



# **Adult Admitted Patient Survey 2015 Technical Supplement Addendum**

Exploring experiences of hospital care  
for people with disability

October 2017

This document is an addendum to the *Technical Supplement: Adult Admitted Patient Survey, 2015* to describe additional analysis of survey data completed for a report exploring experiences of care for people with disability.

For more information on sampling methods, response rates and weighting methodology see the full technical supplement.

Bureau of Health Information: *Technical Supplement: Adult Admitted Patient Survey, 2015*. Sydney (NSW); BHI; 2017. [http://www.bhi.nsw.gov.au/\\_data/assets/pdf\\_file/0006/365586/technical-supplement-adult-admitted-patient-survey-2015.pdf](http://www.bhi.nsw.gov.au/_data/assets/pdf_file/0006/365586/technical-supplement-adult-admitted-patient-survey-2015.pdf)

# Technical Supplement

## Exploring experiences of hospital care for people with disability

### Considerations for subgroup analysis

The Adult Admitted Patient Survey (AAPS) is sampled to be representative of the patient populations in public hospitals. After weighting, the characteristics of the respondents closely reflect the characteristics of the patient population by age, sex, and stay type.

Demographic cross tabulations are part of regular online reporting in Healthcare Observer. Results are disaggregated by the weighting demographics as well as additional variables such as education, deprivation, language spoken at home.

In *Patient Perspectives – Hospital care for Aboriginal people*, experiences of care were compared between Aboriginal and non-Aboriginal patients.<sup>1</sup> For that report, targeted oversampling was applied to allow better reflection on the experiences of Aboriginal patients.

For the first time, BHI has produced a report on the experiences of patients with and without disability-related, self-reported long standing conditions in the AAPS. Similar to the Patient Perspectives report on hospital care for Aboriginal people, this report examined two questions:

- 1) How do experiences of hospital patients with a disability compare across Local Health Districts (LHDs) and hospitals in NSW?
- 2) Do patients with a disability have less favourable experiences than people without a disability?

However, unlike the report on Aboriginal patients, additional oversampling could not be undertaken to ensure representation of people with disability because there is no information in the administrative data to allow targeted sampling of this group or assessment of any bias in who did or did not respond.

Following a brief outline how disability is commonly defined, methods and considerations made in order to answer these two questions are described in this technical supplement addendum.

### Defining Disability

Definitions of disability differ across data collections and contexts.

**Australian Institute of Health and Welfare** datasets use a disability 'flag' derived from a standard set of questions that assess a person's level of functioning and need for support in everyday activities based on the International Classification of Functioning, Disability and Health (ICF).

**The ABS Survey of Disability, Ageing and Carers** defines a person as having a disability if they report a limitation, restriction or impairment, which has lasted, or is likely to last, for at least six months and restricts everyday activities.

**NSW Health** definition of disability is consistent with The Disability Inclusion Act 2014, i.e. a long-term physical, psychiatric, intellectual or sensory impairment that, in interaction with various barriers, may hinder the person's full

and effective participation in the community on an equal basis with others.

### Adult Admitted Patient Survey cohort definition

There are no questions that specifically ask about disability or functional limitations in the current NSW patient surveys. However, to explore experiences of people with a disability, a proxy cohort for disability patients was created using the long-standing condition survey question:

**Q96** Which, if any, of the following long-standing conditions do you have (including age related conditions)?  
Please  all the boxes that apply to you

- Deafness or severe hearing impairment
- Blindness or severe vision impairment
- A long-standing illness (e.g. cancer, HIV, diabetes, chronic heart disease)
- A long-standing physical condition
- A learning disability
- A mental health condition (e.g. depression)
- A neurological condition (e.g. Alzheimer's, Parkinson's)
- None of these

People who responded they had: deafness or sever hearing impairment, blindness or vision

impairment, a long standing physical condition a learning disability or a neurological condition were grouped together in this analysis to form the disability cohort. In 2015, 28% of patients said they had at least one of these five disability-related conditions (Table 1).

Long-standing illness (e.g. cancer, HIV, diabetes, chronic heart disease) and mental health categories were excluded in this first analysis and assessed separately. While mental illness can be disabling for some patients – more information on functional limitation is required to assess whether it is a disability. Further, the AAPS sampling frame excludes patients who were admitted to a psychiatric ward, even if this was only for part of their stay. Therefore the sample is not representative of patients with a mental health condition.

Many health conditions can be included under the long-standing illness (e.g. cancer, HIV, diabetes, chronic heart disease) category. These types of patients are generally not considered to have disability, thus this group was also excluded from the full disability cohort.

**Table 1: Long-standing conditions used to define disability and non-disability cohorts, NSW**

<b>Disability Cohort:</b> Patients <u>with any</u> of the disability conditions	n	%	% unweighted
Deafness or severe hearing impairment	3,997	12%	14%
Blindness or severe vision impairment	1,087	3%	4%
A long-standing physical condition	5,097	17%	18%
A learning disability	486	2%	2%
A neurological condition (e.g. Alzheimer's)	908	3%	3%
<b>Any of the five conditions</b>	<b>8,984</b>	<b>28%</b>	<b>31%</b>
<b>Non-disability cohort:</b> Patients <u>without</u> any disability conditions	n	%	% unweighted
A long-standing illness (e.g. cancer, HIV, diabetes,)	7,320	25%	26%
A mental health condition (e.g. depression)	2,616	9%	9%
None of these	12,744	48%	45%
Missing (respondent did not select any condition)	1,524	5%	5%
<b>None of the disability conditions reported</b>	<b>19,407</b>	<b>72%</b>	<b>69%</b>

Note: Percentages do not add up to group totals as some patients have more than one of condition.

## 1) Comparing experiences of the disability cohort: hospitals and LHDs compared to NSW

The experiences of the disability group in each LHD is compared to NSW by assessing whether the 95% confidence intervals of the two estimates overlap. In the report, it is demonstrated that experiences of care differ for people with different conditions. Therefore before assessments of performance were

made, the mix of conditions across LHDs and hospitals were described and compared to the prevalence of each condition in NSW. At LHD and hospital levels, there were few cases where the prevalence of a condition varied significantly from NSW (Table 2).

**Table 2: Percentage of patients reporting each condition in the disability cohort, LHDs and hospitals, NSW 2015**

	Full/partial blindness	Full/partial deafness	A learning disability	Physical condition	Neurological condition
<b>NSW</b>	<b>11</b>	<b>41</b>	<b>7</b>	<b>58</b>	<b>11</b>
Central Coast LHD	12	43	5	55	12
Far West LHD	10	47	7	56	9
Hunter New England LHD	12	45	7	58	9
Illawarra Shoalhaven LHD	13	46	5	56	10
Mid North Coast LHD	9	45	5	59	10
Murrumbidgee LHD	10	46	6	54	8
Nepean Blue Mountains LHD	13	34	11	59	9
Northern NSW LHD	10	44	6	57	9
Northern Sydney LHD	8*	39	7	63	12
South Eastern Sydney LHD	14	38	6	55	13
South Western Sydney LHD	12	37	10	64	12
Southern NSW LHD	11	45	3*	57	9
St Vincent's Health Network	13	33	3	63	12
Sydney LHD	11	36	6	57	12
Western NSW LHD	12	44	8	57	8
Western Sydney LHD	13	37	11	57	12
Armidale and New England Hospital	18	46	8	48	11
Auburn Hospital	15	22*	18*	68	11
Ballina District Hospital	10	46	4	54	14
Bankstown / Lidcombe Hospital	11	36	10	67	15
Bateman's Bay District Hospital	6	45	5	58	10
Bathurst Base Hospital	13	45	2	60	7
Bega District Hospital	13	55*	3	54	10
Bellingen River District Hospital	20	57*	3	54	14
Belmont Hospital	17	41	6	54	16
Blacktown Hospital	15	33	8	65	10
Blue Mountains District Anzac Memorial	13	43	4	62	9
Bowral and District Hospital	18	42	2*	62	10
Broken Hill Base Hospital	10	47	7	56	9
Bulli District Hospital	19	67*	8	56	11
Calvary Mater Newcastle	7	51*	5	57	10
Camden Hospital	8	33	2	59	28*
Campbelltown Hospital	8	41	6	63	7
Canterbury Hospital	12	30	8	59	13
Casino and District Memorial Hospital	15	50	8	59	6
Cessnock District Hospital	11	37	1*	69	12
Coffs Harbour Base Hospital	9	41	6	64	14
Concord Hospital	15	40	5	50	14
Cooma Health Service	9	42	6	65	6
Cowra District Hospital	13	43	8	61	10
Deniliquin Health Service	12	42	4	60	10
Dubbo Base Hospital	13	45	11	56	6
Fairfield Hospital	9	26*	15	72*	9
Forbes Health Service	10	45	5	54	15
Gosford Hospital	11	42	5	54	11
Goulburn Base Hospital	12	48	3	54	10
Grafton Base Hospital	11	35	5	63	10

	Full/partial blindness	Full/partial deafness	A learning disability	Physical condition	Neurological condition
<b>NSW</b>	<b>11</b>	<b>41</b>	<b>7</b>	<b>58</b>	<b>11</b>
Griffith Base Hospital	11	46	7	54	9
Gunnedah District Hospital	16	42	6	60	10
Hornsby and Ku-Ring-Gai Hospital	10	41	7	67	9
Inverell District Hospital	9	45	5	51	13
John Hunter Hospital	11	37	10	66	7
Kempsey Hospital	18	48	6	57	6
Kurri Kurri District Hospital	19*	60*	5	42*	7
Lismore Base Hospital	6	50	10	53	8
Lithgow Health Service	12	50	8	61	8
Liverpool Hospital	14	38	12	60	14
Macksville District Hospital	11	47	3	52	7
Macleay District Hospital	12	39	2	60	16
Maitland Hospital	11	45	9	55	8
Manly District Hospital	9	38	4	57	13
Manning Base Hospital	9	50	5	60	9
Milton and Ulladulla Hospital	14	43	2	60	17
Mona Vale and District Hospital	7	45	1	55	9
Moree District Hospital	15	47	8	51	16
Moruya District Hospital	12	37	3	62	8
Mount Druitt Hospital	6	34	8	69	7
Mudgee District Hospital	12	45	6	55	5
Murwillumbah District Hospital	17	40	3	63	10
Muswellbrook District Hospital	10	48	7	46	14
Narrabri District Hospital	10	49	5	52	6
Nepean Hospital	14	31	12	58	9
Orange Health Service	11	43	9	55	10
Parke Health Service	6	43	9	58	9
Port Macquarie Base Hospital	6	49	5	54	8
Prince of Wales Hospital	12	27*	8	62	17
Queanbeyan Health Service	13	28*	2	61	11
Royal Hospital for Women	4	37	10	58	5
Royal North Shore Hospital	5	37	8	68	13
Royal Prince Alfred Hospital	8	33	5	63	10
Ryde Hospital	15	36	8	55	14
Shellharbour Hospital	20*	52*	3	53	12
Shoalhaven District Memorial Hospital	13	46	5	58	4*
Singleton District Hospital	8	45	13	57	3*
St George Hospital	11	39	3	58	12
St Vincent's Hospital, Darlinghurst	13	33	3	63	12
Sutherland Hospital	9	45	6	50	14
Sydney/Sydney Eye Hospital	34*	50	7	39*	9
Tamworth Base Hospital	13	55*	5	46*	6
The Tweed Hospital	10	42	3	58	10
Tumut Health Service	7	47	6	59	10
Wagga Wagga Base Hospital	10	47	5	52	7
Westmead Hospital	12	41	12	50	14
Wollongong Hospital	12	44	6	56	10
Wyong Hospital	12	44	5	56	13
Young Health Service	8	47	12	56	4

\*Confidence interval did not overlap with CI for NSW for the same condition. Note: respondents may select multiple conditions therefore totals do not add up to 100%.

## 2) Comparing experiences of the disability and non-disability cohorts

Overlapping confidence intervals were used to compare experiences of care of the disability and non-disability cohorts. For 26 of 48 measures, people in the disability group had less favourable results at the NSW level. To confirm the differences were not due to confounding factors, sensitivity analyses were undertaken. All results are calculated using survey weights and sample strata information so the results are representative of the hospitals. See the full survey technical supplement for more information.

The profiles of the disability and non-disability cohorts are described in Table 3. The disability cohort in NSW was older, had lower education and live in areas of greater socio-economic deprivation (Table 3).

Logistic regression models were run at the NSW level using SAS PROC SURVEYLOGISTIC to

model the likelihood of reporting the top (positive) category for each measure. Odds ratios comparing the disability to non-disability group were flagged when significantly different than one ( $p < 0.05$ ).

Compared to the overlapping confidence interval method, unadjusted logistic regression models identified eight additional measures for which people with a disability condition would have less positive results than those without a disability. Adjusting for age, Index of Relative Disadvantage (IRSD) and education, a further eight questions were identified giving a total of 42 of 48 measures where people with a disability had less favourable results (Table 4). The sensitivity analysis demonstrates that the differences between people with and without a disability identified in the report (overlapping confidence intervals) are not overstated.

**Table 3: Characteristics of the disability and non-disability cohorts, NSW**

	Disability cohort			Non-disability cohort			
	%	95% Confidence Interval		%	95% Confidence Interval		
Age	18-34	4.5	3.8	5.3	13.9	13.2	14.6
	35-54	15.8	14.7	17.1	28.6	27.8	29.4
	55-74	38.1	36.6	39.5	36.6	35.8	37.4
	75+	41.6	40.1	43.1	20.9	20.2	21.7 *
IRSD	1: Most disadvantaged	21.6	20.3	22.8	19.8	19.1	20.6
	2	21.7	20.5	22.9	19.3	18.6	20
	3	24	22.7	25.3	22.7	21.9	23.5
	4	17.4	16.2	18.7	20.7	19.9	21.6 *
	5: Least disadvantaged	15.3	14.2	16.5	17.4	16.7	18.2 *
Education	At least Year 12	52	50.4	53.5	62.9	62	63.8
	Less than Year 12	42.7	41.2	44.2	31	30.1	32 *

\*Confidence interval did not overlap between cohorts. Percentages may not add up to 100%, missing responses excluded.

Table 4: Comparing disability and non-disability cohort responses, by question and method

X significant based on:

	Disability (%)	No disability (%)	OR	AOR	CI method	Odds ratio	Adjusted odds	
'Always' got enough help from staff to eat meals	40	48	0.7	0.8				
Food 'always' suitable for dietary needs	58	57	1.1	1.0				
While in hospital, saw information about how to complain	39	38	1.0	1.0				
Staff met on arrival were 'always' polite and courteous	93	93	1.0	0.9				
'Always' saw nurses wash their hands	60	59	1.1	0.9				
An interpreter was 'always' provided when needed	38	44	0.8	0.9				
Time waited to be admitted to hospital was 'about right'	60	65	0.8	0.8	x	x	x	
Waited 'less than one month' to be admitted for surgical procedure	26	30	0.8	0.8	x	x	x	
'Always' got the opportunity to talk to a doctor when needed	55	59	0.9	0.8	x	x	x	
Hospital staff 'definitely' did everything to help manage pain	74	78	0.8	0.7	x	x	x	
Staff assisted within a reasonable timeframe 'all of the time'	42	45	0.9	0.8	x	x	x	
At discharge, felt well enough to leave hospital	90	93	0.7	0.6	x	x	x	
Doctors 'always' knew enough about patient's medical history	67	72	0.8	0.7	x	x	x	
Nurses 'always' knew enough about patient's care and treatment	72	76	0.8	0.7	x	x	x	
Told who to contact if worried about condition after discharge	84	87	0.8	0.8	x	x	x	
'Definitely' involved in decisions about care and treatment	57	62	0.8	0.8	x	x	x	
'Definitely' involved in decisions about discharge	62	65	0.9	0.8	x	x	x	
Overall, doctors were rated as 'very good'	64	69	0.8	0.8	x	x	x	
Would 'speak highly' of the hospital to friends and family	76	79	0.8	0.7	x	x	x	
Overall, care in hospital was 'very good'	63	66	0.9	0.8	x	x	x	
The problem went to hospital for 'much better'	66	76	0.6	0.6	x	x	x	
Did not experience complication related to hospital care	81	86	0.7	0.7	x	x	x	
Care and treatment received 'definitely' helped	74	80	0.7	0.7	x	x	x	
Given 'right amount' of information about condition or treatment	82	86	0.8	0.7	x	x	x	
Family or someone close given 'right amount' of information	77	81	0.8	0.7	x	x	x	
Did not experience unfair treatment (missing value as 'no')	93	96	0.5	0.5	x	x	x	
'Always' treated with respect and dignity	85	88	0.8	0.7	x	x	x	
'Always' given enough privacy when discussing condition	79	82	0.8	0.7	x	x	x	
'Always' given enough privacy when being examined or treated	86	88	0.8	0.7	x	x	x	
Doctors 'always' answered questions in an understandable way	72	77	0.8	0.7	x	x	x	
Nurses 'always' answered questions in an understandable way	75	80	0.8	0.7	x	x	x	
'Always' had confidence and trust in doctors	79	83	0.8	0.7	x	x	x	
Nurses were 'always' kind and caring	84	85	0.9	0.8		x	x	
At discharge, 'completely' adequate arrangements made	68	71	0.9	0.8		x	x	
Overall, nurses were rated as 'very good'	70	72	0.9	0.9		x	x	
'Completely' informed about medication side effects to watch for	50	53	0.9	0.9		x	x	
Nurses 'always' checked ID before giving medications/treatments	90	91	0.9	0.9		x	x	
'Always' saw doctors wash their hands	48	50	0.9	0.9		x	x	
Discharge was not delayed	79	81	0.9	0.8		x	x	
Health professionals 'completely' discussed worries or fears	37	42	0.8	0.8		x	x	
Staff 'completely' considered home situation at discharge	72	74	0.9	0.8			x	
Given 'completely' enough information to manage care at home	72	73	0.9	0.8			x	
Wards or rooms were 'very clean'	67	68	1.0	0.9			x	
Toilets and bathrooms were 'very clean'	60	60	1.0	0.9			x	
Emergency department staff were 'always' polite and courteous	88	89	0.9	0.6			x	
Call button was 'always' placed within easy reach	84	86	0.9	0.8			x	
'Always' had confidence and trust in nurses	83	84	0.9	0.8			x	
Time spent in the emergency department was 'about right'	67	68	0.9	0.8			x	
<b>Total measures 48</b>					<b># differences</b>	<b>26</b>	<b>34</b>	<b>42</b>



## Limitations and future developments

This is the first time BHI has reported on the experiences of people with a disability using existing methods and available data. There was no specific question in the survey to identify people with a disability. Instead a proxy cohort was defined using the long standing condition question. The sampling strategy was not specifically designed to include people with disability. As a result, the sample may not be representative of the disability population.

Further, because specific oversampling was not applied, there is reduced statistical power to detect differences at a hospital level. In the future the survey will include questions on disability and more robust methods for sub-group analysis will be developed.

Statistical differences in the report are based only on the 'most positive' response category. Future reports will investigate differences using question scoring or the 'most negative' response categories also.

## References

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