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CENSUS OF SCHOOL ENTRY IMMUNISATION CERTIFICATES, EASTERN SYDNEY, 1994

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This article reports on a census of immunisation status among kindergarten children attending Eastern Sydney schools using verified records in the form of the immunisation certificates presented by parents under the provision of the Public Health (Amendment) Act 1992.

The immunisation provisions of the Act, commonly known as the school entry legislation, came into force at the start of the 1994 school year. The legislation requires schools to collect the official immunisation certificate from every child enrolling in a kindergarten class. The certificate documents the child's immunisation status and is issued as complete only if the child has received every dose in the routine schedule up to and including the before-school diphtheria-tetanus booster. The certificates serve as reminders to parents of the need for their children to be fully immunised, as verified records of immunisation status and as a means of identifying children who might require urgent immunisation or exclusion during an outbreak of measles or other vaccine-preventable infection in the school.

Immunisation surveillance has been carried out in Eastern Sydney school kindergarten cohorts annually since 1989 as part of the health screening conducted by school health nurses[1,2]. The major disadvantage of this form of surveillance has been the reliance on parental report.

METHODS

A mailing list of primary schools in Eastern Sydney was compiled from information provided by the Department of School Education, Catholic Education Service and Independent Schools Association. A questionnaire, seeking information on the kindergarten enrolment, number of children providing certificates and whether the certificates were complete, incomplete or uninterpretable, was posted early in May 1994 to principals of all 73 primary schools identified. Non-responders were sent a second letter and questionnaire in June, and if the questionnaire was still not returned, the school was contacted by a school health nurse. Questionnaire data were entered onto an EpiInfo database for analysis.

RESULTS

Questionnaires, pertaining to 2,664 kindergarten children, were received from 69 schools. Of these, 36 were government schools with 1,482 children, 19 were Catholic schools with 624 children and 14 were independent schools with 558 kindergarten children. Overall, 80.9 per cent of children had provided an immunisation certificate. Not unexpectedly, schools responding to the questionnaire in July had achieved a higher certificate return rate (89.1 per cent) than schools responding in June (84.4 per cent) or May (77.8 per cent) ($P < 0.0001$). Of certificates received, 89.9 per cent were marked as complete, 9.6 per cent as incomplete and 1.1 per cent were uninterpretable. The worst case figure for complete immunisation in the 69 schools which returned the survey, assuming that all children who did not provide certificates were incompletely immunised, was 72.7 per cent.

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School entry immunisation

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Important differences were found when school type was examined (see Table 1). Certificate return rate was significantly lower in Catholic schools than government schools or independent schools (P< 0.0001). Complete immunisation was slightly, but not significantly, lower in government schools compared to Catholic schools but significantly lower than in independent schools (P<0.0001). There was great variability in the percentage of children with complete immunisation within each school type.

DISCUSSION

The census of school immunisation certificates described in this report represents a simple method of ascertaining verified immunisation status of kindergarten enrollees. It could be done annually as an indicator of childhood immunisation. As the census is carried out by mail, it provides an opportunity for the Public Health Unit to inform and educate primary schools about the Public Health (Amendment) Act 1992. Results of the survey could be fed back to the schools with an indication of their performance relative to other local schools, to provide an incentive for improved performance the following year.

The census, carried out in the first year of the legislation being in force, estimated that at best 89.9 per cent of the children enrolling in kindergarten had complete immunisation, with a worst case figure of 72.7 per cent. A Victorian survey based on mandatory immunisation certificates for children entering 19 primary schools found that 74 per cent of children (worst case figure) had complete certificates the second year after legislation was introduced and 89 per cent had complete certificates the following year[3].

The main limitation of our census was that it did not provide information on actual vaccine doses missed by children with incomplete certificates. This information could be ascertained by a telephone survey of a random sample of schools[4] or by adding a limited number of questions to the postal questionnaire used in the census.

The survey demonstrated significant differences in return rates and complete certificate rates between school types, with discrepant results for the two parameters. The differences are difficult to interpret because some schools responded later in the year than others, and these schools had higher return rates. This report does not analyse the potential confounding effects of this factor. In the light of previous research[1,2], it is suggested that discrepancies between return rate and complete immunisation rate may be partly explained by literacy and access to health care among families from non-English speaking backgrounds.

TABLE 1

RESULTS OF IMMUNISATION CERTIFICATES CENSUS BY SCHOOL TYPE

	School type			
	Govt	Cath	Indep	Total
Number of schools	36	19	14	69
Kindergarten enrolment	1,482	624	558	2,664
Certificates collected, %	81.6	71.0	90.0	80.9
Complete certificates, % *	87.4	89.4	96.4	89.9
Percentage range of complete certificates	61-100	22-100	68-100	22-100

* as percentage of certificates collected

The prevalence of non-English speaking families varies appreciably among the different school types in Eastern Sydney. Schools drawing children from communities with a high prevalence of non-English speaking families and less access to primary health care may have had a poor return rate but a better immunisation compliance among the self-selected population of children providing certificates. In contrast, schools in communities with high literacy rates but suboptimal access to primary health services had good return rates, but the certificates reflected suboptimal immunisation uptake. Schools used by families with both good literacy and good access to primary health care showed high return rates and high immunisation uptake.

The study has shown that annual immunisation surveillance of kindergarten enrollees through schools, using the provisions of the Public Health (Amendment) Act 1992, is a feasible method for obtaining indicator information on immunisation coverage. Because this method generates detailed small-area data, with each school representing its often unique local population, results of the surveillance can be used to target particular subgroups and improve immunisation coverage at the community level.

1. Ferson MJ, Christie D. Measles immunisation compliance: poor impact of bicentennial measles control campaigns on children under five. *Aust J Public Health* 1992; 16:31-34.
2. Ferson MJ, Fitzsimmons G, Christie D, Woollett H. School health nurse interventions to increase immunisation uptake in school entrants. *Public Health* 1995; 109:25-29.
3. Thompson SC, Cocotsi L, Goudey RE, Murphy A. An evaluation of school entry immunisation certificates in Victoria. *Aust J Public Health* 1994; 18:269-273.
4. Rixon G, Hort K, Liddle J. School entry certificate survey, Northern Sydney Area. *NSW Public Health Bulletin* 1994; 5:92.

EDITORIAL NOTE

In the last issue of the *NSW Public Health Bulletin*, Scholtz and Cavagnino[1] reported on the results of an investigation of an illness in 15 children. They suggested that the children's symptoms were the result of acute copper intoxication – induced by the consumption of drinking water containing elevated levels of copper. Following publication of the article, it was pointed out that the symptoms were likely to have been due to gastric irritation rather than systemic poisoning. Although soluble salts of copper are poisonous, systemic poisoning is likely to result only if larger quantities are ingested (e.g. gram quantities of copper sulphate). Gastrointestinal irritation can result from drinking carbonated water or citrus fruit juices which have been in contact with copper vessels or pipes[2]. The findings of Scholtz and Cavagnino accord with this.

1. Scholtz A and Cavagnino P. Investigation of suspected copper intoxication in children from drinking water. *NSW Public Health Bulletin* 1995; 6(1):1-3.
2. Parmeggiani L (ed). Encyclopaedia of Occupational Health and Safety, 3rd (revised) edition. Geneva: International Labour Office, 1993.

COMPUTERS IN CLINICAL PRACTICE

Terry Hannan, Consultant Physician, Miranda, NSW

This article is a brief introduction to the benefits of computers for patient care in clinical practice. The benefits derived from automation of the administrative components of medical practice are well documented and are not addressed in this article.

Modern health care is characterised by an extensive data/information overload which is a direct consequence of the technology supporting the delivery of health care. The number of new laboratory procedures continues to rise between 5 per cent and 10 per cent a year, resulting in additional data/information to be processed in decision-making. The limitations of the human mind to process large amounts of information without making errors are established and have been shown to occur in medical and non-medical environments. Airline pilots have been shown to make significant errors in decision-making when the information load is large or when 'random noise', i.e. unexpected data input, occurs. The use of computer technology to reduce these errors is a major reason that flying is such a safe activity[1]. In the clinical environment, individuals who make decisions about patient care can be confronted with up to 50,000 data items or more in the short time available. We often disguise our deficiencies in decision-making under the labels of 'clinical judgment', 'intuition', and 'experience'[2].

In family practice or ambulatory care, the information load is less than in hospitals but remains at a level where the limitations on information processing still occur. In these environments, data and information are described as being 'granular'. The data are often collected during patient encounters which are widely separated over time and the health care practitioner has no tools for integrating the disseminated data in a timely, reliable manner[3].

Consequences of the data/information overload in health care delivery are:

- increased costs of health care;
- inappropriate variation in health care;
- reduced quality of care;
- reduced improvement in patient outcomes;
- decreased compliance with the standards of care; and
- in some cases, negligent care[4,5,6].

The medical record remains the cornerstone for the communication of health care. Information in the current manual record is fragmented and often illegible, and there is often no standardisation for recording data. Data are poorly accessible and do not provide adequate feedback for decision support. In relation to medical record security, Robert Esterhay MD, from Bethesda, Maryland, recently stated that "the joke amongst hospital administrators was the inpatient chart was the most secure information system in existence, because not even the house staff and attending physicians knew where to find all the information on a particular patient"[7].

Despite the limitations of the current medical record we continue to use it to manage our patients, often not recognising its incapacity to act as an effective tool for supporting health care.

TABLE 2

CLINICAL TASKS GENERATING COMPUTER REMINDERS

Computer-recommended action
Stool occult blood
Cervical smear
Hemafocrit/Haemoglobin
Chest x-ray
Pneumococcal vaccine
Tuberculosis skin test
Serum potassium
Mammogram
Influenza vaccine
Diet
Reticulocyte count
Total iron binding
Digitalis
Liver enzymes
Antacids

In the 1960s and early 1970s researchers began investigating the possible benefits of computer technology for the management of medical information in patient care. In 1976 McDonald from the Regenstrief Health Centre, Indianapolis, published the results of one of the most important studies on the use of computers in patient care. He confirmed that clinical errors could be reduced by prospective computer suggestions about simple clinical events based on recorded patient data. McDonald hypothesised that many medical errors occur because of the physician's intrinsic limitations as an information processor rather than because of remediable flaws in the individual's fund of knowledge. In the conclusions to his study McDonald demonstrated that ignorance of medical facts contributed very little to these deficits. The main reason for error in patient care was that "the amount of data presented to the physician per unit time is more than he can process without error. The computer augments the physician's capabilities and therefore reduces his error rate ... it is very likely that the physicians in these studies were simply unable to detect all the multitudinous conditions specified by the standards used"[8]. The physicians studied were regularly unable to comply with the standards of care they had themselves defined.

The Regenstrief group subsequently extended the use of computer-generated reminders to the domain of preventive care. Using the "introspective" facility of the computerised medical record, which applied clinical rules to stored patient data, the system produced prompts, reminders or alerts for the clinician who then was able to judge whether the computer-generated recommendation was appropriate. The computer is able to process the clinical data rapidly (this is normally a tedious task for humans) and then display the relevant data/information in a summary format relevant to the tasks being undertaken. Table 2 lists the 15 clinical situations in which reminders were used in the study.

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The study found that clinicians who used the computer-generated reminders implemented preventive care measures twice as often as those in the control group who had only standard paper medical records for accessing the patients' clinical information. On average, clinicians chose to ignore them in 50 per cent of cases overall, and for one reminder ignored them in 92 per cent of cases. The authors concluded: "Physicians seem well able to resist suggestions with which they disagree"[9]. The results appeared to confirm that the physicians in the study produced errors of omission and the computer reminders improved the correspondence between their actions and intentions. No overall benefit was detected in patient outcomes. However, the sample size and study duration were not large enough to detect changes in patient outcomes. For the pneumococcal and influenza vaccine groups there was a reduction in winter morbidity, suggesting improved outcomes.

The low compliance with certain reminders was interpreted as clinicians being slow to accept new clinical guidelines rather than the use of computer-generated reminders as clinical aids.

The availability of computerised medical record systems like the Regenstrief Medical Record System should encourage physicians to use more preventive care measures, thus providing more effective patient care and a reduction in health care costs. In 1993 Fries et al reviewed mechanisms for reducing health care costs through a reduction in the demand for medical services. The authors stated that "preventable illness makes up approximately 70 per cent of the burden of illness and the associated costs, and accounts for eight of the nine leading categories and for 980,000 deaths per year".[10]

Some of the potential benefits of such systems were confirmed in a study published in 1993 from the 350-bed Regenstrief Health Centre in Indianapolis. Here the use of the computerised medical record system led to significant improvement in markers of health care delivery, mainly through a reduction in the use of clinical resources (Table 3).

TABLE 3

REDUCTIONS IN CLINICAL UTILISATION [REGENSTRIEF HEALTH CENTRE(a)]

Parameter	% Reduction
Test ordering	12.5
Bed charges	11.9
Medications	15.3
Length of stay	10.5
Other	15.2

(a) Source: ref 11.

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INFECTIOUS DISEASES

JANUARY NOTIFICATIONS

As this issue reports only January 1995 notifications, the pattern of notifications is more likely to be affected by reporting delay than that for later months of the year. Public Health Units (PHUs) that received and entered notifications earlier will appear this month to have higher notification rates. For example, 31 of 99 hepatitis C (HCV) notifications (31 per cent) were from the Hunter Area. However, in 1994 the Hunter reported an average of 43 HCV notifications a month, and its notification rate for the year overall (97/100,000 population) was considerably lower than that of some other Areas.

MEASLES IN ILLAWARRA

As reported previously, South Coast District experienced a serious measles outbreak in 1994. Notifications peaked in October with a notification rate of 148/100,000 population/month. The Illawarra PHU was prepared for a large number of measles cases also, because the Shoalhaven area of the Illawarra borders on the South Coast District. However, notifications for the Illawarra peaked in December in 1994 at a relatively moderate rate of 13.5/100,000 population for the month, with 45 cases. Since November 1994, 44 per cent of Illawarra cases have been from the Shoalhaven area.

HAEMOLYTIC URAEMIC SYNDROME

A serious outbreak of haemolytic uraemic syndrome (HUS) has been reported in South Australia, with 20 cases and one death. The outbreak was alleged to have been caused by a Garibaldi brand garlic mettwurst contaminated with *Escherichia coli* 0111.

A national recall was initiated by the National Food Authority for Garibaldi products. The only place in NSW where the Garibaldi garlic mettwurst was found to be on sale was in the Far West District. The product was removed from sale with the assistance of local authorities.

Active surveillance for cases of HUS was initiated by all NSW Public Health Units following a request by the Communicable Diseases Network of Australia and New Zealand. This active surveillance has disclosed three cases of HUS in the Hunter Area. These cases have not been related to the South Australian outbreak and initial investigations suggest they are sporadic, unrelated cases. Clinical samples have not yet confirmed an *E. coli* as the responsible organism. However, the Hunter PHU is investigating food and environmental sources to determine a possible cause for the illness in these cases.

E. coli has been described as the aetiologic agent of food poisoning since around 1900. The *E. coli* strains involved in foodborne illness can be placed into six groups – enteropathogenic (EPEC), enterotoxigenic (ETEC), enteroinvasive (EIEC), enteroaggregative (EaggEC), facultatively enteropathogenic (FEEC) and enterohemorrhagic (EHEC). As well as reports of foodborne transmission, there are reports of waterborne transmission and transmission from animals, particularly cattle to humans.

EHEC cause a variety of clinical conditions ranging from non-specific diarrhoea to potentially fatal disorders such as haemorrhagic colitis, HUS and TTP. The EHEC produce two toxins – Shiga-like toxin and SLT-11. EHEC are also referred to as verocytotoxin producing *E. coli* (VTEC). Most cases of foodborne EHEC have been associated with *E. coli* 0157:H7. Young children are frequently severely affected and deaths usually occur in the under-five age group.

LEGIONNAIRES' DISEASE IN WESTERN SYDNEY

During January-February 1995 a cluster of 11 cases of Legionnaires' disease occurred in Western Sydney. The dates of onset for the cases were between January 1 and January 25, 1995. There were three deaths, giving a case fatality rate of 27 per cent. Nine of the cases were in males and two were in females. The ages of the cases ranged from 45 to 75 years, with the predominant group being males aged 60-75 years. Risk factors associated with some of the cases included cigarette smoking and chronic respiratory disease. All cases were confirmed by a positive culture for *Legionella pneumophila* serogroup 1 or a four-fold increase in titre.

Public health action undertaken by the Western Sector PHU included:

- active surveillance for cases of Legionnaires' disease (which was extended to all other Public Health Units);
- inspection and collection of water samples from possibly implicated cooling towers; and
- ensuring that towers were immediately cleaned and disinfected as appropriate.

About 50 cooling towers in Western Sydney, including the Wentworthville, Baulkham Hills, Winston Hills and Blacktown areas, were inspected by Western Sector PHU and local government Environmental Health Officers during the investigation. All towers had been inspected and cleaned within the previous three months in accordance with the public health legislation.

An Interdepartmental Legionella Advisory Committee convened by the NSW Health Department will meet in March to re-evaluate the effectiveness of current practices for the control of Legionnaires' disease.

UPTAKE OF HIB VACCINE IN THE SYDNEY REGION, AUGUST 1994

After a similar study in 1993, a telephone survey of 4,000 households in metropolitan Sydney in August 1994 estimated immunisation coverage rates for *Haemophilus influenzae* type b vaccine as follows:

TABLE 4

UPTAKE OF HIB VACCINE [% (95% CI)]

	Age categories	
	3-18 months	19-59 months
August 1993	48 (40-56)	45 (40-51)
August 1994	80 (73-86)	76 (71-81)

Hib vaccine was included in the immunisation schedule and made available without charge to children born after May 1, 1993. The greatly increased immunisation coverage is associated with a fall in Hib disease notifications.

The full report is available from the authors, Peter McIntyre (Department of Paediatrics, Westmead Hospital) and Tien Chey (Western Sector Public Health Unit).

HEPATITIS A IN CENTRAL WEST

From late November to January the towns of Ralston and Kandos in the Central West of NSW have been affected by an outbreak of hepatitis A. Twenty cases have been notified to the PHU. All but two were in children. The first cases were linked to problems with hygiene and toilet plumbing in a local school, while subsequent cases were probably acquired through person-to-person transmission. In addition to ensuring that the plumbing and hygiene problems at the school were resolved, PHU staff addressed public meetings, organised talks on personal hygiene at three schools and inspections of all local food outlets. Contacts were advised of the availability of hepatitis A vaccine and immunoglobulin to prevent infection. By the end of January the outbreak appeared to be in decline.

NON-NOTIFIABLE STDS

Updated 1994 data are presented in Table 5. The table shows that the most commonly diagnosed sexually transmitted diseases were genital warts, nongonococcal urethritis and genital herpes.

TABLE 5

SURVEILLANCE OF NON-NOTIFIABLE SEXUALLY TRANSMITTED DISEASES JANUARY-DECEMBER 1994
(Diagnoses from sexual health services (SHS) unless otherwise stated in footnote.)
Unlike tables of notifiable diseases, Public Health Unit Areas in this table refer to the location of the clinic, not the residence of the patient.

* First diagnosis
1. 01/01/94-30/11/94
2. 01/01/94-31/01/94
3. 01/01/94-31/10/94
4. 01/01/94-31/03/94
5. 01/01/94-31/12/94
6. 01/01/94-30/06/94
7. No SHC in Region
8. 01/01/94-30/11/94 (No data on September)
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[1]	HUN[6]	NC[1]	ND[5]	WN[1]	CW[7]	SW[8]	SE[9]	Total
Chlamydia trachomatis	Male	2	–	90	2	6	4	1	7	8	2	6	7	–	3	–	138
	Female	3	–	63	5	7	2	5	5	14	3	20	30	–	9	–	166
	Total	**5**	**–**	**153**	**7**	**13**	**6**	**6**	**12**	**22**	**5**	**26**	**37**	**–**	**12**	**–**	**304**
Donovanosis	Male	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	Female	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	Total	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
*Genital herpes	Male	12	1	299	3	12	10	13	2	15	14	3	1	–	5	–	390
	Female	10	3	186	5	9	12	14	15	15	12	14	8	–	8	–	311
	Total	**22**	**4**	**485**	**8**	**21**	**22**	**27**	**17**	**30**	**26**	**17**	**9**	**–**	**13**	**–**	**701**
*Genital warts	Male	26	6	778	69	74	33	50	100	75	57	9	6	–	15	–	1,298
	Female	20	6	317	32	37	27	33	39	30	19	32	19	–	14	–	625
	Total	**46**	**12**	**1,095**	**101**	**111**	**60**	**83**	**139**	**105**	**76**	**41**	**25**	**–**	**29**	**–**	**1,923**
Nongonococcal urethritis	Male	12	1	584	23	55	20	36	32	43	24	15	7	–	9	–	861
	Female	–	–	–	–	3	6	–	–	–	–	–	2	–	2	–	13
	Total	**12**	**1**	**584**	**23**	**58**	**26**	**36**	**32**	**43**	**24**	**15**	**9**	**–**	**11**	**–**	**874**
Lymphogranuloma venereum	Male	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	Female	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	Total	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**

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, WN 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 6

SUMMARY OF NSW INFECTIOUS DISEASE NOTIFICATIONS JANUARY 1995

Condition	Number of cases notified			
	Period		Cumulative	
	Jan 1994	Jan 1995	Jan 1994	Jan 1995
Adverse reaction	4	–	4	–
AIDS	47	6	47	6
Arboviral infection	26	6	26	6
Brucellosis	–	–	–	–
Cholera	–	–	–	–
Diphtheria	–	–	–	–
Foodborne illness (NOS)	21	3	21	3
Gastroenteritis (instit.)	1	7	1	7
Gonorrhoea	37	6	37	6
H influenzae epiglottitis	2	–	2	–
H influenzae B – meningitis	1	1	1	1
H influenzae B – septicaemia	1	–	1	–
H influenzae infection (NOS)	1	–	1	–
Hepatitis A	51	28	51	28
Hepatitis B	347	48	347	48
Hepatitis C	618	99	618	99
Hepatitis D	1	–	1	–
Hepatitis, acute viral (NOS)	1	–	1	–
HIV infection	38	32	38	32
Hydatid disease	–	–	–	–
Legionnaires' disease	3	6	3	6
Leprosy	–	–	–	–
Leptospirosis	2	–	2	–
Listeriosis	2	–	2	–
Malaria	26	8	26	8
Measles	156	69	156	69
Meningococcal meningitis	5	1	5	1
Meningococcal septicaemia	1	–	1	–
Meningococcal infection (NOS)	1	2	1	2
Mumps	1	–	1	–
Mycobacterial tuberculosis	59	10	59	10
Mycobacterial – atypical	50	1	50	1
Mycobacterial infection (NOS)	1	1	1	1
Pertussis	193	26	193	26
Plague	–	–	–	–
Poliomyelitis	–	–	–	–
Q fever	27	4	27	4
Rubella	21	1	21	1
Salmonella infection (NOS)	111	35	111	35
Syphilis	93	34	93	34
Tetanus	–	–	–	–
Typhoid and paratyphoid	1	–	1	–
Typhus	–	–	–	–
Viral haemorrhagic fevers	–	–	–	–
Yellow fever	–	–	–	–

TABLE 7

INFECTIOUS DISEASE NOTIFICATIONS FOR 1994 AND 1995 BY SELECTED MONTH OF ONSET FOR NOTIFICATIONS RECEIVED BY JANUARY 31, 1995

Condition	Oct	Nov	Dec	Jan	Total
Adverse event after immunisation	–	5	5	–	10
AIDS	47	29	18	6	100
Arboviral infection	6	8	7	6	27
Foodborne illness (NOS)	6	56	7	3	72
Gastroenteritis (instit.)	13	8	31	7	59
Gonorrhoea	30	25	29	6	90
H influenzae epiglottitis	1	–	–	–	1
H influenzae meningitis	1	2	1	1	5
H influenzae septicaemia	–	–	1	–	1
H influenzae infection (NOS)	1	–	2	–	3
Hepatitis A – acute viral	51	79	39	28	197
Hepatitis B – acute viral	9	5	3	–	17
Hepatitis B – chronic/carrier	33	45	29	12	119
Hepatitis B – unspecified	457	407	281	36	1,181
Hepatitis C – acute viral	7	5	1	–	13
Hepatitis C – unspecified	755	886	519	99	2,259
Hepatitis D – unspecified	3	–	–	–	3
Hydatid disease	3	4	1	–	8
HIV infection	35	36	25	32	128
Legionnaires' disease	3	–	2	6	11
Leptospirosis	–	–	1	–	1
Listeriosis	1	1	2	–	4
Malaria	10	8	14	8	40
Measles	284	342	260	69	955
Meningococcal meningitis	12	5	5	1	23
Meningococcal septicaemia	5	3	3	–	11
Meningococcal infection (NOS)	4	2	2	2	10
Mumps	4	–	1	–	5
Mycobacterial atypical	26	15	11	1	53
Mycobacterial tuberculosis	21	18	16	10	65
Mycobacterial infection (NOS)	18	15	10	1	44
Pertussis	126	95	66	26	313
Q fever	21	23	19	4	67
Rubella	5	7	7	1	20
Salmonella (NOS)	87	72	88	35	282
Syphilis	82	77	47	34	240
Tetanus	1	1	–	–	2
Typhoid and paratyphoid	1	1	–	–	2
Total	2,169	2,285	1,553	434	6,441

TABLE 8

INFECTIOUS DISEASE NOTIFICATIONS FOR 1995 BY PUBLIC HEALTH UNIT, RECEIVED BY JANUARY 31, 1995

Condition	CSA	SSA	ESA	SWS	WSA	WEN	NSA	CCA	ILL	HUN	NC	ND	WNS	CW	SW	SE	U/K	Total
AIDS	–	3	1	–	–	–	–	–	–	–	2	–	–	–	–	–	–	6
Arboviral infection	–	–	–	–	–	–	–	1	–	2	3	–	–	–	–	–	–	6
Foodborne illness (NOS)	–	–	–	2	–	–	–	–	–	–	–	–	1	–	–	–	–	3
Gastroenteritis (instit.)	–	–	–	–	–	1	–	–	–	6	–	–	–	–	–	–	–	7
Gonorrhoea	–	–	5	–	–	–	–	–	–	1	–	–	–	–	–	–	–	6
H. influenzae meningitis	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1
Hepatitis A – acute viral	2	–	10	1	–	–	2	2	–	–	1	–	1	7	2	–	–	28
Hepatitis B – chronic/carrier	–	–	10	–	–	–	–	–	–	–	–	1	–	1	–	–	–	12
Hepatitis B – unspecified	–	4	–	6	8	–	9	–	2	5	1	–	1	–	–	–	–	36
Hepatitis C – unspecified	–	3	1	4	3	2	13	1	7	31	24	2	1	2	3	2	–	99
HIV infection	3	–	10	–	–	–	–	2	1	–	–	–	–	–	–	–	16	32
Legionnaires' disease	–	–	–	–	4	–	–	–	–	2	–	–	–	–	–	–	–	6
Malaria	–	–	–	1	2	1	1	2	–	–	1	–	–	–	–	–	–	8
Measles	–	2	2	2	8	9	1	4	16	10	–	11	–	–	2	2	–	69
Meningococcal meningitis	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1
Meningococcal infection (NOS)	–	–	1	1	–	–	–	–	–	–	–	–	–	–	–	–	–	2
Mycobacterial atypical	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1
Mycobacterial tuberculosis	1	5	2	–	1	–	–	1	–	–	–	–	–	–	–	–	–	10
Mycobacterial infection (NOS)	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	1
Pertussis	–	–	–	–	–	8	2	4	6	3	2	–	–	1	–	–	–	26
Q fever	–	–	–	–	–	–	–	–	–	–	–	4	–	–	–	–	–	4
Rubella	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1
Salmonella (NOS)	–	3	2	–	4	2	1	–	4	6	4	6	1	1	–	1	–	35
Salmonella typhimurium	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Syphilis	–	–	21	–	1	–	–	1	2	3	1	3	1	1	–	–	–	34
Tetanus	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Typhoid and paratyphoid	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

TABLE 9

SELECTED INFECTIOUS DISEASE NOTIFICATIONS FOR 1995 BY PUBLIC HEALTH UNIT, RECEIVED BY JANUARY 31, 1995

Condition	CSA	SSA	ESA	SWS	WSA	WEN	NSA	CCA	ILL	HUN	NC	ND	WNS	CW	SW	SE	U/K	Total
Adverse event after immunisation	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H. influenzae epiglottitis	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H. influenzae meningitis	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1
H. influenzae septicaemia	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H. influenzae infection (NOS)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Measles	–	2	2	2	8	9	1	4	16	10	–	11	–	–	2	2	–	69
Mumps	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Pertussis	–	–	–	–	–	8	2	4	6	3	2	–	–	1	–	–	–	26
Rubella	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1
Tetanus	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

TABLE 10

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

Condition	CSA	SSA	ESA	SWS	WSA	WEN	NSA	CCA	ILL	HUN	NC	ND	WNS	CW	SW	SE	U/K	Total
Foodborne illness (NOS)	–	–	–	2	–	–	–	–	–	–	–	–	1	–	–	–	–	3
Gastroenteritis (instit.)	–	–	–	–	–	1	–	–	–	6	–	–	–	–	–	–	–	7
Hepatitis A – acute viral	2	–	10	1	–	–	2	2	–	–	1	–	1	7	2	–	–	28
Listeriosis	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Salmonella (NOS)	–	3	2	–	4	2	1	–	4	6	4	6	1	1	–	1	–	35
Salmonella bovis morbificans	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Salmonella typhimurium	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Typhoid and paratyphoid	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–