Improving the quality of Indigenous identification in hospital separations data

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Any enquiries about or comments on this publication should be directed to:

Jim Wylie
Australian Institute of Health and Welfare
GPO Box 570
Canberra ACT 2601

Phone: (02) 6244 1277

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Foreword

This report is intended to provide a platform for improvement in the quality of Indigenous identification in admitted patient data prepared in hospitals throughout Australia. It also clarifies appropriate analysis methods for hospital separations data on Indigenous status given current inadequacies of the data.

In view of the health disadvantage of Indigenous Australians relative to other Australians and the need for accurate statistical information about the health status of Indigenous Australians, the quality of Indigenous identification in hospital admitted patient statistics has been a matter of longstanding concern for the users of those statistics and for the organisations responsible for collection of the statistics. The correct identification of the Indigenous status of patients is essential for the use of hospital separations data in planning and monitoring services specifically directed towards Indigenous patients and for the effective delivery of those services.

The report outlines the processes and policies in each state and territory for ascertaining the Indigenous status of admitting patients, and it provides an account of the extent and characteristics of the under-identification of Indigenous patients based on assessments of Indigenous status data quality including an AIHW analysis of national hospital separations data.

Drawing on that material, the report presents wide-ranging recommendations for improving ascertainment of the Indigenous status of admitted patients. It also provides a set of guidelines to support consistent and appropriate analysis of Indigenous status information in hospital separations data within the data quality constraints that exist at this time.

The recommendations and guidelines will provide a sound basis for state and territory health authorities, the AIHW and other parties to work towards improved Indigenous status information in hospital separations data and better analysis of that information, and I look forward to these developments. Some improvements have been achieved to date, but substantially more is necessary, as the report shows.

Richard Madden

Director

December 2005

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Acknowledgments

The Australian Institute of Health and Welfare acknowledges the funding for this project provided by the Australian Health Ministers' Advisory Council.

The project relied on detailed accounts of practices and policies for the collection, monitoring and analysis of Indigenous status information about admitted patients in hospitals, as provided by the health authority of each state and territory. The AIHW thanks these organisations for this input and for a range of other valuable advice they provided.

Guidance about the direction of the project and about the content of this report was provided by the National Advisory Group on Aboriginal and Torres Strait Islander Health Information and Data, the AIHW's Australian Hospital Statistics Advisory Committee, and the Statistical Information Management Committee of the Australian Health Ministers' Advisory Council's National Health Information Group.

Within the AIHW, the report was prepared by Jim Wylie, based on some initial work done by the Australian Bureau of Statistics and Graeme Vaughan, under the direction and guidance of Jenny Hargreaves. Christina Barry provided major input into the tables, charts and rate calculations for the report. Alannah Smith provided technical assistance. Fadwa Al-yaman and Ken Tallis provided valuable advice on the data analysis guidelines.

The contribution made by Ainsley Morrissey and Cecilia Burke of the Institute's Information Services and Publishing Unit is also gratefully acknowledged.

Abbreviations and symbols

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AHMAC	Australian Health Ministers' Advisory Council
AHSAC	Australian Hospital Statistics Advisory Committee
AIHW	Australian Institute of Health and Welfare
ATSI	Aboriginal and/or Torres Strait Islander
ATSIHWIU	Aboriginal and Torres Strait Islander Health and Welfare Information Unit
KHLO	Koori Hospital Liaison Officer
NAGATSIHID	National Advisory Group for Aboriginal and Torres Strait Islander Health Information and Data
NATSIS	National Aboriginal and Torres Strait Islander Survey
NHDD	*National Health Data Dictionary*
NHS	National Health Survey
n.a.	not available
n.e.c.	not elsewhere classified
n.p.	not published
NSW	New South Wales
NT	Northern Territory
Qld	Queensland
SA	South Australia
Tas	Tasmania
Vic	Victoria
WA	Western Australia
. .	not applicable

Summary

This report presents the outcomes of a project funded by the Australian Health Ministers' Advisory Council and directed at establishing a basis for improving Indigenous identification in hospital separations data. It provides:

- an account of current and past assessments of the quality of Indigenous status data
- an account of jurisdictions' policies and processes for Indigenous identification
- the findings of an analysis of Indigenous identification in national separations data
- a set of guidelines to support the analysis of information on Indigenous status
- recommendations for improving Indigenous status information in hospital separations data.

Assessments of the quality of Indigenous identification in hospital separations data

In studies based on patient interviews, the proportions of Indigenous patients found to have been correctly identified in hospital records were:

- 93% overall for the five Northern Territory public hospitals in 1997
- 85% overall for 11 public hospitals in five jurisdictions in 1998
- 86% overall for 26 public hospitals in Western Australia in 2000
- 74% overall for two metropolitan public hospitals in Queensland in 2000.

There are two other recent findings of use:

- A study of linked multiple patient episodes for Indigenous people in New South Wales in 1997–98 found that Indigenous status had been incorrectly specified for 12% of episodes.
- An estimate of separations for Indigenous people in Victoria in 2001–02, based on information from Indigenous hospital liaison officers and population-based adjustment to hospital counts, suggested a net 22% undercount for the state.

Jurisdictions' assessments of Indigenous identification in their 2003–04 data are:

- reliable for the Northern Territory public sector but underestimated for the Northern Territory private sector
- acceptable for the public sector and the private sector in Western Australia
- acceptable for the public sector in South Australia but not acceptable for the state's private sector
- underestimated for New South Wales, Victoria and Queensland
- substantially underestimated for the Australian Capital Territory and Tasmania.

Factors were used to adjust for the under-identification of separations for Indigenous patients in the AIHW's report on health expenditure for Indigenous people for 2001–02. The factors are New South Wales, 30%; Victoria; 25%; Queensland, 20%; Western Australia, 6%; and the Australian Capital Territory, 30%.

Current arrangements for ascertaining Indigenous status

Public hospitals

The standard question and categories developed by the Australian Bureau of Statistics for Indigenous status are presented to patients at all or most public hospitals in most jurisdictions.

With the exception of Victoria and Western Australia, where unreported Indigenous status is not accommodated in data systems, all jurisdictions record Indigenous status using the classification set out in the *National Health Data Dictionary*. Only Tasmania and the Northern Territory have a policy for follow-up of patients for whom Indigenous status is unreported, but it is not known to what extent the policy is adhered to in Tasmania. The implications for Indigenous identification are as follows:

- In Victoria and Western Australia some Indigenous patients will be misidentified as non-Indigenous.
- In New South Wales, Queensland, South Australia, the Australian Capital Territory and possibly Tasmania the fact that there is no follow-up could mean Indigenous patients are under-identified.

In Victoria, Queensland, the Australian Capital Territory and the Northern Territory Indigenous liaison officers work to improve ascertainment of Indigenous status at public hospitals by identification of Indigenous patients based on personal knowledge, training hospital staff in the identification of Indigenous patients, enhancing relationships between the hospital and the Indigenous community and creating a hospital environment attuned to the needs of Indigenous patients.

Among the processes and policies in operation in some jurisdictions to encourage or require public hospitals to record Indigenous status in a standard manner are service agreements, financial incentives, the provision of feedback or analysis of data, and the provision of procedural documentation.

Private hospitals

Use of the standard Indigenous status question and classification is not universal in private hospitals. No policies were indicated for the follow-up of patients whose Indigenous status is not reported at admission. Indigenous hospital liaison officers are not employed. Few policies and processes are in operation to encourage or require private hospitals to record Indigenous status in a standard manner.

Analysis of Indigenous status information in national separations data

Reporting of Indigenous status

Relatively poor arrangements for ascertaining Indigenous status at private hospitals were confirmed in the analysis of national separations data. Excluding data for Victoria and Western Australia and for a public hospital in the Australian Capital Territory, where unreported Indigenous status was not accommodated in data systems at that time, Indigenous status was not reported in 2003–04 for 12.4% of separations in the private sector compared with 1.5% of separations in the public sector. The private sector contributed 84% of all separations for which Indigenous status was not reported.

Since 1996–97 non-reporting of Indigenous status has been as follows in jurisdictions other than Victoria and Western Australia:

- New South Wales—about 0.5–0.7% of separations at public hospitals and about 0.1% of separations at private hospitals
- Queensland—a steady decrease for public hospitals, to under 2% in 2003–04, and a decrease for private hospitals, to about 24% in 2003–04
- South Australia—about 2–3% for public hospitals and a steady decrease for private hospitals, to 1.4% in 2003–04
- Tasmania—about 6–7% since 1999–00 for public hospitals and erratic levels of between 56% and 67% since 2000–01 for private hospitals
- Australian Capital Territory—about 1–3% for public hospitals and erratic levels of up to 6% for private hospitals
- Northern Territory—100% for private hospitals and a steady decrease to less than 0.1% for public hospitals.

Since 1996–97 Indigenous to not Indigenous overnight separation rate ratios have been relatively high for Western Australia, South Australia and the Northern Territory, moderately high for Queensland and the Australian Capital Territory (increasingly so for Queensland), relatively low and not increasing for New South Wales and Victoria, and very low but possibly increasing for Tasmania. Although rate ratios are not necessarily comparable between jurisdictions, relatively higher or increasing rate ratios are considered to be indicative of higher data quality.

Characteristics of separations for which Indigenous status is not reported

For both the public and the private sectors, the 'Not stated/inadequately described' category of Indigenous status had greater similarity with the non-Indigenous category than with the Indigenous category across a wide range of patient characteristics.

The Indigenous subcategories

In 2003–04 a total of 200,746 separations were reported for patients of Aboriginal but not Torres Strait Islander origin, 9,748 separations were reported for patients of

Torres Strait Islander but not Aboriginal origin, and 5,653 separations were reported for patients of both Aboriginal and Torres Strait Islander origin.

Examination of national hospital morbidity data indicates consistent interpretation of the Indigenous subcategories and improved ascertainment of Indigenous status for each subcategory in most jurisdictions. Nevertheless, the subcategory 'Aboriginal but not Torres Strait Islander origin' appears to be substantially under-identified in New South Wales and Victoria and very substantially under-identified in Tasmania; the subcategory 'Torres Strait Islander but not Aboriginal origin' appears to be substantially under-identified in all jurisdictions other than Queensland; and the subcategory 'Both Aboriginal and Torres Strait Islander origin' appears to be under-identified in most jurisdictions, notwithstanding the apparent inclusion of some non-Indigenous patients in various jurisdictions.

Data analysis guidelines

Use of factors to adjust for under-identification of separations for Indigenous patients

1. In the absence of an up-to-date and robust set of factors based on a uniform methodology for all jurisdictions, factors should not be used to adjust for under-identification in the analysis of Indigenous status information in hospital separations data.
2. Use of under-identification factors as currently available is, however, acceptable for analyses for which adjustment is a necessary component—for example, in the estimation of health expenditures for Indigenous people.

Treatment of separations for which Indigenous status is unreported

3. The 'Not stated/inadequately described' separations should be amalgamated with the separations for non-Indigenous people in all analyses of Indigenous status information in hospital separations data.
4. Any reporting of separations for which Indigenous status is 'Not stated/inadequately described' should be accompanied by a warning that this category is not accommodated in the data systems of certain jurisdictions.

Use of state and territory data

5. When using Indigenous status information for analytical purposes, the data for only Queensland, Western Australia, South Australia and the Northern Territory should be used, individually or in aggregate.
6. Analyses based on data for Queensland, Western Australia, South Australia and the Northern Territory in aggregate should be accompanied by caveats about limitations imposed by jurisdictional differences in data quality and about the data not necessarily being representative of the jurisdictions excluded.
7. Caution should be exercised in time series analysis of data for Queensland, Western Australia, South Australia and the Northern Territory (individually or

in aggregate) and findings should include a caveat about the possible contribution to changes in hospitalisation rates for Indigenous people of changes in ascertainment of Indigenous status for Indigenous patients.

Use of private hospital data

8. In the case of Indigenous status information in relation to public and private hospitals, data should be analysed for the combined public and private sectors or the public sector alone. Data for the private sector alone should not be used.

Use of data for the Indigenous subcategories

9. Use of data reported for the 'Aboriginal but not Torres Strait Islander origin' subcategory is recommended for Queensland, Western Australia, South Australia and the Northern Territory, individually or in aggregate.
10. Use of data reported for the 'Torres Strait Islander but not Aboriginal origin' subcategory is recommended for Queensland and (with caution) for Queensland, Western Australia, South Australia and the Northern Territory in aggregate.
11. Separate use of data reported for the 'Both Aboriginal and Torres Strait Islander origin' subcategory is not recommended.
12. Use of the combined subcategories 'Torres Strait Islander but not Aboriginal origin' and 'Both Aboriginal and Torres Strait Islander origin' is recommended for Queensland and (with caution) for Queensland, Western Australia, South Australia and the Northern Territory in aggregate.
13. Use of the combined subcategories 'Aboriginal but not Torres Strait Islander origin' and 'Both Aboriginal and Torres Strait Islander origin' is recommended for Queensland, Western Australia, South Australia and the Northern Territory, individually or in aggregate.

Regional analysis of separations data

14. Analysis of separations for Indigenous people should generally not be undertaken by remoteness area of either the patient's usual residence or the hospital's location.

Use of age standardisation and population data

15. Indirect age standardisation is recommended for comparing the separation rate for a single Indigenous population of interest with the rate for a single not-reported-as-Indigenous comparison group.
16. For comparing separation rates for Indigenous and not-reported-as-Indigenous populations across multiple jurisdictions, time periods or other groupings, direct age standardisation should be used whenever populations are large enough to provide reliable results.
17. When deriving age-standardised Indigenous separation rates, age groups should be amalgamated where greater than an age determined by analysis of the data in question, as necessary, to ensure that all age groups have sufficient numbers for reliable results.

18. When deriving separation rates for Indigenous populations, the official Australian Bureau of Statistics population estimates or projections should be used without adjustment for possible under-identification in those data.
19. Reporting of Indigenous separation rates based on the Australian Bureau of Statistics population projections should indicate whether the high or low projection series was used. The low series is recommended.

Recommendations for improving Indigenous identification in separations data

In the interest of brevity, this summary includes only some of the sub-elements of each recommendation.

Data collection processes

1. [High priority] Procedures should be established in all hospitals to ensure ascertainment of Indigenous status for every patient at every admission.
2. [High priority] Indigenous status information should be ascertained for patients being admitted at all public and private hospitals, using the standard Indigenous identification question formulated by the Australian Bureau of Statistics, as set out in the *National Health Data Dictionary*.
3. [High priority] The data recording systems of all hospitals and health authorities should classify Indigenous status using the standard in the *National Health Data Dictionary*. In particular:
   (a) With the exception of forms for patients to complete, a 'Not stated/inadequately described' category should always be provided.
   (b) Responses of 'Not stated/inadequately described' should be permitted in separations records hospitals forward to health authorities.
   (c) Data recording systems should not include arrangements whereby the category 'Not stated/inadequately described' (or no category selected at all) defaults either manually or automatically to the 'Neither Aboriginal nor Torres Strait Islander origin' category.
4. Procedures and training should be introduced to ensure that data collection staff ascertain the Indigenous status of all babies born at the hospital and other patients aged less than 1 year. These arrangements should take into consideration the Indigenous status of both the mother and the father, as necessary.
5. A protocol should be established to specifically exclude non-Australian indigenous patients from identification as Aboriginal or Torres Strait Islander.

Training of data collection staff

6. [High priority] Comprehensive training in data collection and data quality should be provided to all staff involved in the collection of patient information at

all public and private hospitals. It should be provided on an as-needs basis to all new staff and as periodic refresher training to established staff.

7. [High priority] The training should include the asking about and recording of Indigenous status, and it should accord with the standard package developed by the Australian Bureau of Statistics. It should be directed towards a specific set of outcomes for hospital staff.
8. [High priority] The training efforts of both public and private hospitals should be supported by provision of centralised training of trainers, a policy and procedures manual, and a question and answer guide.
9. At all hospitals the adequacy of training should be periodically assessed by means of direct evaluation of training outcomes and audits of Indigenous identification.
10. Training of data collection staff should be augmented by their direct participation in the conduct and evaluation of hospital-based data quality audits.

Organisational policies and practices

11. [High priority] Health authorities should give consideration to the carrying out of a thorough review of state-wide procedures for the collection, recording and verification of Indigenous status information as the basis for planning action to improve Indigenous status data quality.
12. Mechanisms should be established to increase hospital administrators' commitment to improved Indigenous status data quality—for example, by incorporating requirements in service agreements and identifying sources of funding to be directed at the adoption of improved arrangements in private hospitals.
13. Hospital administrators should be encouraged to accompany improved data collection practices with sound arrangements for system oversight and the employment of Indigenous hospital liaison officers.
14. Consideration should be given to instituting a scheme for public recognition of best practice in ascertaining the Indigenous status of hospital patients.
15. An assessment should be made of the potential role of public education in relation to asking about the Indigenous status of hospital patients.

Data monitoring and audit

16. [High priority] Each jurisdiction should introduce arrangements for regular monitoring of Indigenous status information in separation records, as a basis for providing continuing feedback on data quality at the hospital level and evaluating changes in data quality stemming from the adoption of new data collection practices.
17. An audit of Indigenous identification using patient interviews or another robust methodology should be periodically conducted for public and private hospitals on a nationally coordinated basis, in order to assess data quality and generate comparable and up-to-date under-identification factors.