Adult Admitted Patient Survey 2017

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bureau of
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Contents

The NSW Patient Survey Program

The New South Wales (NSW) Patient Survey Program began surveying patients in NSW public hospitals from 2007. From 2007 to mid-2012, the program was coordinated by the NSW Ministry of Health using questionnaires obtained under license from NRC Picker. Ipsos Social Research Institute Ltd (Ipsos) was contracted to manage the logistics of the survey program. Responsibility for the Patient Survey Program was transferred from the Ministry of Health to the Bureau of Health Information (BHI) in November 2012.

The aim of the survey program is to measure and report on patients' experiences of care in public hospitals in NSW, on behalf of the Ministry of Health and the local health districts (LHDs). The results are used as a source of performance measurement for individual hospitals, LHDs and the state.

This document outlines the sampling methodology, data management and analysis of the 2017 Adult Admitted Patient Survey (AAPS).

There were no changes to the questions between 2016 and 2017, but design changes were made to the questionnaire to assist respondents in completing all questions in the survey. Please refer to the *Development Report – Adult Admitted Patient Survey 2017*.

For more information on how to interpret results and whether differences in the results between public hospitals, LHDs, and public hospitals and LHDs compared with NSW are statistically different, please refer to BHI's *Guide to Interpreting Survey Differences* at **bhi.nsw.gov.au/nsw_patient_survey_program**

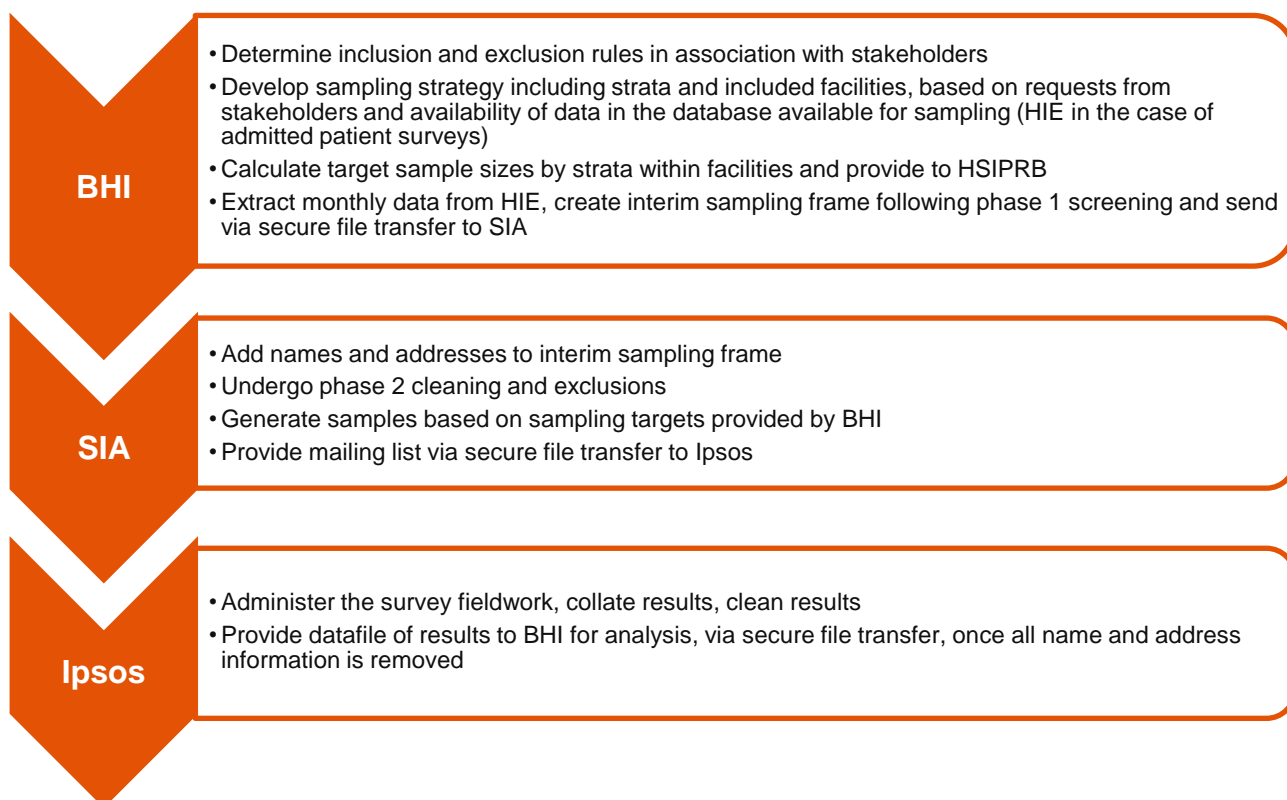# Organisational roles in producing survey samples

The survey program assures patients that their responses will be confidential and that staff at hospitals will not be able to determine who gave which response. BHI does this through a number of mechanisms, including:

- Data suppression (results for fewer than 30 responses are suppressed)
- Reporting aggregated results
- Anonymisation of patient comments
- Segregation of roles when constructing the survey samples (see below).

The sampling method for the survey program is a collaboration between BHI, Ipsos and the NSW Ministry of Health's Systems Information and Analytics (SIA) branch (see Figure 1). All surveys of admitted patients use data from the Health Information Exchange (HIE).

BHI has access to de-identified unit record hospital data from selected tables of the HIE database. Use of an encrypted patient number allows deduplication of patients within a hospital. For the AAPS, sampling frames are defined separately for each month, with the date at discharge used to define eligible records. Sample sizes for each included hospital are calculated in advance, as defined later in this report.

Figure 1 Organisational responsibilities in sampling and survey processing, Adult Admitted Patient Survey, 2017

BHI
- Determine inclusion and exclusion rules in association with stakeholders
- Develop sampling strategy including strata and included facilities, based on requests from stakeholders and availability of data in the database available for sampling (HIE in the case of admitted patient surveys)
- Calculate target sample sizes by strata within facilities and provide to HSIPRB
- Extract monthly data from HIE, create interim sampling frame following phase 1 screening and send via secure file transfer to SIA

SIA
- Add names and addresses to interim sampling frame
- Undergo phase 2 cleaning and exclusions
- Generate samples based on sampling targets provided by BHI
- Provide mailing list via secure file transfer to Ipsos

Ipsos
- Administer the survey fieldwork, collate results, clean results
- Provide datafile of results to BHI for analysis, via secure file transfer, once all name and address information is removed

Inclusion criteria

Phase 1 screening

Admitted patient data pass through two phases of screening to create a sample frame of patients eligible to participate in the Adult Admitted Patient Survey. Phase 1 screening is conducted by BHI.

Inclusions

- Admitted patients aged 18 years and older
- Admitted to a hospitalwith a peer group classification of:

  – A1: Principal referral

  – A3: Ungrouped acute – tertiary referral

  – B: Major hospitals group 1

  – C1: District group 1

  – C2: District group 2.

Exclusions

- Patients who died during their hospital admission – mode of separation of 6 (Death with autopsy) or 7 (Death without autopsy)
- Patients receiving Acute and Post-Acute Care (APAC) services
- Patients who are not receiving either acute or rehabilitation care in hospital (Episode of care types 1 and 2)
- Patients who were admitted to a psychiatric unit during the hospital stay
- Patients with a personal history of self-harm (ICD-10 Z91.5) or who have intentionally self-harmed (ICD-10 X60-X84, Y87.0, Y34)
- Patients with a family history of mental or behavioural disorders (ICD-10 Z81.8) and patients who have expressed suicidal ideation (ICD-10 R45.81)
- Patient recorded with maltreatment syndromes (ICD-10 T74) in any diagnosis field, including neglect or abandonment, physical abuse, sexual abuse, psychological abuse, other maltreatment syndromes and maltreatment syndrome, unspecified
- Patients who gave birth during their admission (ICD-10 Z37.0, Z37.2, O80-O84, or procedure codes of 90467, 90468, 90469, 90470 or 16520)
- Patients who experienced a stillbirth (ICD-10 Z37.1, Z37.3, Z37.4, Z37.6, Z37.7)
- Patients who experienced pregnancy with an abortive outcome (ICD-10 O00-O08)
- Patients admitted for a termination of pregnancy procedure (ICD-10 35643-03, 35640-03)
- Patients admitted for same-day haemodialysis – code 13100-00 in any procedure fields
- Same day patients who stayed for less than three hours
- Same day patients transferred to another hospital

- Patients recorded as receiving contraceptive management (ICD-10 Z30) in any diagnosis field, including general counselling and advice on contraception, surveillance of contraceptive drugs, surveillance of contraceptive device, other contraceptive management and contraceptive management, unspecified.
- Records that do not include a date of birth

Where patients had multiple visits within the sampling month, their most recent hospital stay was retained for sampling. The questionnaire instructs the patient to respond to the survey based on their most recent admission in a particular month.

If the diagnosis code is known, then BHI excludes patients with the 'sensitive conditions' documented above. Patients with incomplete diagnosis coding are still offered the chance to participate in survey program and are not excluded. This proportion was 5.4% in 2017.

Phase 2 screening

BHI provides the interim sampling frame to SIA, who add patient name and address information. Data then undergo a second phase of screening. This review results in exclusions for administrative/logistical reasons, or where death had been recorded after discharge for the stay used for sample selection, but before the final sampling frame is prepared.

Exclusions

Patients meeting the following exclusion criteria are removed in this phase:

- Invalid address (including those with addresses listed as hotels, motels, nursing homes, community services, Mathew Talbot Hostel, 100 William Street, army quarters, jails, "unknown")
- Invalid name (including twin, baby of)
- Invalid date of birth
- On the 'do not contact' list
- Sampled in the previous six months for any BHI patient survey currently underway
- Recorded as deceased according to the NSW Birth Deaths and Marriages Registry and/or Agency Performance and Data Collection, prior to the sample being provided to Ipsos.

The data following these exclusions are defined by BHI as the final sampling frame.

Drawing of the sample

Survey design

A stratified sample design was applied, with each hospital defined as a stratum. Within each facility, patients were further stratified by the following variables:

- Age – 18–49 or 50 years and over, based on the age variable
- Stay type – same day or overnight admission, based on the start and end times of the last hospital stay in the month.

Simple random sampling without replacement was applied within each stratum to create a final sample of patients who were mailed a survey.

Calculation of sample sizes and reporting frequency

Monthly sample sizes were determined prior to the commencement of the survey year. These calculations were based on data extracted from the HIE for the previous 12-month period, using the inclusion and exclusion criteria described in section Phase 1 screening (see page 3).

Hospitals in peer groups A1, A2 and B were sampled on the basis of quarterly reporting. The remaining hospitals were sampled on the basis of semi-annual reporting. The reporting frequency for each hospital included in the survey is shown later in the report (Table 2).

Equation 1 was used to estimate the sample size at the hospital level:

$$s_i = \frac{\chi^2 NP(1-P)}{d^2(N_i-1)+\chi^2 P(1-P)} \tag{1}$$

Where:

s_i = desired sample size per reporting period for hospital i

χ^2 = tabulated value of chi-squared with one degree of freedom at 5% level of significance (3.841)

N_i = patient population per reporting period for hospital i

P = expected proportion giving positive response to the question on satisfaction with overall care (0.8), based on previous levels of response to patient surveys

d = degree of accuracy of the 95% confidence interval expressed as a proportion (±0.07)

Sample sizes were allocated proportionately across each stratum of age group and stay type.

Sample sizes were inflated to account for expected response rates to ensure a suffiicient number of patients will participate from each hospital. For this survey, the expected response rates were:

- 18–49 years: 30%
- 50+ years: 60%.

Monthly survey targets were provided to SIA after dividing the inflated sample size evenly by 12, and applying a minimum monthly sample size of at least four to each sampling stratum. For each month of sampling, SIA randomly selects patients within each hospital and stratum, with the aim of achieving the targets provided by BHI.

Notes:

- RPAH Institute of Rheumatology & Orthopaedics is pooled with the Royal Prince Alfred Hospital for calculation of sample size. After calculation, the sample for these combined hospitals is proportionately allocated, by strata.

Data management

Data collection

Upon completion of a survey questionnaire, the respondent either mails a paper-based questionnaire or submits the survey responses online to Ipsos. If a paper form is returned, Ipsos scans in the answers electronically and manually enters free text fields.

Once all data are collated into a single dataset, names and addresses are removed. Also, all text entry fields are checked for potential identifiers (e.g. names of patients, names of doctors, telephone numbers, etc.) and any that are found are replaced with 'XXXX'.

Following this, each record is checked for any errors in completion. Where necessary, adjustments are made, such as removing responses where the patient has not correctly followed questionnaire instructions or where the respondent has provided multiple answers to a single response question.

At the end of this process, Ipsos uses a secure NSW Ministry of Health system to transfer the data from their servers to BHI's secure servers, all of which are password protected with limited staff access.

At no stage does BHI, which analyses the data, have access to the names and contact details of respondents. This ensures that respondent answers remain confidential and identifying data can never be publicly released.

Data analysis

For Adult Admitted Patient Survey 2017, there were 59,363 surveys mailed and 21,026 responses.

Completeness of survey questionnaires

Survey completeness is a measure of how many questions each respondent answered as a proportion of all questions in the questionnaire. The level of survey completeness was high overall, with respondents answering, on average, 76 out of the 97 of the non-text questions. Over 90% of respondents answered at least 68 questions.

Weighted response rate

Younger patients were oversampled to ensure greater representation of these patients in the respondent profile. As a result, the distribution of patients in the sample does not necessarily match the distribution of patients in the population. Therefore, response rates were weighted to ensure that the overall survey response rate reflects a response rate that would be observed if patients were sampled in proportion to the patient mix. For more details about the calculation of weighted response rates, refer to the *Technical Supplement: 2014 Adult Admitted Patient Survey*.

The overall weighted response rate was 40%. At the LHD level, this ranged from 31% to 50%; at the hospital level, this ranged from 23% to 59%. Response rates at LHD and hospital level are provided in Tables 1 and 2 respectively, later in the document.

Weighting of data

Responses from the survey were weighted to optimise the degree to which results from respondents are representative of the experiences and outcomes of the overall patient population. At the LHD and NSW level, weights also ensure that the different sampling proportions used at the hospital level are accounted for, so that LHD results are not unduly influenced by small hospitals that had larger sampling proportions.

For each reporting period, responses were weighted to match the population by stay type (same-day or overnight) and age (18–49 or 50+ years) within each facility. Weights were calculated as follows.

An initial weight was calculated for respondents in each stratum using Equation 2:

$$w_i = \frac{N_i}{n_i} \tag{2}$$

where:

N_i = total number of patients eligible for the survey in the ith stratum

n_i = number of respondents in the ith stratum.

If the stratum cell size was five or fewer, cells were aggregated prior to weighting, provided that the aggregation did not increase the weights allocated to the cell with the small sample size.

Each quarter of data was weighted separately. Hospitals where sample size was based on semi-annual reporting were aggregated within an LHD in order to undertake quarterly weighting. The quarterly weights are used for quarterly or semi-annual reporting. Once the four quarters of data were available, the four quarters of data were aggregated and the weights for hospitals sampled on the basis of semi-annual reporting were recalculated at the hospital level. The adjusted (annual) weights are used for the reporting of results based on the full twelve months of data.

Assessment of weights

Weights were assessed to ensure that undue emphasis is not applied to individual responses. The ratio of the maximum to median weight at the hospital level was reviewed. For this survey, this ranged from 1.3 to 4.4.

The design effect (DEFF) estimates the increase in the variance of estimates due to the complex sample design over that of a simple random sample. It is estimated as (1+coefficient of variance (weights)^2). Sample sizes, weighted response rates and DEFFs are shown in Table 1 (by LHD and NSW) and Table 2 (by facility).

A DEFF of two indicates that the variance of estimates will be double the sample variance that would have been obtained if simple random sampling had been done. Generally speaking, LHDs with the largest DEFFs are those that have the greatest range in patient volumes across the hospitals within the LHD. The standard errors at the LHD level are fairly small because of the sample sizes at that level. Therefore the increase in standard errors caused by the survey design (and leading to a larger DEFF at LHD level) is more than offset by the fact that each hospital that is sampled has sufficient sample size to allow facility-level reporting. In addition, the estimates at the LHD level have appropriate distribution of respondents between large and small hospitals.

Table 1 Sample size, response rates and design effects (DEFF), by LHD and overall, AAPS, January to December 2017

LHD	Surveys mailed	Survey responses	Weighted response rate (%)	DEFF
Central Coast	2,032	811	46	1.1
Far West	898	270	36	1.0
Hunter New England	9,828	3,744	44	1.7
Illawarra Shoalhaven	2,842	1,175	46	1.7
Mid North Coast	2,928	1,279	50	1.2
Murrumbidgee	2,503	890	41	1.4
Nepean Blue Mountains	2,658	924	40	1.7
Northern NSW	4,859	1,906	44	1.6
Northern Sydney	4,716	1,668	40	1.5
South Eastern Sydney	5,512	1,807	39	1.5
South Western Sydney	4,902	1,387	33	1.3
Southern NSW	2,978	1,178	46	1.2
St Vincent's Health Network	1,119	299	31	1.0
Sydney	3,496	1,145	37	1.1
Western NSW	3,954	1,442	41	1.3
Western Sydney	4,138	1,101	31	1.5
NSW	59,363	21,026	40	1.7

Table 2 Sample size, response rates and design effects (DEFF), by facility, AAPS, January to December 2017

Hospital name	Reporting period	Surveys mailed	Survey responses	Weighted response rate (%)	DEFF
Armidale Hospital	Semi-annual	500	182	43	1.0
Auburn Hospital	Quarterly	1,223	259	23	1.1
Ballina District Hospital	Semi-annual	506	228	53	1.2
Bankstown / Lidcombe Hospital	Quarterly	1,074	285	31	1.1
Bateman's Bay District Hospital	Semi-annual	468	185	48	1.1
Bathurst Base Hospital	Semi-annual	547	187	41	1.1
Belmont Hospital	Semi-annual	523	218	47	1.1
Blacktown Hospital	Quarterly	1,160	335	32	1.1
Blue Mountains District Anzac	Semi-annual	513	222	48	1.0
Bowral and District Hospital	Semi-annual	475	198	47	1.1
Broken Hill Base Hospital	Quarterly	898	270	36	1.0
Byron Central Hospital	Semi-annual	429	122	32	1.4
Calvary Mater Newcastle	Quarterly	976	384	45	1.1
Campbelltown Hospital	Quarterly	1,121	333	35	1.1
Canterbury Hospital	Quarterly	1,091	320	33	1.0
Casino and District Memorial Hospital	Semi-annual	455	187	45	1.0
Cessnock District Hospital	Semi-annual	474	184	44	1.2
Coffs Harbour Base Hospital	Quarterly	1011	421	48	1.1
Concord Hospital	Quarterly	1,030	359	38	1.1
Cooma Health Service	Semi-annual	470	186	45	1.1
Cowra District Hospital	Semi-annual	455	191	49	1.0
Deniliquin Health Service	Semi-annual	442	158	42	1.0
Dubbo Base Hospital	Quarterly	1,032	326	36	1.1
Fairfield Hospital	Quarterly	1,134	280	28	1.1
Gosford Hospital	Quarterly	1,040	387	43	1.1
Goulburn Base Hospital	Semi-annual	510	201	46	1.0
Grafton Base Hospital	Semi-annual	489	202	48	1.3
Griffith Base Hospital	Semi-annual	525	149	33	1.1
Gunnedah District Hospital	Semi-annual	362	122	38	1.1
Hawkesbury District Health Services	Semi-annual	536	178	40	1.1
Hornsby and Ku-Ring-Gai Hospital	Quarterly	1048	395	42	1.1
Inverell District Hospital	Semi-annual	484	186	44	1.0
John Hunter Hospital	Quarterly	1093	386	41	1.0
Kempsey Hospital	Semi-annual	473	184	47	1.1
Kurri Kurri District Hospital	Semi-annual	488	257	59	1.0
Lachlan Health Service - Forbes	Semi-annual	437	166	43	1.0
Lismore Base Hospital	Quarterly	1015	371	41	1.1
Lithgow Health Service	Semi-annual	470	371	45	1.0
Liverpool Hospital	Quarterly	1098	291	29	1.1
Macksville District Hospital	Semi-annual	458	238	59	1.1

Hospital name	Reporting period	Surveys mailed	Survey responses	Weighted response rate (%)	DEFF
Maclean District Hospital	Semi-annual	431	193	51	1.2
Maitland Hospital	Quarterly	1057	397	44	1.1
Manly District Hospital	Quarterly	1,052	353	39	1.0
Manning Base Hospital	Quarterly	946	434	53	1.1
Milton and Ulladulla Hospital	Semi-annual	351	179	54	1.1
Mona Vale and District Hospital	Quarterly	1007	358	39	1.0
Moree District Hospital	Semi-annual	467	135	35	1.1
Moruya District Hospital	Semi-annual	470	181	44	1.1
Mount Druitt Hospital	Semi-annual	599	193	38	1.1
Mudgee District Hospital	Semi-annual	476	190	44	1.0
Murwillumbah District Hospital	Semi-annual	486	224	52	1.1
Muswellbrook District Hospital	Semi-annual	486	152	39	1.1
Narrabri District Hospital	Semi-annual	412	135	37	1.1
Nepean Hospital	Quarterly	1139	347	37	1.1
Orange Health Service	Quarterly	1,007	382	43	1.0
Port Macquarie Base Hospital	Quarterly	986	436	50	1.1
Prince of Wales Hospital	Quarterly	1,078	332	36	1.1
Queanbeyan Health Service	Semi-annual	558	221	44	1.1
Royal Hospital for Women	Quarterly	1,352	425	33	1.0
Royal North Shore Hospital	Quarterly	1,089	373	39	1.1
Royal Prince Alfred Hospital	Quarterly	1,375	466	38	1.0
Ryde Hospital	Semi-annual	520	189	40	1.0
Shellharbour Hospital	Semi-annual	487	229	52	1.1
Shoalhaven District Memorial Hospital	Quarterly	970	399	48	1.1
Singleton District Hospital	Semi-annual	522	189	41	1.1
South East Regional Hospital	Semi-annual	502	204	47	1.0
St George Hospital	Quarterly	1,055	324	35	1.1
St Vincent's Hospital, Darlinghurst	Quarterly	1,119	299	31	1.0
Sutherland Hospital	Quarterly	988	380	44	1.1
Sydney/Sydney Eye Hospital	Quarterly	1,039	346	38	1.1
Tamworth Base Hospital	Quarterly	1,038	383	43	1.1
The Tweed Hospital	Quarterly	1,048	379	43	1.1
Wagga Wagga Base Hospital	Quarterly	1,066	397	44	1.0
Westmead Hospital	Quarterly	1,156	314	31	1.1
Wollongong Hospital	Quarterly	1,034	368	41	1.0
Wyong Hospital	Quarterly	992	424	49	1.1
Young Health Service	Semi-annual	470	186	46	1.1

Comparing weighted and unweighted patient characteristics

One of the aims of sample weights is to ensure that, after weighting, the characteristics of the respondents closely reflect the characteristics of the patient population.

Table 3 shows the demographic characteristics of respondents against the patient population. The four columns denote:

1. % in patient population – the patient population prior to the phase 2 screening process
2. % in eligible population – final sampling frame from which the sample is drawn. Limited demographic variables are available at this level.
3. % in respondents – respondents to survey, not adjusted for unequal sampling
4. % in respondents (weighted) – respondents to survey, adjusted by weighting to be representative of the patient population.

Table 3 Demographic characteristics of patient population vs respondents to survey, AAPS, January to December 2017

Demographic variable	Sub-group	% in patient population	% in eligible population	% in respondents (unweighted)	% in respondents (weighted)
LHD	Central Coast	5	5	4	5
	Far West	0	0	1	0
	Hunter New England	12	12	18	12
	Illawarra Shoalhaven	5	5	6	5
	Mid North Coast	4	4	6	4
	Murrumbidgee	3	3	4	3
	Nepean Blue Mountains	5	5	4	5
	Northern NSW	6	6	9	6
	Northern Sydney	9	9	8	9
	South Eastern Sydney	9	10	9	10
	South Western Sydney	12	12	7	12
	Southern NSW	3	3	6	3
	St Vincent's Health Network	3	3	1	3
	Sydney	9	9	5	9
	Western NSW	4	4	7	4
	Western Sydney	11	10	5	10
Peer group	A1	46	47	22	47
	A3	3	3	5	3
	B	35	35	37	35
	C1	9	9	13	9
	C2	7	6	23	6
Age stratum	18–49	31	32	25	31
	50+	69	68	75	69
Stay type	Overnight	66	65	62	65
	Same day	34	35	38	35
Aboriginal status	Not Aboriginal	96	.	98	98
	Aboriginal and/or Torres Strait Islander	4	.	2	2
Gender	Male	49	.	46	47
	Female	51	.	54	53

Reporting

Statistical analysis

Data were analysed for the period from January to December 2017 combined, as well as by quarter. Analysis was undertaken in SAS V9.4 using the SURVEYFREQ procedure, with facility, age groups and stay type as strata. Results were weighted for all questions, with the exception of questions related to socio-demographic characteristics and self-reported health.

BHI only publishes results that include a minimum of 30 respondents for any question at reporting level (hospital or LHD or NSW). This is to ensure there are enough respondents for reliable estimates to be calculated. This also ensures that confidentiality and privacy are protected. For hospitals or LHDs where there were too few respondents, results are suppressed.

Levels of reporting are shown in Table 4.

Table 4 Levels of reporting, AAPS, January to December 2017

Grouping	Reporting frequency	NSW	Peer group	LHD	Hospital
All patients	**Annually**	✓	✓	✓	✓
	Quarterly	✓	✓	✓	✓*
Age group: self-reported – administrative data used where question on year of birth was missing or invalid		✓	✓	✓	✓
Gender: self-reported – administrative data used where question on gender was missing or invalid		✓	✓	✓	✓
Education: response 'Still at secondary school' was combined with 'Less than Year 12'		✓	✓	✓	✓
Main language spoken at home	Annually	✓	✓	✓	✓
Rurality of hospital: based on ARIA+# category of hospital location – outer regional, remote and very remote combined		✓			
Long-standing health conditions		✓	✓	✓	✓
Self-reported health status		✓	✓	✓	✓
Quintile of disadvantage: based on the Australian Bureau of Statistics Index of Relative Socio-demographic Disadvantage		✓	✓	✓	✓
Country of birth: from administrative data		✓	✓	✓	✓
Rurality of patient residence: based on ARIA+# category of postcode of respondent residence – outer regional, remote and very remote combined		✓	✓	✓	✓

Results are reported at the quarterly level for the period from January 2013 to December 2017, where questions were comparable across years. For these quarterly results, only questions related to hospital performance are reported in BHI's interactive data portal, Healthcare Observer.

Unless otherwise specified, missing responses and those who responded 'Don't know/can't remember' to questions were excluded from analysis. For a detailed breakdown of the amount of missing or 'Don't know' responses by question, refer to Appendix 1. Typically, performance-type questions exclude missing values and 'Don't know/can't remember'-type responses. The exception is for 'Don't know/can't remember' responses for questions that ask about a third party (e.g. if family had enough opportunity to talk to doctor) or that are over 10%. Meanwhile, questions that are not related to hospital performance include results for people who responded 'Don't know/can't remember', who selected a 'Not applicable'-type response, and those who should have answered the question but did not (a 'missing response').

Confidence intervals are displayed in Healthcare Observer for both annual and quarterly results for all performance-type questions. The BHI document, *Guide to Interpreting Survey Differences*, provides information for comparing results. However, some differences in results between hospitals may be due to differences in the demographic profile of patients attending those hospitals. BHI is currently developing methods to standardise survey results in order to account for differences in patient mix and to optimise direct comparisons.

Some results are calculated indirectly from respondents' answers to a survey question. See Appendix 2 for details on how response options were grouped for each of these derived measures.

Note: Only for hospitals that were sampled on the basis of quarterly reporting and where at least six quarters of unsuppressed results were available.

Accessibility/Remoteness Index of Australia is the standard Australian Bureau of Statistics measure of remoteness. For more information refer to
www.abs.gov.au/websitedbs/d3310114.nsf/home/remoteness+structure

Appendix 1: Percentage of missing and 'Don't know' responses

These percentages are unweighted.

Table 5 Proportion of missing responses 'don't know' responses for questions in the AAPS 2017

	Question text	Missing (%)	Don't know (%)	Missing + Don't know (%)*
1	Was your stay in hospital planned in advance or an emergency?	1.8		1.8
2	When you arrived in hospital did you spend time in the emergency department?	2.4	1.9	4.3
3	Were the emergency department staff polite and courteous?	3.3	1.4	4.7
4	Do you think the amount of time you spent in the emergency department was...?	3.8	4.9	8.7
5	Were the staff you met on your arrival to hospital polite and courteous?	2.1		2.1
6	Do you think the time you had to wait from arrival at hospital until you were taken to your room or ward was...?	2.6	3.4	6.0
7	How clean were the wards or rooms you stayed in while in hospital?	1.9		1.9
8	How clean were the toilets and bathrooms that you used while in hospital?	3.0		3.0
9	Did you see nurses wash their hands, or use hand gel to clean their hands, before touching you?	1.9	12.1	14.0
10	Did you see doctors wash their hands, or use hand gel to clean their hands, before touching you?	2.5	17.2	19.7
11	Were you given enough privacy when being examined or treated?	2.5		2.5
12	Were you given enough privacy when discussing your condition or treatment?	3.1		3.1
13	Was your sleep ever disturbed due to noise at night?	16.9		16.9
14	Did you have any hospital food during this stay?	2.8		2.8
15	How would you rate the hospital food?	2.6		2.6
16	Did you have any special dietary needs (e.g. vegetarian, diabetic, food allergies, religious, cultural, or related to your treatment)?	3.1		3.1
17	Was the hospital food suitable for your dietary needs?	2.2	1.7	3.8
18	If you needed to talk to a doctor, did you get the opportunity to do so?	3.2		3.2
19	When you had important questions to ask a doctor, did they answer in a way you could understand?	3.7		3.7
20	In your opinion, did the doctors who treated you know enough about your medical history?	3.9		3.9
21	Did you have confidence and trust in the doctors treating you?	3.1		3.1
22	Were the doctors kind and caring towards you?	3.3		3.3
23	Overall, how would you rate the doctors who treated you?	3.1		3.1

Question text		Missing (%)	Don't know (%)	Missing + Don't know (%)*
24	If you needed to talk to a nurse, did you get the opportunity to do so?	2.2		2.2
25	When you had important questions to ask a nurse, did they answer in a way you could understand?	2.5		2.5
26	In your opinion, did the nurses who treated you know enough about your care and treatment?	2.7		2.7
27	Did nurses ask your name or check your identification band before giving you any medications, treatments or tests?	2.4	3.8	6.2
28	Did you have confidence and trust in the nurses treating you?	2.2		2.2
29	Were the nurses kind and caring towards you?	2.4		2.4
30	Overall, how would you rate the nurses who treated you?	2.4		2.4
31	Did the health professionals explain things in a way you could understand?	2.8		2.8
32	Why did you have difficulty understanding the explanations of health professionals?	8.8		8.8
33	During your stay in hospital, how much information about your condition or treatment was given to you?	3.7		3.7
34	Did you have worries or fears about your condition or treatment while in hospital?	3.0		3.0
35	Did a health professional discuss your worries or fears with you?	2.6		2.6
36	Were you involved, as much as you wanted to be, in decisions about your care and treatment?	2.6		2.6
37	How much information about your condition or treatment was given to your family, carer or someone close to you?	2.6	4.4	7.0
38	Did you feel you were treated with respect and dignity while you were in the hospital?	1.8		1.8
39	Were your cultural or religious beliefs respected by the hospital staff?	4.2		4.2
40	Were you ever treated unfairly for any of the reasons below?	16.0		16.0
41	How would you rate how well the health professionals worked together?	11.7		11.7
42	Was a call button placed within easy reach?	12.3	4.5	16.7
44	Not including the reason you came to hospital, during your hospital stay, or soon afterwards, did you experience any of the following complications or problems?	7.3		7.3
45	Was the impact of this complication or problem...?	6.2		6.2
47	Were you ever in any pain while in hospital?	3.3		3.3
48	When you had pain, was it usually severe, moderate or mild?	3.2		3.2
49	Do you think the hospital staff did everything they could to help manage your pain?	1.8		1.8
50	During your stay in hospital, did you have any tests, X-rays or scans?	2.7		2.7
51	Did a health professional discuss the purpose of these tests, X-rays or scans with you?	4.5		4.5
52	Did you receive test, X-ray or scan results while you were still in hospital?	5.3		5.3
53	Did a health professional explain the test, X-ray or scan results in a way that you could understand?	3.8		3.8

Question text	Missing (%)	Don't know (%)	Missing + Don't know (%)[*]
54	During your stay in hospital, did you have an operation or surgical procedure?	2.7		2.7
55	Was your operation or surgical procedure planned before you came to hospital?	0.8		0.8
56	Thinking back to when you first tried to book an appointment with a specialist, how long did you have to wait to see that specialist?	9.8	9.6	19.4
57	From the time a specialist said you needed the operation or surgical procedure, how long did you have to wait to be admitted to hospital?	9.1	3.0	12.1
58	Do you think the total time between when you first tried to book an appointment with a specialist and when you were admitted to hospital was...?	9.2	2.8	12.0
59	Before your arrival, how much information about your operation or surgical procedure was given to you by the hospital?	9.1	3.5	12.5
60	Before your operation or surgical procedure began, did a health professional explain what would be done in a way you could understand?	1.5		1.5
61	After the operation or procedure, did a health professional explain how the operation or surgical procedure had gone in a way you could understand?	1.7	2.3	4.0
62	Did you feel involved in decisions about your discharge from hospital?	3.2		3.2
63	At the time you were discharged, did you feel that you were well enough to leave the hospital?	3.0		3.0
64	Thinking about when you left hospital, were you given enough information about how to manage your care at home?	3.0		3.0
65	Did hospital staff take your family and home situation into account when planning your discharge?	3.2	2.8	6.0
66	Thinking about when you left hospital, were adequate arrangements made by the hospital for any services you needed?	3.3		3.3
67	Did hospital staff tell you who to contact if you were worried about your condition or treatment after you left hospital?	3.5	8.8	12.3
68	Were you given or prescribed any new medication to take at home?	3.3		3.3
69	Did a health professional in the hospital explain the purpose of this medication in a way you could understand?	4.7		4.7
70	Did a health professional in the hospital tell you about medication side effects to watch for?	5.5		5.5
71	Did you feel involved in the decision to use this medication in your ongoing treatment?	5.3		5.3
72	Did the hospital provide you with a document summarising the care you received in hospital (e.g. a copy of the letter to your GP or a discharge summary)?	3.9	10.9	14.8
73	On the day you left hospital, was your discharge delayed?	3.2		3.2
74	How long was the delay? [in discharge]	2.7	3.8	6.5
75	Did a member of staff explain the reason for the delay? [in discharge]	3.7		3.7
76	What were the main reasons for the delay? [in discharge]	4.2	4.7	8.8
77	Overall, how would you rate the care you received while in hospital?	1.8		1.8
78	How well organised was the care you received in hospital?	1.9		1.9
79	If asked about your hospital experience by friends and family how would you respond?	3.2		3.2
80	Did the care and treatment received in hospital help you?	2.3		2.3

	Question text	Missing (%)	Don't know (%)	Missing + Don't know (%)*
81	Is the problem you went to hospital for...?	4.0		4.0
82	Did you want to make a complaint about something that happened in hospital?	3.1		3.1
83	In the week before your hospital stay, how difficult was it for you to carry out your normal daily activities (e.g. physical activity, going to work, caring for children)?	5.2		5.2
84	About one month after your discharge from hospital, how difficult was it for you to carry out your normal daily activities?	4.2		4.2
85	In the month following your discharge, did you go to an emergency department because of complications related to the care you received?	3.6	1.4	5.0
86	In the month following your discharge, were you re-admitted to any hospital because of complications related to the care you received?	3.6	1.2	4.7
87	What year were you born?	3.0		3.0
88	What is your gender?	1.9		1.9
89	Language mainly spoken at home	2.1		2.1
90	Did you need, or would you have liked, to use an interpreter at any stage while you were in hospital?	1.3		1.3
91	Did the hospital provide an interpreter when you needed one?	2.0		2.0
92	Aboriginal and/or Torres Strait Islander origin	3.7		3.7
93	Highest level of education completed	4.5		4.5
94	In general, how would you rate your health?	2.4		2.4
95	Which, if any, of the following long-standing conditions do you have (including age-related conditions)?	5.1		5.1
96	Who completed this survey?	2.4		2.4
97	Do you give permission for the Bureau of Health Information to link your answers from this survey to health records related to you?	4.4		4.4

* Percentages for this column may not equal the sum of the 'Missing %' and 'Don't know %' columns because they were calculated using unrounded figures.

Appendix 2: Derived measures

Definition

Derived measures are those for which results are calculated indirectly from respondents' answers to a survey question. These tend to be from questions that contain a 'not applicable' type response option and are used to gather information about the array of patients' needs.

Derived measures involve the grouping together of more than one response option to a question. The derived measure 'Quintile of Disadvantage' is an exception to this rule (for more information on this, please see the *Data Dictionary: Quintile of disadvantage*)

Statistical methods

Results are expressed as the percentage of respondents who chose a specific response option or options for a question. The reported percentage is calculated as the numerator divided by the denominator (see definitions below).

Results are weighted as described in this report.

Numerator

The number of survey respondents who selected a specific response option or specific response options to a certain question, minus exclusions.

Denominator

The number of survey respondents who selected any of the response options to a certain question, minus exclusions.

Exclusions

For derived measures, the following are usually excluded:

- Response: 'don't know/can't remember' or similar non-committal response
- Response: invalid (i.e. respondent was meant to skip a question but did not)
- Response: missing (with the exception of questions that allow multiple responses or a 'none of these' option, to which the missing responses are combined to create a 'none reported' variable).

Interpretation of indicator

The higher the percentage, the more respondents fall into that response category.

The following questions and responses were used in the construction of the derived measures.

Table 6 Derived measures for the Adult Admitted Patient Survey questionnaire 2017

Derived measure	Actual question text	Derived measure categories	Actual question responses
Needed to talk to a doctor	Q18. If you needed to talk to a doctor, did you get the opportunity to do so?	• Needed to talk to doctor	• Yes, always
			• Yes, sometimes
			• No, I did not get the opportunity
		• No need to talk to doctor	• I had no need to talk to a doctor
Had important questions to ask a doctor	Q19. When you had important questions to ask a doctor, did they answer in a way you could understand?	• Asked doctor questions	• Yes, always
			• Yes, sometimes
			• No, I did not get answers I could understand
		• Didn't ask any questions	• I did not ask any questions
Needed to talk to a nurse	Q24. If you needed to talk to a nurse, did you get the opportunity to do so?	• Needed to talk to nurse	• Yes, always
			• Yes, sometimes
			• No, I did not get the opportunity
		• No need to talk to nurse	• I had no need to talk to a nurse
Had important questions to ask a nurse	Q25. When you had important questions to ask a nurse, did they answer in a way you could understand?	• Asked nurse questions	• Yes, always
			• Yes, sometimes
			• No, I did not get answers I could understand
		• Didn't ask any questions	• I did not ask any questions
Wanted information about condition or treatment during stay	Q33. During your stay in hospital, how much information about your condition or treatment was given to you?	• Wanted information	• Not enough
			• The right amount
			• Too much
		• Not applicable	• Not applicable to my situation
Wanted to be involved in decisions about care and treatment	Q36. Were you involved, as much as you wanted to be, in decisions about your care and treatment?	• Wanted involvement	• Yes, definitely
			• Yes, to some extent
			• No
		• Didn't want involvement	• I was not well enough

Derived measure	Actual question text	Derived measure categories	Actual question responses
			• I did not want or need to be involved
Had family/someone close who wanted information about condition or treatment	Q37. How much information about your condition or treatment was given to your family, carer or someone close to you?	• Wanted information	• Not enough
			• Right amount
			• Too much
		• Not applicable	• It was not necessary to provide information to any family or friends
Had religious or cultural beliefs to consider	Q39. Were your cultural or religious beliefs respected by the hospital staff?	• Had beliefs to consider	• Yes, always
			• Yes, sometimes
			• No, my beliefs were not respected
		• Beliefs not an issue	• My beliefs were not an issue
Experienced complication or problem during or shortly after hospital stay	Q44. Experienced complication or problem during or shortly after hospital stay (derived measure)	• Experienced complication	• An infection
			• Uncontrolled bleeding
			• A negative reaction to medication
			• Complication from surgery
			• Complication from tests/procedures
			• A blood clot
			• A pressure wound
			• A fall
			• Any other complication or problem
		• None reported	• None of these
			• Missing
Complication or problem occurred during hospital stay	Q46. In your opinion, were members of the hospital staff open with you about this complication or problem? [if happened during stay]	• Occurred in hospital	• Yes, completely
			• Yes, to some extent
			• No
		• Occurred after left	• Not applicable, as it happened after I left
		• Wanted explanation	• Yes, completely

Derived measure	Actual question text	Derived measure categories	Actual question responses
Wanted explanation of what would be done in operation or surgical procedure	Q60. Before your operation or surgical procedure began, did a health professional explain what would be done in a way you could understand?		• Yes, to some extent
			• No
		• Didn't want explanation	• I did not want or need an explanation
Wanted to be involved in decisions about their discharge	Q62. Did you feel involved in decisions about your discharge from hospital?	• Wanted involvement	• Yes, definitely
			• Yes, to some extent
			• No, I did not feel involved
		• Didn't want involvement	• I did not want or need to be involved
Needed information on how to manage care at home	Q64. Thinking about when you left hospital, were you given enough information about how to manage your care at home?	• Needed information	• Yes, completely
			• Yes, to some extent
			• No, I was not given enough
		• Didn't need information	• I did not need this type of information
Needed family and home situation taken into account when planning discharge	Q65. Did hospital staff take your family and home situation into account when planning your discharge?	• Had situation to consider	• Yes, completely
			• Yes, to some extent
			• No, staff did not take my situation into account
		• Not necessary	• It was not necessary
Needed services after discharge	Q66. Thinking about when you left hospital, were adequate arrangements made by the hospital for any services you needed?	• Needed services	• Yes, completely
			• Yes, to some extent
			• No, arrangements were not adequate
		• Didn't need services	• It was not necessary
Wanted to be involved in decision to use medication in ongoing treatment	Q71. Did you feel involved in the decision to use this medication in your ongoing treatment?	• Wanted involvement	• Yes, completely
			• Yes, to some extent
			• No, I did not feel involved
		• Didn't want involvement	• I did not want to be involved