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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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Correspondence

Please address all correspondence and potential contributions to:

The Editor,
NSW Public Health Bulletin,
Public Health Division,
NSW Health Department
Locked Bag No 961,
North Sydney NSW 2059
Telephone: (02) 391 9219
Facsimile: (02) 391 9232

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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

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 sources 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 developed in the Hunter Area Pathology Service.

*Rosemary Aldrich, Registrar,
Department of Microbiology and Infectious Diseases, Hunter Area Health Service*

*Thais A Miles, Registrar,
Public Health Unit, Hunter Area Health Service
(seconded from the Epidemiology and Health Services Evaluation Branch of the NSW Health Department)*

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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.

*Margaret Pym, Pamela Adelson, Ru Nguyen, Michael Frommer
Epidemiology and Health Services Evaluation Branch NSW Health Department*

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