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## **Where have the hospital delivered babies gone? Factors associated with hospital births not recorded in the NSW Admitted Patients Data Collection**

**Background:** Routinely collected hospital admission data is a useful source for secondary data analysis. Researchers have used this dataset to examine a variety of health conditions (eg. Lain et al. 2009, Roberts et al. 2008, Lu et al. 2007). However, the quality of this dataset has been a concern to researchers. One of the concerns, among many others, is the non-inclusion of valid cases which may become a potential source of bias for subsequent analysis (Ford et al. 2006). Non inclusion of valid cases could be due to the assignment of incorrect ICD 10 AM codes, or the incorrect input of information into the hospital information system. This project, using record linkage techniques to link data from the NSW Admitted Patients Data Collection (APDC), NSW Midwives Data Collection (MDC) and birth data from the NSW Registry of Births, Deaths and Marriages (RBDM), aims to examine the factors that contribute to hospital birth records not being recorded in the APDC dataset.

**Method:** Record Linkage was conducted by the NSW Centre for Health Record Linkage (CHeReL). Births recorded in the APDC and MDC datasets for the calendar year 2005 were used for analysis. Births registered in the NSW RBDM for the same period were used as validation. Logistic regression analyses were used to identify factors associated with birth records that were not included in the APDC.

**Results:** There were a total of 90580 unique birth records for the calendar year 2005 recorded in MDC. A total of 84988 records were linked to corresponding records in APDC, 6.6% of records were not found in APDC. Of these unlinked records, 73.2% (N=4385) were recorded in the RBDM birth dataset as confirmed births. Of the confirmed birth records that were not included in the APDC datasets, 96.0% were births that occurred in hospitals of spontaneous labour (36.1%) and normal vaginal delivery (53.2%). The majority of these unlinked APDC records were from private hospital (63.4%). Levels 4 to 6 maternity hospitals contributed 25.5% of the unlinked records. Results from logistic regression analyses suggested that mother, labour, and delivery characteristics had no significant impact on whether data was recorded in APDC, whereas the types of hospital in which babies were born and the babies' discharge status were significant factors associated with information not recorded in APDC.

**Conclusions:** The results of the study suggested a high proportion of unmatched MDC records were true births that occurred in hospitals. It is important to examine the clinical information capturing practice of these hospitals and explore ways in which the recording of such information could be improved.