

IMMUNISATION COVERAGE OF TWO YEAR OLD CHILDREN IN CHILD-CARE CENTRES IN THE ILLAWARRA AND SHOALHAVEN REGIONS OF NEW SOUTH WALES

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Abstract

A survey of immunisation records was conducted in registered child-care centres in the Illawarra and Shoalhaven regions of New South Wales in 1995. The study showed that amongst two year old children attending child-care centres in those regions, less than 66% were fully immunised, excluding Hib vaccine. Of these, less than 25% had had their immunisations at the due time or within 30 days of when they were due. The survey highlighted the need to address our immunisation programs.

Background

Under section 42c of the New South Wales Public Health (Amendment) Act 1992, directors of child-care centres are required to maintain a register of the immunisation status of children enrolled in their facility. In 1995, the New South Wales Department of Health introduced the State-wide Sentinel Immunisation Surveillance Scheme (SSISS). This scheme measures the age-appropriate vaccination of two year old children attending child-care in New South Wales by reporting the immunisation status of a sample of children. The scheme surveys a portion of children between 24 and 36 months of age enrolled in registered child-care centres in that State.

New South Wales is served by 14 public health units, an important role of which is the prevention and control of infectious diseases. Public health units were directed to supply unit record data for their area or district for a specified reporting period, usually one month. For the Illawarra region, the sample represented 34 records, randomly selected, taken in September 1995. The Illawarra Public Health Unit however surveyed children in all registered child-care facilities in the Illawarra and the Shoalhaven regions. The survey offered the unit a means of increasing communication with the local centres and providing better links with children and their families.

Methods

The Illawarra Public Health Unit surveyed every licensed child-care facility, preschool and kindergarten in the Illawarra and Shoalhaven regions. The addresses of the centres were obtained from the New South Wales Department of Community Services regional offices, as all child-care centres must be licensed in order to operate in New South Wales. The directors of child-care centres were reminded that, under provisions of the New South Wales *Public Health (Amendment) Act 1992*, they are required to maintain a register of the immuni-

sation status of children attending the facility. The letter that was sent to schools also contained a sample enrolment form which had provision for recording immunisation data for each enrolled child.

Following the initial notification, all facilities were asked to complete survey forms regarding the immunisation status of children born between 15 September 1992 and 14 September 1993. Information was requested about whether and at what date the children had received two-, four- and six-month diphtheria-tetanus-pertussis vaccines (DTP), oral polio vaccine (OPV), measles-mumps-rubella vaccine (MMR), 18-month DTP, and *Haemophilus influenzae* type B vaccine (Hib) for two, four, six, twelve and eighteen months, where appropriate.

Centres were sent two follow-up letters four weeks apart and several were telephoned.

Fully immunised was defined as having had all eight immunisations by the age of two years. Age appropriate was defined as receiving all eight immunisations at the due time or within 30 days of when they were due. While data were collected for Hib immunisations, they were not included in the analyses.

Data were analysed using the Epi Info version 5 program. Immunisation status was categorised as

- On time: those immunised either on the date due or within 30 days of that date.
- Late: those who had had the immunisation but the immunisation was given more than 30 days late.
- Partial: those who had been only partly immunised.
- No: those who had not supplied any records and who may or may not have been immunised.
- Unknown: those who were recorded as being immunised but the dates were not available.

The New South Wales Midwives Data Collection for the period September 1992 - September 1993 provided the number of births recorded for the Illawarra and Shoalhaven hospitals as 4,679¹. This figure serves as an estimate of the total number of two to three year old children living in the Illawarra and Shoalhaven regions.

Results

The list of child-care centres provided by the department contained the addresses of 169 facilities, of which

Table 1. Fully immunised status¹ for 1,109 children in child-care in the Illawarra and Shoalhaven regions

Immunised	Number	%
On time	267	24.1
Late	466	42.0
Partial ²	193	17.4
No	109	9.8
Unknown	74	6.7
Total	1109	100

1. Totals of two-, four- and six-month DTP/OPV, twelve-month MMR and eighteen-month DTP.
2. Children who had received only part of the recommended immunisation schedule, excluding Hib.

eight were no longer operating. Two were excluded from the survey; one was an occasional child-care centre and one was a mobile service operating only two hours per day at various centres. Of the 159 remaining centres 85 catered for children under three years of age. Of these, five did not respond in time for the data to be included in the survey, leaving 80 centres which were included in the survey.

The immunisation records of 1,109 two to three year old children were included in the survey and represented 23.7% of the estimated total population of 4,679 children of the relevant age in the region.

Immunisation coverage rates are summarised in the tables. Of the 1,109 two year old children surveyed, 66.1% were fully immunised but only 24.1% had been age appropriately immunised (Table 1). Table 2 shows coverage for individual immunisations.

On completion of the data analysis, a brief report of the findings was distributed to all the child-care centres. The report contained the basic results of the data analysis and stressed the need for continuing surveillance of childhood immunisation rates. The report was designed to be reproduced in child-care centre parents newsletters prior to Christmas 1995. A shorter statement was released to the local media. An article about the findings appeared in *Illawarra Mercury* on 20 December 1995.

Table 2. Individual vaccine coverage for 1,109 children in child-care in the Illawarra and Shoalhaven regions

Immunised	2 month DTP/OPV %	4 month DTP/OPV %	6 month DTP/OPV %	12 month MMR %	18 month DTP %
On time	75.2	66.1	54.7	44.9	44.3
Late	7.4	15.6	25.1	32.6	25.6
Partial ¹	1.0	1.9	2.5	N/A	N/A
No	10.5	10.7	11.8	16.2	23.8
Unknown	6.0	5.7	5.9	6.2	6.3
Total	100 ²	100	100	100 ²	100

1. Received only DTP or OPV
2. Figures rounded to the nearest whole number.

Discussion

The results of this survey are only applicable to children in child-care. The survey, however, did not cover informal child-care arrangements such as nannies or those children cared for in private homes. It is not known whether children in formal child-care facilities are more likely to be immunised than those not in child-care or in informal care. Our survey showed however that immunisation levels are unacceptably low in formal child-care centres; coverage in other children may be even lower. In addition the risk of transmission of infectious diseases in child-care centres is high because of the close contact with other children. Finally while centres were given sufficient notice to update their records prior to the survey, there was no verification of the records, and some may have been incomplete.

This survey showed that immunisation coverage decreased with age and a child is more likely to be age-appropriately immunised for the initial immunisations than for the later ones. The survey also showed the urgent need not only to continue with immunisation programs for young children, but to target older children who are not fully immunised. Child-care centres represent an ideal forum for targeted immunisation programs.

The findings of this survey substantiate similar findings from a nationwide sample survey conducted by the Australian Bureau of Statistics. That survey showed 54% of two year old children in New South Wales had been fully immunised in April 1995 (excluding Hib)².

This survey has been based on the documentation of immunisation status of children attending child-care as required by public health legislation. The results provide a baseline against which progress can be monitored and indicate the need for further efforts to improve immunisation coverage.

References

1. NSW Health Department. Midwives Data Collection 1992. *NSW Public Health Bulletin Supplement November 1994 No.6*.
2. Australian Bureau of Statistics. *1995 Children's Immunisation Australia*. Catalogue No. 4352.0.