Outpatient Cancer Clinics Survey 2023

Technical Supplement

October 2023

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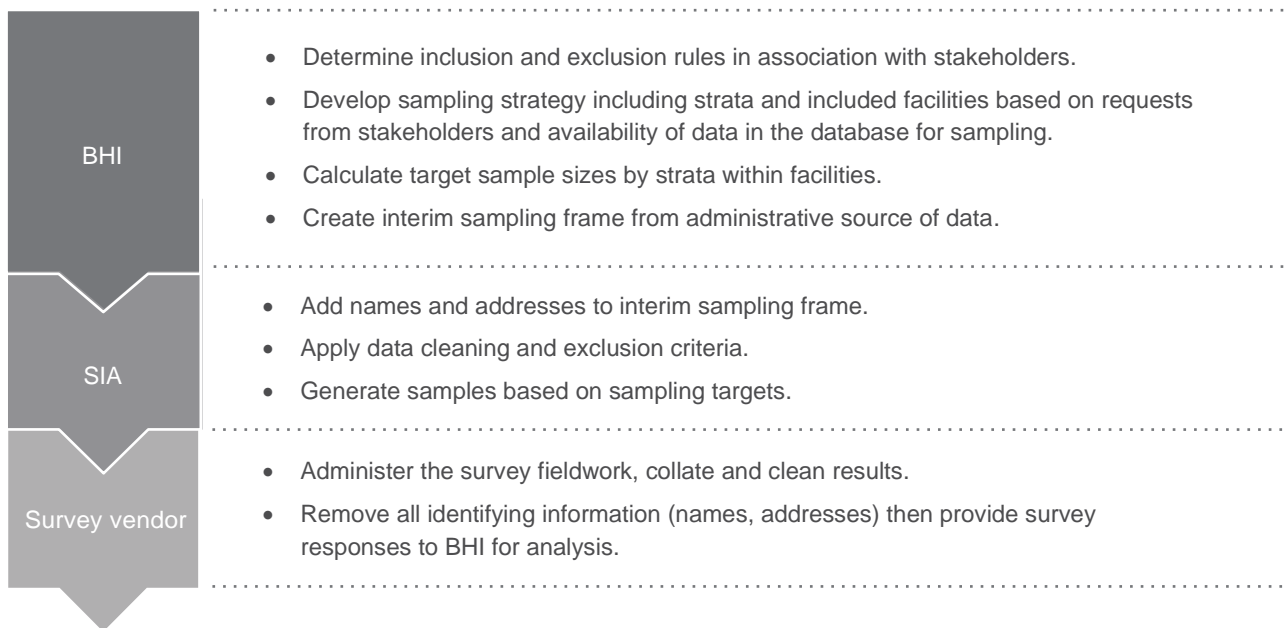
Contents

Introduction

This technical supplement outlines the sampling methodology, data management and analysis of the results of the Outpatient Cancer Clinics Survey 2023. Further supporting information is available in historical technical supplements for Outpatient Cancer Clinic Surveys in previous years, available at bhi.nsw.gov.au

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 analysis.

The aim of the NSW Patient Survey Program is to measure and report 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 BHI's *Strategic Plan 2023–2026*, which ensures all patient surveys maximise benefits to patients and deliver unique value for the NSW health system.

Data collection for the NSW Patient Survey Program is a collaboration between BHI, the survey vendor and the Ministry's Systems Information and Analytics (SIA) branch. Figure 1 shows the organisational responsibilities for the sampling design and data collection phases for patient survey projects.

Figure 1   Organisational responsibilities in sampling and data collection

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 for sampling.
- Calculate target sample sizes by strata within facilities.
- Create interim sampling frame from administrative source of data.

SIA
- Add names and addresses to interim sampling frame.
- Apply data cleaning and exclusion criteria.
- Generate samples based on sampling targets.

Survey vendor
- Administer the survey fieldwork, collate and clean results.
- Remove all identifying information (names, addresses) then provide survey responses to BHI for analysis.

Outpatient Cancer Clinics Survey

The Outpatient Cancer Clinics Survey 2023 was undertaken as part of the NSW Patient Survey Program. The survey was designed in collaboration with the Cancer Institute NSW and BHI conducted all analyses. The Outpatient Cancer Clinics Survey has been run on an annual basis since 2015.

The survey questionnaire is reviewed each year. Content changes between the 2021 and 2023 questionnaires are available in a development report on BHI's website at bhi.nsw.gov.au/nsw_patient_survey_program/outpatient_cancer_clinics_survey

Following the 2021 Outpatient Cancer Clinics Survey, it was decided to adjust the sampling month for the next iteration of the survey from November to January, with sampling occurring in early 2023.

Inclusion and exclusion criteria for outpatients

The survey questionnaire is sent to eligible patients who received services at outpatient cancer clinics. The eligible population included patients aged 18+ years who had an appointment (in-person or virtual) at one of the included NSW outpatient cancer clinics during January 2023. The date of attendance was used to define eligible patients to participate in the survey. Where patients had multiple visits in that month, they were sampled based on their last visit in the month.

Patients who had virtual care appointments (held over the phone or by video call) were included, as well as patients who received in-person care, to adapt to the changes in care delivery during the COVID-19 pandemic. Multidisciplinary case conferences where the patient was not present were excluded.

The sampling frame passed through the following final exclusion checks to identify patients to be excluded:

- invalid address (including those with addresses listed as hotels, motels, nursing homes, community services, Mathew Talbot Hostel, 100 William Street, army quarters, jails and 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

- mode of separation of death for a subsequent admission to hospital

- recorded as deceased according to the NSW Registry of Birth Deaths & Marriages and/or activity and performance reporting data collections, prior to the sample being provided to the survey vendor.

The remaining patients were considered to be the final sampling frame and those eligible to participate in the Outpatient Cancer Clinics Survey 2023.

Inclusion and exclusion criteria for facilities and outpatient clinics

Facility and clinic selection is informed through consultation with the relevant senior executives and managers of cancer services in LHDs. The survey also includes three private facilities that are contracted by LHDs to treat public patients: Chris O'Brien Lifehouse, Riverina Cancer Care Centre and Sydney Adventist Hospital.

Facilities were included in the survey if there were at least 50 patients eligible for sampling or where the inclusion of the facility would assist in reportability of the LHD-level results (i.e. Dareton Primary Health Centre for Far West LHD). Hospitals and health services were excluded if they were unlikely to achieve at least 30 responses.

In 2023, clinics in 43 facilities were selected for sampling. Griffith Community Health Centre and Griffith Base Hospital were combined as Griffith Base Hospital; Bega Valley Community Health and South East Regional Hospital were combined as South East Regional Hospital; and Goulburn Community Health and Bourke Street Health Service were combined as Bourke Street Health Service.

Clinics in public facilities were included using the following process:

1. All clinics providing one of the seven cancer services as defined in the Independent Hospital Pricing Authority Non-Admitted Services Classification (Tier 2), presented in Table 1. Sydney Children's Hospital, Randwick and The Children's Hospital at Westmead were excluded as most patients from these facilities are under the age of 18 years. Clinics with 'child' or 'paed' in the clinic name were also excluded.

2. Clinics with the following terms in their clinic name: 'cancer', 'oncol*', 'radiation', 'radioth*', 'chemo*', 'melanoma', 'haema*' and 'hema*' AND were approved for inclusion by the relevant LHD directors of area cancer services (see 'Other' in Table 1). Clinics that included 'multidisc*' or 'MDT' in either the Tier 2 description or the clinic name were excluded.

3. Clinics such as haematology and genetics that had been identified by the LHD directors of area cancer services and requested to be included in the survey in previous years (see 'Other' in Table 1).

Patients attend outpatient cancer clinics for treatment for reasons other than cancer, such as haematology-related services unrelated to blood cancers. In 2023, 82% of respondents said they attended the clinic because they have or have had cancer.

Maitland Hospital was included in the Outpatient Cancer Clinics Survey 2023.

Table 1 Tier 2 services eligible for sampling, Outpatient Cancer Clinics Survey 2023

Tier 2 code	Tier 2 name
10.11	Chemotherapy Treatment
10.12	Radiation Therapy – Treatment
10.20	Radiation Therapy – Simulation and Planning
20.39	Gynaecological Oncology
20.42	Medical Oncology – Consultation
20.43	Radiation Therapy – Consultation
40.52	Oncology
Other	Other Tier 2 services related to cancer treatments

Sample design

Sample design is part of the mechanism that ensures the results of the survey are representative of the population. It does this by carefully selecting patients across hospitals and demographic characteristics.

A maximum of 700 patients per facility were sampled. All patients attending facilities which had fewer than this target number across all included clinics were invited to undertake the survey (census sampling), while random sampling occurred in facilities with more than 700 patients, with selection stratified by clinic.

The sampling frame for the Outpatient Cancer Clinics Survey 2023 was based on data in the Ministry's Enterprise Data Warehouse for Analysis Reporting and Decisions (EDWARD) Non-admitted Patient (NAP) activity data mart. Targets of sampling for each facility were calculated based on aggregated clinic-level data.

The number of patients eligible for sampling, and actual number of patients sampled across the 43 facilities, are provided in Appendix 1.

Data collection and analysis

Data collection

Selected patients were invited to complete the questionnaire by either returning the hard-copy questionnaire or by submitting an online response. Hard-copy questionnaires were scanned for fixed response options and responses in free-text fields were entered manually.

A first reminder letter was sent to all patients after the initial survey pack, with a final reminder letter sent in the subsequent month if no response was received. This aims to meet or exceed international best practice response rates, resulting in optimal precision in estimates.

The resultant survey data are anonymised and undergo quality assurance checks before secure transfer to BHI servers for processes which are password protected with access by authorised staff only.

Response rate and completion of questionnaires

The response rate is the percentage of people sampled who actually completed and returned or submitted their responses. The overall response rate, number of mailings and number of respondents, overall and by LHD and facility, are provided in Appendix 1.

Survey completeness is a measure of how many questions each respondent answered as a proportion of all questions. The completeness of responses was high overall, with respondents answering, on average, 66 of the 88 non-text questions (this includes questions that were correctly skipped). Appendix 2 presents the rates of missing or 'Don't know'/'Can't remember' responses for all questions.

Weighting of data

Survey responses were weighted to optimise the degree to which results were representative of the experiences and outcomes of the overall patient population. At the NSW and LHD levels, weights also ensured that the different sampling proportions used at the facility level were accounted for, so that LHD results were not unduly influenced by small facilities that had larger sampling proportions.

A weight was calculated for respondents in each stratum (facility) using the following equation:

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

Where:

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

n_i = number of respondents in the ith stratum.

Different facilities have different mixes of clinical services and demographic distribution, but due to small numbers, it was not possible to adjust weights to account for these differences. This issue should be taken into account when comparing results from different facilities. Supplementary data tables provide detail regarding social, demographic and health status differences in patients seen at different facilities.

Weighted percentages

All the results in the report were weighted. The weighted percentage of patients selecting each response option in the questionnaire was determined using the SURVEYFREQ procedure with a finite population correction factor and the Clopper-Pearson method adjusting for the sampling weights. Weighted percentages were calculated as follows:

- **Numerator** – the (weighted) number of survey respondents who selected a specific response option to a certain question

- **Denominator** – the (weighted) number of survey respondents who selected any of the response options to a certain question, minus exclusions

- **Calculation** – the numerator/denominator x 100.

When reporting on questions used to identify sub-cohorts, the 'Don't know'/'Can't remember' option and missing responses were also reported. Appendix 2 presents the rates of missing or 'Don't know'/'Can't remember' responses for all questions.

It is assumed that no bias is introduced by the way patients who did not respond to the whole survey, or did not respond to specific questions, were handled. This is because it is also assumed these patients did so randomly and therefore any missing responses do not relate to the experience of care.

For some questions, the results from several responses were combined to form a 'derived measure'. For information about how these measures were developed, please see Appendix 3.

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 eligible population.

Table 2 shows demographic characteristics of respondents against the patient population. The four columns denote:

1. Percentage in target population: the patient population prior to the phase 2 screening process

2. Percentage of eligible population: the final sampling frame from which the sample was drawn. Limited demographic variables are available at this level

3. Percentage of respondents (unweighted) – respondents to the survey, not adjusted for unequal sampling

4. Percentage of respondents (weighted) – respondents to the survey, adjusted by weighting to be representative of the eligible population.

Table 2 Demographic characteristics of patient population and respondents, Outpatient Cancer Clinics Survey 2023

Demographic variable	Sub-group	% of target population	% of eligible population	% of respondents (unweighted)	% of respondents (weighted)
LHD	Central Coast	5.1	4.9	6.1	4.9
	Chris O'Brien Lifehouse (private)	5.4	5.6	2.7	5.6
	Far West	0.3	0.1	0.2	0.1
	Hunter New England	0.3	0.1	0.2	0.1
	Illawarra Shoalhaven	6.4	6.5	8.5	6.5
	Mid North Coast	5.6	5.6	8.0	5.6
	Murrumbidgee	0.5	0.4	0.6	0.4
	Nepean Blue Mountains	4.1	4.4	3.6	4.4
	Northern NSW	4.2	4.2	7.0	4.2
	Northern Sydney	5.4	5.5	3.4	5.5
	Riverina Cancer Care Centre (private)	1.4	1.3	2.4	1.3
	South Eastern Sydney	7.8	7.9	8.4	7.9
	South Western Sydney	12.4	12.6	7.4	12.6
	Southern NSW	1.6	1.4	3.0	1.4
	St Vincent's Health Network	3.7	3.6	2.5	3.6
	Sydney	5.5	5.8	5.5	5.8
	Sydney Adventist Hospital (private)	1.7	1.8	4.0	1.8
	Western NSW	4.5	4.0	6.4	4.0
	Western Sydney	11.5	11.9	7.3	11.9
Age group	18–34 years	4.3	4.3	1.4	1.7
	35–54 years	17.4	17.4	9.0	9.9
	55–74 years	48.9	48.9	51.7	52.5
	75+ years	29.4	29.3	38.0	35.9
Sex*	Male	47.9	47.8	49.6	49.4
	Female	52.0	52.2	50.4	50.6
Aboriginality	Aboriginal	2.4	1.7	1.0	0.8
	Non-Aboriginal	97.6	98.3	99.0	99.2

* Information on sex is drawn from administrative data.

Standardised comparisons between hospitals and the NSW result

Overview

In 2023, BHI has introduced a new statistical approach to support fairer assessment of hospital performance based on patient experience measures and to improve precision when flagging hospital performance as significantly higher (green) or significantly lower (red) than the NSW result in the Snapshot report and supplementary data tables. For comparison purposes, a version of the supplementary data tables for the 2021 Outpatient Cancer Clinics Survey showing how results flag as green or red under the previous and the new methodology for standardised comparisons is available from BHI on request.

When looking at performance over time, the focus should be on the changes in percentage results rather than whether those results are flagged as green or red, noting that year-on-year differences may not reflect clinically or statistically significant differences, and that changes in a facility's patient mix may contribute to changes in results.

Some patient groups tend to respond more positively to surveys. This means that facilities with higher proportions of patients with these socio-demographic characteristics tend to have higher patient experience ratings and vice versa. Before identifying a facility's result as significantly higher or lower than NSW, the statistical model accounts for the characteristics of its patients (i.e. age, gender, education level, language spoken at home and cancer type/non-cancer). Therefore, green and red flags are more likely to reflect actual differences in experiences rather than a difference in the socio-demographic mix of patients.

This approach is only applied to facility results and not at LHD level.

The statistical model

Across survey information products, BHI reports on the weighted percentage of patients selecting a particular survey response option (i.e. the actual result). These percentages do not change when standardised comparisons are applied (i.e. green and red flags are overlaid on the actual results).

This new statistical approach, introduced by BHI in 2023, involves two stages. BHI already uses similar statistical methods to assess hospital performance in its mortality and readmissions reporting. This two-stage process enables the assignment of green and red flags to outlier hospitals after consideration is given to each facility's actual result, socio-demographic mix of patients, sample size, and the NSW result. Outlier flags should be used to compare a facility's performance to the NSW result each year, recognising that the NSW result also changes each year.

Stage 1 – Calculating risk-adjusted results for each facility

This stage involves calculating risk-adjusted results by accounting for the socio-demographic characteristics of patients at each facility, specifically those that can influence self-reported patient experience ratings (age, gender, education level, language spoken at home and cancer type/non-cancer). The risk-adjusted percentages are not reported but used to determine whether a green or red flag is applied to the actual result. Selection of the patient characteristics used in these calculations is based on a thorough study conducted by BHI in 2018.

The statistical program used to conduct the analysis in stage 1 is PROC SURVEYLOGISTIC. The dependent variable used in the statistical model is the binary version of a given performance question, usually based on the percentage of patients who selected the most positive response option. The model derives a predicted probability of respondents selecting the most positive response option based on the socio-demographic mix of the respective facility's patients. The predicted probabilities are multiplied by the survey weights to give a predicted number of patients in the eligible population that would have the same response (i.e. the expected result).

The risk-adjusted ratio (aR) is calculated by taking the ratio of the weighted number of respondents who selected the most positive response option (numerator or actual result) to the number of respondents in the population predicted to also respond the same way according to the model (denominator or expected result).

The risk-adjusted percentage is calculated for each facility by scaling to the question-specific NSW result using the following formula:

$$Adjusted\ percentage = aR\ x\ weighted\ NSW\ percentage$$

The adjusted percentage can be interpreted as how the facility would perform if the socio-demographic mix was the same as the reference population (NSW results). This adjusted percentage can therefore be used to report fairer comparisons of self-reported experiences between facilities and the NSW results, when it is compared to the NSW results after considering the effective size of each facility.

Stage 2 – Comparing each facility's risk-adjusted result with the NSW result

This stage involves comparing a facility's risk-adjusted result with the NSW result after considering the effective sample size for each facility.

To identify outlier facility results, funnel plots with control limits at a 99% confidence level were created for self-reported experience questions to compare each facility's risk-adjusted result with the NSW result. This process uses the exact binomial method described by Spiegelhalter[1] and the effective sample size.

The effective sample size is the number of respondents for each facility divided by the facility-level design effect. Therefore, the control limits take into account the sampling method. Facilities that fall outside the control limits are considered outliers and flagged as significantly higher or lower than the NSW result, after taking into account differences in the socio-demographic mix of a facility's patients. To reduce the likelihood of identifying outliers due to chance, 99% control limits were used.

Standardised comparisons are not applied:

- when results are flagged as 'interpret with caution' (see page 12), due to reduced precision of the actual result

- for all questions regarding problems, because patients who have more complex conditions are more likely to experience problems or clinical complications, and comparisons have not been adjusted for patient complexity.

Analyses of differences in patient experiences between patient groups

To examine differences in experiences between any two patient groups in the Outpatient Cancer Clinics Survey 2023, a logistic regression model was used with adjustment for confounders and sampling using the SURVEYLOGISTIC procedure. A p-value of 0.05 was used to determine if the differences were statistically significant.

For each question, the pre-defined most positive response option was used to create a dichotomised variable such that the most positive response was coded as 1, and all other responses, excluding invalid and missing responses, were coded as 0. Logistic regression was used to fit these binary variables as outcomes and 'rurality of facility' (urban versus rural) as the explanatory variable, after accounting for differences in patient characteristics between these two groups on the basis of age, gender, education level and language spoken at home and cancer type/non-cancer. Responses with a missing value were excluded from the analysis. When comparing the results of experiences with care in urban and rural facilities, results are presented across the most positive response option.

SAS software version 9.4 was used for all statistical analyses and facility was included as a strata variable.

Reporting

Confidentiality and suppression rules

BHI does not receive any confidential patient information and only publishes aggregated data and statistics. Any question must have a minimum of 30 respondents at the reporting level (facility, LHD or NSW) for results to be reported. This ensures there are enough respondents for reliable estimates to be calculated, and that patient confidentiality and privacy are protected.

When the number of respondents for a facility or LHD was fewer than 30, results were suppressed. The suppressed results still contribute to NSW-level and/or LHD-level results. Far West LHD (including Broken Hill Health Service and Dareton Primary Health Centre) was not reportable for the Outpatient Cancer Clinics Survey 2023 as it had fewer than 30 respondents.

For questions asking about types of complications (i.e. experienced an infection, uncontrolled bleeding, a negative reaction to medication, complications as a result of surgery), results are reported at NSW level because of low prevalence at the facility and LHD levels. However, the combined complication prevalence (i.e. had any complication) is reported at all levels. No statistical comparison was done for these questions, as the survey data currently do not capture information on patient clinical conditions that might influence results for these questions.

Interpret with caution

All data collected using surveys are subject to sampling error (i.e. the difference between results based on a sample of a target population, and the results if all people who received care were surveyed). The 95% confidence interval of the average is expected to contain the true result 19 times out of 20.

Where the confidence interval was wider than 20 percentage points, results for individual questions 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 was fewer than 200.

Where the number of respondents was between 30 and 49 with a response rate at or above 20%, or the number of respondents was more than 49 with a response rate less than 20%, results are publicly reported and an 'interpret with caution' note appended to the facility to indicate an uncertainty about the representativeness of the result.

Reporting by population groups

In addition to reporting results for all respondents, BHI also reports the results by specific groups, as follows:

- age group
- gender
- education level
- language spoken at home
- rurality of facility – urban, rural
- cancer type
- longstanding health condition: 'had condition/s', 'none reported'.

The above results, where they satisfy BHI's suppression rules are available on the BHI Data Portal at bhi.nsw.gov.au/data-portal

Facilities are classified as 'urban' and 'rural' using the Accessibility and Remoteness Index of Australia (ARIA+), the standard used by the Australian Bureau of Statistics. Urban facilities include those classified as located in 'Major Cities of Australia' according to ARIA+. Rural facilities include those classified as located in 'Inner Regional Australia', 'Outer Regional Australia', 'Remote Australia' and 'Very Remote Australia'.

For more information, see abs.gov.au

Reporting of private facilities

Chris O'Brien Lifehouse, Sydney Adventist Hospital and Riverina Cancer Care Centre are private facilities that are also contracted to provide services to public patients. These facilities differ in administrative and organisational arrangements from public facilities. Although they are contracted to provide services for some public patients, they are not under the management of the LHD in which they are located. Therefore, caution is advised when comparing results from these facilities with public facilities in the survey. These facilities' results are not included in LHD-level results but are included in the overall NSW results.

Key findings selection in the main report

Detailed results for all measures are available in the accompanying supplementary data tables and the BHI Data Portal. Key findings for selected patient experience measures are summarised in the main report. These findings highlight where there was significant variation in hospital results when compared with NSW, where hospital results improved or declined compared with the previous survey (2021), NSW trends, and important measures of experience based on evidence and stakeholder input. This includes identifying:

- Measures of patient experience where there is variation in hospital performance when compared with the NSW result (i.e. hospital results are significantly higher or lower than the NSW result after adjusting for patient characteristics).

- Measures of patient experience that have notable variation in trends at the NSW level.

- Measures of patient experience where there is large improvement or decline across hospitals when compared with the previous survey's (2021) results.

- Measures where there was a low or high percentage of patients selecting the most positive response option.

- Measures of patient experience identified to be of particular importance based on evidence and stakeholder input.

Appendix 1

Survey response summary

Table 3   Eligible population, sample, mailings, responses and response rates, by LHD and overall, Outpatient Cancer Clinics Survey 2023

NSW/LHD		Eligible population	Sampled (% of eligible)	Mailed (% of sampled)	Responses	Response rate (%)
NSW		37,142	21,026 (57%)	20,870 (99%)	8,280	40
LHD	Central Coast	1,807	1,142 (63%)	1,134 (99%)	507	45
	Far West	53	53 (100%)	53 (100%)	17	32
	Hunter New England	4,615	2,425 (53%)	2,411 (99%)	1,060	44
	Illawarra Shoalhaven	2,415	1,398 (58%)	1,387 (99%)	700	50
	Mid North Coast	2,085	1,399 (67%)	1,382 (99%)	665	48
	Murrumbidgee	150	150 (100%)	150 (100%)	48	32
	Nepean Blue Mountains	1,621	700 (43%)	697 (100%)	302	43
	Northern NSW	1,568	1,463 (93%)	1,451 (99%)	582	40
	Northern Sydney	2,050	699 (34%)	695 (99%)	283	41
	South Eastern Sydney	2,923	1,930 (66%)	1,918 (99%)	697	36
	South Western Sydney	4,676	1,894 (41%)	1,888 (100%)	613	32
	Southern NSW	516	516 (100%)	512 (99%)	248	48
	St Vincent's Health Network	1,354	700 (52%)	691 (99%)	209	30
	Sydney	2,148	1,399 (65%)	1,395 (100%)	457	33
	Western NSW	1,489	1,489 (100%)	1,481 (99%)	531	36
	Western Sydney	4,407	1,797 (41%)	1,787 (99%)	606	34

Table 4   Eligible population, sample, mailings, responses and response rates, by facility, Outpatient Cancer Clinics Survey 2023

Facility	Eligible population	Sampled (% of eligible)	Mailed (% of sampled)	Responses	Response rate (%)
Armidale	311	311 (100%)	309 (99%)	119	39
Bankstown-Lidcombe	496	496 (100%)	494 (100%)	129	26
Bathurst	244	244 (100%)	242 (99%)	96	40
Blacktown	1,160	701 (60%)	699 (100%)	245	35
Bourke Street	130	130 (100%)	129 (99%)	61	47
Broken Hill	51	51 (100%)	51 (100%)	16	31
Calvary Mater	2,800	701 (25%)	698 (100%)	320	46
Campbelltown	1,182	700 (59%)	697 (100%)	279	40
Chris O'Brien Lifehouse	2,092	699 (33%)	696 (100%)	226	32
Coffs Harbour	1,006	700 (70%)	693 (99%)	333	48
Concord	1,099	700 (64%)	699 (100%)	239	34
Dareton	2	2 (100%)	2 (100%)	1	50
Dubbo	633	633 (100%)	630 (100%)	190	30
Eurobodalla Community Health	222	222 (100%)	221 (100%)	106	48
Gosford	1,362	697 (51%)	690 (99%)	303	44
Grafton	151	151 (100%)	151 (100%)	63	42
Griffith	80	80 (100%)	80 (100%)	21	26
John Hunter	182	182 (100%)	177 (97%)	75	42

Facility	Eligible population	Sampled (% of eligible)	Mailed (% of sampled)	Responses	Response rate (%)
Lismore	806	701 (87%)	696 (99%)	299	43
Liverpool	2,998	698 (23%)	697 (100%)	205	29
Maitland	133	133 (100%)	132 (99%)	69	52
Manning	499	499 (100%)	496 (99%)	223	45
Nepean	1,621	700 (43%)	697 (100%)	302	43
Orange	612	612 (100%)	609 (100%)	245	40
Port Macquarie	1,079	699 (65%)	689 (99%)	332	48
Prince of Wales	1,308	699 (53%)	696 (100%)	242	35
Riverina Cancer Care	493	493 (100%)	476 (97%)	201	42
Royal Hospital for Women	206	206 (100%)	206 (100%)	52	25
Royal North Shore	2,050	699 (34%)	695 (99%)	283	41
Royal Prince Alfred	1,049	699 (67%)	696 (100%)	218	31
Shoalhaven	941	699 (74%)	693 (99%)	368	53
South East Regional	164	164 (100%)	162 (99%)	81	50
St George	1,084	700 (65%)	694 (99%)	275	40
St Vincent's	1,354	700 (52%)	691 (99%)	209	30
Sutherland	325	325 (100%)	322 (99%)	128	40
Sydney Adventist	680	680 (100%)	666 (98%)	328	49
Tamworth	690	599 (87%)	599 (100%)	254	42

Facility	Eligible population	Sampled (% of eligible)	Mailed (% of sampled)	Responses	Response rate (%)
The Tweed	611	611 (100%)	604 (99%)	220	36
Westmead	2,850	699 (25%)	695 (99%)	241	35
Westmead Breast Cancer Institute	397	397 (100%)	393 (99%)	120	31
Wollongong	1,474	699 (47%)	694 (99%)	332	48
Wyong	445	445 (100%)	444 (100%)	204	46
Young	70	70 (100%)	70 (100%)	27	39

Appendix 2

Rates of missing or 'Don't know'/'Can't remember' responses

Table 5   Unweighted percentage of missing and 'Don't know'/'Can't remember' responses, by question, Outpatient Cancer Clinics Survey 2023

Number	Question	Missing (%)	'Don't know'/'Can't remember' (%)	Missing + 'Don't know'/'Can't remember' (%)*
1	What was the purpose of this appointment?	1.53		1.53
2	How long did it take you to travel to the clinic for this appointment?	0.87	0.21	1.07
3	Did you need parking for your clinic visit?	2.45		2.45
4	Did you have any of the following issues with parking during this visit?	2.85		2.85
5	Were the reception staff polite and courteous?	1.60		1.60
6	How long after the scheduled appointment time did your appointment actually start?	2.67	1.80	4.47
7	Were you told how long you had to wait?	2.79		2.79
8	How comfortable was the waiting area?	1.46		1.46
9	How comfortable was the treatment area?	1.55		1.55
10	How clean was the treatment area?	0.75		0.75
11	Who did you see during this appointment?	1.69		1.69
12	Did you have enough time to discuss your health issues with the health professionals you saw?	1.76		1.76
13	Did the health professionals explain things in a way you could understand?	1.76		1.76
14	During this appointment, did the health professionals know enough about your medical history?	1.62		1.62
15	How would you rate how well the health professionals worked together?	1.55		1.55
16	Did you see the health professionals wash their hands, or use hand gel to clean their hands, before touching you?	1.74	7.33	9.07
17	Did you have worries or fears about your condition or treatment?	1.86		1.86

Number	Question	Missing (%)	'Don't know'/'Can't remember' (%)	Missing + 'Don't know'/'Can't remember' (%)*
18	Did a health professional discuss your worries or fears with you?	2.07		2.07
19	Did you have confidence and trust in the health professionals?	1.62		1.62
20	Were the health professionals kind and caring towards you?	1.46		1.46
21	Overall, how would you rate the health professionals who treated you?	1.50		1.50
22	When making decisions about your treatment, did a health professional at the clinic inform you about different treatment options?	1.99		1.99
23	Did a health professional at the clinic tell you about the risks and benefits of the treatment options?	1.79		1.79
24	Were you involved, as much as you wanted to be, in decisions about your care and treatment?	2.04		2.04
25	Did a health professional at the clinic explain the next steps of your care and treatment in a way you could understand?	2.23		2.23
26	Did you ever receive conflicting information about your condition or treatment from the health professionals?	2.28		2.28
27	Do you have a written care plan for your current or ongoing care?	3.50	5.85	9.35
28	Were you asked about your preferences for care and treatment when developing this plan?	4.18	10.64	14.82
29	At your January appointment, did the health professionals review your care plan with you?	4.13	6.24	10.37
30	Did you receive any treatment during this appointment (chemotherapy, radiotherapy, surgery or other treatments)?	2.54		2.54
31	Did a health professional at the clinic explain what would be done during your treatment in a way you could understand?	3.45		3.45
32	Did a health professional at the clinic tell you about possible side effects of your treatment?	3.83		3.83
33	Were you given enough information about how to manage the side effects of your treatment?	4.71		4.71

Number	Question	Missing (%)	'Don't know'/'Can't remember' (%)	Missing + 'Don't know'/'Can't remember' (%)*
34	During this appointment, were you given, or prescribed, any new medication to take at home?	2.75		2.75
35	Did a health professional at the clinic explain the purpose of this medication in a way you could understand?	3.03		3.03
36	Did a health professional at the clinic tell you about side effects of this medication to watch for?	3.36		3.36
37	Were you told who to contact if you were worried about your condition or treatment after your appointment?	4.40	6.64	11.04
38	Did a health professional at the clinic give your family or someone close to you enough information to help care for you at home?	4.06	1.41	5.47
39	Were you treated with respect and dignity during your appointment?	1.85		1.85
40	Were you given enough privacy when being examined or treated?	2.61		2.61
41	Were you given enough privacy when discussing your condition or treatment?	2.34		2.34
42	Were you ever treated unfairly for any of the reasons below?	4.48		4.48
43	Were your cultural or religious beliefs respected by the clinic staff?	2.62		2.62
44	During your appointment or soon afterwards, did you experience any of the following complications or problems?	3.66		3.66
45	Was the impact of this complication or problem...?	3.26		3.26
46	In your opinion, were the health professionals open with you about this complication or problem?	2.32		2.32
47	In the past three months, have you gone to an emergency department because of complications related to the care you received?	2.91	0.80	3.71
48	Did a staff member at this clinic ask you if you smoked/used tobacco?	2.50	16.32	18.82
49	At the time of your appointment, how often were you smoking/using tobacco?	2.96		2.96

Number	Question	Missing (%)	'Don't know'/'Can't remember' (%)	Missing + 'Don't know'/'Can't remember' (%)*
50	Has a staff member at this clinic done any of the following in the past year?	4.65	9.09	13.74
51	Overall, how would you rate the care you received from the clinic?	1.63		1.63
52	If asked about your clinic experience by friends and family, how would you respond?	1.90		1.90
53	How well organised was the care you received from the clinic?	2.44		2.44
54	How much were your out-of-pocket expenses for medication related to these appointments?	2.78	3.50	6.28
55	How much were your out-of-pocket expenses for consultations, tests, surgery or treatment related to these appointments (excluding medication)?	3.07	4.61	7.68
56	How much were your out-of-pocket expenses for other costs related to these appointments (e.g. travel, petrol, parking, accommodation)?	2.68	3.20	5.88
57	Did you attend this clinic because you have or have had cancer?	2.51		2.51
58	Is this the first time you have had cancer?	4.61		4.61
59	What was the main type of cancer you were receiving care for at this clinic?	9.13		9.13
60	Which of the following statements best describes how well you are able to carry out ordinary tasks and daily activities? In the past month I would generally rate my activity as...	4.04		4.04
61	How has your current cancer responded to treatment?	7.83		7.83
62	How long has it been since you first received treatment for this cancer?	2.85	0.55	3.40
63	In the past 12 months did you have any virtual care appointments – over the telephone or by video call – with a hospital or outpatient clinic?	3.02	2.42	5.43
64	How many virtual care appointments have you had with a hospital or outpatient clinic in the past 12 months (not counting any appointments with your general practitioner/family doctor)?	2.36	3.79	6.15
65	Overall, how would you rate the virtual care you received?	2.26		2.26

Number	Question	Missing (%)	'Don't know'/'Can't remember' (%)	Missing + 'Don't know'/'Can't remember' (%)*
66	Did the care and treatment received through virtual care help you?	3.01		3.01
67	Compared with in-person appointments, was your virtual care experience…?	3.21		3.21
68	If given the choice, would you use virtual care again?	3.69	3.08	6.77
69	Thinking about your experiences of virtual care, what have been the benefits for you?	5.43		5.43
70	How did you access your most recent virtual care appointment?	5.67		5.67
71	In the past 12 months, did you have any virtual care appointments – over the telephone or by video call – with a general practitioner (GP)?	4.89	2.37	7.26
72	How many virtual care appointments have you had with a GP in the past 12 months?	1.52	2.51	4.03
73	Overall, how would you rate the virtual care you received from GPs?	1.59		1.59
74	Did the care and treatment received from GPs through virtual care help you?	2.13		2.13
75	Did the opportunity to use virtual care help ensure that your care was well coordinated between the hospital outpatient clinic and the GP?	2.03	3.97	6.00
76	What year were you born?	1.61		1.61
77	How do you describe your gender?	1.32		1.32
78	What is the highest level of education you have completed?	2.19		2.19
79	Which language do you mainly speak at home?	1.53		1.53
80	Did you need, or would you have liked, to use an interpreter at any stage while you were at the clinic?	1.26		1.26
81	Did the clinic provide an interpreter when you needed one?	2.54		2.54
82	Aboriginal and/or Torres Strait Islander (derived measure)	2.44		2.44
83	Did you receive support, or the offer of support, from an Aboriginal Health Worker during your January appointment?	8.26	4.59	12.84

Number	Question	Missing (%)	'Don't know'/'Can't remember' (%)	Missing + 'Don't know'/'Can't remember' (%)*
84	Which, if any, of the following longstanding conditions do you have (including age-related conditions)?	3.26		3.26
85	Does this condition(s) cause you difficulties with your day-to-day activities?	2.72		2.72
86	Are you a participant of the National Disability Insurance Scheme (NDIS)?	2.85	3.70	6.55
87	Who completed this survey?	1.86		1.86
88	Do you give permission for the Bureau of Health Information to link your answers from this survey to health records related to you (the patient)?	3.16		3.16

* 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 3

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 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 refer to the Data Dictionary: Quintile of disadvantage on BHI's website at bhi.nsw.gov.au/__data/assets/pdf_file/0016/300616/Quintile_of_Disadvantage.pdf

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 the specific response option/s 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 responses are usually excluded:

- 'Don't know'/'Can't remember' or similar non-committal response

- invalid (i.e. respondent was meant to skip a question but did not)

- missing (with the exception of questions that allow multiple responses or a 'none of these' option, for 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 table below shows the questions and responses used in the construction of the derived measures.

Table 6   Derived measures for the Outpatient Cancer Clinics Survey 2023

Derived measure	Question	Derived measure categories	Original question responses
Appointment included either chemotherapy, immunotherapy, radiotherapy, transfusion, and/or surgical procedure	Q1. What was the purpose of this appointment?	To receive treatment	Chemotherapy
			Radiotherapy
			Immunotherapy or hormone therapy
			Transfusion
			Surgical procedure
		Other purpose of visit	Have tests, X-rays or scans
			Receive test, X-ray or scan results
			Medical diagnosis or advice
			Follow-up after surgery
			Treatment review
			Regular check-up/long-term follow-up
			Other reason
Experienced issues with parking	Q4. Did you have any of the following issues with parking during this visit?	Yes	No car park at the clinic
			The car park was full
			Too few disabled parking spaces
			Expensive parking fees
			Had to walk a long way from the car park
		No	None of these issues
Had a scheduled appointment	Q6. How long after the scheduled appointment time did your appointment actually start?	Had a scheduled appointment	On time, or early
			Less than 15 minutes
			15 to 29 minutes
			30 to 59 minutes
			60 minutes or more
		Did not have scheduled appointment	I didn't have an appointment

Derived measure	Question	Derived measure categories	Original question responses
Used waiting area	Q8. How comfortable was the waiting area?	Used waiting area	Very comfortable
			Fairly comfortable
			Not very comfortable
			Not at all comfortable
		Did not use waiting area	Not applicable
Used treatment area	Q9. How comfortable was the treatment area?	Used treatment area	Very comfortable
			Fairly comfortable
			Not very comfortable
			Not at all comfortable
		Did not use treatment area	Not applicable
Saw multiple health professionals	Q15. How would you rate how well the health professionals worked together?	Saw two or more health professionals	Very good
			Good
			Neither good nor poor
			Poor
			Very poor
		Saw one health professional	Not applicable – only saw one
Had treatment options to discuss	Q22. When making decisions about your treatment, did a health professional at the clinic inform you about different treatment options?	Had treatment options to discuss	Yes, always
			Yes, sometimes
			No, treatment options were not discussed
		Not applicable	Not applicable to my situation
Wanted or needed to be involved in decisions about care and treatment	Q24. Were you involved, as much as you wanted to be, in decisions about your care and treatment?	Wanted or needed to be involved	Yes, definitely
			Yes, to some extent
			No
		Did not want or need to be involved	I didn't want or need to be involved

Derived measure	Question	Derived measure categories	Original question responses
Needed a written care plan	Q27. Do you have a written care plan for your current or ongoing care?	Needed a written care plan	Yes
			No
		Did not need a written care plan	I don't need one
		Don't know/can't remember	Don't know/can't remember
Treated unfairly	Q42. Were you ever treated unfairly for any of the reasons below?	Treated unfairly	Age
			Sex
			Aboriginal background
			Ethnic background
			Religion
			Sexual orientation
			Disability
			Marital status
			Something else
		Not treated unfairly	I was not treated unfairly
Had religious or cultural beliefs to consider	Q43. Were your cultural or religious beliefs respected by the clinic staff?	Had beliefs to consider	Yes, always
			Yes, sometimes
			No
		Beliefs not an issue	Not applicable
Experienced a complication or problem	Q44. During your appointment or soon afterwards, did you experience any of the following complications or problems?	Had complication or problem	An infection
			Uncontrolled bleeding
			An unexpected negative reaction to medication
			A complication as a result of tests or procedures
			Severe pain due to the treatment
			Lymphoedema (chronic excessive swelling)
			Severe anxiety or worry
			Any other complication or problem

Derived measure	Question	Derived measure categories	Original question responses
		None reported	None
			Missing
Complication or problem occurred during appointment	Q46. In your opinion, were the health professionals open with you about this complication or problem?	Occurred during appointment	Yes, completely
			Yes, to some extent
			No
		Occurred after appointment	Not applicable, as it happened after my appointment
Smoking/using tobacco at time of appointment	Q49. At the time of your appointment, how often were you smoking/using tobacco?	Currently smoking/using tobacco	Some days
			Every day
		Not currently smoking/using tobacco	I've never smoked
			Not at all, I've quit smoking
Advised and/or given support to quit smoking by clinic staff	Q50. Has a staff member at this clinic done any of the following in the past year?	Yes	Advised you to quit smoking
			Offered to refer you to the Quitline or a smoking support service/professional
			Offered you nicotine replacement therapy (e.g. patches, gum)
			Provided other help to quit smoking
		No	None of the above
Currently undergoing active cancer treatment	Q61. How has your current cancer responded to treatment?	Active treatment phase	I am in the course of treatment and I can't tell yet how my cancer has responded
			My cancer is being treated again because it has not responded fully to treatment
		Non-active treatment phase	Treatment has not yet started for this cancer
			The treatment has been effective and I have no signs or symptoms of cancer

Derived measure	Question	Derived measure categories	Original question responses
			I have finished the course of treatment but my cancer is still present
			I am not in active treatment but I am on 'Watch and Wait'
			My cancer has not been treated at all

References

1. Spiegelhalter DJ, Funnel plots for comparing institutional performance, Stat Med 2005, 24(8): 1185-202.