The Insights Series

Aboriginal people's experiences of hospital care

Technical Supplement

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bureau of health information

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Please note there is the potential for minor revisions of data in this report.
Please check the online version at **bhi.nsw.gov.au** for any amendments or errata.

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Introduction

This document is a supplement to the Bureau of Health Information (BHI) report, *The Insights Series – Aboriginal people's experiences of hospital care.* It describes the data sources, data management and analytical methods used in the report. This supplement is technical in nature, and is intended for audiences interested in the creation and analysis of health performance information.

To produce the report, BHI independently calculated measures using the following data sources:

- Adult Admitted Patient Survey (AAPS) 2014–2018
- AAPS 2019 (with Aboriginal census sampling)
- Maternity Care Survey 2019 (with Aboriginal census sampling).

BHI used SAS version 9.4 software for all the statistical analyses (Copyright © 2019 SAS Institute Inc. SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc., Cary, NC, USA. SAS 9.4 [English]).

The data collection and analysis that inform this report have been approved under a five-year ethics application through the Aboriginal Health and Medical Research Council.

Data sources

NSW Patient Survey Program

The New South Wales (NSW) Patient Survey Program began sampling patients in NSW public health facilities from 2007. Up to mid-2012, the program was coordinated by the NSW Ministry of Health (Ministry). Responsibility for the NSW Patient Survey Program was transferred from the Ministry to the Bureau of Health Information (BHI) in 2012.

BHI has a contract with a survey vendor to support data collection, while BHI conducts all survey development and analysis.

The aim of the NSW Patient Survey Program is to measure and reports on patients' experiences in public healthcare facilities in NSW, on behalf of the Ministry and local health districts (LHDs). The survey program is guided by the *NSW Patient Survey Program Strategy 2019–22*, which ensures that all patient surveys maximise benefits to patients and deliver unique value for the NSW health system. It uses evidence-based, validated instruments to systematically collect feedback from large samples of patients that are representative of local patient populations, enabling comparison and trend analysis at LHD and hospital level.

The program includes a range of surveys that focus on different care settings and patient groups. The BHI report *The Insights Series – Aboriginal people's experiences of hospital care* draws on data from two of the surveys in the NSW Patient Survey Program: the Adult Admitted Patient Survey (AAPS) and the Maternity Care Survey.

Further information about questionnaire development, sampling methodology and data management are available in the development reports and technical supplements for each survey at **bhi.nsw.gov.au/nsw_patient_survey_program**

Results for each survey are available at **bhi.nsw.gov.au/BHI_reports/patient_survey_results**, with detailed results available on BHI's interactive data portal, Healthcare Observer, at **bhi.nsw.gov.au/Healthcare_Observer**

Adult Admitted Patient Survey 2019

AAPS 2019 was mailed to adult patients aged 18+ years who were admitted to a NSW public hospital between January and December 2019.

A series of exclusion criteria were applied to the admitted patient data to create a frame of patients eligible to participate in AAPS 2019. Exclusions included patients who died during their hospital admission, patients who gave birth during their admission, patients with particularly sensitive reasons for admission and patients with invalid name or contact details. The full exclusion criteria are available in the AAPS 2019 technical supplement at **bhi.nsw.gov.au/BHI_reports/patient_survey_results/adult_admitted_patient_survey_2019**

Sampling was conducted for eligible patients who attended a hospital in peer groups A1–C2 in the strata of age group (18–49 years or 50+ years) and stay type (same-day or overnight admission). Where patients had multiple visits within the sampling month, details of their most recent hospital stay were retained for sampling, and questionnaire asked them to respond to the survey based on their most recent admission in a particular month.

The 2014 and 2019 AAPS surveys sent a higher proportion of questionnaires to patients who were identified in the administrative data as Aboriginal than in other years. AAPS 2019 was mailed to all eligible Aboriginal patients (census sampling), while AAPS 2014 was mailed to a higher proportion (oversample) of Aboriginal patients.

Maternity Care Survey 2019

The Maternity Care Survey 2019 asked women who gave birth in a NSW public hospital between January and December 2019 about the care they received before, during and after the birth of their baby. It is the third survey undertaken of its kind, following surveys conducted in 2015 and 2017.

Women who were admitted for specific conditions (such as pregnancy termination), those who died during their hospital admission, and those with invalid contact details were excluded from the sampling frame. The full exclusion criteria are available in the Maternity Care Survey 2019 technical supplement at **bhi.nsw.gov.au/nsw_patient_survey_program/maternity_care_survey**

In 2019, every woman who identified as Aboriginal, gave birth during their hospital stay, and met inclusion criteria were invited to participate in the survey (census sample).

Data analysis

Weighting

All quantitative results in the report, with the exception of patient comments, are weighted estimates. Survey weighting optimises the degree to which results are representative of the experiences and outcomes of the overall patient population. That is, results are representative of the patients who used the services, rather than only the cohort who responded to the survey, in terms of key characteristics.

In AAPS 2019, annual weights for each patient responding to the survey were calculated when four quarters of data were available. The quarterly weights were calculated as the ratio of the total number of patients eligible for sampling to the number of respondents in their strata (age and stay type). The interim quarterly weights were then passed through the generalised regression weights (GREGWT) macro, a survey-specific SAS program developed by the Australian Bureau of Statistics (ABS) to assist with weighting at the annual level. From 2014 to 2019, the sampling of adults admitted to a NSW public hospital was performed based on age group (18–49 or 50 years and over) and stay type (same day or overnight admission) for each hospital. Additionally, the sampling weights for AAPS 2014 and AAPS 2019 considered the total number of Aboriginal patients.

For the Maternity Care Survey 2019, the sampling weights were calculated for the full 12 months of data. Similar to AAPS 2019, sampling weights in the Maternity Care Survey 2019 considered the total number of Aboriginal women who gave birth during the year.

Details on sampling approach and weighting of data for each survey can be found in the respective technical supplements at **bhi.nsw.gov.au/nsw_patient_survey_program**

Aboriginal respondents

The report includes results for Aboriginal and non-Aboriginal patients and women who gave birth. All survey respondents are asked a question about their Aboriginality in the questionnaire: 'Are you of Aboriginal origin, Torres Strait Islander origin, or both?', where the possible responses consisted of 'Yes, Aboriginal', 'Yes, Torres Strait Islander', 'Yes, both Aboriginal and Torres Strait Islander', or 'No'.

BHI used the responses to the above question to group respondents as Aboriginal, Torres Strait Islander or both (hereafter referred to as 'self-reported Aboriginality'). There is also an Aboriginality field provided on the admitted patient data collection (APDC) (referred to as 'administrative Aboriginality'). It has been demonstrated in the previous BHI reporting that administrative Aboriginality may under-represent the number of Aboriginal people who use health services. This may be because Aboriginal people might not want to identify while they were in the hospital due to concerns about how they might be treated, or because staff have not asked the question for all patients. BHI chose to use self-reported Aboriginality information for all analyses, except when calculating response rates, as is consistent with other BHI reports.

Among the 21,900 respondents to AAPS 2019, 3,454 patients self-reported as either Aboriginal, Torres Strait Islander or both. Of these patients, 3,336 (97%) were also identified as Aboriginal in the administrative data (Table 1).

Among the 4,446 respondents to the Maternity Care Survey 2019, 283 women self-reported as either Aboriginal, Torres Strait Islander or both. Of these women, 266 (94%) were also identified as Aboriginal in the administrative data (Table 2).

Table 1 Number of survey respondents based on self-reported and administrative data identifiers, AAPS 2019

	Administrative data identifier		
Survey question	Aboriginal, Torres Strait Islander or both	Non-Aboriginal	Total
Aboriginal, Torres Strait Islander or both	3,336 (97%)	118 (3%)	3,454
Non-Aboriginal	201 (1%)	17,440 (99%)	17,641
Decline to answer	89 (11%)	716 (89%)	805
Total	**3,626**	**18,274**	**21,900**

Table 2 Number of survey respondents based on self-identified and administrative data identifiers, Maternity Care Survey 2019

	Administrative data identifier		
Survey question	Aboriginal, Torres Strait Islander or both	Non-Aboriginal	Total
Aboriginal, Torres Strait Islander or both	266 (94%)	17 (6%)	283
Non-Aboriginal	14 (0.3%)	4,126 (99.7%)	4,140
Decline to answer	2 (9%)	21 (91%)	23
Total	**282**	**4,164**	**4,446**

Response rates

The response rate is the percentage of patients who completed and returned the questionnaire, based on all patients who were mailed a questionnaire.

In 2019, as a result of the oversampling of younger patients in AAPS and the census sampling of Aboriginal patients in both AAPS and the Maternity Care Survey, the distribution of patients in the respondent cohort did not match the distribution of patients in the eligible population in terms of age groups and Aboriginal status. Therefore, response rates were adjusted to ensure the overall response rate reflected what would be observed if patients were sampled proportional to the patient mix, creating the 'weighted response rate'.

To assess the weighted response rate and cohort representativeness (page 7), administrative Aboriginality data was used. Tables 3 and 4 show the number of people who were eligible to be surveyed, mailed a questionnaire, and responded, as well as weighted response rates by Aboriginality in AAPS and the Maternity Care Survey 2019.

For AAPS 2019, the number of questionnaires mailed to Aboriginal patients was higher than the number of people eligible for the survey because the initial invitation to complete the questionnaire for June 2019 patients was sent to 1263 (237 Aboriginal, 1026 non-Aboriginal) maternity patients in error. These patients were also sent the 2019 Maternity Care Survey questionnaire, as planned. Any impact of this error on the results is minor.

Table 3 Number of patients sampled, mailings, respondents and weighted response rates by Aboriginality, AAPS 2019

	Aboriginal	Non-Aboriginal	Total
Number eligible	22,182	699,854	722,036
Number mailed	22,185	62,247	84,432
Number responded	3,626	18,274	21,900
Weighted response rate (%)	17%	36%	35%

Table 4 Number of women sampled, mailings, respondents and weighted response rates by Aboriginality, Maternity Care Survey 2019

	Aboriginal	Non-Aboriginal	Total
Number eligible	2,729	58,807	61,536
Number mailed	2,723	12,758	15,481
Number responded	282	4,164	4,446
Weighted response rate (%)	10%	33%	32%

Looking back in the period between 2014 and 2019, BHI invited a total of over 47,000 Aboriginal patients to provide feedback on the health services they received. The overall response rate for these patients was 17% (Table 5). As a result of the census and oversampling methods, the response rates in 2014 and 2019 were slightly higher than for other years. Table 5 shows the number of patients who were mailed the questionnaire, the number of patients who responded, and the crude response rate for each year.

Details of the questionnaire development, sampling methodology, data management and results for each survey and survey year are available at **bhi.nsw.gov.au/nsw_patient_survey_program**

Table 5 Number of Aboriginal patient mailings, respondents and crude response rates, AAPS 2014-2019

	2014	2015	2016	2017	2018	2019	Total
Number mailed	13,031	3,197	3,528	2,767	3,022	22,185	47,730
Number responded	2,716	472	553	415	357	3,626	8,139
Crude response rate (%)	21%	15%	16%	15%	12%	16%	17%

Assessing representativeness

The Aboriginal identifier in the hospital administrative data was used to create a profile of characteristics of the Aboriginal people admitted to NSW public hospitals who were eligible to be surveyed (also known as the interim sampling population). This was compared with the characteristics of the Aboriginal people who responded to the survey, to assess the representativeness of the sample (Table 6). The characteristics of the Aboriginal people in the survey cohort were broadly similar to those in the NSW eligible population.

Table 6 Demographic characteristics of Aboriginal and non-Aboriginal patients in the eligible population and the survey respondent cohort, AAPS 2019

		Characteristics of the 35,476 Aboriginal patients in the eligible population (%)	Characteristics of the 3,626 Aboriginal patients in the survey cohort (%)	Characteristics of the 850,117 non-Aboriginal patients in the eligible population (%)	Characteristics of the 18,274 non-Aboriginal patients in the survey cohort (%)
Age group	18–34 years	29	18	15	12
	35–54 years	32	30	21	26
	55–74 years	31	41	35	36
	75+ years	8	11	28	27
Sex	Female	56	58	51	52
	Male	44	42	49	48
LHD	Central Coast	6	6	5	5
	Far West	1	1	0	0
	Hunter New England	24	36	12	11
	Illawarra Shoalhaven	5	4	5	5
	Murrumbidgee	5	4	3	3
	Mid North Coast	6	5	4	4
	Nepean Blue Mountains	5	5	5	5
	Northern NSW	8	6	6	6
	Northern Sydney	2	1	7	8
	South Eastern Sydney	4	3	11	11
	Southern NSW	3	2	3	3
	South Western Sydney	6	5	13	13
	St Vincent's Health Network	2	1	3	2
	Sydney	5	4	9	9
	Western NSW	12	11	4	4
	Western Sydney	6	5	10	10
Rurality of facility	Major cities	53	60	76	77
	Inner regional	41	35	22	21
	Outer regional, remote or very remote	6	5	3	2

The weighted response rate for Aboriginal women was 10% and, therefore, the responses may not be representative of all Aboriginal women receiving maternity care. However, the Aboriginal identifier in the hospital administrative data was used to create a profile of characteristics of the Aboriginal women who gave birth in NSW public hospitals in 2019 who were eligible to be surveyed. This was compared with the characteristics of the Aboriginal women who responded to the survey, to assess the representativeness of the sample (Table 7). The distributions of age, residential location and rurality for these women is similar to the hospital records for all Aboriginal women who gave birth in 2019.

Table 7 Demographic characteristics of Aboriginal and non-Aboriginal women in the eligible population and survey respondent cohort, Maternal Care Survey 2019

		Characteristics of the 4,449 Aboriginal women in the eligible population (%)	Characteristics of the 282 Aboriginal women in the survey cohort (%)	Characteristics of the 79,241 non-Aboriginal women in the eligible population (%)	Characteristics of the 4,164 non-Aboriginal women in the survey cohort (%)
Age group	18–34 years	43	31	13	8
	35–54 years	30	33	29	24
	55–74 years	18	24	35	41
	75+ years	7	9	19	22
	18–34 years	2	3	4	5
LHD	Central Coast	5	6	4	4
	Far West	1	1	0	0
	Hunter New England	24	23	10	9
	Illawarra Shoalhaven	6	6	5	5
	Murrumbidgee	5	5	3	3
	Mid North Coast	8	8	3	3
	Nepean Blue Mountains	10	10	7	7
	Northern NSW	8	7	4	4
	Northern Sydney	1	1	6	6
	South Eastern Sydney	3	3	11	11
	Southern NSW	2	2	2	2
	South Western Sydney	7	7	17	17
	Sydney	3	2	9	9
	Western NSW	13	13	4	4
	Western Sydney	5	5	15	16
Rurality of facility	Major cities	49	50	81	82
	Inner regional	42	42	16	16
	Outer regional, remote or very remote	8	8	2	2

Despite the low response rates for Aboriginal patients in both surveys, the characteristics of the Aboriginal and non-Aboriginal respondents in each survey were broadly similar to those in the NSW eligible population. However, due to small numbers of respondents at the LHD and hospital levels, results are less likely to be representative of all Aboriginal people who were eligible to be surveyed and therefore these results are not included in the report.

More details about the eligible populations can be found in the respective technical supplements at **bhi.nsw.gov.au/nsw_patient_survey_program**

Survey questions

For AAPS, 50 performance questions that have been asked for six consecutive years (2014–2019) were selected as the main outcomes, and an additional six questions were analysed for AAPS data collected in 2019. Questions relating to outcomes such as patient-reported complications were excluded, because results could be influenced by clinical information (e.g. condition, procedures) that was not available. Some questions were further excluded because they were answered by a small subset of patients. The report highlights results for selected questions that stakeholders have identified as being especially relevant to Aboriginal people.

For the Maternity Care Survey 2019, 63 questions were included for reporting. Some questions were excluded because they were answered by a small subset of patients.

While the report only presents results for selected questions, the results for all questions for each survey can be viewed in the supplementary data tables. Results for other questions (by Aboriginality but without significance testing) can be viewed in BHI's interactive data portal, Healthcare Observer, at **bhi.nsw.gov.au/Healthcare_Observer**

Results for derived measures, that is, those for which results are calculated indirectly from respondents' answers to a survey question can also be found on Healthcare Observer. These tend to be from questions that contain a 'not applicable' type response option and are used to gather information about patients' needs.

Data analysis

Calculating weighted percentages of the most positive response option

For each survey question, the annual weighted percentage of patients who gave the most positive response option (e.g. 'Very good', 'Yes, definitely', 'Yes, always', 'Yes, completely') was calculated using the SURVEYFREQ procedure. This is calculated as the ratio of the (weighted) number of survey respondents who selected the most positive response option to the (weighted) number of survey respondents. These analyses account for survey weights and survey design.

Missing responses and responses of 'Don't know/can't remember', 'Not necessary' were excluded from the denominator. The results in the report match the results previously published on Healthcare Observer, with some exceptions due to differences in defining the denominator (applicable to questions where this report excluded 'Don't know/Can't remember' responses). For annual releases, BHI retains responses of 'Don't know/can't remember' in any calculations when these are relatively high. See the technical supplements for each individual survey on BHI's website at **bhi.nsw.gov.au/BHI_reports/patient_survey_results** for more information about how missing data was handled for each survey. The results presented in the report and supplementary data tables are weighted percentages, based on at least 30 respondents.

Analyses of differences in patient experiences

To examine differences in experiences between any two patient groups in the 2019 survey data, a logistic regression model was used, adjusting for age and sex (for AAPS) or age only (for the Maternity Care Survey). People who did not respond to the question on Aboriginality were excluded from the analysis. The most positive response option (top-cat) was pre-defined for each question, and responses were dichotomised such that the top-cat response was coded as 1, and all other responses, excluding invalid responses, were coded as 0. Logistic regression was used to fit these binary variables as outcomes and Aboriginal status as the explanatory variable, with appropriate adjustment for confounders and sampling weights using the procedure SURVEYLOGISTIC.

Any measures that are significantly different between the two patient groups are flagged in the report. A p-value at 0.05 was used to determine if the differences were statistically significant for all analyses in the report except for the differences between Aboriginal and non-Aboriginal patients at the NSW level for AAPS 2019. A lower p-value at 0.01 was used for detecting the differences between the experiences of Aboriginal and non-Aboriginal admitted patients, for NSW and by urban and rural hospitals. Lower p-value thresholds were used for the NSW and urban and rural results to reflect the larger numbers of Aboriginal and non-Aboriginal respondents to AAPS and therefore the power to detect differences. Results for each individual LHD have been internally reported.

Reporting results

Percentages are presented as rounded values. Unrounded values are used to calculate the percentage point difference, which is then rounded. Therefore, the percentage point difference may not match the difference between the rounded values for each group's result.

Results for AAPS are also shown by the rurality of the hospital the patient attended. The classification of rurality of facility (urban and rural) is based on the Accessibility and Remoteness Index of Australia (ARIA+), the standard Australian Bureau of Statistics measure of remoteness.[1] Results for urban hospitals include those classified as 'Major Cities of Australia' according to ARIA+. Results for rural hospitals include those classified as 'Inner Regional Australia', 'Outer Regional Australia', 'Remote Australia' and 'Very Remote Australia'. For AAPS 2019, there were 1,863 Aboriginal respondents who attended an urban hospital and 1,589 Aboriginal respondents who attended a rural hospital.

Table 8 Hospitals classifications according to ARIA+ for report groupings

Rural (Inner regional/outer regional, remote or very remote)	Urban (major cities)
Armidale Hospital	Auburn Hospital
Ballina District Hospital	Bankstown-Lidcombe Hospital
Batemans Bay District Hospital	Belmont Hospital
Bathurst Health Service	Blacktown Hospital
Bowral and District Hospital	Blue Mountains District Anzac Memorial Hospital
Broken Hill Health Service	Calvary Mater Newcastle
Byron Central Hospital	Campbelltown Hospital
Casino & District Memorial Hospital	Canterbury Hospital
Cessnock Hospital	Concord Repatriation General Hospital
Coffs Harbour Health Campus	Fairfield Hospital

Rural (Inner regional/outer regional, remote or very remote)	Urban (major cities)
Cooma Hospital and Health Service	Gosford Hospital
Cowra Health Service	Hawkesbury District Health Services
Deniliquin Hospital and Health Services	Hornsby Ku-ring-gai Hospital
Dubbo Base Hospital	John Hunter Hospital
Goulburn Base Hospital and Health Service	Kurri Kurri Hospital
Grafton Base Hospital	Liverpool Hospital
Griffith Base Hospital	Maitland Hospital
Gunnedah Hospital	Mount Druitt Hospital
Inverell Hospital	Nepean Hospital
Kempsey District Hospital	Prince of Wales Hospital
Lachlan Health Service –Forbes	Queanbeyan Hospital and Health Service
Lismore Base Hospital	Royal Hospital for Women
Lithgow Hospital	Royal North Shore Hospital
Macksville District Hospital	Royal Prince Alfred Hospital
Maclean District Hospital	Ryde Hospital
Manning Hospital	Shellharbour Hospital
Milton Ulladulla Hospital	St George Hospital
Moree Hospital	St Vincent's Hospital Sydney
Moruya District Hospital	Sutherland Hospital
Mudgee Health Service	Sydney Hospital and Sydney Eye Hospital
Murwillumbah District Hospital	The Tweed Hospital
Muswellbrook Hospital	Westmead Hospital
Narrabri Hospital	Wollongong Hospital
Orange Health Service	Wyong Hospital
Port Macquarie Base Hospital	
Shoalhaven District Memorial Hospital	
Singleton Hospital	
South East Regional Hospital	
Tamworth Hospital	
Wagga Wagga Rural Referral Hospital	
Young Health Service	

For results comparing the experiences of Aboriginal patients who said they had the support of an Aboriginal Health Worker with those of Aboriginal patients who did not, the identification of an Aboriginal Health Worker is based on the patient's perspective, so could include any member of staff that the respondent considered to be an Aboriginal Health Worker, regardless of whether they were officially employed in this capacity.

The following analyses of differences in patient experiences are included in the report:

- For AAPS 2019, differences in the experiences of Aboriginal and non-Aboriginal patients at the NSW level, and for those who attended urban or rural hospitals.
- For AAPS 2019, differences in the experiences of Aboriginal patients for those who attended rural and urban hospitals.
- For AAPS 2019 and the Maternity Care Survey 2019, differences in the experiences of Aboriginal patients who reported having the support of an Aboriginal Health Worker and those who did not.
- For the Maternity Care Survey 2019, differences in the experiences of Aboriginal and non-Aboriginal patient women who gave birth at the NSW level.

Changes over time

Patient survey responses are partially influenced by the socio-demographic characteristics of the patient. For example, older patients and male patients are more likely to respond positively to surveys.

To reduce any influences of changes to patient characteristics over time, for AAPS, selected patient characteristics (age and sex) were used to adjust the trend analysis, thus enabling fairer comparisons. Table 9 presents weighted characteristics of Aboriginal patients' over the six-year period.

To analyse changes in patient experiences over time, six consecutive years of survey data for AAPS between 2014 and 2019 were pooled. Changes in patients' selections of the most positive response option were examined using multivariable logistic regression in the procedure SURVEYLOGISTIC. In each model, the most positive response option for each question was modelled as an outcome, with year as an explanatory variable and adjusting for age and sex. P-values of 0.05 were used to determine if the change over time was statistically significant. When the results flagged as 'red' or 'green' in the report or supplementary data tables, this reflects changes in patients' experiences (where green reflects an improvement, and red reflects a decline). The report shows results at NSW level, and by rural and urban hospitals.

Table 9 Weighted characteristics of Aboriginal patients over the time, AAPS, 2014–2019

		2014	2015	2016	2017	2018	2019
Age group (%)	18–49 years	39	53	44	47	48	41
	50+ years	61	47	56	53	52	59
Sex (%)	Male	44	41	45	45	42	42
	Female	56	59	55	55	58	58

Determining key drivers of overall patient experience and measures of respect and dignity

Positive experiences for Aboriginal patients in the areas of overall care and respect and dignity could be associated with more than one component. Therefore, they may be attributable to many modifiable factors such as communication with health professionals, discharge planning and the provision of information.

A list of potential factors or 'drivers' were selected in a consensus between the project team and key stakeholders. Both outcomes and factors were dichotomised into binary variables based on the top-cat response. A correlation analysis was performed to identify any possible collinearity among factors using spearman correlation coefficient at or above 0.6. When there was a signal of collinearity, consensus was made to retain one question only.

The two outcomes in this analysis were the AAPS 2019 survey questions 'Overall, how would you rate the care you received while in hospital?' and 'Did you feel you were treated with respect and dignity while you were in the hospital?'.

The following potential drivers were identified for the overall rating of care outcome:

- Were you given enough privacy when being examined or treated or when discussing your condition or treatment? (Q11 and Q12)
- If you needed to talk to a doctor, did you get the opportunity to do so? (Q13)
- If you needed to talk to a nurse, did you get the opportunity to do so? (Q19)
- Did you have confidence and trust in the doctors treating you? (Q16)
- Did you have confidence and trust in the nurses treating you? (Q23)
- Did the health professionals introduce themselves to you? (Q30)
- Did the health professionals explain things in a way you could understand? (Q31)
- During your stay in hospital, how much information about your condition or treatment was given to you? (Q32)
- I was involved as much as I wanted in making decisions about my treatment and care... (Q35)
- Did you ever receive contradictory information about your condition or treatment from the health professionals? (Q37)
- Did you feel you were treated with respect and dignity while you were in the hospital? (Q39)
- Were you ever treated unfairly for any of the reasons below? (derived measure) (Q41)
- Did you feel involved in decisions about your discharge from hospital? (Q63)
- At the time you were discharged, did you feel that you were well enough to leave the hospital? (Q64)
- Thinking about when you left hospital, were you given enough information about how to manage your care at home? (Q65)
- Did hospital staff tell you who to contact if you were worried about your condition or treatment after you left hospital? (Q68)
- How well organised was the care you received in hospital? (Q79)

The following potential drivers were identified for the respect and dignity outcome:

- Were you given enough privacy when being examined or treated or when discussing your condi-tion or treatment? (Q11 and Q12)
- If you needed to talk to a doctor, did you get the opportunity to do so? (Q13)
- If you needed to talk to a nurse, did you get the opportunity to do so? (Q19)
- Did you have confidence and trust in the doctors treating you? (Q16)
- Did you have confidence and trust in the nurses treating you? (Q23)
- Did the health professionals introduce them-selves to you? (Q30)
- Did the health professionals explain things in a way you could understand? (Q31)
- During your stay in hospital, how much infor-mation about your condition or treatment was given to you? (Q32)
- I was involved as much as I wanted in making decisions about my treatment and care... (Q35)
- Did you ever receive contradictory information about your condition or treatment from the health professionals? (Q37)
- Were you ever treated unfairly for any of the reasons below? (derived measure) (Q41)
- Did you feel involved in decisions about your discharge from hospital? (Q63)
- At the time you were discharged, did you feel that you were well enough to leave the hospital? (Q64)
- Thinking about when you left hospital, were you given enough information about how to manage your care at home? (Q65)
- Did hospital staff tell you who to contact if you were worried about your condition or treatment after you left hospital? (Q68)
- How well organised was the care you received in hospital? (Q79)

Invalid responses such as 'Don't know', 'Can't remember' or 'Not applicable' responses were excluded. Factors associated with the outcome were determined using logistic regression in SURVEYLOGISTIC procedure with backward elimination approach. Variables with a significance level of more than 0.05 in the multivariable model were eliminated in the model selection process. The adjusted odds ratio and confidence interval were used to assess the relative importance of each factor.

Patient comments

The AAPS 2019 and the Maternity Care Survey 2019 contained two free-text questions asking respondents what they thought was the best part of their care, and what needed improving. Table 10 describes the number of Aboriginal patients who provided feedback in response to these questions.

Table 10 Summary of comments provided by Aboriginal patients in AAPS 2019 and Maternity Care Survey 2019

	AAPS 2019	Maternity Care Survey 2019
Total number of Aboriginal respondents	3,454	283
% who provided comments in response to 'What was the best part of the care you received…?'	74%	89%
% who provided comments in response to 'What most needs improving about the care you received…?'.	66%	87%
% who provided comments in response to at least one question	78%	91%
% who provided comments in response to both questions	62%	86%

For surveys returned by mail, a third-party vendor manually entered the free-text comments. Any identifying information (including patient, staff and ward names) was removed at this time. BHI contracted the vendor to code these comments to a range of categories and sub-themes of patient experience, including priority themes identified by Aboriginal stakeholders. Categories and sub-themes specific to maternity patients were used to analyse Maternity Care Survey comments. A comment could contain more than one category and sub-theme.

In scenarios where patients wrote a comment that did not answer the question, such as 'no comment', the comment was excluded from the analyses. Similarly, blank responses (where a patient did not provide a response) were treated as missing and hence excluded from the analyses. The number of times a category or sub-theme was coded for the comments was calculated using PROC FREQ in SAS to generate the most common categories or sub-themes for each question. Table 11 presents some of the categories and sub-themes that were used for AAPS comments in this report.

Table 11 Categories and examples of categories and sub-themes by question, AAPS 2019.

	Themes within each category	
Categories	**Best part of care**	**What could improve**
Timeliness	Prompt attention, prompt diagnosis, treated quickly, prompt scheduling of procedure, organised system	Waiting time in emergency, in hospital, for test, for diagnosis, etc.
Staff aspects	Helpful staff, kind staff, courteous staff, skilled staff, attention to detail, treated with dignity and respect, etc.	More staff, staff with better knowledge about patient's condition, improve, caring, better working conditions for staff, etc.
Treatment/care	Pain management, treated effectively, involvement in care, quality of care, etc.	Improve pain management, pre- and post-operative care, patient involvement, more allied health specialists, etc.
Facilities	Cleanliness, internet access, entertainment, personalise facilities, etc.	More privacy, need more bathrooms/toilets, need more beds, improve ventilation, car parking, internet/ phone access etc.
Food/catering	Food good/excellent/tasty, dietary requirements met, etc.	Need tastier food, fresher food, dietary requirements not accommodated, no gluten-free options, etc.
Communication	Clear explanation, listening, communication, etc.	Improved communication, understandable explanation, listening to personal opinion, etc.
Admission/discharge	Discharge planning, follow up after discharge, etc.	Improved admission/discharge process, improve discharge planning, ensure ready for discharge, etc.

Interpret with caution

All sample surveys are subject to sampling error (i.e. the difference between results based on surveying a selection of respondents, and the results if all people who received care were surveyed). The true result is expected to fall within the 95% confidence interval 19 times out of 20.

Where the confidence interval for percentages of the most positive response responses were wider than 20 percentage points, results in the supplementary data tables are noted with a '*' to indicate 'interpret with caution'. In addition, percentages of 0 or 100, which do not have confidence intervals, are also noted as 'interpret with caution' where the number of respondents is less than 200.

Limitations of the analyses

The sampling strategy was not specifically designed to be representative of Aboriginal patients for the entire period included in the trend analysis of this report. For AAPS in 2014 and 2019 and the Maternity Care Survey in 2019 there was oversampling and census sampling, respectively, of Aboriginal patients. In all other years, due to the differences in sampling strategy, it could be that the Aboriginal patients who responded to the survey were not representative of the Aboriginal patients who were eligible to be surveyed.

From 2015 to 2018, the AAPS response rate for Aboriginal patients in rural areas was lower than the response rate in urban areas (14% versus 16%).

In this report, the decision was made to present results by rurality of hospital for consistency with previous BHI reports and reflect the performance of hospitals. The use of rurality of hospital also allows the assessment of the representativeness between the sampling frame and the respondent cohort (Table 6). AAPS 2019 shows that the majority of Aboriginal patients surveyed were admitted to hospitals in the areas where they live. For example, in 2019, over 85% of Aboriginal people living in rural areas received in-hospital treatment in their local area.

Furthermore, due to the smaller numbers of Aboriginal respondents across LHDs and hospitals, results at these levels could not be publicly reported. These results were released internally to inform system improvement.

Although this report uses data from a relatively large number of Aboriginal respondents, potential response bias due to the lower response rate among Aboriginal patients cannot be ruled out. However, there is evidence that low response rates do not necessarily cause non-respondent bias.

Methods used for modelling changes over time did not consider the clustering effect within hospitals, such as when patients within the same hospitals gave similar responses. There could be other factors such as length of stay, patients' health status and comorbidities contributing to the variation in patients' experience of care. This information is unavailable as part of the AAPS surveys without linkage to administrative data.

References

1. For more information, refer to **www.abs.gov.au/websitedbs/d3310114.nsf/home/remoteness+structure**

bureau of health information

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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