984 the infant mortality rates in Australia, New Zealand and Japan were 9.2, 11.6 and 5.5/1,000 live births respectively. Sudden infant death syndrome was the major component in the differences in infant mortality. The mortality rate for SIDS in 1984 was 2.2/1,000 live births in Australia; 4.3/1,000 in New Zealand; and 0.1/1,000 in Japan[2].

NSW mortality data are complete for 1969 to 1987 by year of death. During this period deaths were classified by the eighth (1969-1978) and ninth (1979 onwards) revisions of the International Classification of Diseases (ICD). The ICD classifications considered here did not change between the two revisions unless otherwise stated.

TRENDS IN CAUSES OF INFANT DEATH

The infant mortality rate for NSW has more than halved over the 20-year period, from 19.6 deaths/1,000 live births in 1969, to 8.9/1,000 in 1987 (see Figure 2). There was a 42 per cent decline from 1970 to 1979, with a continuing, but smaller decline from 1980 to 1987 (13 per cent).

Deaths due to **perinatal causes** or conditions (ICD-8, ICD-9 760-779) fell by 68 per cent from 1969 to 1987. Most of this decrease occurred in the 1970s. Conditions originating in the perinatal period include those where the death may occur later. This category includes maternal causes of perinatal mortality, disorders relating to gestation, birthweight, maturity, infections, respiratory disease and conditions of other body systems. Infections specific to the perinatal period were classified among perinatal conditions from 1979 (after the introduction of ICD-9). The highest death rate due to perinatal causes was 11.7/1,000 live births in 1970, falling to a low of 3.4/1,000 in 1986.

The **birth defect** (ICD-8, ICD-9 740-759) mortality rate fell gradually between 1969 and 1987. The rate decreased from 3.7 deaths due to birth defects/1,000 live births in 1969, to a low of 2.0/1,000 in 1986.

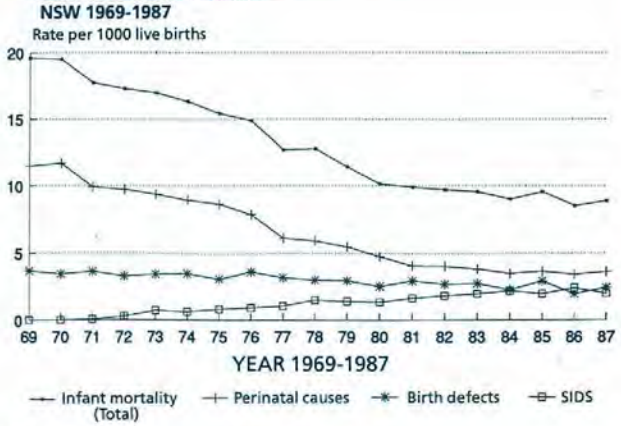
The definition of **SIDS**, proposed in 1969 in Seattle at the Second International Conference on the Causes of Sudden Death in Infants, is the sudden death of an infant which is unexpected by history and where there is no cause of death found at autopsy. SIDS first appeared as a diagnosis in the ninth revision of the International Classification of Diseases, which came into use in Australia in 1979 (ICD-9 798.0). Before this, some infant deaths may have been categorised as sudden death (ICD-8 795). The increase in sudden deaths of infants or SIDS since 1969 may be attributed partly to the gradual acceptance and increasing use of the term SIDS as a cause of death.

Suffocation (ICD-8, ICD-9 E911-913) includes mechanical suffocation from accidental inhalation or ingestion of food or foreign objects, as well as accidental mechanical suffocation (in cradle, enclosed space, plastic bags).

Suffocation is now an infrequent cause of death (see Figure 3), and was possibly used as a diagnostic label in the past when no obvious cause of death could be found. The reduction in the apparent frequency of suffocation is probably attributable to the use of SIDS as a diagnostic label.

FIGURE 2

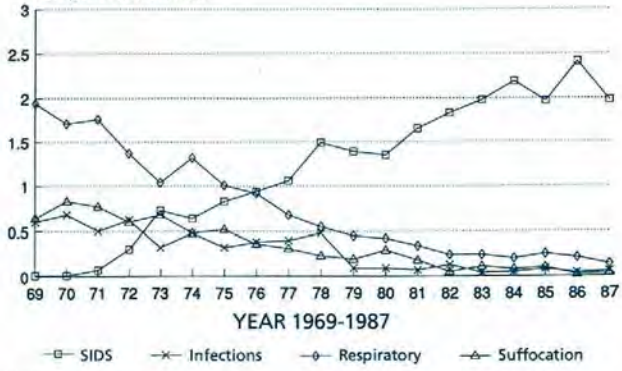
INFANT MORTALITY RATES NSW 1969-1987



Data source: ABS

FIGURE 3

INFANT MORTALITY RATES BY REPORTED CAUSE NSW 1969-1987



Data source: ABS

Infections refers to the ICD grouping of infectious and parasitic diseases (ICD-8 1-136, ICD-9 1-139) and does not include organ-specific infections such as pneumonia or meningitis. It is of interest to note the sudden reduction in the rate of deaths apparently due to infections in 1979, coinciding with the introduction of ICD-9. This probably is a result of the diagnostic grouping "infections specific to the perinatal period" having been transferred from the rubric "infections" to the rubric "perinatal conditions". There may also have been some diagnostic transfer from infections to SIDS.

Respiratory diseases (ICD-8, ICD-9 460-519) include acute respiratory infections, pneumonia, influenza, chronic disease and other conditions of the respiratory system. Over the period 1969-87, the reported infant mortality rate from respiratory diseases decreased to the same extent as that from SIDS increased.

In summary, infant mortality is gradually declining in NSW. The major components of infant mortality — deaths due to perinatal causes and birth defects — are also decreasing. Deaths attributed to SIDS are increasing at a slow rate in NSW. This is of some concern when other countries have lower infant mortality rates than Australia, primarily because of lower SIDS rates.

Diagnostic transfer or real increase in SIDS?

Unexpected infant deaths did occur before 1969, but (as suggested above) the lack of a formal SIDS rubric in the ICD before 1979 resulted in a number of alternative diagnoses being used. Mild or moderate respiratory tract infection is a frequent autopsy finding in cases of unexpected infant death and, although

not of sufficient magnitude to cause death, may have been assigned as the cause of death when SIDS was not available. Accidental suffocation and, to a lesser extent, non-specific infections may have been used as diagnoses before the introduction of SIDS. The apparent increase in the occurrence of sudden deaths of infants in the 1970s reflects these changes in diagnostic practice.

The difficulty lies in determining if and when the process of diagnostic substitution ceased to occur, and whether there has been a true increase in the occurrence of SIDS. This is complicated by the nature of SIDS — a diagnosis of exclusion — that is dependent on the skill and experience of the examining pathologist. The latter would vary across NSW. These factors make any retrospective judgment on the true occurrence of SIDS susceptible to error.

In England there was a consistent rise in unexpected infant deaths from 1979 to 1987. At the 19th International Congress of Paediatrics in Paris in 1989 it was reported that the incidence of SIDS was rising in Sweden, Finland, New Zealand and parts of the United Kingdom. The increased occurrence of SIDS in Sweden and New Zealand is regarded as a real increase[4]. If the true occurrence of SIDS is increasing in NSW, there will be considerable pressure for further research and development of programs to prevent it.

The first task in NSW is to ensure a consistent diagnosis of SIDS across the State, together with timely infant mortality data. This will provide reliable data on the incidence of SIDS to identify trends, and monitor any preventive programs.

Any attempt to prevent deaths due to SIDS requires some understanding of SIDS and how these deaths occur. Our present knowledge of the epidemiology of SIDS has identified several risk factors or associations for SIDS, but any causal factor(s) or sequence of events remain elusive. Even without knowing the precise causes or mechanisms resulting in the sudden and unexpected death of an infant, it is possible to take action to reduce the frequency of the factors associated with SIDS. Careful evaluation of prevention programs is necessary to identify any subsequent changes in SIDS mortality and determine which programs are effective.

EDITORIAL NOTE

A strong association has recently been demonstrated between the occurrence of SIDS and the prone sleeping position. Associations with smoking and non-breast-feeding have also been reported. In several parts of the world the SIDS incidence appears to have declined in parallel with promotional campaigns which focus on sleeping position, non-smoking and breast feeding. The NSW Health Department now recommends that infants be placed to sleep or on their sides or supine, unless medical advice is given to the contrary or the baby will only settle in a prone position. The SIDS incidence is being monitored.

Peter Lewis, Public Health Officer,
Epidemiology and Health Services Evaluation Branch

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1. ABS. Causes of Death, New South Wales, 1989 (Cat No 3302.1). AGPS, Sydney, 1991.
2. Australian Institute of Health (1988). Australia's health 1988: the first biennial report of the Australian Institute of Health. AGPS, Canberra.
3. Newman NM. Sudden Infant Death Syndrome in Tasmania, 1975-1981. *Aust Paediatr J* 1986; suppl. 17-19.
4. Mitchell EA. International trends in postneonatal mortality. *Arch Dis Child* 1990; 65(6):607-9.

Acknowledgements
The staff of the Western Sector Public Health Unit and Michael Frommer, Deputy Director, Epidemiology and Health Services Evaluation Branch, for his comments and suggestions.

NEWS AND COMMENT

HYPERTENSION MANAGEMENT IN GENERAL PRACTICE

A comprehensive reference for diagnosing, assessing, investigating and managing hypertensive patients will be distributed to 4,000 GPs in NSW in March. This project is being supported by the Royal Australian College of General Practitioners and the NSW Better Health Program.

Hypertension is a detectable and treatable problem in Australia. As part of a strategy to address and control the problem a manual, called *Hypertension — Diagnosis, Treatment and Management*, has been produced for general practitioners.

The manual was produced after survey results from South Australia indicated the need for a comprehensive, integrated approach to the control of hypertension.[1] An expert committee comprising general practitioners, specialists and behavioural scientists, was responsible for developing the manual. It was then produced by the Research Unit, South Australian Faculty, Royal Australian College of General Practitioners.

The manual has been endorsed by a number of recognised professional bodies and individuals in NSW, including the National Heart Foundation; the Australian Medical Association; Dr Sue Morey, Chief Health Officer, NSW Health Department; and the High Blood Pressure Research Council.

A directory of community resources useful for patients with hypertension is included in the package. There is also a list of agencies to which GPs can refer patients for advice and information on weight management, nutrition and smoking cessation. Charts for monitoring hypertensive patients, which can be incorporated into patients' records, are included. It is expected the manual will assist GPs to continue their important role in preventive care.

Copies of the manual have been printed by Sandoz Australia. It will be distributed with the March issue of *Patient Management*. For information about further copies of the manual contact Kate Lamb, NSW Health Department, phone (02) 391 9585.

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1. Hypertension Guidelines Committee, Introduction to *Hypertension — Diagnosis, Treatment and Maintenance*, Sandoz 1991.

INDEX OF PUBLIC HEALTH BULLETIN

SUBJECT	ARTICLE	MONTH/YEAR	VOLUME	AUTHOR/S
Aboriginal	Records to make Aboriginality count	March 1991	2	Judith E. Jones David Lyle Liz Williams
AIDS	Improving AIDS surveillance	October 1991	2	Mark Bek Virginia Furner Julian Gold
Anthrax	Human cutaneous anthrax — a case report	June 1991	2	Bin Jalaludin Elizabeth Sullivan
Asthma	Asthma strategy needed	October 1990	1	Stephen Leeder Wayne Smith
Asthma	Asthma and air pollution in Sydney	August 1991	2	Tim Churches Stephen Corbett
Breast cancer	Bid to reduce breast cancer deaths	May 1991	2	Elaine Henry
Cancer registry	Counting on Cancer Registry	June 1991	2	Richard Taylor
Environment	Nitrates in bore water: cause of health problems in a family?	November 1991	2	Helen Moore Stephen Corbett
Environment	Blue-green algae hit Lake Cargelligo	November 1991	2	Peter Christopher Peter Davis Ian Falconer Lee Bowling John Dyson
Flood	Nyngan flood lesson	August 1990	1	Jeremy McAnulty George Rubin
Food poisoning	Oyster related food poisoning	June 1990	1	Edward Kraa
Gastrointestinal disease	Apparent outbreak of gastrointestinal disease	December 1991	2	Glenn Close Michael Levy
General Practice	Sentinel General Practices	December 1990	1	David Jeffs Rob McMahon
Health indicators	NSW health indicators	December 1990	1	Judith E. Jones
Health indicators	Current health indicators	February 1991	2	Marilyn Rob
Heart disease	Heart disease screening	November 1990	1	Denise Adams
Hepatitis A	Dramatic increase in hepatitis A	August 1991	2	Marie-Louise Stokes Wendy Manning
Hepatitis B	Does intradermal hepatitis B vaccine work	October 1991	2	Peter Christopher Anne Richards John Williams Jack Buist Gail Osborne
Hepatitis B	Study of hepatitis B in school children	December 1990	1	Margaret Burgess
Hepatitis C	Hepatitis C — progress at last	November 1990	1	Yvonne Cossart
HIV	HIV testing in methadone patients	December 1990	1	Judith E. Jones George Rubin Danny O'Connor
HIV	Improved tracking for HIV	June 1990	1	Gavin Stewart George Rubin Matthew Blackmore
Immunisation	Immunisation — benefits outweigh risks	May 1991	2	Sue Jobson Michael Levy
Infant deaths	Apparent clusters of unexplained infant deaths	August 1991	2	Peter Lewis Michael Frommer Christine Roberts Pamela Adelson Margrette Young
Infections	Reducing fatal childhood infections	June 1991	2	Peter McIntyre
Infectious disease	Improving infectious diseases control	September 1991	2	Christine Roberts George Rubin Michael Levy
Influenza	Influenza monitoring	June 1990	1	PW Gill Michael Levy AL Cunningham
Influenza	Sentinel monitoring of influenza	August 1990	1	Wendy Manning Michael Levy

PUBLISHED ARTICLES 1990-1991

SUBJECT	ARTICLE	MONTH/YEAR	VOLUME	AUTHOR/S
Listeriosis	Listeriosis in western Sydney	December 1991	2	Wayne Smith
Measles	Catching a measles outbreak	July 1991	2	Lee Taylor
Meningitis	Bacterial meningitis makes a comeback	February 1991	2	Michael Levy Wendy Manning George Rubin
Mental Health	Mental health strategy	November 1990	1	Christina Terpaj
Mortality rates	Trends in mortality rates	November 1990	1	SC Fung Marilyn Rob David Lyle George Rubin
Mortality trends	Mortality trends	August 1990	1	Gary Eckstein
Poison	Tackling childhood lead poisoning	October 1991	2	Judy Galvin John Stephenson Stephen Corbett
Poison	Unintentional poisoning in the west	March 1991	2	Bin Jalaludin
Public health	Improved public health	May 1990	1	George Rubin Stephen Leeder
Public health	On the right track	January 1991	2	George Rubin Michael Frommer Sue Morey
Public health	Setting a new agenda	February 1991	2	Michael Ward Lesley King George Rubin Gavin Stewart
Public health	Move to fairer resource allocation	April 1991	2	Richard Gilbert Christine Bennett
Public health	Training conference emphasises communication	June 1991	2	Stephen Leeder
Public health	Communicating what we do	July 1991	2	Donald Holt
Public health	Opportunities in the United States	July 1991	2	Jeremy McAnulty
Public health	Training for a healthier future	August 1991	2	George Rubin Michael Frommer Mark Bek Susan Furber Peter Lewis
Public health	Homelessness: a health issue	October 1991	2	Ian Webster
Public health	Keeping the elderly covered	October 1991	2	John Brown Greg Stewart Mark Harris Margaret Coghlan
Public health	Firearm injuries in NSW	November 1991	2	David Lyle Shing Chung Fung Judith E. Jones Peter Lewis Jane Elkington Victor Carey
Public health	Quality versus quantity	November 1991	2	Jane Hall
Public health	Directions for the decade	December 1991	2	Meryl Edwards
Public health	Are co-payments a public health issue?	December 1991	2	Jane Hall
Rabies	Long incubation for rabies	May 1991	2	Anthony L. Cunningham Harvey Westbury
Rabies	Immunisation against rabies	August 1990	1	Michael Levy Michael Frommer
Scarlet fever	Investigating a reported scarlet fever outbreak	November 1991	2	Victoria Westley-Wise
Toxic	Keeping tabs on toxic substances	March 1991	2	David Fox
Travel	Reducing travel risks	April 1991	2	Clem Boughton
Travel	Travel vaccination headaches	December 1991	2	Elizabeth Sullivan
Typhoid	Investigation of a typhoid notification	August 1991	2	David Pakchung Donald Holt
Vibrio	Vibrio warning	June 1990	1	Jeremy McAnulty

PLEASE NOTE: INFECTIOUS DISEASES SECTION HAS MADE CONTRIBUTIONS TO ALL THE BULLETINS TO DATE
PROFESSOR JIM LAWSON CONTRIBUTES PUBLIC HEALTH ABSTRACTS IN MOST ISSUES TO DATE

INFECTIOUS DISEASES

1991 NOTIFICATIONS

The provisional notifications for 1991 are presented. The notifications relate to a period of transition from the list of notifiable diseases under the Public Health Act 1902 to that of the 1991 Act. A total of 10,535 notifications was received in 1990. Of these 4,892 related to notifiable diseases in the new list of scheduled conditions. Provisionally, 11,014 notifications relating to the new list were received in 1991 — an increase of 125 per cent.

Laboratory surveillance and an improved readiness of hospitals and doctors to notify infectious diseases to Public Health Units have played an important role in achieving more representative surveillance data.

Public Health Unit staff are to be congratulated for eliciting notifications and responding effectively to this increasing number of notifications.

HIV-2

The first case of HIV-2 has been identified in Australia. The case occurred in a long-term overseas visitor to NSW.

HIV-2, which was first identified in West Africa in 1985, is a variant of the human immunodeficiency virus. Its modes of transmission and clinical manifestations are similar to those of HIV-1. As with HIV-1, infection with HIV-2 leads to impairment of the human immune system.

The risk factors for infection are the same for both viruses. HIV-2 occurs predominantly in West African countries, where much of its spread has been through heterosexual contact. Cases have been described from Europe and the United States, where it has occurred in visiting West Africans or people who have travelled to West Africa.

In NSW the Blood Transfusion Service is evaluating a combination HIV-1/HIV-2 screening kit. As an interim measure the NSW BTS will introduce HIV-2 screening in the Sydney and Parramatta Blood Banks from early March. In the US, routine screening for HIV-2 by blood transfusion services is not carried out, but if a donor is West African or has visited West Africa, the blood is tested for HIV-2.[1]

1. Fang CT, Williams AE, Holland JH, Rios MC, Blanco C. Surveillance of HIV-2 infection in blood donors — United States, 1987-89. MMWR 1990; 39:829-831.

TETANUS

A late notification of a case of tetanus prompted the initiation of active surveillance of tetanus through Intensive Care Units. A further two cases of tetanus were notified as a result.

During 1991 only three of six tetanus cases (50 per cent) were notified through the passive surveillance system.

The following reasons for non-notification were given:

- Notification (if made) was not received by the Public Health Unit. No record of the notification could be found by the hospital.
- Uncertainty about who, within the hospital, was responsible for notification.
- No confirmatory laboratory specimens taken.
- Two of the cases predated the Public Health Act 1991. At the time of the cases doctors, but not hospital Chief Executive Officers (CEOs), were responsible for notification of tetanus. Under the current Act, **both** doctors and CEOs have this responsibility.
- Two of the cases occurred while there were staff change-overs or staff absences.

The following measures for the prevention of tetanus are recommended.

Medical practitioners should review the immunisation status of each patient under their care.

- Persons who have not received a tetanus toxoid booster in the past 10 years should receive a single dose of diphtheria-tetanus toxoid.
- Persons who have never received a primary course of tetanus toxoid should commence it immediately. There is no upper age limit to commence the course.
- An ideal time to review tetanus immunisation is at the consultation for influenza vaccination. Tetanus toxoid can be given at the same time as influenza vaccine (but at a different site).

Members of the public should consult their medical practitioner if:

- They have never received tetanus immunisation or
- They have not received a tetanus booster in the past 10 years.

HUMAN IMMUNODEFICIENCY VIRUS INFECTION

A reclassification of exposure categories for HIV infected females has taken place since the September issue of the Public Health Bulletin.

Transmission by female to female sexual contact is extremely unlikely to occur. Where more likely exposures are also given, the case is classified under that exposure. Thus females recording "homosexual/bisexual" exposure are now classified as "heterosexual" exposure, and those specifying "homosexual/bisexual and injecting drug use" are classified as "heterosexual and injecting drug use".

TABLE 9

NSW HIV POSITIVE TESTS EXCLUDING PREVIOUS POSITIVES TO JANUARY 31, 1992
TABLE OF RISK BY GENDER

Risk Frequency	Gender F	M	Oth/u*	Total
Drug injecter	41	147	15	203
Haemophilia	0	61	0	61
Heterosexual	69	121	4	194
Heterosexual + IDU	16	17	2	35
Homo/bisexual + IDU	–	74	4	78
Homo/bisexual	–	3876	139	4015
Homosexual + trans	–	2	0	2
Other	0	3	0	3
Specified NEC	10	34	18	62
Transfusion	37	45	1	83
Transfusion + IDU	1	1	1	3
Unknown	233	3679	1826	5738
Vertical	7	8	4	19
Total	414	8068	2014	10496

*Oth/u: Other/unknown
Please note that AIDS, HIV & TB not drawn from IDDS

TABLE 10

NSW HIV POSITIVE TESTS EXCLUDING PREVIOUS POSITIVES TO JANUARY 31, 1992
TABLE OF AGE GROUP BY GENDER

Age Group Frequency	Gender F	M	Oth/u*	Total
01 (less than)	5	20	1	26
01-04	2	1	1	4
05-14	3	32	1	36
15-24	76	1064	35	1175
25-34	118	2684	101	2903
35-44	48	1818	63	1929
45-54	17	561	14	592
55-64	15	138	3	156
65 & over	8	36	0	44
ERROR	1	3	0	4
MISSING	121	1711	1795	3627
Total	414	8068	2014	10496

*Oth/u: Other/unknown
Please note that AIDS, HIV & TB not drawn from IDDS
1. Note — the category Other/unknown includes four people who are transsexual.

LEPROSY

Leprosy continues to be a condition rarely notified in NSW. No definite trend in notifications can be identified between 1982 and 1990.

Four Area Health Services received leprosy notifications, with Central Sydney registering the highest rate of 0.6 cases per 100,000 population. All notifications related to people over the age of 30.

With the cessation of the NHMRC Leprosy Register in 1990, no further risk data are collected on NSW cases.

Because of the possibility of leprosy cases being treated by dermatologists outside hospital clinics, leprosy has remained a doctor-notifiable condition under the Public Health Act 1991. All medical practitioners identified as leprologists have been informed of their obligations to notify all cases of leprosy.

LEPTOSPIROSIS

Leptospirosis notifications reflect the distribution of dairy cattle herds in NSW, being highest in the New England, North Coast, South West and South East Area Health Services.

No definite trends can be ascertained from notifications received between 1982 and 1990. Notifications vary markedly from month to month, with peaks in February, May and September-October.

Notifications are predominantly from males, peaking in the 30-39 age group.

Although no vaccine is licensed for humans, protection of agricultural workers is possible by immunising herds. The Department of Agriculture and Fisheries and Public Health Units have been encouraged to support this activity through a Leptospirosis Awareness Campaign.

Leptospirosis is laboratory-notifiable under the Public Health Act 1991.

Q FEVER

Q fever is notified predominantly from four Regions — Central West, New England, Orana & Far West and the North Coast. Central West records an annual notification rate of 25 per 100,000 population.

TABLE 11

INFECTIOUS DISEASE NOTIFICATIONS, NSW JANUARY 1992

Condition	Number of cases notified Period		Cumulative	
	Jan 1991	Jan 1992	Jan 1991	Jan 1992
Adverse reaction	N/A	1	N/A	1
AIDS	22	—	22	—
Arboviral infection	68	2	68	2
Brucellosis	—	—	—	—
Cholera	—	—	—	—
Diphtheria	—	—	—	—
Foodborne illness (NOS)	342	21	342	21
Gastroenteritis (instit.)	2	—	2	—
Gonorrhoea	62	9	62	9
H influenzae epiglottitis	—	—	—	—
H influenzae B — meningitis	—	3	—	3
H influenzae B — septicaemia	1	—	1	—
H influenzae infection (NOS)	4	2	4	2
Hepatitis, acute viral — A	7	32	7	32
Hepatitis, acute viral — B	3	9	3	9
Hepatitis B — carrier	2	4	2	4
Hepatitis B — unspecified	80	52	80	52
Hepatitis, acute viral — C	9	36	9	36
Hepatitis, acute viral (NOS)	13	2	13	2
HIV infection	76	22	76	22
Hydatid disease	—	—	—	—
Legionnaires' disease	6	2	6	2
Leprosy	—	—	—	—
Leptospirosis	6	1	6	1
Listeriosis	2	—	2	—
Malaria	5	—	5	—
Measles	20	19	20	19
Meningococcal meningitis	3	—	3	—
Meningococcal septicaemia	3	2	3	2
Meningococcal infection (NOS)	—	1	—	1
Mumps	N/A	2	N/A	2
Mycobacterial tuberculosis	12	8	12	8
Mycobacterial — atypical	1	—	1	—
Mycobacterial infection (NOS)	19	1	19	1
Pertussis	14	2	14	2
Plague	—	—	—	—
Poliomyelitis	—	—	—	—
Q fever	8	—	8	—
Rubella	3	—	3	—
Salmonella infection (NOS)	171	47	171	47
Syphilis	37	7	37	7
Tetanus	1	—	1	—
Typhoid & paratyphoid	4	1	4	1
Typhus	—	—	—	—
Viral haemorrhagic fevers	—	—	—	—
Yellow fever	—	—	—	—

Notifications troughed in 1985, peaked in 1988 and in 1989 and 1990 returned to 1982 and 1987 levels. Notifications were received throughout the year with a peak in July.

As with other occupationally acquired diseases, Q fever is predominantly a male disease, peaking in the 20-29 age group.

Limited supplies of Q fever vaccine have been made available for a limited immunisation program being coordinated through Regional Public Health Units and Chest Clinics.

Q fever is notifiable by laboratories under the Public Health Act 1991.

HYDATID DISEASE

Only two cases of hydatid disease were notified in 1990. During the period 1982-1990 notifications never exceeded eight a year (1985 and 1987).

Hydatid disease is notifiable by hospital Chief Executive Officers.

TABLE 12

INFECTIOUS DISEASE NOTIFICATIONS BY HEALTH AREA AND REGION 1991 Data*

CONDITION	CSA	SSA	ESA	SWS	WSA	WEN	NSA	CCA	ILL	HUN	NCR	NER	OFR	CWR	SWR	SER	OTH	U/K	TOTAL
Adverse event after immunisation	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1	–	–	2
AIDS	50	16	126	8	19	16	28	8	5	12	12	–	1	2	8	–	–	10	314
Arboviral infection	5	–	8	–	1	–	5	–	1	8	34	214	234	6	36	5	7	–	564
Brucellosis	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2
Foodborne illness (NOS)	234	399	649	175	314	184	1	39	22	101	328	151	171	25	121	2	17	–	2933
Gastroenteritis (instit)	–	–	–	5	12	6	4	2	2	82	1	10	8	7	–	–	–	–	139
Gonorrhoea	52	18	148	35	29	1	14	1	13	7	18	9	62	5	8	2	2	–	424
H. influenzae epiglottitis	1	3	–	4	4	1	5	–	2	1	–	–	–	1	–	3	–	–	25
H. influenzae meningitis	2	4	–	11	3	1	14	–	2	11	1	2	3	5	2	3	–	–	64
H. influenzae septicaemia	–	2	–	1	–	1	3	–	–	2	–	–	1	–	1	–	–	–	11
H. influenzae infection (NOS)	13	20	17	5	14	11	1	5	11	3	1	2	7	2	10	3	–	–	125
Hepatitis, acute viral — A	172	57	564	37	45	9	187	18	7	24	22	19	16	4	4	16	1	–	1202
Hepatitis, acute viral — B	18	4	–	–	–	–	–	–	–	–	–	–	1	–	–	2	–	–	25
Hepatitis B — Unspecified	168	109	89	222	203	23	127	2	16	62	56	44	72	8	5	38	4	–	1248
Hepatitis, acute viral — C	136	71	2	37	68	31	86	16	13	83	72	26	9	10	4	3	2	–	669
Hepatitis, acute viral (NOS)	–	–	–	5	191	11	1	2	8	2	1	2	25	–	10	8	–	–	266
HIV infection	68	18	187	19	29	16	40	6	3	17	17	1	2	5	1	2	10	344	785
Hydatid disease	3	1	1	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	7
Legionnaires' disease	–	–	–	6	7	3	5	–	–	2	2	–	–	–	1	–	1	–	27
Leptospirosis	1	–	–	–	–	–	–	–	–	9	6	5	4	–	5	1	3	–	34
Listeriosis	2	2	1	–	–	–	2	–	1	1	–	–	–	–	–	–	–	–	9
Malaria	7	8	11	5	14	3	55	3	5	12	3	4	2	–	5	5	1	–	143
Measles	85	14	13	20	31	7	39	11	17	115	27	4	15	2	2	17	–	–	419
Meningococcal meningitis	4	5	–	11	2	–	2	1	1	10	4	4	2	2	1	2	–	–	51
Meningococcal septicaemia	1	2	–	–	2	–	–	1	1	1	4	2	–	2	1	1	–	–	18
Meningococcal infection (NOS)	–	1	6	3	3	1	4	4	9	–	3	7	2	1	2	1	–	–	47
Mumps	–	–	–	–	4	–	1	–	–	–	–	–	–	–	1	–	–	–	6
Mycobacterial atypical	50	52	46	16	9	8	41	3	8	27	5	5	5	1	4	2	–	–	282
Mycobacterial tuberculosis	41	36	30	72	31	15	32	8	17	18	6	3	2	4	4	2	–	–	321
Pertussis	–	2	6	4	12	2	1	–	–	2	3	2	10	1	3	1	–	–	49
Q fever	–	1	–	1	1	–	–	–	–	7	34	59	99	4	3	1	–	–	210
Rubella	1	4	13	–	11	4	11	1	1	6	3	1	–	–	2	2	–	–	60
Salmonella infection (NOS)	88	144	91	143	169	79	106	2	46	29	90	69	74	25	29	16	18	–	1219
Syphilis	55	27	57	65	51	10	38	1	7	18	89	25	163	9	15	1	4	–	635
Tetanus	–	–	–	–	–	–	–	–	–	1	–	1	–	–	1	3	–	–	6
Typhoid & paratyphoid	10	10	18	–	4	–	3	–	1	3	–	5	–	–	–	–	1	–	55

*Preliminary data as at January 31, 1992

TABLE 13

INFECTIOUS DISEASE NOTIFICATIONS BY HEALTH AREA AND REGION January 1992

CONDITION	CSA	SSA	ESA	SWS	WSA	WEN	NSA	CCA	HUN	NCR	NER	OFR	CWR	SWR	SER	U/K	TOTAL
Adverse event after immunisation	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1
Arboviral infection	–	–	–	–	–	–	–	–	1	–	–	–	–	1	–	–	2
Foodborne illness (NOS)	–	–	6	–	9	–	–	4	2	–	–	–	–	–	–	–	21
Gonorrhoea	–	–	7	1	–	–	–	–	–	–	–	1	–	–	–	–	9
H. influenzae meningitis	–	1	–	–	–	–	–	–	1	–	–	–	–	1	–	–	3
H. influenzae infection (NOS)	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1	–	2
Hepatitis, acute viral — A	9	1	8	2	1	–	6	–	2	–	3	–	–	–	–	–	32
Hepatitis, acute viral — B	1	1	–	–	–	–	5	–	–	–	–	2	–	–	–	–	9
Hepatitis B — Chronic/Carrier	–	–	–	–	1	1	–	–	–	–	1	1	–	–	–	–	4
Hepatitis B — Unspecified	11	1	1	21	5	1	10	–	1	–	–	–	1	–	–	–	52
Hepatitis, acute viral — C	10	1	1	4	4	–	3	–	4	8	1	–	–	–	–	–	36
Hepatitis, acute viral (NOS)	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	2
HIV infection	–	–	8	–	2	–	–	–	–	–	–	–	–	–	1	1	22
Legionnaires' disease	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1	–	2
Leptospirosis	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1
Malaria	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	1
Measles	2	1	–	4	–	1	1	1	2	4	1	–	–	–	2	–	19
Meningococcal septicaemia	–	–	–	1	–	–	–	–	–	–	–	–	–	1	–	–	2
Meningococcal infection (NOS)	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1
Mumps	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	2
Mycobacterial tuberculosis	–	–	1	2	3	–	1	1	–	–	–	–	–	–	–	–	8
Mycobacterial infection (NOS)	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	1
Pertussis	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	2
Salmonella infection (NOS)	2	4	7	4	5	2	6	–	–	1	6	5	3	1	1	–	47
Syphilis	–	–	2	4	–	–	–	–	–	–	–	1	–	–	–	–	7
Typhoid & paratyphoid	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	1

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, NCR North Coast Health Region, NER New England Health Region, OFR Orana & Far West Health Region, CWR Central West Health Region, SWR South West Health Region, SER South East Health Region, 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.