

# Snapshot report: Aboriginal people's experiences of hospital care

Technical supplement

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The conclusions in this report are those of BHI and no official endorsement by the NSW Minister for Health, the NSW Ministry of Health or any other NSW public health organisation is intended or should be inferred.

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# NSW Patient Survey Program

The NSW Patient Survey Program began sampling patients in NSW public facilities from 2007. Up to mid-2012, the program was coordinated by the NSW Ministry of Health (Ministry) using questionnaires obtained under licence from NRC Picker.

Responsibility for the NSW Patient Survey Program was transferred from the Ministry to the Bureau of Health Information (BHI) in July 2012. BHI has a contract with Ipsos to support data collection, while BHI conducts all survey analysis.

The aim of the program is to measure and report on patients' experiences and outcomes of care in public healthcare facilities in New South Wales (NSW), on behalf of the Ministry and local health districts (LHDs).

This document outlines the analyses and surveys used in the Snapshot report: *Aboriginal people's experiences of hospital care*.

# Introduction

This document is a supplement to the Bureau of Health Information (BHI's) Snapshot report: *Aboriginal people's experiences of hospital care*. It contains a description of the data sources and methods used in the report to calculate descriptive statistics and to compare the experiences of Aboriginal and non-Aboriginal patients. This supplement is technical in nature, and is intended for audiences interested in the creation and analysis of health performance information.

In the BHI report *Patient Perspectives – Hospital care for Aboriginal people*,<sup>1</sup> admitted patients' experiences of care were compared between Aboriginal and non-Aboriginal patients. For that report, targeted oversampling captured the experiences of more than 2,600 Aboriginal respondents to allow better reflection on their experiences.

In contrast, this report is based on data from respondents who identified as Aboriginal and/or Torres Strait Islander, without targeted oversampling.

To produce the report, BHI used the following data sources:

- *Emergency Department Patient Survey (EDPS) 2017–18*
- *Adult Admitted Patient Survey (AAPS) 2017*.

For EDPS and AAPS, there were approximately 400–600 Aboriginal respondents in the years where there was not a targeted oversample.

One purpose of this technical supplement is to describe the characteristics of the the Aboriginal respondents to the survey, and compare them with

the characteristics of those who identify as Aboriginal in the administrative records from which the survey sample is collected. This provides context as to the representativeness of the respondents in reflecting the experiences of all Aboriginal patients who used the hospital and emergency department (ED) services. The second purpose of this technical supplement is to summarise the methods for analysis used in the report.

## Identification of Aboriginality

All questionnaires used in the NSW Patient Survey Program ask about Aboriginality as part of the demographic group of questions (see below).

**Q1** Are you of Aboriginal origin, Torres Strait Islander origin, or both?

Yes, Aboriginal

Yes, Torres Strait Islander

Yes, both Aboriginal and Torres Strait Islander

No

This is the question used to group respondents as Aboriginal, Torres Strait Islander or both in the Snapshot report (self-reported Aboriginality). There is also an Aboriginality field provided on administrative datasets (referred to here as 'administrative Aboriginality').

It has been demonstrated that administrative Aboriginality under-represents the number of Aboriginal people who use health services. This may be because Aboriginal people might not want to identify due to concerns about how they might be treated, or staff have not asked all patients if they are Aboriginal, although asking this question is meant to be mandatory.<sup>2</sup>

# Data sources

## Emergency Department Patient Survey

EDPS 2017–18 includes responses from 15,995 patients of all ages who visited one of 82 large emergency departments in a NSW public hospital between July 2017 and June 2018 (adjusted response rate 24%).

Patients who received an ED survey were randomly selected from administrative data provided by each ED to the NSW Ministry of Health. The selection process aims to achieve representation by broad age group (0-17, 18-49, 50+) and discharge type (admitted, non-admitted). The full EDPS technical supplement provides more detail.<sup>3</sup>

Among the respondents, 459 people said they were either Aboriginal, Torres Strait Islander or

both. Further, 65% of the 459 Aboriginal respondents to the survey were also identified in the administrative data as Aboriginal (297 of 459) (Table 1).

## Assessing representativeness

The characteristics of the survey cohort were similar to the eligible population from the administrative records (Table 2). Almost 40% of the Aboriginal patients in the administrative records were under 18 years old (38%), which is closely reflected in the survey cohort based on self-reported Aboriginality (37%). Around a quarter of Aboriginal patients in the administrative file (27%) and in the survey cohort (24%) were from/hospitalised in Hunter New England Local Health District.

Table 1 Number of survey respondents based on self-identified and administrative data identifiers, Emergency Department Patient Survey, NSW, 2017–18

Survey question	Administrative data identifier		Total
	Aboriginal	Non-Aboriginal	
Aboriginal	297	162	459
Non-Aboriginal	28	15,200	15,228
Decline to answer	7	301	308
<b>Total</b>	<b>332</b>	<b>1,5663</b>	<b>15,995</b>

**Table 2** Characteristics of the eligible population from administrative data and the survey respondent cohort, by Aboriginality, emergency department patients, NSW, 2017–18

	Eligible population from administrative records		Survey cohort		
	Aboriginal (administrative)	Non-Aboriginal (administrative)	Aboriginal (administrative)	Aboriginal (survey)	Non-Aboriginal (survey)
<b>Number of people</b>	n=137,693	n=2,208,506	n=332	n=459	n=15,228
Female	51%	49%	48%	50%	46%
Male	49%	51%	52%	50%	54%
Under 18	38%	24%	39%	37%	25%
18-49	46%	37%	41%	41%	39%
50+	16%	39%	21%	23%	36%
Admitted Emergency	20%	29%	20%	21%	25%
Non-admitted	80%	71%	80%	79%	75%
Triage 1 – most urgent	1%	1%	0%	0%	0%
Triage 2	11%	13%	9%	10%	13%
Triage 3	32%	35%	29%	31%	34%
Triage 4	45%	41%	47%	46%	43%
Triage 5 – least urgent	12%	10%	14%	13%	10%
Central Coast	6%	5%	6%	7%	5%
Far West	1%	1%	2%	1%	1%
Hunter New England	27%	13%	29%	24%	13%
Illawarra Shoalhaven	6%	6%	8%	8%	6%
Murrumbidgee	5%	3%	5%	5%	3%
Mid North Coast	9%	4%	7%	8%	4%
Nepean Blue Mountains	4%	5%	3%	4%	4%
Northern NSW	9%	7%	12%	9%	7%
Northern Sydney	1%	9%	2%	2%	9%
Sydney Children's Hospitals Network	1%	4%	1%	1%	4%
South Eastern Sydney	2%	10%	1%	3%	9%
Southern NSW	4%	3%	4%	3%	4%
St Vincent's Health Network	1%	2%	1%	1%	2%
South Western Sydney	6%	11%	4%	7%	11%
Sydney	2%	7%	1%	1%	6%
Western NSW	11%	4%	9%	9%	4%
Western Sydney	4%	8%	6%	6%	7%
Major cities	42%	72%	44%	48%	72%
Inner regional	46%	24%	45%	43%	24%
Outer regional	11%	4%	11%	9%	4%

Note: Survey results are weighted to reflect sampling processes, for which younger people and those from smaller hospitals have a greater probability of being selected. Rurality is based on rurality of the facility and not the patient.

### Adult Admitted Patient Survey

AAPS 2017 includes responses from 21,026 patients aged 18+ years who attended one of 77 NSW public hospitals in 2017 (adjusted response rate 40%).

Patients who receive a survey are randomly selected from hospital administrative records. They are selected to achieve reasonable representation by broad age group (18-49, 50+) and stay type (day only/overnight). The full survey technical supplement provides more detail.<sup>4</sup>

### Assessing representativeness

Among the respondents, 550 people said they were either Aboriginal, Torres Strait Islander or both. Further, 69% of these Aboriginal respondents to the survey were also identified in the

administrative data as Aboriginal (379 of 550) (Table 3).

The Aboriginal identifier in the hospital administrative data was used to create a profile of the Aboriginal patients, and compared with the profile of respondents who self-identified as Aboriginal in the survey, to assess the representativeness of the sample (Table 4).

The characteristics of the survey cohort were similar to the eligible population (Table 4). The age, sex and regional profiles of Aboriginal people based on the survey cohort and administrative records are similar. Further, Aboriginal patients were admitted and triaged in similar categories in both the administrative records and the survey cohort.

Table 3 Number of survey respondents based on self-identified and administrative data measures, Adult Admitted Patient Survey, NSW, 2017

Survey question	Administrative data identifier		
	Aboriginal	Non-Aboriginal	Total
Aboriginal	379	171	550
Non-Aboriginal	23	19,675	19,698
Decline to answer	13	765	778
Total	415	20,611	21,026



**Table 4 Profile of eligible population from the administrative data and the survey respondent cohort, by Aboriginality (self-identified and administrative), adults admitted to public hospitals, NSW, 2017**

	Eligible population from administrative records		Survey cohort		
	Aboriginal (administrative)	Non-Aboriginal (administrative)	Aboriginal (administrative)	Aboriginal (survey)	Non-Aboriginal (survey)
<b>Number of people</b>	n=37,604	n=990,041	n=415	n=550	n=19,698
18–49 years	54%	30%	47%	47%	31%
50+ years	46%	70%	53%	53%	69%
Female	55%	51%	62%	54%	53%
Male	45%	49%	38%	46%	47%
Central Coast	6%	5%	7%	7%	5%
Far West	1%	0%	1%	1%	0%
Hunter New England	24%	12%	29%	27%	12%
Illawarra Shoalhaven	5%	5%	3%	4%	5%
Murrumbidgee	5%	3%	4%	5%	3%
Mid North Coast	7%	4%	7%	6%	4%
Nepean Blue Mountains	5%	5%	5%	5%	5%
Northern NSW	9%	6%	9%	6%	6%
Northern Sydney	2%	9%	4%	4%	9%
South Eastern Sydney	4%	9%	3%	4%	10%
Southern NSW	3%	3%	3%	2%	3%
St Vincent's Health Network	2%	3%	2%	2%	3%
South Western Sydney	7%	12%	5%	9%	13%
Sydney	5%	9%	3%	4%	9%
Western NSW	11%	4%	12%	10%	4%
Western Sydney	8%	11%	3%	4%	10%
Major cities	52%	76%	52%	56%	77%
Inner regional	41%	21%	44%	40%	21%
Outer regional	7%	3%	5%	4%	2%

Note: Survey results are weighted to reflect sampling processes, for which younger people and those from smaller hospitals have a greater probability of being selected. Rurality is based on rurality of the facility and not the patient.

# Statistical analysis

For each survey, performance questions were selected as measures where there is a clear direction of good performance (e.g. overall care is 'very good'). The percentage of patients who selected each response category was analysed for performance questions, by self-reported Aboriginality using the SAS procedure SURVEYFREQ.<sup>5</sup> The analysis takes into account survey weights and survey design.

Statistical differences in the report were based only on the 'most positive' response category of each performance question (e.g. 'very good'). Results are available on Healthcare Observer at state level for all response categories.

People who did not respond to the question on Aboriginality were excluded from the analysis. Unless otherwise specified, missing responses and those who responded 'don't know/can't remember' to questions were excluded from analysis.

More information on missing data is available in the survey-specific technical supplements.<sup>3,4</sup>

## Comparison of experiences between Aboriginal and non-Aboriginal patients

Certain population groups such as older adults and males, tend to report more positive experiences. A higher percentage of Aboriginal patients were younger and female compared with non-Aboriginal patients (Table 2 and Table 4). To ensure any differences in experiences between groups were not due to these factors, comparisons between Aboriginal and non-Aboriginal patient groups were adjusted for age and sex.

Proc SURVEYLOGISTIC<sup>5</sup> was used to determine if there were differences in experiences between Aboriginal and non-Aboriginal groups at state level after adjusting for age and sex.

Results for all performance questions in both surveys are provided in the supplementary data tables. For the Snapshot report, those questions

selected were identified in analysis of key measures for performance<sup>6</sup> and used in previous Snapshot reports<sup>7,8</sup> and those with less sampling variability.

## Data quality

Higher quality survey estimates are generally associated with:

- higher numbers of respondents
- higher overall response rates
- representative cohorts (i.e. the characteristics of respondents and non-respondents are similar)
- small variabilities in sampling estimates (i.e. the confidence interval is narrow).

To identify lower quality estimates, results in the supplementary data tables are flagged as 'interpret with caution' where the margin of error is more than 10% (i.e. confidence interval 20 percentage points or more) or where there are fewer than 100 respondents. All results based on fewer than 30 respondents were suppressed.

## Limitations and future developments

The sampling strategy was not specifically designed to be representative of Aboriginal patients. For example, those from remote areas where a mailed survey may not reach them are likely to be under-represented. Further, due to smaller numbers of Aboriginal respondents, results for local health districts or facilities could not be produced, and there is reduced statistical power to detect differences between Aboriginal and non-Aboriginal respondents.

Oversampling of Aboriginal maternity patients and patients admitted to hospital is currently underway. Data collection will be completed by July 2020, and reporting will follow in late 2020. This will allow for reporting Aboriginal patient experiences at local health district level and for large facilities.

# References

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5. SAS Institute. The SAS System for Windows, version 9.2 Cary (NC). SAS Institute, 2005. (Note: SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries. ® indicates USA registration).
6. Bureau of Health Information. Measurement Matters: Development of patient experience key performance indicators for local health districts in NSW. Sydney (NSW); BHI; 2018.
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## About the Bureau of Health Information

The Bureau of Health Information (BHI) is a board-governed organisation that provides independent information about the performance of the NSW healthcare system.

BHI was established in 2009 and supports the accountability of the healthcare system by providing regular and detailed information to the community, government and healthcare professionals. This in turn supports quality improvement by highlighting how well the healthcare system is functioning and where there are opportunities to improve.

BHI manages the NSW Patient Survey Program, gathering information from patients about their experiences and outcomes of care in public hospitals and other healthcare facilities.

BHI publishes a range of reports and information products, including interactive tools, that provide objective, accurate and meaningful information about how the health system is performing.

BHI's work relies on the efforts of a wide range of healthcare, data and policy experts. All of our assessment efforts leverage the work of hospital coders, analysts, technicians and healthcare providers who gather, codify and supply data.

Our public reporting of performance information is enabled and enhanced by the infrastructure, expertise and stewardship provided by colleagues from NSW Health and its pillar organisations.

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