Emergency Department Patient Survey 2017–18

Technical Supplement

April 2019

bureau of health information

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

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Contents

NSW Patient Survey Program

The NSW Patient Survey Program began sampling patients in NSW public facilities from 2007. Up to mid-2012, the program was coordinated by the NSW Ministry of Health (Ministry) using questionnaires obtained under licence from NRC Picker. Responsibility for the NSW Patient Survey Program was transferred from the Ministry to the Bureau of Health Information (BHI) in July 2012. BHI has a contract with Ipsos to support data collection, while BHI conducts all survey analysis.

The aim of the program is to measure and report on patients' experiences and outcomes of care in public healthcare facilities in New South Wales (NSW), on behalf of the Ministry and local health districts (LHDs).

This document outlines the sampling methodology, data management and analysis of the *Emergency Department Patient Survey (EDPS) 2017–18*.

For more information on how to interpret results and statistical analysis of differences between facilities and NSW, please refer to the Guide to Interpreting Differences on BHI's website at **bhi.nsw.gov.au/nsw_patient_survey_program**.

The Emergency Department Patient Survey

The EDPS was the second survey sent to patients as part of the revised NSW Patient Survey Program in 2013, after the *Adult Admitted Patient Survey (AAPS)*. It covered patients attending emergency departments (EDs) between April 2013 and March 2014.

The subsequent cycles of the survey were conducted from April 2014 and March 2015 (EDPS 2014–15), April 2015 to June 2016 (EDPS 2015–16), and by financial year since July 2016.

Changes are made to the questionnaire content between the survey years to improve navigation through the questionnaire and in response to stakeholder requests. Changes can also be informed by an analysis of information from the previous questionnaire, specifically non-response to survey questions, percentage of invalid responses to questions, floor and ceiling effects (based on the mean, standard deviation and skew of results), and correlation to other questions in the questionnaire. For changes in questionnaire content between EDPS 2016–17 and EDPS 2017–18 please see the Development Report on BHI's website.

Organisational roles in producing survey samples

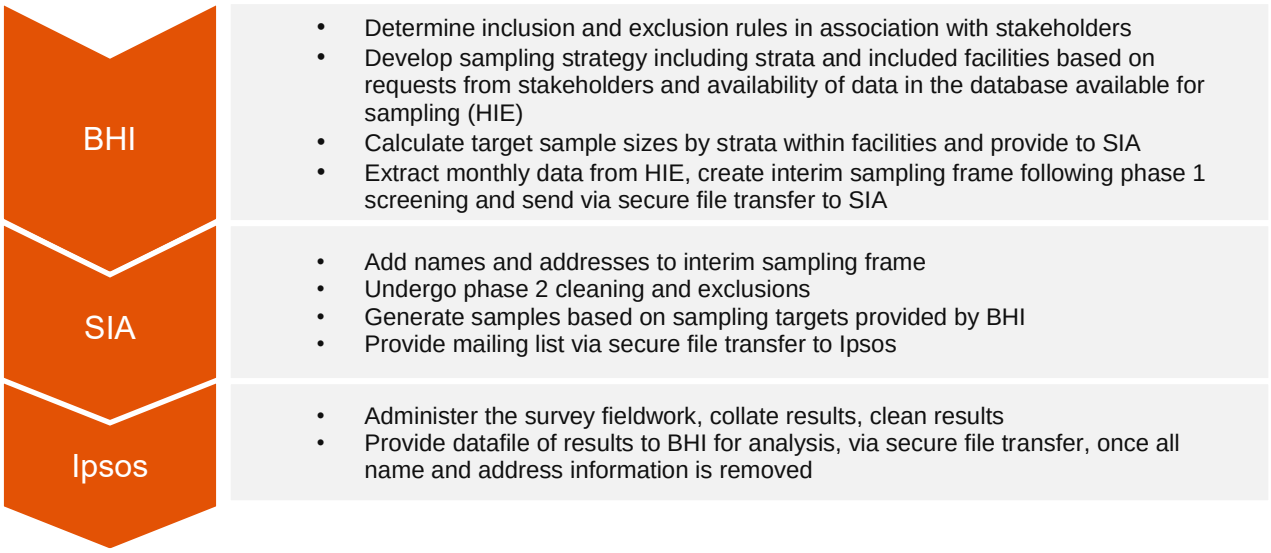
The survey program assures patients that their responses will be confidential and that staff at hospitals will not be able to determine who gave which response. BHI does this through a number of mechanisms, including:

- reporting aggregated results
- data suppression (results for fewer than 30 responses are suppressed)
- de-identification of patient comments
- segregation of roles when constructing the survey samples (see below).

The sampling method for the NSW Patient Survey Program requires collaboration between staff at BHI, Ipsos and the Ministry of Health's Systems Information and Analytics Branch (SIA) (see Figure 1). This survey used data obtained from the Health Information Exchange (HIE).

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

Figure 1: Organisational responsibilities in sampling and survey processing, Emergency Department Patient Survey, 2017–18



Inclusion criteria

ED patient data pass through two phases of cleaning. The first phase of screening is applied by BHI. Many of these criteria are developed in conjunction with advice from stakeholders.

Inclusions	Patients who visited an ED in a NSW public hospital with a peer group classification of A1, A2, A3, B, C1 or C2, including facilities that were previously C2 and were reallocated to D1a or D1b in the 2014 update of peer groups (see https://www1.health.nsw.gov.au/pds/ActivePDSDocuments/IB2016_013.pdf).
Exclusions	Patients who were dead on arrival or died in ED (mode of separation of eight and three respectively) were excluded from the sample.

A series of further exclusion criteria were applied to take into account a range of factors including: the potentially high vulnerability of particular patient groups and/or patients with particularly sensitive reasons for admission; certain patients' ability to answer questions about their experiences; and the relevance of the survey questions to particular patient groups.

The effectiveness of this screening is reduced for EDPS compared to AAPS due to variables in the dataset. For example, the ED dataset does not contain robust diagnosis (ICD-10-AM) information that allows these exclusions. Because of this, further screening to exclude sensitive groups can only be done for patients subsequently admitted to hospital. Therefore, ED patients subsequently admitted to hospital (mode of separation of 1,10,11,12 or 13) with the following procedures or diagnoses recorded for their inpatient stay were omitted:

- admitted for a termination of pregnancy procedure [35643-03]
- treated for maltreatment syndromes [T74] in any diagnosis field, including neglect or abandonment, physical abuse, sexual abuse, psychological abuse, other maltreatment syndromes and maltreatment syndrome, or 'unspecified '
- treated for contraceptive management [Z30] in any diagnosis field, including general counselling and advice on contraception, surveillance of contraceptive drugs, surveillance of contraceptive device, other contraceptive management and contraceptive management, or 'unspecified'
- patients with a diagnosis of stillborn baby [Z37] in any diagnosis field (including single stillbirth, twins, one liveborn and one stillborn, twins, both stillborn and other multiple births, some liveborn) were excluded
- where ED patients were admitted to hospital, they were excluded if in the subsequent admission they had a mode of separation of death
- intentional self-harm: ICD10 code between X60 and X84
- sequelae of intentional self-harm: ICD10 code = Y87.0
- unspecified event, undetermined intent: ICD10 code commences with Y34
- suicidal ideation: ICD10 code = R45.81
- family history of other mental and behavioural disorders: ICD10 code commences with Z81.8
- personal history of self-harm: ICD10 code commences with Z91.5.

Where patients had multiple visits within the sampling month, their most recent ED visit was retained. The questionnaire asked patients to respond to the survey based on their most recent ED visit in a particular month.

Phase 2 screening

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

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

Exclusions	• invalid address (including those with addresses listed as hotels, motels, nursing homes, Community Services, Mathew Talbot Hostel, 100 William Street, army quarters, jails, unknown, NFA) • invalid name (including twin, baby of, etc.) • invalid date of birth • in the 'do not contact' list • sampled in the previous six months for any BHI patient survey currently underway • had a death recorded according to the NSW Birth Deaths and Marriages Registry and/or Agency Performance and Data Collection, prior to the sample being provided to Ipsos.

Drawing of the sample

Survey design

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

- age – aged 0–17, 18–49 or 50 years and over
- stay type – admitted or non-admitted (discharged from ED).

Although sampling is undertaken monthly, sample size calculations are based on whether reporting is on a quarterly or annual basis. All facilities in C1, C2 and D peer groups with the exception of Broken Hill Health Service were sampled for annual reporting, whereas facilities in A1, A2, A3 and B peer groups were sampled for quarterly reporting.

In addition:

- all patients at the two children's hospitals were included in the 'under 18' stratum for sampling purposes
- children under 18 years admitted to A3 (Ungrouped Acute - tertiary referral) facilities were included in the '18 to 49' age stratum because of very small numbers in the under 18 age group for these three hospitals.

Patients were selected within strata using simple random sampling without replacement. Sample sizes were defined at the facility level, with proportional sampling of strata within facilities.

The monthly targets by strata for the 2017–18 sampling period were based on the emergency department patient data from the 2016–17 period (after Phase 1 of the screening process).

The required sample size for each facility (i) was estimated using Equation 1.

Equation 1

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

Where:

s_i = estimated sample size for facility i

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

N_i = population in facility i, estimated using data from the 2015–16 year with phase 1 exclusion criteria applied, aggregated to correspond with the reporting period (i.e. by quarter or full year)

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

d = degree of accuracy of the 95% confidence interval expressed as a proportion (±0.08).

The sample size calculation aimed for a confidence interval around an expected proportion of 0.8 of ±0.08 at the facility level. Sample sizes are then allocated proportionately across strata internal to the facility.

Finally, cell sample sizes are inflated to account for non-response to the survey. This was done by dividing the expected sample size by the expected response rate. Response rates for each stratum were estimated based on response rates observed in the 2016–17 survey (Table 1).

In addition, a minimum monthly target of six patients is applied to all strata (e.g. if calculations require less than six patients in any stratum, this will be increased to six patients).

The adjusted cell sample sizes were provided to SIA as the monthly targets for the 2016–17 survey. For each month of sampling, SIA randomly selected patients within each stratum, according to these targets.

Note: The sample size calculation based on Equation 1 (page 6) assumes simple random sampling, whereas a stratified survey design was used. This, and differences in the response rate between strata, may result in some estimates having wider confidence intervals than expected, even when the prevalence is 80%.

Table 1 Response rates used when calculating the targets for mailing, EDPS 2017–18

Stratum	Response Rate
0-17 years	25%
18-49 years	15%
50+ years	50%

Data Management

Data collection

Upon completion of a survey questionnaire, the respondent returns or submits the completed survey (depending on whether they completed the paper-based questionnaire or the online questionnaire) to Ipsos. If a paper form is returned, Ipsos then scans in the answers electronically and manually enters free-text fields. Also, all text entry fields are checked for potential identifiers (names of patients, names of doctors, telephone numbers, etc.) and any that are found are replaced with “XXXX“.

Following this, each record is checked for any errors in completion and reasonable adjustments (known as ‘cleaning’) are made to the dataset, for example, removing responses where the patient has not correctly followed questionnaire instructions or provided multiple answers to a single response question.

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

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

Data Analysis

Completeness of survey questionnaires

In EDPS 2017–18, the completeness of responses was very high, with 90% of respondents answering at least 59 questions, out of the 89 total questions in the questionnaire.

Calculation of weighted response rate

The response rate is the proportion of people sampled in the survey who actually completed and returned their survey form. As a result of the oversampling of younger patients, the distribution of patients in the sample (patients who were sent questionnaires) does not match the age distribution of patients in the population (Table 2). Therefore, response rates were adjusted to ensure that the overall survey response rate reflects a response rate that would be observed if patients were sampled proportional to the patient mix, creating the 'weighted response rate'. The weighted response rates are shown in Tables 4 and 5 in the following sections.

Table 2 Patient population distribution and corresponding proportions of surveys mailed and respondents, EDPS 2017–18

Age group	Percentage in patient pop	Percentage in surveys mailed	Percentage in respondents
0–17	25%	24%	22%
18–49	38%	57%	35%
50+	37%	19%	43%

Weighting of data

The protocol of the NSW Patient Survey Program is, when possible, to 'weight' data to account for differences (bias) in the probability of sampling and the likelihood of different patient groups to respond. Weighting makes the results more representative of the overall patient population, making the data more useful for the purposes of decision-making and service improvement.

Weights were calculated in two stages:

- for each quarter of data as they become available
- once 12 months of data were available, weights for facilities reported on an annual basis were adjusted.

Weighting of quarterly data

For each quarter of data, responses were weighted to match the population by age (Under 18, 18–49 or 50+ years) and stay type (admitted or non-admitted) at facility level for hospitals that were sampled for quarterly reporting (peer group hospitals A1, A2, A3 and B and Broken Hill Health Service) and at LHD level for hospitals that were sampled for annual reporting (peer group hospitals C1, C2 and D). Methods for weighting are described below.

Calculating quarterly response weights

Interim quarterly response weights were calculated as:

$$w_{ij} = \frac{N_{ij}}{n_{ij}} \quad \text{..... (1)}$$

Where:

- N_{ij} denotes the population (i.e. total number of patients eligible for the survey) of the i^{th} facility in the j^{th} age group. Eligible patient numbers were based on the number of patients following the second phase of screening undertaken by the Ministry of Health.
- n_{ij} denotes the sample size (i.e. number of respondents) of the i^{th} facility in the j^{th} age group.

If the stratum cell size within a facility was five or fewer, and the weight is greater than the median weight, then cells within that facility were aggregated for weighting purposes by grouping across age group unless this increases the weight of the small cell. Decisions on aggregation were agreed by two analysts.

The interim quarterly weights were then passed through the generalised regression weights (GREGWT) macro, a survey-specific SAS program developed by the Australian Bureau of Statistics (ABS) to assist with weighting of complex survey data. It uses iterative proportional fitting to ensure that the weights at the margins agreed with the population totals even though it is often impossible for the weights to equal the population at the individual cell level. The marginal totals specified were facility (with annually-reported facilities within the same LHD combined), stay type and age strata (combined when necessary).

A lower bound of one was specified in the macro. Each quarter of data was weighted separately using this process. These weights are used for results created based on data combined over a period of less than 12 months.

Once four quarters of data were available, these were combined and the weights for facilities sampled on the basis of annual reporting were weighted at the facility level. The GREGWT macro was used, in two stages, to ensure agreement of weights with populations at the margins.

The GREGWT macro was run with the following benchmarks.

- Benchmark 1: facility
- Benchmark 2: quarter x LHD
- Benchmark 3: facility x stay type x age stratum

The interim quarterly weights were used as initial response weights. A lower bound of one was specified in the macro. Weights generated using the GREGWT macro were trimmed to 500 to avoid extreme weights.

Analysis of weights

As part of the weighting process, an investigation of the weights is undertaken for each quarter separately to ensure that undue weight is not applied to individual responses. The two most important factors considered are the ratio of the maximum to median weight, particularly at the facility level, and the design effect.

The design effect (DEFF) was calculated for each LHD and overall, for each quarter and for the four quarters combined. The DEFF, estimated as [1+ coefficient of variance (weights)^2], compares the variance of estimates obtained from the stratified sample used with the variance expected for a simple random sample. Sample sizes, weighted response rates and DEFFs based on the 12 months of data are shown in Table 3 (by LHD and NSW) and Table 4 (by facility).

Table 3 Sample size, response rates and design effects (DEFF) by LHD and overall, EDPS 2017–18

LHD	Surveys Mailed	Survey Responses	Weighted response rate	DEFF
Central Coast	3,207	604	27%	1.1
Far West	1,606	205	20%	1.2
Hunter New England	13,690	2,400	23%	1.5
Illawarra Shoalhaven	4,184	821	26%	1.4
Mid North Coast	4,478	916	27%	1.6
Murrumbidgee	3,815	714	22%	1.6
Nepean Blue Mountains	3,122	574	23%	1.4
Northern NSW	6,243	1,214	24%	1.5
Northern Sydney	7,039	1,521	27%	1.4
South Eastern Sydney	6,970	1,233	24%	1.3
South Western Sydney	7,725	1,266	21%	1.2
Southern NSW	3,204	713	26%	1.8
St Vincent's Health Network	1,916	283	22%	1.1
Sydney	5,160	956	24%	1.2
Sydney Children's Health Network	3,032	608	20%	1.1
Western NSW	5,936	1,041	22%	1.6
Western Sydney	6,062	926	19%	1.4
NSW	87,389	15,995	24%	1.4

At the LHD level, the DEFFs range from 1.1 to 1.8. This suggests that the sample variance of estimates for some LHDs will be 1.8 times the sample variance that would have been obtained if simple random sampling had been done across the LHD. The LHDs with the largest DEFFs are those that have the greatest range in patient volumes across the facilities within the LHD. The standard errors at the LHD level are fairly small because of the sample sizes at the LHD level. Therefore the increase in standard errors caused by the survey design (and leading to a larger DEFF at LHD level) is more than offset by the fact that each facility that is sampled has sufficient sample size to allow facility level reporting. In addition, the estimates at the

LHD level have appropriate apportionment of respondents between large and small facilities. It was therefore decided not to censor larger weights further than what had already occurred by setting a global maximum weight of 500.

Table 4 Sample size, response rates and design effects (DEFF) by facility, EDPS 2017–18

Name	Peer group	Surveys Mailed	Survey Responses	Weighted response rate	DEFF
Bankstown-Lidcombe Hospital	A1	1,686	248	19	1.1
Concord Repatriation General Hospital	A1	1,615	308	26	1.2
Gosford Hospital	A1	1,578	339	29	1.1
John Hunter Hospital	A1	1,624	288	24	1.1
Liverpool Hospital	A1	1,676	287	23	1.1
Nepean Hospital	A1	1,699	251	20	1.1
Prince of Wales Hospital	A1	1,885	291	21	1.1
Royal North Shore Hospital	A1	1,637	383	28	1.1
Royal Prince Alfred Hospital	A1	1,820	356	26	1.1
St George Hospital	A1	1,666	303	23	1.2
St Vincent's Hospital Sydney	A1	1,916	283	22	1.1
Westmead Hospital	A1	1,839	304	22	1.1
Wollongong Hospital	A1	1,628	309	25	1.1
Sydney Children's Hospital, Randwick	A2	1,511	320	21	1.1
The Children's Hospital at Westmead	A2	1,521	288	19	1.0
Calvary Mater Newcastle	A3	1,664	289	25	1.3
Sydney Hospital and Sydney Eye Hospital	A3	1,836	330	27	1.1
Auburn Hospital	B	1,866	237	15	1.1
Blacktown Hospital	B	1,759	276	21	1.1
Campbelltown Hospital	B	1,678	288	23	1.1
Canterbury Hospital	B	1,725	292	20	1.1
Coffs Harbour Health Campus	B	1,580	288	26	1.1
Dubbo Base Hospital	B	1,625	252	21	1.1
Fairfield Hospital	B	1,699	245	17	1.1
Hornsby Ku-ring-gai Hospital	B	1,604	377	29	1.1
Lismore Base Hospital	B	1,564	288	26	1.2
Maitland Hospital	B	1,715	273	22	1.1
Manly Hospital	B	1,707	307	25	1.1
Manning Hospital	B	1,491	292	29	1.1
Mona Vale Hospital	B	1,567	337	27	1.1

Orange Health Service	B	1,627	267	22	1.1
Port Macquarie Base Hospital	B	1,491	328	32	1.1
Shoalhaven District Memorial Hospital	B	1,594	301	27	1.2
Sutherland Hospital	B	1,583	309	26	1.1
Tamworth Hospital	B	1,666	251	21	1.2
The Tweed Hospital	B	1,607	301	26	1.1
Wagga Wagga Rural Referral Hospital	B	1,651	294	24	1.1
Wyong Hospital	B	1,629	265	25	1.1
Armidale Hospital	C1	568	107	21	1.5
Bathurst Health Service	C1	610	118	23	1.5
Belmont Hospital	C1	527	117	29	1.6
Bowral and District Hospital	C1	541	130	32	1.6
Broken Hill Health Service	C1	1,606	205	20	1.2
Goulburn Base Hospital and Health Service	C1	571	111	24	1.4
Grafton Base Hospital	C1	563	107	22	1.7
Griffith Base Hospital	C1	602	112	20	1.6
Hawkesbury District Health Services*	C1	342	72	23	1.6
Mount Druitt Hospital	C1	598	109	16	1.6
Murwillumbah District Hospital	C1	520	98	22	1.7
Ryde Hospital	C1	524	117	26	1.2
Shellharbour Hospital	C1	521	104	23	1.5
South East Regional Hospital	C1	529	137	32	1.3
Ballina District Hospital	C2	480	102	26	1.7
Batemans Bay District Hospital	C2	528	105	25	1.8
Blue Mountains District Anzac Memorial Hospital	C2	552	134	31	1.5
Byron Central Hospital	C2	589	107	20	1.4
Casino & District Memorial Hospital	C2	484	96	20	1.7
Cessnock Hospital	C2	578	108	21	1.6
Cooma Hospital and Health Service	C2	520	121	27	1.5
Cowra Health Service	C2	481	104	25	1.8
Deniliquin Hospital and Health Services	C2	494	104	22	1.9
Gunnedah Hospital	C2	546	94	20	1.8
Inverell Hospital	C2	552	112	25	1.8
Kempsey District Hospital	C2	527	106	24	1.7
Kurri Kurri Hospital	C2	480	86	19	1.9
Lachlan Health Service - Forbes	C2	489	94	22	1.5

Lithgow Hospital	C2	529	117	26	2.2
Macksville District Hospital	C2	440	91	26	1.7
Maclean District Hospital	C2	436	115	31	1.6
Milton Ulladulla Hospital	C2	441	107	30	1.7
Moree Hospital	C2	566	88	18	2.1
Moruya District Hospital	C2	482	108	27	1.9
Mudgee Health Service	C2	548	104	20	2.0
Muswellbrook Hospital	C2	590	88	14	1.9
Narrabri Hospital	C2	522	93	17	1.6
Queanbeyan Hospital and Health Service	C2	574	131	22	1.9
Singleton Hospital	C2	601	114	19	1.6
Young Health Service	C2	542	91	18	1.8
Bellinger River District Hospital	D	440	103	27	1.6
Camden Hospital	D	445	68	17	1.4
Lachlan Health Service - Parkes	D	556	102	21	1.9
Tumut Health Service	D	526	113	22	1.9

* As a result of a technical issue, Hawkesbury District Health Services patients were not sampled for October to December 2017, March 2018 and May 2018 for 2017–18 results.

Demographic characteristics of respondents to Emergency Department Patient Survey 2017–18

The likelihood of a patient to respond to the survey depends, at least in part, on the socio-demographic identity of the patient. For example, older or female patients are more likely to respond to the survey. Furthermore, patient demographics can affect how patients respond to survey questions and the effect of differing response rates can lead to results that are not representative of the hospital's patient population. To correct for this effect, the survey program 'weights' patient responses so that the results more closely reflect a specific mix of patients at the hospital, LHD or NSW level, which means that the weighted proportion across NSW for variables used in the weighting should be similar to the proportion in the eligible population.

Table 5 presents the demographic composition of patients by LHD, age group, stay type, peer group, Aboriginal status, and gender, at each stage of the survey. The four columns of data represent:

- percentage in initial sampling frame: the percentage of patients in each category in the dataset of eligible patients, following Phase 1 screening
- percentage in sample mailed: the percentage of patients in each category provided by the NSW Ministry of Health to Ipsos for mailing, following Phase 2 screening
- percentage of respondents (unweighted): the raw/unadjusted percentage of respondents
- percentage of respondents (weighted): the weighted percentage of respondents in the final data contributing to reported results.

Table 5 Demographic characteristics of patients and EDPS respondents, 2017–18

Demographic variable	Sub-group	Percentage in patient population	% in MoH* eligible population	Percentage of respondents (unweighted)	Percentage of respondents (weighted)
LHD	Central Coast	5	5	4	5
	Far West	1	1	1	1
	Hunter New England	14	13	15	13
	Illawarra Shoalhaven	6	6	5	6
	Mid North Coast	5	4	6	4
	Murrumbidgee	3	3	4	3
	Nepean Blue Mountains	5	4	4	4
	Northern NSW	7	7	8	7
	Northern Sydney	9	9	10	9
	South Eastern Sydney	9	9	8	9
	South Western Sydney	11	11	8	11
	Southern NSW	4	4	4	4
	St Vincent's Health Network	2	2	2	2
	Sydney	6	6	6	6
	Sydney Children's Hospitals Network	4	4	4	4
	Western NSW	5	4	7	4

Demographic variable	Sub-group	Percentage in patient population	% in MoH* eligible population	Percentage of respondents (unweighted)	Percentage of respondents (weighted)
	Western Sydney	7	7	6	7
Peer group	A1	35	36	25	36
	A2	4	4	4	4
	A3	3	3	4	3
	B	34	34	38	34
	C1	12	12	10	12
	C2	12	11	17	11
	D	1	1	2	1
Age stratum	Under 18	25	25	22	25
	18–49	38	38	35	38
	50+	37	37	43	37
Stay type	Admitted Emergency	28	25	37	25
	Non-admitted Emergency	72	75	63	75
Gender	Male	51	n/a	47	47
	Female	49	n/a	53	53

*MoH = NSW Ministry of Health
n/a Sample summaries provided by MoH are summarised only by strata variables. As gender and Aboriginal status were not strata variables, this information was not available at this point in the process.

Reporting

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

Statistical Analysis

Analyses were undertaken in SAS V9.4 using the SURVEYFREQ procedure.

Results were weighted for all questions except for questions related to socio-demographic characteristics and self-reported health.

For analysis of results at the quarterly level:

- strata statement variables included: facility (with annually-reported facilities combined within LHD), stay type and age strata
- where appropriate, results were weighted using weights calculated for the analysis of quarterly data
- results were generated at the NSW level, and by LHD, peer group and facilities sampled on the basis of quarterly reporting.

For analysis of results at the annual level:

- strata statement variables included: facility, stay type and age strata
- results were weighted using weights calculated for the analysis of annual data
- results were generated for each question in the survey at the:
  - NSW level, and by LHD, peer group and facility
  - NSW level, and by LHD, peer group and facility, by demographic characteristics outlined in Table 6

Table 6 Demographic characteristics of EDPS respondents for reporting, 2017–18

Characteristic	Comment
Age group	0–17, 18–49, 50+ based on self-reported year of birth. Where question on year of birth was missing or invalid, administrative data were used
Gender	Male, Female. Where response were missing or invalid, administrative data were used
Education	Self-reported level of education, coded to “Less than Year 12”, “Not yet started school”, “Year 12 or equivalent”, “Trade/tech. cert./diploma”, “University degree” and “Post grad./higher degree” category
Language spoken at home	Dichotomised to English, Language other than English
Long-standing health conditions	Dichotomised to long-standing health condition is reported and none reported for the demographic breakdown
Aboriginal status	Self-reported, dichotomised into Aboriginal or non-Aboriginal. Missing values were excluded rather than imputed from administrative source
Self-reported health status	The SF-1. Excellent, Very good, Good, Fair, Poor
Quintile of socio-economic disadvantage	Refer to the Data Dictionary: Quintile of socio-economic disadvantage
Rurality of patient residence	Based on Remoteness category of postcode of patient residence
Country of birth	Australian born vs other, derived from administrative data
Triage category	Triage Category 2 and 3 combined, 4 and 5 combined. There are insufficient responses from Triage Category 1 to include this category
Stay type	Admitted or non-admitted
Mental health condition	Self-reported mental health condition, coded to “Yes” or “No” category

Unless otherwise specified, missing responses and those who responded ‘Don’t know/can’t remember’ to questions were excluded from analysis. Typically, performance-style questions exclude missing values and ‘Don’t know/can’t remember’-type responses. The exception is for ‘Don’t know/can’t remember’ responses for questions that ask about a third party (e.g. if family had enough opportunity to talk to doctor) or that are over 10%. Meanwhile, questions that are not related to hospital performance include results for people who responded ‘Don’t know/can’t remember’ and those who should have answered the question but did not. Results are presented only where the result was based on at least 30 respondents. For a detailed breakdown of the proportion of missing or ‘Don’t know’ responses by question, refer to Appendix 2.

Confidence intervals can be displayed in BHI’s interactive data portal, Healthcare Observer, only for quarterly results. The BHI document, Guide to Interpreting Differences provides information in understanding comparison of results (http://www.bhi.nsw.gov.au/nsw_patient_survey_program). However, some differences in results between facilities may be due to differences in the demographic profile of patients attending those facilities. BHI is currently developing methods to standardise survey results in order to account for differences in patient mix and to optimise direct comparisons.

Change over time between EDPS 2016–17 and EDPS 2017–18 was based on changes of more than five percentage points between questions that were considered comparable between the two survey years.

Calculation of percentages

The result (percentage) for each response option in the questionnaire is determined using the following method:

Numerator	The (weighted) number of survey respondents who selected a specific response option to a certain question, minus exclusions.
Denominator	The (weighted) number of survey respondents who selected any of the response options to a certain question, minus exclusions.
Calculation	= numerator/denominator x100

The results are weighted for most questions. They are not weighted for questions relating to demographics or self-reported health status.

In some cases, the results from several responses are combined to form a ‘derived measure’, as indicated in the reporting. For information about how these measures are developed, please see Appendix 3.

Appendix 1

Facilities included in the Emergency Department Patient Survey sampling frame

Table A1 Eligible patients, sampled patients and proportion sampled by facility, EDPS 2017-18

Facility name	Peer Group	Total eligible patients	Total sampled	Percentage sampled
Bankstown-Lidcombe Hospital	A1	38,663	1,692	4.4%
Concord Repatriation General Hospital	A1	28,631	1,624	5.7%
Gosford Hospital	A1	50,116	1,584	3.2%
John Hunter Hospital	A1	57,471	1,632	2.8%
Liverpool Hospital	A1	65,903	1,680	2.5%
Nepean Hospital	A1	51,834	1,704	3.3%
Prince of Wales Hospital	A1	43,468	1,890	4.3%
Royal North Shore Hospital	A1	69,567	1,644	2.4%
Royal Prince Alfred Hospital	A1	52,442	1,824	3.5%
St George Hospital	A1	61,232	1,668	2.7%
St Vincent's Hospital Sydney	A1	31,421	1,922	6.1%
Westmead Hospital	A1	56,011	1,843	3.3%
Wollongong Hospital	A1	49,908	1,632	3.3%
Sydney Children's Hospital, Randwick	A2	26,318	1,512	5.7%
The Children's Hospital at Westmead	A2	43,005	1,524	3.5%
Calvary Mater Newcastle	A3	24,286	1,676	6.9%
Sydney Hospital and Sydney Eye Hospital	A3	23,982	1,837	7.7%
Auburn Hospital	B	19,363	1,872	9.7%
Blacktown Hospital	B	36,136	1,764	4.9%
Campbelltown Hospital	B	53,590	1,680	3.1%
Canterbury Hospital	B	31,731	1,728	5.4%
Coffs Harbour Health Campus	B	27,795	1,584	5.7%
Dubbo Base Hospital	B	21,927	1,632	7.4%
Fairfield Hospital	B	25,671	1,704	6.6%
Hornsby Ku-ring-gai Hospital	B	30,637	1,608	5.2%
Lismore Base Hospital	B	23,996	1,572	6.6%
Maitland Hospital	B	33,309	1,716	5.2%
Manly Hospital	B	18,373	1,709	9.3%

Facility name	Peer Group	Total eligible patients	Total sampled	Percentage sampled
Manning Hospital	B	22,114	1,496	6.8%
Mona Vale Hospital	B	25,878	1,572	6.1%
Orange Health Service	B	20,419	1,632	8.0%
Port Macquarie Base Hospital	B	24,291	1,500	6.2%
Shoalhaven District Memorial Hospital	B	28,032	1,596	5.7%
Sutherland Hospital	B	39,943	1,596	4.0%
Tamworth Hospital	B	29,716	1,668	5.6%
The Tweed Hospital	B	35,834	1,608	4.5%
Wagga Wagga Rural Referral Hospital	B	28,204	1,656	5.9%
Wyong Hospital	B	47,901	1,632	3.4%
Armidale Hospital	C1	9,935	573	5.8%
Bathurst Health Service	C1	18,054	612	3.4%
Belmont Hospital	C1	18,535	531	2.9%
Bowral and District Hospital	C1	13,983	541	3.9%
Broken Hill Health Service	C1	12,127	1,612	13.3%
Goulburn Base Hospital and Health Service	C1	12,357	571	4.6%
Grafton Base Hospital	C1	16,396	565	3.4%
Griffith Base Hospital	C1	13,750	606	4.4%
Hawkesbury District Health Services	C1	10,343	343	3.3%
Mount Druitt Hospital	C1	25,374	600	2.4%
Murwillumbah District Hospital	C1	10,859	522	4.8%
Ryde Hospital	C1	21,002	527	2.5%
Shellharbour Hospital	C1	21,859	523	2.4%
South East Regional Hospital	C1	12,520	534	4.3%
Ballina District Hospital	C2	11,222	480	4.3%
Batemans Bay District Hospital	C2	11,640	529	4.5%
Blue Mountains District Anzac Memorial Hospital	C2	11,733	552	4.7%
Byron Central Hospital	C2	12,804	593	4.6%
Casino & District Memorial Hospital	C2	7,375	487	6.6%
Cessnock Hospital	C2	11,101	580	5.2%
Cooma Hospital and Health Service	C2	6,746	522	7.7%
Cowra Health Service	C2	4,128	481	11.7%
Deniliquin Hospital and Health Services	C2	5,270	496	9.4%
Gunnedah Hospital	C2	5,191	548	10.6%

Facility name	Peer Group	Total eligible patients	Total sampled	Percentage sampled
Inverell Hospital	C2	5,402	552	10.2%
Kempsey District Hospital	C2	16,779	532	3.2%
Kurri Kurri Hospital	C2	2,328	481	20.7%
Lachlan Health Service - Forbes	C2	4,205	491	11.7%
Lithgow Hospital	C2	7,934	533	6.7%
Macksville District Hospital	C2	8,810	445	5.1%
Maclean District Hospital	C2	7,479	439	5.9%
Milton Ulladulla Hospital	C2	8,536	442	5.2%
Moree Hospital	C2	5,275	568	10.8%
Moruya District Hospital	C2	7,347	485	6.6%
Mudgee Health Service	C2	7,487	551	7.4%
Muswellbrook Hospital	C2	6,187	593	9.6%
Narrabri Hospital	C2	3,598	522	14.5%
Queanbeyan Hospital and Health Service	C2	15,942	577	3.6%
Singleton Hospital	C2	7,981	602	7.5%
Young Health Service	C2	4,889	545	11.1%
Bellinger River District Hospital	D	2,847	444	15.6%
Camden Hospital	D	8,281	446	5.4%
Lachlan Health Service - Parkes	D	6,773	558	8.2%
Tumut Health Service	D	2,850	527	18.5%

Appendix 2

Missing and ‘Don’t know’ responses

These data are sourced from EDPS 2017–2018. Data are unweighted.

Question number	Question text	Missing %	Don't know %	Missing + Don't know %
1	What was your main form of transport to the ED?	1.2		1.2
2	Was there a problem in finding a parking place near to the ED?	2.4		2.4
3	Was the signposting directing you to the ED of the hospital easy to follow?	2.8		2.8
4	Were the ED staff you met on your arrival polite and courteous?	0.9	2.5	3.4
5	Did the ED staff you met on arrival give you enough information about what to expect during your visit?	1.1	5.8	6.9
6	Did the ED staff you met on arrival tell you how long you would have to wait for treatment?	1.5	9.9	11.4
7	Was the waiting time given to you by the ED staff you met on arrival about right?	2.3	4.7	7.0
8	Did you experience any of the following issues when in the waiting area? [with seating, safety, noise, temperature or odour in the waiting area]	6.9		6.9
9	How clean was the waiting area in the ED?	1.3		1.3
10	From the time you first arrived at the ED, how long did you wait before being triaged by a nurse - that is, before an initial assessment of your condition was made?	2.0	5.4	7.4
11	Did you stay until you received treatment?	1.9		1.9
12	Why did you leave the ED before receiving treatment?	5.5	2.3	7.8
13	After triage (initial assessment), how long did you wait before being treated by an ED doctor or nurse?	3.2	6.8	10.0
14	While you were waiting to be treated, did ED staff check on your condition?	1.2	5.8	7.0
15	Did the ED health professionals introduce themselves to you?	2.6	5.1	7.6
16	Did the ED health professionals explain things in a way you could understand?	2.8		2.8
17	Did you have enough time to discuss your health or medical problem with the ED doctors?	2.6	2.6	5.3
18	How much information about your condition or treatment was given to you by ED health professionals?	3.0		3.0
19	Were you involved, as much as you wanted to be, in decisions about your care and treatment?	2.7		2.7
20	If your family members or someone else close to you wanted to talk to the ED staff, did they get the opportunity to do so?	2.7	3.1	5.8
21	How much information about your condition or treatment was given to your family, carer or someone else close to you?	3.0	4.8	7.9

Question number	Question text	Missing %	Don't know %	Missing + Don't know %
22	Were you able to get assistance or advice from ED staff for your personal needs (e.g. for eating, drinking, going to the toilet, contacting family)?	2.8		2.8
23	How would you rate how the ED health professionals worked together?	2.6		2.6
24	Did you have confidence and trust in the ED health professionals treating you?	2.6		2.6
25	Were the ED health professionals polite and courteous?	2.7		2.7
26	Overall, how would you rate the ED health professionals who treated you?	2.5		2.5
27	Did you ever receive contradictory information about your condition or treatment from ED health professionals?	3.6		3.6
28	Were the ED health professionals kind and caring towards you?	2.6		2.6
29	Did you feel you were treated with respect and dignity while you were in the ED?	2.5		2.5
30	Were you given enough privacy during your visit to the ED?	2.9		2.9
31	Were your cultural or religious beliefs respected by the ED staff?	3.6		3.6
32	Did you have worries or fears about your condition or treatment while in the ED?	3.2		3.2
33	Did an ED health professional discuss your worries or fears with you?	4.1		4.1
34	In your opinion, did the ED nurses who treated you know enough about your care and treatment?	3.2	3.3	6.5
35	Were you ever in pain while in the ED?	3.4		3.4
36	Do you think the ED health professionals did everything they could to help manage your pain?	2.7		2.7
37	Did you see ED health professionals wash their hands, or use hand gel to clean their hands, before touching you?	3.1	21.0	24.1
38	How clean was the treatment area in the ED?	3.3		3.3
39	While you were in the ED, did you feel threatened by other patients or visitors?	3.0		3.0
40	While you were in the ED, did you see or hear any aggressive or threatening behaviour towards ED staff?	2.9	3.7	6.6
41	Were there things for your child to do (such as books, games and toys)?	4.8	8.3	13.1
42	Was the area in which your child was treated suitable for someone of their age group (0-15 years)?	4.6		4.6
43	Did the ED staff provide care and understanding appropriate to the needs of your child (0-15 years)?	4.4		4.4
44	During your visit to the ED, did you have any tests, X-rays or scans?	6.3	3.7	10.0
45	Did an ED health professional discuss the purpose of these tests, X-rays or scans with you?	2.1	2.1	4.1
46	Did an ED health professional explain the test, X-ray or scan results in a way that you could understand?	2.3		2.3
47	What happened at the end of your ED visit?	3.7		3.7

Question number	Question text	Missing %	Don't know %	Missing + Don't know %
48	Did you feel involved in decisions about your discharge from hospital?	1.9		1.9
49	Thinking about when you left the ED, were you given enough information about how to manage your care at home?	1.7		1.7
50	Did ED staff take your family and home situation into account when planning your discharge?	2.1	4.1	6.2
51	Thinking about when you left the ED, were adequate arrangements made by the hospital for any services you needed?	1.8		1.8
52	Did ED staff tell you who to contact if you were worried about your condition or treatment after you left hospital?	2.1	11.2	13.3
53	Thinking about your illness or treatment, did an ED health professional tell you about what signs or symptoms to watch out for after you went home?	2.5		2.5
54	Were you given or prescribed any new medication to take at home?	2.0		2.0
55	Did an ED health professional explain the purpose of this medication in a way you could understand?	2.1		2.1
56	Did an ED health professional tell you about medication side effects to watch for?	2.6		2.6
57	Did you feel involved in the decision to use this medication in your ongoing treatment?	2.4		2.4
58	Did an ED health professional tell you when you could resume your usual activities, such as when you could go back to work or drive a car?	2.7		2.7
59	Did the ED staff provide you with a document that summarised the care you received (e.g. a copy of the letter to your GP or a discharge summary)?	2.6	13.1	15.7
60	Was your departure from the ED delayed - that is, before leaving the ED to go to a ward, another hospital, home, or elsewhere?	4.3		4.3
61	Did a member of staff explain the reason for the delay? [in discharge]	4.7		4.7
62	What were the main reasons for the delay? [in discharge]	4.7	4.9	9.6
63	Overall, how would you rate the care you received while in the ED?	1.7		1.7
64	If asked about your experience in the ED by friends and family how would you respond?	2.1		2.1
65	Did the care and treatment received in the ED help you?	2.0		2.0
66	In total, how long did you spend in the ED? (from when entered until left to go to a ward/another hospital/home/elsewhere)	2.5	7.1	9.6
67	Did you want to make a complaint about something that happened in the ED?	2.2		2.2
68	Were you ever treated unfairly for any of the reasons below?	5.8		5.8
69	Not including the reason you came to the ED, during your visit or soon afterwards, did you experience any of the following complications or problems?	3.9		3.9
70	Was the impact of this complication or problem …?	2.8		2.8
71	In your opinion, were members of the hospital staff open with you about this complication or problem?	3.5		3.5
72	What were your reasons for going to the ED?	2.2		2.2

Question number	Question text	Missing %	Don't know %	Missing + Don't know %
73	When you visited the ED, was it for a condition that you thought could have been treated by a General Practitioner (GP)?	2.0		2.0
74	In the month before visiting the ED, did you...?	3.1	7.8	10.8
75	Before your visit to the ED, had you previously been to an ED about the same condition or something related to it?	2.3		2.3
76	In the past 12 months, how many times have you visited an ED for your own care?	3.0		3.0
77	What year were you born?	2.1		2.1
78	What is your gender?	1.5		1.5
79	Highest level of education completed	3.9		3.9
80	In general, how would you rate your health?	2.1		2.1
81	Which, if any, of the following long-standing conditions do you have (including age related conditions)?	3.5		3.5
82	Does this condition(s) cause you difficulties with your day-to-day activities?	2.6		2.6
83	Are you a participant of the National Disability Insurance Scheme (NDIS)?	2.9	5.7	8.6
84	Language mainly spoken at home	1.9		1.9
85	Did you need, or would have liked, to use an interpreter at any stage while you were in the ED?	0.9		0.9
86	Did the ED provide an interpreter when you needed one?	2.3		2.3
87	Aboriginal and/or Torres Strait Islander	1.9		1.9
88	Who completed this survey?	1.6		1.6
89	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)?	2.6		2.6

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

For respondents who did not answer these questions, information about age and gender were substituted with age and sex fields from administrative data (from HIE).

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 the array of patients' needs.

Derived measures involve the grouping together of more than one response option to a question. The derived measure 'Quintile of Disadvantage' is an exception to this rule (for more information on this, please see the appropriate Data Dictionary for this measure - http://www.bhi.nsw.gov.au/nsw_patient_survey_program).

Statistical methods

Results are expressed as the percentage of respondents who chose a specific response option options for a question. The reported percentage is calculated as the numerator divided by the denominator (defined earlier in this Technical Supplement).

Results are weighted as described in this report.

Inclusions

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

Derived Measure	Original Question	Derived Measure Categories	Original Question Responses
Needed parking near the ED	Q2. Was there a problem in finding a parking place near to the ED?	Needed parking	Yes, a big problem
			Yes, a small problem
			No problem
		Didn't need parking	I did not need to park
Needed to wait for treatment after meeting reception staff	Q6. Did the ED staff you met on arrival tell you how long you would have to wait for treatment?	Needed to wait	Yes
			No
		Didn't need to wait	I didn't need to wait for treatment
Experienced issues with seating, safety, noise, temperature or odour in the waiting area	Q8. Did you experience any of the following issues when in the waiting area? [with seating, safety, noise, temperature or odour in the waiting area]	Spent time in waiting area	I couldn't find somewhere to sit
			The seats were uncomfortable
			I did not feel safe
			It was too noisy
			It was too hot

Derived Measure	Original Question	Derived Measure Categories	Original Question Responses
			It was too cold
			There were bad or unpleasant smells
			No, I did not experience these issues
		Wasn't in waiting area	I did not spend time in the waiting area
Triaged by a nurse	Q10. From the time you first arrived at the ED, how long did you wait before being triaged by a nurse - that is, before an initial assessment of your condition was made?	Saw a triage nurse	I was triaged immediately
			1-15 minutes
			16-30 minutes
			31-59 minutes
			1 hour to under 2 hours
			2 hours or more
		Didn't see a triage nurse	I did not see a triage nurse
Treated by a doctor (derived)	Q17. Did you have enough time to discuss your health or medical problem with the ED doctors?	Not treated by a doctor	I wasn't treated by a doctor
		Treated by a doctor	Yes, definitely
			Yes, to some extent
			No
Needed information about condition or treatment	Q18. How much information about your condition or treatment was given to you by ED health professionals?	Needed information	Not enough
			The right amount
			Too much
		Didn't need information	Not applicable to my situation
Wanted or were well enough to be involved in decisions about care and treatment	Q19. Were you involved, as much as you wanted to be, in decisions about your care and treatment?	Wanted involvement and was well enough	Yes, definitely
			Yes, to some extent
			No
		Not well enough or didn't want involvement	I was not well enough to be involved
			I did not want or need to be involved
Had family/someone close who wanted to talk to staff	Q20. If your family members or someone else close to you wanted to talk to the ED staff, did they get the opportunity to do so?	Wanted to talk to staff	Yes, definitely
			Yes, to some extent
			No, they did not get the opportunity
		Not applicable	Not applicable to my situation
Had family/someone close who wanted		Wanted information	Not enough
			Right amount

Derived Measure	Original Question	Derived Measure Categories	Original Question Responses
information about condition or treatment	Q21. How much information about your condition or treatment was given to your family, carer or someone else close to you?		Too much
		Not applicable	It was not necessary to provide information to any family or friends
Needed assistance or advice from ED staff for personal needs	Q22. Were you able to get assistance or advice from ED staff for your personal needs (e.g. for eating, drinking, going to the toilet, contacting family)?	Needed assistance	Yes, always
			Yes, sometimes
			No
		Didn't need assistance	I did not need assistance or advice
Had religious or cultural beliefs to consider	Q31. Were your cultural or religious beliefs respected by the ED staff?	Had beliefs to consider	Yes, always
			Yes, sometimes
			No, my beliefs were not respected
		Beliefs not an issue	My beliefs were not an issue
Received treatment from an ED nurse	Q34. In your opinion, did the ED nurses who treated you know enough about your care and treatment?	Treated by an ED nurse	Yes, always
			Yes, sometimes
			No
		Wasn't treated by an ED nurse	I wasn't treated by a nurse
Needed things for child to do (such as books, games and toys)	Q41. Were there things for your child to do (such as books, games and toys)?	Child needed things to do	There were plenty of things for my child to do
			There were some things, but not enough
			There was nothing for my child's age group
			There was nothing for children to do
		Not applicable	Not applicable to my child's visit
Received results of test, X-ray or scan results while in ED	Q46. Did an ED health professional explain the test, X-ray or scan results in a way that you could understand?	Told results	Yes, completely
			Yes, to some extent
			No
		Not told results in ED	I was not told the results while in the ED
Wanted or needed to be involved in decisions about discharge	Q48. Did you feel involved in decisions about your discharge from hospital?	Wanted involvement	Yes, definitely
			Yes, to some extent
			No, I did not feel involved
		Didn't want involvement	I did not want or need to be involved
		Needed information	Yes, definitely

Derived Measure	Original Question	Derived Measure Categories	Original Question Responses
Needed information on how to manage care at home	Q49. Thinking about when you left the ED, were you given enough information about how to manage your care at home?		Yes, to some extent
			No, I was not given enough information
		Didn't need information	I did not need this type of information
Needed family and home situation taken into account when planning discharge	Q50. Did ED staff take your family and home situation into account when planning your discharge?	Had situation to consider	Yes, definitely
			Yes, to some extent
			No, staff did not take my situation into account
		Not necessary	It was not necessary
Needed services after discharge	Q51. Thinking about when you left the ED, were adequate arrangements made by the hospital for any services you needed?	Needed services	Yes, definitely
			Yes, to some extent
			No, arrangements were not adequate
		Didn't need services	It was not necessary
Wanted or needed to be involved in decisions about medication	Q57. Did you feel involved in the decision to use this medication in your ongoing treatment?	Wanted involvement	Yes, definitely
			Yes, to some extent
			No, I did not feel involved
		Didn't want involvement	I did not want or need to be involved
Needed information on when could resume usual activities	Q58. Did an ED health professional tell you when you could resume your usual activities, such as when you could go back to work or drive a car?	Needed information	Yes, definitely
			Yes, to some extent
			No
		Didn't need information	Not applicable
Treated unfairly in the ED	Q68. Were you ever treated unfairly for any of the reasons below?	Treated unfairly	Your age
			Your sex
			Your ethnic background
			Your religion
			Your sexual orientation
			A disability that you have
			Marital status
			Something else
		Not treated unfairly	I was not treated unfairly
Experienced complication or problem during or shortly after ED visit	Q69. Experienced complication or problem during or shortly after ED visit (derived measure)	Had complication	An infection
			Uncontrolled bleeding
			A negative reaction to medication

Derived Measure	Original Question	Derived Measure Categories	Original Question Responses
			Complications as a result of tests or procedures
			A blood clot
			A fall
			Any other complication or problem
		None reported	None of these
			Missing
Complication or problem occurred during ED visit	Q71. In your opinion, were members of the hospital staff open with you about this complication or problem?	Occurred in ED	Yes, completely
			Yes, to some extent
			No
		Occurred after left	Not applicable, as it happened after I left

Exclusions

For derived measures, the following are excluded:

- Response: 'don't know/can't remember' or similar non-committal response (with the exception of questions where the rate of this response was over 10% and questions that refer to the experience of a third party such as a family/carer)
- Response: invalid (i.e. respondent was meant to skip a question but did not)
- Response: missing (with the exception of questions that allow multiple responses or a 'none of these' option, to which the missing responses are combined to create a 'none reported' variable)

Interpretation of indicator

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