Outpatient Cancer Clinics Survey 2021

Technical Supplement

October 2022

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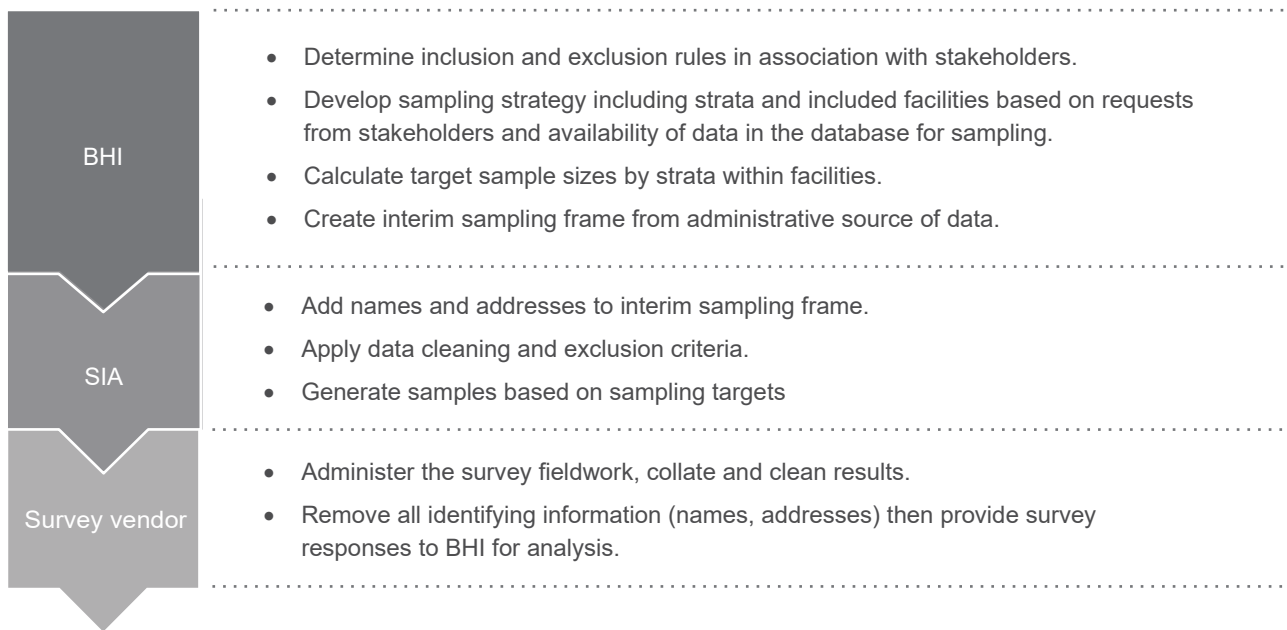**health
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Contents

Introduction

This technical supplement outlines the sampling methodology, data management and analysis of the results of the Outpatient Cancer Clinics Survey 2021. 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 the *NSW Patient Survey Program Strategy 2019–22*, 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 2021 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 2020 and 2021 questionnaires are available in a development report on BHI's website at bhi.nsw.gov.au/nsw_patient_survey_program/outpatient_cancer_clinics_survey

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 November 2021. 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 2021.

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 2021, clinics in 42 facilities were selected for sampling. Griffith Community Health Centre and Griffith Base Hospital were combined as Griffith Base Hospital, and Bega Valley Community Health and South East Regional Hospital were combined as South East Regional Hospital. Muswellbrook Hospital was excluded in the 2021 survey because it had a low level of mailings in 2020, and was likely to be non-reportable.

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*', 'breast', 'melanoma' and 'haema*' AND were approved for inclusion by the relevant LHD directors of area cancer services (see 'Other' column in Table 1). Clinics that included 'multidisciplinary team' 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).

4. Patients attend outpatient cancer clinics for treatment for reasons other than cancer, such as haematology-related services unrelated to cancer of the blood. In 2021, 83% of respondents said they attended the clinic because they have or have had cancer.

Table 1   Tier 2 services eligible for sampling, Outpatient Cancer Clinics Survey 2021

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 2021 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 42 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 and then second reminder letter is sent in the subsequent two months if no response is 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, 64 of the 82 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 eligible population. The four columns denote:

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

2. Percentage of sample mailed – the percentage of patients in each category provided by SIA to the survey vendor for mailing.

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 2021

Demographic variable	Sub-group	% of eligible population	% of sample mailed	% of respondents (unweighted)	% of respondents (weighted)
LHD	Central Coast	2.8	3.5	4.0	2.8
	Chris O'Brien Lifehouse (private)	8.1	3.3	2.8	8.1
	Far West	0.2	0.3	0.3	0.2
	Hunter New England	12.3	11.2	12.4	12.3
	Illawarra Shoalhaven	5.8	6.4	7.9	5.8
	Mid North Coast	4.8	6.1	7.3	4.8
	Murrumbidgee	0.4	0.8	0.9	0.4
	Nepean Blue Mountains	4.1	3.1	3.5	4.1
	Northern NSW	4.8	7.7	7.3	4.8
	Northern Sydney	6.2	3.2	3.2	6.2
	Riverina Cancer Care Centre (private)	1.2	2.4	2.8	1.2
	South Eastern Sydney	8.0	10.0	8.7	8.0
	South Western Sydney	11.6	9.1	7.8	11.6
	Southern NSW	1.5	3.1	3.9	1.5
	St Vincent's Health Network	4.0	3.2	2.6	4.0
	Sydney	5.8	6.5	6.0	5.8
	Sydney Adventist Hospital (private)	1.6	3.2	3.7	1.6
	Western NSW	4.5	8.1	7.7	4.5
	Western Sydney	12.2	8.9	7.2	12.2
Age group	18–34 years	#	5.1	1.8	2.4
	35–54 years	#	18.6	10.4	12.0
	55–74 years	#	49.2	52.5	52.3
	75+ years	#	27.1	35.3	33.2
Sex*	Male	#	45.6	49.3	49.3
	Female	#	54.4	50.7	50.7

* Information on sex is drawn from administrative data.

Data not available.

Standardised comparisons between hospitals and the NSW result

To enable fairer comparisons between a hospital and the NSW result, BHI used logistic mixed models in PROC GLIMMIX procedure[1] and sampling weights, adjusting for patient characteristics to estimate the odds of a pre-defined experience (e.g. 'very good' for the overall rating of care question) for a facility compared with an 'average' facility at the state level.

Therefore, when a facility is flagged as having a significantly higher or lower result than NSW, this should reflect differences in patient experiences rather than differences in a facility's patient mix. This analysis is currently applied at the facility level and not at LHD level.

The model calculates an estimate for each facility's random intercept and produces a p-value to indicate how likely these estimates are to be significantly different from the average, or NSW value. To reduce the likelihood of identifying a significant difference due to chance when there are a large number of comparisons, a P-value of 0.01 was used.

Sampling weights were used in all models to ensure the comparisons were representative of the NSW patient population. The covariates included in the modelling for the Outpatient Cancer Clinics Survey 2021 were based on results of a thorough study conducted in 2018, that were age, gender, education, language spoken at home and cancer type/non-cancer.

When results are flagged as 'interpret with caution' (page 11) or when the model did not converge, comparisons are not highlighted as significant due to the possible lack of precision.

Analyses of differences in patient experiences

To examine differences in experiences between any two patient groups in the Outpatient Cancer Clinics Survey 2021, 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) or 'language spoken at home' (English versus other language) as the explanatory variable. Responses with a missing value for the explanatory variable were exclude from the analysis.

Models examining the impact of rurality of facility were adjusted for age, gender, education, language spoken at home and cancer type. Models for language spoken at home were adjusted for age, gender, education and cancer type. Results for all measures by these sub-group analyses, without significance testing, at the state level can be found on the BHI Data Portal.

Association analysis of virtual care experience

To determine if there is an association between positive experiences for virtual care services and patient characteristics and utilisation of virtual care over the past 12 months, four questions were selected for modelling including:

- Q65: Overall, how would you rate the virtual care you received?

- Q66: Did the care and treatment received through virtual care help you?

- Q67: Compared with in-person appointments, was your virtual care experience…?

- Q69: Thinking about your experiences of virtual care, what have been the benefits for you?

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. The independent factor was "How many virtual care appointments have you had with a hospital or outpatient clinic over the past 12 months (not counting any appointments with your general practitioner/family doctor)?" with responses grouped into '1 to 2', '3 to 5', 'more than 5'. Responses to 'Don't know/can't remember' were excluded.

The relationship between the independent factor and each outcome was modelled using logistic regression in SURVEYLOGISTIC procedure, adjusting for age, gender, education level, language spoken at home and cancer type. The adjusted odds ratio and confidence interval were used to assess the magnitude of the association.

Statistical software

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 will be suppressed. Far West LHD (including Broken Hill Health Service and Dareton Primary Health Centre) was not reportable for the Outpatient Cancer Clinics Survey 2021 as it had fewer than 30 respondents. The results suppressed still contribute to NSW-level results.

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

- Cancer type

- Education level

- Language spoken at home

- Gender: 'Man or male', 'woman or female', 'non-binary', 'prefer to use a different term', 'prefer not to answer'

- Longstanding health condition: 'had condition/s', 'none reported'

- Rurality of facility: 'urban', 'rural'[*]

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 Australian Bureau of Statistics measure of remoteness. Urban facilities include those classified as 'Major Cities of Australia' according to ARIA+. Rural facilities include those classified as 'Inner Regional Australia', 'Outer Regional Australia', 'Remote Australia' and 'Very Remote Australia'.

The Accessibility and Remoteness Index of Australia (ARIA+) is the standard Australian Bureau of Statistics measure of remoteness. For more information, see abs.gov.au/websitedbs/d3310114.nsf/home/remoteness+structure

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.

[*]

Appendix 1

Survey response summary

Table 3   Eligible population, sample, mailings, responses and response rates, by LHD and overall, Outpatient Cancer Clinics Survey 2021

NSW/ LHD		Eligible population	Sampled (% of eligible)	Mailed (% of sampled)	Responses	Response rate (%)
NSW		42,895	21,569 (50%)	21,024 (97%)	8,323	40
LHD	Central Coast	1,219	759 (62%)	742 (98%)	337	45
	Far West	67	67 (100%)	65 (97%)	24	37
	Hunter New England	5,273	2,428 (46%)	2,351 (97%)	1,033	44
	Illawarra Shoalhaven	2,474	1,382 (56%)	1,344 (97%)	660	49
	Mid North Coast	2,074	1,302 (63%)	1,273 (98%)	611	48
	Murrumbidgee	179	179 (100%)	173 (97%)	74	43
	Nepean Blue Mountains	1,772	672 (38%)	645 (96%)	289	45
	Northern NSW	2,074	1,643 (79%)	1,611 (98%)	609	38
	Northern Sydney	2,668	685 (26%)	666 (97%)	269	40
	South Eastern Sydney	3,412	2,131 (62%)	2,092 (98%)	720	34
	South Western Sydney	4,968	1,968 (40%)	1,916 (97%)	647	34
	Southern NSW	659	659 (100%)	644 (98%)	324	50
	St Vincent's Health Network	1,697	700 (41%)	682 (97%)	217	32
	Sydney	2,490	1,400 (56%)	1,374 (98%)	500	36
	Western NSW	1,943	1,766 (91%)	1,704 (96%)	638	37
	Western Sydney	5,250	1,920 (37%)	1,875 (98%)	597	32

Table 4 Eligible population, sample, mailings, responses and response rates, by facility, Outpatient Cancer Clinics Survey 2021

Facility	Eligible population	Sampled (% of eligible)	Mailed (% of sampled)	Responses	Response rate (%)
Armidale	320	320 (100%)	310 (97%)	104	34
Bankstown-Lidcombe	635	635 (100%)	624 (98%)	181	29
Bathurst	375	375 (100%)	364 (97%)	148	41
Blacktown	1,315	680 (52%)	659 (97%)	215	33
Bourke Street	197	197 (100%)	191 (97%)	82	43
Broken Hill	65	65 (100%)	63 (97%)	23	37
Calvary Mater	3,268	641 (20%)	627 (98%)	308	49
Campbelltown	1,171	651 (56%)	632 (97%)	250	40
Chris O'Brien Lifehouse	3,468	700 (20%)	684 (98%)	229	33
Coffs Harbour	1,064	633 (59%)	624 (99%)	266	43
Concord	1,293	700 (54%)	679 (97%)	260	38
Dareton	2	2 (100%)	2 (100%)	1	50
Dubbo	743	743 (100%)	712 (96%)	235	33
Eurobodalla Community Health	292	292 (100%)	287 (98%)	156	54
Gosford	934	474 (51%)	465 (98%)	215	46
Grafton	265	265 (100%)	257 (97%)	99	39
Griffith	104	104 (100%)	102 (98%)	40	39
John Hunter	235	235 (100%)	229 (97%)	71	31

Facility	Eligible population	Sampled (% of eligible)	Mailed (% of sampled)	Responses	Response rate (%)
Lismore	1,036	605 (58%)	594 (98%)	235	40
Liverpool	3,162	682 (22%)	660 (97%)	216	33
Manning	529	529 (100%)	507 (96%)	243	48
Nepean	1,772	672 (38%)	645 (96%)	289	45
Orange	825	648 (79%)	628 (97%)	255	41
Port Macquarie	1,010	669 (66%)	649 (97%)	345	53
Prince of Wales	1,646	612 (37%)	602 (98%)	219	36
Riverina Cancer Care	520	520 (100%)	505 (97%)	235	47
Royal Hospital for Women	459	459 (100%)	457 (100%)	111	24
Royal North Shore	2,668	685 (26%)	666 (97%)	269	40
Royal Prince Alfred	1,197	700 (58%)	695 (99%)	240	35
Shoalhaven	1,019	685 (67%)	666 (97%)	344	52
South East Regional	170	170 (100%)	166 (98%)	86	52
St George	931	684 (73%)	665 (97%)	263	40
St Vincent's	1,697	700 (41%)	682 (97%)	217	32
Sutherland	376	376 (100%)	368 (98%)	127	35
Sydney Adventist	688	688 (100%)	678 (99%)	310	46
Tamworth	921	703 (76%)	678 (96%)	307	45
The Tweed	773	773 (100%)	760 (98%)	275	36

Facility	Eligible population	Sampled (% of eligible)	Mailed (% of sampled)	Responses	Response rate (%)
Westmead	3,375	680 (20%)	660 (97%)	248	38
Westmead Breast Cancer Institute	560	560 (100%)	556 (99%)	134	24
Wollongong	1,455	697 (48%)	678 (97%)	316	47
Wyong	285	285 (100%)	277 (97%)	122	44
Young	75	75 (100%)	71 (95%)	34	48

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 2021

Number	Question	Missing %	'Don't know'/'Can't remember' %	Missing + 'Don't know'/'Can't remember' %*
1	What was the purpose of this appointment?	2.91		2.91
2	How long did it take you to travel to the clinic for this appointment?	2.22	0.22	2.44
3	Did you need parking for your clinic visit?	2.78		2.78
4	Did you have any of the following issues with parking during this visit?	2.71		2.71
5	Were the reception staff polite and courteous?	0.80		0.80
6	How long after the scheduled appointment time did your appointment actually start?	3.48	2.22	5.71
7	Were you told how long you had to wait?	5.11		5.11
8	How comfortable was the waiting area?	2.20		2.20
9	How comfortable was the treatment area?	2.50		2.50
10	How clean was the treatment area?	0.74		0.74
11	Who did you see during this appointment?	3.28		3.28
12	Did you have enough time to discuss your health issues with the health professionals you saw?	3.29		3.29
13	Did the health professionals explain things in a way you could understand?	3.39		3.39
14	During this appointment, did the health professionals know enough about your medical history?	3.24		3.24
15	How would you rate how well the health professionals worked together?	3.11		3.11
16	Did you see the health professionals wash their hands, or use hand gel to clean their hands, before touching you?	3.38	7.53	10.91
17	Did you have worries or fears about your condition or treatment?	3.57		3.57

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?	3.50		3.50
19	Did you have confidence and trust in the health professionals?	2.67		2.67
20	Were the health professionals kind and caring towards you?	2.60		2.60
21	Overall, how would you rate the health professionals who treated you?	2.69		2.69
22	When making decisions about your treatment, did a health professional at the clinic inform you about different treatment options?	3.15		3.15
23	Did a health professional at the clinic tell you about the risks and benefits of the treatment options?	1.65		1.65
24	Were you involved, as much as you wanted to be, in decisions about your care and treatment?	2.63		2.63
25	Did a health professional at the clinic explain the next steps of your care and treatment in a way you could understand?	3.11		3.11
26	Did you ever receive conflicting information about your condition or treatment from the health professionals?	3.60		3.60
27	Do you have a written care plan for your current or ongoing care?	4.33	6.39	10.72
28	Were you asked about your preferences for care and treatment when developing this plan?	4.04	11.82	15.86
29	At your November appointment, did the health professionals review your care plan with you?	3.45	7.83	11.29
30	Did you receive any treatment during this appointment (chemotherapy, radiotherapy, surgery or other treatments)?	3.08		3.08
31	Did a health professional at the clinic explain what would be done during your treatment in a way you could understand?	4.45		4.45
32	Did a health professional at the clinic tell you about possible side effects of your treatment?	4.89		4.89
33	Were you given enough information about how to manage the side effects of your treatment?	5.42		5.42

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?	3.15		3.15
35	Did a health professional at the clinic explain the purpose of this medication in a way you could understand?	2.38		2.38
36	Did a health professional at the clinic tell you about side effects of this medication to watch for?	2.70		2.70
37	Were you told who to contact if you were worried about your condition or treatment after your appointment?	3.41	7.22	10.63
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?	3.44	1.17	4.60
39	Were you treated with respect and dignity during your appointment?	1.72		1.72
40	Were you given enough privacy when being examined or treated?	2.74		2.74
41	Were you given enough privacy when discussing your condition or treatment?	2.43		2.43
42	Were you ever treated unfairly for any of the reasons below?	4.90		4.90
43	Were your cultural or religious beliefs respected by the clinic staff?	2.94		2.94
44	During your appointment or soon afterwards, did you experience any of the following complications or problems?	3.86		3.86
45	Was the impact of this complication or problem...?	3.50		3.50
46	In your opinion, were the health professionals open with you about this complication or problem?	3.11		3.11
47	In the past three months, have you gone to an emergency department because of complications related to the care you received?	3.18	0.64	3.82
48	Did a staff member at this clinic ask you if you smoked/used tobacco?	2.68	16.76	19.44
49	At the time of your appointment, how often were you smoking/using tobacco?	2.90		2.90
50	Has a staff member at this clinic done any of the following in the past year?	5.89	8.56	14.45

Number	Question	Missing %	'Don't know'/'Can't remember' %	Missing + 'Don't know'/'Can't remember' %*
51	Overall, how would you rate the care you received from the clinic?	1.73		1.73
52	If asked about your clinic experience by friends and family, how would you respond?	1.91		1.91
53	How well organised was the care you received from the clinic?	2.03		2.03
54	How much were your out-of-pocket expenses for medication related to these appointments?	2.60	3.86	6.45
55	How much were your out-of-pocket expenses for consultations, tests, surgery or treatment related to these appointments (excluding medication)?	2.87	4.78	7.65
56	How much were your out-of-pocket expenses for other costs related to these appointments (e.g. travel, petrol, parking, accommodation)?	2.67	3.65	6.32
57	Did you attend this clinic because you have or have had cancer?	1.96		1.96
58	Is this the first time you have had cancer?	6.12		6.12
59	What was the main type of cancer you were receiving care for at this clinic?	10.54		10.54
60	Which of the following statements best describes how well you are able to carry out ordinary tasks and daily activities? Over the past month I would generally rate my activity as...	5.68		5.68
61	How has your current cancer responded to treatment?	8.63		8.63
62	How long has it been since you first received treatment for this cancer?	2.44	0.61	3.05
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?	2.22	2.03	4.25
64	How many virtual care appointments have you had with a hospital or outpatient clinic over the past 12 months (not counting any appointments with your general practitioner/family doctor)?	2.21	3.60	5.81
65	Overall, how would you rate the virtual care you received?	2.07		2.07
66	Did the care and treatment received through virtual care help you?	2.63		2.63

Number	Question	Missing %	'Don't know'/'Can't remember' %	Missing + 'Don't know'/'Can't remember' %*
67	Compared with in-person appointments, was your virtual care experience…?	2.75		2.75
68	If given the choice, would you use virtual care again?	2.59	2.59	5.17
69	Thinking about your experiences of virtual care, what have been the benefits for you?	3.85		3.85
70	What year were you born?	1.41		1.41
71	How do you describe your gender?	1.07		1.07
72	What is the highest level of education you have completed?	1.87		1.87
73	Which language do you mainly speak at home?	1.24		1.24
74	Did you need, or would you have liked, to use an interpreter at any stage while you were at the clinic?	0.87		0.87
75	Did the clinic provide an interpreter when you needed one?	2.43		2.43
76	Are you of Aboriginal origin, Torres Strait Islander origin, or both?	2.37		2.37
77	Did you receive support, or the offer of support, from an Aboriginal Health Worker during your November appointment?	1.32	4.61	5.92
78	Which, if any, of the following longstanding conditions do you have (including age-related conditions)?	3.08		3.08
79	Does this condition(s) cause you difficulties with your day-to-day activities?	3.08		3.08
80	Are you a participant of the National Disability Insurance Scheme (NDIS)?	3.39	5.20	8.59
81	Who completed this survey?	1.89		1.89
82	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)?	3.06		3.06

* 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 a 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 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, 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 2021

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 opportunity to make decisions or discuss treatment options	Q22. When making decisions about your treatment, did a health professional at the clinic inform you about different treatment options?	Had opportunity to make decisions or discuss treatment options	Yes, always
			Yes, sometimes
			No, treatment options were not discussed
		Did not have opportunity to make decisions or discuss treatment options	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	Q44. During your appointment or soon afterwards, did you experience any of the following complications or problems?	Had complication	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 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
Virtual care was better than or about the same as in-person appointments	Q67. Compared with in-person appointments, was your virtual care experience…?	Better or about the same	Better
			About the same
		Not as good	Not as good
Virtual care had a benefit	Q69. Thinking about your experiences of virtual care, what have been the benefits for you?	Had a benefit	I thought it was convenient
			I saved time
			I saved money
			I felt that I received the right care at the right time
			I felt that I received safe, high quality care
			I felt at ease being in my own home/ surroundings
			I didn't have to take as much time off work as I would have with an in-person appointment
			I didn't need to arrange care for children or dependants
			I was able to have others join the appointment (my family, other members of my healthcare team)
			I thought it benefitted me in other ways
		Had no benefit	I had no benefits

References

1. SAS Documentation, Example Weighted Multilevel Model for Survey Data, 13 December 2019, accessed July 2022. documentation.sas.com/doc/en/pgmsascdc/9.4_3.4/statug/statug_glimmix_examples23.htm