



Dear ,

DECISION ON YOUR ACCESS APPLICATION

I refer to your application under section 30 of the *Freedom of Information Act 2016* (FOI Act), received by ACT Health Directorate (ACTHD) on **Wednesday 15 February 2023**.

This application requested access to:

'The Final Report, including base case forecasts and operating room projections, deliverable by the consultants, Health Policy Analysis, for the ACT Health Directorate, as well as any product provided to date by these consultants under the Northside Analytical Support part of their contract.'

I am an Information Officer appointed by the Director-General of ACT Health Directorate (ACTHD) under section 18 of the FOI Act to deal with access applications made under Part 5 of the Act. ACTHD was required to provide a decision on your access application by **Thursday 6 April 2023**.

I have identified three documents holding the information regarding the part of the scope of your access application, *'The Final Report, including base case forecasts'* and *'deliverable by the consultants, Health Policy Analysis, for the ACT Health Directorate, as well as any product provided to date by these consultants under the Northside Analytical Support part of their contract'*. These are outlined in the schedule of documents included at [Attachment A](#) to this decision letter.

Regarding the scope referring to *'operating room projections'*, **ACTHD does not hold information relevant to the scope of your application in accordance with section 35 (1)(b) of the Act**. Projections regarding operating theatres have not yet been undertaken.

Decisions

I have decided to grant partial access to three documents.

My access decisions are detailed further in the following statement of reasons and the documents released to you are provided as [Attachment B](#) to this letter.

In reaching my access decision, I have taken the following into account:

- The FOI Act;
- The contents of the documents that fall within the scope of your request;
- The views of relevant third parties; and
- The *Human Rights Act 2004*.

Partial Access

I have decided to grant partial access to three documents as it contains information that I consider, on balance to be contrary to the public interest to disclose under the test set out in section 17 of the Act.

Public Interest Factors Favouring Disclosure

The following factors were considered relevant in favour of the disclosure of the documents:

- Schedule 2, 2.1 (a)(i) promote open discussion of public affairs and enhance the government's accountability;
- Schedule 2, 2.1 (a)(ii) contribute to positive and informed debate on important issues or matters of public interest.

Public Interest Factors Favouring Non-Disclosure

The following factors were considered relevant in favour of the non-disclosure of the documents:

- Schedule 2, 2.2 (a)(ii) prejudice the protection of an individual's right to privacy or any other right under the Human Rights Act 2004.

The redacted information within the documents contain data comprising of low cohort numbers, however, does not significantly diminish the overall value of the data disclosed.

One worksheet, a data reference worksheet, in document reference 2 is not included in the response, as providing the data would result in an unreasonable and substantial diversion of resources. This worksheet contains over 125,000 rows of data, resulting in over 2.75 million cells of data which would not contribute to the public interest if disclosed.

On balance, the factors favouring disclosure did not outweigh the factors favouring non-disclosure as the release of the redacted information would or could reasonably be expected to prejudice the privacy of individuals. Therefore, I determined the information identified is contrary to the public interest and I have decided not to disclose this information.

Charges

Processing charges are not applicable to this request.

Disclosure Log

Under section 28 of the FOI Act, ACTHD maintains an online record of access applications called a disclosure log. The scope of your access application, my decision and documents released to you will be published in the disclosure log not less than three days but not more than 10 days after the date of this decision. Your personal contact details will not be published.

<https://www.health.act.gov.au/about-our-health-system/freedom-information/disclosure-log>.

Ombudsman review

My decision on your access request is a reviewable decision as identified in Schedule 3 of the FOI Act. You have the right to seek Ombudsman review of this outcome under section 73 of the Act within 20 working days from the day that my decision is published in ACT Health's disclosure log, or a longer period allowed by the Ombudsman.

If you wish to request a review of my decision you may write to the Ombudsman at:

The ACT Ombudsman
GPO Box 442
CANBERRA ACT 2601
Via email: ACTFOI@ombudsman.gov.au
Website: ombudsman.act.gov.au

ACT Civil and Administrative Tribunal (ACAT) review

Under section 84 of the Act, if a decision is made under section 82(1) on an Ombudsman review, you may apply to the ACAT for review of the Ombudsman decision. Further information may be obtained from the ACAT at:

ACT Civil and Administrative Tribunal
Level 4, 1 Moore St
GPO Box 370
Canberra City ACT 2601
Telephone: (02) 6207 1740
<http://www.acat.act.gov.au/>

Further assistance

Should you have any queries in relation to your request, please do not hesitate to contact the FOI Coordinator on (02) 5124 9831 or email HealthFOI@act.gov.au.

Yours sincerely,



Jacinta George
Executive Group Manager
Health System Planning and Evaluation
ACT Health Directorate


6 April 2023

FREEDOM OF INFORMATION SCHEDULE OF DOCUMENTS

Please be aware that under the *Freedom of Information Act 2016*, some of the information provided to you will be released to the public through the ACT Government's Open Access Scheme. The Open Access release status column of the table below indicates what documents are intended for release online through open access.

Personal information or business affairs information will not be made available under this policy. If you think the content of your request would contain such information, please inform the contact officer immediately.

Information about what is published on open access is available online at: <http://www.health.act.gov.au/public-information/consumers/freedom-information>

APPLICANT NAME	WHAT ARE THE PARAMETERS OF THE REQUEST	FILE NUMBER
	<i>The Final Report, including base case forecasts and operating room projections, deliverable by the consultants, Health Policy Analysis, for the ACT Health Directorate, as well as any product provided to date by these consultants under the Northside Analytical Support part of their contract.</i>	ACTHDFOI22-23.40

Ref Number	Page Number	Description	Date	Status Decision	Factor	Open Access release status
1.	1 – 30	Planning scenarios for Northside Hospital	24 July 2022	Partial Release	Privacy	YES
2.	31 – 80	Northside Scenarios Initial Analysis	24 July 2022	Partial Release	Privacy	YES
3.	81 – 194	ACT health service activity forecasts and scenario modelling 23-12-2022	23 December 2022	Partial Release	Privacy	YES
Total Number of Documents						
3						



Planning scenarios for Northside Hospital

Initial assessment of options

24 July 2022 (Updated from 13 July 2022)

This document outlines issues that can be incorporated into health service activity scenarios in planning for the new Northside Hospital. An outline of an initial set of issues is provided together with options for modelling the issue. Where feasible, we have provided an initial analysis of the issue.

This material in this document is updated from the tables provided on 13 July 2022. The following enhancements to the analysis have been made:

- Molonglo and Canberra East SA3s in the catchments for Northside Hospital, for the relevant tables. We have also included additional tables that show the level of activity from these SA3 at Calvary Public Hospital Bruce (CPHB) and other hospitals (See Tables 3 and 4).
- We've included a table that describes the trends in growth of services at University of Canberra Hospital (UCH) and impact of that service on rehabilitation utilisation at CPHB and Canberra Hospital (Table 13). We have just received additional data for the University of Canberra hospital for the first three quarters of 2021-22, and will include this in the next iteration of this analysis.
- We've included additional columns in various tables to show utilisation by Northside residents of private hospital. In the next iteration of the analysis we will include an investigation of utilisation rates (per 1,000 population) to further explore utilisation patterns by Northside residents.

To assist analysis and investigation of issues, we have also provided a spreadsheet with various pivot tables that will allow users to further explore the data. The pivot table largely replicates the material in the tables below, but allow alternative filters and cross tabulations to be explored. We'll supplement this with an on-line visualization tool in the near future.

There are several further analyses that we are working on, and these will be included in the next iteration of the analysis, or in the next few weeks. These include:

- Under- vs over-utilisation for the catchments for Northside hospital. This will follow our analysis of utilisation rates.
- Early analysis of impacts of COVID. We've asked for some additional information (e.g. on when elective surgery was suspended at CPHB) that will help us model these impacts.
- ESRGs that may typically have outpatient clinic activity attached to them. This analysis may take a little longer, as we would like to analyse data on non-admitted patient activity first to

assess these relationships. We've requested the non-admitted data for recent years, but haven't yet received it.

1. Analysing trends in activity for Calvary Public Hospital Bruce

This will involve analysing the clinical areas in which there has been the most significant growth in activity for Calvary Hospital Bruce, and also analysing whether the growth exceeds what might be expected from demographic growth, or where growth exceeds what has been experienced at the ACT level. Table 1 shows a preliminary analysis at the Service Related Group (SRG) level. Overall, growth in acute activity period from 2015–16 to 2020–21 was an average of 5.8% per year. Similar analysis can be conducted at an ESRG level and analysis of growth within particular age groups.

Some of the changes observed will be due to service enhancements that have been funded.

One perspective on this analysis is to consider where patients come from to receive treatment at Calvary, and whether patients from out of the local area are contributing significantly to activity growth. Table 2 and Table 3 provide an initial analysis of this issue. In 2020–21, patients from the SA3s that are the main catchments for the proposed Northside hospital¹ accounted for around 75.4% of activity at Calvary, with patients who live in other parts of Canberra accounting for a further 10.9% and patients from Southern NSW a further 11.5%. Table 3 breaks up activity in CPB by the SA3 identified in the catchment area.

2. Utilisation rates for acute admitted care in key catchment areas

This will involve Identifying clinical activity (ESRGs) in which population utilisation rates for the catchment for the Northside Hospital are relatively greater than that expected given territory and national utilisation rates. A component of this analysis will also consider those ESRGs in which utilisation rates are relatively lower than expected.

To undertake this analysis, we will calculate age/sex standardised utilisation rates for each ESRG for the main catchment areas of Northside Hospital (see footnote 1).

Table 4 provides an overview of activity by the SA3 of residence and the hospital of treatment (a basic patient flow matrix). The last two columns of the table show the proportion of ACT public hospital activity undertaken at CPHB and the proportion of total activity undertaken at CPHB.

Table 5 (SRGs) and Table 6 (ESRGs for acute activity) break up activity for people from the selected SA3s in the Northside catchments by the place of treatment as follows:

- 1 Calvary public hospital
- 2 Canberra hospital
- 3 ACT Private
- 4 Interstate public

The tables also include a column showing the proportion of episodes at Calvary Hospital (compared with the total of the two public hospitals in ACT). ESRGs/SRGs with relatively low proportions of patients treated at Calvary could be candidates for expanded services with the new Northside Hospital. Other considerations will be whether the service can be provided outside a principal

¹ These have been undated to include 80101 Belconnen; 80104 Gungahlin; 80105 North Canberra; 80103 Canberra East; 80110 Molonglo.

referral hospital and whether the projected volumes would be appropriate for the new Northside Hospital.

3. Potentially preventable hospitalisation

A specific component of utilisation relates to potentially preventable hospitalisations (PPHs). There has been a national focus on these as measures of performance of the health system. They represent some of the clinical areas in which hospital avoidance strategies are most likely to yield results.

PPHs make up most of the activity for some ESRGs and a component of others. The initial analysis proposed for PPHs will be similar to point 2 above. We will look to identify information on rates for PPHs that have been achieved in similar populations to ACT, which could be used to build scenarios around reducing PPHs. It is important to acknowledge that PPHs can't be eliminated completely, but some parts of Australia have considerably lower rates.

HPA recently conducted a systematic review of evidence on interventions targeted at reducing PPHs. The evidence on these interventions is mixed but generally suggests that interventions are effective. Many of interventions focused on follow-up care after a significant event such as a hospitalisation. The volume of evidence is largest around congestive heart failure and chronic obstructive pulmonary disease.

Error! Reference source not found. shows preliminary analysis of the level of PPH episodes at Calvary hospital in 2020–21. In that year, PPHs represented 6.5% of day only episodes and 10.7% of overnight episodes, and a slightly higher proportion of bed days. Further analysis will explore the specific ESRGs in which PPHs occur.

4. Hospital in the home (HITH)/virtual care

This will involve identifying ESRGs in which an expansion of HITH/virtual care is feasible as an alternative to acute admitted care. Using analyses from other states, a comparison will be made of ESRGs in which the proportion of activity undertaken in HITH could be expanded.

A HITH program is established at Calvary Hospital. **Error! Reference source not found.** and **Error! Reference source not found.** provide some preliminary analyses of episodes involving HITH, which represent 2.2% of day only episodes and 4.6% of overnight episodes. These occurred in ESRGs in which the HITH has been targeted in other states (**Error! Reference source not found.**). However, there are likely to be opportunities for expanding the model further than these ESRGs.

Other models of virtual care are potential substitutes for non-admitted services and subacute services. There has been a considerable expansion in telemedicine as an alternative to face-to-face consultations for non-admitted patient care services. This will require analysis of the non-admitted activity data, which will occur slightly later in the project.

5. Length of stay and expansion of day only activity

Analysis can be undertaken at the ESRG level to compare trends in average length of stay (ALOS) and the proportion of activity undertaken on a same day basis compared with observations at a national level. This will be used to identify clinical areas in which the current patterns observed in the ACT, particularly at Calvary Hospital, could be improved (reduced ALOS and increased rates of day only episodes).

Table 8 (ALOS) and Table 9 **Error! Reference source not found.** (proportion of activity provided on a day only basis), show recent trends in these measures for Calvary Hospital. Identifying clinical areas

in which ALOS is relatively greater than what is expected given territory and national averages will be important.

6. Rehabilitation services

Rehabilitation services were substantially expanded at the University of Canberra Hospital (UCH) from July 2018. Consequently, admitted rehabilitation care at Calvary Hospital dropped in subsequent years and was not reported in the most recent year. Some analysis can be undertaken to explore the patterns of use of rehabilitation for the Northern Canberra catchments. This can explore the different types of rehabilitation episode and whether there is evidence that some of these are below what would typically be expected for the catchment.

Once the acute care forecasts have been developed, we can explore the relationships with rehabilitation activity.

7. Relationship between acute admitted and non-admitted services

Developing forecasts for non-admitted services will occur later in the project. In that work we will further explore how we can take account of the relationship between forecasts for admitted and non-admitted services. This is not a straightforward exercise. In some cases non-admitted services can act as a substitute for admitted patient care. That is, we can expect an increase in non-admitted services will reduce the demand for admitted care. In other cases, non-admitted services are part of a broader package of care that patients require (for example, follow-up following surgery). Here, increases in demand for admitted patient care is likely to be correlated with increased demand for non-admitted care.

Table 1: Calvary Public Hospital Bruce episodes by Service Related Group
and compound average growth rate (CAGR) for the period 2015–16 to 2020–21

Stream	Service Related Group V6	2016	2017	2018	2019	2020	2021	CAGR 2016–2021
Acute	11 Cardiology	2,178	2,361	2,458	2,560	2,486	3,250	8.3%
	13 Dermatology	89	139	122	118	136	144	10.1%
	14 Endocrinology	167	173	184	175	178	175	0.9%
	15 Gastroenterology	2,351	2,667	2,801	3,005	2,929	3,491	8.2%
	16 Diagnostic GI	1,219	1,278	1,365	1,402	1,346	1,475	3.9%
	17 Haematology	367	385	404	417	394	482	5.6%
	18 Immunology & infections	82	119	116	140	197	215	21.3%
	20 Chemotherapy	667	558	536	224	47	34	-44.9%
	21 Neurology	1,183	1,395	1,561	1,852	1,949	2,603	17.1%
	22 Renal medicine	147	164	171	169	158	194	5.7%
	24 Respiratory medicine	1,480	1,689	1,742	1,701	1,740	1,558	1.0%
	25 Rheumatology	289	378	325	365	350	366	4.8%
	27 General medicine	2,006	2,370	2,638	2,813	2,769	3,274	10.3%
	41 Breast surgery	228	269	287	296	347	332	7.8%
	42 Cardiothoracic surgery				6	9		-27.5%
	43 Colorectal surgery	187	197	202	210	214	237	4.9%
	44 Upper gastrointestinal surgery	186	198	216	254	227	253	6.3%
	46 Neurosurgery	353	392	408	444	426	562	9.7%
	47 Oral and maxillofacial surgery	361	350	331	373	303	341	-1.1%
	48 Ear, nose & throat/head & neck	473	446	439	426	409	397	-3.4%
	49 Orthopaedics	903	931	996	969	941	1,268	7.0%
	50 Ophthalmology	1,409	1,440	1,491	1,545	1,384	1,803	5.1%
	51 Plastic & reconstructive surgery	225	280	308	297	254	344	8.9%
	52 Urology	1,391	1,332	1,443	1,737	1,745	2,065	8.2%
	53 Vascular surgery	41	45	47	57	60	55	6.1%
	54 General surgery	1,935	2,041	2,003	2,173	2,094	2,642	6.4%
	62 Extensive burns							-12.9%
	63 Tracheostomy & ventilation	24	18	28	25	31	23	-0.8%
	71 Gynaecology	944	1,053	1,071	1,123	1,227	1,472	9.3%
	72 Obstetrics	2,364	2,333	2,216	2,256	2,222	2,479	1.0%
73 Qualified neonate	429	388	408	361	360	358	-3.6%	
74 Unqualified neonate	1,512	1,387	1,286	1,391	1,415	1,526	0.2%	

Stream	Service Related Group V6	2016	2017	2018	2019	2020	2021	CAGR 2016-2021
	81 Drug & alcohol	433	424	422	391	438	562	5.4%
	82 Acute mental health	98	203	91	119	133	175	12.3%
	99 Unallocated	64	82	60	63	67	76	3.5%
	Subtotal: Acute	25,792	27,491	28,181	29,459	28,988	34,233	5.8%
Mental health	83 Specialist mental health	611	518	548	524	591	762	4.5%
	Subtotal: Mental health	611	518	548	524	591	762	4.5%
Subacute	84 Rehabilitation	417	398	300	49		0	0.0%
	85 Psychogeriatric	12				0		-19.7%
	86 Palliative care	442	505	549	557	494	483	1.8%
	87 Maintenance	352	339	275	250	285	428	4.0%
	92 Geriatric evaluation and management	73	56	53	39	32	39	-11.8%
	Subtotal: Subacute	1,296	1,302	1,178	898	812	954	-5.9%

Table 2: Calvary Public Hospital Bruce episodes by service stream and place of residence of the patient 2020–21

Stream	Service Related Group V6	1 ACT		2 Southern NSW	3 NSW other	4 Interstate other	9 Other
		Northern SA3s	Other SA3s				
Acute	11 Cardiology	2,784	116	259	32	24	35
	13 Dermatology	104	13	23			
	14 Endocrinology	141	6	11			13
	15 Gastroenterology	2,779	261	358	27	31	35
	16 Diagnostic GI	1,060	213	194			
	17 Haematology	378	63	35			
	18 Immunology & infections	177	15	13			
	20 Chemotherapy	33					
	21 Neurology	2,015	263	261	13	17	34
	22 Renal medicine	170	9	13			
	24 Respiratory medicine	1,370	50	93	14	8	23
	25 Rheumatology	262	78	26			
	27 General medicine	2,790	183	193	28	26	54
	41 Breast surgery	158	96	75			
	42 Cardiothoracic surgery						
	43 Colorectal surgery	154	42				
	44 Upper gastrointestinal surgery	155		48			
	46 Neurosurgery	494	14	39			
	47 Oral and maxillofacial surgery	225	86	24			
	48 Ear, nose & throat/head & neck	243	69	80			
	49 Orthopaedics	767	208	258	13	6	16
	50 Ophthalmology	752	622	412	9		8
	51 Plastic & reconstructive surgery	158		94			
	52 Urology	1,156	427	435	21	11	15
	53 Vascular surgery	35					
	54 General surgery	1,915	297	371	16	9	34
	62 Extensive burns						
	63 Tracheostomy & ventilation	19					
	71 Gynaecology	1,047	199	194			21

Stream	Service Related Group V6	1 ACT		2 Southern NSW	3 NSW other	4 Interstate other	9 Other
		Northern SA3s	Other SA3s				
	72 Obstetrics	2,176	95	179			22
	73 Qualified neonate	302	20	34			
	74 Unqualified neonate	1,342	72	110			
	81 Drug & alcohol	461	30	21	7	8	35
	82 Acute mental health	142	14	10			
	99 Unallocated	53	15	8			
	Subtotal: Acute	25,818	3,719	3,929	224	159	384
Mental health	83 Specialist mental health	525	199	19			13
	Subtotal: Mental health	525	199	19			13
Subacute	85 Psychogeriatric						
	86 Palliative care	257	191	31			
	87 Maintenance	361	25	31			
	92 Geriatric evaluation and management						
	Subtotal: Subacute	658	219	62			8

Table 3: Calvary Public Hospital Bruce episodes by service stream and SA3 of residence of the patient 2020–21

Stream	Service Related Group V6	ACT					
		80101 Belconnen	80104 Gungahlin	80105 North Canberra	80103 Canberra East	80110 Molonglo	Other ACT
Acute	11 Cardiology	1,494	760	519		10	116
	13 Dermatology	55	32	16			13
	14 Endocrinology	75	49	16			6
	15 Gastroenterology	1,444	813	510		11	261
	16 Diagnostic GI	546	327	169		13	213
	17 Haematology	203	104	67			63
	18 Immunology & infections	92	54	31			15
	20 Chemotherapy	19	14				
	21 Neurology	966	670	373			263
	22 Renal medicine	81	47	40			9
	24 Respiratory medicine	773	336	256			50
	25 Rheumatology	122	86	47		6	78
	27 General medicine	1,467	759	538		21	183
	41 Breast surgery	80	47	25			96
	42 Cardiothoracic surgery						
	43 Colorectal surgery	62	60	29			42
	44 Upper gastrointestinal surgery	67	67	18			47
	46 Neurosurgery	247	147	98			14
	47 Oral and maxillofacial surgery	106	66	41		8	86
	48 Ear, nose & throat/head & neck	130	68	38			69
	49 Orthopaedics	430	181	144		11	208
	50 Ophthalmology	411	181	140	12	8	622
	51 Plastic & reconstructive surgery	96	40	18			90
	52 Urology	552	370	217		12	427
	53 Vascular surgery	25	8				
	54 General surgery	992	552	342	14	15	297
63 Tracheostomy & ventilation	10		7				
71 Gynaecology	476	409	146		15	199	
72 Obstetrics	973	894	279		30	95	

Stream	Service Related Group V6	ACT					
		80101 Belconnen	80104 Gungahlin	80105 North Canberra	80103 Canberra East	80110 Molonglo	Other ACT
	73 Qualified neonate	144	112	38		8	20
	74 Unqualified neonate	595	552	176		19	72
	81 Drug & alcohol	232	102	122			30
	82 Acute mental health	69	33	38			14
	99 Unallocated	30	14	8			15
	Subtotal: Acute	13,064	7,957	4,508	64	225	3,719
Mental health	83 Specialist mental health	276	100	140		6	199
	Subtotal: Mental health	276	100	140		6	199
Subacute	85 Psychogeriatric						
	86 Palliative care	137	49	69			191
	87 Maintenance	200	67	94			
	92 Geriatric evaluation and management		9	15			
	Subtotal: Subacute	353	125	178			219

Table 4: Episodes by SA3 of residence, hospital of treatment and service stream 2020-21

Stream	SA3 of residence	1 Calvary public hospital	2 Canberra hospital	3 University of Canberra hospital	4 ACT Private	5 Interstate public	% public hosp at Calvary	% total activity at Calvary
Acute	1 ACT: 80101 Belconnen	13,064	13,670	14	9,099	847	48.8%	35.6%
	1 ACT: 80103 Canberra East	64	354	0	55	39	15.3%	12.5%
	1 ACT: 80104 Gungahlin	7,957	8,792		5,385	628	47.5%	35.0%
	1 ACT: 80105 North Canberra	4,508	5,880	8	4,914	387	43.4%	28.7%
	1 ACT: 80106 South Canberra	523	5,453		4,347	294	8.7%	4.9%
	1 ACT: 80107 Tuggeranong	2,102	21,642	7	8,035	1,078	8.9%	6.4%
	1 ACT: 80108 Weston Creek	470	5,502		2,740	226	7.9%	5.3%
	1 ACT: 80109 Woden Valley	615	7,425		4,647	290	7.6%	4.7%
	1 ACT: 80110 Molonglo	225	1,652	0	360	75	12.0%	9.7%
	1 ACT: 80111 Urriarra - Namadgi	9	104	0	25		8.0%	6.4%
	1 ACT: 89999 No usual address (ACT)	0	10	0	395	333	0.0%	0.0%
	2 Southern NSW	3,929	17,587	8	12,516	0		
	3 NSW other	224	773	0	464	0		
	4 Interstate other	159	359	0	211	0		
	9 Other	384	796		1,296	0		
	Mental health	1 ACT: 80101 Belconnen	276	343	28	195	20	42.7%
1 ACT: 80103 Canberra East			50		0		5.6%	5.4%
1 ACT: 80104 Gungahlin		100	184	17	132	15	33.2%	22.3%
1 ACT: 80105 North Canberra		140	318	17	88	16	29.5%	24.2%
1 ACT: 80106 South Canberra		36	72		65	6	31.9%	19.6%
1 ACT: 80107 Tuggeranong		85	309	25	183	16	20.3%	13.8%
1 ACT: 80108 Weston Creek		36	72	6	47		31.6%	22.2%
1 ACT: 80109 Woden Valley		42	159	13	112	12	19.6%	12.4%
1 ACT: 80110 Molonglo		6	38		12		13.3%	10.3%
1 ACT: 80111 Urriarra - Namadgi		0		0	0	0	0.0%	0.0%
1 ACT: 89999 No usual address (ACT)		0	0	0	6			0.0%
2 Southern NSW		19	55	0	423	0		
3 NSW other			10	0	53	0		
4 Interstate other			8	0	27	0		
9 Other		13	126		21	0		

Stream	SA3 of residence	1 Calvary public hospital	2 Canberra hospital	3 University of Canberra hospital	4 ACT Private	5 Interstate public	% public hosp at Calvary	% total activity at Calvary
Subacute	1 ACT: 80101 Belconnen	353	303	309	1,828	0	36.6%	12.6%
	1 ACT: 80103 Canberra East		8		13	0	9.1%	4.2%
	1 ACT: 80104 Gungahlin	125	121	182	858	0	29.2%	9.7%
	1 ACT: 80105 North Canberra	178	183	209	885	0	31.2%	12.2%
	1 ACT: 80106 South Canberra	38	233	65	1,135	0	11.3%	2.6%
	1 ACT: 80107 Tuggeranong	95	623	309	2,376	0	9.3%	2.8%
	1 ACT: 80108 Weston Creek	36	294	70	971	0	9.0%	2.6%
	1 ACT: 80109 Woden Valley	50	390	122	1,590	0	8.9%	2.3%
	1 ACT: 80110 Molonglo		13	47	81	0	1.6%	0.7%
	1 ACT: 80111 Urriarra - Namadgi	0				0	0.0%	0.0%
	1 ACT: 89999 No usual address (ACT)	0	0	0	95	0		0.0%
	2 Southern NSW	62	541	163	1,200	0		
	3 NSW other		39		65	0		
	4 Interstate other		12		16	0		
	9 Other	8	43	15	116	0		

Table 5: Episodes for SA3s in Northside catchment (Belconnen, Gungahlin, North Canberra, Canberra East % Molonglo), by Service Related Group 2020–21

Stream	Service Related Group V6	1 Calvary public hospital	2 Canberra hospital	3 University of Canberra hospital	4 ACT Private	5 Interstate public	% public hosp at Calvary
Acute	11 Cardiology	2,784	661		327	98	80.7%
	12 Interventional cardiology	0	544	0	723	30	0.0%
	13 Dermatology	104	117	0	22		47.1%
	14 Endocrinology	141	105	0	8	11	57.3%
	15 Gastroenterology	2,779	1,487		672	137	65.1%
	16 Diagnostic GI	1,060	229	0	971	142	82.2%
	17 Haematology	378	560		378	95	40.3%
	18 Immunology & infections	177	80	0		14	68.9%
	20 Chemotherapy	33	108	0	1,120	52	23.4%
	21 Neurology	2,015	1,135		148	99	63.9%
	22 Renal medicine	170	156	0	121	8	52.1%
	23 Renal dialysis	0	10,130	0	1,426	20	0.0%
	24 Respiratory medicine	1,370	757		364	86	64.3%
	25 Rheumatology	262	504	0	82	14	34.2%
	27 General medicine	2,790	1,598	8	441	130	63.5%
	41 Breast surgery	158	18	0	205	15	89.8%
	42 Cardiothoracic surgery		86	0	68	21	1.1%
	43 Colorectal surgery	154	167	0	180	32	48.0%
	44 Upper gastrointestinal surgery	155	244	0	259	25	38.8%
	46 Neurosurgery	494	322	0	577	41	60.5%
	47 Oral and maxillofacial surgery	225	291	0	1,099	15	43.6%
	48 Ear, nose & throat/head & neck	243	514	0	1,085	39	32.1%
	49 Orthopaedics	767	3,037		2,457	170	20.2%
	50 Ophthalmology	752	214	0	1,626	59	77.8%
	51 Plastic & reconstructive surgery	158	283	0	490	44	35.8%
	52 Urology	1,156	644	0	1,256	76	64.2%
	53 Vascular surgery	35	342		144	20	9.3%
	54 General surgery	1,915	1,755	0	961	134	52.2%
	61 Transplantation	0	0	0	0	10	
	62 Extensive burns	0		0	0		0.0%

Stream	Service Related Group V6	1 Calvary public hospital	2 Canberra hospital	3 University of Canberra hospital	4 ACT Private	5 Interstate public	% public hosp at Calvary
	63 Tracheostomy & ventilation	19	52	0		14	26.8%
	71 Gynaecology	1,047	596	0	1,400	199	63.7%
	72 Obstetrics	2,176	1,594	0	620	70	57.7%
	73 Qualified neonate	302	118	0	447	14	71.9%
	74 Unqualified neonate	1,342	1,079	0	67	0	55.4%
	75 Perinatology	0	177	0	0	6	0.0%
	81 Drug & alcohol	461	448	0		13	50.7%
	82 Acute mental health	142	94	0	37	9	60.2%
	99 Unallocated	53	99	0	25	7	34.9%
	Subtotal: Acute	25,818	30,348	25	19,813	1,976	45.9%
Mental health	83 Specialist mental health	525	933	64	427	54	34.5%
	Subtotal: Mental health	525	933	64	427	54	34.5%
Subacute	84 Rehabilitation	0	330	617	3,658	0	0.0%
	85 Psychogeriatric		9			0	23.1%
	86 Palliative care	257	66		0	0	78.6%
	87 Maintenance	361	162	126	0	0	55.6%
	92 Geriatric evaluation and management	37	61		6	0	37.4%
	Subtotal: Subacute	658	628	749	3,665	0	32.3%

Table 6: Episodes for SA3s in Northside catchment (Belconnen, Gungahlin, North Canberra, Canberra East % Molonglo), by Enhanced Service Related Group 2020–21

Stream	SRG	Enhanced Service Related Group V6	1 Calvary public hospital	2 Canberra hospital	3 University of Canberra hospital	4 ACT Private	5 Interstate public	% public hosp at Calvary
Acute	11	111 Chest pain	1,340	274	0	14	25	81.1%
	11	112 Unstable angina	45	9	0			77.6%
	11	113 Heart failure & shock	226	38		77		65.7%
	11	114 Arrhythmia, cardiac arrest & conduction disorders	368	71	0	140	12	62.3%
	11	115 AMI w/o invasive cardiac investigative procedure	185	16				85.6%
	11	116 Syncope & collapse	285	97		33	11	66.7%
	11	117 Coronary atherosclerosis	60	8	0	9	0	77.9%
	11	118 Valvular disorders	139	37	0	11	6	72.0%
	11	119 Cardiology, other	136	111		34	34	43.0%
	12	121 Invasive cardiac investigative procedure	0	205	0	335	8	0.0%
	12	122 Percutaneous coronary angioplasty	0	234	0	283	18	0.0%
	12	123 Pacemaker procedures	0	74	0	78		0.0%
	12	129 Interventional cardiology, other	0	31	0	27		0.0%
	13	131 Dermatology	104	117	0	22		42.1%
	14	141 Diabetes	117	57	0			63.9%
	14	149 Endocrinology, other	24	48	0		6	29.3%
	15	151 Oesophagitis & gastroenteritis	534	202		20	22	68.5%
	15	152 Complex endoscopy	367	62	0	378	55	42.6%
	15	154 Cirrhosis, alcoholic hepatitis & other liver & gallbladder conditions	293	176		28	13	57.3%
	15	155 Digestive malignancy	16	6	0			51.6%
	15	156 Gastrointestinal haemorrhage	106	48		9		63.1%
	15	157 Inflammatory bowel disease	363	528	0	142		35.0%
	15	158 Gastrointestinal obstruction	106	52	0			64.2%
	15	159 Gastroenterology, other	994	413		85	34	65.1%
	16	161 Diagnostic colonoscopy	640	84	0	641	77	44.4%
	16	162 Diagnostic gastroscopy	420	145	0	330	65	43.8%
	17	174 Bone marrow transplant	0	13	0	0		0.0%
	17	175 Lymphoma & leukaemia	19	90		91	50	7.6%
	17	179 Haematology, other	359	457	0	287		31.3%
	18	181 Immunology	136	51	0		10	68.7%

Stream	SRG	Enhanced Service Related Group V6	1 Calvary public hospital	2 Canberra hospital	3 University of Canberra hospital	4 ACT Private	5 Interstate public	% public hosp at Calvary
	18	184 Infectious diseases	41	29	0			53.9%
	20	201 Chemotherapy	33	108	0	1,120	52	2.5%
	21	211 Stroke	203	50	0	9	8	75.2%
	21	212 TIA	85	28	0			70.8%
	21	213 Seizures	163	138	0		20	50.2%
	21	214 Headache	385	167	0	48	10	63.1%
	21	215 Dysequilibrium	379	60	0	13	9	82.2%
	21	216 Nervous system neoplasm	22	31	0			34.9%
	21	217 Multiple sclerosis, cerebellar ataxia & degenerative nervous system disorders	396	255	0	13	16	58.2%
	21	218 Cranial & peripheral nerve disorders	193	266	0	33	13	38.2%
	21	219 Neurology, other	189	140		21	13	51.8%
	22	221 Renal failure	81	49	0	12		55.5%
	22	229 Renal medicine, other	89	107	0	109		28.8%
	23	231 Renal dialysis	0	10,130	0	1,426	20	0.0%
	24	241 Bronchitis & asthma	177	96	0		13	59.8%
	24	242 Chronic obstructive airways disease	225	22	0	26	8	80.1%
	24	243 Respiratory infections or inflammations	387	149		51	13	64.2%
	24	244 Bronchoscopy	13	23	0			29.5%
	24	245 Respiratory neoplasms	28	29	0	11	0	41.2%
	24	246 Pulmonary embolism	58	29	0	12		56.9%
	24	247 Whooping cough & acute bronchiolitis	15	81	0	0		15.3%
	24	248 Respiratory signs & symptoms	110	113	0	11	8	45.5%
	24	249 Respiratory medicine, other	357	215	0	242	32	42.2%
	25	251 Rheumatology	262	504	0	82	14	30.4%
	27	271 Kidney & urinary tract infections	462	164		58	8	66.5%
	27	272 Cellulitis	395	222		18	14	60.8%
	27	275 Injuries – non-surgical	544	271		15	15	64.3%
	27	277 Septicaemia	122	52		14	8	61.9%
	27	278 Surgical follow up	32	7	0	12		58.2%
	27	279 General medicine, other	283	398		181	54	30.9%
	27	280 Delirium	68	15				78.2%
	27	281 Dementia	50	17	0		0	69.4%

Stream	SRG	Enhanced Service Related Group V6	1 Calvary public hospital	2 Canberra hospital	3 University of Canberra hospital	4 ACT Private	5 Interstate public	% public hosp at Calvary
	27	282 Ear & upper respiratory infections	262	158	0		13	60.0%
	27	283 Venous thrombosis	34	17	0			63.0%
	27	284 Nutritional & metabolic disorders	283	137	0	38		61.5%
	27	285 Viral illnesses	116	70	0		8	59.5%
	27	286 Pain management	139	70	0	92		46.0%
	41	411 Breast surgery	158	18	0	205	15	39.9%
	42	421 Coronary bypass	0	20	0	18		0.0%
	42	429 Cardiothoracic surgery, other		66	0	50		0.7%
	43	432 Anal, stomal & pilonidal procedures	110	76	0	131	24	32.3%
	43	439 Colorectal surgery, other	44	91	0	49	8	22.9%
	44	441 Cholecystectomy	137	131	0	136	12	32.9%
	44	443 Bariatric procedures	0	7	0	90	0	0.0%
	44	449 Upper gastrointestinal surgery, other	18	106	0	33	13	10.6%
	46	461 Head injury	31	45	0		7	36.5%
	46	462 Craniotomy	0	90	0		8	0.0%
	46	463 Neurosurgery – non-procedural	463	117	0	390	17	46.9%
	46	469 Neurosurgery, other	0	70	0	181	9	0.0%
	47	471 Dental extractions & restorations	146	121	0	945	8	12.0%
	47	479 Oral and maxillofacial surgery	79	170	0	154	7	19.3%
	48	481 Tonsillectomy & adenoidectomy	34	81	0	327		7.6%
	48	482 Myringotomy w tube insertion	8	16	0	118	0	5.6%
	48	483 Non-procedural ENT	136	182	0	44	13	36.3%
	48	484 Head & neck surgery	0	21	0	26		0.0%
	48	489 Procedural ENT, other	65	214	0	570	20	7.5%
	49	491 Injuries to limbs – medical	267	788	0	38	28	23.8%
	49	492 Wrist & hand procedures incl carpal tunnel	36	550	0	372	9	3.7%
	49	493 Hip replacement for trauma	0	43	0		0	0.0%
	49	494 Knee procedures	45	81	0	487	30	7.0%
	49	495 Orthopaedic surgery, other	147	1,149	0	1,040	70	6.1%
	49	496 Hip replacement or revision, other	32	108	0	208	6	9.0%
	49	497 Knee replacement or revision	46	72	0	240		12.7%
	49	498 Hip fracture	17	6	0			51.5%
	49	499 Non-surgical orthopaedics, other	177	240		61	21	35.4%

Stream	SRG	Enhanced Service Related Group V6	1 Calvary public hospital	2 Canberra hospital	3 University of Canberra hospital	4 ACT Private	5 Interstate public	% public hosp at Calvary
	50	502 Non-procedural ophthalmology	59	51	0	10	10	45.4%
	50	503 Glaucoma & lens procedures	650	74	0	1,127	17	34.8%
	50	509 Eye procedures, other	43	89	0	489	32	6.6%
	51	511 Microvascular tissue transfer or skin grafts	49	91	0	187	10	14.5%
	51	512 Skin, subcutaneous tissue & breast procedures	91	163	0	273	19	16.7%
	51	519 Plastic & reconstructive surgery, other	18	29	0	30	15	19.6%
	52	521 Cystourethroscopy	205	84	0	384	10	30.0%
	52	522 Urinary stones & obstruction	366	78	0	50	16	71.8%
	52	523 TURP	22	11	0	91	0	17.7%
	52	525 Male reproductive system disorders	110	76	0	86		39.9%
	52	526 Male reproductive system procedures	17	121	0	269		4.1%
	52	527 Kidney & urinary tract signs, symptoms & disorders	222	146	0	88	30	45.7%
	52	529 Urological procedures, other	214	128	0	288	10	33.4%
	53	531 Vein ligation & stripping		33	0	68	7	6.1%
	53	532 Non-procedural vascular surgery incl skin ulcers	27	49		11	6	28.7%
	53	533 Vascular angioplasty	0	148	0	31		0.0%
	53	539 Vascular surgery, other		112	0	34		0.7%
	54	542 Abdominal pain	725	290	0	12	26	68.9%
	54	543 Appendectomy	195	132	0	9	11	56.2%
	54	544 Endocrine procedures	20	37	0	52	12	16.5%
	54	545 Hernia procedures	110	91	0	329	15	20.2%
	54	546 Post-operative infections & sequelae of treatment	134	164	0	44		38.6%
	54	547 Major injuries	56	71	0	9		40.3%
	54	548 Injuries, other	302	827	0	54	24	25.0%
	54	549 General surgery, other	373	143	0	452	38	37.1%
	61	611 Transplantation	0	0	0	0	10	0.0%
	62	621 Extensive burns	0		0	0		0.0%
	63	631 Tracheostomy or ventilation	19	52	0		14	22.1%
	71	711 Abortion w D&C, aspiration curettage or hysterotomy	107	149	0	54		34.0%
	71	712 Endoscopic proc for female reproductive system		25	0	88	35	18.2%
	71	713 Conisation, vagina, cervix & vulva proc	97	49	0	109	19	35.4%
	71	714 Diagnostic curettage or hysteroscopy	118	40	0	251	30	26.9%
	71	715 Hysterectomy	44	31	0	127		20.5%

Stream	SRG	Enhanced Service Related Group V6	1 Calvary public hospital	2 Canberra hospital	3 University of Canberra hospital	4 ACT Private	5 Interstate public	% public hosp at Calvary
	71	717 Non-procedural gynaecology	381	163	0	39	15	63.7%
	71	718 Gynaecological oncology		10	0	8	14	8.6%
	71	719 Gynaecological surgery, other	264	129	0	724	68	22.3%
	72	721 Antenatal admission	507	299	0		30	53.0%
	72	722 Vaginal delivery	981	749	0	168	23	51.1%
	72	723 Caesarean delivery	554	473	0	326		40.6%
	72	724 Postnatal admission	134	73	0			62.0%
	73	731 Qualified neonate	302	118	0	447	14	34.3%
	74	741 Unqualified neonate	1,342	1,079	0	67	0	53.9%
	75	751 Perinatology	0	177	0	0	6	0.0%
	81	813 Poisoning or toxic effects of drugs & other substances	263	182	0		6	58.2%
	81	814 Drug & alcohol dependence or withdrawal	88	217	0			28.2%
	81	815 Drug & alcohol intoxication	110	49	0	0		68.3%
	82	823 Mental health treatment, same day excl. ECT	68	34	0	16		56.7%
	82	825 Psychotic disorders			0	0		33.3%
	82	826 Affective disorders	13	11	0			43.3%
	82	828 Anxiety disorders	38	16	0			66.7%
	82	829 Acute mental health, other			0	0	0	25.0%
	82	881 Eating & obsessive-compulsive disorders		16	0	0		22.7%
	82	882 Personality disorders & acute reactions	15	11	0	14		34.9%
	99	999 Unallocated	53	99	0	25	7	28.8%
	Subtotal:	Acute	25,818	30,348	25	19,813	1,976	33.1%
Mental health	83	839 Specialist mental health	525	933	64	427	54	26.2%
	Subtotal:	Mental health	525	933	64	427	54	26.2%
Subacute	84	84 Rehabilitation	0	330	617	3,658	0	0.0%
	85	85 Psychogeriatric		9			0	21.4%
	86	86 Palliative care	257	66		0	0	78.6%
	87	87 Maintenance	361	162	126	0	0	55.6%
	92	92 Geriatric evaluation and management	37	61		6	0	35.2%
	Subtotal:	Subacute	658	628	749	3,665	0	11.5%

Table 7: Calvary Public Hospital Bruce potentially preventable hospitalisations (PPHs) 2015–16 to 2020–21

Measure	Stay type	PPH category	2016	2017	2018	2019	2020	2021	2021 %
Episodes	Day only	1 Vaccine preventable	19	25	52	48	79	26	0.1%
	Day only	2 Acute	369	434	488	528	472	659	3.6%
	Day only	3 Chronic	296	337	368	370	414	496	2.7%
	Day only	8 Subtotal of PPHs	684	796	908	946	965	1,181	6.5%
	Day only	9 Not a PPH	11,367	12,797	13,396	13,714	13,516	17,071	93.5%
	Overnight	1 Vaccine preventable	124	151	251	178	253	66	0.4%
	Overnight	2 Acute	846	833	881	996	913	959	5.4%
	Overnight	3 Chronic	989	1,027	949	885	893	876	4.9%
	Overnight	8 Subtotal of PPHs	1,959	2,011	2,081	2,059	2,059	1,901	10.7%
	Overnight	9 Not a PPH	13,689	13,709	13,524	14,162	13,851	15,798	89.3%
Patient days	Day only	1 Vaccine preventable	19	25	52	48	79	26	0.1%
	Day only	2 Acute	369	434	488	528	472	659	3.6%
	Day only	3 Chronic	296	337	368	370	414	496	2.7%
	Day only	8 Subtotal of PPHs	684	796	908	946	965	1,181	6.5%
	Day only	9 Not a PPH	11,367	12,797	13,396	13,714	13,516	17,071	93.5%
	Overnight	1 Vaccine preventable	649	865	1,203	1,116	1,619	435	0.5%
	Overnight	2 Acute	3,582	3,620	3,740	4,138	4,073	4,405	5.5%
	Overnight	3 Chronic	5,156	5,954	5,135	4,327	4,799	4,451	5.5%
	Overnight	8 Subtotal of PPHs	9,387	10,439	10,078	9,581	10,491	9,291	11.5%
	Overnight	9 Not a PPH	57,337	66,220	64,586	64,558	66,908	71,521	88.5%

Table 8: CPHB average length of stay (ALOS) by Service Related Group, Compound average growth rate (CAGR) for the period 2015–16 to 2020–21, and number of episodes 2020–21

Stream	Service Related Group V6	2016	2017	2018	2019	2020	2021	CAGR 2016–2021	Episodes 2021
Acute	11 Cardiology	3.6	3.7	3.7	3.3	3.6	3.2	-2.4%	1,361
	13 Dermatology	3.0	3.4	3.1	2.6	3.3	3.9	5.5%	56
	14 Endocrinology	5.1	3.9	3.8	3.8	4.3	4.9	-0.6%	134
	15 Gastroenterology	3.6	3.4	3.1	3.2	3.8	3.6	0.3%	1,334
	16 Diagnostic GI	4.8	6.0	4.4	5.1	5.6	5.0	1.0%	156
	17 Haematology	3.7	4.3	4.9	4.5	5.2	4.1	2.1%	150
	18 Immunology & infections	6.0	6.6	5.6	8.0	9.4	7.5	4.6%	99
	20 Chemotherapy	0.0	0.0	2.3	0.0	0.0	0.0	0.0%	0
	21 Neurology	4.2	3.6	4.2	4.9	5.3	3.9	-1.2%	953
	22 Renal medicine	4.5	4.2	4.8	5.3	3.9	4.5	0.4%	122
	24 Respiratory medicine	4.9	5.2	4.9	4.9	5.2	5.2	1.0%	1,071
	25 Rheumatology	4.1	4.0	3.8	4.4	5.8	6.5	9.9%	70
	27 General medicine	4.5	4.3	4.3	4.4	5.0	4.9	1.8%	1,718
	41 Breast surgery	2.5	2.5	2.2	2.0	2.0	2.3	-2.1%	258
	42 Cardiothoracic surgery	8.7	12.4	16.3	16.8	11.1	143.0	75.2%	1
	43 Colorectal surgery	5.7	5.2	4.4	5.1	5.2	4.8	-3.4%	192
	44 Upper gastrointestinal surgery	2.2	2.7	2.4	2.5	2.9	2.3	0.6%	242
	46 Neurosurgery	4.5	3.7	5.5	6.8	5.0	5.8	4.8%	273
	47 Oral and maxillofacial surgery	1.7	1.6	1.7	1.6	2.5	1.8	0.5%	52
	48 Ear, nose & throat/head & neck	1.3	1.2	1.3	1.2	1.1	1.5	1.7%	258
	49 Orthopaedics	3.5	3.7	3.9	4.4	5.4	4.4	4.7%	817
	50 Ophthalmology	1.2	1.4	1.2	1.5	2.3	1.8	8.1%	101
	51 Plastic & reconstructive surgery	2.1	1.7	2.5	2.8	2.6	2.2	0.7%	93
	52 Urology	2.1	2.1	2.5	2.4	2.3	2.7	6.0%	814
	53 Vascular surgery	4.6	3.8	4.9	4.4	6.2	3.8	-3.5%	31
	54 General surgery	2.3	2.3	2.5	2.8	2.8	2.5	1.2%	1,078
62 Extensive burns	6.5	1.0	3.0	9.0	2.0	5.0	-5.1%	1	
63 Tracheostomy & ventilation	13.4	18.0	21.1	18.3	20.2	26.1	14.2%	23	
71 Gynaecology	2.1	2.2	2.2	2.1	2.1	2.0	-0.9%	567	
72 Obstetrics	2.4	2.3	2.3	2.5	2.6	2.5	0.8%	1,999	
73 Qualified neonate	5.8	6.2	5.8	5.9	5.5	5.7	-0.3%	358	
74 Unqualified neonate	2.2	2.0	0.0	0.0	0.0	0.0	-100.0%	1,331	

Stream	Service Related Group V6	2016	2017	2018	2019	2020	2021	CAGR 2016-2021	Episodes 2021
	81 Drug & alcohol	1.8	1.9	1.7	1.9	1.8	2.2	3.9%	247
	82 Acute mental health	3.3	2.8	3.9	3.7	4.8	5.0	9.1%	93
	99 Unallocated	12.8	14.2	17.8	17.6	15.1	15.7	4.2%	68
	Subtotal: Acute	3.4	3.5	3.4	3.4	3.6	3.4	-0.1%	16,121

Table 9: Calvary Public Hospital Bruce proportion of same day episodes, by Service Related Group and Compound average growth rate (CAGR) for the period 2015–16 to 2020–21 and the number of episodes in 2020–21

Stream	Service Related Group V6	2016	2017	2018	2019	2020	2021	CAGR 2016–2021	Episodes 2021
Acute	11 Cardiology	46.1%	51.5%	54.9%	55.6%	58.2%	58.1%	4.7%	3,250
	13 Dermatology	66.3%	55.4%	55.7%	59.3%	51.5%	61.1%	-1.6%	144
	14 Endocrinology	13.8%	16.2%	20.7%	21.7%	29.8%	23.4%	11.2%	175
	15 Gastroenterology	53.3%	57.1%	60.5%	60.6%	60.2%	61.8%	3.0%	3,491
	16 Diagnostic GI	86.1%	90.4%	89.5%	88.7%	88.3%	89.4%	0.8%	1,475
	17 Haematology	59.1%	63.6%	67.3%	68.8%	65.0%	68.9%	3.1%	482
	18 Immunology & infections	50.0%	53.8%	41.4%	45.0%	50.8%	54.0%	1.5%	215
	20 Chemotherapy	100.0%	100.0%	99.4%	100.0%	100.0%	100.0%	0.0%	34
	21 Neurology	42.6%	44.8%	49.4%	55.3%	61.2%	63.4%	8.3%	2,603
	22 Renal medicine	49.7%	53.0%	55.6%	53.8%	50.6%	37.1%	-5.7%	194
	24 Respiratory medicine	10.8%	16.6%	18.7%	18.2%	19.2%	31.3%	23.7%	1,558
	25 Rheumatology	77.9%	82.0%	81.8%	81.9%	84.0%	80.9%	0.8%	366
	27 General medicine	31.7%	36.3%	38.7%	39.9%	41.9%	47.5%	8.4%	3,274
	41 Breast surgery	28.5%	28.3%	24.4%	22.0%	26.8%	22.3%	-4.8%	332
	42 Cardiothoracic surgery	40.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
	43 Colorectal surgery	11.2%	11.7%	12.9%	18.1%	20.6%	19.0%	11.1%	237
	44 Upper gastrointestinal surgery	1.6%	2.0%	0.9%	1.2%	2.6%	4.3%	21.9%	253
	46 Neurosurgery	43.3%	49.2%	48.5%	43.2%	47.9%	51.4%	3.5%	562
	47 Oral and maxillofacial surgery	88.1%	89.4%	86.1%	89.3%	87.1%	84.8%	-0.8%	341
	48 Ear, nose & throat/head & neck	37.6%	39.0%	34.9%	34.5%	35.0%	35.0%	-1.4%	397
	49 Orthopaedics	23.0%	32.2%	30.2%	31.4%	33.9%	35.6%	9.1%	1,268
	50 Ophthalmology	96.2%	96.1%	95.2%	95.1%	96.1%	94.4%	-0.4%	1,803
	51 Plastic & reconstructive surgery	72.0%	75.7%	76.3%	68.4%	72.0%	73.0%	0.3%	344
	52 Urology	60.9%	57.5%	60.8%	61.5%	60.6%	60.6%	-0.1%	2,065
	53 Vascular surgery	58.5%	64.4%	61.7%	54.4%	53.3%	43.6%	-5.7%	55
	54 General surgery	55.5%	58.0%	56.5%	57.1%	55.1%	59.2%	1.3%	2,642
62 Extensive burns	0.0%	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%	0	
71 Gynaecology	57.3%	58.9%	60.8%	54.8%	60.7%	61.5%	1.4%	1,472	
72 Obstetrics	18.7%	23.2%	23.9%	18.7%	18.9%	19.4%	0.7%	2,479	
73 Qualified neonate	11.0%	8.5%	8.3%	0.0%	0.0%	0.0%	0.0%	0	
74 Unqualified neonate	18.8%	19.3%	23.3%	15.4%	11.4%	12.8%	-7.5%	1,526	

Stream	Service Related Group V6	2016	2017	2018	2019	2020	2021	CAGR 2016-2021	Episodes 2021
	81 Drug & alcohol	47.6%	54.7%	51.9%	50.9%	49.5%	56.0%	3.3%	562
	82 Acute mental health	43.9%	73.9%	47.3%	41.2%	41.4%	46.9%	1.3%	175
	99 Unallocated	17.2%	4.9%	6.7%	4.8%	7.5%	10.5%	-9.3%	76
	Subtotal: Acute	46.1%	49.2%	50.4%	49.6%	49.7%	52.9%	2.8%	34,233

Table 10: CPHB Hospital in the Home (HITH) episodes and mean length of stay in hours 2015–16 to 2020–21

Measures	Stay type	2016	2017	2018	2019	2020	2021
HITH episodes (% of all episodes)	Day only	111 (0.9%)	148 (1.1%)	177 (1.2%)	224 (1.5%)	264 (1.8%)	398 (2.2%)
	Overnight	587 (3.8%)	539 (3.4%)	635 (4.1%)	680 (4.2%)	712 (4.5%)	818 (4.6%)
Mean HITH hours	Day only	4.6	4.0	3.6	4.0	3.6	3.2
	Overnight	154.8	150.8	126.1	132.8	157.2	141.9

Table 11: CPHB and Canberra Hospital: hospital in the home (HITH) episodes by selected ESRGs and stay type 2018–19 to 2020–21

Enhanced Service Related Group V6	Stay type	1 Calvary public hospital			2 Canberra hospital		
		2019	2020	2021	2019	2020	2021
179 Haematology, other	Day only	71 (27%)	81 (33%)	149 (46%)	0 (0%)	16 (2%)	183 (20%)
	Overnight	13 (12%)	6 (5%)	14 (10%)		6 (1%)	10 (2%)
217 Multiple sclerosis, cerebellar ataxia & degenerative nervous system disorders	Day only	7 (2%)					8 (1%)
	Overnight	9 (16%)			22 (18%)	19 (20%)	
243 Respiratory infections or inflammations	Day only	0 (0%)	0 (0%)		0 (0%)	0 (0%)	0 (0%)
	Overnight	49 (10%)	66 (12%)	70 (19%)	21 (2%)	14 (2%)	25 (4%)
271 Kidney & urinary tract infections	Day only		0 (0%)		1 (0%)	0 (0%)	0 (0%)
	Overnight		88 (24%)		27 (5%)	45 (8%)	66 (11%)
272 Cellulitis	Day only				0 (0%)		0 (0%)
	Overnight				93 (15%)	89 (14%)	140 (22%)
277 Septicaemia	Day only	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	Overnight	19 (13%)	16 (12%)	28 (22%)	21 (6%)	23 (8%)	33 (10%)
279 General medicine, other	Day only		6 (5%)				37 (5%)
	Overnight		8 (5%)		8 (2%)	7 (2%)	7 (1%)
284 Nutritional & metabolic disorders	Day only		106 (56%)		0 (0%)		72 (23%)
	Overnight		7 (9%)				
495 Orthopaedic surgery, other	Day only	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	Overnight	0 (0%)			55 (3%)	70 (3%)	83 (4%)
499 Non-surgical orthopaedics, other	Day only			0 (0%)	0 (0%)	0 (0%)	
	Overnight			49 (33%)	50 (14%)	45 (14%)	64 (16%)
Other ESRGs	Day only	53 (0%)	60 (0%)	85 (1%)		10 (0%)	86 (0%)
	Overnight	234 (2%)	269 (2%)	315 (2%)	268 (1%)	306 (1%)	366 (1%)

Table 12: Trends in sub-acute care episodes and impact of commencement of UC Hospital, 2015–16 to 2020–21

SRG V6	ESRG V6 (NSW)	Hospital	2016	2017	2018	2019	2020	2021	Increase/ Decrease 2015-16 to 2020-21
84	842 Stroke – Same day	2 Canberra hospital	383	381	508			0	-383
		3 UC hospital	0	0	0	446	398	208	208
		4 ACT Private	0	33	59			0	0
	843 Stroke – Overnight	1 Calvary public hospital	87	83	75	16	0	0	-87
		2 Canberra hospital	184	149	153	137		163	-21
		3 UC hospital	0	0	0	127	184		
		4 ACT Private		9	12	7			-14
	844 Brain dysfunction	1 Calvary public hospital	6			0	0	0	-6
		2 Canberra hospital	46	57	59	38	30	35	-11
		3 UC hospital	0	0	0	32		24	24
		4 ACT Private	12			10		6	-6
	845 Neurological conditions	1 Calvary public hospital		6	9			0	
		2 Canberra hospital	38	25	52	27		29	-9
		3 UC hospital	0	0	0	21	97	48	48
		4 ACT Private		6	9				0
	846 Spinal cord dysfunction	1 Calvary public hospital				0	0	0	
		2 Canberra hospital				16	13	8	
		3 UC hospital	0	0	0	19	25	13	13
		4 ACT Private	26	40	28	37	31	32	6
	847 Amputation of limb	1 Calvary public hospital				0	0	0	
2 Canberra hospital					18	13	28		
3 UC hospital		0	0	0	15	22	24	24	
848 Arthritis	1 Calvary public hospital					0	0		
	2 Canberra hospital					7			
	3 UC hospital	0	0	0	9	10	0	0	
	4 ACT Private		593		601	691		28	
849 Pain syndromes	1 Calvary public hospital	14		11	9	0	0	-14	
	2 Canberra hospital	25	36	41	22	14	32	7	
	3 UC hospital	0	0	0					
	4 ACT Private	8		7					
	1 Calvary public hospital		0		0	0	0		

SRG V6	ESRG V6 (NSW)	Hospital	2016	2017	2018	2019	2020	2021	Increase/ Decrease 2015-16 to 2020-21
	891 Orthopaedic fractures – same day	2 Canberra hospital		29				6	
		3 UC hospital	0	0	0			17	17
		4 ACT Private	415	167		220	172	197	-218
	892 Orthopaedic conditions, fractures	1 Calvary public hospital	65	76	65		0	0	-65
		2 Canberra hospital	295	266	303	321	271	374	79
		3 UC hospital	0	0	0	213	197	243	243
		4 ACT Private	99	85	82		40	39	-60
	893 Orthopaedic conditions, post orthopaedic surgery – same day	1 Calvary public hospital		0	0	0	0	0	
		2 Canberra hospital			0	0	0	0	
		4 ACT Private			250	207	268	403	155
	894 Orthopaedic conditions, post orthopaedic surgery – overnight	1 Calvary public hospital	16	18	13		0	0	-16
		2 Canberra hospital	75	101	55	30	23	49	-26
		3 UC hospital	0	0	0		29	53	53
		4 ACT Private	19	67	63	42	32	78	59
	895 Orthopaedic conditions, other – same day	2 Canberra hospital	0	24	46	201	73		
		3 UC hospital	0	0	0	83	25		
		4 ACT Private	247	330	377	286	252	321	74
	896 Orthopaedic conditions, other – overnight	1 Calvary public hospital	7		27	0	0	0	-7
		2 Canberra hospital	22		26	44	41	27	5
		3 UC hospital	0	0	0	64	78	15	15
		4 ACT Private	52	69	81	51	42	67	15
	897 Cardiac	1 Calvary public hospital	10				0	0	-10
		2 Canberra hospital	22			15	14	24	2
		3 UC hospital	0	0	0		14	10	10
		4 ACT Private	21	26	23	29	33	20	-1
	898 Pulmonary conditions	1 Calvary public hospital		7	8		0	0	
		2 Canberra hospital	30	26	24	27	23	21	-9
		3 UC hospital	0	0	0		13		6
		4 ACT Private		12	9	14	11		
	901 Rehabilitation, other – same day	1 Calvary public hospital		0	0		0	0	
		2 Canberra hospital		397	477		21	12	
		3 UC hospital	0	0	0	427	263	232	232

SRG V6	ESRG V6 (NSW)	Hospital	2016	2017	2018	2019	2020	2021	Increase/ Decrease 2015-16 to 2020-21
		4 ACT Private	8,165	6,469	7,594	8,169	7,538	9,349	1,184
	902 Rehabilitation, other – overnight	1 Calvary public hospital	181	179	78	11	0	0	-181
		2 Canberra hospital	334	310	313	384	302	361	27
		3 UC hospital	0	0	0	210	297	208	208
		4 ACT Private	118	103	100	90	92	64	-54
	910 Burns	2 Canberra hospital	0		0	0	0	0	0
		3 UC hospital	0	0	0		0	0	0
	911 Congenital deformities	1 Calvary public hospital		0	0	0	0	0	
		2 Canberra hospital	0	0			0	0	0
		4 ACT Private	0	0		0	0	0	0
	912 Multiple major trauma	1 Calvary public hospital	0	0		0	0	0	0
		2 Canberra hospital	23	17					
		3 UC hospital	0	0	0				
	913 Developmental disability	2 Canberra hospital		0	0	0	0	0	
	Total 84 Rehabilitation	1 Calvary public hospital	417	398	300	49		0	-417
		2 Canberra hospital	1,901	1,926	2,167	1,368	1,029	1,228	-673
		3 UC hospital	0	0	0	1,713	1,781	1,269	1,269
		4 ACT Private	10,033	8,290	9,554	9,900	9,237	11,191	1,158
85	851 Psychogeriatric	1 Calvary public hospital	12				0		
		2 Canberra hospital		13	13	11	33	43	
		3 UC hospital	0	0	0		0		
		4 ACT Private	0	0	0		9		
	Total 85 Psychogeriatric	1 Calvary public hospital	12				0		
		2 Canberra hospital		13	13	11	33	43	
		3 UC hospital	0	0	0		0		
4 ACT Private		0	0	0		9			
86	862 Palliative care – cancer-related	1 Calvary public hospital	331	327	337	360	343	301	-30
		2 Canberra hospital	190	164	173	200			
		3 UC hospital	0	0	0	0			
	863 Palliative care – non-cancer	1 Calvary public hospital	109	177	210	194		179	70
		2 Canberra hospital	173	155	187	191	182	168	-5
		3 UC hospital	0	0	0	0			

SRG V6	ESRG V6 (NSW)	Hospital	2016	2017	2018	2019	2020	2021	Increase/ Decrease 2015-16 to 2020-21
		4 ACT Private	0	0	0	0	0		
	869 Palliative care – same day	1 Calvary public hospital							
		2 Canberra hospital							
		4 ACT Private	0	0		0			
	Total 86 Palliative care	1 Calvary public hospital	442	505	549	557	494	483	41
		2 Canberra hospital	371	322	367	396	326	358	-13
		3 UC hospital	0	0	0	0		7	7
		4 ACT Private	0	0		0			
87	871 Maintenance	1 Calvary public hospital	352	339	275	250	285	428	76
		2 Canberra hospital	757	695	648	750	565	697	-60
		3 UC hospital	0	0	0	95	239	217	217
		4 ACT Private		0			11		
		5 Interstate public		0	0	0	0	0	
	Total 87 Maintenance	1 Calvary public hospital	352	339	275	250	285	428	76
		2 Canberra hospital	757	695	648	750	565	697	-60
		3 UC hospital	0	0	0	95	239	217	217
		4 ACT Private		0			11		
		5 Interstate public		0	0	0	0	0	
92	921 Geriatric evaluation and management	1 Calvary public hospital		56	53	39		39	
		2 Canberra hospital	234	388	368	348	398	478	244
		3 UC hospital	0	0	0	0			
		4 ACT Private		30	22	6	38		
	Total 92 Geriatric evaluation and management	1 Calvary public hospital		56	53	39		39	-34
		2 Canberra hospital	234	388	368	348	398	478	244
		3 UC hospital	0	0	0	0			
		4 ACT Private		30	22	6	38		

Nosthside Scenarios Initial Analysis: Notes

Data and pivot tables produced 24/7/2022 by HPA

Note that some variables will be updated based on subsequent analyses

Sheets/Tabs:

Data is included in the 'data' tab

The "Pivot table for users tab is a pivot table that could be used to explore various issues in more detail by users.

The other tabs include pivot tables that are mostly similar to the tables provided in the "Planning scenarios for Northside hospital" document (T1 means the tab relates to Table 1 in the revised version of the document.)

Variables

The variables included in the data are as follows:

Variable	Notes
Year	Financial year
Activity stream	Acute, Mental Health, Sub Acute and Other: Note that we have filtered out the "Other" streams in the pivot tables
Stay type	1 Day only; 2 Overnight
SRG V6 ACT code	Service Related Groups (SRG) classification used for ACT projections, code only
SRG V6 ACT	Service Related Groups (SRG) classification used for ACT projections with a label
ESRG V6 ACT code	Enhanced Service Related Groups (ESRG) classification used for ACT projections, code only
ESRG V6 ACT	Enhanced Service Related Groups (ESRG) classification used for ACT projections with a label
ESRG V6 NSW code	Includes expanded classes for sub-acute care, particularly rehabilitation
ESRG V6 NSW	Includes expanded classes for sub-acute care, particularly rehabilitation
PPH type	Potentially Preventable Hospitalisation Type (first PPH identified)
PPH Category	Potentially Preventable Hospitalisation Category (first PPH identified)
hith	Flag identifying that the episode involved a HITH component
Hospital	Hospital (grouped for private hospitals, and interstate hospitals)
Hospital 2	Same as Hospital with Clare Holland House identified separately
Place of residence: Grouped	Groups includes 1 ACT, 2 SNSW, 3 Rest of NSW, 4 Other Interstate, 5 Other
Place of residence: ACT & SNSW SA3s	As for previous with SA3 for ACT and SNSW separately out
Place of residence: Northside SA3s grouped	As for Place of residence: Grouped, but with the Northside catchment SA3 separated into a group
Place of residence: Northside SA3s ungrouped	As for Place of residence: Grouped, but with the Northside catchment SA3 separately identified
Episodes	Number of Episode
Patient days	Number of patient days based on Length of Stay. Day only episodes assigned a los of 1.
HITH hours	Number of HITH hours identified through linkage with ward stays.
Episodes_dayonly	For calculation purposes only

Hospital	(All)
Hospital 2	(All)
Activity stream	(Multiple Items)
Stay type	(All)
SRG V6 ACT	(All)
ESRG V6 NSW	(All)
ESRG V6 ACT	(All)
Place of residence: Grouped	(All)
Place of residence: ACT & SNSW SA3s	(All)
Place of residence: Northside SA3s grouped	(All)
Place of residence: Northside SA3s ungrouped	(All)
PPH Category	(All)
PPH type	(All)
hith	(All)

	Column Labels									
Values	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Sum of Episodes	148,238	148,497	153,440	160,425	170,207	171,487	178,756	182,064	184,147	203,539
Sum of Patient days	433,218	438,870	446,663	412,405	424,138	490,480	496,834	520,015	542,870	574,953
Sum of ALOS	2.92	2.96	2.91	2.57	2.49	2.86	2.78	2.86	2.95	2.82
Sum of Percent Day Only	0.54	0.54	0.55	0.55	0.55	0.55	0.55	0.55	0.56	0.58
Sum of Mean HITH hours	0.59	1.09	1.51	1.78	1.84	1.65	1.49	1.45	1.64	1.72

T0 Stream and stay type

Hospital	1 Calvary public hospital
Hospital 2	(All)
SRG V6 ACT	(All)
ESRG V6 ACT	(All)
ESRG V6 NSW	(All)
Place of residence: Grouped	(All)
Place of residence: ACT & SNSW SA3s	(All)
Place of residence: Northside SA3s grouped	(All)
Place of residence: Northside SA3s ungrouped	(All)
PPH Category	(All)
PPH type	(All)
hith	(All)

Sum of Episodes	Column Labels										
Row Labels	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	
Acute	21,175	21,181	23,136	24,625	25,792	27,491	28,181	29,459	28,988	34,233	
1	9,101	9,696	10,755	11,332	11,898	13,534	14,211	14,613	14,419	18,112	
2	12,074	11,485	12,381	13,293	13,894	13,957	13,970	14,846	14,569	16,121	
Mental health	584	598	533	514	611	518	548	524	591	762	
1	78	110	66	65	123	28	64	24	42	110	
2	506	488	467	449	488	490	484	500	549	652	
Subacute	1,523	1,687	1,003	1,099	1,296	1,302	1,178	898	812	954	
1	38	20	13	30	30	29	28	23	20	28	
2	1,485	1,667	990	1,069	1,266	1,273	1,150	875	792	926	
Grand Total	23,282	23,466	24,672	26,238	27,699	29,311	29,907	30,881	30,391	35,949	

Compound annual growth rate		
	2011-12 to 2020-21	2015-16 to 2020-21
	5.5%	5.8%
	7.9%	8.8%
	3.3%	3.0%
	3.0%	4.5%
	3.9%	-2.2%
	2.9%	6.0%
	-5.1%	-5.9%
	-3.3%	-1.4%
	-5.1%	-6.1%
	4.9%	5.4%

T1 SRG & ESRG

Hospital	1 Calvary public hospital
Hospital 2	(All)
Activity stream	(Multiple Items)
Stay type	(All)
ESRG V6 NSW	(All)
Place of residence: Grouped	(All)
Place of residence: ACT & SNSW SA3s	(All)
Place of residence: Northside SA3s grouped	(All)
Place of residence: Northside SA3s ungrouped	(All)
PPH Category	(All)
PPH type	(All)
hith	(All)

Sum of Episodes	Column Labels									
Row Labels	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
11 Cardiology	1,656	1,774	1,887	1,974	2,178	2,361	2,458	2,560	2,486	3,250
111 Chest pain	585	637	751	699	896	985	1,078	1,185	1,143	1,533
112 Unstable angina	75	62	64	75	61	70	42	47	55	50
113 Heart failure & shock	173	177	158	193	253	235	245	231	227	258
114 Arrhythmia, cardiac arrest & conduction disorders	348	341	342	385	347	407	396	367	397	471
115 AMI w/o invasive cardiac investigative procedure	150	167	163	171	150	135	136	173	138	220
116 Syncope & collapse	171	207	216	242	233	251	274	256	245	324
117 Coronary atherosclerosis	33	39	33	37	56	48	50	57	58	74
118 Valvular disorders	40	40	49	70	60	83	109	104	103	162
119 Cardiology, other	81	104	111	102	122	147	128	140	120	158
12 Interventional cardiology										
129 Interventional cardiology, other										
13 Dermatology	88	85	94	116	89	139	122	118	136	144
131 Dermatology	88	85	94	116	89	139	122	118	136	144
14 Endocrinology	148	97	126	135	167	173	184	175	178	175
141 Diabetes	122	72	100	104	116	138	152	137	138	147
149 Endocrinology, other	26	25	26	31	51	35	32	38	40	28
15 Gastroenterology	1,711	1,730	2,024	2,116	2,351	2,667	2,801	3,005	2,929	3,491
151 Oesophagitis & gastroenteritis	272	290	329	298	321	495	428	532	530	615
152 Complex endoscopy	419	436	448	427	442	484	597	579	488	540
154 Cirrhosis, alcoholic hepatitis & other liver & gallbladder conditions	244	222	263	275	276	287	350	270	282	340
155 Digestive malignancy	40	35	30	31	30	31	15	30	24	24
156 Gastrointestinal haemorrhage	56	51	63	59	79	75	62	73	97	114
157 Inflammatory bowel disease	100	159	235	288	381	415	428	505	510	560
158 Gastrointestinal obstruction	88	69	81	92	106	114	109	131	115	123
159 Gastroenterology, other	492	468	575	646	716	766	812	885	883	1,175
16 Diagnostic GI	1,147	1,253	1,169	1,225	1,219	1,278	1,365	1,402	1,346	1,475
161 Diagnostic colonoscopy	699	758	734	805	796	841	937	885	879	903
162 Diagnostic gastroscopy	448	495	435	420	423	437	428	517	467	572
17 Haematology	344	281	322	301	367	385	404	417	394	482
175 Lymphoma & leukaemia	28	12	27	21	20	32	27	38	25	23
179 Haematology, other	316	269	295	280	347	353	377	379	369	459
18 Immunology & infections	40	52	53	75	82	119	116	140	197	215
181 Immunology	24	26	36	48	54	84	75	86	122	165
184 Infectious diseases	16	26	17	27	28	35	41	54	75	50
20 Chemotherapy	575	677	771	633	667	558	536	224	47	34
201 Chemotherapy	575	677	771	633	667	558	536	224	47	34

Compound annual growth rate	
2011-12 to 2020-21	2015-16 to 2020-21
7.8%	8.3%
11.3%	11.3%
-4.4%	-3.9%
4.5%	0.4%
3.4%	6.3%
4.3%	8.0%
7.4%	6.8%
9.4%	5.7%
16.8%	22.0%
7.7%	5.3%
5.6%	10.1%
5.6%	10.1%
1.9%	0.9%
2.1%	4.9%
0.8%	-11.3%
8.2%	8.2%
9.5%	13.9%
2.9%	4.1%
3.8%	4.3%
-5.5%	-4.4%
8.2%	7.6%
21.1%	8.0%
3.8%	3.0%
10.2%	10.4%
2.8%	3.9%
2.9%	2.6%
2.8%	6.2%
3.8%	5.6%
-2.2%	2.8%
4.2%	5.8%
20.5%	21.3%
23.9%	25.0%
13.5%	12.3%
-27.0%	-44.9%
-27.0%	-44.9%

21 Neurology	928	890	995	1,261	1,183	1,395	1,561	1,852	1,949	2,603		
211 Stroke	117	122	144	198	217	252	231	235	220	258	12.1%	17.1%
212 TIA	116	80	93	92	57	72	67	80	83	105	9.2%	3.5%
213 Seizures	146	141	146	171	174	178	183	193	175	215	-1.1%	13.0%
214 Headache	125	136	167	228	244	249	302	323	332	439	4.4%	4.3%
215 Dysequilibrium	103	112	137	161	159	245	258	301	253	422	15.0%	12.5%
216 Nervous system neoplasm	25	16	8	12	9	12	15	15	17	27	17.0%	21.6%
217 Multiple sclerosis, cerebellar ataxia & degenerative nervous system disorders	25	16	8	12	9	12	15	15	17	27	0.9%	24.6%
218 Cranial & peripheral nerve disorders	120	111	138	175	152	172	239	336	407	582	19.2%	30.8%
219 Neurology, other	70	57	60	84	62	93	115	207	294	322	18.5%	39.0%
22 Renal medicine	106	115	102	140	109	122	151	162	168	233	9.1%	16.4%
221 Renal failure	196	175	104	139	147	164	171	169	158	194	-0.1%	5.7%
229 Renal medicine, other	39	47	35	56	62	61	52	53	62	83	8.8%	6.0%
24 Respiratory medicine	157	128	69	83	85	103	119	116	96	111	-3.8%	5.5%
241 Bronchitis & asthma	1,243	1,154	1,168	1,403	1,480	1,689	1,742	1,701	1,740	1,558	2.5%	1.0%
242 Chronic obstructive airways disease	130	133	122	166	141	169	157	150	171	194	4.5%	6.6%
243 Respiratory infections or inflammations	315	305	277	309	327	333	287	246	283	254	-2.4%	-4.9%
244 Bronchoscopy	409	340	407	523	553	601	572	540	600	437	0.7%	-4.6%
245 Respiratory neoplasms	39	21	35	19	24	29	17	24	24	30	24.1%	36.1%
246 Pulmonary embolism	63	92	69	75	70	68	77	84	98	71	-2.9%	4.6%
247 Whooping cough & acute bronchiolitis	45	46	46	30	34	60	75	61	73	127	1.3%	0.3%
248 Respiratory signs & symptoms	238	211	205	274	325	418	545	584	479	415	26.0%	39.8%
249 Respiratory medicine, other	238	211	205	274	325	418	545	584	479	415	12.2%	30.2%
25 Rheumatology	207	228	199	227	289	378	325	365	350	366	6.4%	5.0%
251 Rheumatology	207	228	199	227	289	378	325	365	350	366	6.5%	4.8%
27 General medicine	1,513	1,472	1,633	1,870	2,006	2,370	2,638	2,813	2,769	3,274	6.5%	4.8%
271 Kidney & urinary tract infections	1,513	1,472	1,633	1,870	2,006	2,370	2,638	2,813	2,769	3,274	9.0%	10.3%
272 Cellulitis	366	325	334	367	353	385	422	455	502	545	4.5%	9.1%
275 Injuries – non-surgical	308	288	314	398	375	396	443	515	402	468	4.8%	4.5%
277 Septicaemia	140	154	177	216	230	337	395	428	475	630	18.2%	22.3%
278 Surgical follow up	43	55	100	116	176	184	150	149	135	134	13.5%	-5.3%
279 General medicine, other	10	7	8	8	28	32	58	77	45	38	16.0%	6.3%
280 Delirium	206	196	210	228	263	259	266	262	280	352	6.1%	6.0%
281 Dementia	36	45	44	58	65	76	62	58	57	71	7.8%	1.8%
282 Ear & upper respiratory infections	23	26	38	48	47	41	40	50	41	57	10.6%	3.9%
283 Venous thrombosis	115	95	115	160	164	256	283	269	293	296	11.1%	12.5%
284 Nutritional & metabolic disorders	64	80	55	55	28	20	30	30	28	46	-3.6%	10.4%
285 Viral illnesses	105	110	126	108	153	179	217	243	266	340	13.9%	17.3%
286 Pain management	37	38	57	57	63	126	172	148	134	128	14.8%	15.2%
41 Breast surgery	60	53	55	71	61	79	100	129	111	169	12.2%	22.6%
411 Breast surgery	194	184	226	236	228	269	287	296	347	332	6.2%	7.8%
42 Cardiothoracic surgery	7	7	13	13	6	9	6	9	6	9	-16.4%	-27.5%
429 Cardiothoracic surgery, other	7	7	13	13	6	9	6	9	6	9	-16.4%	-27.5%
43 Colorectal surgery	181	197	196	169	187	197	202	210	214	237	3.0%	4.9%
432 Anal, stomal & pilonidal procedures	181	197	196	169	187	197	202	210	214	237	6.1%	12.1%
439 Colorectal surgery, other	96	103	106	101	92	104	119	133	119	163	6.1%	12.1%
44 Upper gastrointestinal surgery	85	94	90	68	95	93	83	77	95	74	-1.5%	-4.9%
441 Cholecystectomy	257	186	238	219	186	198	216	254	227	253	-0.2%	6.3%
443 Bariatric procedures	210	147	198	176	162	169	179	217	198	214	0.2%	5.7%
449 Upper gastrointestinal surgery, other	39	40	40	40	24	29	37	37	29	39	-1.8%	10.2%
46 Neurosurgery	240	205	258	305	353	392	408	444	426	562	9.9%	9.7%
461 Head injury	240	205	258	305	353	392	408	444	426	562	9.9%	9.7%
463 Neurosurgery – non-procedural	224	191	233	285	328	362	378	404	390	525	9.9%	9.9%
469 Neurosurgery, other	224	191	233	285	328	362	378	404	390	525	9.9%	9.9%

47 Oral and maxillofacial surgery	250	286	315	352	361	350	331	373	303	341	3.5%	-1.1%
471 Dental extractions & restorations	183	215	248	271	281	268	248	290	231	242	3.2%	-2.9%
479 Oral and maxillofacial surgery	67	71	67	81	80	82	83	83	72	99	4.4%	4.4%
48 Ear, nose & throat/head & neck	301	244	287	361	473	446	439	426	409	397	3.1%	-3.4%
481 Tonsillectomy & adenoidectomy	69	46	64	97	124	105	123	99	88	72	0.5%	-10.3%
482 Myringotomy w tube insertion	59	38	49	55	90	70		45			-9.9%	-23.9%
483 Non-procedural ENT	73	58	70	73	80	99	101	100	128	153	8.6%	13.8%
484 Head & neck surgery	7	7	6	8	8	6		7			-6.0%	-12.9%
489 Procedural ENT, other	93	95	98	128	171	166	155	175	143	145	5.1%	-3.2%
49 Orthopaedics	980	888	905	779	903	931	996	969	941	1,268	2.9%	7.0%
491 Injuries to limbs – medical	85	99	114	117	170	210	224	241	247	334	16.4%	14.5%
492 Wrist & hand procedures incl carpal tunnel	54	62	46	33	41	50	61	63	41	78	4.2%	13.7%
494 Knee procedures	160	161	155	98	122	109	113	105	100	105	-4.6%	-3.0%
495 Orthopaedic surgery, other	305	235	248	183	266	231	249	222	196	342	1.3%	5.2%
496 Hip replacement or revision, other	88	93	107	93	76	80	84	75	77	79	-1.2%	0.8%
497 Knee replacement or revision	177	156	138	136	122	95	101	89	86	107	-5.4%	-2.6%
498 Hip fracture	6	6	8	17	12	14	17	16	7	19	13.7%	9.6%
499 Non-surgical orthopaedics, other	105	76	89	102	94	142	147	158	187	204	7.7%	16.8%
50 Ophthalmology	1,257	1,453	1,569	1,529	1,409	1,440	1,491	1,545	1,384	1,803	4.1%	5.1%
502 Non-procedural ophthalmology	45	35	45	63	63	64	83	86	73	86	7.5%	6.4%
503 Glaucoma & lens procedures	1,056	1,245	1,309	1,287	1,190	1,234	1,311	1,330	1,192	1,579	4.6%	5.8%
509 Eye procedures, other	156	173	215	179	156	142	97	129	119	138	-1.4%	-2.4%
51 Plastic & reconstructive surgery	204	170	212	201	225	280	308	297	254	344	6.0%	8.9%
511 Microvascular tissue transfer or skin grafts	50	51	75	62	75	98	96	101	89	105	8.6%	7.0%
512 Skin, subcutaneous tissue & breast procedures	141	101	128	128	134	157	191	174	146	211	4.6%	9.5%
519 Plastic & reconstructive surgery, other	13	18	9	11	16	25	21	22	19	28	8.9%	11.8%
52 Urology	833	1,045	1,164	1,453	1,391	1,332	1,443	1,737	1,745	2,065	10.6%	8.2%
521 Cystourethroscopy	221	295	311	411	396	350	368	536	464	507	9.7%	5.1%
522 Urinary stones & obstruction	153	181	244	324	288	323	363	358	376	452	12.8%	9.4%
523 TURP	40	45	54	42	28	24	56	72	59	62	5.0%	17.2%
525 Male reproductive system disorders	76	78	95	104	85	92	133	136	151	163	8.8%	13.9%
526 Male reproductive system procedures	42	40	26	26	43	32	43	59	31	32	-3.0%	-5.7%
527 Kidney & urinary tract signs, symptoms & disorders	123	172	206	236	239	265	257	233	218	292	10.1%	4.1%
529 Urological procedures, other	178	234	228	310	312	246	223	343	446	557	13.5%	12.3%
53 Vascular surgery	52	31	40	43	41	45	47	57	60	55	0.6%	6.1%
531 Vein ligation & stripping	31	20	21	21	20	22	18	22	16	19	-5.3%	-1.0%
532 Non-procedural vascular surgery incl skin ulcers					21		23			32	6.0%	8.8%
533 Vascular angioplasty												
539 Vascular surgery, other							6				4.6%	
54 General surgery	1,668	1,533	1,807	1,819	1,935	2,041	2,003	2,173	2,094	2,642	5.2%	6.4%
542 Abdominal pain	365	381	437	416	487	491	503	523	542	857	9.9%	12.0%
543 Appendicectomy	255	181	220	255	238	230	241	233	265	224	-1.4%	-1.2%
544 Endocrine procedures	36	26	16	16	18	16	13	33	23	36	0.0%	14.9%
545 Hernia procedures	177	152	176	147	149	147	166	204	159	211	2.0%	7.2%
546 Post-operative infections & sequelae of treatment	109	99	121	150	124	174	135	128	151	173	5.3%	6.9%
547 Major injuries	18	13	19	13	42	33	34	36	47	65	15.3%	9.1%
548 Injuries, other	124	125	168	171	208	235	247	287	263	351	12.3%	11.0%
549 General surgery, other	584	556	650	651	669	715	664	729	644	725	2.4%	1.6%
62 Extensive burns											-7.4%	-12.9%
621 Extensive burns											-7.4%	-12.9%
63 Tracheostomy & ventilation	29	34	28	25	24	18	28	25	31	23	-2.5%	-0.8%
631 Tracheostomy or ventilation	29	34	28	25	24	18	28	25	31	23	-2.5%	-0.8%
71 Gynaecology	858	825	828	877	944	1,053	1,071	1,123	1,227	1,472	6.2%	9.3%
711 Abortion w D&C, aspiration curettage or hysterotomy	130	126	136	128	131	117	132	90	111	130	0.0%	-0.2%

712 Endoscopic proc for female reproductive system	40	51	53	61	39	50	32	51	37	52	3.0%	5.9%
713 Conisation, vagina, cervix & vulva proc	101	77	75	79	89	102	106	103	120	129	2.8%	7.7%
714 Diagnostic curettage or hysteroscopy	99	110	102	117	96	122	122	142	167	184	7.1%	13.9%
715 Hysterectomy	54	78	79	70	55	52	62	90	61	96	6.6%	11.8%
717 Non-procedural gynaecology	191	140	162	165	244	301	314	348	406	480	10.8%	14.5%
718 Gynaecological oncology	12	9	14	14	12	13	10	11	8	7	-5.8%	-10.2%
719 Gynaecological surgery, other	231	234	207	243	278	296	293	288	317	394	6.1%	7.2%
72 Obstetrics	2,003	1,976	2,199	2,336	2,364	2,333	2,216	2,256	2,222	2,479	2.4%	1.0%
721 Antenatal admission	389	331	366	410	441	535	533	517	493	578	4.5%	5.6%
722 Vaginal delivery	1,020	1,051	1,244	1,271	1,287	1,182	1,090	1,112	1,111	1,103	0.9%	-3.0%
723 Caesarean delivery	471	507	502	534	503	472	483	501	511	660	3.8%	5.6%
724 Postnatal admission	123	87	87	121	133	144	110	126	107	138	1.3%	0.7%
73 Qualified neonate	447	446	383	464	429	388	408	361	360	358	-2.4%	-3.6%
731 Qualified neonate	447	446	383	464	429	388	408	361	360	358	-2.4%	-3.6%
74 Unqualified neonate	1,243	1,244	1,495	1,476	1,512	1,387	1,286	1,391	1,415	1,526	2.3%	0.2%
741 Unqualified neonate	1,243	1,244	1,495	1,476	1,512	1,387	1,286	1,391	1,415	1,526	2.3%	0.2%
81 Drug & alcohol	250	246	307	351	433	424	422	391	438	562	9.4%	5.4%
813 Poisoning or toxic effects of drugs & other substances	166	163	213	228	292	269	275	248	229	305	7.0%	0.9%
814 Drug & alcohol dependence or withdrawal	34	36	42	56	71	69	70	57	90	105	13.3%	8.1%
815 Drug & alcohol intoxication	50	47	52	67	70	86	77	86	119	152	13.1%	16.8%
82 Acute mental health	56	49	55	73	98	203	91	119	133	175	13.5%	12.3%
823 Mental health treatment, same day excl. ECT	30	20	28	32	35	50	42	47	55	82	11.8%	18.6%
824 Mental health treatment, same day incl. ECT					8	100						
825 Psychotic disorders						6		8			4.6%	8.4%
826 Affective disorders		7	7	7	19	8	14	14	18	20	16.7%	1.0%
828 Anxiety disorders	12	9	10	18	18	22	18	24	40	43	15.2%	19.0%
829 Acute mental health, other					6				8		-3.1%	-12.9%
881 Eating & obsessive-compulsive disorders								8		6		8.4%
882 Personality disorders & acute reactions				6	6	12	6	14		18	22.0%	24.6%
83 Specialist mental health	584	598	533	514	611	518	548	524	591	762	3.0%	4.5%
839 Specialist mental health	584	598	533	514	611	518	548	524	591	762	3.0%	4.5%
84 Rehabilitation			311	357	417	398	300	49				
901 Rehabilitation – same day					6							
902 Rehabilitation – overnight			311		411	398						
85 Psychogeriatric	12	13			12						-11.5%	-19.7%
851 Psychogeriatric	12	13			12						-11.5%	-19.7%
86 Palliative care	640	816	402	412	442	505	549	557	494	483	-3.1%	1.8%
861 Palliative care	640	816	402	412	442	505	549	557	494	483	-3.1%	1.8%
87 Maintenance	321	112	243	287	352	339	275	250	285	428	3.2%	4.0%
871 Maintenance	321	112	243	287	352	339	275	250	285	428	3.2%	4.0%
92 Geriatric evaluation and management	550	745	45	41	73	56	53	39	32	39	-25.5%	-11.8%
921 Geriatric evaluation and management	550	745	45	41	73	56	53	39	32	39	-25.5%	-11.8%
99 Unallocated	69	61	71	69	64	82	60	63	67	76	1.1%	3.5%
999 Unallocated	69	61	71	69	64	82	60	63	67	76	1.1%	3.5%
Grand Total	23,282	23,466	24,672	26,238	27,699	29,311	29,907	30,881	30,391	35,949	4.9%	5.4%

T2 CPHB activity by SA3 2020-21

Year	2020-21
Hospital	1 Calvary public hospital
Hospital 2	(All)
Activity stream	(Multiple Items)
Stay type	(All)
ESRG V6 NSW	(All)
Place of residence: Grouped	(All)
Place of residence: ACT & SNSW SA3s	(All)
Place of residence: Northside SA3s ungrouped	(All)
PPH Category	(All)
PPH type	(All)
hith	(All)

Sum of Episodes	Column Labels						Northside SA3 as % of Calvary activity	
	1 ACT: Northern SA3s	1 ACT: Other SA3s	2 Southern NSW	3 NSW other	4 Interstate other	9 Other		
11 Cardiology	2,784	116	259	32	24	35	3,250	85.7%
111 Chest pain	1,340	40	113	14	8	18	1,533	87.4%
112 Unstable angina	45						50	90.0%
113 Heart failure & shock	226	10	14				258	87.6%
114 Arrhythmia, cardiac arrest & conduction disorders	368	25	70				471	78.1%
115 AMI w/o invasive cardiac investigative procedure	185	7	14	6			220	84.1%
116 Syncope & collapse	285	10	21				324	88.0%
117 Coronary atherosclerosis	60						74	81.1%
118 Valvular disorders	139	10	9				162	85.8%
119 Cardiology, other	136	8	12				158	86.1%
13 Dermatology	104	13	23				144	72.2%
131 Dermatology	104	13	23				144	72.2%
14 Endocrinology	141	6	11			13	175	80.6%
141 Diabetes	117						147	79.6%
149 Endocrinology, other	24						28	85.7%
15 Gastroenterology	2,779	261	358	27	31	35	3,491	79.6%
151 Oesophagitis & gastroenteritis	534	19	37	8	13		615	86.8%
152 Complex endoscopy	367	88	77				540	68.0%
154 Cirrhosis, alcoholic hepatitis & other liver & gallbladder conditions	293	9	26				340	86.2%
155 Digestive malignancy	16		6				24	66.7%
156 Gastrointestinal haemorrhage	106						114	93.0%
157 Inflammatory bowel disease	363	87	110				560	64.8%
158 Gastrointestinal obstruction	106						123	86.2%
159 Gastroenterology, other	994	50	91	13	7	20	1,175	84.6%
16 Diagnostic GI	1,060	213	194				1,475	71.9%
161 Diagnostic colonoscopy	640	131	130				903	70.9%
162 Diagnostic gastroscopy	420	82	64				572	73.4%
17 Haematology	378	63	35				482	78.4%

175 Lymphoma & leukaemia	19						23	82.6%	
179 Haematology, other	359						459	78.2%	
18 Immunology & infections	177	15	13				215	82.3%	
181 Immunology	136						165	82.4%	
184 Infectious diseases	41						50	82.0%	
20 Chemotherapy	33						34	97.1%	
201 Chemotherapy	33						34	97.1%	
21 Neurology	2,015	263	261	13	17	34	2,603	77.4%	
211 Stroke	203		43				258	78.7%	
212 TIA	85						105	81.0%	
213 Seizures	163	14	24				9	215	75.8%
214 Headache	385	14	23				8	439	87.7%
215 Dysequilibrium	379	14	20					422	89.8%
216 Nervous system neoplasm	22							27	81.5%
217 Multiple sclerosis, cerebellar ataxia & degenerative nervous system disorders	396	89	92					582	68.0%
218 Cranial & peripheral nerve disorders	193	102	24					322	59.9%
219 Neurology, other	189	21	16					233	81.1%
22 Renal medicine	170	9	13				194	87.6%	
221 Renal failure	81							83	97.6%
229 Renal medicine, other	89							111	80.2%
24 Respiratory medicine	1,370	50	93	14	8	23	1,558	87.9%	
241 Bronchitis & asthma	177		8					194	91.2%
242 Chronic obstructive airways disease	225		21					254	88.6%
243 Respiratory infections or inflammations	387	8	27				8	437	88.6%
244 Bronchoscopy	13							14	92.9%
245 Respiratory neoplasms	28							30	93.3%
246 Pulmonary embolism	58							71	81.7%
247 Whooping cough & acute bronchiolitis	15							16	93.8%
248 Respiratory signs & symptoms	110	9	6					127	86.6%
249 Respiratory medicine, other	357	22	23				6	415	86.0%
25 Rheumatology	262	78	26				366	71.6%	
251 Rheumatology	262	78	26					366	71.6%
27 General medicine	2,790	183	193	28	26	54	3,274	85.2%	
271 Kidney & urinary tract infections	462	35	31		7			545	84.8%
272 Cellulitis	395	23	24				14	468	84.4%
275 Injuries – non-surgical	544	22	38	6			15	630	86.3%
277 Septicaemia	122							134	91.0%
278 Surgical follow up	32							38	84.2%
279 General medicine, other	283	34	28					352	80.4%
280 Delirium								71	95.8%
281 Dementia	50							57	87.7%
282 Ear & upper respiratory infections	262	11	14					296	88.5%
283 Venous thrombosis	34		6					46	73.9%
284 Nutritional & metabolic disorders	283	30	20					340	83.2%
285 Viral illnesses	116							128	90.6%
286 Pain management	139	12	11					169	82.2%

41 Breast surgery	158	96	75			332	47.6%
411 Breast surgery	158	96	75			332	47.6%
42 Cardiothoracic surgery							100.0%
429 Cardiothoracic surgery, other							100.0%
43 Colorectal surgery	154	42				237	65.0%
432 Anal, stomal & pilonidal procedures	110	27				163	67.5%
439 Colorectal surgery, other	44	15	15			74	59.5%
44 Upper gastrointestinal surgery	155		48			253	61.3%
441 Cholecystectomy	137	41				214	64.0%
449 Upper gastrointestinal surgery, other	18		14			39	46.2%
46 Neurosurgery	494	14	39			562	87.9%
461 Head injury	31					37	83.8%
463 Neurosurgery – non-procedural	463					525	88.2%
47 Oral and maxillofacial surgery	225	86	24			341	66.0%
471 Dental extractions & restorations	146	77				242	60.3%
479 Oral and maxillofacial surgery	79	9				99	79.8%
48 Ear, nose & throat/head & neck	243	69	80			397	61.2%
481 Tonsillectomy & adenoidectomy	34		23			72	47.2%
482 Myringotomy w tube insertion	8					23	34.8%
483 Non-procedural ENT	136		9			153	88.9%
484 Head & neck surgery							0.0%
489 Procedural ENT, other	65		43			145	44.8%
49 Orthopaedics	767	208	258	13	6	1,268	60.5%
491 Injuries to limbs – medical	267	27	26	7		334	79.9%
492 Wrist & hand procedures incl carpal tunnel			26			78	46.2%
494 Knee procedures	45	31				105	42.9%
495 Orthopaedic surgery, other	147	76	110			342	43.0%
496 Hip replacement or revision, other	32	20	27			79	40.5%
497 Knee replacement or revision	46		32			107	43.0%
498 Hip fracture						19	89.5%
499 Non-surgical orthopaedics, other	177					204	86.8%
50 Ophthalmology	752	622	412	9		1,803	41.7%
502 Non-procedural ophthalmology	59	20				86	68.6%
503 Glaucoma & lens procedures	650	554	363			1,579	41.2%
509 Eye procedures, other	43	48				138	31.2%
51 Plastic & reconstructive surgery	158		94			344	45.9%
511 Microvascular tissue transfer or skin grafts	49					105	46.7%
512 Skin, subcutaneous tissue & breast procedures	91		61			211	43.1%
519 Plastic & reconstructive surgery, other	18					28	64.3%
52 Urology	1,156	427	435	21	11	2,065	56.0%
521 Cystourethroscopy	205	148	143			507	40.4%
522 Urinary stones & obstruction	366	27	39	10		452	81.0%
523 TURP	22	18	22			62	35.5%
525 Male reproductive system disorders	110	20	28			163	67.5%
526 Male reproductive system procedures	17	7	8			32	53.1%
527 Kidney & urinary tract signs, symptoms & disorders	222	44	21			292	76.0%

529 Urological procedures, other	214	163	174				557	38.4%
53 Vascular surgery	35						55	63.6%
531 Vein ligation & stripping			10				19	36.8%
532 Non-procedural vascular surgery incl skin ulcers							32	84.4%
533 Vascular angioplasty								0.0%
539 Vascular surgery, other								33.3%
54 General surgery	1,915	297	371	16	9	34	2,642	72.5%
542 Abdominal pain	725	46	60			17	857	84.6%
543 Appendicectomy	195		21				224	87.1%
544 Endocrine procedures	20						36	55.6%
545 Hernia procedures	110	58					211	52.1%
546 Post-operative infections & sequelae of treatment	134		25				173	77.5%
547 Major injuries	56						65	86.2%
548 Injuries, other	302	11	25			6	351	86.0%
549 General surgery, other	373	159	185				725	51.4%
62 Extensive burns								0.0%
621 Extensive burns								0.0%
63 Tracheostomy & ventilation	19						23	82.6%
631 Tracheostomy or ventilation	19						23	82.6%
71 Gynaecology	1,047	199	194			21	1,472	71.1%
711 Abortion w D&C, aspiration curettage or hysterotomy	107		16				130	82.3%
712 Endoscopic proc for female reproductive system	33	12	7				52	63.5%
713 Conisation, vagina, cervix & vulva proc	97	17					129	75.2%
714 Diagnostic curettage or hysteroscopy	118		34				184	64.1%
715 Hysterectomy	44		30				96	45.8%
717 Non-procedural gynaecology	381	48	40				480	79.4%
718 Gynaecological oncology							7	42.9%
719 Gynaecological surgery, other	264	69	51				394	67.0%
72 Obstetrics	2,176	95	179			22	2,479	87.8%
721 Antenatal admission							578	87.7%
722 Vaginal delivery	981	42	70			10	1,103	88.9%
723 Caesarean delivery	554	36	62				660	83.9%
724 Postnatal admission							138	97.1%
73 Qualified neonate	302	20	34				358	84.4%
731 Qualified neonate	302	20	34				358	84.4%
74 Unqualified neonate	1,342	72	110				1,526	87.9%
741 Unqualified neonate	1,342	72	110				1,526	87.9%
81 Drug & alcohol	461	30	21	7	8	35	562	82.0%
813 Poisoning or toxic effects of drugs & other substances	263	13				13	305	86.2%
814 Drug & alcohol dependence or withdrawal	88	6				6	105	83.8%
815 Drug & alcohol intoxication	110	11				16	152	72.4%
82 Acute mental health	142	14	10				175	81.1%
823 Mental health treatment, same day excl. ECT	68	7					82	82.9%
825 Psychotic disorders								66.7%
826 Affective disorders	13						20	65.0%
828 Anxiety disorders	38						43	88.4%

829 Acute mental health, other								33.3%		
881 Eating & obsessive-compulsive disorders							6	83.3%		
882 Personality disorders & acute reactions	15						18	83.3%		
83 Specialist mental health	525	199	19				13	762	68.9%	
839 Specialist mental health	525	199	19				13	762	68.9%	
85 Psychogeriatric									75.0%	
851 Psychogeriatric									75.0%	
86 Palliative care	257	191	31					483	53.2%	
861 Palliative care	257	191	31					483	53.2%	
87 Maintenance	361	25	31					428	84.3%	
871 Maintenance	361	25	31					428	84.3%	
92 Geriatric evaluation and management									39	94.9%
921 Geriatric evaluation and management									39	94.9%
99 Unallocated	53	15	8					76	69.7%	
999 Unallocated	53	15	8					76	69.7%	
Grand Total	27,001	4,137	4,010	232	164	405	35,949		75.1%	

#DIV/0!
#DIV/0!
#DIV/0!
#DIV/0!
#DIV/0!
#DIV/0!
#DIV/0!

T3 CPHB activity by NS SA3s

Year	2020-21
Hospital	1 Calvary public hospital
Hospital 2	(All)
Activity stream	(Multiple Items)
Stay type	(All)
ESRG V6 NSW	(All)
Place of residence: Grouped	(All)
Place of residence: ACT & SNSW SA3s	(All)
PPH Category	(All)
PPH type	(All)
Place of residence: Northside SA3s grouped	(All)
hith	(All)

Sum of Episodes	Column Labels									
	1 ACT: 80101 Belconnen	1 ACT: 80103 Canberra East	1 ACT: 80104 Gungahlin	1 ACT: 80105 North Canberra	1 ACT: 80110 Molonglo	1 ACT: Other SA3s	2 Southern NSW	3 NSW other	4 Interstate other	9 Other
11 Cardiology	1,494		760	519	10	116	259	32	24	35
111 Chest pain	697		394	243		40	113	14	8	18
112 Unstable angina	21		17							
113 Heart failure & shock	133		48	45		10	14			
114 Arrhythmia, cardiac arrest & conduction disorders	213		84	71		25	70			
115 AMI w/o invasive cardiac investigative procedure	109		52	23		7	14	6		
116 Syncope & collapse	153		68	63		10	21			
117 Coronary atherosclerosis	31		19							
118 Valvular disorders	72		43	23		10	9			
119 Cardiology, other	65		35	36		8	12			
13 Dermatology	55		32	16		13	23			
131 Dermatology	55		32	16		13	23			
14 Endocrinology	75		49	16		6	11			13
141 Diabetes	61		40							
149 Endocrinology, other	14		9							
15 Gastroenterology	1,444		813	510	11	261	358	27	31	35
151 Oesophagitis & gastroenteritis	261		169	103		19	37	8	13	
152 Complex endoscopy	184		114	65		88	77			
154 Cirrhosis, alcoholic hepatitis & other liver & gallbladder conditions	167		78	45		9	26			
155 Digestive malignancy	9		6							
156 Gastrointestinal haemorrhage	58		28							
157 Inflammatory bowel disease	207		110	45		87	110			
158 Gastrointestinal obstruction	59		21	26			6			
159 Gastroenterology, other	499		287	205		50	91	13	7	20
16 Diagnostic GI	546		327	169	13	213	194			
161 Diagnostic colonoscopy	336		184	113		131	130			
162 Diagnostic gastroscopy	210		143	56		82	64			
17 Haematology	203		104	67		63	35			
175 Lymphoma & leukaemia	14									
179 Haematology, other	189									
18 Immunology & infections	92		54	31		15	13			
181 Immunology	67		46	23						
184 Infectious diseases	25		8	8						

20 Chemotherapy	19		14						
201 Chemotherapy	19		14						
21 Neurology	966		670	373		263	261	13	17 34
211 Stroke	111		39	52			43		
212 TIA	50		15						
213 Seizures	73		45	45		14	24		9
214 Headache	173		147	65		14	23		8
215 Dysequilibrium	206		105	67		14	20		
216 Nervous system neoplasm	13		7						
217 Multiple sclerosis, cerebellar ataxia & degenerative nervous system disorders	151		189	52		89	92		
218 Cranial & peripheral nerve disorders	88		77	28		102	24		
219 Neurology, other	101		46	42		21	16		
22 Renal medicine	81		47	40		9	13		
221 Renal failure	41		21	19					
229 Renal medicine, other	40		26	21					
24 Respiratory medicine	773		336	256		50	93	14	8 23
241 Bronchitis & asthma	103		49	22			8		
242 Chronic obstructive airways disease	141		41	43			21		
243 Respiratory infections or inflammations	212		88	86		8	27		8
244 Bronchoscopy			6						
245 Respiratory neoplasms	20								
246 Pulmonary embolism	39		11	8			6		
247 Whooping cough & acute bronchiolitis									
248 Respiratory signs & symptoms	55		38	17		9			
249 Respiratory medicine, other	191		95	70		22	23		6
25 Rheumatology	122		86	47	6	78	26		
251 Rheumatology	122		86	47	6	78	26		
27 General medicine	1,467		759	538	21	183	193	28	26 54
271 Kidney & urinary tract infections	251		125	79	7	35	31		7
272 Cellulitis	209		104	78		23	24	8	14
275 Injuries – non-surgical	275		134	133		22	38	6	15
277 Septicaemia	76		18	28			8		
278 Surgical follow up	14		10	7					
279 General medicine, other	138		76	63		34	28		
280 Delirium	35		14	19					
281 Dementia	28		8	14					
282 Ear & upper respiratory infections	136		93	33		11	14		
283 Venous thrombosis	18		7	8			6		
284 Nutritional & metabolic disorders	133		104	41		30	20		6
285 Viral illnesses	64		38	14					
286 Pain management	90		28	21		12	11		
41 Breast surgery	80		47	25		96	75		
411 Breast surgery	80		47	25		96	75		
42 Cardiothoracic surgery									
429 Cardiothoracic surgery, other									
43 Colorectal surgery	62		60	29		42	39		
432 Anal, stomal & pilonidal procedures	40		47	20		27	24		
439 Colorectal surgery, other	22		13	9		15	15		
44 Upper gastrointestinal surgery	67		67	18		47	48		
441 Cholecystectomy	57					41	34		
449 Upper gastrointestinal surgery, other	10					6	14		
46 Neurosurgery	247		147	98		14	39		

63 Tracheostomy & ventilation	10			7					
631 Tracheostomy or ventilation	10			7					
71 Gynaecology	476		409	146	15	199	194	6	21
711 Abortion w D&C, aspiration curettage or hysterotomy	46		46	14		6	16		
712 Endoscopic proc for female reproductive system			13			12			
713 Conisation, vagina, cervix & vulva proc	46		30	18		17	13		
714 Diagnostic curettage or hysteroscopy	58		46	13		27	34		
715 Hysterectomy	16		27			20	30		
717 Non-procedural gynaecology	172		138	67		48	40		6
718 Gynaecological oncology									
719 Gynaecological surgery, other	123		109	27		69	51		7
72 Obstetrics	973		894	279	30	95	179		22
721 Antenatal admission	231		218	55					
722 Vaginal delivery	445		382	137	17	42	70		10
723 Caesarean delivery	241		239	67	7	36	62		
724 Postnatal admission	56		55	20					
73 Qualified neonate	144		112	38	8	20	34		
731 Qualified neonate	144		112	38	8	20	34		
74 Unqualified neonate	595		552	176	19	72	110		
741 Unqualified neonate	595		552	176	19	72	110		
81 Drug & alcohol	232		102	122		30	21	7	8 35
813 Poisoning or toxic effects of drugs & other substances	139		70	52		13	12		13
814 Drug & alcohol dependence or withdrawal	42		12	32		6			6
815 Drug & alcohol intoxication	51		20	38		11			16
82 Acute mental health	69		33	38		14	10		6
823 Mental health treatment, same day excl. ECT	34		17	16		7			
825 Psychotic disorders									
826 Affective disorders									
828 Anxiety disorders	21		9	8					
829 Acute mental health, other									
881 Eating & obsessive-compulsive disorders									
882 Personality disorders & acute reactions	7								
83 Specialist mental health	276		100	140	6	199	19		13
839 Specialist mental health	276		100	140	6	199	19		13
85 Psychogeriatric									
851 Psychogeriatric									
86 Palliative care	137		49	69		191	31		
861 Palliative care	137		49	69		191	31		
87 Maintenance	200		67	94		25	31		7
871 Maintenance	200		67	94		25	31		7
92 Geriatric evaluation and management	13		9	15					
921 Geriatric evaluation and management	13		9	15					
99 Unallocated	30		14	8		15	8		
999 Unallocated	30		14	8		15	8		
Grand Total	13,693	68	8,182	4,826	232	4,137	4,010	232	164 405

T4 Patient flows 2020-21

Year	2020-21
Hospital 2	(All)
Activity stream	(All)
Stay type	(All)
SRG V6 ACT	(All)
ESRG V6 ACT	(All)
ESRG V6 NSW	(All)
Place of residence: Grouped	(All)
Place of residence: Northside SA3s ungrouped	(All)
PPH Category	(All)
PPH type	(All)
hith	(All)

Sum of Episodes	Column Labels					4 ACT Private	5 Interstate public	
	1 Calvary public hospital	2 Canberra hospital	3 University of Canberra hospital					
Row Labels								
1 ACT: 80101 Belconnen	13,695	14,317	351	11,123	867	40,353		
1 ACT: 80103 Canberra East	68	412		68		592		
1 ACT: 80104 Gungahlin	8,182	9,097	202	6,376	643	24,500		
1 ACT: 80105 North Canberra	4,826	6,382	234	5,887	403	17,732		
1 ACT: 80106 South Canberra	597	5,760	74	5,549	300	12,280		
1 ACT: 80107 Tuggeranong	2,282	22,574	341	10,596	1,094	36,887		
1 ACT: 80108 Weston Creek	542	5,868	81	3,760	227	10,478		
1 ACT: 80109 Woden Valley	707	7,974	139	6,350	302	15,472		
1 ACT: 80110 Molonglo	232	1,703	48	453	76	2,512		
1 ACT: 80111 Urriarra - Namadgi	9	108		26		146		
1 ACT: 89999 No usual address (ACT)		10		496	334	840		
2 SNSW: 10102 Queanbeyan	1,269	7,881	96	5,992		15,238		
2 SNSW: 10103 Snowy Mountains	207	1,403	21	1,129		2,760		
2 SNSW: 10104 South Coast	482	3,651	16	2,776		6,925		
2 SNSW: 10105 Goulburn - Mulwaree	239	1,449	8	963		2,659		
2 SNSW: 10106 Young - Yass	1,667	2,843	28	2,454		6,992		
2 SNSW: 10302 Lachlan Valley	31	142		125		298		
2 SNSW: 10901 Albury	7	47		59		113		
2 SNSW: 11301 Griffith - Murrumbidgee (West)	27	139		64		230		
2 SNSW: 11302 Tumut - Tumbarumba	6	99		99		205		

Calvary as a % of :	
ACT public hospital acvity	All activity

48.3%	35.5%
14.1%	69.6%
46.8%	37.1%
42.2%	36.0%
9.3%	46.9%
9.1%	61.2%
8.4%	56.0%
8.0%	51.5%
11.7%	67.8%
7.6%	74.0%
0.0%	1.2%
13.7%	51.7%
12.7%	50.8%
11.6%	52.7%
14.1%	54.5%
36.7%	40.7%
17.9%	47.7%
13.0%	41.6%
16.3%	60.4%
5.7%	48.3%

2 SNSW: 11303 Wagga Wagga	47	416		328	792	10.1%	52.5%	
2 SNSW: 11401 Shoalhaven	28	118		158	304	19.2%	38.8%	
3 NSW other	232	822		582	1,637	22.0%	50.2%	
4 Interstate other	164	379		254	798	30.1%	47.5%	
9 Other	405	965	21	1,433	2,824	29.1%	34.2%	
Grand Total	35,951	94,559	1,668	67,100	4,289	203,567	27.2%	46.5%

T5 T6 NS SA3s by hosp

Year	2020-21
Hospital 2	(All)
Activity stream	(All)
Stay type	(All)
ESRG V6 NSW	(All)
Place of residence: Grouped	(All)
Place of residence: ACT & SNSW SA3s	(All)
Place of residence: Northside SA3s grouped	1 ACT: Northern SA3s
Place of residence: Northside SA3s ungrouped	(All)
PPH Category	(All)
PPH type	(All)
hith	(All)

Sum of Episodes	Column Labels					Total
	1 Calvary public hospital	2 Canberra hospital	3 University of Canberra hospital	4 ACT Private	5 Interstate public	
11 Cardiology	2,784	661		327	98	3,875
111 Chest pain	1,340	274		14	25	1,653
112 Unstable angina	45	9				58
113 Heart failure & shock	226	38		77		344
114 Arrhythmia, cardiac arrest & conduction disorders	368	71		140	12	591
115 AMI w/o invasive cardiac investigative procedure	185	16				216
116 Syncope & collapse	285	97		33	11	427
117 Coronary atherosclerosis	60	8		9		77
118 Valvular disorders	139	37		11	6	193
119 Cardiology, other	136	111		34	34	316
12 Interventional cardiology		544		723	30	1,297
121 Invasive cardiac investigative procedure		205		335		548
122 Percutaneous coronary angioplasty		234		283	18	535
123 Pacemaker procedures		74		78		154
129 Interventional cardiology, other		31		27		60
13 Dermatology	104	117		22		247
131 Dermatology	104	117		22		247
14 Endocrinology	141	105		8	11	265
141 Diabetes	117	57				183
149 Endocrinology, other	24	48				82
15 Gastroenterology	2,779	1,487		672	137	5,079
151 Oesophagitis & gastroenteritis	534	202		20	22	779
152 Complex endoscopy	367	62		378	55	862
154 Cirrhosis, alcoholic hepatitis & other liver & gallbladder conditions	293	176		28	13	511
155 Digestive malignancy	16	6				31
156 Gastrointestinal haemorrhage	106	48		9		168
157 Inflammatory bowel disease	363	528		142		1,036

Calvary as a % of :	
ACT public hospital activity	All activity
80.7%	17.1%
83.3%	16.6%
83.3%	15.5%
85.0%	11.0%
83.8%	12.0%
91.6%	7.4%
74.4%	22.7%
88.2%	10.4%
79.0%	19.2%
54.8%	35.1%
0.0%	41.9%
0.0%	37.4%
0.0%	43.7%
0.0%	48.1%
0.0%	51.7%
47.1%	47.4%
47.1%	47.4%
57.3%	39.6%
67.2%	31.1%
33.3%	58.5%
65.1%	29.3%
72.5%	25.9%
85.5%	7.2%
62.3%	34.4%
72.7%	19.4%
68.4%	28.6%

158 Gastrointestinal obstruction	106	52				165
159 Gastroenterology, other	994	413		85	34	1,527
16 Diagnostic GI	1,060	229		971	142	2,402
161 Diagnostic colonoscopy	640	84		641	77	1,442
162 Diagnostic gastroscopy	420	145		330	65	960
17 Haematology	378	560		378	95	1,412
174 Bone marrow transplant		13				14
175 Lymphoma & leukaemia	19	90		91	50	251
179 Haematology, other	359	457		287		1,147
18 Immunology & infections	177	80			14	274
181 Immunology	136	51				198
184 Infectious diseases	41	29				76
20 Chemotherapy	33	108		1,120	52	1,313
201 Chemotherapy	33	108		1,120	52	1,313
21 Neurology	2,015	1,135		148	99	3,399
211 Stroke	203	50		9	8	270
212 TIA	85	28				120
213 Seizures	163	138			20	325
214 Headache	385	167		48	10	610
215 Dysequilibrium	379	60		13	9	461
216 Nervous system neoplasm	22	31				63
217 Multiple sclerosis, cerebellar ataxia & degenerative nervous system disorders	396	255		13	16	680
218 Cranial & peripheral nerve disorders	193	266		33	13	505
219 Neurology, other	189	140		21	13	365
22 Renal medicine	170	156		121	8	455
221 Renal failure	81	49		12		146
229 Renal medicine, other	89	107		109		309
23 Renal dialysis		10,130		1,426	20	11,576
231 Renal dialysis		10,130		1,426	20	11,576
24 Respiratory medicine	1,370	757		364	86	2,580
241 Bronchitis & asthma	177	96			13	296
242 Chronic obstructive airways disease	225	22		26	8	281
243 Respiratory infections or inflammations	387	149		51	13	603
244 Bronchoscopy	13	23				44
245 Respiratory neoplasms	28	29		11		68
246 Pulmonary embolism	58	29		12		102
247 Whooping cough & acute bronchiolitis	15	81				98
248 Respiratory signs & symptoms	110	113		11	8	242
249 Respiratory medicine, other	357	215		242	32	846
25 Rheumatology	262	504		82	14	862
251 Rheumatology	262	504		82	14	862
27 General medicine	2,790	1,598	8	441	130	4,967
271 Kidney & urinary tract infections	462	164		58	8	695
272 Cellulitis	395	222		18	14	650
275 Injuries – non-surgical	544	271		15	15	846
277 Septicaemia	122	52		14	8	197

278 Surgical follow up	32	7		12		55
279 General medicine, other	283	398		181	54	917
280 Delirium	68	15				87
281 Dementia	50	17				72
282 Ear & upper respiratory infections	262	158			13	437
283 Venous thrombosis	34	17				54
284 Nutritional & metabolic disorders	283	137		38		460
285 Viral illnesses	116	70			8	195
286 Pain management	139	70		92		302
41 Breast surgery	158	18		205	15	396
411 Breast surgery	158	18		205	15	396
42 Cardiothoracic surgery		86		68	21	176
421 Coronary bypass		20		18		39
429 Cardiothoracic surgery, other		66		50		137
43 Colorectal surgery	154	167		180	32	533
432 Anal, stomal & pilonidal procedures	110	76		131	24	341
439 Colorectal surgery, other	44	91		49	8	192
44 Upper gastrointestinal surgery	155	244		259	25	683
441 Cholecystectomy	137	131		136	12	416
443 Bariatric procedures		7		90		97
449 Upper gastrointestinal surgery, other	18	106		33	13	170
46 Neurosurgery	494	322		577	41	1,434
461 Head injury	31	45			7	85
462 Craniotomy		90			8	102
463 Neurosurgery – non-procedural	463	117		390	17	987
469 Neurosurgery, other		70		181	9	260
47 Oral and maxillofacial surgery	225	291		1,099	15	1,630
471 Dental extractions & restorations	146	121		945	8	1,220
479 Oral and maxillofacial surgery	79	170		154	7	410
48 Ear, nose & throat/head & neck	243	514		1,085	39	1,881
481 Tonsillectomy & adenoidectomy	34	81		327		446
482 Myringotomy w tube insertion	8	16		118		142
483 Non-procedural ENT	136	182		44	13	375
484 Head & neck surgery		21		26		49
489 Procedural ENT, other	65	214		570	20	869
49 Orthopaedics	767	3,037		2,457	170	6,432
491 Injuries to limbs – medical	267	788		38	28	1,121
492 Wrist & hand procedures incl carpal tunnel	36	550		372	9	967
493 Hip replacement for trauma		43				45
494 Knee procedures	45	81		487	30	643
495 Orthopaedic surgery, other	147	1,149		1,040	70	2,406
496 Hip replacement or revision, other	32	108		208	6	354
497 Knee replacement or revision	46	72		240		363
498 Hip fracture	17	6				33
499 Non-surgical orthopaedics, other	177	240		61	21	500
50 Ophthalmology	752	214		1,626	59	2,651

502 Non-procedural ophthalmology	59	51	10	10	130
503 Glaucoma & lens procedures	650	74	1,127	17	1,868
509 Eye procedures, other	43	89	489	32	653
51 Plastic & reconstructive surgery	158	283	490	44	975
511 Microvascular tissue transfer or skin grafts	49	91	187	10	337
512 Skin, subcutaneous tissue & breast procedures	91	163	273	19	546
519 Plastic & reconstructive surgery, other	18	29	30	15	92
52 Urology	1,156	644	1,256	76	3,132
521 Cystourethroscopy	205	84	384	10	683
522 Urinary stones & obstruction	366	78	50	16	510
523 TURP	22	11	91		124
525 Male reproductive system disorders	110	76	86		276
526 Male reproductive system procedures	17	121	269		413
527 Kidney & urinary tract signs, symptoms & disorders	222	146	88	30	486
529 Urological procedures, other	214	128	288	10	640
53 Vascular surgery	35	342	144	20	542
531 Vein ligation & stripping		33	68	7	115
532 Non-procedural vascular surgery incl skin ulcers	27	49	11	6	94
533 Vascular angioplasty		148	31		182
539 Vascular surgery, other		112	34		151
54 General surgery	1,915	1,755	961	134	4,765
542 Abdominal pain	725	290	12	26	1,053
543 Appendicectomy	195	132	9	11	347
544 Endocrine procedures	20	37	52	12	121
545 Hernia procedures	110	91	329	15	545
546 Post-operative infections & sequelae of treatment	134	164	44		347
547 Major injuries	56	71	9		139
548 Injuries, other	302	827	54	24	1,207
549 General surgery, other	373	143	452	38	1,006
61 Transplantation				10	10
611 Transplantation				10	10
62 Extensive burns					6
621 Extensive burns					6
63 Tracheostomy & ventilation	19	52		14	86
631 Tracheostomy or ventilation	19	52		14	86
71 Gynaecology	1,047	596	1,400	199	3,242
711 Abortion w D&C, aspiration curettage or hysterotomy	107	149	54		315
712 Endoscopic proc for female reproductive system		25	88	35	181
713 Conisation, vagina, cervix & vulva proc	97	49	109	19	274
714 Diagnostic curettage or hysteroscopy	118	40	251	30	439
715 Hysterectomy	44	31	127		215
717 Non-procedural gynaecology	381	163	39	15	598
718 Gynaecological oncology		10	8	14	35
719 Gynaecological surgery, other	264	129	724	68	1,185
72 Obstetrics	2,176	1,594	620	70	4,460
721 Antenatal admission	507	299		30	957

722 Vaginal delivery	981	749	168	23	1,921	
723 Caesarean delivery	554	473	326		1,366	
724 Postnatal admission	134	73			216	
73 Qualified neonate	302	118	447	14	881	
731 Qualified neonate	302	118	447	14	881	
74 Unqualified neonate	1,342	1,079	67		2,488	
741 Unqualified neonate	1,342	1,079	67		2,488	
75 Perinatology		177		6	183	
751 Perinatology		177		6	183	
81 Drug & alcohol	461	448		13	925	
813 Poisoning or toxic effects of drugs & other substances	263	182		6	452	
814 Drug & alcohol dependence or withdrawal	88	217			312	
815 Drug & alcohol intoxication	110	49			161	
82 Acute mental health	142	94	37	9	282	
823 Mental health treatment, same day excl. ECT	68	34	16		120	
825 Psychotic disorders						
826 Affective disorders	13	11			30	
828 Anxiety disorders	38	16			57	
829 Acute mental health, other						
881 Eating & obsessive-compulsive disorders		16			22	
882 Personality disorders & acute reactions	15	11	14		43	
83 Specialist mental health	525	933	64	427	54	2,003
839 Specialist mental health	525	933	64	427	54	2,003
84 Rehabilitation		330	617	3,658		4,605
901 Rehabilitation – same day		24	238	3,417		3,679
902 Rehabilitation – overnight		306	379	241		926
85 Psychogeriatric		9				14
851 Psychogeriatric		9				14
86 Palliative care	257	66				327
861 Palliative care	257	66				327
87 Maintenance	361	162	126			649
871 Maintenance	361	162	126			649
92 Geriatric evaluation and management	37	61		6		105
921 Geriatric evaluation and management	37	61		6		105
99 Unallocated	55	101		27	7	190
999 Unallocated	55	101		27	7	190
Grand Total	27,003	31,911	838	23,907	2,030	85,689

T6A NS SA3s trends

Hospital	(All)
Hospital 2	(All)
Activity stream	(Multiple Items)
Stay type	(All)
ESRG V6 NSW	(All)
Place of residence: Grouped	(All)
Place of residence: ACT & SNSW SA3s	(All)
Place of residence: Northside SA3s grouped	1 ACT: Northern SA3s
Place of residence: Northside SA3s ungrouped	(All)
PPH Category	(All)
PPH type	(All)
hith	(All)

Sum of Episodes	Column Labels									
Row Labels	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
11 Cardiology	2,133	2,192	2,350	2,411	2,647	2,896	2,999	3,127	3,168	3,875
111 Chest pain	715	718	872	847	1,015	1,142	1,239	1,311	1,260	1,653
112 Unstable angina	86	78	78	78	76	73	50	58	55	58
113 Heart failure & shock	264	273	238	263	342	310	327	306	311	344
114 Arrhythmia, cardiac arrest & conduction disorders	429	421	415	442	424	485	495	498	582	591
115 AMI w/o invasive cardiac investigative procedure	150	172	167	171	157	136	139	175	156	216
116 Syncope & collapse	224	257	270	289	279	322	344	337	333	427
117 Coronary atherosclerosis	50	56	53	60	75	64	77	79	73	77
118 Valvular disorders	61	59	74	97	92	133	138	127	143	193
119 Cardiology, other	154	158	183	164	187	231	190	236	255	316
12 Interventional cardiology	893	986	1,035	1,030	1,109	1,020	931	1,118	1,155	1,297
121 Invasive cardiac investigative procedure	421	500	493	487	563	524	402	528	545	548
122 Percutaneous coronary angioplasty	324	347	368	368	370	332	331	394	416	535
123 Pacemaker procedures	123	115	143	143	147	141	155	159	145	154
129 Interventional cardiology, other	25	24	31	32	29	23	43	37	49	60
13 Dermatology	235	271	241	294	247	253	258	223	223	247
131 Dermatology	235	271	241	294	247	253	258	223	223	247
14 Endocrinology	270	243	225	210	228	253	261	264	287	265
141 Diabetes	169	132	136	137	152	185	201	170	181	183
149 Endocrinology, other	101	111	89	73	76	68	60	94	106	82
15 Gastroenterology	2,444	2,519	2,834	2,950	3,392	3,643	4,195	4,518	4,453	5,079
151 Oesophagitis & gastroenteritis	369	413	425	423	467	625	619	736	677	779
152 Complex endoscopy	499	513	562	552	612	520	746	783	720	862
154 Cirrhosis, alcoholic hepatitis & other liver & gallbladder conditions	381	352	424	432	416	407	500	448	456	511
155 Digestive malignancy	50	53	46	46	62	56	48	46	41	31
156 Gastrointestinal haemorrhage	80	79	88	87	101	92	102	124	162	168
157 Inflammatory bowel disease	321	389	451	450	664	794	936	1,023	1,093	1,036
158 Gastrointestinal obstruction	112	93	85	134	134	176	160	197	164	165
159 Gastroenterology, other	632	627	753	826	936	973	1,084	1,161	1,140	1,527
16 Diagnostic GI	1,443	1,578	1,566	1,679	1,742	1,459	1,854	2,048	2,085	2,402
161 Diagnostic colonoscopy	912	1,006	1,018	1,136	1,154	977	1,248	1,306	1,374	1,442
162 Diagnostic gastroscopy	531	572	548	543	588	482	606	742	711	960
17 Haematology	1,081	1,043	1,107	1,086	1,194	1,147	1,221	1,413	1,405	1,412
174 Bone marrow transplant	12	7	6	16	6	9	8	13	14	14

Compound annual growth rate	
2011-12 to 2020-21	2015-16 to 2020-21
6.9%	7.9%
9.8%	10.2%
-4.3%	-5.3%
3.0%	0.1%
3.6%	6.9%
4.1%	6.6%
7.4%	8.9%
4.9%	0.5%
13.7%	16.0%
8.3%	11.1%
4.2%	3.2%
3.0%	-0.5%
5.7%	7.7%
2.5%	0.9%
10.2%	15.7%
0.6%	0.0%
-0.2%	3.1%
0.9%	3.8%
-2.3%	1.5%
8.5%	8.4%
8.7%	10.8%
6.3%	7.1%
3.3%	4.2%
-5.2%	-12.9%
8.6%	10.7%
13.9%	9.3%
4.4%	4.2%
10.3%	10.3%
5.8%	6.6%
5.2%	4.6%
6.8%	10.3%
3.0%	3.4%
1.7%	18.5%

175 Lymphoma & leukaemia	179	157	144	146	189	172	205	276	326	251	3.8%	5.8%
179 Haematology, other	890	879	957	924	999	966	1,008	1,124	1,065	1,147	2.9%	2.8%
18 Immunology & infections	55	79	72	91	107	139	144	197	251	274	19.5%	20.7%
181 Immunology	31	32	42	51	62	94	96	112	154	198	22.9%	26.1%
184 Infectious diseases	24	47	30	40	45	45	48	85	97	76	13.7%	11.1%
20 Chemotherapy	1,470	1,599	1,732	1,677	1,873	1,549	1,643	1,491	1,466	1,313	-1.2%	-6.9%
201 Chemotherapy	1,470	1,599	1,732	1,677	1,873	1,549	1,643	1,491	1,466	1,313	-1.2%	-6.9%
21 Neurology	1,638	1,512	1,631	1,799	1,718	2,012	2,251	2,622	2,756	3,399	8.4%	14.6%
211 Stroke	197	172	211	195	209	242	237	233	242	270	3.6%	5.3%
212 TIA	121	83	95	97	61	73	66	84	90	120	-0.1%	14.5%
213 Seizures	234	216	221	226	240	282	284	306	300	325	3.7%	6.3%
214 Headache	240	196	223	287	307	340	420	434	452	610	10.9%	14.7%
215 Dysequilibrium	125	124	155	172	167	259	285	317	292	461	15.6%	22.5%
216 Nervous system neoplasm	49	37	38	36	31	38	42	76	54	63	2.8%	15.2%
217 Multiple sclerosis, cerebellar ataxia & degenerative nervous system disorders	342	318	298	347	295	271	346	455	570	680	7.9%	18.2%
218 Cranial & peripheral nerve disorders	157	158	195	225	203	286	304	420	477	505	13.9%	20.0%
219 Neurology, other	173	208	195	214	205	221	267	297	279	365	8.6%	12.2%
22 Renal medicine	395	401	361	393	415	380	374	382	406	455	1.6%	1.9%
221 Renal failure	61	77	77	81	102	95	82	91	103	146	10.2%	7.4%
229 Renal medicine, other	334	324	284	312	313	285	292	291	303	309	-0.9%	-0.3%
23 Renal dialysis	11,263	10,384	10,389	9,978	10,019	10,425	10,593	11,285	11,103	11,576	0.3%	2.9%
231 Renal dialysis	11,263	10,384	10,389	9,978	10,019	10,425	10,593	11,285	11,103	11,576	0.3%	2.9%
24 Respiratory medicine	2,051	1,954	2,150	2,288	2,356	2,652	2,663	2,867	2,803	2,580	2.6%	1.8%
241 Bronchitis & asthma	235	232	281	287	254	285	278	277	262	296	2.6%	3.1%
242 Chronic obstructive airways disease	334	316	302	335	355	368	350	284	345	281	-1.9%	-4.6%
243 Respiratory infections or inflammations	578	488	577	701	747	781	769	767	783	603	0.5%	-4.2%
244 Bronchoscopy	70	62	53	27	29	29	23	43	30	44	-5.0%	8.7%
245 Respiratory neoplasms	64	56	75	46	54	65	50	69	60	68	0.7%	4.7%
246 Pulmonary embolism	79	105	87	87	79	93	103	113	137	102	2.9%	5.2%
247 Whooping cough & acute bronchiolitis	99	99	138	71	66	111	113	88	92	98	-0.1%	8.2%
248 Respiratory signs & symptoms	66	96	107	107	103	168	181	227	183	242	15.5%	18.6%
249 Respiratory medicine, other	526	500	530	627	669	752	796	999	911	846	5.4%	4.8%
25 Rheumatology	459	527	609	711	804	857	891	919	819	862	7.3%	1.4%
251 Rheumatology	459	527	609	711	804	857	891	919	819	862	7.3%	1.4%
27 General medicine	2,644	2,695	2,983	3,106	3,417	4,071	4,159	4,499	4,486	4,967	7.3%	7.8%
271 Kidney & urinary tract infections	471	465	484	469	488	507	549	612	644	695	4.4%	7.3%
272 Cellulitis	398	395	453	496	479	544	581	685	556	650	5.6%	6.3%
275 Injuries – non-surgical	308	314	346	360	382	569	553	623	682	846	11.9%	17.2%
277 Septicaemia	86	111	137	149	215	225	201	217	184	197	9.6%	-1.7%
278 Surgical follow up	16	22	19	20	31	45	75	87	62	55	14.7%	12.2%
279 General medicine, other	611	590	630	681	782	819	739	865	909	917	4.6%	3.2%
280 Delirium	46	63	57	74	82	82	73	69	65	87	7.3%	1.2%
281 Dementia	26	29	43	51	48	52	54	69	54	72	12.0%	8.4%
282 Ear & upper respiratory infections	246	229	280	314	321	450	477	470	482	437	6.6%	6.4%
283 Venous thrombosis	67	84	64	47	33	38	46	40	40	54	-2.4%	10.4%
284 Nutritional & metabolic disorders	193	210	243	220	325	407	357	307	375	460	10.1%	7.2%
285 Viral illnesses	87	107	144	117	132	212	286	251	217	195	9.4%	8.1%
286 Pain management	89	76	83	108	99	121	168	204	216	302	14.5%	25.0%
41 Breast surgery	289	287	301	320	325	302	370	387	368	396	3.6%	4.0%
411 Breast surgery	289	287	301	320	325	302	370	387	368	396	3.6%	4.0%
42 Cardiothoracic surgery	154	142	168	131	150	142	136	174	179	176	1.5%	3.2%
421 Coronary bypass	54	38	50	34	48	49	38	57	48	39	-3.6%	-4.1%
429 Cardiothoracic surgery, other	100	104	118	97	102	93	98	117	131	137	3.6%	6.1%

43 Colorectal surgery	361	399	361	343	388	375	387	417	464	533		
432 Anal, stomal & pilonidal procedures	182	203	191	175	191	213	224	237	272	341	4.4%	6.6%
439 Colorectal surgery, other	179	196	170	168	197	162	163	180	192	192	7.2%	12.3%
44 Upper gastrointestinal surgery	508	498	530	548	520	536	612	644	705	683	0.8%	-0.5%
441 Cholecystectomy	321	300	328	361	356	337	387	420	412	416	3.3%	5.6%
443 Bariatric procedures	74	77	72	70	77	79	98	103	103	97	2.9%	3.2%
449 Upper gastrointestinal surgery, other	113	121	130	117	87	120	127	121	190	170	3.1%	4.7%
46 Neurosurgery	704	701	786	849	893	899	988	1,140	1,147	1,434	4.6%	14.3%
461 Head injury	51	50	64	55	61	66	58	76	74	85	8.2%	9.9%
462 Craniotomy	62	51	61	74	54	80	86	106	105	102	5.8%	6.9%
463 Neurosurgery – non-procedural	437	439	485	534	594	575	669	764	752	987	5.7%	13.6%
469 Neurosurgery, other	154	161	176	186	184	178	175	194	216	260	9.5%	10.7%
47 Oral and maxillofacial surgery	770	799	843	897	990	966	1,133	1,315	1,214	1,630	6.0%	7.2%
471 Dental extractions & restorations	531	565	613	663	736	713	812	949	881	1,220	8.7%	10.5%
479 Oral and maxillofacial surgery	239	234	230	234	254	253	321	366	333	410	9.7%	10.6%
48 Ear, nose & throat/head & neck	1,512	1,477	1,572	1,651	1,798	1,850	1,872	1,788	1,635	1,881	6.2%	10.0%
481 Tonsillectomy & adenoidectomy	459	432	440	458	518	461	554	485	397	446	2.5%	0.9%
482 Myringotomy w tube insertion	239	215	241	266	297	297	253	232	190	142	-0.3%	-2.9%
483 Non-procedural ENT	182	169	195	211	210	244	265	253	289	375	8.4%	12.3%
484 Head & neck surgery	20	17	24	21	22	48	36	49	42	49	10.5%	17.4%
489 Procedural ENT, other	612	644	672	695	751	800	764	769	717	869	4.0%	3.0%
49 Orthopaedics	4,341	4,467	4,417	4,718	4,927	4,816	5,213	5,760	5,435	6,432	4.5%	5.5%
491 Injuries to limbs – medical	555	606	543	628	601	721	845	1,021	786	1,121	8.1%	13.3%
492 Wrist & hand procedures incl carpal tunnel	568	587	600	608	726	674	751	830	892	967	6.1%	5.9%
493 Hip replacement for trauma	35	40	30	36	33	40	38	35	37	45	2.8%	6.4%
494 Knee procedures	539	594	617	637	694	565	606	634	608	643	2.0%	-1.5%
495 Orthopaedic surgery, other	1,811	1,843	1,829	1,890	2,061	2,012	2,016	2,243	2,101	2,406	3.2%	3.1%
496 Hip replacement or revision, other	239	221	232	267	220	214	280	248	316	354	4.5%	10.0%
497 Knee replacement or revision	309	299	310	330	313	243	285	290	286	363	1.8%	3.0%
498 Hip fracture	19	19	18	28	25	32	29	31	21	33	6.3%	5.7%
499 Non-surgical orthopaedics, other	266	258	238	294	254	315	363	428	388	500	7.3%	14.5%
50 Ophthalmology	1,268	1,396	1,539	1,568	1,561	1,404	1,789	1,920	1,841	2,651	8.5%	11.2%
502 Non-procedural ophthalmology	65	59	68	85	89	111	98	129	118	130	8.0%	7.9%
503 Glaucoma & lens procedures	905	1,036	1,132	1,117	1,127	950	1,333	1,387	1,337	1,868	8.4%	10.6%
509 Eye procedures, other	298	301	339	366	345	343	358	404	386	653	9.1%	13.6%
51 Plastic & reconstructive surgery	771	799	865	915	1,075	962	1,024	1,063	925	975	2.6%	-1.9%
511 Microvascular tissue transfer or skin grafts	219	261	266	282	334	317	315	355	349	337	4.9%	0.2%
512 Skin, subcutaneous tissue & breast procedures	499	491	551	581	675	581	662	628	496	546	1.0%	-4.2%
519 Plastic & reconstructive surgery, other	53	47	48	52	66	64	47	80	80	92	6.3%	6.9%
52 Urology	1,584	1,836	1,968	2,138	2,302	2,335	2,645	2,702	2,731	3,132	7.9%	6.4%
521 Cystourethroscopy	300	370	397	452	473	502	549	645	626	683	9.6%	7.6%
522 Urinary stones & obstruction	220	231	282	313	332	375	434	397	439	510	9.8%	9.0%
523 TURP	83	96	88	99	89	96	148	128	101	124	4.6%	6.9%
525 Male reproductive system disorders	129	133	138	149	172	180	225	201	216	276	8.8%	9.9%
526 Male reproductive system procedures	205	225	229	224	272	275	331	383	374	413	8.1%	8.7%
527 Kidney & urinary tract signs, symptoms & disorders	268	328	361	375	392	415	439	396	440	486	6.8%	4.4%
529 Urological procedures, other	379	453	473	526	572	492	519	552	535	640	6.0%	2.3%
53 Vascular surgery	369	363	393	411	393	428	451	448	583	542	4.4%	6.6%
531 Vein ligation & stripping	116	132	114	101	135	133	99	111	101	115	-0.1%	-3.2%
532 Non-procedural vascular surgery incl skin ulcers	61	45	63	68	72	86	101	87	127	94	4.9%	5.5%
533 Vascular angioplasty	69	80	100	94	79	86	121	126	174	182	11.4%	18.2%
539 Vascular surgery, other	123	106	116	148	107	123	130	124	181	151	2.3%	7.1%
54 General surgery	2,638	2,677	2,896	2,951	3,252	3,344	3,663	3,703	3,722	4,765	6.8%	7.9%

542 Abdominal pain	444	483	527	533	649	675	691	686	715	1,053	10.1%	10.2%
543 Appendectomy	287	250	262	311	288	300	325	328	353	347	2.1%	3.8%
544 Endocrine procedures	63	63	58	69	75	67	86	114	98	121	7.5%	10.0%
545 Hernia procedures	444	444	498	443	481	421	525	499	452	545	2.3%	2.5%
546 Post-operative infections & sequelae of treatment	169	197	239	237	238	296	277	229	239	347	8.3%	7.8%
547 Major injuries	62	50	69	54	76	66	87	87	104	139	9.4%	12.8%
548 Injuries, other	363	398	406	435	524	584	663	762	831	1,207	14.3%	18.2%
549 General surgery, other	806	792	837	869	921	935	1,009	998	930	1,006	2.5%	1.8%
61 Transplantation									9	17	29.2%	58.5%
611 Transplantation									9	17	29.2%	58.5%
62 Extensive burns			6	7	10	6		9		6	2.0%	-9.7%
621 Extensive burns			6	7	10	6		9		6	2.0%	-9.7%
63 Tracheostomy & ventilation	51	52	53	63	44	42	62	68	64	86	6.0%	14.3%
631 Tracheostomy or ventilation	51	52	53	63	44	42	62	68	64	86	6.0%	14.3%
71 Gynaecology	1,891	2,002	2,060	2,236	2,402	2,398	2,529	2,855	2,736	3,242	6.2%	6.2%
711 Abortion w D&C, aspiration curettage or hysterotomy	215	216	234	244	251	248	277	229	247	315	4.3%	4.6%
712 Endoscopic proc for female reproductive system	87	112	116	118	108	112	94	168	136	181	8.5%	10.9%
713 Conisation, vagina, cervix & vulva proc	185	182	193	213	211	225	228	252	248	274	4.5%	5.4%
714 Diagnostic curettage or hysteroscopy	231	266	275	292	313	320	346	374	371	439	7.4%	7.0%
715 Hysterectomy	123	145	142	153	150	133	143	190	138	215	6.4%	7.5%
717 Non-procedural gynaecology	254	232	234	258	327	416	440	473	493	598	10.0%	12.8%
718 Gynaecological oncology	35	29	31	31	29	34	37	43	43	35	0.0%	3.8%
719 Gynaecological surgery, other	761	820	835	927	1,013	910	964	1,126	1,060	1,185	5.0%	3.2%
72 Obstetrics	3,469	3,709	3,930	4,231	4,214	4,236	4,429	4,355	4,334	4,460	2.8%	1.1%
721 Antenatal admission	538	517	561	603	611	734	853	889	864	957	6.6%	9.4%
722 Vaginal delivery	1,749	1,967	2,103	2,197	2,211	2,191	2,105	2,070	2,100	1,921	1.0%	-2.8%
723 Caesarean delivery	905	971	1,004	1,110	1,071	1,041	1,110	1,119	1,184	1,366	4.7%	5.0%
724 Postnatal admission	277	254	262	321	321	270	361	277	186	216	-2.7%	-7.6%
73 Qualified neonate	690	624	576	731	681	660	686	486	451	881	2.8%	5.3%
731 Qualified neonate	690	624	576	731	681	660	686	486	451	881	2.8%	5.3%
74 Unqualified neonate	2,307	2,527	2,745	2,942	2,983	2,689	2,720	2,859	2,857	2,488	0.8%	-3.6%
741 Unqualified neonate	2,307	2,527	2,745	2,942	2,983	2,689	2,720	2,859	2,857	2,488	0.8%	-3.6%
75 Perinatology	55	118	112	163	144	193	215	140	168	183	14.3%	4.9%
751 Perinatology	55	118	112	163	144	193	215	140	168	183	14.3%	4.9%
81 Drug & alcohol	524	549	575	657	696	797	751	774	849	925	6.5%	5.9%
813 Poisoning or toxic effects of drugs & other substances	229	242	269	297	351	374	384	368	407	452	7.8%	5.2%
814 Drug & alcohol dependence or withdrawal	214	243	251	278	262	313	261	284	284	312	4.3%	3.6%
815 Drug & alcohol intoxication	81	64	55	82	83	110	106	122	158	161	7.9%	14.2%
82 Acute mental health	139	104	105	121	152	483	504	315	250	282	8.2%	13.2%
823 Mental health treatment, same day excl. ECT	70	39	42	55	55	226	287	157	102	120	6.2%	16.9%
824 Mental health treatment, same day incl. ECT					8	109	29	6	8			
825 Psychotic disorders	8					10	18	18	8		-3.1%	24.6%
826 Affective disorders	16	21	19	10	27	49	89	39	39	30	7.2%	2.1%
828 Anxiety disorders	19	16	19	21	30	38	35	29	45	57	13.0%	13.7%
829 Acute mental health, other	7				14	9	9	10	12		-6.0%	-22.2%
881 Eating & obsessive-compulsive disorders	8	7	7	7		11	12	24	19	22	11.9%	25.7%
882 Personality disorders & acute reactions	11	9	10	15	9	31	25	32	17	43	16.4%	36.7%
83 Specialist mental health	1,000	1,023	992	957	1,255	1,181	1,285	1,584	1,918	2,003	8.0%	9.8%
839 Specialist mental health	1,000	1,023	992	957	1,255	1,181	1,285	1,584	1,918	2,003	8.0%	9.8%
84 Rehabilitation	2,384	2,582	3,389	3,737	4,041	3,376	4,212	4,380	3,936	4,605	7.6%	2.6%
901 Rehabilitation – same day	2,140	2,324	2,749	2,993	3,203	2,561	3,492	3,546	3,033	3,679	6.2%	2.8%
902 Rehabilitation – overnight	244	258	640	744	838	815	720	834	903	926	16.0%	2.0%
85 Psychogeriatric	10	10			9	9				14	3.8%	9.2%

851 Psychogeriatric	10	10			9	9					3.8%	9.2%
86 Palliative care	937	1,146	236	260	318	335	383	409	346	327	-11.0%	0.6%
861 Palliative care	937	1,146	236	260	318	335	383	409	346	327	-11.0%	0.6%
87 Maintenance	503	236	298	351	459	426	367	408	482	649	2.9%	7.2%
871 Maintenance	503	236	298	351	459	426	367	408	482	649	2.9%	7.2%
92 Geriatric evaluation and management	429	572	60	64	89	100	94	74	91	105	-14.5%	3.4%
921 Geriatric evaluation and management	429	572	60	64	89	100	94	74	91	105	-14.5%	3.4%
99 Unallocated	110	120	127	132	156	187	143	160	176	184	5.9%	3.4%
999 Unallocated	110	120	127	132	156	187	143	160	176	184	5.9%	3.4%
Grand Total	58,248	59,204	61,193	63,799	67,496	68,233	73,109	77,323	76,500	85,683	4.4%	4.9%

T7 PPH at CPHB

Hospital	1 Calvary public hospital
Hospital 2	(All)
Activity stream	(Multiple Items)
SRG V6 ACT	(All)
ESRG V6 ACT	(All)
ESRG V6 NSW	(All)
Place of residence: Grouped	(All)
Place of residence: ACT & SNSW SA3s	(All)
Place of residence: Northside SA3s grouped	(All)
Place of residence: Northside SA3s ungrouped	(All)
PPH type	(All)
hith	(All)

Column Labels	Row Labels									
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
1										
1 Vaccine preventable										
Sum of Episodes	6		20	27	19	25	52	48	79	26
Sum of Patient days	6		20	27	19	25	52	48	79	26
2 Acute										
Sum of Episodes	319	291	326	344	369	434	488	528	472	659
Sum of Patient days	319	291	326	344	369	434	488	528	472	659
3 Chronic										
Sum of Episodes	270		277	309	296	337	368	370	414	496
Sum of Patient days	270		277	309	296	337	368	370	414	496
9 Not a PPH										
Sum of Episodes	8,622	9,268	10,211	10,747	11,367	12,795	13,395	13,714	13,516	17,069
Sum of Patient days	8,622	9,268	10,211	10,747	11,367	12,795	13,395	13,714	13,516	17,069
1 Sum of Episodes	9,217	9,826	10,834	11,427	12,051	13,591	14,303	14,660	14,481	18,250
1 Sum of Patient days	9,217	9,826	10,834	11,427	12,051	13,591	14,303	14,660	14,481	18,250
2										
1 Vaccine preventable										
Sum of Episodes	38	52	77	112	124	151	251	178	253	66
Sum of Patient days	259	391	454	625	649	865	1,203	1,116	1,619	435
2 Acute										
Sum of Episodes	830	745	721	884	846	833	881	996	913	959
Sum of Patient days	4,562	3,727	3,801	3,872	3,582	3,620	3,740	4,138	4,073	4,405
3 Chronic										
Sum of Episodes	910	814	741	854	989	1,027	949	885	893	876

Compound annual growth rate	
2011-12 to 2020-21	2015-16 to 2020-21

17.7%	6.5%
17.7%	6.5%
8.4%	12.3%
8.4%	12.3%
7.0%	10.9%
7.0%	10.9%
7.9%	8.5%
7.9%	8.5%
7.9%	8.7%
7.9%	8.7%
6.3%	-11.8%
5.9%	-7.7%
1.6%	2.5%
-0.4%	4.2%
-0.4%	-2.4%

Sum of Patient days	5,343	5,164	4,679	4,528	5,156	5,954	5,135	4,327	4,799	4,451	-2.0%	-2.9%
9 Not a PPH												
Sum of Episodes	12,287	12,029	12,299	12,961	13,689	13,709	13,523	14,162	13,851	15,798	2.8%	2.9%
Sum of Patient days	69,693	69,879	70,121	56,159	57,337	66,220	64,585	64,558	66,908	71,521	0.3%	4.5%
2 Sum of Episodes	14,065	13,640	13,838	14,811	15,648	15,720	15,604	16,221	15,910	17,699	2.6%	2.5%
2 Sum of Patient days	79,857	79,161	79,055	65,184	66,724	76,659	74,663	74,139	77,399	80,812	0.1%	3.9%
Total Sum of Episodes	23,282	23,466	24,672	26,238	27,699	29,311	29,907	30,881	30,391	35,949	4.9%	5.4%
Total Sum of Patient days	89,074	88,987	89,889	76,611	78,775	90,250	88,966	88,799	91,880	99,062	1.2%	4.7%

T8 ALOS at CPHB

Hospital	1 Calvary public hospital
Hospital 2	(All)
Activity stream	(Multiple Items)
Stay type	2
ESRG V6 NSW	(All)
Place of residence: Grouped	(All)
Place of residence: ACT & SNSW SA3s	(All)
Place of residence: Northside SA3s grouped	(All)
Place of residence: Northside SA3s ungrouped	(All)
PPH Category	(All)
PPH type	(All)
hith	(All)

Sum of ALOS	Column Labels										
Row Labels	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	
11 Cardiology	4.05	4.17	3.79	3.55	3.62	3.71	3.72	3.31	3.55	3.20	
111 Chest pain	2.06	1.40	1.49	1.61	1.62	1.36	1.65	1.31	1.26	1.41	
112 Unstable angina	2.16	2.40	2.34	2.42	1.90	2.61	2.17	2.37	1.42	2.00	
113 Heart failure & shock	7.80	6.63	6.95	6.60	6.11	6.28	6.27	5.72	6.38	6.00	
114 Arrhythmia, cardiac arrest & conduction disorders	4.45	4.28	3.81	3.11	2.88	2.76	2.75	2.11	2.47	2.40	
115 AMI w/o invasive cardiac investigative procedure	3.87	3.39	3.76	3.82	3.72	3.06	2.87	2.45	2.26	2.48	
116 Syncope & collapse	3.20	3.67	3.15	2.77	2.10	2.96	2.81	2.97	3.35	3.09	
117 Coronary atherosclerosis	2.46	2.74	2.32	2.35	3.69	2.46	1.74	3.35	2.33	1.42	
118 Valvular disorders	3.50	3.68	3.70	2.46	3.52	2.00	2.05	3.31	2.25	2.53	
119 Cardiology, other	4.97	8.83	7.49	5.08	6.49	7.35	8.95	7.12	8.42	6.63	
12 Interventional cardiology	-	3.00	3.50	-	-	-	-	-	-	-	
129 Interventional cardiology, other	-	3.00	3.50	-	-	-	-	-	-	-	
13 Dermatology	3.36	4.46	4.09	4.00	2.97	3.35	3.11	2.56	3.27	3.88	
131 Dermatology	3.36	4.46	4.09	4.00	2.97	3.35	3.11	2.56	3.27	3.88	
14 Endocrinology	6.02	5.67	4.65	4.10	5.09	3.87	3.85	3.76	4.31	4.94	
141 Diabetes	5.65	5.36	4.85	4.06	5.04	3.57	3.81	3.65	4.05	4.18	
149 Endocrinology, other	7.90	6.43	4.00	4.20	5.20	4.94	4.04	4.24	5.62	9.83	
15 Gastroenterology	4.92	4.48	4.23	3.45	3.57	3.41	3.09	3.21	3.81	3.62	
151 Oesophagitis & gastroenteritis	3.41	3.58	2.74	2.47	2.98	2.55	2.22	2.73	2.93	2.33	
152 Complex endoscopy	8.14	8.07	8.95	5.15	7.96	5.81	5.71	6.69	5.26	7.07	
154 Cirrhosis, alcoholic hepatitis & other liver & gallbladder conditions	7.32	5.75	5.26	4.06	4.45	4.58	3.68	3.66	5.93	5.19	
155 Digestive malignancy	5.00	4.63	4.00	5.44	4.00	6.04	4.85	6.46	5.18	9.07	
156 Gastrointestinal haemorrhage	4.76	4.34	3.80	3.14	2.75	3.73	3.88	2.61	4.06	3.89	
157 Inflammatory bowel disease	7.20	3.63	3.94	3.60	4.53	3.58	3.69	5.00	4.19	4.21	
158 Gastrointestinal obstruction	3.92	3.08	4.62	3.70	2.52	2.71	2.83	3.01	2.60	3.17	
159 Gastroenterology, other	4.02	4.10	3.72	3.20	3.21	2.96	2.78	2.85	3.43	3.22	
16 Diagnostic GI	6.26	5.93	5.14	4.73	4.79	6.00	4.43	5.13	5.61	5.03	
161 Diagnostic colonoscopy	6.89	7.45	5.90	5.60	4.72	5.42	4.18	6.14	6.20	5.31	
162 Diagnostic gastroscopy	5.91	5.10	4.52	4.12	4.85	6.24	4.58	4.54	5.20	4.88	
17 Haematology	4.91	5.62	5.64	5.01	3.69	4.31	4.88	4.53	5.18	4.10	
175 Lymphoma & leukaemia	4.77	10.44	10.31	8.71	4.54	4.06	7.15	6.47	8.61	6.08	
179 Haematology, other	4.93	5.12	4.90	4.50	3.61	4.34	4.63	4.24	4.67	3.93	
18 Immunology & infections	7.13	4.14	6.35	5.54	5.98	6.56	5.62	8.03	9.37	7.46	

Compound annual growth rate		
	2011-12 to 2020-21	2015-16 to 2020-21
	-2.6%	-2.4%
	-4.1%	-2.8%
	-0.9%	1.0%
	-2.9%	-0.3%
	-6.6%	-3.6%
	-4.8%	-7.8%
	-0.4%	8.0%
	-5.9%	-17.4%
	-3.6%	-6.4%
	3.2%	0.4%
	1.6%	5.5%
	1.6%	5.5%
	-2.2%	-0.6%
	-3.3%	-3.7%
	2.5%	13.6%
	-3.4%	0.3%
	-4.1%	-4.8%
	-1.5%	-2.3%
	-3.8%	3.1%
	6.8%	17.8%
	-2.2%	7.1%
	-5.8%	-1.4%
	-2.3%	4.7%
	-2.4%	0.1%
	-2.4%	1.0%
	-2.8%	2.4%
	-2.1%	0.1%
	-2.0%	2.1%
	2.7%	6.0%
	-2.5%	1.7%
	0.5%	4.6%

449 Upper gastrointestinal surgery, other	7.43	5.69	6.92	5.78	4.68	4.21	4.46	4.38	8.89	3.55	-7.9%	-5.4%
46 Neurosurgery	5.06	5.21	6.31	4.11	4.55	3.66	5.46	6.83	4.96	5.76	1.4%	4.8%
461 Head injury	4.90	6.50	7.15	5.15	4.24	4.68	3.55	5.67	5.07	9.96	8.2%	18.6%
463 Neurosurgery – non-procedural	5.12	5.16	6.27	4.04	4.57	3.53	5.68	6.99	4.95	5.37	0.5%	3.3%
469 Neurosurgery, other	2.50	2.00	1.00	1.00	-	-	-	-	-	-		
47 Oral and maxillofacial surgery	2.68	2.05	2.28	2.02	1.74	1.59	1.74	1.55	2.54	1.79	-4.4%	0.5%
471 Dental extractions & restorations	1.44	1.22	1.38	1.00	1.33	1.21	1.08	1.00	2.89	1.30	-1.2%	-0.5%
479 Oral and maxillofacial surgery	3.07	2.29	2.52	2.23	1.85	1.83	2.00	1.76	2.43	1.90	-5.2%	0.6%
48 Ear, nose & throat/head & neck	1.42	1.39	1.66	1.18	1.35	1.21	1.30	1.22	1.15	1.47	0.4%	1.7%
481 Tonsillectomy & adenoidectomy	1.02	1.03	1.09	1.00	1.02	1.03	1.01	1.01	1.03	1.03	0.1%	0.2%
482 Myringotomy w tube insertion	-	-	-	1.00	-	-	1.00	-	-	-		
483 Non-procedural ENT	2.65	2.59	3.12	1.44	3.17	2.05	2.45	1.95	1.60	2.38	-1.2%	-5.6%
484 Head & neck surgery	2.00	1.20	3.00	3.83	2.80	2.40	2.00	1.75	1.00	1.00	-7.4%	-18.6%
489 Procedural ENT, other	1.06	1.07	1.08	1.07	1.02	1.03	1.11	1.12	1.00	1.30	2.3%	5.0%
49 Orthopaedics	3.40	3.39	4.47	4.35	3.53	3.73	3.87	4.41	5.36	4.44	3.0%	4.7%
491 Injuries to limbs – medical	2.76	3.72	5.03	4.54	2.75	2.68	4.25	5.26	4.96	4.56	5.8%	10.6%
492 Wrist & hand procedures incl carpal tunnel	1.67	1.09	1.00	1.22	1.27	1.07	1.05	1.00	1.08	1.00	-5.5%	-4.6%
494 Knee procedures	1.14	1.14	1.08	1.38	1.11	1.18	1.19	1.14	1.16	1.02	-1.2%	-1.8%
495 Orthopaedic surgery, other	2.69	2.92	2.95	2.60	2.28	2.41	2.49	2.92	3.12	2.27	-1.9%	-0.1%
496 Hip replacement or revision, other	5.05	3.55	6.00	5.83	5.78	5.08	5.50	4.99	6.08	4.41	-1.5%	-5.3%
497 Knee replacement or revision	3.86	3.06	5.86	5.25	5.69	4.89	5.29	4.66	5.56	4.64	2.1%	-4.0%
498 Hip fracture	4.00	1.80	2.80	2.00	3.00	1.88	2.83	5.50	8.33	2.92	-3.4%	-0.5%
499 Non-surgical orthopaedics, other	4.65	8.11	6.74	6.84	5.54	7.09	6.49	7.90	9.95	9.86	8.7%	12.2%
50 Ophthalmology	2.40	1.47	1.40	2.00	1.25	1.45	1.24	1.54	2.30	1.84	-2.9%	8.1%
502 Non-procedural ophthalmology	6.11	4.00	3.43	4.53	1.33	2.47	1.83	2.59	3.65	5.17	-1.8%	31.1%
503 Glaucoma & lens procedures	1.27	1.00	1.05	1.00	1.17	1.00	1.00	1.21	1.81	1.16	-1.0%	0.0%
509 Eye procedures, other	2.20	1.00	1.05	1.11	1.36	1.00	1.12	1.00	1.00	1.00	-8.4%	-6.0%
51 Plastic & reconstructive surgery	2.51	3.50	5.32	2.33	2.08	1.72	2.48	2.76	2.61	2.15	-1.7%	0.7%
511 Microvascular tissue transfer or skin grafts	2.14	5.32	5.00	1.54	2.60	1.37	3.24	3.82	3.32	2.58	2.1%	-0.2%
512 Skin, subcutaneous tissue & breast procedures	2.91	2.15	6.00	3.42	1.80	2.03	1.84	1.46	2.08	1.76	-5.4%	-0.4%
519 Plastic & reconstructive surgery, other	1.88	2.67	3.50	1.00	1.00	1.63	1.88	2.57	1.00	2.15	1.6%	16.6%
52 Urology	2.84	2.70	2.72	2.25	2.05	2.11	2.54	2.39	2.35	2.75	-0.4%	6.0%
521 Cystourethroscopy	1.50	2.00	3.41	2.00	2.32	1.83	1.76	2.04	2.35	1.67	1.2%	-6.4%
522 Urinary stones & obstruction	1.88	1.71	1.93	1.74	1.68	1.57	1.59	1.71	1.48	1.71	-1.0%	0.4%
523 TURP	3.46	3.04	3.72	2.90	2.89	3.54	2.79	2.99	2.98	2.74	-2.6%	-1.1%
525 Male reproductive system disorders	4.27	5.32	2.82	2.44	1.97	2.84	2.29	4.00	3.31	4.44	0.4%	17.7%
526 Male reproductive system procedures	1.66	1.56	1.18	1.79	1.33	1.70	1.22	2.60	1.75	1.43	-1.6%	1.4%
527 Kidney & urinary tract signs, symptoms & disorders	3.75	3.40	3.89	3.13	2.95	2.91	4.42	3.70	4.24	4.75	2.7%	10.0%
529 Urological procedures, other	2.91	2.29	1.99	2.02	1.74	1.73	2.13	1.72	1.92	2.30	-2.6%	5.7%
53 Vascular surgery	8.47	9.45	6.00	6.95	4.59	3.81	4.89	4.38	6.18	3.84	-8.4%	-3.5%
531 Vein ligation & stripping	7.50	1.00	1.00	2.50	1.50	1.25	1.00	1.60	1.20	1.75	-14.9%	3.1%
532 Non-procedural vascular surgery incl skin ulcers	8.29	7.25	7.82	6.79	5.00	4.64	3.08	5.00	7.45	4.19	-7.3%	-3.5%
539 Vascular surgery, other	13.00	22.50	1.00	10.67	-	5.00	15.33	5.50	3.00	8.50	-4.6%	
54 General surgery	2.65	2.76	2.85	2.41	2.32	2.31	2.54	2.75	2.79	2.46	-0.8%	1.2%
542 Abdominal pain	2.29	1.79	1.81	1.60	1.63	1.70	2.03	1.93	2.68	1.91	-2.0%	3.3%
543 Appendicectomy	2.46	2.66	2.39	2.22	2.23	1.98	2.00	2.10	2.19	2.03	-2.1%	-1.8%
544 Endocrine procedures	1.97	3.15	2.94	3.81	1.56	1.81	1.77	2.82	1.65	2.14	0.9%	6.6%
545 Hernia procedures	1.74	1.86	1.70	1.59	1.71	1.58	1.97	1.61	1.73	1.42	-2.2%	-3.6%
546 Post-operative infections & sequelae of treatment	3.95	3.52	3.31	3.28	3.66	2.63	3.19	6.41	3.56	3.12	-2.6%	-3.2%
547 Major injuries	2.92	4.70	8.60	5.00	4.81	3.50	4.00	4.67	6.29	3.67	2.6%	-5.3%
548 Injuries, other	2.54	3.05	2.87	1.31	1.56	2.70	2.29	2.46	1.93	2.58	0.2%	10.5%
549 General surgery, other	4.95	5.16	6.81	5.11	3.71	4.40	5.25	4.58	5.46	5.95	2.1%	9.9%
62 Extensive burns	8.00	2.00	-	-	6.50	1.00	3.00	9.00	2.00	5.00	-5.1%	-5.1%

621 Extensive burns	8.00	2.00	-	-	6.50	1.00	3.00	9.00	2.00	5.00	-5.1%	-5.1%
63 Tracheostomy & ventilation	22.52	23.56	29.57	13.96	13.42	18.00	21.07	18.28	20.19	26.09	1.6%	14.2%
631 Tracheostomy or ventilation	22.52	23.56	29.57	13.96	13.42	18.00	21.07	18.28	20.19	26.09	1.6%	14.2%
71 Gynaecology	2.35	2.23	2.26	2.02	2.12	2.17	2.19	2.08	2.10	2.02	-1.7%	-0.9%
711 Abortion w D&C, aspiration curettage or hysterotomy	1.22	1.39	1.28	1.29	1.29	1.29	1.17	1.42	1.42	1.42	1.7%	2.0%
712 Endoscopic proc for female reproductive system	2.00	1.53	2.00	1.67	2.50	1.71	1.74	2.30	1.76	1.79	-1.3%	-6.5%
713 Conisation, vagina, cervix & vulva proc	1.58	1.57	2.38	1.76	1.47	1.50	1.58	1.42	1.67	1.65	0.5%	2.3%
714 Diagnostic curettage or hysteroscopy	2.14	1.83	1.86	2.29	4.75	2.83	1.30	1.44	1.64	1.00	-8.1%	-26.8%
715 Hysterectomy	3.07	2.92	2.87	3.04	2.80	2.88	3.27	2.96	3.03	2.43	-2.6%	-2.8%
717 Non-procedural gynaecology	1.87	1.58	1.73	1.71	1.82	2.05	2.10	1.77	1.95	1.99	0.7%	1.9%
718 Gynaecological oncology	4.10	4.14	4.85	2.36	4.25	3.50	3.60	2.50	5.71	6.43	5.1%	8.6%
719 Gynaecological surgery, other	2.74	2.43	2.26	1.87	1.96	2.28	2.32	2.18	2.06	1.94	-3.8%	-0.3%
72 Obstetrics	2.80	2.87	2.60	2.48	2.43	2.30	2.35	2.49	2.58	2.53	-1.1%	0.8%
721 Antenatal admission	1.67	1.80	1.70	1.90	1.68	1.65	1.75	1.52	1.73	1.67	0.0%	-0.1%
722 Vaginal delivery	2.48	2.57	2.28	2.13	2.11	2.00	2.06	2.29	2.30	2.23	-1.2%	1.1%
723 Caesarean delivery	4.09	3.95	3.79	3.58	3.40	3.27	3.25	3.38	3.49	3.30	-2.4%	-0.6%
724 Postnatal admission	2.51	2.31	2.21	2.06	2.82	2.56	2.37	2.42	2.35	2.61	0.4%	-1.5%
73 Qualified neonate	7.35	6.58	6.64	5.82	5.76	6.16	5.83	5.86	5.46	5.68	-2.8%	-0.3%
731 Qualified neonate	7.35	6.58	6.64	5.82	5.76	6.16	5.83	5.86	5.46	5.68	-2.8%	-0.3%
74 Unqualified neonate	-	-	-	2.29	2.21	1.98	-	-	-	-		
741 Unqualified neonate	-	-	-	2.29	2.21	1.98	-	-	-	-		
81 Drug & alcohol	2.08	2.70	2.15	1.93	1.84	1.89	1.73	1.92	1.76	2.23	0.7%	3.9%
813 Poisoning or toxic effects of drugs & other substances	1.91	2.40	2.11	1.86	1.74	1.70	1.59	2.05	1.97	2.11	1.1%	3.9%
814 Drug & alcohol dependence or withdrawal	3.91	3.87	2.56	2.18	2.44	2.76	2.23	1.83	1.65	3.10	-2.5%	4.9%
815 Drug & alcohol intoxication	1.21	2.14	1.76	1.93	1.28	1.40	1.67	1.55	1.43	1.42	1.7%	2.1%
82 Acute mental health	3.00	4.41	6.35	3.36	3.25	2.83	3.94	3.67	4.83	5.02	5.9%	9.1%
825 Psychotic disorders	1.00	1.00	-	2.00	2.00	1.17	1.25	1.38	1.00	1.33	3.2%	-7.8%
826 Affective disorders	2.80	1.29	2.57	1.86	5.79	2.38	2.71	2.00	3.39	1.20	-9.0%	-27.0%
828 Anxiety disorders	2.50	4.67	1.80	3.06	2.06	2.45	2.56	3.54	3.38	4.42	6.5%	16.5%
829 Acute mental health, other	3.25	-	6.00	16.00	1.67	7.50	7.50	2.00	1.75	1.00	-12.3%	-9.7%
881 Eating & obsessive-compulsive disorders	-	13.60	29.25	-	2.75	12.33	19.75	12.50	30.80	32.33		63.7%
882 Personality disorders & acute reactions	6.33	1.25	1.50	2.50	1.17	1.50	1.00	2.07	3.00	2.89	-8.4%	19.9%
83 Specialist mental health	25.33	25.02	24.86	14.19	12.47	24.03	26.39	23.66	23.15	20.64	-2.3%	10.6%
839 Specialist mental health	25.33	25.02	24.86	14.19	12.47	24.03	26.39	23.66	23.15	20.64	-2.3%	10.6%
84 Rehabilitation	-	4.00	25.03	13.64	13.49	15.86	16.90	18.13	70.00	-		
902 Rehabilitation – overnight	-	4.00	25.03	13.64	13.49	15.86	16.90	18.13	70.00	-		
85 Psychogeriatric	8.25	12.08	5.50	9.50	5.33	3.75	6.00	8.33	-	12.00	4.3%	17.6%
851 Psychogeriatric	8.25	12.08	5.50	9.50	5.33	3.75	6.00	8.33	-	12.00	4.3%	17.6%
86 Palliative care	14.91	12.59	14.99	8.32	8.24	12.08	10.29	12.32	14.40	13.58	-1.0%	10.5%
861 Palliative care	14.91	12.59	14.99	8.32	8.24	12.08	10.29	12.32	14.40	13.58	-1.0%	10.5%
87 Maintenance	9.72	16.44	23.08	9.96	9.15	12.33	14.72	14.19	15.92	12.98	3.3%	7.2%
871 Maintenance	9.72	16.44	23.08	9.96	9.15	12.33	14.72	14.19	15.92	12.98	3.3%	7.2%
92 Geriatric evaluation and management	12.87	13.21	13.22	7.85	8.50	7.69	7.35	9.65	7.83	10.89	-1.8%	5.1%
921 Geriatric evaluation and management	12.87	13.21	13.22	7.85	8.50	7.69	7.35	9.65	7.83	10.89	-1.8%	5.1%
99 Unallocated	18.03	17.76	15.43	10.77	12.79	14.18	17.84	17.57	15.06	15.69	-1.5%	4.2%
999 Unallocated	18.03	17.76	15.43	10.77	12.79	14.18	17.84	17.57	15.06	15.69	-1.5%	4.2%
Grand Total	5.68	5.80	5.71	4.40	4.26	4.88	4.78	4.57	4.86	4.57	-2.4%	1.4%

T9 Percent day only at CPHB

Hospital	1 Calvary public hospital
Hospital 2	(All)
Activity stream	(Multiple Items)
Stay type	(All)
ESRG V6 NSW	(All)
Place of residence: Grouped	(All)
Place of residence: ACT & SNSW SA3s	(All)
Place of residence: Northside SA3s grouped	(All)
Place of residence: Northside SA3s ungrouped	(All)
PPH Category	(All)
PPH type	(All)
hith	(All)

Sum of Percent Day Only

Column Labels

Row Labels	Compound annual growth rate											
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2011-12 to 2020-21	2015-16 to 2020-21
11 Cardiology	33%	41%	41%	44%	46%	52%	55%	56%	58%	58%	6.4%	4.7%
111 Chest pain	59%	73%	66%	72%	75%	81%	80%	79%	82%	79%	3.3%	1.1%
112 Unstable angina	9%	11%	17%	12%	18%	20%	29%	26%	40%	36%	16.2%	14.8%
113 Heart failure & shock	4%	7%	6%	5%	4%	4%	9%	6%	11%	10%	10.2%	17.4%
114 Arrhythmia, cardiac arrest & conduction disorders	31%	33%	34%	38%	37%	39%	44%	49%	49%	49%	5.2%	5.7%
115 AMI w/o invasive cardiac investigative procedure	5%	9%	12%	5%	9%	9%	8%	12%	12%	12%	9.7%	5.6%
116 Syncope & collapse	29%	35%	30%	45%	39%	45%	49%	44%	46%	48%	5.7%	4.5%
117 Coronary atherosclerosis	21%	31%	24%	30%	48%	50%	54%	70%	59%	58%	11.8%	3.8%
118 Valvular disorders	35%	45%	53%	60%	52%	71%	65%	69%	69%	78%	9.3%	8.5%
119 Cardiology, other	6%	19%	21%	22%	15%	22%	29%	24%	25%	29%	18.8%	14.6%
12 Interventional cardiology	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
129 Interventional cardiology, other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
13 Dermatology	63%	54%	63%	59%	66%	55%	56%	59%	51%	61%	-0.2%	-1.6%
131 Dermatology	63%	54%	63%	59%	66%	55%	56%	59%	51%	61%	-0.2%	-1.6%
14 Endocrinology	17%	16%	23%	24%	14%	16%	21%	22%	30%	23%	3.7%	11.2%
141 Diabetes	16%	19%	26%	31%	15%	18%	22%	18%	25%	21%	3.4%	7.6%
149 Endocrinology, other	23%	8%	12%	3%	12%	9%	13%	34%	48%	36%	5.0%	24.9%
15 Gastroenterology	46%	49%	50%	52%	53%	57%	61%	61%	60%	62%	3.4%	3.0%
151 Oesophagitis & gastroenteritis	36%	41%	43%	42%	40%	55%	61%	53%	55%	62%	6.3%	9.4%
152 Complex endoscopy	86%	87%	87%	88%	89%	88%	92%	92%	90%	92%	0.8%	0.7%
154 Cirrhosis, alcoholic hepatitis & other liver & gallbladder conditions	27%	31%	25%	28%	26%	29%	35%	36%	34%	34%	2.6%	5.5%
155 Digestive malignancy	20%	14%	23%	19%	23%	10%	13%	20%	29%	42%	8.5%	12.3%
156 Gastrointestinal haemorrhage	27%	25%	29%	29%	28%	32%	31%	30%	35%	38%	3.9%	6.3%
157 Inflammatory bowel disease	80%	88%	93%	90%	96%	97%	94%	97%	96%	98%	2.2%	0.4%
158 Gastrointestinal obstruction	6%	4%	6%	9%	22%	14%	18%	19%	20%	7%	1.5%	-21.4%
159 Gastroenterology, other	31%	24%	31%	36%	34%	38%	39%	42%	44%	47%	4.9%	6.6%
16 Diagnostic GI	89%	90%	86%	86%	86%	90%	90%	89%	88%	89%	0.0%	0.8%
161 Diagnostic colonoscopy	94%	94%	90%	91%	90%	96%	94%	93%	93%	94%	0.0%	0.8%
162 Diagnostic gastroscopy	82%	84%	80%	76%	78%	80%	79%	81%	80%	82%	0.0%	1.1%
17 Haematology	64%	66%	64%	61%	59%	64%	67%	69%	65%	69%	0.9%	3.1%
175 Lymphoma & leukaemia	54%	25%	41%	33%	35%	47%	52%	55%	28%	48%	-1.3%	6.4%
179 Haematology, other	65%	68%	66%	64%	61%	65%	68%	70%	67%	70%	0.9%	2.9%
18 Immunology & infections	43%	46%	57%	48%	50%	54%	41%	45%	51%	54%	2.7%	1.5%

449 Upper gastrointestinal surgery, other	0%	10%	8%	12%	8%	0%	0%	8%	7%	15%		13.0%
46 Neurosurgery	47%	48%	41%	45%	43%	49%	49%	43%	48%	51%	1.1%	3.5%
461 Head injury	29%	54%	46%	32%	32%	27%	27%	23%	17%	38%	3.2%	3.4%
463 Neurosurgery – non-procedural	48%	48%	41%	46%	44%	51%	50%	45%	51%	52%	0.9%	3.5%
469 Neurosurgery, other	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%		
47 Oral and maxillofacial surgery	85%	86%	88%	88%	88%	89%	86%	89%	87%	85%	-0.1%	-0.8%
471 Dental extractions & restorations	95%	96%	97%	97%	97%	95%	95%	96%	96%	96%	0.1%	-0.2%
479 Oral and maxillofacial surgery	58%	56%	54%	57%	58%	72%	60%	65%	58%	58%	-0.1%	0.0%
48 Ear, nose & throat/head & neck	42%	44%	45%	40%	38%	39%	35%	35%	35%	35%	-2.0%	-1.4%
481 Tonsillectomy & adenoidectomy	29%	30%	45%	27%	23%	26%	22%	16%	13%	13%	-8.9%	-11.8%
482 Myringotomy w tube insertion	100%	100%	100%	98%	100%	100%	98%	100%	100%	100%	0.0%	0.0%
483 Non-procedural ENT	49%	50%	41%	56%	49%	60%	53%	60%	52%	63%	2.8%	5.4%
484 Head & neck surgery	14%	29%	33%	25%	38%	17%	67%	43%	25%	25%	6.4%	-7.8%
489 Procedural ENT, other	11%	26%	20%	17%	10%	10%	9%	13%	13%	6%	-5.9%	-9.0%
49 Orthopaedics	31%	34%	29%	23%	23%	32%	30%	31%	34%	36%	1.4%	9.1%
491 Injuries to limbs – medical	42%	39%	38%	38%	43%	52%	58%	51%	60%	60%	3.9%	6.9%
492 Wrist & hand procedures incl carpal tunnel	83%	82%	89%	73%	63%	70%	67%	79%	71%	85%	0.2%	5.9%
494 Knee procedures	73%	78%	60%	49%	43%	55%	36%	37%	49%	48%	-4.7%	2.2%
495 Orthopaedic surgery, other	22%	22%	22%	16%	11%	18%	10%	14%	15%	21%	-0.6%	13.3%
496 Hip replacement or revision, other	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
497 Knee replacement or revision	2%	1%	0%	0%	0%	1%	0%	0%	0%	0%		
498 Hip fracture	67%	17%	38%	53%	33%	43%	65%	50%	57%	32%	-8.0%	-1.1%
499 Non-surgical orthopaedics, other	31%	39%	31%	25%	24%	33%	35%	33%	31%	28%	-1.3%	2.7%
50 Ophthalmology	96%	97%	97%	96%	96%	96%	95%	95%	96%	94%	-0.1%	-0.4%
502 Non-procedural ophthalmology	80%	80%	84%	76%	81%	73%	78%	74%	73%	79%	-0.1%	-0.5%
503 Glaucoma & lens procedures	98%	98%	98%	98%	97%	98%	97%	98%	98%	96%	-0.2%	-0.3%
509 Eye procedures, other	87%	90%	91%	90%	93%	88%	82%	80%	89%	84%	-0.4%	-2.0%
51 Plastic & reconstructive surgery	70%	72%	78%	71%	72%	76%	76%	68%	72%	73%	0.4%	0.3%
511 Microvascular tissue transfer or skin grafts	58%	63%	71%	58%	67%	72%	66%	55%	58%	64%	1.1%	-0.9%
512 Skin, subcutaneous tissue & breast procedures	77%	80%	84%	80%	74%	79%	83%	80%	82%	80%	0.4%	1.6%
519 Plastic & reconstructive surgery, other	38%	50%	56%	45%	81%	68%	62%	36%	58%	54%	3.8%	-8.0%
52 Urology	59%	60%	59%	61%	61%	58%	61%	62%	61%	61%	0.2%	-0.1%
521 Cystourethroscopy	95%	95%	95%	95%	92%	93%	94%	96%	96%	98%	0.2%	1.2%
522 Urinary stones & obstruction	48%	50%	50%	48%	52%	49%	58%	55%	45%	53%	1.2%	0.5%
523 TURP	3%	0%	0%	7%	0%	0%	0%	1%	2%	0%		
525 Male reproductive system disorders	66%	56%	65%	61%	59%	53%	69%	69%	70%	72%	1.1%	4.2%
526 Male reproductive system procedures	31%	38%	58%	46%	51%	38%	47%	41%	48%	34%	1.2%	-7.6%
527 Kidney & urinary tract signs, symptoms & disorders	48%	45%	45%	50%	56%	52%	49%	51%	50%	46%	-0.6%	-3.9%
529 Urological procedures, other	49%	53%	47%	47%	41%	33%	36%	35%	48%	46%	-0.8%	2.1%
53 Vascular surgery	67%	65%	63%	56%	59%	64%	62%	54%	53%	44%	-4.7%	-5.7%
531 Vein ligation & stripping	94%	95%	86%	90%	90%	82%	89%	77%	69%	58%	-5.2%	-8.4%
532 Non-procedural vascular surgery incl skin ulcers	26%	11%	35%	26%	29%	48%	43%	41%	46%	34%	3.0%	3.8%
533 Vascular angioplasty	0%	0%	100%	0%	0%	0%	0%	0%	0%	100%		
539 Vascular surgery, other	50%	0%	0%	0%	0%	50%	50%	33%	67%	33%	-4.4%	
54 General surgery	49%	52%	55%	55%	55%	58%	57%	57%	55%	59%	2.1%	1.3%
542 Abdominal pain	54%	56%	60%	62%	61%	63%	64%	66%	66%	66%	2.3%	1.4%
543 Appendicectomy	0%	0%	1%	0%	0%	0%	1%	0%	1%	0%		
544 Endocrine procedures	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
545 Hernia procedures	10%	9%	15%	13%	17%	12%	11%	12%	7%	18%	6.2%	0.1%
546 Post-operative infections & sequelae of treatment	23%	22%	28%	27%	27%	37%	33%	34%	30%	40%	6.5%	8.7%
547 Major injuries	33%	23%	21%	23%	26%	27%	35%	25%	40%	49%	4.4%	13.5%
548 Injuries, other	51%	55%	58%	61%	55%	69%	64%	62%	66%	65%	2.8%	3.5%
549 General surgery, other	87%	85%	87%	88%	88%	87%	86%	87%	85%	87%	0.0%	-0.2%

62 Extensive burns	0%	50%	100%	0%	0%	0%	50%	0%	0%	0%		
621 Extensive burns	0%	50%	100%	0%	0%	0%	50%	0%	0%	0%		
63 Tracheostomy & ventilation	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%		
631 Tracheostomy or ventilation	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%		
71 Gynaecology	61%	59%	60%	60%	57%	59%	61%	55%	61%	61%	0.1%	1.4%
711 Abortion w D&C, aspiration curettage or hysterotomy	72%	70%	71%	73%	73%	68%	64%	63%	68%	72%	0.0%	-0.3%
712 Endoscopic proc for female reproductive system	75%	63%	70%	70%	38%	44%	41%	47%	43%	46%	-5.3%	3.7%
713 Conisation, vagina, cervix & vulva proc	74%	82%	89%	78%	79%	84%	77%	82%	78%	84%	1.4%	1.4%
714 Diagnostic curettage or hysteroscopy	93%	89%	93%	94%	88%	90%	92%	87%	93%	93%	0.1%	1.3%
715 Hysterectomy	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
717 Non-procedural gynaecology	61%	62%	57%	47%	55%	56%	61%	50%	56%	62%	0.3%	2.4%
718 Gynaecological oncology	17%	22%	7%	21%	33%	38%	50%	27%	13%	0%		
719 Gynaecological surgery, other	49%	48%	54%	56%	49%	50%	56%	52%	56%	53%	0.8%	1.3%
72 Obstetrics	14%	14%	16%	18%	19%	23%	24%	19%	19%	19%	3.8%	0.7%
721 Antenatal admission	44%	44%	47%	47%	52%	58%	57%	57%	61%	57%	2.8%	2.0%
722 Vaginal delivery	6%	9%	11%	14%	13%	14%	14%	8%	9%	10%	6.9%	-4.3%
723 Caesarean delivery	5%	5%	7%	5%	4%	6%	8%	3%	0%	0%	-27.2%	-39.0%
724 Postnatal admission	17%	22%	22%	17%	23%	28%	28%	16%	22%	24%	3.8%	1.2%
73 Qualified neonate	10%	3%	9%	8%	11%	9%	8%	0%	0%	0%		
731 Qualified neonate	10%	3%	9%	8%	11%	9%	8%	0%	0%	0%		
74 Unqualified neonate	8%	12%	17%	19%	19%	19%	23%	15%	11%	13%	5.8%	-7.5%
741 Unqualified neonate	8%	12%	17%	19%	19%	19%	23%	15%	11%	13%	5.8%	-7.5%
81 Drug & alcohol	43%	47%	48%	46%	48%	55%	52%	51%	50%	56%	3.0%	3.3%
813 Poisoning or toxic effects of drugs & other substances	44%	52%	52%	45%	49%	55%	51%	51%	54%	62%	3.9%	4.7%
814 Drug & alcohol dependence or withdrawal	35%	14%	19%	41%	30%	39%	39%	30%	27%	32%	-1.0%	1.8%
815 Drug & alcohol intoxication	44%	53%	52%	55%	59%	65%	69%	64%	59%	61%	3.6%	0.7%
82 Acute mental health	54%	41%	53%	51%	44%	74%	47%	41%	41%	47%	-1.5%	1.3%
823 Mental health treatment, same day excl. ECT	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0.0%	0.0%
824 Mental health treatment, same day incl. ECT	0%	0%	100%	100%	100%	100%	100%	100%	0%	0%		
825 Psychotic disorders	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
826 Affective disorders	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
828 Anxiety disorders	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
829 Acute mental health, other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
881 Eating & obsessive-compulsive disorders	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
882 Personality disorders & acute reactions	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
83 Specialist mental health	13%	18%	12%	13%	20%	5%	12%	5%	7%	14%	0.9%	-6.4%
839 Specialist mental health	13%	18%	12%	13%	20%	5%	12%	5%	7%	14%	0.9%	-6.4%
84 Rehabilitation	0%	0%	0%	1%	1%	0%	0%	2%	0%	0%		
901 Rehabilitation – same day	0%	0%	0%	100%	100%	0%	100%	100%	0%	0%		
902 Rehabilitation – overnight	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
85 Psychogeriatric	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%		
851 Psychogeriatric	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%		
86 Palliative care	0%	0%	2%	4%	3%	4%	4%	3%	3%	5%	28.7%	6.1%
861 Palliative care	0%	0%	2%	4%	3%	4%	4%	3%	3%	5%	28.7%	6.1%
87 Maintenance	2%	2%	1%	2%	2%	1%	0%	0%	0%	0%	-23.1%	-36.6%
871 Maintenance	2%	2%	1%	2%	2%	1%	0%	0%	0%	0%	-23.1%	-36.6%
92 Geriatric evaluation and management	5%	2%	0%	5%	1%	4%	4%	5%	6%	10%	8.5%	49.6%
921 Geriatric evaluation and management	5%	2%	0%	5%	1%	4%	4%	5%	6%	10%	8.5%	49.6%
99 Unallocated	10%	11%	14%	12%	17%	5%	7%	5%	7%	11%	0.4%	-9.3%
999 Unallocated	10%	11%	14%	12%	17%	5%	7%	5%	7%	11%	0.4%	-9.3%
Grand Total	40%	42%	44%	44%	44%	46%	48%	47%	48%	51%	2.8%	3.1%

T10 HITH at CPHB

Hospital	1 Calvary public hospital
Hospital 2	(All)
Activity stream	(Multiple Items)
SRG V6 ACT	(All)
ESRG V6 ACT	(All)
ESRG V6 NSW	(All)
Place of residence: Grouped	(All)
Place of residence: ACT & SNSW SA3s	(All)
Place of residence: Northside SA3s grouped	(All)
Place of residence: Northside SA3s ungrouped	(All)
PPH Category	(All)
PPH type	(All)

Column Labels										
Row Labels	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Sum of Episodes										
1 HITH	630	534	619	736	698	687	812	904	976	1,216
1	6		66	100	111	148	177	224	264	398
2	624		553	636	587	539	635	680	712	818
2 Not HITH	22,652	22,932	24,053	25,502	27,001	28,624	29,095	29,977	29,415	34,733
1	9,211	9,821	10,768	11,327	11,940	13,443	14,126	14,436	14,217	17,852
2	13,441	13,111	13,285	14,175	15,061	15,181	14,969	15,541	15,198	16,881
Sum of Mean HITH hours										
1 HITH	139	146	137	130	131	119	99	101	116	96
1	1.6	3.1	5.0	21.0	4.6	4.0	3.6	4.0	3.6	3.2
2	140.5	147.1	153.1	146.6	154.8	150.8	126.1	132.8	157.2	141.9
2 Not HITH	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-
Total Sum of Episodes	23,282	23,466	24,672	26,238	27,699	29,311	29,907	30,881	30,391	35,949
Total Sum of Mean HITH hours	3.8	3.3	3.4	3.6	3.3	2.8	2.7	3.0	3.7	3.3
Percent of episodes with HITH										
1	0.1%	0.1%	0.6%	0.9%	0.9%	1.1%	1.3%	1.6%	1.9%	2.2%
2	4.6%	4.0%	4.2%	4.5%	3.9%	3.6%	4.2%	4.4%	4.7%	4.8%
Total	2.8%	2.3%	2.6%	2.9%	2.6%	2.4%	2.8%	3.0%	3.3%	3.5%

Compound annual growth rate	
2011-12 to 2020-21	2015-16 to 2020-21

7.6%	11.7%
59.4%	29.1%
3.1%	6.9%
4.9%	5.2%
7.6%	8.4%
2.6%	2.3%
-4.0%	-5.9%
7.8%	-6.8%
0.1%	-1.7%
4.9%	5.4%
-1.6%	-0.2%

T11 HITH by ESRG

Hospital	1 Calvary public hospital
Hospital 2	(All)
Activity stream	(Multiple Items)
SRG V6 ACT	(All)
ESRG V6 NSW	(All)
Place of residence: Grouped	(All)
Place of residence: ACT & SNSW SA3s	(All)
Place of residence: Northside SA3s grouped	(All)
Place of residence: Northside SA3s ungrouped	(All)
PPH Category	(All)
PPH type	(All)
hith	1 HITH

Sum of Episodes	Column Labels									
Row Labels	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
111 Chest pain	8									
2	8									
112 Unstable angina										
1										
2										
113 Heart failure & shock				7	7		15		10	14
1										
2					7				10	14
114 Arrhythmia, cardiac arrest & conduction disorders	46	35	13	13						
2	46	35	13	13						
115 AMI w/o invasive cardiac investigative procedure										
2										
116 Syncope & collapse										
2										
117 Coronary atherosclerosis										
2										
118 Valvular disorders										
2										
119 Cardiology, other	12	19	16	12	12	13		6	9	10
1										
2	12	19	16			13		6	9	
131 Dermatology	7	12	13	13	6	16	10		14	18
1										7
2	7	12			6		10		14	11
141 Diabetes					6		6			6
2					6		6			6
149 Endocrinology, other								11	14	
1								11	14	
2										
151 Oesophagitis & gastroenteritis										
2										
152 Complex endoscopy										

Compound annual growth rate	
2011-12 to 2020-21	2015-16 to 2020-21

-7.4%

18.7%

14.9%

18.7%

14.9%

-26.2%

-5.6%

-26.2%

-5.6%

-4.4%

-7.8%

-4.4%

-7.8%

-7.4%

-7.4%

-7.4%

-7.4%

-2.0%

-3.6%

0.0%

-3.1%

-3.9%

11.1%

24.6%

5.2%

12.9%

0.0%

0.0%

13.0%

8.4%

24.6%

0.0%

0.0%

219 Neurology, other									6		8			14.9%
1														
2														11.8%
221 Renal failure														0.0%
1														
2														0.0%
229 Renal medicine, other														
1														
2														
241 Bronchitis & asthma											6			8.4%
1														
2											6			14.9%
242 Chronic obstructive airways disease								7	7			8.0%		-7.8%
2								7	7			8.0%		-7.8%
243 Respiratory infections or inflammations	16	16	30	48	65	56	77	49	66	71	18.0%		1.8%	
1													0.0%	
2	16	16	30	48		56		49	66		17.8%		1.8%	
244 Bronchoscopy														
2														
245 Respiratory neoplasms													-7.4%	
1														
2													-14.3%	
246 Pulmonary embolism	35	48	37	12	10	8	9			7	-16.4%		-6.9%	
1														
2	35	48	37	12	10		9			7	-16.4%		-6.9%	
248 Respiratory signs & symptoms														
2														
249 Respiratory medicine, other	9						12	10	15	14	14	5.0%		28.5%
1														
2	9						12	10		14	14	5.0%		28.5%
251 Rheumatology	7								6			-3.7%		0.0%
1														0.0%
2									6			-4.4%		-4.4%
271 Kidney & urinary tract infections	37	14	29	52	52	59	60	65	88	114	13.3%		17.0%	
1													14.9%	
2	37	14	29	52			60		88		13.1%		17.0%	
272 Cellulitis	144	146	141	195	172	167	204	248	193	210	4.3%		4.1%	
1											8.0%		-7.8%	
2											4.3%		4.2%	
275 Injuries – non-surgical	6	6		8	7		19	12	7		-11.5%		-22.2%	
2	6	6		8	7		19	12	7		-11.5%		-22.2%	
277 Septicaemia			9	19	24	16	22	19	16	28	28.2%		3.1%	
1														
2			9	19		16	22	19	16	28	28.2%		4.0%	
278 Surgical follow up														
1														
2														
279 General medicine, other		9	16	15	19	18	17	13	14	11	15.5%		-10.4%	
1			6	8					6				0.0%	
2		9	10	7					8		11.5%		-12.9%	
280 Delirium														
2														

2												0.0%		
881 Eating & obsessive-compulsive disorders													14.9%	
2													14.9%	
882 Personality disorders & acute reactions														
2														
902 Rehabilitation – overnight														
2														
921 Geriatric evaluation and management												0.0%	0.0%	
1														
2														
999 Unallocated												0.0%	0.0%	
1														
2												0.0%	0.0%	
Grand Total			630	534	619	736	698	687	812	904	976	1,216	7.6%	11.7%

T12 Sub acute trends

Hospital 2	(All)
Activity stream	Subacute
Stay type	(All)
ESRG V6 ACT	(All)
Place of residence: Grouped	(All)
Place of residence: ACT & SNSW SA3s	(All)
Place of residence: Northside SA3s grouped	(All)
Place of residence: Northside SA3s ungrouped	(All)
PPH Category	(All)
PPH type	(All)
hith	(All)

Sum of Episodes	Column Labels									
Row Labels	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
84 Rehabilitation	7,527	8,133	10,340	11,235	12,351	10,614	12,021	13,030	12,048	13,688
842 Stroke – Same day					383	414	567	498	422	208
2 Canberra hospital					383	381	508			
3 University of Canberra hospital								446	398	208
4 ACT Private						33	59			
843 Stroke – Overnight	19	18	18	25	290	241	240	287	321	320
1 Calvary public hospital					87	83	75	16		
2 Canberra hospital					184	149	153	137		163
3 University of Canberra hospital								127	184	
4 ACT Private	19	18	18			9	12	7		
844 Brain dysfunction	11	11	11	9	64	75	76	80	54	65
1 Calvary public hospital					6					
2 Canberra hospital					46	57	59	38	30	35
3 University of Canberra hospital								32		24
4 ACT Private	11	11	11	9	12			10		6
845 Neurological conditions	4	3	3	2	48	37	70	55	128	81
1 Calvary public hospital						6	9			
2 Canberra hospital					38	25	52	27		29
3 University of Canberra hospital								21	97	48
4 ACT Private						6	9			
846 Spinal cord dysfunction	25	26	26	30	45	59	44	72	69	53
1 Calvary public hospital										
2 Canberra hospital								16	13	8
3 University of Canberra hospital								19	25	13

Increase/Decrease 2015-16 to 2020-21
1,337
- 175
- 383
208
-
30
- 87
- 21
- 14
1
- 6
- 11
24
- 6
33
- 9
48
-
8
13

4 ACT Private	25	26	26	30	26	40	28	37	31	32		6
847 Amputation of limb					40	53	31	33	35	52		12
1 Calvary public hospital												
2 Canberra hospital								18	13	28		
3 University of Canberra hospital								15	22	24		24
848 Arthritis	527	539	544	560	580	599	559	619	708	600		20
1 Calvary public hospital												
2 Canberra hospital									7			1
3 University of Canberra hospital								9	10			-
4 ACT Private	527	539	544	560		593		601	691			28
849 Pain syndromes	8	7	8	6	47	52	59	41	27	46		1
1 Calvary public hospital					14		11	9				14
2 Canberra hospital					25	36	41	22	14	32		7
3 University of Canberra hospital												
4 ACT Private	8	7	8	6	8		7					
891 Orthopaedic fractures – same day	287	335	352	372	432	196	293	228	269	220		212
1 Calvary public hospital												
2 Canberra hospital						29				6		
3 University of Canberra hospital												17
4 ACT Private	287	335	352	372	415	167		220	172	197		218
892 Orthopaedic conditions, fractures	88	97	93	95	459	427	450	615	508	656		197
1 Calvary public hospital					65	76	65					65
2 Canberra hospital					295	266	303	321	271	374		79
3 University of Canberra hospital								213	197	243		243
4 ACT Private	88	97	93	95	99	85	82		40	39		60
893 Orthopaedic conditions, post orthopaedic surgery – same day	181	193	217	224	250	267	250	207	268	403		153
1 Calvary public hospital												
2 Canberra hospital												
4 ACT Private	181	193	217	224			250	207	268	403		155
894 Orthopaedic conditions, post orthopaedic surgery – overnight	16	16	19	16	110	186	131	97	84	180		70
1 Calvary public hospital					16	18	13					16
2 Canberra hospital					75	101	55	30	23	49		26
3 University of Canberra hospital									29	53		53
4 ACT Private	16	16	19	16	19	67	63	42	32	78		59
895 Orthopaedic conditions, other – same day	184	196	217	228	247	354	423	570	350	359		112
2 Canberra hospital						24	46	201	73			
3 University of Canberra hospital								83	25			
4 ACT Private	184	196	217	228	247	330	377	286	252	321		74
896 Orthopaedic conditions, other – overnight	45	51	49	52	81	94	134	159	161	109		28
1 Calvary public hospital					7		27					7
2 Canberra hospital					22		26	44	41	27		5
3 University of Canberra hospital								64	78	15		15
4 ACT Private	45	51	49	52	52	69	81	51	42	67		15

897 Cardiac	16	18	21	21	53	38	54	52	61	54			1
1 Calvary public hospital					10								10
2 Canberra hospital					22			15	14	24			2
3 University of Canberra hospital									14	10			10
4 ACT Private	16	18	21		21	26	23	29	33	20			1
898 Pulmonary conditions	11	11	10	8	46	45	41	48	47	31			15
1 Calvary public hospital						7	8						
2 Canberra hospital					30	26	24	27	23	21			9
3 University of Canberra hospital									13				6
4 ACT Private	11	11	10	8		12	9	14	11				
901 Rehabilitation, other – same day	5,997	6,499	7,566	8,191	8,518	6,866	8,071	8,640	7,822	9,593			1,075
1 Calvary public hospital													
2 Canberra hospital			585			397	477		21	12			
3 University of Canberra hospital								427	263	232			232
4 ACT Private	5,997	6,499	6,981	7,519	8,165	6,469	7,594	8,169	7,538	9,349			1,184
902 Rehabilitation, other – overnight	108	113	1,186	1,396	633	592	491	695	691	633			-
1 Calvary public hospital			311	352	181	179	78	11					181
2 Canberra hospital			761	935	334	310	313	384	302	361			27
3 University of Canberra hospital								210	297	208			208
4 ACT Private	108		114	109	118	103	100	90	92	64			54
910 Burns						2		2					-
2 Canberra hospital													-
3 University of Canberra hospital													-
911 Congenital deformities					1		5	1					
1 Calvary public hospital													
2 Canberra hospital													-
4 ACT Private													-
912 Multiple major trauma					23	17	32	31	23	25			
1 Calvary public hospital													-
2 Canberra hospital					23	17							
3 University of Canberra hospital													
913 Developmental disability					1								
2 Canberra hospital													
85 Psychogeriatric	28	18	17	7	16	17	14	17	42	53			37
851 Psychogeriatric	28	18	17	7	16	17	14	17	42	53			37
1 Calvary public hospital	12												8
2 Canberra hospital	16								33				39
3 University of Canberra hospital													
4 ACT Private									9				
86 Palliative care	2,603	2,605	550	639	813	827	917	953	826	850			37
862 Palliative care – cancer-related	124	119	351	420	521	491	510	560	487	488			33
1 Calvary public hospital	21	26	293	316	331	327	337	360	343	301			30
2 Canberra hospital	103	93	58	104	190	164	173	200					

3 University of Canberra hospital												
863 Palliative care – non-cancer	1,715	1,740	194	212	282	332	397	385	335	353		71
1 Calvary public hospital	616	788	105	93	109	177	210	194				70
2 Canberra hospital	1,099	952	89	119	173	155	187	191	182	168	-	5
3 University of Canberra hospital												
4 ACT Private												
869 Palliative care – same day	764	746	5	7	10	4	10	8	4	9		
1 Calvary public hospital												
2 Canberra hospital												
4 ACT Private												
87 Maintenance	1,218	778	654	813	1,111	1,034	928	1,099	1,100	1,344		233
871 Maintenance	1,218	778	654	813	1,111	1,034	928	1,099	1,100	1,344		233
1 Calvary public hospital						339	275	250	285	428		
2 Canberra hospital	895	664	409	524	757	695	648	750	565	697	-	60
3 University of Canberra hospital									239			
4 ACT Private									11			
5 Interstate public												
92 Geriatric evaluation and management	1,026	1,059	171	231	311	474	443	393	469	549		238
921 Geriatric evaluation and management	1,026	1,059	171	231	311	474	443	393	469	549		238
1 Calvary public hospital	550	745				56	53	39		39		
2 Canberra hospital			122	186	234	388	368	348	398	478		244
3 University of Canberra hospital												
4 ACT Private						30	22	6	38			
Grand Total	12,402	12,593	11,732	12,925	14,602	12,966	14,323	15,492	14,485	16,484		1,882

ACT health service activity forecasts and scenario modelling 23-12-2022

Report describing methods and key results

Health Policy Analysis

Contents

Overview	2
Scope	2
Report structure	2
1 Executive summary	4
2 Overview of forecast activity	6
Service stream	6
Age group – Acute stream	6
Sector	10
State of residence	11
3 Forecasts by ESRG	12
4 Forecasts at SA3 level	15
5 Forecasts at hospital level	20
6 Forecasts for other activity measures	22
7 Emergency department forecasts	24
Overall ED activity	24
Adjacent AECC group	26
State of residence	32
Age group and sex	32
8 Factors contributing to predicted growth	36
9 Population data	44
9.1 Population projections at SA3 level	45
9.2 Population projections for ACT SA3	45
10 Activity data	50
10.1 Activity datasets	50
10.2 Missing data	50
10.3 Data corrections	51
10.4 Data standardisation	51
10.5 Other issues	51

10.5.1 Age group	51
10.5.2 Sex	52
10.5.3 Place of residence	52
10.5.4 Place of treatment	52
10.5.5 Service streams and clinical groupings	52
10.5.6 Clinical groupings applied	53
11 Methods overview	54
11.1 Activity datasets	54
Step 1: Preparation of historical time series	55
Step 2: Forecast rates	55
Step 3: ACT forecasts by SA3	55
Step 4: Interstate residents	55
Step 5: Calibration of forecast activity	56
Step 1A/2A: Average length of stay forecasts	56
Step 6: Simulation of attributes of forecast activity	56
11.2 Emergency department activity forecasts	56
12 Forecast rates (Step 2)	57
12.1 Core models	58
12.1.1 Naïve model	58
12.1.2 Mean model	58
12.1.3 Logit transformed linear model (LTLM)	59
12.1.4 Other models	59
12.2 Selection of model	59
12.3 Reconciliation of forecasts	60
13 Relative utilisation (Step 3)	64
14 Forecast methods for interstate residents (Step 4)	66
14.1 Forecast method	66
15 Calibration of forecasts with projected births (Step 5)	69
15.1 Projected births	69
15.2 Forecast method	71
16 Forecast methods for length of stays (Steps 1A, 2A)	77
17 Simulation of key attributes (Step 6)	78
18 Emergency department methods	80
18.1 Grouping of activity for forecast purposes	80
18.2 Forecasting rates	81
18.3 Relative utilisation modelling	81
18.4 Interstate residents	82
18.5 Simulation of key attributes	82
Appendices	82
A Definitions of service streams	83

A.1 Acute admitted care	83
A.2 Sub- and non-acute admitted care	83
A.3 Specialist mental health admitted care	84
A.4 Other (not in scope of forecasts)	84
B Data variables included in forecast data	85
C Forecast activity by SRG	89
D Forecast activity by ESRG	92
E Forecast average length of stay by ESRG	100
F ESRG version 6 with ACT modification	106

Overview

Effective planning and commissioning of health services is required to ensure the needs of the people served by ACT Health can be met efficiently and equitably. Planning and commissioning in turn rely on robust forecasts of future activity. ACT Health is building health service activity forecasts and scenario models to inform planning of health services and infrastructure, with a focus on the medium (5-10 years) to long-term (20 years).

[Health Policy Analysis](#) has been engaged to undertake the development of these forecasts and scenarios, in close collaboration with the ACT Health Directorate and other stakeholders within the ACT Health system.

This report provides details of the forecasting methods being applied and other modelling approaches employed. It also describes the results of modelling.

Scope

The scope of the project is to develop long-term health service activity forecasts for the ACT population and ACT hospitals and develop a tool to access the forecasts and model scenarios.

The forecasts are for the following:

- Acute admitted care, including intensive care and operating theatre activity.
- Sub- and non-acute admitted care.
- Emergency department care.

The forecast horizon is to 2040–41.

Report structure

The report is structured as follows:

Chapters 1-7 provide a descriptive analysis of the base case forecasts.

- Chapter 1: Executive summary
- Chapter 2: Overview of forecast activity
- Chapter 3: Forecast activity by Enhanced Service Related Groups (ESRG)
- Chapter 4: Forecast activity by Statistical Area level 3 (SA3) of patient residence
- Chapter 5: Forecast activity by hospital of treatment
- Chapter 6: Forecasts of other activity measures
- Chapter 7: Forecast activity for emergency departments

- Chapter 8: Factors contributing to predicted growth

Chapters 9 and 10 focus on describing the source data used for developing the forecasts and the steps that were required to address missing data and inconsistency in these data.

- Chapter 9: Population trends and projections
- Chapter 10: Activity data

Chapters 11-18 focus on describing the methods applied to develop forecasts.

- Chapter 11: Overview of the forecasting and modelling approaches
- Chapter 12: Forecasts of rates for ACT residents
- Chapter 13: Modelling of relative utilisation for ACT residents
- Chapter 14: Forecast methods for Southern NSW residents and other interstate residents
- Chapter 15: Calibration of forecasts for maternity services and babies with projected births
- Chapter 16: Forecast methods for average length of stay
- Chapter 17: Simulation of key attributes of forecast activity
- Chapter 18: Methods for forecasting emergency department services

There are several appendices that provide more detail on specific methods. These include:

- Appendix A: Definitions of service streams
- Appendix B: Data variables included in forecast activity
- Appendix C: Forecast activity by SRG
- Appendix D: Forecast activity by ESRG
- Appendix E: Forecast average length of stay by ESRG, ACT public hospitals
- Appendix F: Descriptions of SRG and ESRG version 6, with ACT modification

Chapter 1

Executive summary

This report presents the results of a project that developed health service activity projections for the ACT Health system. The project was undertaken by [Health Policy Analysis](#) through an engagement with the ACT Health Directorate. The focus of the current phase of this engagement is admitted patient care and emergency department care. Later phases will focus on non-admitted and community based care.

The main aim of this work is to provide a foundation for effective planning and commissioning of health services. The focus for these forecasts is the medium (5-10 years) to long-term (20 years), rather than the immediate future. The forecasts are for annual levels of health care activity.

The forecasts were developed using activity data up to 30 June 2021 and the population estimates and projections available at June 2022. Later activity data (for 2021-22) is now available. Additionally population projections and estimated resident population estimates have been updated. These updates have not been incorporated into the projections but will be in future periods.

The results presented in this report reflect what is referred to as the *base case* forecasts. As part of the project, Health Policy Analysis also implemented an application that facilitates the development of *scenarios*. Using this application, scenarios can be created to reflect alternative assumptions around projected populations, forecast utilisation rates, average length of stay and flows of patients between their place of residence and place of treatment, as well as several other variables.

The forecasts that have been developed aim to capture many dimensions of health care activity. Some of the main dimensions include:

- The clinical nature of activity, which is reflected in the *service stream* (including acute, sub-acute, mental health and emergency department activity) and the *Service Related Group (SRG)* and *Enhanced Service Related Group (ESRG)* for the activity.
- The *stay type* reflecting whether the activity occurs on a same day or overnight basis.
- The *length of stay* of the episode or *average length of stay (ALOS)* of a group of episodes.
- The *age group* of the patient.
- The *sex* of the patient. The projection was done for “male” and “female”, but episodes recorded against “other” sex in the historical data were brought forward to the projection years. Gender identity is however an important feature of the health system. Going forward the introduction of “gender” variable in national minimum data set (NMDS) will provide the opportunity to better include gender as part of the forecasting. This will be done as part of a future methodological update.

- The *place of residence* of the patient, which is represented by the Statistical Area Level 3 (SA3).
- The *place of treatment* of the patient, which is the hospital of treatment although in some cases hospitals have been grouped up (for example all private hospitals in the ACT are represented as a single group).

Chapter 11 provides an overview of the forecasting and modelling approaches taken in developing the base case forecasts. The main starting point for these forecasts is to analyse the historical data to produce a set of time series trends reflecting each combination of ESRG, stay type, age group and sex. The historical time series are then converted to rates per 1,000 population for the ACT population. Forecast models are applied to these rates, and from these models forecasts rates are generated. Similar models are applied to average length of stay time series.

Forecast rates are then applied to population projections at the SA3 level to generate the expected level of activity for the SA3. A further set of models are developed to predict the level of variation that is likely to occur at the SA3 level in future periods. Variation is expressed as a *Relative Utilisation (RU)* ratio which is the ratio of the observed to expected activity multiplied by 100. By applying the modelled RUs to the expected activity, a forecast of activity can be generated for each SA3 for each combination of ESRG, stay type, age group and sex.

The approach described takes into account *population growth, population ageing, trends in utilisation rates and geographic variation*. Slightly different approaches are applied to activity related to interstate patients, but each of the factors mentioned are also taken into account.

Simulation modelling is then applied to the forecast activity to model where patients will receive treatment and a range of other characteristics of the episodes. The simulation modelling generates data at an episode level, allowing relevant relationships between episode characteristics to be retained. A further step is applied to ensure episode-level length of stay values are aligned with the forecast ALOS values.

Finally the episode-level data is summarised to facilitate analysis and use in various activities including health service planning.

The following sections present a range of analyses of the base case forecasts. Some of the key highlights include:

- The ACT population is projected to increase from 432,266 in 2021 to 539,356 in 2041, an average annual increase of 1.1%.
- In ACT public hospitals, same day activity is forecast to increase from 68,992 episodes in 2021 to 103,693 episodes in 2041, an average annual increase of 2.1%
- In ACT public hospitals, overnight activity is forecast to increase from 55,294 episodes in 2021 to 76,061 episodes in 2041, an average annual increase of 1.6%

Chapter 2

Overview of forecast activity

This chapter provides an overview of the *base case* activity forecasts. Each chart and table includes data from the historical or observed years (up to 2020-21), and the forecast years (from 2021-22 to 2040-41).

Service stream

Figure 2.1 shows the trends in observed and forecast activity by service stream. This includes public and private sector activity. The trends are broken into *same day* and *overnight*. Most of the following charts and tables separate activity into these *stay types*. A typical pattern is that growth rates for *same day* episodes is higher than for *overnight* episodes.

Additional data is provided in Table 2.1. This table, and similar tables provided later, show the counts of episodes. These tables often include a measure of the average growth rate over the previous 5 years. These are provided for the 2020-21, 2025-26, 2030-31, 2035-36 and 2040-41 financial years.

i Growth rates presented in tables

These growth rates presented in various tables below are generally calculated based on the prior five-years, using the the *compound annual growth rate* or *CAGR* measure. This is calculated as follows:

$$\left(\left(\frac{P_t}{P_{t-5}} \right)^{(1/5)} - 1 \right) \times 100$$

where P_t is the population or other measure in year t , and this is the latest year in the five year block.

Age group - Acute stream

Figure 2.2 shows the trends in observed and forecast activity by age and sex for acute services. This includes public and private sector activity. Additional data is provided in Table 2.2.

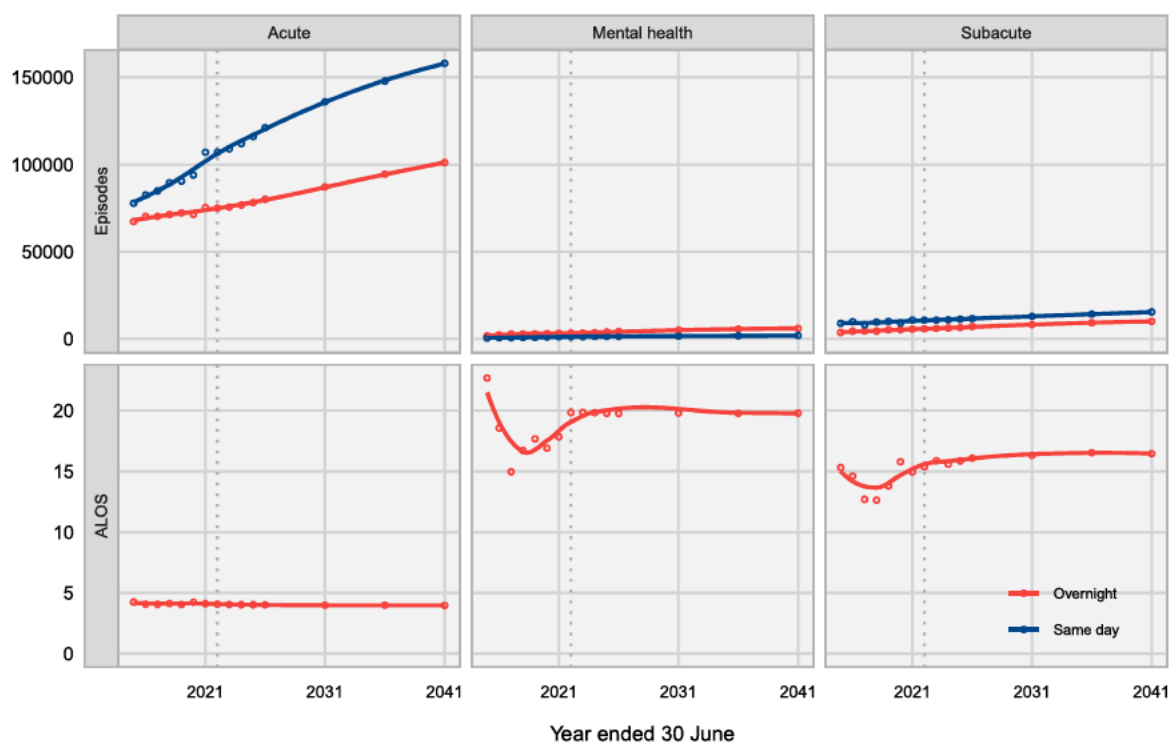


Figure 2.1: Historical and forecasted episodes (inc. private sector) by service stream

Table 2.1: Historical and forecasted episodes (inc. private sector) by service stream

Service stream	Stay type	Episodes ('000), year ended 30 June						5 year CAGR				
		2016	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041
Population		403.1	432.3	454.0	482.1	510.5	539.4	1.4%	1.0%	1.2%	1.2%	1.1%
Acute	Same day	82.5	107.0	121.1	136.0	147.8	158.0	5.3%	2.5%	2.7%	2.4%	2.0%
	Overnight	70.3	75.3	80.1	87.2	94.5	101.1	1.4%	1.2%	1.7%	1.7%	1.6%
Mental health	Same day	0.8	1.3	1.5	1.6	1.8	1.9	12.1%	2.7%	2.6%	2.1%	1.9%
	Overnight	2.3	3.4	4.3	5.1	5.7	6.1	8.1%	5.0%	4.7%	3.8%	3.0%
Subacute	Same day	9.9	10.9	11.7	13.0	14.2	15.5	1.9%	1.5%	2.1%	2.1%	2.0%
	Overnight	4.5	5.6	7.1	8.3	9.3	10.1	4.5%	4.8%	4.0%	3.4%	2.8%

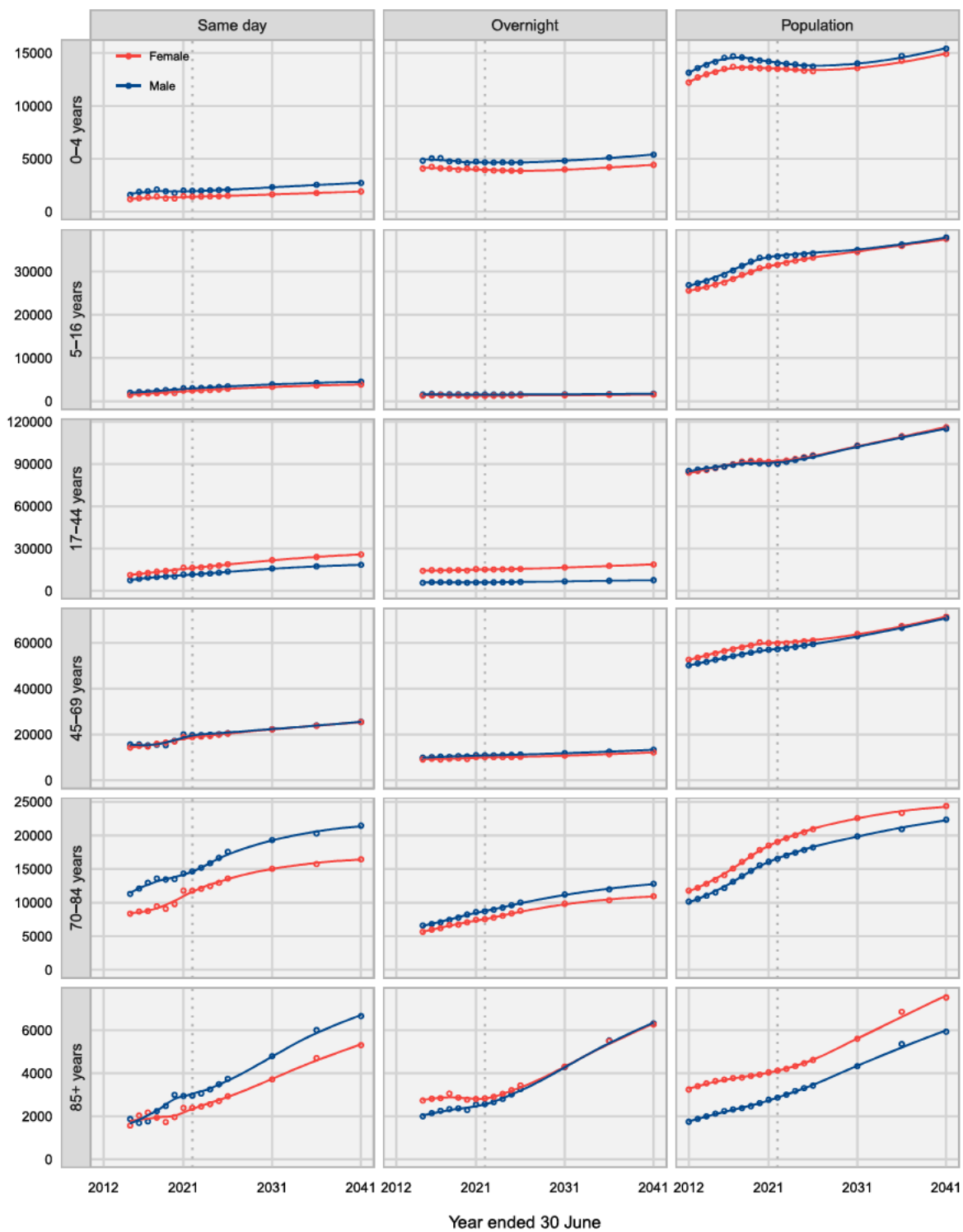


Figure 2.2: Historical and forecasted episodes (inc. private sector) and population by age, acute care stream

Table 2.2: Historical and forecasted episodes (inc. private sector) and population by age, acute care stream

Age group/Sex/Measure	Episodes ('000), year ended 30 June						5 year CAGR					
	2016	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041	
0-4 years												
Female	Population	13.5	13.5	13.3	13.6	14.3	14.9	0.1%	-0.4%	0.4%	1.0%	0.9%
	Same day	1.3	1.5	1.5	1.6	1.8	1.9	3.0%	0.4%	1.6%	1.6%	1.7%
	Overnight	4.2	4.0	3.9	4.0	4.2	4.4	-0.9%	-0.9%	0.1%	0.6%	0.8%
Male	Population	14.6	14.2	13.7	14.0	14.7	15.4	-0.5%	-0.7%	0.4%	1.0%	0.9%
	Same day	1.9	2.0	2.1	2.3	2.5	2.7	1.2%	1.0%	1.9%	1.9%	1.8%
	Overnight	5.0	4.7	4.6	4.8	5.1	5.4	-1.2%	-0.4%	0.3%	0.7%	0.9%
5-16 years												
Female	Population	27.4	31.3	33.2	34.5	35.9	37.5	2.7%	1.2%	0.8%	0.8%	0.9%
	Same day	1.7	2.5	2.9	3.3	3.6	3.9	7.3%	3.3%	3.4%	2.9%	2.4%
	Overnight	1.4	1.2	1.3	1.4	1.5	1.5	-2.0%	1.5%	1.2%	1.2%	1.2%
Male	Population	29.2	33.3	34.2	35.0	36.3	37.9	2.7%	0.5%	0.5%	0.7%	0.9%
	Same day	2.1	3.0	3.4	3.9	4.2	4.5	6.8%	3.0%	3.0%	2.6%	2.1%
	Overnight	1.7	1.5	1.6	1.6	1.7	1.7	-1.9%	0.6%	0.5%	0.5%	0.7%
17-44 years												
Female	Population	88.2	91.4	96.2	103.1	109.8	116.1	0.7%	1.0%	1.4%	1.3%	1.1%
	Same day	11.9	16.3	18.8	21.7	24.0	25.8	6.5%	2.9%	3.3%	2.9%	2.4%
	Overnight	14.6	15.4	15.5	16.5	17.7	18.7	1.0%	0.2%	1.0%	1.2%	1.2%
Male	Population	88.2	90.2	95.7	102.7	109.1	115.0	0.4%	1.2%	1.4%	1.2%	1.1%
	Same day	8.4	11.6	13.6	15.7	17.2	18.4	6.5%	3.3%	3.5%	2.9%	2.4%
	Overnight	6.0	5.9	6.2	6.7	7.1	7.5	-0.3%	1.0%	1.3%	1.4%	1.3%
45-69 years												
Female	Population	56.4	59.9	61.0	63.9	67.3	71.5	1.2%	0.4%	0.9%	1.1%	1.2%
	Same day	15.0	18.8	20.4	22.2	23.8	25.4	4.6%	1.7%	1.8%	1.7%	1.6%
	Overnight	9.4	10.1	10.2	10.8	11.4	12.2	1.5%	0.2%	0.7%	1.0%	1.1%
Male	Population	53.4	57.0	59.4	62.9	66.6	70.8	1.3%	0.8%	1.1%	1.2%	1.2%
	Same day	15.7	20.0	20.5	22.3	23.9	25.5	5.0%	0.5%	1.4%	1.5%	1.5%
	Overnight	10.1	11.0	11.2	11.8	12.5	13.3	1.6%	0.5%	0.9%	1.1%	1.1%
70-84 years												
Female	Population	14.1	18.5	20.9	22.6	23.3	24.4	5.6%	2.5%	1.5%	0.7%	0.9%
	Same day	8.7	11.8	13.6	15.0	15.7	16.4	6.3%	2.9%	2.8%	2.1%	1.7%
	Overnight	6.0	7.4	8.8	9.8	10.4	10.9	4.5%	3.4%	3.0%	2.2%	1.8%
Male	Population	12.2	16.1	18.2	19.8	20.9	22.3	5.7%	2.5%	1.7%	1.1%	1.3%
	Same day	12.1	14.3	17.6	19.3	20.3	21.5	3.5%	4.2%	3.1%	2.2%	1.8%
	Overnight	6.8	8.6	10.0	11.2	12.0	12.8	4.7%	3.1%	2.9%	2.3%	1.9%
85+ years												
Female	Population	3.7	4.0	4.6	5.6	6.9	7.5	1.7%	2.7%	3.9%	4.1%	1.9%
	Same day	2.0	2.4	2.9	3.7	4.7	5.3	3.3%	4.1%	5.0%	5.1%	4.4%
	Overnight	2.8	2.8	3.4	4.3	5.5	6.3	-0.1%	4.2%	4.8%	5.0%	4.4%
Male	Population	2.2	2.8	3.4	4.3	5.4	5.9	4.2%	4.4%	4.8%	4.4%	2.1%
	Same day	1.7	2.9	3.7	4.8	6.0	6.7	11.7%	4.9%	5.5%	5.3%	4.3%
	Overnight	2.1	2.5	3.3	4.3	5.5	6.3	3.5%	5.1%	5.9%	5.8%	4.9%

Table 2.3: Historical and forecasted episodes by sector, acute care stream

Sector	Stay type	Episodes ('000), year ended 30 June						5 year CAGR				
		2016	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041
ACT public	Same day	56.1	69.0	79.1	89.2	96.8	103.7	4.2%	2.8%	2.9%	2.4%	2.1%
	Overnight	49.7	55.3	59.5	65.0	70.8	76.1	2.1%	1.5%	1.8%	1.8%	1.8%
Interstate public	Same day	1.8	2.3	2.9	3.2	3.3	3.5	5.0%	4.7%	2.1%	1.8%	1.8%
	Overnight	2.0	1.9	2.2	2.4	2.5	2.7	-1.2%	3.0%	1.5%	1.4%	1.5%
Private	Same day	24.8	36.0	39.7	44.3	48.5	51.7	7.7%	2.0%	2.5%	2.3%	2.0%
	Overnight	18.7	18.5	18.8	20.4	21.8	23.0	-0.2%	0.4%	1.3%	1.4%	1.3%

Sector

Figure 2.3 shows the trends in observed and forecast acute activity by the hospital “sector”, that is the ACT public hospitals as a group, Interstate public hospitals and ACT private hospitals. Additional data is provided in Table 2.3.

It is important to be aware that data was not available for most ACT private hospitals in all the historical years. In fact, private hospital data was only complete for the latest three years. To address these data gaps, private hospital activity for earlier years was imputed, and adjusted to reflect trends in data derived from private health insurance benefits paid to private hospitals in the ACT. Details of the approach are described in Chapter 10.

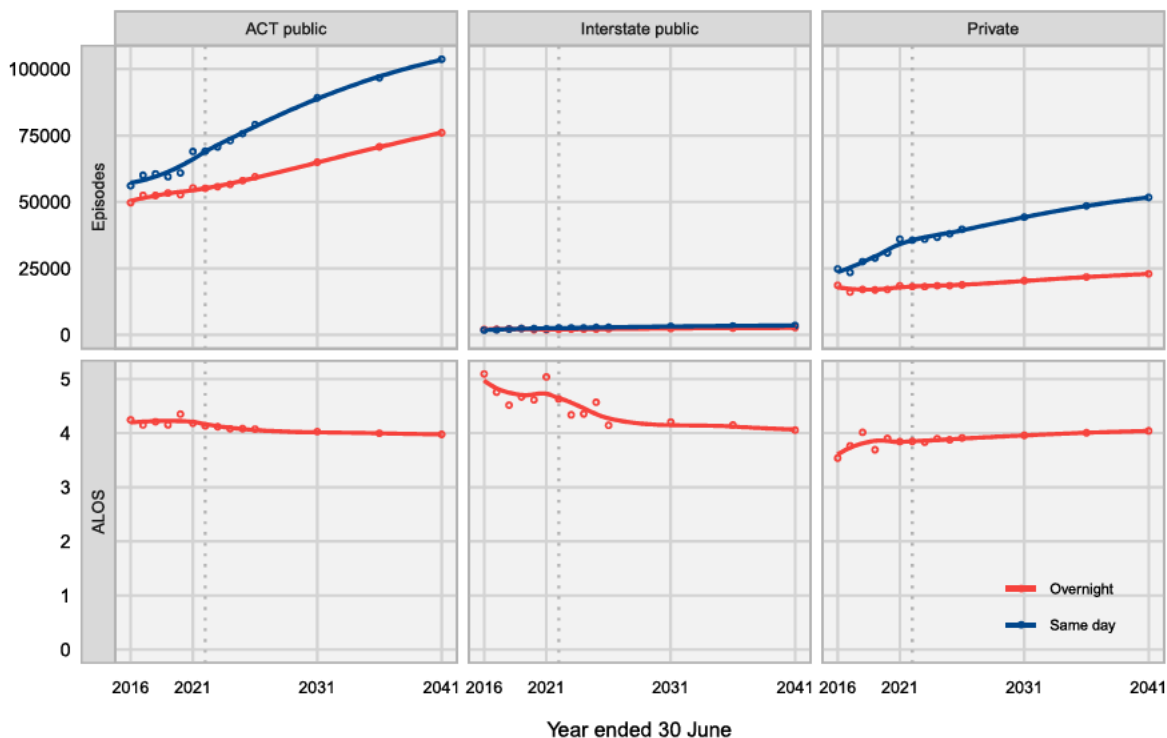


Figure 2.3: Historical and forecasted episodes by sector, acute care stream

Table 2.4: Historical and forecasted acute episodes by place of residence, acute care stream

State/Territory	Stay type	Episodes ('000), year ended 30 June						5 year CAGR				
		2016	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041
ACT residents	Same day	70.3	87.9	99.1	110.9	120.4	128.8	4.6%	2.4%	2.6%	2.3%	2.0%
	Overnight	54.1	56.4	60.1	65.6	71.3	76.5	0.8%	1.3%	1.7%	1.8%	1.7%
NSW	Same day	11.6	17.7	20.7	23.8	26.2	28.1	8.7%	3.2%	3.2%	2.7%	2.2%
	Overnight	15.7	17.8	19.0	20.6	22.3	23.7	2.6%	1.3%	1.7%	1.6%	1.5%
Interstate other	Same day	0.4	0.4	0.4	0.4	0.5	0.5	-0.3%	1.1%	1.4%	1.3%	1.0%
	Overnight	0.5	0.3	0.3	0.4	0.4	0.4	-8.2%	-0.1%	0.4%	0.2%	0.3%
Other	Same day	0.3	1.3	1.4	1.5	1.5	1.6	32.8%	1.3%	1.4%	1.1%	0.8%
	Overnight	0.1	1.1	1.1	1.1	1.1	1.1	50.8%	-1.3%	0.5%	0.4%	0.3%

State of residence

Figure 2.4 and Table 2.4 show historical and forecast trends by the state of residence of the patient.

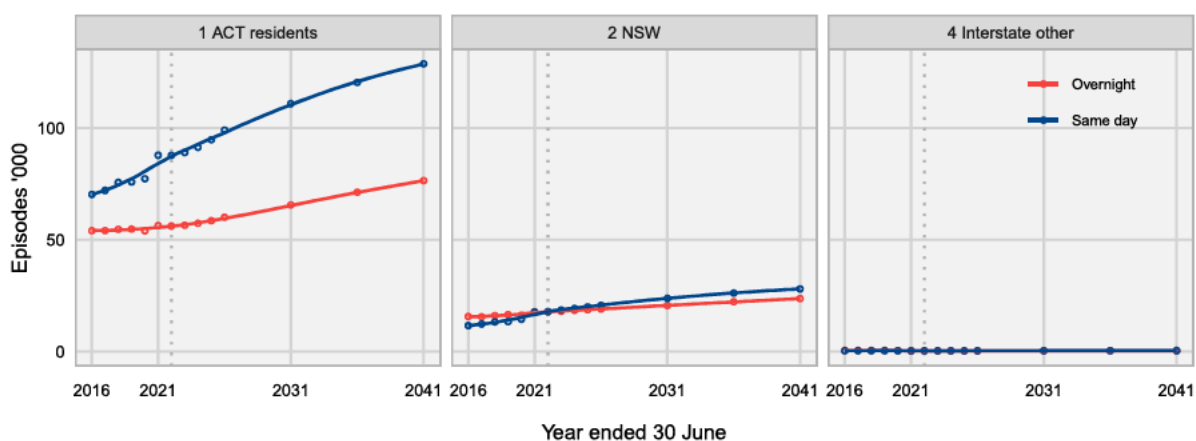


Figure 2.4: Historical and forecasted acute episodes by state of residence, acute care stream

Chapter 3

Forecasts by ESRG

This chapter provides an overview of the results for the *initial* version of the Base case forecasts at the ESRG level. Below we provide some examples of forecast activity by ESRG. More detail on forecasts for all SRGs is provided in Appendix C and for ESRGs in Appendix D.

i Service Related Groups (SRGs) and Enhanced Service Related Groups (ESRGs)

Service Related Groups (SRGs), and their subcategories, the Enhanced Service Related Groups (ESRGs) are groupings of health service activities used in health service planning in Australia. SRGs are designed to largely reflect the specialties associated with the types of health care activity, while ESRGs break these down to reflect some of the important sub-components of care within a SRGs. SRGs and ESRGs were originally developed in the 1990s through work commissioned by NSW Health. Versions of these classifications have been adopted and used by the Australian Institute of Health and Welfare (AIHW), other states and territories, and private sector organisations. NSW Health has periodically updated the ESRG/SRG classifications with the latest version, Version 6, developed in 2020 based on AR-DRG version 10. For this project the NSW Version 6 SRG/ESRGs have been used with the permission of NSW Health. Some modifications have been made to address specific issues for the ACT.

SRGs and ESRGs are derived from the classifications used for admitted care, namely the Australian Refined Diagnosis Related Groups (AR-DRGs) for acute care and the Sub- and Non-Acute Patient (AN-SNAP) classification for sub and non-acute care.

A gap that exists is that there is no SRG/ESRG equivalent for emergency care. An approach has been developed for this project, based on the Australian Emergency Care Classification (AECC) Version 1.

Figure 3.1 shows the historical and forecasted activity for the ESRGs that are within the SRG 11 *Cardiology* and Figure 3.1 shows similar data for the ESRG within the SRG 49 *Orthopaedics*.

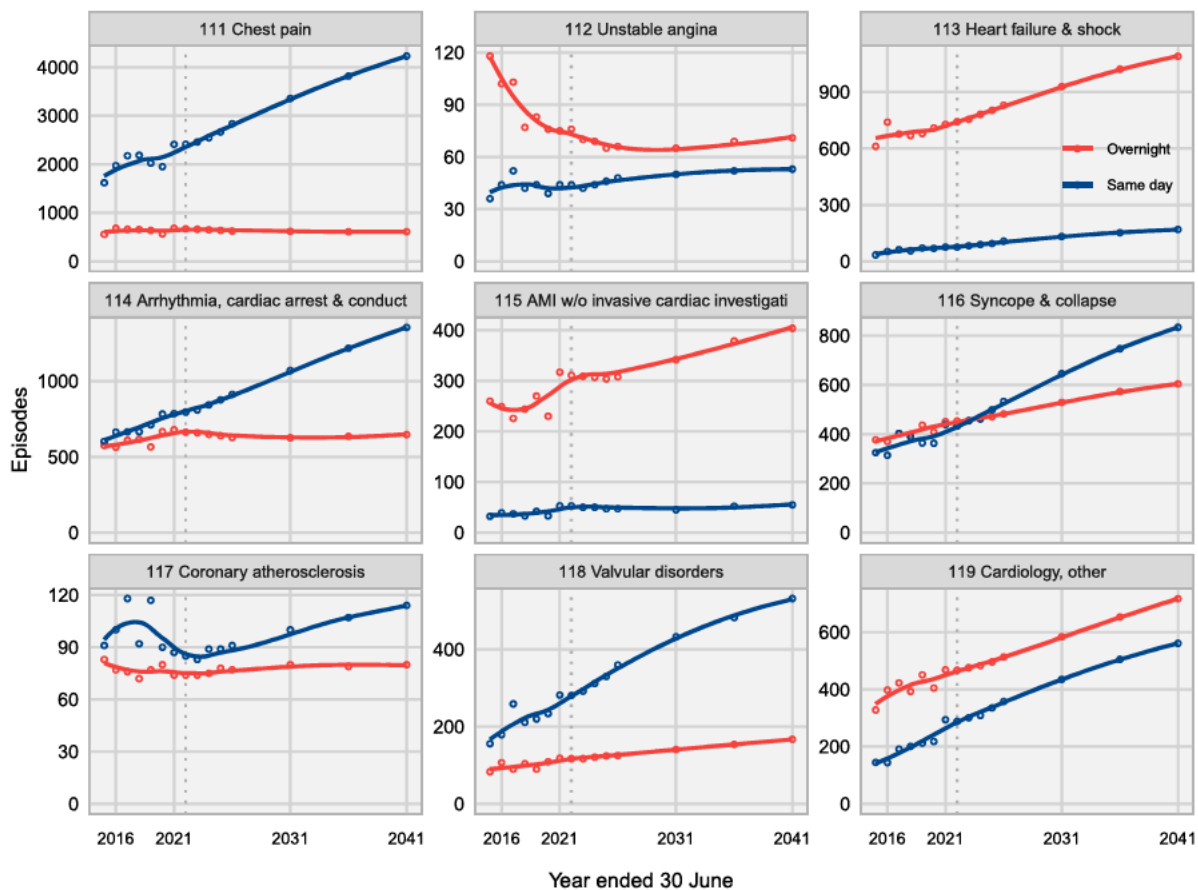


Figure 3.1: Historical and forecasted episodes for SRG 11 Cardiology

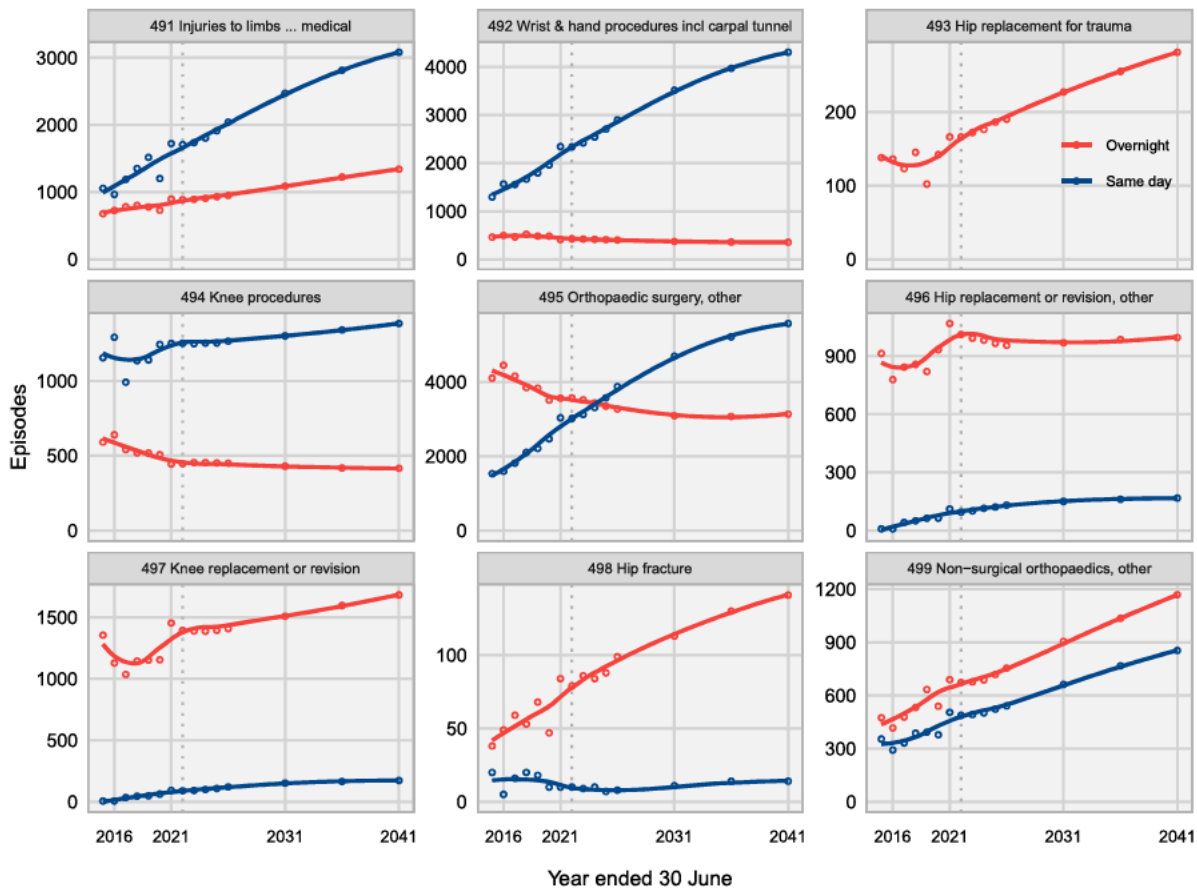


Figure 3.2: Historical and forecasted episodes for SRG 49 Orthopaedics

Chapter 4

Forecasts at SA3 level

This chapter provides an overview of the results for the *initial* version of the Base case forecasts at the SA3 level. There are several issues related to the population projections used for developing these forecasts, which are discussed in more detail in Chapter 5. To provide context for the forecasts, we have also presented the projected populations for each of the SA3s.

Figure 4.1 shows the historical and forecasted activity for the SA3s that form the main catchments for the proposed Northside hospital. The trends in activity growth are similar to population trends for these SA3. The exception is 80103 Canberra East. This SA3 has a very small resident population and in some steps of the modelling it was combined with 80105 North Canberra. As a result the pattern of growth forecast for Canberra East is more closely aligned with North Canberra. (Refinements to the base case forecasts with address this issue).

Figure 4.2 shows the historical and forecast activity for other ACT SA3s, mostly located to in the south of Canberra. Other than 80106 Canberra South, populations are forecast to remain largely the same or decline in these SA3 and the activity forecasts follow these trends.

Table 4.1 and Table 4.2 show the historical and forecast counts for the SA3s in the ACT and NSW, together with the Compound Annual Growth Rate (CAGR) calculated over the prior 5 years.

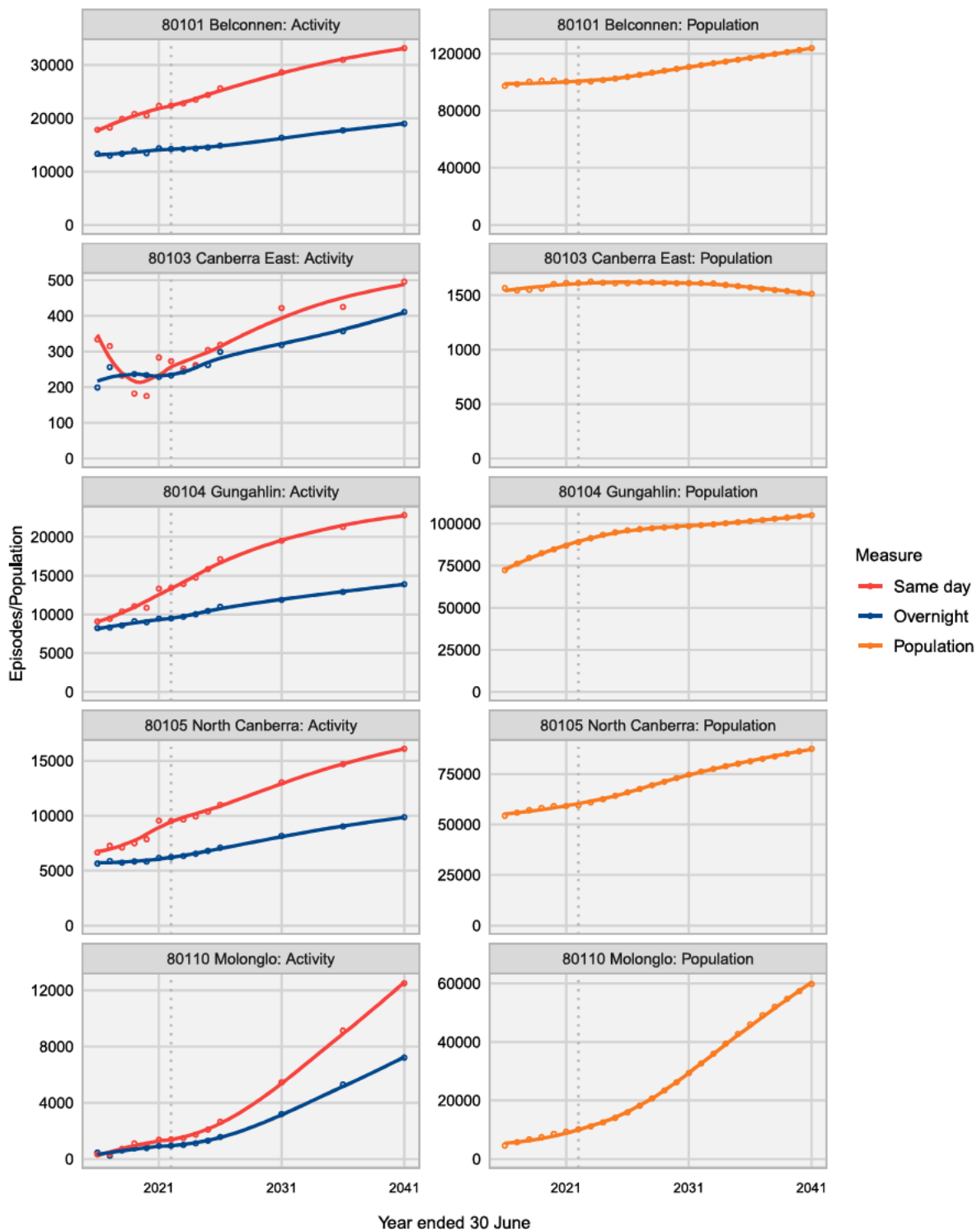


Figure 4.1: Historical and forecasted episodes by SA3 in the Northside catchment

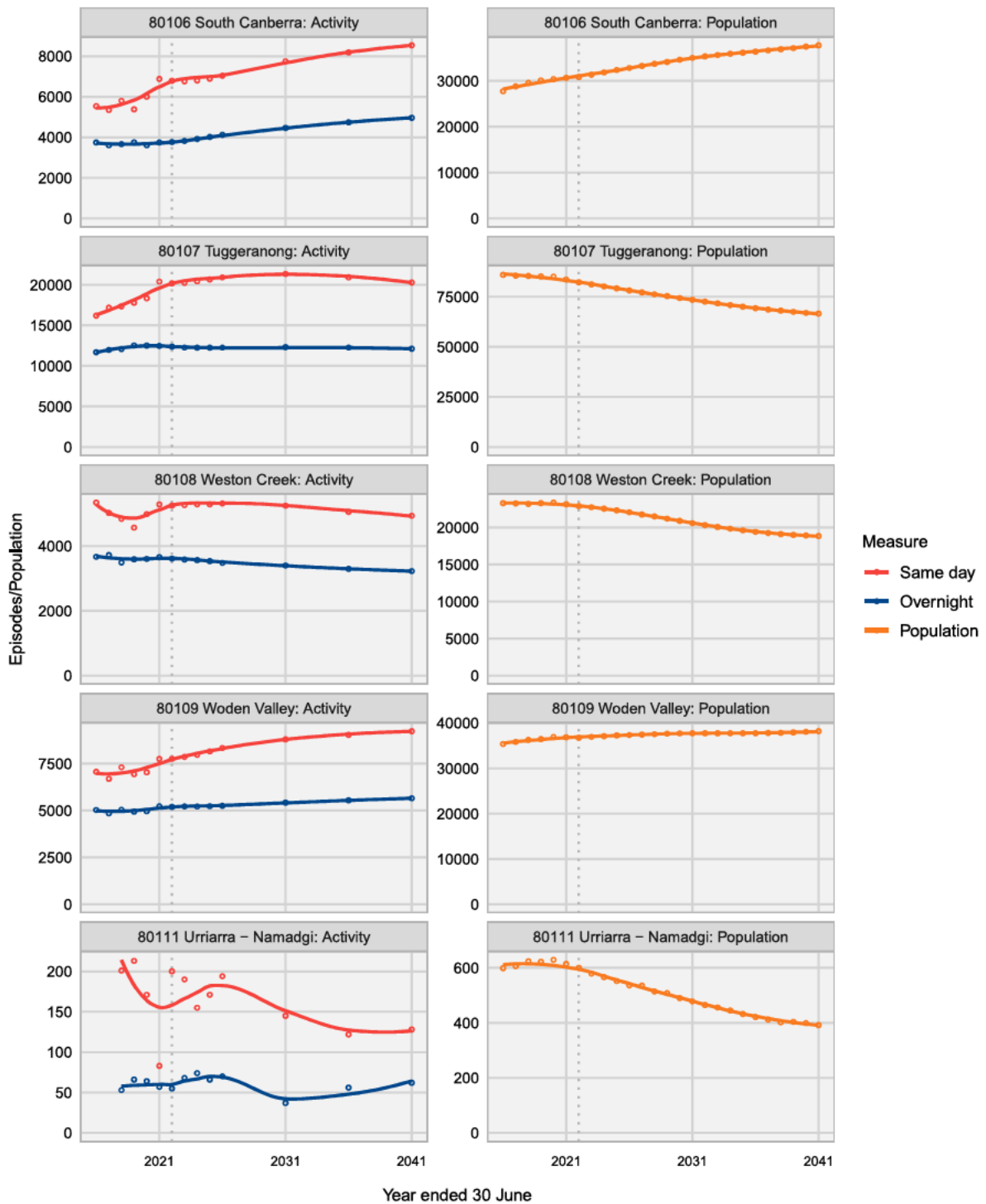


Figure 4.2: Historical and forecasted episodes by other ACT SA3s

Table 4.1: Historical and forecasted episodes by all ACT SA3

ACT SA3	Stay type	Episodes ('000), year ended 30 June						5 year CAGR (%)				
		2016	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041
80101 Belconnen	Same day	17.9	22.3	25.6	28.6	31.0	33.2	4.6%	2.8%	2.8%	2.4%	2.1%
	Overnight	13.3	14.4	14.9	16.4	17.8	19.0	1.5%	0.7%	1.6%	1.7%	1.7%
80103 Canberra East	Same day	0.3	0.3	0.3	0.4	0.4	0.5	-3.3%	2.4%	5.0%	4.1%	3.8%
	Overnight	0.2	0.2	0.3	0.3	0.4	0.4	2.8%	5.5%	3.5%	3.0%	2.8%
80104 Gungahlin	Same day	9.1	13.3	17.1	19.5	21.3	22.8	7.9%	5.2%	4.3%	3.3%	2.6%
	Overnight	8.2	9.4	11.0	11.9	12.9	13.9	2.8%	3.1%	2.5%	2.2%	1.9%
80105 North Canberra	Same day	6.6	9.5	11.0	13.0	14.7	16.1	7.5%	2.9%	3.6%	3.3%	2.9%
	Overnight	5.6	6.2	7.1	8.2	9.0	9.9	1.8%	2.8%	3.1%	2.8%	2.5%
80110 Molonglo	Same day	0.3	1.4	2.6	5.5	9.1	12.5	33.7%	14.0%	16.4%	14.9%	12.3%
	Overnight	0.5	0.9	1.6	3.2	5.3	7.2	15.4%	10.9%	14.6%	13.7%	11.6%
80106 South Canberra	Same day	5.5	6.9	7.0	7.7	8.2	8.5	4.4%	0.5%	1.5%	1.5%	1.3%
	Overnight	3.7	3.7	4.1	4.5	4.7	5.0	0.0%	2.0%	1.9%	1.7%	1.4%
80107 Tuggeranong	Same day	16.2	20.4	20.9	21.3	20.9	20.3	4.7%	0.5%	0.6%	0.3%	0.0%
	Overnight	11.7	12.5	12.3	12.3	12.3	12.1	1.3%	-0.3%	-0.1%	0.0%	-0.1%
80108 Weston Creek	Same day	5.3	5.3	5.3	5.2	5.1	4.9	-0.2%	0.1%	0.0%	-0.3%	-0.4%
	Overnight	3.7	3.7	3.5	3.4	3.3	3.2	-0.1%	-1.0%	-0.7%	-0.6%	-0.6%
80109 Woden Valley	Same day	7.1	7.8	8.3	8.8	9.0	9.2	1.9%	1.5%	1.4%	1.1%	0.9%
	Overnight	5.0	5.2	5.3	5.4	5.5	5.7	0.8%	0.1%	0.5%	0.5%	0.5%
80111 Urriarra - Namadgi	Same day		<0.1	0.2	0.1	0.1	0.1		18.5%	-3.5%	-3.4%	-1.1%
	Overnight		<0.1	<0.1	<0.1	<0.1	<0.1		4.2%	-4.3%	-1.5%	-1.0%
89999 No usual address (ACT)	Same day	1.9	0.6	0.6	0.6	0.6	0.6	-20.0%	-0.7%	0.1%	0.1%	0.0%
	Overnight	2.1	0.1	<0.1	<0.1	<0.1	<0.1	-45.4%	-2.7%	0.4%	0.2%	0.3%

Table 4.2: Historical and forecasted episodes by NSW SA3

NSW SA3	Stay type	Episodes ('000), year ended 30 June						5 year CAGR (%)				
		2016	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041
10000 NSW other	Same day	0.5	0.7	0.8	0.9	1.0	1.1	4.1%	3.0%	3.7%	3.2%	2.7%
	Overnight	1.0	0.8	0.8	0.9	1.0	1.1	-4.1%	0.6%	1.5%	1.7%	1.7%
10101 Goulburn - Yass (10105, 10106)	Same day	3.5	4.6	5.4	6.1	6.6	7.0	5.9%	3.1%	3.0%	2.4%	2.0%
	Overnight	4.1	4.5	4.9	5.2	5.6	5.9	2.0%	1.4%	1.6%	1.5%	1.3%
10102 Queanbeyan	Same day	4.8	7.8	9.2	10.8	12.1	13.2	10.1%	3.5%	3.6%	3.0%	2.6%
	Overnight	5.4	6.1	6.8	7.6	8.4	9.2	2.6%	2.0%	2.3%	2.2%	2.1%
10103 Snowy Mountains	Same day	0.7	1.2	1.3	1.5	1.6	1.7	10.3%	2.8%	2.7%	2.2%	1.8%
	Overnight	1.2	1.4	1.5	1.5	1.6	1.6	3.0%	0.6%	0.9%	1.0%	0.9%
10104 South Coast	Same day	1.5	2.7	3.1	3.5	3.7	3.8	12.4%	2.9%	2.8%	2.1%	1.6%
	Overnight	2.9	3.9	4.1	4.3	4.6	4.7	6.1%	0.8%	1.2%	1.1%	1.0%
10302 Lachlan Valley	Same day	0.1	0.1	0.1	0.2	0.2	0.2	3.7%	2.8%	2.6%	2.1%	1.8%
	Overnight	0.2	0.2	0.2	0.2	0.2	0.2	-0.9%	-0.1%	0.3%	0.6%	0.5%
10901 Albury	Same day	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	28.8%	2.9%	3.1%	4.0%	3.6%
	Overnight	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2.2%	0.8%	2.5%	2.6%	2.6%
11301 Griffith - Murrumbidgee (West)	Same day	<0.1	<0.1	<0.1	<0.1	0.1	0.1	5.3%	3.2%	2.6%	2.4%	2.2%
	Overnight	0.2	0.1	0.1	0.1	0.2	0.2	-1.2%	0.4%	0.2%	0.9%	0.8%
11302 Tumut - Tumbarumba	Same day	<0.1	<0.1	0.1	0.1	0.1	0.1	6.5%	2.8%	1.8%	1.9%	1.1%
	Overnight	0.1	<0.1	<0.1	<0.1	<0.1	0.1	-6.0%	-0.4%	-0.1%	0.2%	0.4%
11303 Wagga Wagga	Same day	0.3	0.3	0.4	0.4	0.5	0.5	3.2%	3.6%	3.3%	2.8%	2.3%
	Overnight	0.4	0.4	0.4	0.4	0.5	0.5	1.1%	0.4%	0.9%	0.9%	1.0%
11401 Shoalhaven	Same day	0.1	0.2	0.2	0.2	0.2	0.2	8.4%	2.3%	3.6%	3.1%	2.6%
	Overnight	0.1	0.1	0.1	0.1	0.2	0.2	-3.2%	1.3%	1.5%	2.2%	2.1%

Chapter 5

Forecasts at hospital level

This chapter provides an overview of the results for the *initial* version of the Base case forecasts at the hospital level. The hospital level forecasts grouped the ACT private hospitals into one category: *ACT private*. For presentation purposes, interstate hospitals have also been grouped into one category: *Interstate Public*.

Figure 5.1 shows the historical and forecast activity for *acute stream* episodes by the hospital of treatment.

Figure 5.2 shows the historical and forecast activity for *sub-acute stream* episodes by the hospital of treatment. In the chart, activity for Clare Holland House - a unit managed by Calvary Public Hospital Bruce - is shown separately. The University of Canberra Hospital commenced in 2017-18 focusing on sub-acute care. At the time selected services were transferred from Calvary Public Hospital Bruce and The Canberra Hospital.



Figure 5.1: Historical and forecast acute stream episodes and ALOS by hospital (excludes interstate public hospitals)

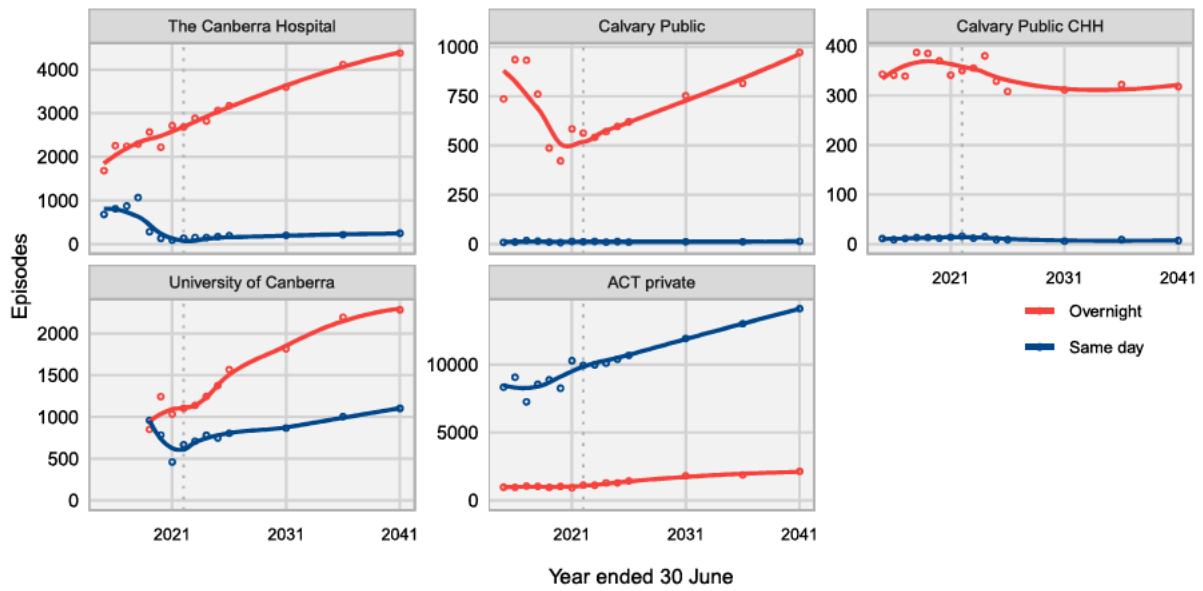


Figure 5.2: Historical and forecast subacute stream episodes by hospital

Chapter 6

Forecasts for other activity measures

This chapter provides an overview of the results for the Base case forecasts for several other measures, with a focus on the two main public hospitals in the ACT: The Canberra Hospital and Calvary Public Hospital Bruce.

Figure 6.1 shows the historical and forecasted episodes involving a stay in an Intensive Care Unit (ICU), Coronary Care Unit (CCU), Neonatal Intensive Care Unit (NICU) or Special Care Nursery (SCN). The mean hours is also shown.

Figure 6.2 shows the historical and forecasted episodes involving operating room procedures and the mean hours in the operating theatre is shown together with mean recovery unit hours. The historical data for these measures is based on data on ward/unit transfers provided to HPA.

Figure 6.3 shows the historical and forecasted episodes involving hospital in the home (HITH) and the mean length of stay in HITH.

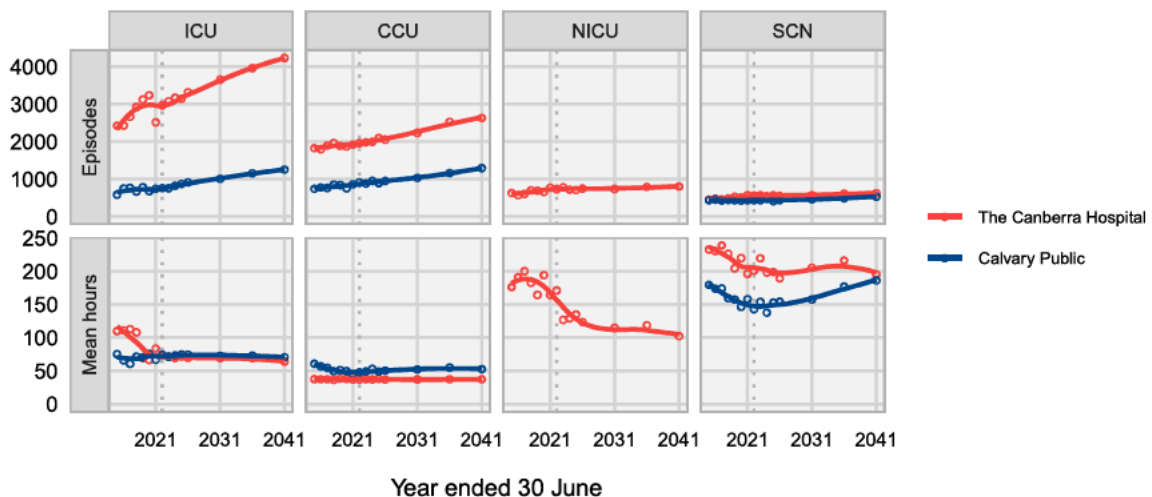


Figure 6.1: Historical and forecasted acute stream episodes involving stay ICU, CCU, NICU or SCN

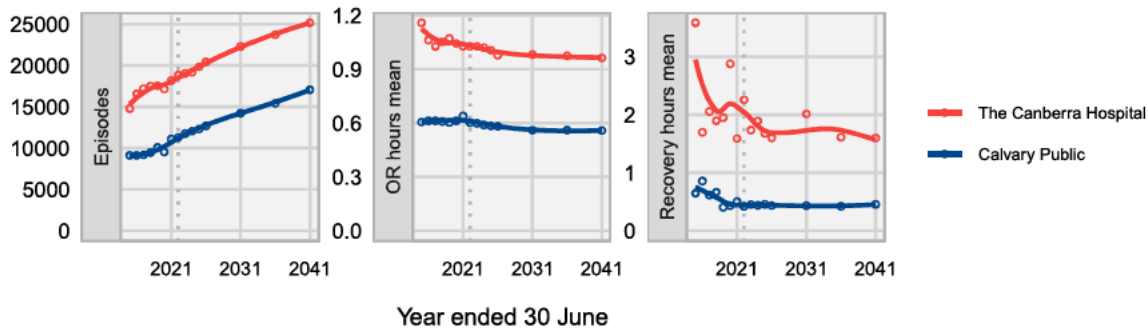


Figure 6.2: Historical and forecasted acute stream episodes involving operating theatre procedure

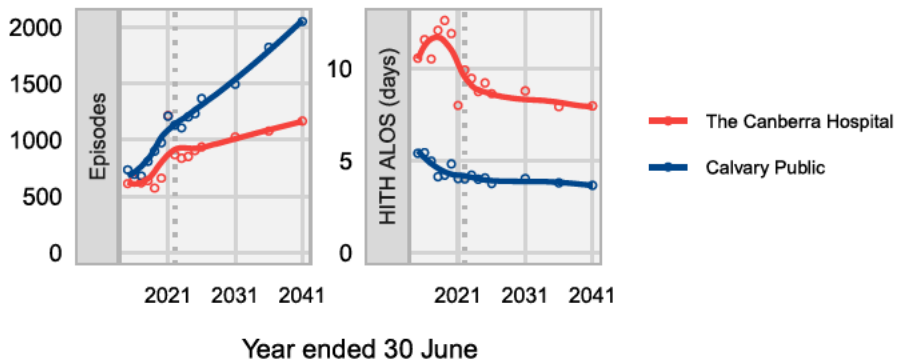


Figure 6.3: Historical and forecasted acute stream episodes involving Hospital in the Home

Chapter 7

Emergency department forecasts

This chapter provides an overview of the results for the emergency department base case forecasts.

Overall ED activity

Table 7.1 shows the observed and projected activity for the overall ACT population, total emergency department episodes, which are separated into emergency presentations and pre-EDC episodes. The pre-EDC episodes relate to the AECC classes for:

- E0001Z Not attended by a health care professional
- E0002Z Planned return visit, and
- E0003Z Dead on arrival.

The table also includes the average annual growth rate for the prior 5 years for the 2020-21, 2025-26, 2030-31, 2035-36 and 2040-41 financial years.

The charts that follow show the observed and forecast trends for overall emergency department episodes (Figure 7.1), hospital (Figure 7.2), triage category (Figure 7.3) and episode end status (Figure 7.4).

Table 7.1: Observed and forecast population and emergency department episodes

Measure		Episodes ('000), year ended 30 June						5 year CAGR (%)				
		2016	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041
Population	Population	403.1	432.3	454.0	482.1	510.5	539.4	1.4%	1.0%	1.2%	1.2%	1.1%
Total ED Episodes	Pre EDG	6.9	8.5	7.0	6.9	6.9	7.0	4.1%	-3.7%	-1.8%	-1.0%	-0.5%
	Emergency episodes	128.5	145.3	169.5	193.2	215.5	235.8	2.5%	3.1%	3.1%	2.8%	2.5%
Hospital (a)	Calvary Public	54.6	56.7	67.8	79.3	90.7	101.0	0.8%	3.6%	3.7%	3.5%	3.0%
	The Canberra Hospital	73.9	88.6	101.7	113.9	124.8	134.8	3.7%	2.8%	2.7%	2.4%	2.1%
Triage category (a)	Resuscitation	0.6	0.9	1.2	1.4	1.6	1.7	8.4%	4.8%	4.1%	3.9%	2.9%
	Emergency	13.7	18.5	20.7	23.6	26.0	28.1	6.1%	2.3%	2.9%	2.6%	2.3%
	Urgent	47.5	60.1	74.3	84.6	94.9	104.4	4.8%	4.3%	3.2%	2.9%	2.6%
	Semi-urgent	51.6	54.4	61.9	70.6	78.7	85.6	1.1%	2.6%	3.0%	2.8%	2.4%
	Non-urgent	15.0	11.3	11.4	12.9	14.2	16.0	-5.5%	0.1%	3.0%	2.5%	2.5%
Episode end status (a)	Admitted	39.9	52.0	59.5	68.5	76.9	84.4	5.5%	2.7%	3.3%	3.1%	2.7%
	Non-admitted	85.8	88.6	105.0	118.8	131.8	143.8	0.6%	3.5%	2.9%	2.7%	2.4%
	Referred to another hospital	1.6	1.8	2.1	2.5	3.0	3.3	2.7%	3.7%	3.5%	3.5%	3.3%
	Left at own risk	1.2	2.8	2.9	3.2	3.6	4.1	18.8%	0.5%	3.2%	3.1%	2.8%
	Died in ED	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	-2.5%	8.8%	2.4%	2.8%	2.7%

^a Emergency presentations only. Excludes Pre EDG classes

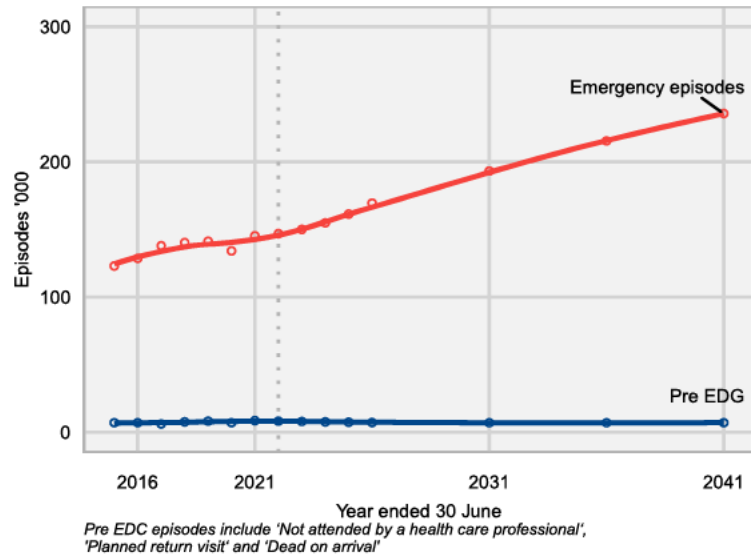


Figure 7.1: Observed and forecast emergency department episodes

Adjacent AECC group

Figure 7.5 and Figure 7.6 show trends for adjacent AECC classes related to respiratory and circulatory conditions. Table 7.2 shows the trends in observed and forecast emergency department activity across all the adjacent AECC classes.

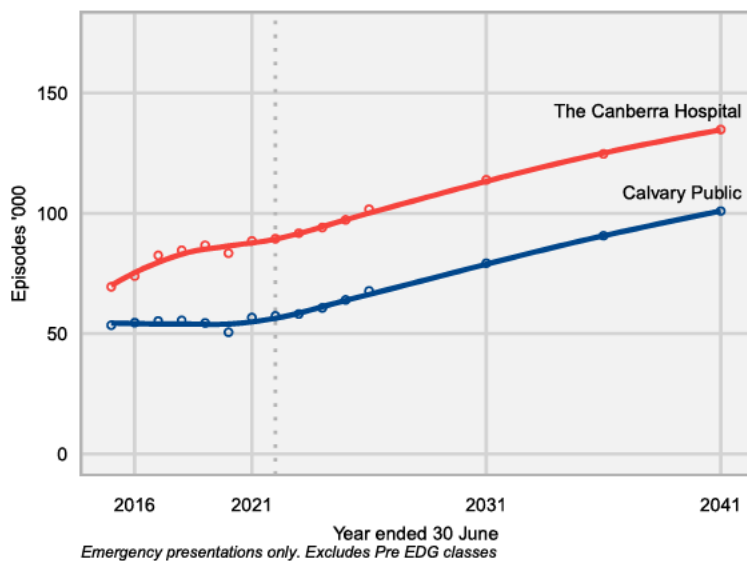


Figure 7.2: Observed and forecast emergency department episodes by hospital

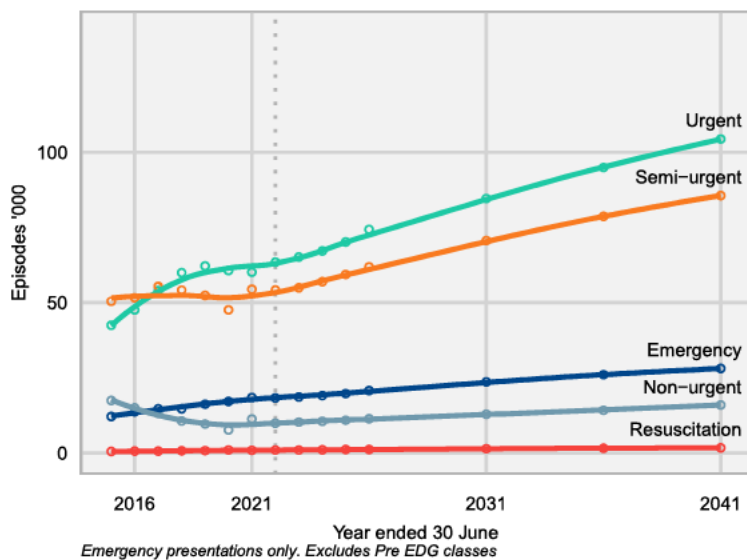


Figure 7.3: Observed and forecast emergency department episodes by triage category

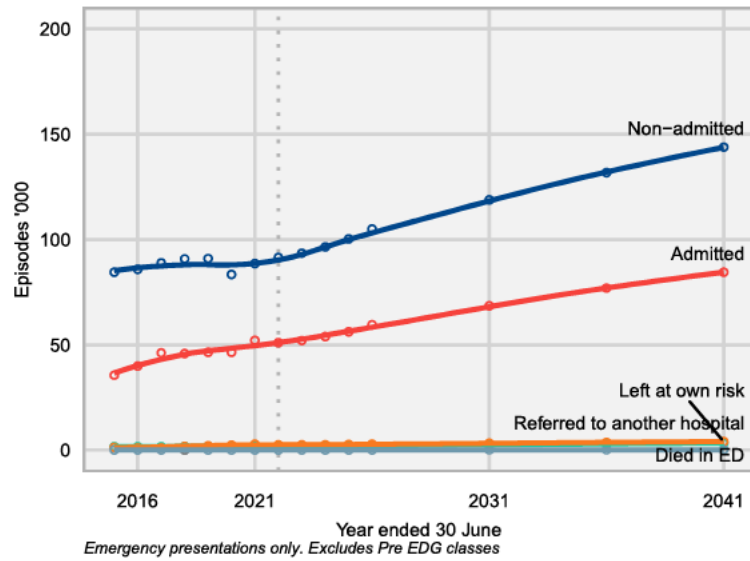


Figure 7.4: Observed and forecast emergency department episodes by episode end status

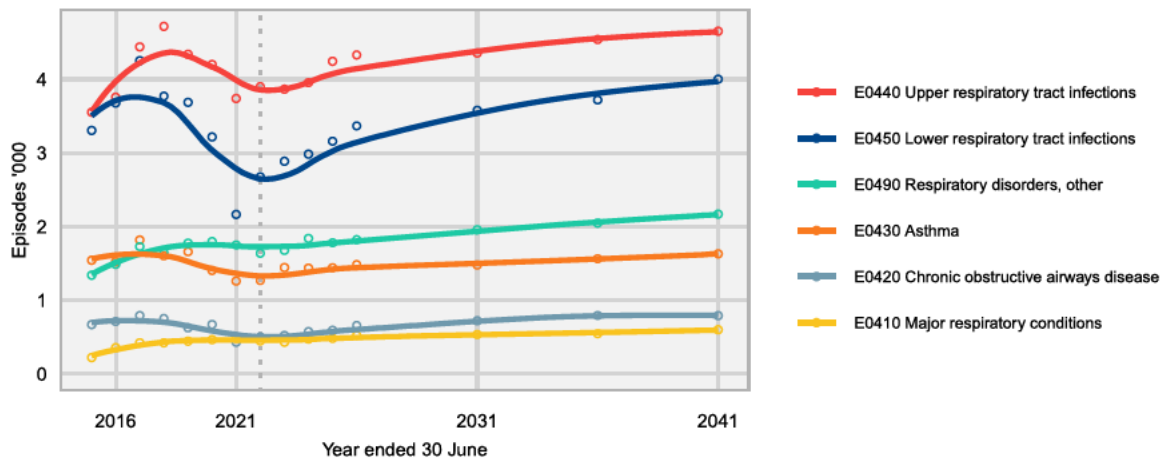


Figure 7.5: Observed and forecast emergency department episodes adjacent AECC - Respiratory conditions

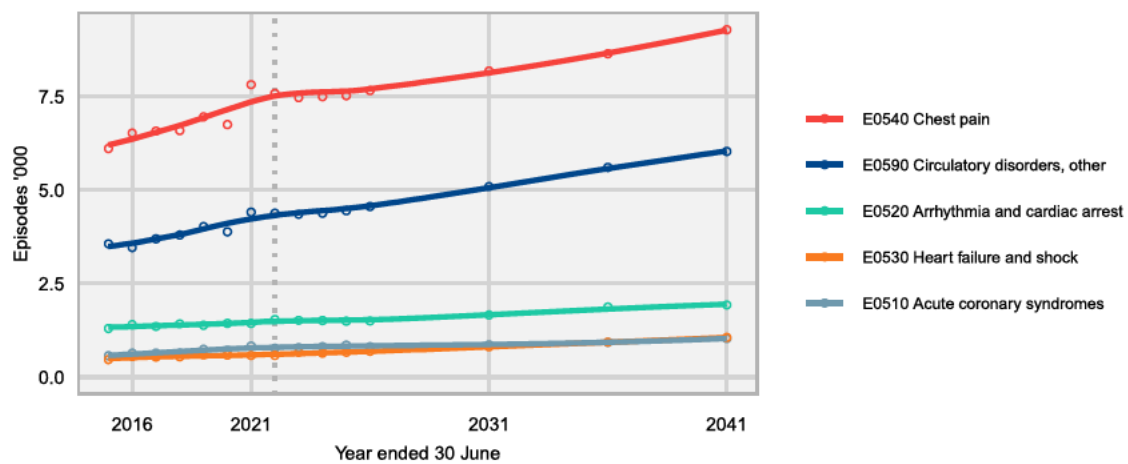


Figure 7.6: Observed and forecast emergency department episodes adjacent AECC - Respiratory conditions

Table 7.2: Observed and forecast emergency department episodes by episode end status

AECC	Episodes ('000), year ended 30 June						5 year CAGR (%)				
	2016	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041
E0001 Not attended by a healthcare professional	6.3	7.2	6.0	5.9	5.9	6.0	2.8%	-3.6%	-1.9%	-1.0%	-0.5%
E0002 Planned return visit	0.6	1.2	1.0	1.0	1.0	1.0	14.5%	-4.6%	-1.2%	-0.8%	-0.6%
E0003 Dead on arrival	<0.1		<0.1	<0.1	<0.1	<0.1		-14.5%	-13.6%	-3.6%	-2.4%
E0110 Dementia and other chronic brain syndromes	<0.1	<0.1	0.1	0.2	0.2	0.3	-2.6%	12.7%	9.2%	6.8%	5.3%
E0120 Delirium	0.3	0.5	0.6	0.8	1.0	1.0	11.7%	4.3%	5.8%	5.6%	3.8%
E0130 Stroke and other cerebrovascular disorders	0.6	0.8	1.1	1.4	1.6	1.8	5.4%	5.9%	5.1%	4.8%	3.9%
E0140 TIA and precerebral occlusion	0.4	0.4	0.5	0.6	0.7	0.8	0.3%	4.2%	4.5%	4.6%	4.3%
E0150 Seizures	0.6	0.7	0.9	1.0	1.1	1.2	4.8%	3.3%	4.9%	3.1%	3.0%
E0160 Convulsions	0.6	0.5	0.7	0.7	0.8	0.9	-2.5%	6.6%	2.6%	2.5%	2.9%
E0170 Headaches	2.3	2.8	3.2	3.7	4.2	4.5	4.2%	2.3%	3.4%	3.1%	2.8%
E0190 Nervous system and neurological disorders	1.9	1.2	2.0	2.4	2.7	3.0	-8.4%	10.5%	4.9%	3.9%	2.7%
E0290 Eye disorders	2.4	3.0	3.5	3.9	4.3	4.8	4.7%	3.1%	2.8%	2.9%	2.6%
E0310 Ear, nose, mouth and throat disorders	2.3	2.5	3.1	3.5	4.0	4.4	1.9%	4.6%	3.8%	3.4%	2.8%
E0320 Disorders of the teeth and supporting structures	1.0	1.3	1.4	1.6	1.8	2.0	5.1%	1.6%	3.3%	2.6%	2.8%
E0410 Major respiratory conditions	0.4	0.5	0.5	0.5	0.5	0.6	6.2%	1.8%	2.0%	1.9%	1.4%
E0420 Chronic obstructive airways disease	0.7	0.4	0.7	0.7	0.8	0.8	-9.6%	8.9%	4.2%	3.3%	1.9%
E0430 Asthma	1.5	1.3	1.5	1.5	1.6	1.6	-3.7%	3.3%	1.7%	0.6%	0.7%
E0440 Upper respiratory tract infections	3.8	3.7	4.3	4.4	4.5	4.7	-0.1%	3.0%	1.2%	1.2%	1.0%
E0450 Lower respiratory tract infections	3.7	2.2	3.4	3.6	3.7	4.0	-10.1%	9.3%	3.3%	2.0%	1.7%
E0490 Respiratory disorders, other	1.5	1.8	1.8	2.0	2.0	2.2	3.3%	0.8%	2.0%	1.5%	1.0%
E0510 Acute coronary syndromes	0.6	0.8	0.8	0.9	0.9	1.0	5.4%	-0.6%	1.3%	1.2%	1.4%
E0520 Arrhythmia and cardiac arrest	1.4	1.4	1.5	1.7	1.9	1.9	0.4%	0.9%	0.8%	1.6%	1.4%
E0530 Heart failure and shock	0.6	0.6	0.7	0.8	0.9	1.1	0.9%	3.6%	3.8%	2.6%	3.0%
E0540 Chest pain	6.5	7.8	7.7	8.2	8.7	9.3	3.7%	-0.4%	0.8%	1.1%	1.3%
E0590 Circulatory disorders, other	3.5	4.4	4.6	5.1	5.6	6.0	4.9%	0.7%	1.7%	2.0%	1.9%
E0610 Gastrointestinal haemorrhage	0.6	0.8	0.9	1.0	1.2	1.5	6.0%	1.9%	3.3%	3.2%	3.6%
E0620 Gastrointestinal obstruction	0.4	0.6	0.7	0.8	0.9	1.0	6.6%	4.1%	4.6%	3.9%	3.4%
E0630 Peritonitis and gastrointestinal perforation	0.9	1.0	1.1	1.3	1.4	1.6	3.0%	2.9%	2.7%	2.6%	2.6%
E0640 Oesophagitis and gastroenteritis	3.1	2.6	3.5	4.0	4.4	4.9	-3.6%	6.1%	3.3%	2.6%	2.7%
E0650 Abdominal pain	9.3	11.1	12.2	13.9	15.7	17.1	3.6%	2.0%	2.8%	2.8%	2.5%
E0690 Digestive system disorders, other	3.7	4.1	4.8	5.5	6.2	6.8	2.4%	2.8%	3.1%	3.0%	2.5%
E0710 Liver disorders	0.2	0.3	0.3	0.4	0.4	0.5	5.6%	2.1%	3.4%	3.6%	2.6%
E0720 Gall bladder, bile duct and pancreas disorders	1.1	1.3	1.5	1.6	1.9	2.1	3.3%	3.5%	3.2%	2.6%	2.6%
E0890 Musculoskeletal and musculotendinous disorders	5.3	7.2	7.1	7.9	8.8	9.8	6.2%	-0.3%	1.3%	1.8%	2.1%
E0910 Skin and subcutaneous tissue infections	2.8	3.6	4.1	4.8	5.4	6.1	5.4%	2.5%	3.2%	3.2%	2.9%
E0990 Skin disorders, other	2.1	2.1	2.6	3.0	3.4	3.7	0.5%	4.2%	3.2%	3.0%	2.4%
E1010 Diabetes	0.3	0.2	0.3	0.3	0.4	0.4	-4.1%	5.5%	1.9%	2.5%	3.0%
E1090 Metabolic and nutritional disorders, other	0.9	1.0	1.3	1.5	1.7	2.1	2.1%	5.9%	3.9%	3.7%	3.7%
E1110 Kidney failure	0.3	0.3	0.4	0.5	0.6	0.6	4.6%	4.1%	5.6%	3.8%	3.7%
E1120 Urinary stones and obstruction	1.0	1.1	1.2	1.4	1.7	1.8	2.2%	2.1%	3.1%	3.3%	2.8%

(continued)

AECC	Episodes ('000), year ended 30 June						5 year CAGR (%)				
	2016	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041
E1130 Kidney and urinary tract infections	2.0	2.1	2.5	2.9	3.3	3.7	1.0%	3.5%	3.8%	3.3%	2.9%
E1190 Kidney and urinary tract disorders, other	1.2	1.5	1.8	2.1	2.3	2.5	4.4%	3.6%	3.5%	3.1%	3.1%
E1290 Male genitourinary disorders	0.6	0.7	0.8	0.9	1.1	1.2	4.5%	3.4%	3.5%	3.3%	2.4%
E1390 Gynaecological disorders	1.4	1.8	1.7	1.8	1.8	1.9	5.5%	-1.2%	0.8%	0.5%	0.6%
E1410 Postpartum and post abortion conditions	0.4	0.5	0.5	0.4	0.5	0.5	2.0%	-0.9%	0.7%	0.4%	0.7%
E1420 Antenatal and other obstetric conditions	1.5	1.2	1.3	1.3	1.5	1.5	-3.2%	1.1%	0.0%	1.0%	0.9%
E1590 Perinatal disorder	<0.1	0.1	<0.1	0.1	<0.1	<0.1	11.7%	-3.4%	-0.9%	-0.6%	-0.2%
E1610 Immune system disorders	0.3	0.2	0.3	0.4	0.4	0.4	-7.3%	7.3%	3.4%	2.9%	2.4%
E1620 Red blood cell disorders	0.3	0.4	0.4	0.6	0.7	0.7	5.7%	3.1%	5.3%	3.6%	2.7%
E1630 Haemostasis disorders	<0.1	<0.1	0.1	0.1	0.1	0.1	-0.7%	7.0%	3.2%	2.4%	1.8%
E1790 Neoplasms	0.4	0.4	0.5	0.6	0.8	0.8	0.4%	5.7%	4.5%	4.4%	3.7%
E1810 Septicaemia	0.5	0.5	0.9	1.0	1.1	1.2	0.4%	12.6%	6.5%	4.6%	3.3%
E1820 Viral illnesses	3.7	4.9	6.6	7.8	8.5	9.2	5.8%	6.0%	5.0%	3.7%	2.9%
E1830 Fever of unknown origin	0.9	1.0	1.5	1.7	1.9	2.0	3.6%	7.9%	4.5%	3.7%	2.8%
E1890 Infectious and parasitic diseases, other	0.2	0.2	0.3	0.3	0.4	0.4	-1.2%	10.9%	3.1%	4.1%	2.9%
E1910 Alcohol and drug related mental and behavioural disorders	1.0	1.2	1.5	1.8	2.0	2.2	4.1%	3.3%	4.7%	3.9%	3.1%
E1920 Psychoses	0.8	0.9	1.2	1.4	1.6	1.9	2.4%	6.6%	4.2%	3.8%	3.2%
E1990 Mental, behavioural and neurodevelopment disorders, other	3.2	4.7	5.9	7.0	7.9	8.4	8.1%	4.5%	4.5%	3.7%	3.1%
E2010 Head, intracranial, spine, internal organ and other complex injuries	1.5	1.4	2.0	2.3	2.7	2.9	-1.2%	7.1%	3.5%	3.2%	2.7%
E2020 Pelvic and femoral fractures	0.6	0.7	0.8	1.0	1.2	1.3	3.6%	3.6%	4.9%	4.3%	3.8%
E2025 Fractures, dislocations and ligament injuries	12.6	14.2	16.8	19.3	21.6	23.7	2.5%	3.4%	3.3%	3.0%	2.7%
E2030 Injuries, other	7.7	10.4	11.9	13.7	15.4	16.8	6.1%	2.8%	3.2%	3.0%	2.6%
E2040 Finger, toe and superficial injuries	8.4	9.6	10.8	12.7	14.1	15.7	2.8%	2.3%	3.4%	3.1%	2.7%
E2050 Burns	0.6	0.6	0.8	0.8	0.9	1.0	-1.1%	5.6%	3.2%	2.6%	2.4%
E2060 Poisoning	1.5	1.4	1.8	2.2	2.4	2.7	-1.9%	5.9%	3.4%	3.5%	3.2%
E2070 Allergic reactions	0.9	1.4	1.7	1.8	2.1	2.2	9.0%	3.7%	3.3%	3.2%	2.6%
E2080 Complications of surgical and medical care	1.3	1.6	2.0	2.3	2.6	2.8	4.7%	4.4%	4.0%	3.1%	2.7%
E5010 Pain syndrome	0.2	<0.1	0.2	0.2	0.2	0.2	-21.1%	33.6%	2.4%	3.0%	1.9%
E5090 Symptoms, other	1.9	2.2	2.5	3.0	3.4	3.8	2.9%	2.4%	3.5%	3.5%	3.1%
E6010 Forensic examination	0.4	0.2	0.6	0.7	0.8	0.9	-13.1%	23.2%	4.3%	3.3%	2.8%
E6020 Abuse and neglect	0.1	<0.1	0.1	0.1	0.2	0.1	-19.4%	28.5%	2.5%	3.6%	1.9%
E6090 Other factors influencing health status	1.7	2.9	3.2	3.8	4.4	4.9	12.2%	1.6%	4.2%	3.6%	3.2%

State of residence

Figure 7.7 and Table 7.3 show observed and forecast trends for emergency department activity by the state of residence of the patient. Table 7.3 also includes the SA3 of a patient's residence.

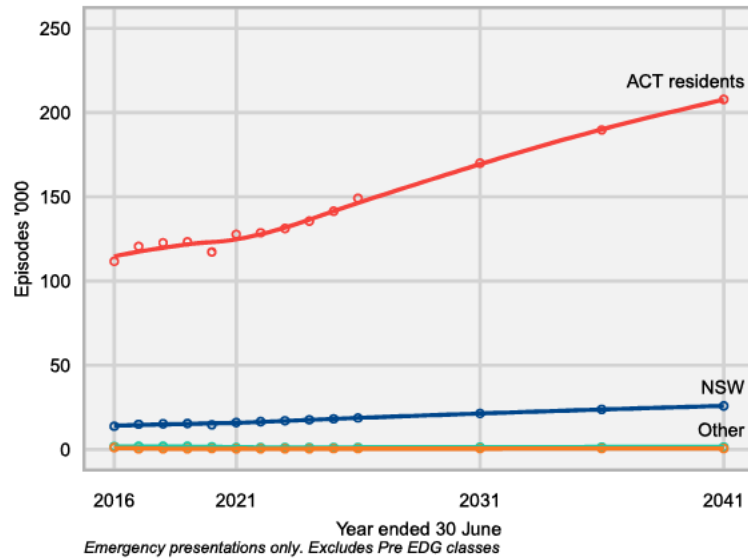


Figure 7.7: Observed and forecast emergency department episodes by state of residence

Age group and sex

Figure 7.8 shows the trends in observed and forecast emergency department activity by age group and sex for ACT residents. Additional data is provided in Table 7.4, including a comparison with population trends for ACT residents.

Table 7.3: Observed and forecast emergency department episodes by state of residence

Residence	Episodes ('000), year ended 30 June						5 year CAGR (%)				
	2016	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041
ACT residents											
80101 Belconnen	31.1	34.1	38.5	44.3	49.5	54.2	1.9%	2.5%	2.9%	2.8%	2.5%
80103 Canberra East	0.5	0.6	0.7	0.9	1.1	1.2	2.4%	4.6%	5.3%	3.9%	3.9%
80104 Gungahlin	19.1	22.7	29.1	32.3	35.3	38.3	3.4%	5.1%	3.8%	3.0%	2.4%
80105 North Canberra	13.1	14.9	18.2	22.1	25.3	28.2	2.5%	4.2%	4.4%	4.0%	3.4%
80106 South Canberra	6.7	7.5	9.1	10.5	11.5	12.4	2.1%	4.1%	3.7%	3.1%	2.5%
80107 Tuggeranong	24.3	27.5	28.9	29.7	30.0	30.1	2.5%	1.0%	0.8%	0.6%	0.4%
80108 Weston Creek	6.4	6.9	7.5	7.6	7.6	7.6	1.3%	1.6%	0.9%	0.5%	0.3%
80109 Woden Valley	9.5	10.7	11.9	12.9	13.5	14.2	2.5%	2.1%	2.0%	1.7%	1.4%
80110 Molonglo	0.9	2.5	4.7	9.3	15.4	21.0	23.8%	13.3%	15.5%	14.2%	11.9%
80111 Urriarra - Namadgi		0.1	0.1	0.1	0.2	0.1		-1.8%	-0.5%	0.8%	0.1%
89999 No usual address (ACT)		0.3	0.3	0.3	0.3	0.4	-9.1%	2.2%	2.0%	1.6%	1.3%
Interstate other											
10000 NSW other	2.2	2.4	2.8	3.1	3.5	3.8	2.2%	2.8%	2.7%	2.5%	2.2%
NSW											
10101 Goulburn - Yass (10105, 10106)	3.5	4.3	5.0	5.7	6.2	6.6	4.4%	3.0%	2.6%	2.2%	1.9%
10102 Queanbeyan	5.9	6.6	7.9	9.2	10.4	11.6	2.3%	3.7%	3.2%	2.9%	2.7%
10103 Snowy Mountains	0.6	0.7	0.8	0.9	1.0	1.1	4.2%	2.7%	2.4%	2.1%	1.8%
10104 South Coast	1.0	1.2	1.4	1.6	1.7	1.8	2.6%	3.1%	2.6%	2.2%	1.8%
10302 Lachlan Valley	0.1	<0.1	0.1	0.1	0.1	0.1	-1.7%	1.2%	1.9%	2.0%	1.7%
10901 Albury	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	6.4%	2.4%	3.5%	3.9%	3.6%
11301 Griffith - Murrumbidgee (West)	<0.1	<0.1	<0.1	0.1	0.1	0.1	2.7%	1.8%	2.2%	2.1%	1.8%
11302 Tumut - Tumbarumba	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2.8%	0.9%	2.1%	1.9%	1.6%
11303 Wagga Wagga	0.2	0.3	0.3	0.3	0.4	0.4	4.1%	2.4%	2.7%	2.3%	1.9%
11401 Shoalhaven	0.1	0.1	0.2	0.2	0.2	0.2	3.4%	3.8%	3.9%	3.4%	3.1%
20000 Interstate other	1.9	1.2	1.3	1.4	1.4	1.5	-9.1%	2.1%	1.5%	1.3%	1.1%
Other											
99999 No usual address (OT)	1.2	0.4	0.5	0.5	0.6	0.6	-18.3%	2.6%	2.2%	1.9%	1.5%

^a Emergency presentations only. Excludes Pre EDG classes

Table 7.4: Observed and forecast emergency department episodes by age group and sex, ACT residents only

Sex	Measure	Episodes ('000), year ended 30 June						5 year CAGR				
		2016	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041
00-04 years												
Female	Population	13.5	13.5	13.3	13.6	14.3	14.9	0.1%	-0.4%	0.4%	1.0%	0.9%
	ED episodes	5.4	5.6	6.8	7.6	8.4	8.8	0.4%	4.3%	3.2%	2.9%	2.1%
Male	Population	14.6	14.2	13.7	14.0	14.7	15.4	-0.5%	-0.7%	0.4%	1.0%	0.9%
	ED episodes	7.3	7.2	8.7	9.6	10.3	11.1	-0.2%	3.6%	3.0%	2.4%	2.0%
05-16 years												
Female	Population	27.4	31.3	33.2	34.5	35.9	37.5	2.7%	1.2%	0.8%	0.8%	0.9%
	ED episodes	6.0	7.0	8.4	9.2	10.0	11.1	3.1%	3.7%	3.0%	2.4%	2.3%
Male	Population	29.2	33.3	34.2	35.0	36.3	37.9	2.7%	0.5%	0.5%	0.7%	0.9%
	ED episodes	7.1	7.9	9.2	9.9	10.9	11.8	2.0%	3.2%	2.3%	2.2%	2.0%
17-44 years												
Female	Population	88.2	91.4	96.2	103.1	109.8	116.1	0.7%	1.0%	1.4%	1.3%	1.1%
	ED episodes	25.1	29.4	32.5	37.1	41.4	45.3	3.3%	2.0%	2.7%	2.6%	2.4%
Male	Population	88.2	90.2	95.7	102.7	109.1	115.0	0.4%	1.2%	1.4%	1.2%	1.1%
	ED episodes	19.4	21.5	24.9	28.7	32.2	35.2	2.1%	2.9%	3.2%	3.0%	2.7%
45-69 years												
Female	Population	56.4	59.9	61.0	63.9	67.3	71.5	1.2%	0.4%	0.9%	1.1%	1.2%
	ED episodes	12.5	15.1	16.3	18.1	20.0	21.9	3.8%	1.5%	2.1%	2.1%	2.1%
Male	Population	53.4	57.0	59.4	62.9	66.6	70.8	1.3%	0.8%	1.1%	1.2%	1.2%
	ED episodes	12.0	13.8	15.7	17.7	19.6	21.6	2.7%	2.7%	2.8%	2.6%	2.4%
70-84 years												
Female	Population	14.1	18.5	20.9	22.6	23.3	24.4	5.6%	2.5%	1.5%	0.7%	0.9%
	ED episodes	6.0	7.6	9.8	11.2	12.1	13.0	4.8%	5.2%	4.2%	3.2%	2.5%
Male	Population	12.2	16.1	18.2	19.8	20.9	22.3	5.7%	2.5%	1.7%	1.1%	1.3%
	ED episodes	5.6	7.0	9.0	10.4	11.5	12.6	4.6%	5.1%	4.3%	3.4%	2.8%
85+ years												
Female	Population	3.7	4.0	4.6	5.6	6.9	7.5	1.7%	2.7%	3.9%	4.1%	1.9%
	ED episodes	3.1	3.1	4.2	5.5	7.1	8.1	0.1%	6.3%	6.2%	6.0%	5.0%
Male	Population	2.2	2.8	3.4	4.3	5.4	5.9	4.2%	4.4%	4.8%	4.4%	2.1%
	ED episodes	2.1	2.4	3.5	4.7	6.1	7.0	3.1%	7.7%	7.5%	6.8%	5.5%

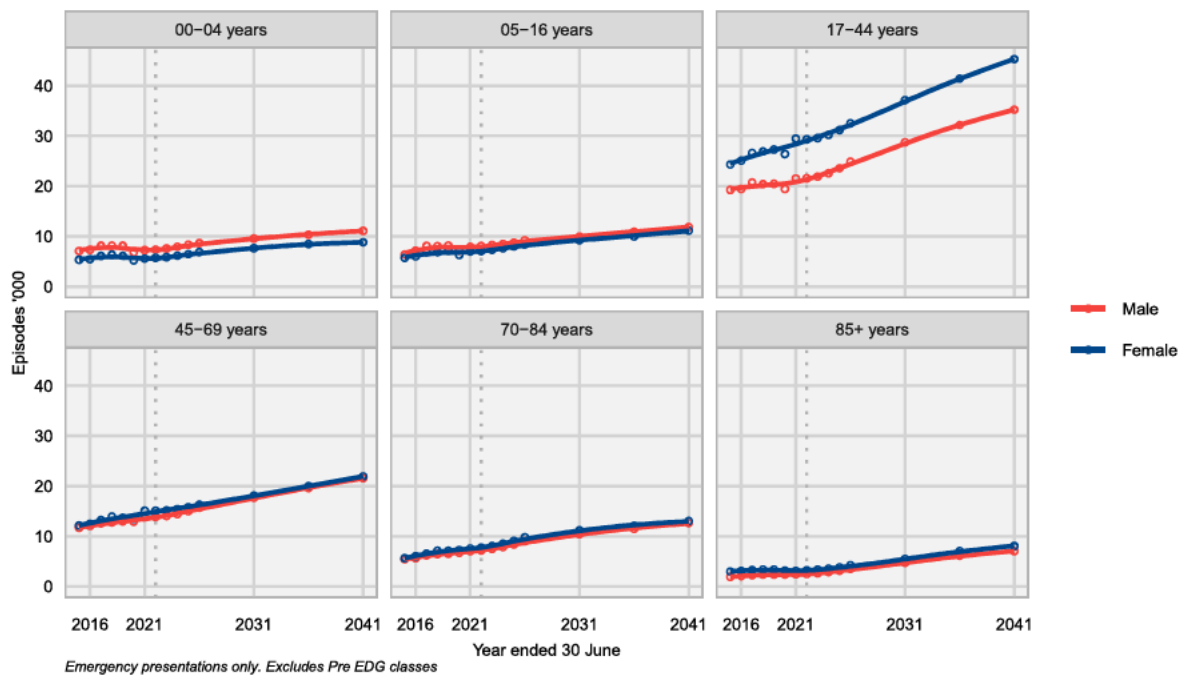


Figure 7.8: Observed and forecast emergency department episodes by age group and sex, ACT residents

Chapter 8

Factors contributing to predicted growth

This chapter analyses three factors contributing to activity growth in the observed years and in the forecast years (2022 to 2041). Our focus in this chapter is on activity related to ACT residents. Similar factors will apply to forecast activity related to Southern NSW residents.

We have presented these factors separately for the activity streams (acute, subacute and mental health) with each stream broken up into same day and overnight episodes. The three contributing factors and the approach to estimating these are as follows:

- **Population growth:** This is based on total population growth observed and forecast. Between 2016 and 2041, the ACT population is forecast to increase by around 33.8%. This is effectively the level of increase in activity related to population growth.
- **Population ageing:** In addition to population growth, there will be a disproportionate increase in the population in older age groups in ACT. To capture these effects, we have taken the hospitalisation rates for each ESRG, stay type, sex and age group combination observed in 2016, and applied these to the estimated or projected population in future periods. This generated the expected level of activity using the the 2016 rates. From this estimate we deducted the effect of population growth (the first factor), and the residual yields and estimate of the effect of the change in the age/sex composition of the ACT population. For acute inpatient services, we estimate that population ageing will account for 12.8% of the increase in same day episodes and 9/1% of the increase for overnight episodes. The effect of ageing is larger in the subacute admitted patient activity stream (23.8% and 43.8% respectively), but relatively small for the mental subacute admitted patient stream.
- **Utilisation growth:** This is calculated by taking the difference between total growth and the impact of population growth and ageing. Using this approach, it is feasible that the contribution of utilisation is negative, implying that total activity growth is less than the calculated effect of population growth and ageing.

There are other factors that contribute to growth, which could potentially explain aspects of utilisation growth. There are also alternative approaches to analysing the contributions of various factors. These are beyond the scope of this project. Nevertheless, the analysis presented provides a useful overview of the three factors described above.

The following three figure show the contributions of the three factors with respect to acute admitted care (Figure 8.1), subacute care (Figure 8.2) and specialised mental health services (Figure 8.3).

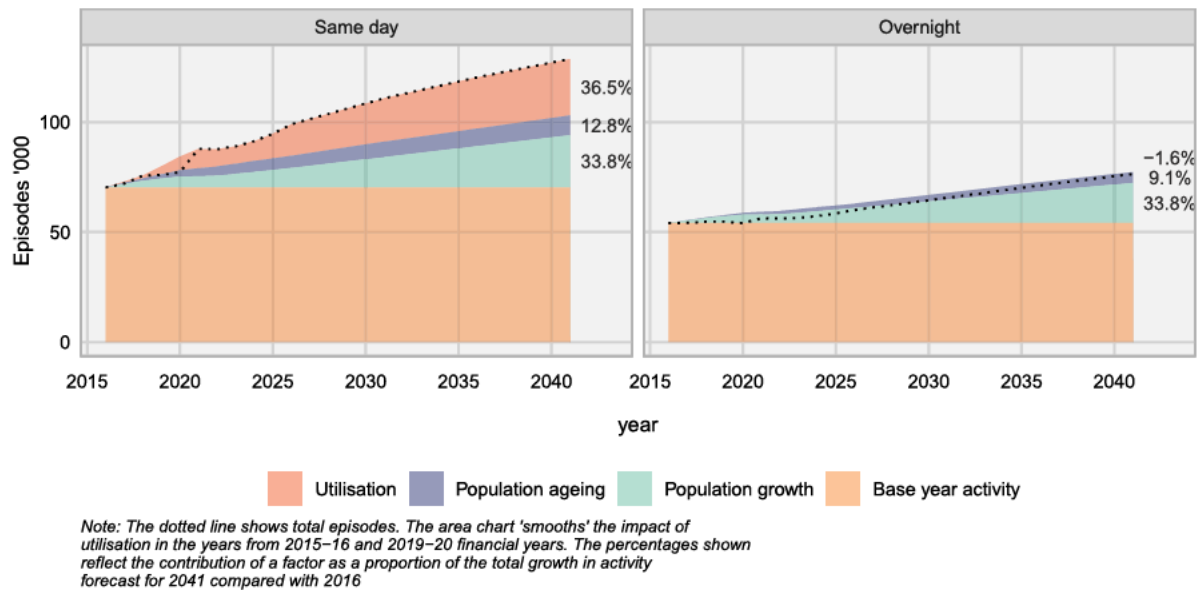


Figure 8.1: Contribution of population growth, population ageing and other utilisation growth to increases in observed and forecast activity, Acute inpatient episodes

Figure 8.5 plots a series of indices, each related to an ESRG/stay type combination. For each combination, the index is calculated by dividing the forecast number of episodes in 2041 by the number of episodes in 2021. High growth ESRG/stay type combinations have been highlighted in the plot. These are combinations which the number of episodes in 2041 is forecast to be twice the number in 2021 (an index value of above 200). These high growth combinations are shown in Table 8.1.

The highest growth ESRG/stay type combination relates to ESRG 823 (Mental health treatment, same day excl. ECT). This relates to activity not undertaken in specialised mental health services and consequently is assigned to the acute activity stream.

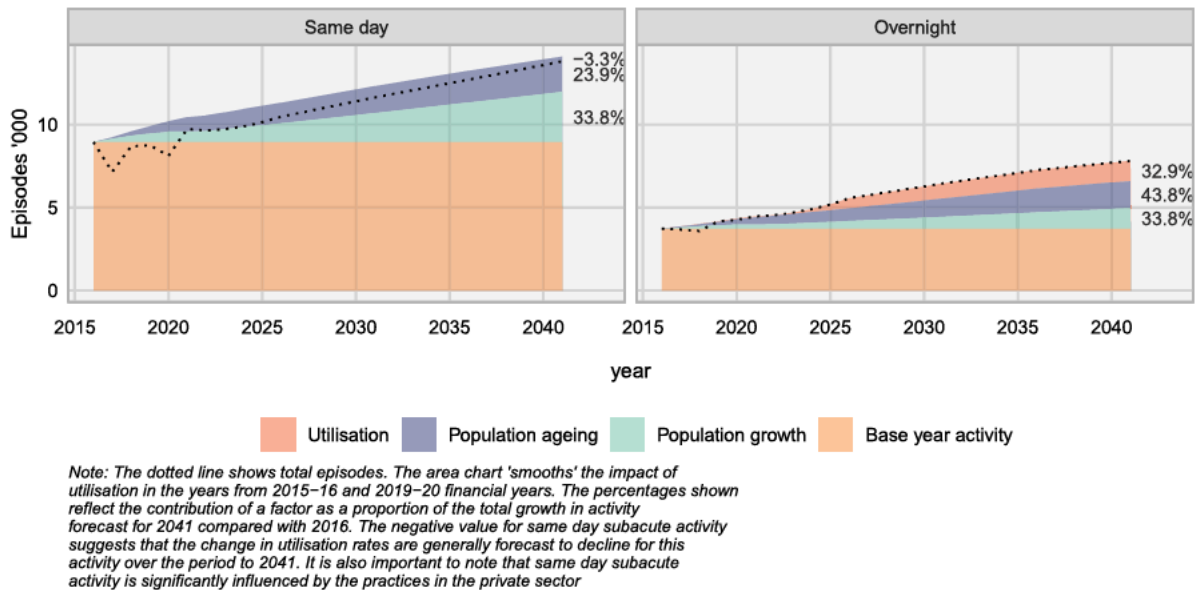
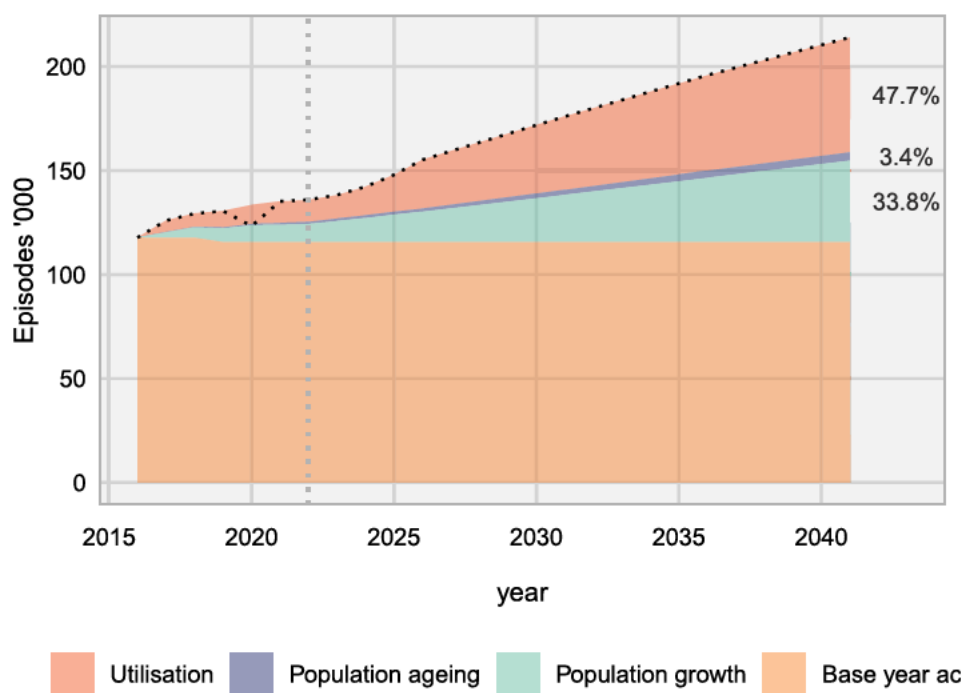


Figure 8.2: Contribution of population growth, population ageing and other utilisation growth to increases in observed and forecast activity, Subacute inpatient episodes

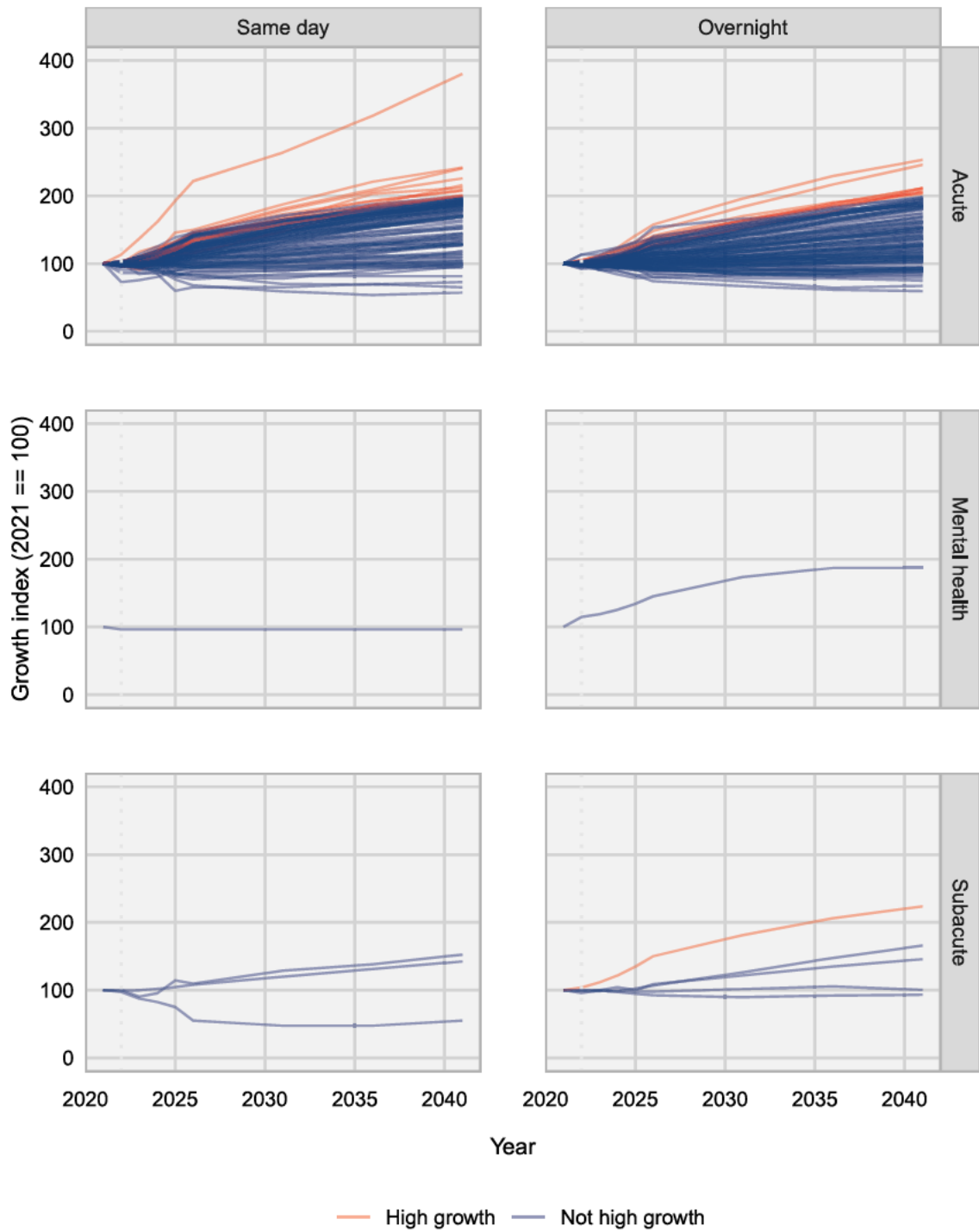


Figure 8.3: Contribution of population growth, population ageing and other utilisation growth to increases in observed and forecast activity, Specialised mental health inpatient episodes



Note: The dotted line shows total episodes. The area chart 'smooths' the impact of utilisation in the years from 2015-16 and 2019-20 financial years.

Figure 8.4: Contribution of population growth, population ageing and other utilisation growth to increases in observed and forecast activity, Emergency department episodes



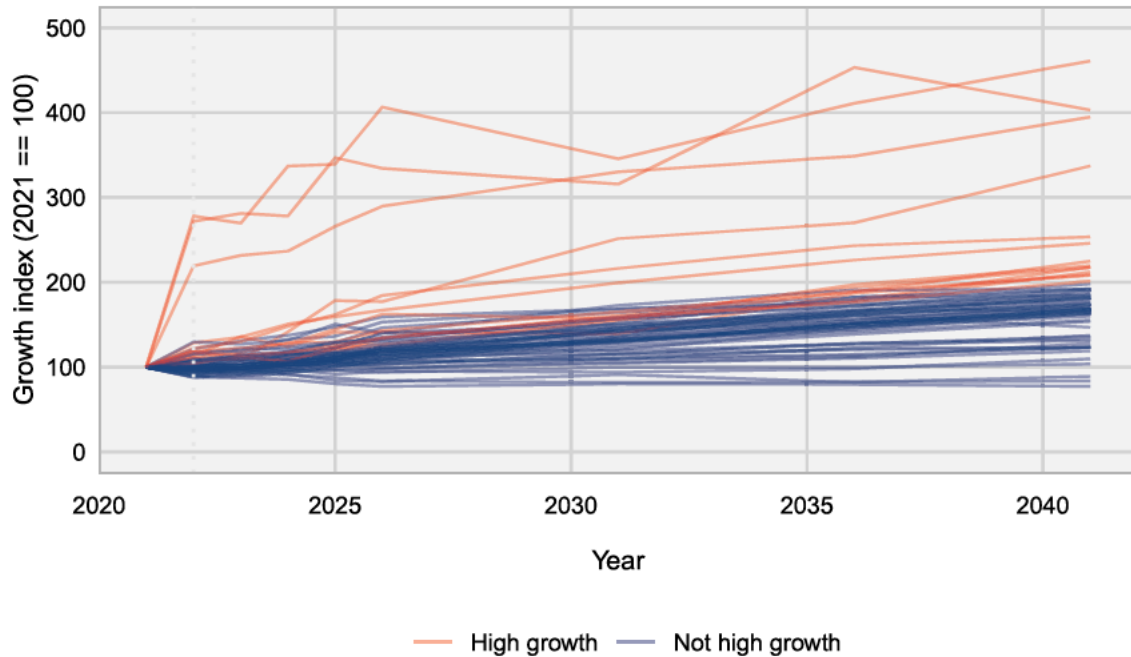
Note: Each line represents an ESRG/stay type combination. High growth ESRG/stay type combinations are those in which the number of episodes in 2041 is forecast to be twice the number in 2021 (an index value of above 200).

Figure 8.5: Growth indices for ESRG/stay type combination, by activity stream

Table 8.1: High growth ESRG/stay type combinations

Stream	ESRG	Stay type	Episodes			Change 2016-2041		Change 2021-2041	
			2016	2021	2041	Episodes	%	Episodes	%
Acute	823 Mental health treatment, same day excl. ECT	Same day	128	202	768	640	500.0%	566	280.2%
Acute	281 Dementia	Overnight	98	158	400	302	308.2%	242	153.2%
Acute	277 Septicaemia	Overnight	343	404	993	650	189.5%	589	145.8%
Acute	281 Dementia	Same day	15	24	58	43	286.7%	34	141.7%
Acute	242 Chronic obstructive airways disease	Same day	48	64	154	106	220.8%	90	140.6%
Acute	113 Heart failure & shock	Same day	45	66	149	104	231.1%	83	125.8%
Subacute	919 Rehabilitation	Overnight	1,851	2,159	4,825	2,974	160.7%	2,666	123.5%
Acute	461 Head injury	Same day	24	38	82	58	241.7%	44	115.8%
Acute	221 Renal failure	Same day	20	33	70	50	250.0%	37	112.1%
Acute	502 Non-procedural ophthalmology	Overnight	77	95	201	124	161.0%	106	111.6%
Acute	275 Injuries – non-surgical	Overnight	451	588	1,242	791	175.4%	654	111.2%
Acute	249 Respiratory medicine, other	Overnight	1,208	1,221	2,575	1,367	113.2%	1,354	110.9%
Acute	275 Injuries – non-surgical	Same day	465	895	1,867	1,402	301.5%	972	108.6%
Acute	151 Oesophagitis & gastroenteritis	Same day	477	634	1,316	839	175.9%	682	107.6%
Acute	462 Craniotomy	Overnight	151	190	393	242	160.3%	203	106.8%
Acute	286 Pain management	Overnight	111	197	406	295	265.8%	209	106.1%
Acute	129 Interventional cardiology, other	Overnight	65	114	233	168	258.5%	119	104.4%
Acute	215 Dysequilibrium	Overnight	169	285	579	410	242.6%	294	103.2%
Acute	511 Microvascular tissue transfer or skin grafts	Same day	491	506	1,018	527	107.3%	512	101.2%
Acute	548 Injuries, other	Same day	696	1,480	2,965	2,269	326.0%	1,485	100.3%

Figure 8.6 plots similar indices for emergency department episodes, with each related to an adjacent AECC class. High growth adjacent AECCs have been highlighted in the plot, reflecting that the number of episodes in 2041 is forecast to be more than twice the number in 2021 (an index value of above 200). These high growth adjacent AECC classes are shown in Table 8.2. Some of the high growth adjacent AECC are ones in which the level of activity in 2021 appears to have been suppressed compared with previous years.



Note: Each line represents an adjacent AECC. High growth adjacent AECCs are those in which the number of episodes in 2041 is forecast to be twice the number in 2021 (an index value of above 200).

Figure 8.6: Growth indices for adjacent AECC type combination, Emergency department episodes

Table 8.2: High growth AECC combinations, Emergency department episodes

Adjacent AECC	Episodes			Change 2016-2041		Change 2021-2041	
	2016	2021	2041	Episodes	%	Episodes	%
E5010 Pain syndrome	141	46	212	71	50.4%	166	360.9%
E6020 Abuse and neglect	76	32	129	53	69.7%	97	303.1%
E6010 Forensic examination	371	193	762	391	105.4%	569	294.8%
E0110 Dementia and other chronic brain syndromes	77	70	236	159	206.5%	166	237.1%
E1810 Septicaemia	370	373	946	576	155.7%	573	153.6%
E0190 Nervous system and neurological disorders	1,666	1,077	2,649	983	59.0%	1,572	146.0%
E1920 Psychoses	687	793	1,782	1,095	159.4%	989	124.7%
E1890 Infectious and parasitic diseases, other	153	149	327	174	113.7%	178	119.5%
E1090 Metabolic and nutritional disorders, other	731	820	1,786	1,055	144.3%	966	117.8%
E0130 Stroke and other cerebrovascular disorders	489	641	1,394	905	185.1%	753	117.5%
E0140 TIA and precerebral occlusion	298	318	674	376	126.2%	356	111.9%
E1010 Diabetes	225	153	320	95	42.2%	167	109.2%
E1790 Neoplasms	279	308	641	362	129.7%	333	108.1%
E2060 Poisoning	1,369	1,227	2,472	1,103	80.6%	1,245	101.5%

Chapter 9

Population data

Population estimates (for prior years) and forecasts (for future years) are key inputs to the service activity forecasts. These provide a method for addressing both the impact of population growth and population ageing. In generating population forecasts, the demographic models used by various agencies also include forecasts of the number of births.

The Australian Bureau of Statistics (ABS) regularly releases estimated resident population (ERP) data. These are available at a state/territory level and also for other regional areas, including Statistical Area level 3 (SA3). The latest set of ERPs were released on 30 August 2022 and these included adjustments to previous estimates, reflecting the outcome of the 2021 Census [ABS] (<https://www.abs.gov.au/statistics/people/population/regional-population-age-and-sex/latest-release#data-download>). In developing the initial set of projections, HPA has been working with an earlier version of ERPs at the SA3 level provided by ACT Health.

i Estimated resident population (ERPs)

For the development of the activity forecasts the ERPs provided by the ACT Health Directorate have been used. These estimates do not take into account revisions to the ERPs that the ABS has subsequently made arising from the 2021 Census.

The ABS also produces population projections. However, these are produced at the state/territory level and at the capital city/rest of state level only. ABS population projections generally lag considerably - the last set of projections were published in 2018.

Planning agencies in states and territories publish population projections more regularly, and these use more recent ERP data to ensure projections better reflect recent data. The planning agencies also use local information about urban developments that are planned.

i Population projections

For the development of the forecasts

- ACT population projections issued by the ACT Government have been used. These projections are for each ACT SA3 from 30 June 2021 to 30 June 2041. These have not yet been revised to take into account revisions to ERPs arising from the 2021 Census. Revisions are likely to be released later in 2022.
- NSW population projections issued by the [NSW Department of Planning and Environment](#) have also been used. These also have not yet been revised to take into account recent revisions to ERPs arising from the 2021 Census

9.1 Population projections at SA3 level

For the ACT activity forecasts it was decided that the most appropriate regional category was the Statistical Area 3 (SA3). Some SA3 were combined with others in some of the modelling steps for the following reasons:

- Urrlarra-Namadgi and Canberra East each have very low populations. In modelling of variation between SA3 in activity rates Urrlarra-Namadgi was Tuggeranong and Canberra East combined with North Canberra. In subsequent steps, activity for these SA3 was then separated out.
- Most SA3s in the Southern NSW Local Health District (LHD) were separately identified, as there is an interest in being able to identify the SA3 of residence in forecasts for the Southern NSW LHD. Otherwise, activity and population for NSW residents were combined into an “Other NSW” category.
- Activity for residents of other states were combined into “Other interstate”.

9.2 Population projections for ACT SA3

Figure 9.1 and Table 9.1 shows the population estimates and projections for each SA3 in ACT. There is very strong growth projected for the SA3s of North Canberra and Molonglo. Belconnen and Gungahlin are also projected to grow strongly but at a slightly lower rate. A significant decline in the population for Tuggeranong is projected. The SA3s in the north of Canberra are projected to grow at a higher rate than those in the south of Canberra.

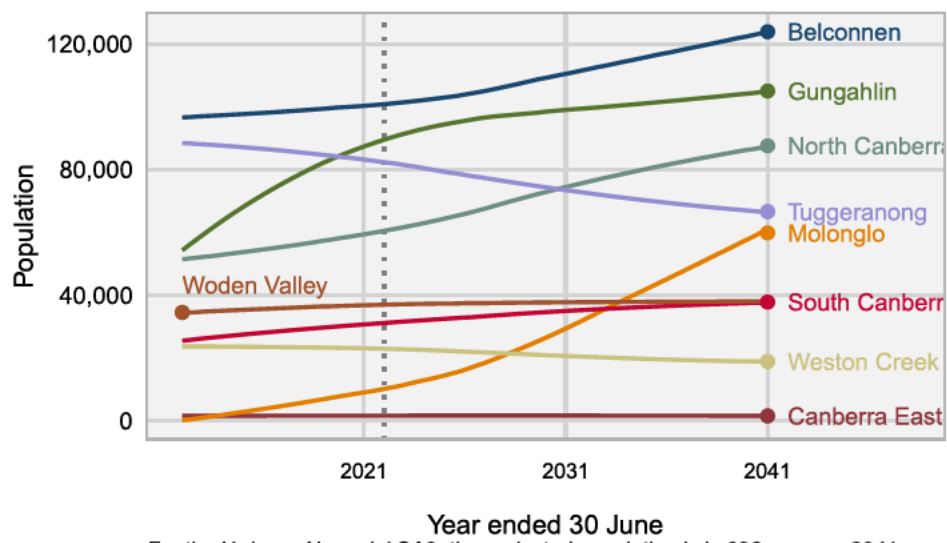


Figure 9.1: Historical and forecast population by ACT SA3

Table 9.1: Historical and forecast population by SA3

ACT SA3	Population, year ended 30 June							5 year CAGR				
	2012	2016	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041
ACT												
Total	376,524	403,071	432,266	454,018	482,078	510,508	539,356	1.4%	1.0%	1.2%	1.2%	1.1%
Northside SA3s												
80101 Belconnen	96,479	97,286	100,383	103,728	110,664	117,007	123,821	0.6%	0.7%	1.3%	1.1%	1.1%
80103 Canberra East	1,519	1,566	1,614	1,612	1,612	1,572	1,514	0.6%	0.0%	0.0%	-0.5%	-0.7%
80104 Gungahlin	53,849	72,355	86,880	95,908	98,510	101,430	104,937	3.7%	2.0%	0.5%	0.6%	0.7%
80105 North Canberra	51,182	54,356	59,179	65,918	74,650	81,290	87,537	1.7%	2.2%	2.5%	1.7%	1.5%
80110 Molonglo	25	4,592	9,322	15,945	29,325	45,983	59,783	15.2%	11.3%	13.0%	9.4%	5.4%
Subtotal	203,054	230,155	257,378	283,111	314,761	347,282	377,592	2.3%	1.9%	2.1%	2.0%	1.7%
Other ACT SA3s												
80106 South Canberra	25,778	27,744	30,657	32,832	35,032	36,396	37,765	2.0%	1.4%	1.3%	0.8%	0.7%
80107 Tuggeranong	89,016	85,923	83,605	78,124	73,484	69,266	66,572	-0.5%	-1.3%	-1.2%	-1.2%	-0.8%
80108 Weston Creek	23,690	23,275	23,143	22,049	20,583	19,400	18,842	-0.1%	-1.0%	-1.4%	-1.2%	-0.6%
80109 Woden Valley	34,464	35,375	36,869	37,366	37,740	37,743	38,193	0.8%	0.3%	0.2%	0.0%	0.2%
80111 Urriarra - Namadgi	522	599	614	536	478	421	392	0.5%	-2.7%	-2.3%	-2.5%	-1.4%
Subtotal	173,470	172,916	174,888	170,907	167,317	163,226	161,764	0.2%	-0.5%	-0.4%	-0.5%	-0.2%

Table 9.2: Historical and forecast mean age and proportion of aged 70+ by SA3

ACT SA3	Mean age				Proportion aged 70+			
	2011	2021	2031	2041	2011	2021	2031	2041
80101 Belconnen	35.8	37.6	38.2	38.5	7.0%	10.8%	11.6%	11.2%
80103 Canberra East	40.4	43.1	44.8	46.9	7.6%	11.4%	13.5%	16.2%
80104 Gungahlin	30.8	32.9	36.2	38.1	2.7%	4.8%	8.3%	10.6%
80105 North Canberra	35.7	36.5	36.1	36.4	7.9%	8.3%	8.1%	8.5%
80106 South Canberra	39.9	40.2	38.3	38.3	10.5%	12.1%	11.7%	11.3%
80107 Tuggeranong	34.9	38.7	40.8	41.5	4.7%	10.1%	14.9%	16.1%
80108 Weston Creek	39.6	40.7	41.8	42.0	11.0%	15.9%	16.7%	16.4%
80109 Woden Valley	40.1	40.3	39.7	39.6	12.9%	14.0%	13.3%	13.2%
80110 Molonglo	31.5	30.6	33.4	35.6	0.0%	2.1%	5.1%	7.2%
80111 Urriarra - Namadgi	32.2	34.1	40.9	43.6	3.1%	2.9%	11.5%	16.3%

Table 9.2 and Figure 9.2 provide perspectives on ageing of the population and how this may vary across SA3s.

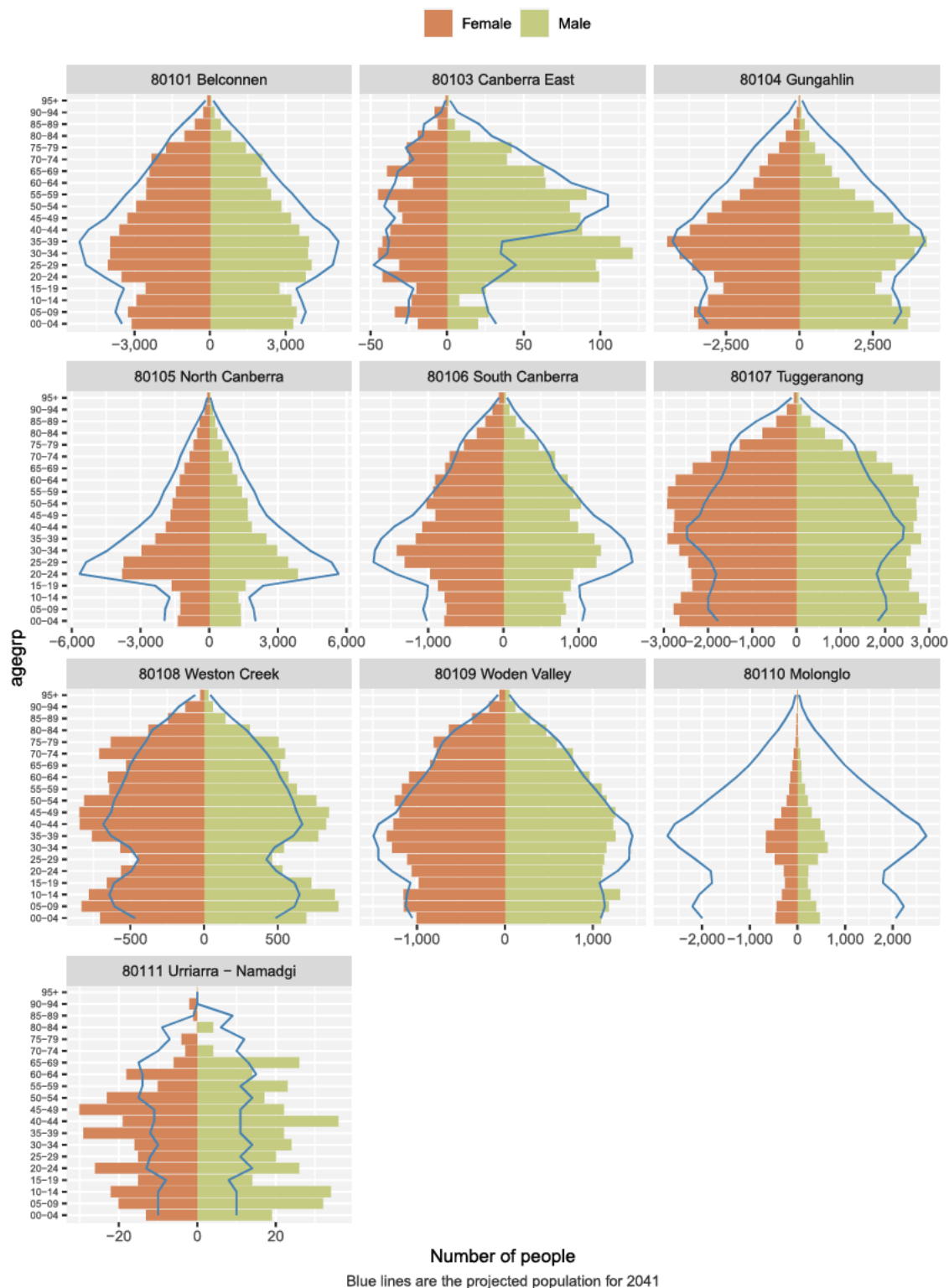


Figure 9.2: Historical and forecast population by ACT SA3

Chapter 10

Activity data

10.1 Activity datasets

The following datasets were supplied to HPA:

Table 10.1: Data sources

Data source	Years supplied/comments
Admitted Patient Care	2011-12 to 2020-21
Palliative care supplement	2015-16 to 2020-21
Emergency department	2011-12 to 2020-21
Contracted admitted care	2019-20 to 2020-21: APC 2018-19: Two private hospitals
Ward movements	2013-14 to 2020-21
AMO specialty	2011-12 to 2020-21
Operating theatre	2014-15 to 2020-21
Patients in hosp. 30-6-2021	Supplied
Patients treated interstate	2015-16 to 2019-20

Activity data was made available for the 2021-22 financial year, but this did not cover the full financial year.

10.2 Missing data

An examination of the data supplied showed missing data for some of the facilities over some of the years. These principally related to private hospitals in the ACT. Data for ACT private hospitals is mostly complete for the last 3 years. However, there are significant gaps for prior years. To address these issues missing data were imputed as follows:

1. Private hospital data missing the the early years of interest: Quarterly private health insurance statistics from APRA were used as a reference point to impute the missing values. These were

used to estimate a growth rate in private hospital activity overall. This was applied to the latest year of data and earlier years were then backcast from that year.

2. Private hospital data missing in the middle of the times series: The missing data between the years were interpolated using earliest and latest year available.
3. Interstate data missing the last year: This was forward-filled using the most recent year of available data.

10.3 Data corrections

Relevant variables were reviewed to identify anomalies in the data and inconsistencies in reporting over time. Anomalies identified included:

- Inconsistencies in the reporting of admission status in difference years.
- Overnight episodes reported length of stay less than one.
- Overnight episodes reported for maintenance dialysis.
- Episodes with a newborn status reported for care type but an older age.
- Episodes without a newborn status reported but an a diagnosis and age/admission data consistent with a newborn.

10.4 Data standardisation

HPA standardised all coding and classification systems to relevant 2020–21 standards. These including:

- Mapping ICD10-AM and ACHI codes to the 11th edition. An equivalent process was undertaken for emergency department diagnoses.
- Grouping admitted episodes to AR-DRG Version 10.
- Grouping subacute episodes to AN-SNAP Version 4.
- Group admitted patient episodes to Service Related Groups (Version 6) and Enhanced Service Related Groups (Version 6) using the latest NSW version of the classifications. Due to low volumes for some groups a refined version of ESRG/SRGs was created by combining ESRGs.
- Grouping emergency department episodes to the Australian Emergency Care Classification (AECC).
- Calculation of the NWAU21 (National Weighted Activity Units 2021) and GWAU21 (Gross Weighted Activity Units 2021).

10.5 Other issues

10.5.1 Age group

The default age group used has: 0–4, 5–16, 17–44, 45–69, 70–84, and 85+ years. Only for the mental health, a different grouping by National Mental Health Service Planning Framework was used: 0–4, 5–11, 12–17, 18–24, 25–64, and 65+ years.

10.5.2 Sex

In the historical data, there are small number of episodes in “other” sex (i.e. neither “male” nor “female”, 100 episodes a year at maximum). The projection has been done for “male” and “female” and records in “other” sex were brought forward to the projection years.

Gender identity is however an important feature of the health system. Going forward the introduction of “gender” variable in national minimum data set (NMDS) will provide the opportunity to better include gender as part of the forecasting. This will be done as part of a future methodological update.

10.5.3 Place of residence

- Older version of SA3s were corrected.
- In terms of the SA3s in New South Wales, a few were treated separately whereas the others were grouped into “NSW other” (these are 10102 Queanbeyan, 10103 Snowy Mountains, 10104 South Coast, 10105 Goulburn - Mulwaree, 10106 Young - Yass, 10302 Lachlan Valley, 10901 Albury, 11301 Griffith - Murrumbidgee (West), 11302 Tumut - Tumbarumba, 11303 Wagga Wagga and 11401 Shoalhaven).
- Due to the small sizes, two SA3s were combined into other ones during modelling process (80111 Urriarra - Namadgi to 80107 Tuggeranong and 80103 Canberra East to 80105 North Canberra). However, they were separated out in the final output.
- The two SA3s 10105 Goulburn, and 10106 Young-Yass were modelled together as 10101 Goulburn – Yass to provide consistency with data using the older version of ASGS before 10101 was split. They are separated out in the final output.

10.5.4 Place of treatment

- 810000084 QEII Family Centre (Mothercraft) was excluded
- Private hospitals were collapsed into one entity.
- Interstate hospitals were collapsed into one entity.
- Clare Hollands House was separated out from 810000083 Calvary Public Hospital and was recognised with a separate identifier 810000083_CHH.

10.5.5 Service streams and clinical groupings

At the highest level the following “service streams” were adopted:

Table 10.2: Services streams

Service stream	Clinical grouping applied and rationale
Acute admitted care	ESRG Version 6, ACT modification
Sub-acute admitted care	ESRG Version 6, ACT modification based on Care Type
Specialist mental health	ESRG Version 6, ACT modification
Emergency department care	Based on ECC /Triage

Definitions of the service streams are provided in Appendix A

i Non-admitted activity forecast

The current phase of this project doesn't include development of forecasts for non-admitted activity, including outpatient and community health services. These will be developed in 2023.

10.5.6 Clinical groupings applied

By default, ESRGs (Enhanced Service Related Groups) were used as the most granular level of clinical dimension. Note that some ESRGs were grouped due to the small volumes.

Chapter 11

Methods overview

11.1 Activity datasets

Figure 11.1 shows the key steps taken to develop the activity forecasts.

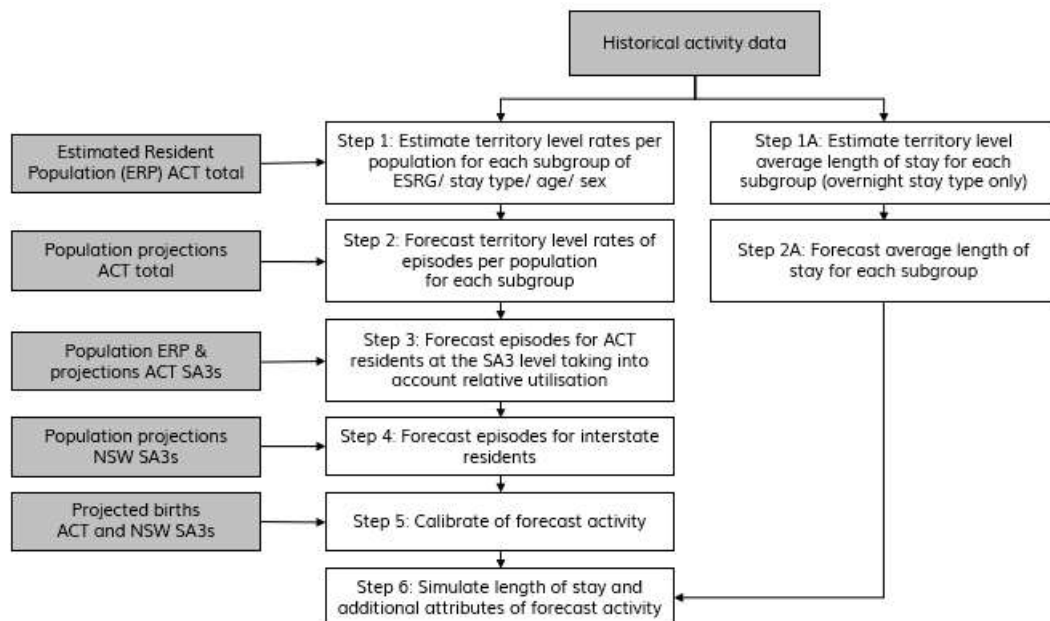


Figure 11.1: Forecast method

Step 1: Preparation of historical time series

The starting point is to analyse the historical data to produce a set of time series trends reflecting different ways of grouping activity. All these time series are converted to rates per 1,000 population. The basic groupings of activity relate to:

- Age group
- Sex
- ESRG
- Stay type

For Emergency Department care, alternatives to ESRG/Stay are used based on the AECC class and Triage.

Rates are calculated at the ACT level, and only reflect health service activity for ACT residents. Projections for activity related to interstate residents are handled later in the workflow at Step 4.

In addition to rates calculated for each Sex/Age group category, trends in **age/sex standardised rates** are calculated for the ESRG/Stay type level and the SRG/Stay type level. In this instance, the age/sex standardised rates are calculated using the direct standardisation method with the ACT population for 2016 as the reference population.

The next chapter illustrates the types of trends that may be observed using examples of ESRGs.

In parallel (see Step 1A below), trends in the average length of stay (ALOS) are calculated for each group (excluding day only stays).

Step 2: Forecast rates

The next steps involve creating forecasts of the rates per 1,000 population for each group. In doing this a variety of forecast methods can be considered. These are described in the Chapter 12.

In parallel (see Step 2A below), ALOS can be forecast at the territory level.

Step 3: ACT forecasts by SA3

The next step involves considering how territory level forecasts translate into forecasts at a sub-territory level, that is at the SA3 level. This requires analysis of the historical variation between SA3 observed in previous years. The approaches are described in Chapter 13.

Following the completion of this step, forecasts of the number of episodes have been generated for ACT residents broken down by ESRG, stay type, sex, age group and SA3/Combined SA3.

Step 4: Interstate residents

In addition to ACT residents, forecasts need to be developed for interstate residents and patients who do not have a residence identified.

For interstate residents the largest components of these relate to people who live in the SA3 located in the Southern NSW Local Health District. Data on the utilisation of hospital services for these catchments is incomplete as the activity that occurs in NSW public hospitals, NSW private hospitals and public hospitals located in other states is not available. Therefore a slight different approach to that

adopted for ACT residents is required. The approach taken is described in Chapter 14. The calculations take account of the population growth and ageing in these SA3 and also apply utilisation growth rates consistent with those forecast for ACT residents.

Finally an approach was adopted for interstate residents in the rest of NSW and other states and those patients who have no residence. For these groups the activity forecasts have involved applying utilisation growth rates consistent with those forecast for ACT residents.

Following the completion of this step, forecasts of the number of episodes have been generated for ACT and interstate residents and those who have no identified SA3 of residence, broken down by ESRG, stay type, sex, age group and SA3. Here the SA3s for NSW are separated out only for the relevant Southern NSW LHD. Otherwise interstate residents are grouped into **Other NSW** and **Other interstate**.

Step 5: Calibration of forecast activity

Forecasts for maternity and neonate ESRGs based on the methods described above were compared with forecast births derived from the ACT and NSW population projections. The approach taken is described in Chapter 15. Ultimately it was decided to base the projected activity for these ESRGs on the rates of increase in births that are included or implied in the official population projections for ACT and NSW.

Step 1A/2A: Average length of stay forecasts

Parallel to the steps above, forecasts of average length of stay (ALOS) for overnight episodes were developed. This involved:

- Step 1A: Creating time series of ALOS for ESRG/Sex/Age group combinations and for ESRG as a whole.
- Step 2A: Applying the same steps described in Step 2 to develop forecasts of ALOS for future years.

These are described in more detail in Chapter 16

Step 6: Simulation of attributes of forecast activity

A final step involved using the projected activity generated from Step 5 and the forecast ALOS from Step 2A to simulating the attributes of these episodes. The approach is described in Chapter 17

11.2 Emergency department activity forecasts

The methods used for the Emergency department activity forecasts were similar to those described above with some modifications. These methods are described in Chapter 18.

Chapter 12

Forecast rates (Step 2)

This chapter describes in more detail the modelling of rates per 1,000 population for the ACT population. This relates to **Step 2** in the methods. From Step 1 rates for ACT have been calculated using historical data from 2011-12 to 2020-21. They have been calculated at three levels for admitted patient care:

- ESRG, Stay type, Sex and Age group - resulting in 3,014 combinations
- ESRG, Stay type directly standardised for sex and age group - resulting in 312 combinations
- SRG, Stay type directly standardised for sex and age group - resulting in 90 combinations

Time series forecasting models were then estimated for each of the combinations using historical trend data. As the historical trend is limited to 10 years and private sector observations for the earlier years were imputed (see Chapter 10), the types of time series and regression models that are feasible are relatively limited. Additionally the capacity to test the predictive performance of models is constrained (see note below), although model performance was assessed.

i Assessing predictive performance of times series and regression models

One approach to assessing predictive performance of models (as opposed to explanatory performance) is to split data into a “training” dataset using earlier years in a time series and a “test” dataset reflecting the later years of the time series. Alternative models can then be estimated using the training dataset and the predictions from these models compared with the test data. The errors (the difference between the predicted values and the actual values in the test data) can be calculated and selected error metrics calculated. Examples of error metrics include:

- MAPE or Mean Absolute Percentage Error
- RMSE or Root Mean Square Error

The best performing models can then be selected identifying the model that has the lowest value for an error metric.

Often ‘ensemble models’ can be considered. These combine the results of several models either by simple averaging or as a weighted average (for example reflecting the relative performance of models).

The methods described above were applied to the data using the first seven years of data for the training dataset and the last three for the test dataset. However, it was concluded that the

results would be problematic for the following reasons:

- There are very few observations in the training data (7 years)
- The test years were impacted by the COVID-19 pandemic

It was concluded that a more global approach to selecting the most best model was required. This method is described below. This method can be considered as an additional “model”, and its performance assessed using the same methods as described above.

12.1 Core models

The following initial modelling options were considered appropriate:

- Naïve (the value in the last year)
- Mean (average of the last three years)
- Logit transformed linear (linear trend with lower and upper constraints)

12.1.1 Naïve model

The Naïve model uses the most recent observed value as the prediction for future values, so the forecast value at time t plus one is equal to the value at time t .

$$y_{t+1} = y_t$$

Where:

t is time period

y_{t+1} is forecast value for time period $t+1$

y_t is observed value for time period t

Naïve models typically work well in short term forecasts, but where there is a long term trend forecast errors will increase for medium to long term forecasts. For the current task we reasoned that a Naive model may be preferred where the number of episodes involved was very low and there was considerable volatility in the rates observed in the last three years. To operationalise the level of volatility we used a simple approach which comparing the last year with the mean of the last three years. Where the last years value varied from the mean by more than 20% we considered that there was a high level of volatility.

12.1.2 Mean model

All average methods use the mean of the historical data, or the mean of a subset of the historical data, as the prediction for future values. Forecasts from the average method used here are calculated as the mean of the last three years of historical data. This may be appropriate in situations where there is a significant discontinuity between earlier and later periods in the available time trends, and additionally where there is considerable uncertainty in the rates observed due to low numbers of episodes.

12.1.3 Logit transformed linear model (LTLM)

A linear model bases predictions on the linear trends over the historical period. This will often work reasonably well when there is a clear trend, and when there is less uncertainty around the observed rates, which are related to the number of episodes. However, linear trends can result in unrealistic predictions. For example, negative rates can be forecast when a declining trend is observed, even though this is not feasible. Similarly, unrealistically high values may be forecast, where there has been a steep upward trend in the historical data.

An approach that has been effective to address this problem is to apply logistic transformation to the data and specify low and high limits for the forecast rates, that constrain the predicted values to lie between these limits. The rationale for using a logit transformation in a forecasting activity, such as the current project, has been described by [Hyndman and Athanasopoulos Forecasting Principles and Practice](#). The logistic transformation is achieved through the following calculation:

$$y = \log \left(\frac{x - a}{b - x} \right)$$

This transforms x , which is on the scale (a, b) , to the whole number line. A reverse transformation scales it back to the range of (a, b) . This has the effect of limiting the forecast to occur between a lower bound a and an upper bound b . The resulting forecast trend takes a logistic shape.

Typically, the upper and lower limits to a forecast value are agreed by experts/stakeholders based on their judgement, or other knowledge they may hold. The discussion here is focused on the rate of episodes per population, but the similar technique can be applied to the models for ALOS. For the base case forecast the following limits have been applied:

Table 12.1: Base case forecast limits

Time series	Limit type	Limit applied
Rate	Lower limit	0.67 of the lowest rate in the observed data
	Upper limit	1.50 of the highest rate in the observed data
Length of stay	Lower limit	0.67 of the lowest rate in the observed data
	Upper limit	1.50 of the highest rate in the observed data

12.1.4 Other models

More complex models, such as exponential smoothing or Autoregressive integrated moving average (ARIMA), were considered and included in initial testing. Additionally we did estimate linear models without limits applied. Given the relatively small number of data points available for the training data, these generally didn't yield significantly different results compared with the models described above.

12.2 Selection of model

The models described above were estimated using the full data (up to 2020-21), and the following rules were then applied to select the model to apply for a particular time series:

Table 12.2: Rules for model selection

No. of episodes 2020-21	Other criteria	Model
< 10	None	Mean
< 20	Diff Mean/Naïve < 20%	Mean
< 20	Diff Mean/Naïve \geq 20%	Naïve
\geq 20	Diff LTLM/Naïve < 20%	LTLM
\geq 20	Diff LTLM/Naïve \geq 20% & Diff Mean/Naïve < 20%	Mean
\geq 20	Diff Mean/Naïve \geq 20%	Naïve
\geq 20	LTLM fails	Mean

Compare to Table 18.1 which gives the rules for model selection for the emergency department stream.

These selection rules were applied to the times series models estimated for the training data (2011-12 to 2017-18) to assess model performance, and also the full dataset (2011-12 to 2020-21), and to the three sets of times series:

- ESRG, Stay type, sex, age group combination
- ESRG, Stay type sex/age standardised rates
- SRG, Stay type sex/age standardised rates

Table 12.3 shows the results of applying these rules. At the lowest level of disaggregation (ESRG, Stay type, sex, age group) these are many combinations with very low numbers of episodes, and these generally default to the Mean method, which was used for around 58% of the combinations. However, these combinations only account for around 9% of episodes. The Naïve model is selected for 12% of combinations and 14% of episodes, while the linear model with constraints accounts for 30% of models and 77% of episodes.

For the age/sex standardised series, the linear model with constraints is selected for a larger proportion of combinations and also of episodes. In general, the age/standardised time series display less noisy trends.

12.3 Reconciliation of forecasts

Forecasts at these different levels were then reconciled. First the two age/sex standardised forecasts were reconciled. Secondly the result of this was reconciled with the forecasts at the ESRG, Stay type, sex, age group level.

The following charts provide two examples of time series models for two selected ESRGs and of the age groups. In both these examples rates are significantly higher in the 85+ age groups.

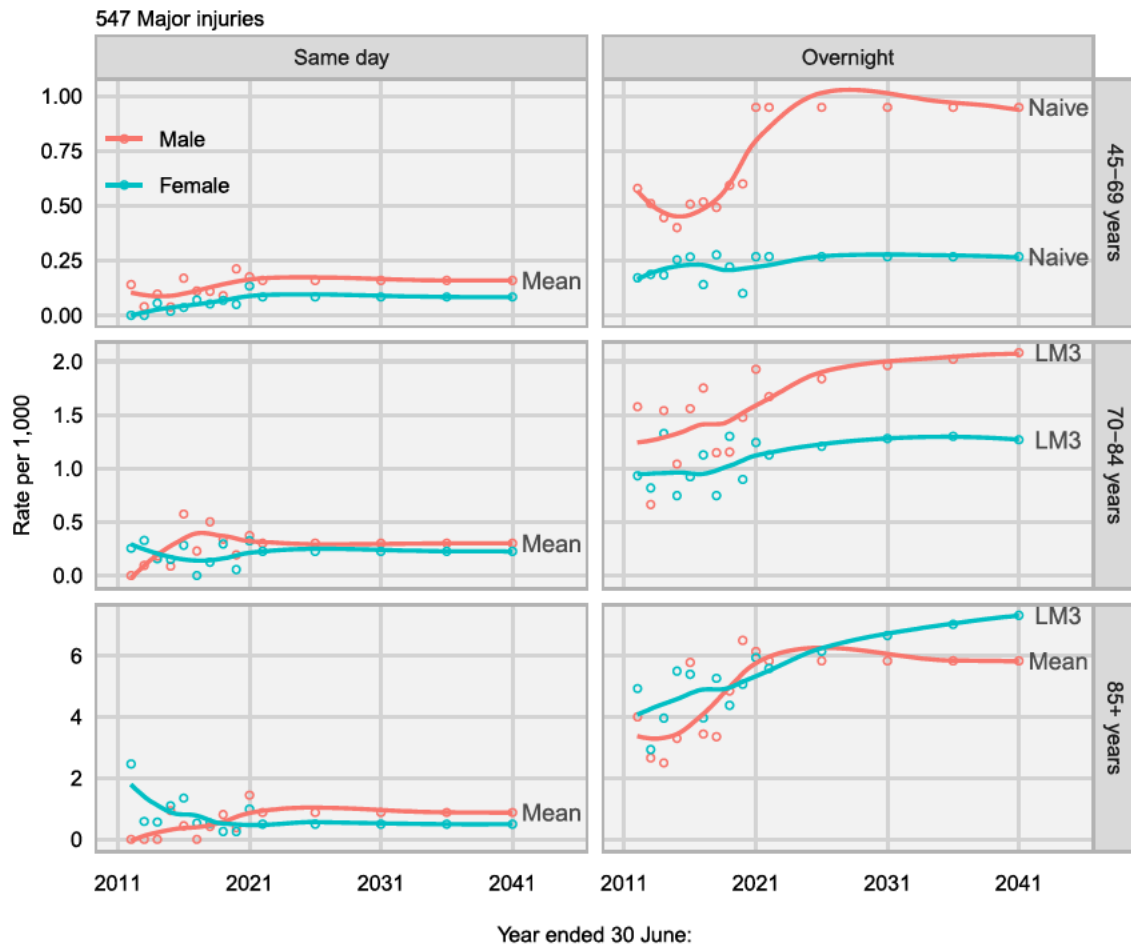


Figure 12.1: Historical and forecasted rates per 1,000 for selected ESRGs

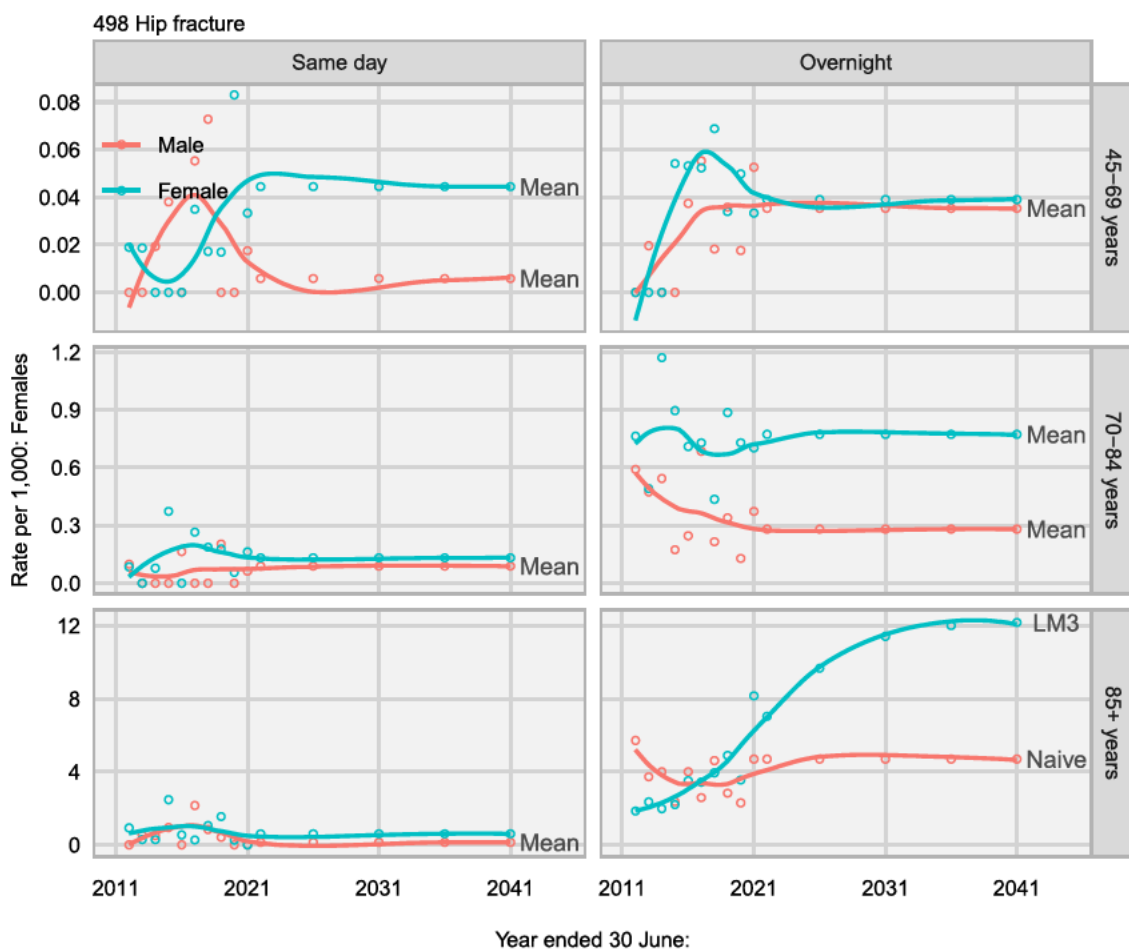


Figure 12.2: Historical and forecasted rates per 1,000 for selected ESRGs

Table 12.3: Type of model selected: number of ESRG/Stay type/Sex/Age combinations and number episodes 2020-21

Model selected	Combinations	Episodes 2020-211	Episodes %
SRG, stay type, age/sex standardised			
LTLM	73	155,386	96.1%
Mean	14	914	0.6%
Naive	3	5,392	3.3%
ESRG, stay type, age/sex standardised			
LTLM	235	149,147	92.2%
Mean	51	3,541	2.2%
Naive	26	9,004	5.6%
ESRG, stay type, sex, age group			
LTLM	899	126,114	78.1%
Mean	1,736	14,546	9.0%
Naive	357	20,793	12.9%

Chapter 13

Relative utilisation (Step 3)

This chapter describes in more detail the modelling of relative utilisation (RU) at the SA3 level for ACT residents which relates to **Step 3** in the methods described previously.

The key challenge here is to consider how territory level forecasts translate into forecasts at a sub-territory level, that is at the SA3 level. This requires analysis of the historical variation observed in previous years. The previous 5 years of data are used for this modelling, as in earlier years the assignment of episodes to SA3s is less reliable.

This analysis was undertaken at the ESRG/Stay type level with rates calculated using indirect age/sex standardisation with the ACT population in the relevant year as the reference population. For each ESRG/Stay type and year the expected number of episodes is estimated. This is combined with the observed number of episodes to generate an age/sex standardised ratio (observed episodes/expected episodes). We refer to these ratios as **Relative Utilisation** or **RU** ratios. The RU ratio is multiplied by 100, with values at 100 implying observed = expected episodes (i.e. the SA3 has the same rate as the whole ACT), an $RU > 100$ implying observed > expected episodes and an $RU < 100$ implying observed < expected.

A random effects model is then estimated for each ESRG/Stay type and SA3. The random effects model treats RU as a random effect, rather than a fixed effect. One impact of this is that it “shrinks” the estimate of the RU towards the mean across all SA3s. The level of shrinkage is related to the extent that there is variation in the observed data, and also the distance of that observation from the mean of SA3. The resulting SA3 therefore imply a reduction in variation compared with the observation period. Figure 13.1 provides an example of the output of this model for an example ESRG.

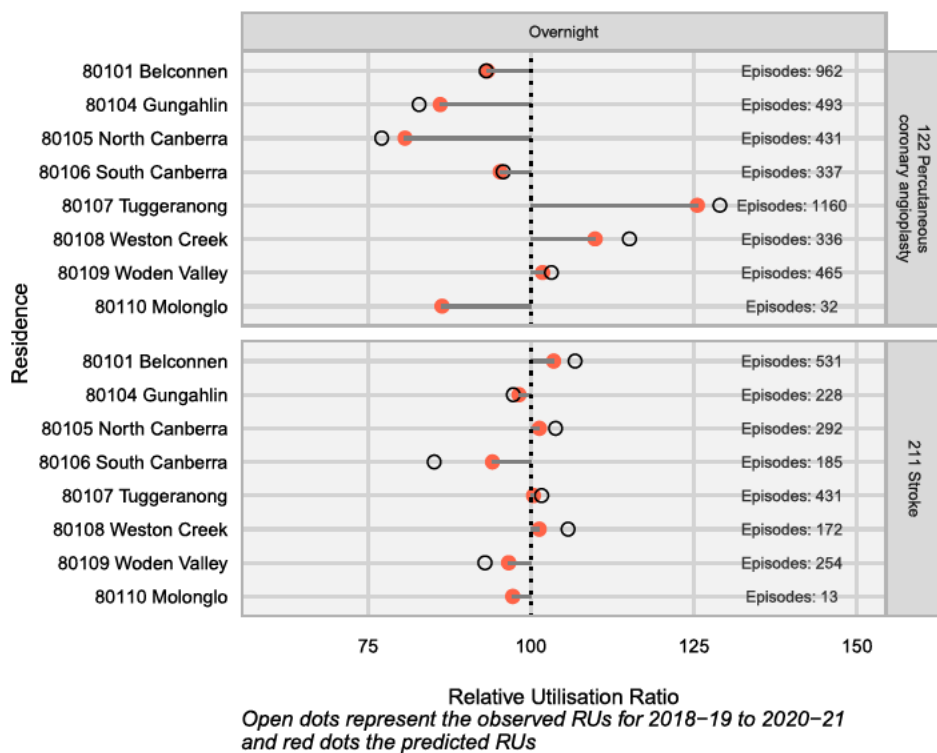


Figure 13.1: Examples of the observed and predicted RUs for ESRS 122 Percutaneous Coronary Angioplasty and 211 Stroke

Chapter 14

Forecast methods for interstate residents (Step 4)

14.1 Forecast method

An alternative approach was required to forecast the numbers of episodes for activity related to patients who do not reside in the ACT. This includes patients:

- residing in SA3s that are located in the Southern NSW Local Health District (LHD)
- residing in the rest of NSW and other states
- whose address is assigned to SA3 '89999 No usual address (ACT)' or '99999 No usual address (OT)'.

For the purpose of the forecasts, residents in the southern NSW SA3s surrounding the ACT were forecast by each SA3 region. The residents in the remaining SA3s in NSW were grouped into a single region 'NSW other' and residents in other states were grouped into the region 'Interstate other'.

To derive the forecasts for a given year, the activity for each ESRG/stay type/sex/age group combination in the base year of 2021 was multiplied by the projected change in population for that region by age and sex, relative to the base year, and then multiplied by the change in modeled rate ACT residents for that combination, relative to the base year. The method is described in the following formula:

$$y_{t,c} = y_{b,c} \frac{P_t R_{t,c}}{P_b R_{b,c}}$$

Where:

$y_{t,c}$ is the number of episodes in each combination of ESRG/stay type for the forecast year t

$y_{b,c}$ is the number of separations in each combination of ESRG/stay type for the base year b

P_t is the projected population for the forecast year t

P_b is the estimated population for the base year b

Table 14.1: Regions using interstate method

SA3/region
10101 10101 Goulburn - Yass (10105, 10106)
10102 Queanbeyan
10103 Snowy Mountains
10104 South Coast
10302 Lachlan Valley
10901 Albury
11301 Griffith - M'bidgee
11302 Tumut - Tumbarumba
11303 Wagga Wagga
11401 Shoalhaven
NSW other
Interstate other
89999 No usual address (ACT)
99999 No usual address (OT)

$R_{t,c}$ is the forecast ACT-level rate (episodes / 1,000 population) for that combination for the forecast year t

$R_{b,c}$ is the ACT-level rate (episodes / 1,000 population) for that combination for the base year b

The population change for 'Interstate other', '89999 No usual address (ACT)' and '99999 No usual address (OT)' were fixed at 1, i.e. no adjustment was made for population change for the geographical groups. There is no relevant population for 89999 and 99999 and the counts of episodes in 'Interstate other' are very small relative to the source populations.

The table below shows all the regions that were forecast using this interstate method.

Below is a chart of the historic and projected separations for the day-only ESRG '495 Orthopaedic surgery' for each region for all ages and sex.

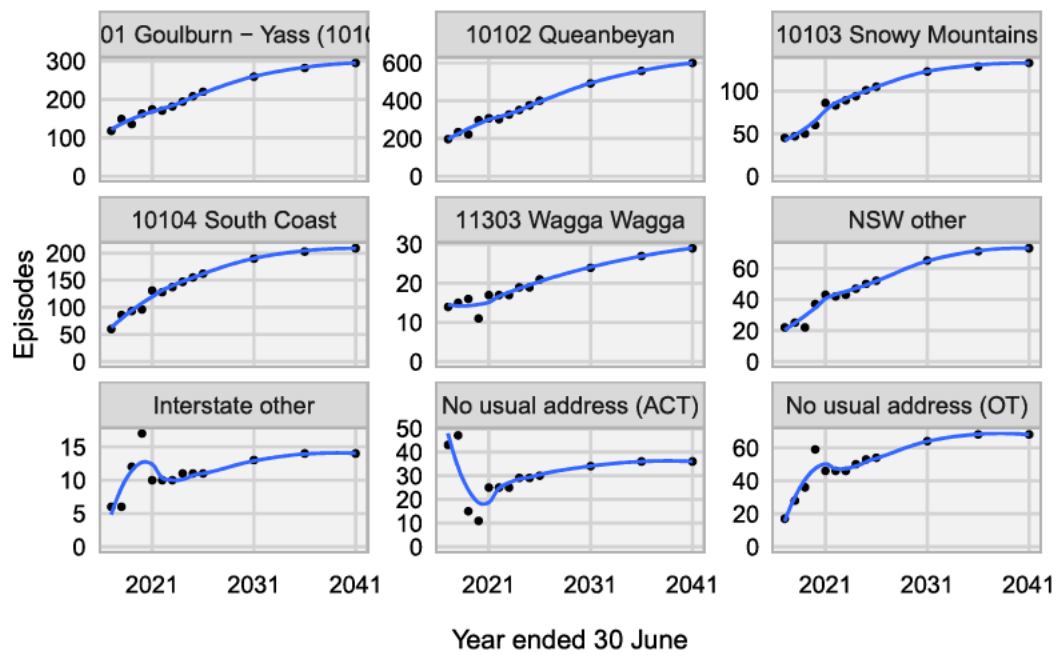


Figure 14.1: Interstate forecasts of day-only Orthopaedic surgery by region

Chapter 15

Calibration of forecasts with projected births (Step 5)

15.1 Projected births

Projected birth rates were used to forecast separations for neonate and maternity activity, that is the ESRGs listed in Table 15.1. The following table shows the ESRGs where birth rates were used for forecasting:

Birth rates are closely aligned with maternity hospital activity. The proportional differences that occur in the numbers of maternity or neonate separations and births - for instance due to babies being transferred to a different facility - will stay relatively stable over time.

The charts in Figure 15.1 and Figure 15.2 below show the annual births from 1st July to 30th June for the whole of the ACT and by SA3, projected to 2041. These historical and projected figures are sourced from the 0 year old populations in the 'ACT Population 2011-2020.xlsx', and 'ACT Population Projections 2021-2060.xlsx' data sheets respectively.

The activity and births in the SA3 '80111 Urriarra - Namadgi' have been added to SA3 '80107 Tuggeranong', due to the small population of Urriarra - Namadgi. Similarly, '80103 Canberra East' data have been combined with '80105 North Canberra'.

The activity from interstate residents is forecast using the projected births in the surrounding NSW SA3s, and by grouping the remaining NSW SA3s into a single region 'NSW Other'. These births figures

Table 15.1: Maternal and Neonate ESRGs

ESRG	Description
722	Vaginal delivery
723	Caesarean delivery
731	Qualified neonate
741	Unqualified neonate
751	Perinatology

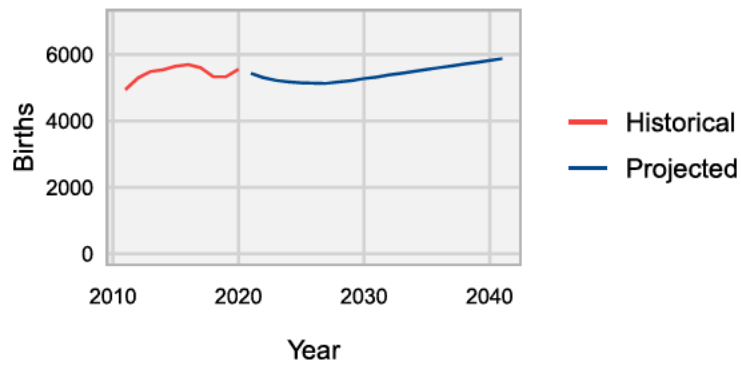


Figure 15.1: Total ACT historical and projected births

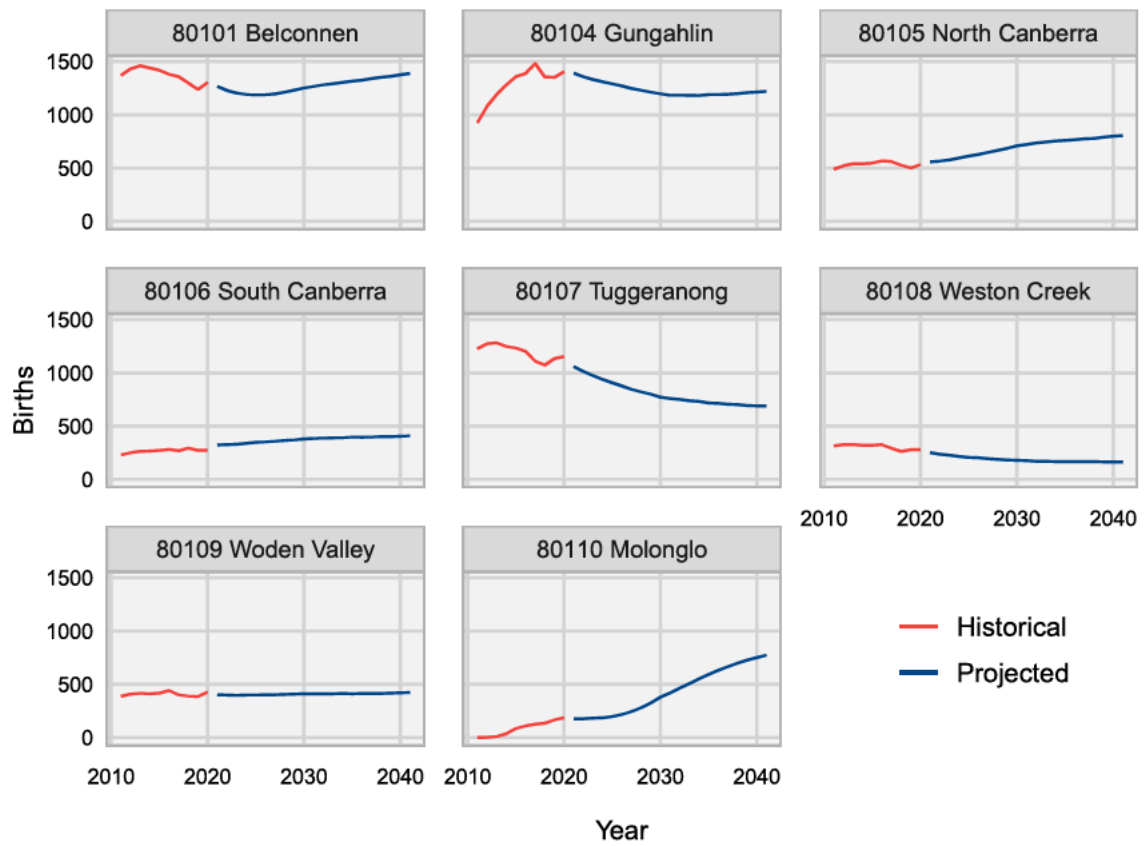


Figure 15.2: Historical and projected births by SA3, ACT residents

are available from the NSW Department of Planning and Environment website. See the “SA3 population accounts” tab of [ASGS-2016-Statistical-Area-3-2022-CPA-Population-and-Dwelling-projections.xlsx](#). The figures includes historical data from the ABS for the years to 2020.

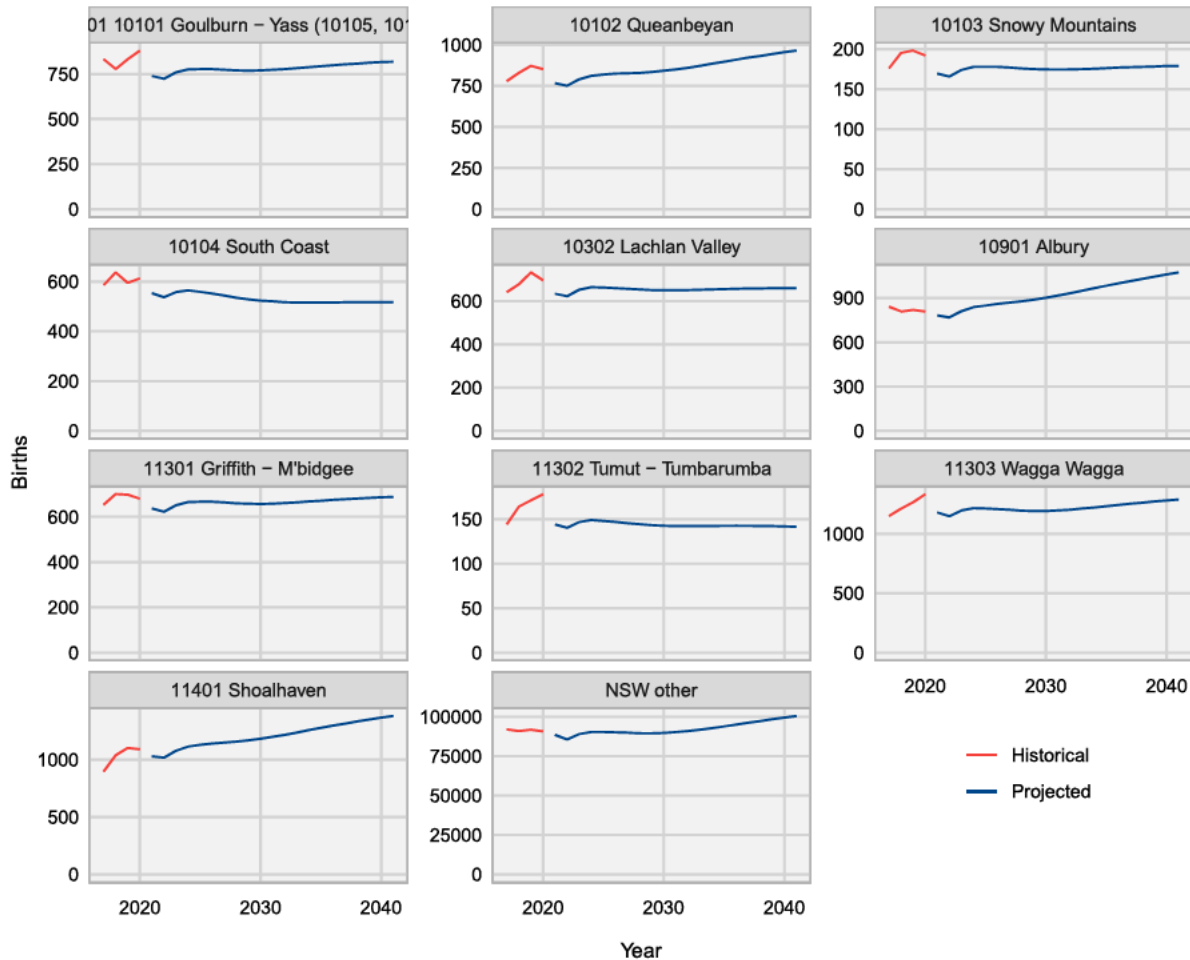


Figure 15.3: Historical and projected births by SA3, NSW residents

15.2 Forecast method

The two steps used to derive the forecasts for separations were:

1. The proportional increase in births was calculated against the base year of 2021 by dividing the projected births for that year and region by the births in that region in the base year.
2. The forecast activity for each cell was derived by multiplying the 2021 historical activity in that cell by the proportional birth increase for each forecast year derived in the step above. For maternal activity there are cells for each combination of residential SA3, ESRG (vaginal delivery or Caesarean delivery), day-only flag and age group. For neonate activity there are cells for each

residential SA3, ESRG (qualified, unqualified or perinatology), day-only flag and sex.
For a given region, this can be expressed as:

$$y_{k,c} = y_{b,c} \frac{B_k}{B_b}$$

Where:

$y_{k,c}$ is number of separations in the cell by ESRG, day-only, age/sex for the forecast year k

$y_{b,c}$ is number of separations in the cell by ESRG, day-only, age/sex for the base year b

B_k is the projected number of births for the forecast year k

B_b is the estimated number of births for the base year b

The charts below show the historical and forecast numbers of separations for maternal and neonate activity by place of residence in the ACT.

The corresponding charts of maternal and neonate forecasts for NSW residents in ACT facilities are shown below.

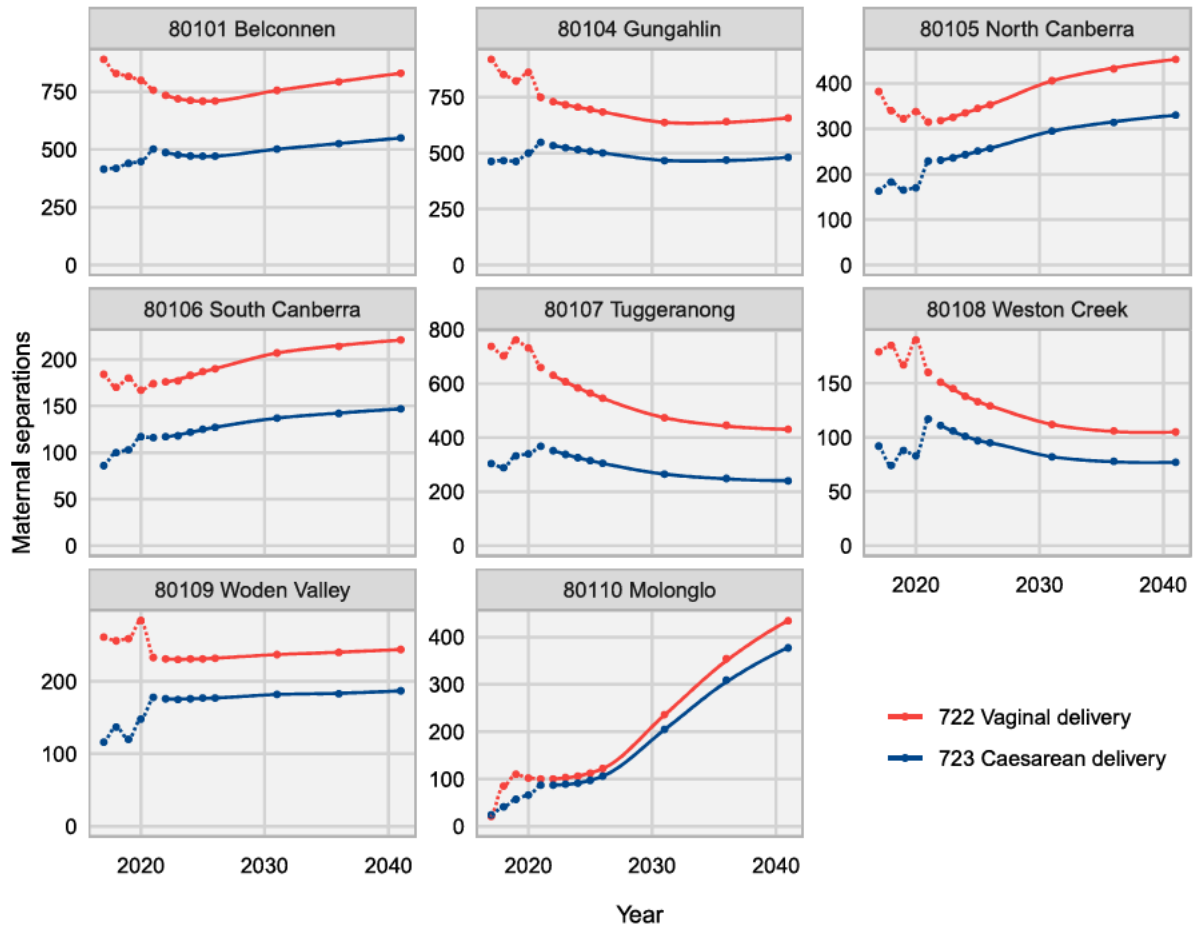


Figure 15.4: Historical and projected maternal separations, ACT residents

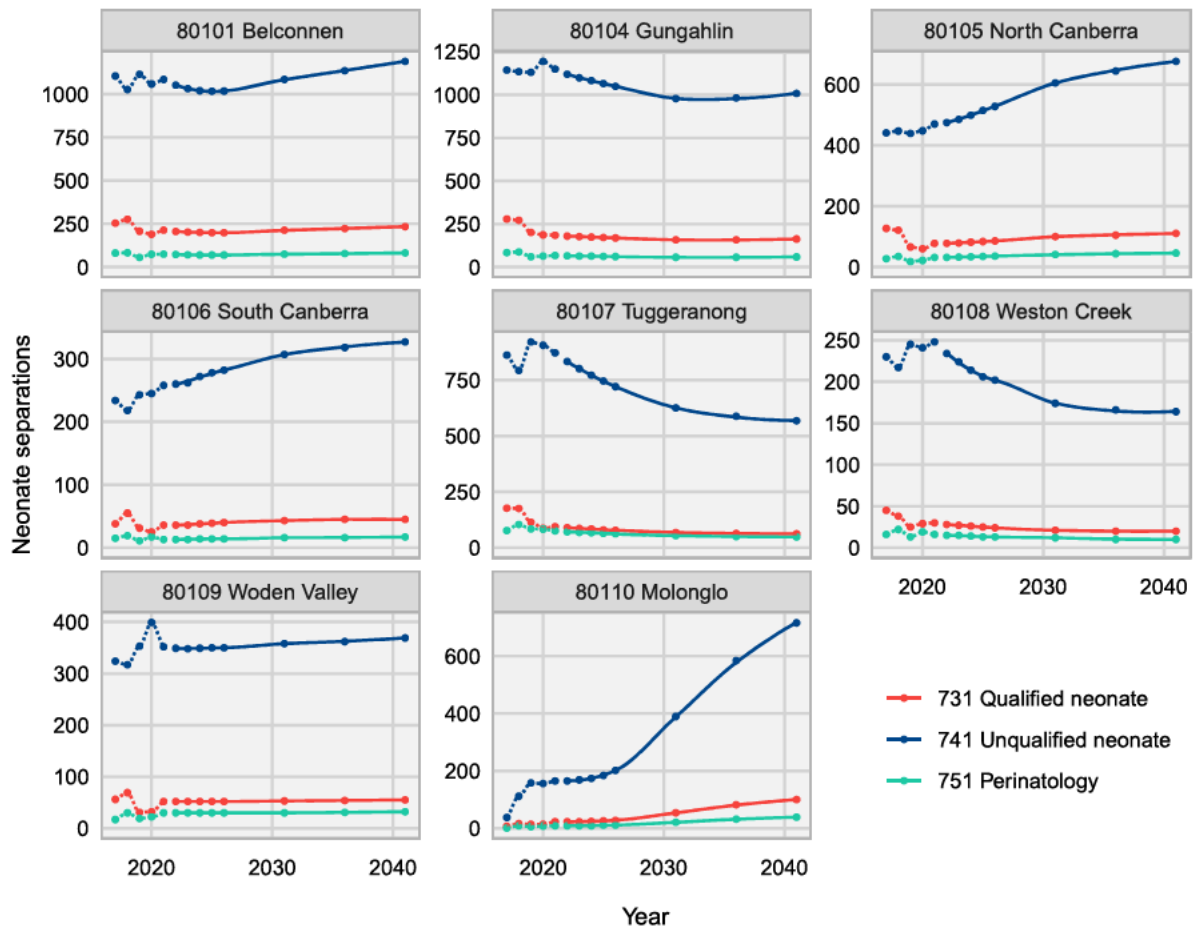


Figure 15.5: Historical and projected neonate separations, ACT residents

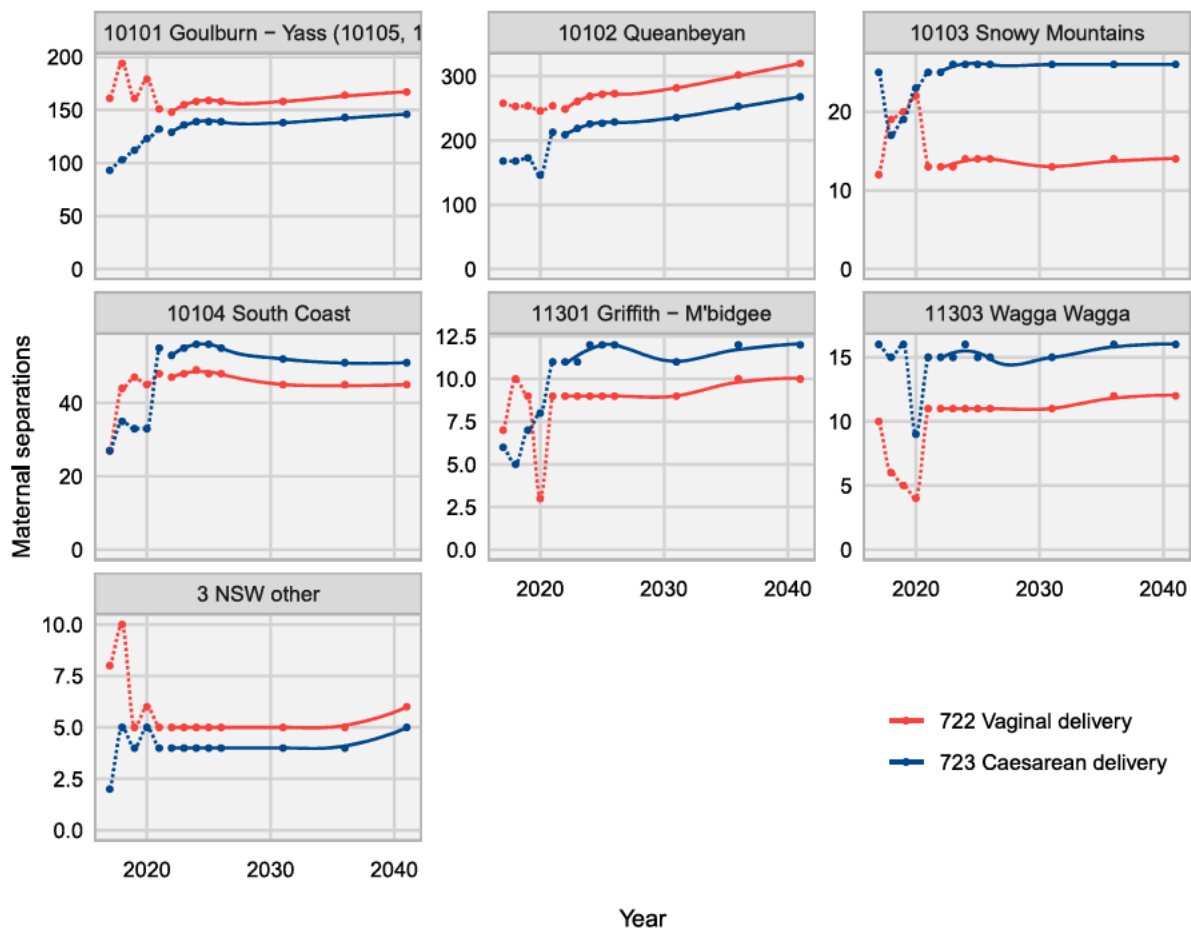


Figure 15.6: Historical and projected maternal separations, NSW residents

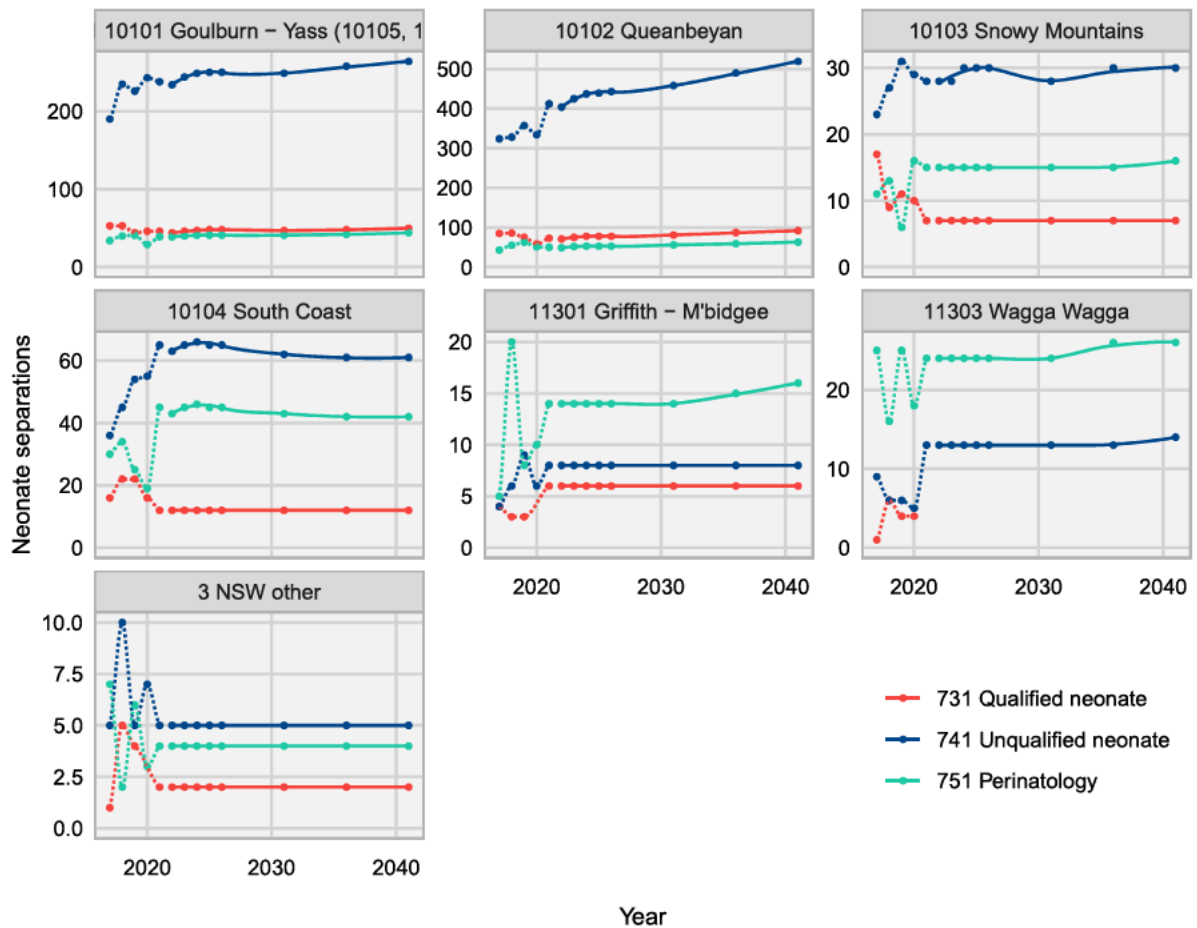


Figure 15.7: Historical and projected neonate separations, NSW residents

Chapter 16

Forecast methods for length of stays (Steps 1A, 2A)

For length of stay, the first steps were to forecast the average length of stay (ALOS) for each combination of ESRG, sex and age group combination. (Forecasts of ALOS for same day episodes are not required). Steps 1A and 1B followed the same modelling approach as applied for forecasts of rates. The main difference was that ALOS was forecast for all activity no matter the state of residence. Step2A resulted in a predicted ALOS for all combinations in across each year in the forecast horizon.

Chapter 17

Simulation of key attributes (Step 6)

Step 6 involved using the projected activity generated from Step 5 and the forecasted ALOS from Step 2A to simulate attributes of the forecast episodes. This involved the following:

- A simulation base was created using all episodes from 2018–29, 2019–20 to 2020–21 (Described in supplementation).
- The number of episodes forecast for an ESRG/stay type/sex/age group/SA3/year combination was selected ($\text{Episodes}_{\text{esrg,stay,sex,age,year}}$).
- This number was used to weight the episodes in the simulation base as follows:

$$\text{weight}_{\text{esrg,stay,sex,age,year}} = \frac{1}{\text{Episodes}_{\text{esrg,stay,sex,age,year}}}$$

- In a parallel process, a random sample of episodes equal to the number of episodes forecast was drawn from the simulation base. This sample provides an equivalent of a “point estimate” of future activity.

i Weighted activity forecasts vs sampled forecasts

When summed the resulting weights equal the total episodes forecast for that combination/year. Where the number of episodes forecast is less than the equivalent number in the simulation base, the weight for a single simulated episodes will be less than 1. Where the number of episodes forecast is greater than the equivalent number in the simulation base, the weight for a single simulated episode will be greater than 1. The weights allow summaries to be created and regression modelling to be undertaken on the simulated values. These will better reflect some of the variation that is observed in the simulation base.

However, in most instances health services planners are expecting a single observation for each forecasted episode. To achieve this the sampling approach described above draws a random sample from the simulation base.

- the forecast ALOS was used to predict the length of stay (LOS) for each forecasted episode. This required allocating the change in ALOS across the forecasted episodes. Each forecast episode had a “base” LOS from the source data for the simulation. This base LOS was potentially reduced or increased depending on whether the ALOS was predicted to increase or decrease. Various constraints needed to be applied in this step including (a) LOS is measured in integers (b) the lower limit for LOS is 1 so that where the “base” LOS for a forecast was 1 day, no further reduction in LOS was feasible. The aim of the approach taken was to ensure that – compared with the simulation base – the LOS for the simulated episode maintained a similar position in the distribution of LOS for all forecast episodes. By using the simulation approach associations between LOS and other episode characteristics have been maintained in the simulated forecasts. These include that – within ESRGs – LOS is associated with: age, sex, the hospital at which care was provided, the state and SA3 of the patient.
- Once the LOS forecast was obtained, other activity measures related to LOS were adjusted in proportion to the LOS change. These included: ICU hours, NICU hours and HITH hours. The NWAU/GWAU calculation was not adjusted. These include short stay and long stay outlier adjustments, but we assumed that in future years the way the calculations are made will change to reflect changes in the distribution of LOS.

Chapter 18

Emergency department methods

Forecasting for emergency department activity follows the same steps as admitted patients, described in the chapters above, except without the length of stay forecasting and without the calibration with projected births. Emergency department activity takes place at two hospitals – Canberra Hospital and Calvary Public.

18.1 Grouping of activity for forecast purposes

Emergency department activity was grouped across the following dimensions:

- **Clinical:** Clinical categories based on the Australian Emergency Care Classification (AECC) were used. The AECC has a dimension of Emergency Care Categories (ECC) (which is similar to the Major Diagnostic Categories of MDCs in the AR-DRG classification). The ECCs are based on the primary emergency diagnosis, but also include a Pre-EDG group which relates to patients who “Did not wait”, where the patient was “Dead on arrival” and where the visit type was a “Planned return visit”. There are 24 ECCs, but the number of episodes in some the ECCs was very low, so these were grouped up into 11 categories as follows:
 - E00 Pre-ECDG
 - E01 Nervous system and neurological
 - E04 Respiratory
 - E05 Circulatory
 - E06 Digestive
 - E08 Musculoskeletal
 - E18 Infectious diseases
 - E19 Mental, behavioural and neurodevelopment
 - E20 Injuries and other externally-caused morbidity
 - E97 Gynaecology, Obstetrics, Perinatal
 - E98 Other conditions
- **Triage:** Triage categories were grouped into two groups. Categories 1 and 2 were grouped together. Categories 3, 4 and 5 were grouped together.
- **Age:** The following age groups were applied 0-16, 17-44, 45-69, 70-84, and 85+ years.

- Sex

By applying the above, there were $12 * 2 * 5 * 2 = 240$ possible groupings for which time series were derived. Note that in the simulation step described below, the original ECCs, triage categories and age groups were able to be identified in the forecast activity. The grouping of activity applied in this step is required to avoid the problem of many cells with very small numbers of patient episodes.

18.2 Forecasting rates

The methods used to model the rates at the ACT level are the same as those described in Chapter 12, with a different set of selection rules for the models. Table 18.1 below shows the selection rules for the ED models.

Table 18.1: Rules for model selection

No. of episodes 2020-21	Other criteria	Model
< 10	None	Mean
≥ 10 and < 20	Diff Mean/Naïve < 20%	Mean
≥ 10 and < 20	Diff Mean/Naïve $\geq 20\%$	Naive
≥ 20	Diff LTLM/Naïve < 20%	LTLM
≥ 20	Diff LTLM/Naïve $\geq 20\%$ & Diff Mean/Naïve < 20%	Mean
≥ 20	Diff LTLM/Naïve $\geq 20\%$ & Diff Mean/Naïve $\geq 20\%$	Naive
≥ 20	LTLM fails	Mean

The above rules were applied to assess model performance of the two sets of times series:

- ECC grouped, triage category grouped, sex, age group combination
- ECC grouped, triage category grouped, sex/age standardised rates

Table 18.2 shows the results of applying these rules. At the lowest level of disaggregation (ECC grouped, triage category grouped, sex, age group) the combinations with low numbers of episodes generally defaulted to the naive method. This model was used for 34% of the combinations, but accounted for only 3% of ED episodes. The mean model is selected for 6% of combinations and 4% of episodes, while the linear model with constraints accounts for 60% of models and 93% of episodes.

With fewer small combinations in the age/sex standardised series, the linear model with constraints was selected for 86% of combinations and 93% of episodes.

Reconciliation for ED is simpler than for APC since there are two rather than three set of time series. For each ECC/triage group, the forecast from the sex/age standardised rate was reconciled with the forecasts at the sex, age group level.

18.3 Relative utilisation modelling

An identical approach to that described in Chapter 13 was applied in modelling relative utilisation for emergency department services.

Table 18.2: Type of model selected: number of ECC/Triage/Sex/Age combinations and number episodes 2020-21

Model selected	Combinations	Episodes 2020-2021	Episodes %
ECC, triage, age/sex standardised			
LTLM	21	151,340	98.5%
Mean	2	2,227	1.5%
Naive	3	10	0.0%
ECC, triage, sex, age group			
LTLM	167	126,960	93.9%
Mean	12	4,876	3.6%
Naive	58	3,340	2.5%

18.4 Interstate residents

An identical approach to that described in Chapter 14 was applied in forecasting emergency department activity related to interstate residents.

18.5 Simulation of key attributes

From the steps described above, forecasts were generated on the number of emergency department episodes by the ECC (grouped), triage category (grouped), sex, age group and SA3. The characteristics of these were then simulated using the characteristics of episodes in 2018-19, 2019-20 and 2020-21. The approach was very similar to that described in Chapter 17. The simulation allows additional characteristics to be identified including:

- hospital of treatment
- episode end status
- the ungrouped ECC
- the triage
- the adjacent AECC of the episode,
- length of stay in minutes from clinical care commencement time to episode end time
- NWAU
- GWAU

Appendix A

Definitions of service streams

A.1 Acute admitted care

Care type of:

- 1 – Acute care (except for episodes occurring within a designated psychiatric facility/ unit or bed OR episodes specified below as being in sub-and non-acute).
- 7 – Newborn care (includes qualified and unqualified babies).

OR

Care type is any except 10 – Hospital boarder AND

- (age < 28 days) or
- (age < 1 year and admission weight < 2500 grams) or
- (age < 1 year and the principal diagnosis is ICD-10-AM1 code P07 Disorders related to short gestation and low birth weight, not elsewhere classified).

A.2 Sub- and non-acute admitted care

Care type of:

- 2 – Rehabilitation care
- 3 – Palliative care
- 4 – Geriatric evaluation and management
- 5 – Psychogeriatric care
- 6 – Maintenance care

OR

Care type is 1 – Acute AND

the principal diagnosis is ICD-10-AM1 code Z50 Care involving use of rehabilitation procedures (reallocated to Rehabilitation care).

OR

Care type is 1 – Acute AND

the principal diagnosis is ICD-10-AM code 1 Z74 Problems related to care-provider dependency or Z75 Problems related to medical facilities and other health care (reallocated to Maintenance care).

A.3 Specialist mental health admitted care

Care type of:

- 11 – Mental health care

OR

Episodes with any time spent in a designated psychiatric facility (these are Dhulwa mental health unit and Brian Hennessy).

OR

Episodes with any time spent in a psychiatric ward or bed. These include the following in The Canberra Hospital:

- PHD: Psychiatry High Dependency
- PLD: Psychiatry Low Dependency
- PSS: Psychiatric Short Stay/MHSSU Surge Unit (PSS) (short stay admitted unit attached to the emergency department)

Owen, please add the full list here.

A.4 Other (not in scope of forecasts)

Admitted care type of:

- 9 – Organ procurement, posthumous
- 10 – Hospital boarder
- 88 – Other

OR

Facility type is: Mothercraft (Queen Elizabeth II)

Appendix B

Data variables included in forecast data

The forecast outputs are supplied in three formats:

- A summarised table
- Simulated episodes with weights
- Simulated episodes with a single episode

Table [B.1](#) lists the variables the variables in the summarised table. The table includes various characteristics of historical and forecast activity and summary values of key utilisation values including the number of episodes (seps) with different combinations of characteristics and the number of patient days or bed day (los) associated with those episodes.

The simulated datasets also include the episode characteristics listed in Table [B.1](#), but also additional characteristics such as the simulated AR-DRG and date of the episode.

Table B.1: Variable definitions for forecasted data

Category	Variable	Variable name	Description
General	type	type	Identifies "Historical" and "Projection" data record
	year	year	Financial year. 2021 means FY2020–21, based on patients' separation
Demographic	agegrp_flag	Age group flag	This variable flags the age grouping used is the "standard" or "mh" (i.e. mental health specific age group).
	agegrp	Age group	Age group
	sex	Sex	Sex : 1 Male; 2: Female; 3: Other 9: Not recorded Text version of sex with values of: Male, Female, Other. Values of 3 and 9 in sex are combined to "Other"
Place of patient residence	act_resident	ACT resident	Indicator that the episode relates to an patient who resides in the ACT. Takes the value of "TRUE" or "FALSE"
	residencecx	SA3	Residence of the patients. SA3 for ACT residents and Southern NSW SA3, collapsed for rest of NSW and collapsed for other interstate residents. Separate SA3 is provided for patients where residence is not defined (89999 and 99999).
	residence2	State of residence	State of residence. Takes the values of "ACT residents", "Southern NSW", "Other NSW", "Interstate other" and "Other".
	residence3		Same as for residence2, except with "Southern NSW", and "Other NSW" collapsed in "NSW"
Place of treatment	sector	Sector	Sector of the hospital in which treatment is provided. Values are "ACT public", "ACT private" and "Interstate public"
	estid2	Establishment ID	Modified version of establishment ID from the original "estid" (only applicable to APC, not applicable to ED data). Includes a separate entity for Clare Holland House ("81000083_CHH"). Private hospitals in ACT are collapsed into one category "private", Interstate hospitals are collapsed into one category "interstate".
	estid2x	Establishment ID and label	estid with label for hospital/hospital grouping
Clinical/service type	stream	Stream	Service stream. This is an HPA-created variable categorising episodes into "acute", "subacute", and "mh" (for "Mental health") for the purpose of the forecasts. NA values indicate records not in scope of the forecasts. Note that in 'streamx' ESRGs that fall under the SRG "82 Acute mental health" are allocated to the Acute stream rather than the "Mental health stream". The reason
	streamx	Stream label	Service stream labels. Same as stream except using the labels "Acute", "Subacute", and "Mental health".
	stream2	stream2	Service stream alternative with values of "acute", "subacute" and "mh". This is the same as streamx except that ESRGs that fall under the SRG "82 Acute mental

(continued)

Category	Variable	Variable name	Description
Episodes attributes			health" have been allocated to the Mental health stream rather than the Acute stream.
	stream2x	stream2x	Service stream alternative labelled "Acute", "Subacute" and "Mental health"
	srg6_act	SRG6 ACT mod	Service Related Group Version 6 ACT modification
	srg6x_act	SRG6 ACT mod with label	Service Related Group Version 6 ACT modification with labels
	esrg6_act	ESRG6 ACT mod	Enhanced Service Related Group Version 6 ACT modification
	esrg6x_act	ERSG6 ACT mod with label	Enhanced Service Related Group Version 6 ACT modification with labels
	dayonly	Day only	"1" for same day episodes and "2" for overnight episodes.
Utilisation measures	dayonlyx	dayonly label	Text version of stay type with values of "Same day" and "Overnight".
	urgadm	Urgent admission status	Admission urgency status – "1" for the emergency admission and "9" for other urgency status
	fundsc2	fundsc2	Combined version of funding source, into "public", "private insurance", "private self", "compensable", and "other".
	PPHcat1	PPH category 1	Potentially preventable hospitalisation category. Values include "Acute", "Chronic" and "Vaccine Preventable". Each episode can have more than one and the numeric suffix for the variable indicates whether the PPH is the first second or third assigned to the episode.
	seps	Episodes	Number of episodes
	los	LOS	Patient days (this is set to 1 for day only episodes)
	nwau20_hpa	NWAU20 HPA	NWAU 2020 calculated by HPA
	gwau20_hpa	GWAU20 HPA	GWAU 2020 calculated by HPA
	icu_flag	ICU flag	Indicates the episodes involving ICU hours
	icu_hrs	ICU hours	Number of ICU hours
nicu_flag	NICU flag	Indicates the episodes involving NICU hours	
nicu_hrs	NICU hours	Number of NICU hours	
or_flag	OR flag	Operating room flag	
or_hrs	OR hours	Number of OR hours	
hith_flag	HITH flag	Hospital in the home flag	
hith_los	HITH days	Hospital in the home days (hours were divided by 24 hence the fraction represents part day)	

Table B.2: Forecasted episode counts by year and stay type

Stay type	2016	2021	2026	2031	2036	2041
Overnight	77,022	84,292	91,474	100,620	109,520	117,318
Same day	93,185	119,247	134,352	150,692	163,862	175,396

Appendix C

Forecast activity by SRG

Table C.1: Historical and forecasted episodes by Service Related Groups (SRG Version 6, ACT modification), ACT public hospitals

SRG version 6 ACT mod	Stay type	Episodes, year ended 30 June						5 year CAGR (%)				
		2016	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041
Acute												
11 Cardiology	Same day	3,093	3,922	4,671	5,523	6,295	6,951	4.9%	3.6%	3.9%	3.6%	3.1%
	Overnight	2,768	2,938	2,993	3,176	3,412	3,522	1.2%	0.4%	0.9%	1.2%	1.0%
12 Interventional cardiology	Same day	846	792	776	818	838	847	-1.3%	-0.4%	0.6%	0.4%	0.4%
	Overnight	1,152	1,317	1,454	1,579	1,848	2,001	2.7%	2.0%	1.5%	2.2%	2.1%
13 Dermatology	Same day	243	312	286	282	300	306	5.1%	-1.7%	-0.7%	0.4%	0.1%
	Overnight	176	234	274	309	347	389	5.9%	3.2%	3.6%	2.9%	2.9%
14 Endocrinology	Same day	121	163	153	153	159	167	6.1%	-1.3%	-0.1%	0.3%	0.3%
	Overnight	376	404	479	533	556	606	1.4%	3.5%	3.0%	2.1%	1.8%
15 Gastroenterology	Same day	3,696	5,304	7,198	8,411	9,194	9,943	7.5%	6.3%	4.8%	3.6%	2.8%
	Overnight	3,345	3,937	4,505	5,220	5,877	6,455	3.3%	2.7%	3.1%	3.0%	2.6%
16 Diagnostic GI	Same day	1,322	1,781	1,996	2,229	2,413	2,739	6.1%	2.3%	2.4%	2.0%	2.1%
	Overnight	521	564	617	685	755	842	1.6%	1.8%	2.1%	1.8%	2.3%
17 Haematology	Same day	1,152	1,295	1,398	1,495	1,662	1,784	2.4%	1.5%	1.8%	1.8%	1.8%
	Overnight	842	892	917	996	1,057	1,066	1.2%	0.6%	1.4%	1.2%	0.9%
18 Immunology & infections	Same day	94	245	321	384	412	437	21.1%	5.6%	5.2%	3.9%	2.8%
	Overnight	138	268	355	394	424	442	14.2%	5.8%	4.6%	3.3%	2.3%
20 Chemotherapy	Same day	748	203	217	200	197	219	-23.0%	1.3%	-1.7%	-1.8%	-0.7%
21 Neurology	Same day	2,162	4,082	4,976	5,988	6,733	7,340	13.6%	4.0%	4.7%	3.9%	3.2%
	Overnight	2,211	2,652	3,004	3,455	3,871	4,181	3.7%	2.5%	3.0%	2.9%	2.5%
22 Renal medicine	Same day	271	359	361	382	414	431	5.8%	0.1%	0.9%	1.6%	1.2%
	Overnight	342	376	360	414	466	508	1.9%	-0.9%	1.3%	1.9%	2.1%
23 Renal dialysis	Same day	21,854	21,803	21,437	21,515	21,785	22,084	0.0%	-0.3%	-0.1%	0.0%	0.1%
24 Respiratory medicine	Same day	663	1,009	1,337	1,549	1,731	1,886	8.8%	5.8%	4.8%	3.6%	3.0%
	Overnight	4,028	3,598	4,281	4,674	5,177	5,564	-2.2%	3.5%	2.5%	2.4%	1.9%
25 Rheumatology	Same day	1,590	1,715	2,448	2,869	3,113	3,344	1.5%	7.4%	5.0%	3.7%	2.8%
	Overnight	249	282	309	331	366	381	2.5%	1.8%	1.5%	1.7%	1.5%
27 General medicine	Same day	2,800	4,138	5,223	6,225	6,913	7,510	8.1%	4.8%	4.5%	3.8%	3.0%
	Overnight	4,357	5,252	6,448	7,629	8,622	9,522	3.8%	4.2%	4.1%	3.5%	3.0%
41 Breast surgery	Same day	75	98	99	94	98	98	5.5%	0.2%	-2.1%	-0.4%	-0.4%
	Overnight	213	291	325	361	391	432	6.4%	2.2%	1.9%	1.9%	2.2%
42 Cardiothoracic surgery	Same day	7						-10.6%	-12.9%	-9.7%	-11.6%	-6.3%
	Overnight	333	304	306	306	291	308	-1.8%	0.1%	0.0%	-0.8%	0.2%
43 Colorectal surgery	Same day	45	142	152	190	225	269	25.8%	1.4%	3.2%	3.2%	4.0%
	Overnight	594	640	606	652	644	641	1.5%	-1.1%	0.4%	0.2%	0.0%
44 Upper gastrointestinal surgery	Same day	15	36	31	34	28	36	19.1%	-2.9%	0.3%	-0.8%	0.5%
	Overnight	799	1,076	1,030	1,073	1,109	1,130	6.1%	-0.9%	0.3%	0.7%	0.5%
46 Neurosurgery	Same day	435	698	850	1,114	1,247	1,381	9.9%	4.0%	5.2%	4.6%	3.3%
	Overnight	1,041	1,255	1,421	1,586	1,764	1,926	3.8%	2.5%	2.6%	2.5%	2.3%
47 Oral and maxillofacial surgery	Same day	703	810	978	1,219	1,322	1,477	2.9%	3.8%	4.9%	3.7%	3.1%
	Overnight	345	369	368	350	351	358	1.4%	-0.1%	-1.0%	-0.7%	0.0%
48 Ear, nose & throat/head & neck	Same day	567	729	785	975	1,122	1,206	5.2%	1.5%	3.4%	3.0%	2.7%
	Overnight	1,067	1,112	1,215	1,302	1,351	1,420	0.8%	1.8%	1.4%	1.4%	1.2%
49 Orthopaedics	Same day	2,939	4,574	5,404	6,517	7,363	7,998	9.2%	3.4%	4.2%	3.7%	3.0%

(continued)

SRG version 6 ACT mod	Stay type	Episodes, year ended 30 June						5 year CAGR (%)					
		2016	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041	
50 Ophthalmology	Overnight	4,115	5,263	4,979	5,138	5,419	5,771	5.0%	-1.1%	0.3%	0.6%	0.9%	
	Same day	1,537	2,135	2,747	3,136	3,280	3,507	6.8%	5.2%	3.5%	2.2%	1.9%	
51 Plastic & reconstructive surgery	Overnight	290	325	364	379	438	481	2.3%	2.3%	2.5%	2.1%	2.4%	
	Same day	610	808	919	979	1,026	1,046	5.8%	2.6%	2.5%	1.8%	0.8%	
52 Urology	Overnight	362	453	444	441	444	474	4.6%	-0.4%	-0.2%	-0.3%	0.3%	
	Same day	2,059	2,901	3,697	4,488	5,122	5,731	7.1%	5.0%	4.5%	3.9%	3.4%	
53 Vascular surgery	Overnight	2,101	2,203	2,518	2,796	3,016	3,290	1.0%	2.7%	2.5%	2.1%	2.0%	
	Same day	233	345	377	412	423	462	8.2%	1.8%	2.5%	2.2%	1.7%	
54 General surgery	Overnight	837	1,068	1,245	1,440	1,588	1,751	5.0%	3.1%	3.3%	2.8%	2.6%	
	Same day	2,375	4,083	4,929	5,946	6,660	7,183	11.4%	3.8%	4.4%	3.7%	3.1%	
62 Extensive burns	Overnight	3,281	4,011	4,384	4,813	5,257	5,596	4.1%	1.8%	2.0%	1.9%	1.8%	
	Same day							-24.2%	24.6%	0.0%	-2.2%	-1.7%	
63 Tracheostomy & ventilation	Overnight	11	10	12	12	13	15	-1.9%	3.7%	-0.9%	2.0%	1.8%	
	Same day	188	227	219	234	247	266	3.8%	-0.7%	0.9%	0.8%	0.9%	
71 Gynaecology	Overnight	1,361	1,880	2,152	2,538	2,768	3,039	6.7%	2.7%	3.6%	3.0%	2.7%	
	Same day	1,056	1,328	1,509	1,750	1,870	2,098	4.7%	2.6%	2.7%	2.4%	2.3%	
72 Obstetrics	Overnight	946	1,094	1,346	1,467	1,635	1,763	2.9%	4.2%	3.2%	2.8%	2.2%	
	Same day	5,795	5,913	5,657	5,752	6,089	6,349	0.4%	-0.9%	0.1%	0.5%	0.8%	
73 Qualified neonate	Overnight	60	998	692	706	722	755	802	-7.1%	0.4%	0.5%	0.4%	0.8%
	Same day	777	600	567	574	601	625	-5.0%	-1.1%	-0.2%	0.3%	0.5%	
74 Unqualified neonate	Overnight	3,802	3,873	3,737	3,799	4,005	4,261	0.4%	-0.7%	0.0%	0.7%	0.8%	
	Same day												
75 Perinatology	Overnight	466	510	495	505	523	547	1.8%	-0.6%	0.1%	0.3%	0.5%	
	Same day	483	660	792	949	1,055	1,146	6.4%	3.7%	4.3%	3.4%	2.8%	
81 Drug & alcohol	Overnight	1,102	1,101	1,283	1,423	1,573	1,737	0.0%	3.1%	2.7%	2.6%	2.3%	
	Same day	149	200	381	455	526	624	6.1%	13.8%	9.7%	6.5%	4.8%	
82 Acute mental health	Overnight	191	278	365	405	453	487	7.8%	5.6%	4.4%	3.8%	2.8%	
	Same day	40	71	79	89	102	110	12.2%	2.2%	2.4%	3.1%	2.1%	
99 Unallocated	Overnight	256	278	302	352	390	442	1.7%	1.7%	2.4%	2.1%	2.4%	
	Same day												
Mental health													
83 Specialist mental health	Overnight	1,862	2,456	3,329	3,985	4,394	4,648	5.7%	6.3%	4.6%	3.7%	2.8%	
	Same day	202	174	159	159	159	159	-2.9%	-1.8%	0.0%	0.0%	0.0%	
Subacute													
84 Rehabilitation	Overnight	1,402	1,984	2,968	3,527	4,165	4,445	7.2%	8.4%	6.2%	4.8%	3.8%	
	Same day	744	513	971	1,048	1,194	1,324	-7.2%	13.6%	3.6%	2.9%	2.3%	
85 Psychogeriatric	Overnight	16	47	51	58	64	69	24.0%	1.6%	2.6%	2.4%	2.0%	
	Same day	65	51	31	26	26	29	-4.7%	-9.5%	-7.0%	-4.3%	-2.2%	
86 Palliative care	Overnight	745	797	744	719	743	757	1.4%	-1.4%	-1.1%	-0.5%	-0.2%	
	Same day	17	9					-11.9%	-19.7%	-15.4%	-4.2%	-3.2%	
87 Maintenance	Overnight	1,061	1,330	1,409	1,655	1,932	2,161	4.6%	1.2%	2.7%	3.1%	2.9%	
	Same day		6	9	11	14	14	24.6%	8.4%	7.0%	4.4%	2.6%	
92 Geriatric evaluation and management	Overnight	305	513	493	515	539	516	11.0%	-0.8%	0.2%	0.4%	0.2%	
	Same day												

Appendix D

Forecast activity by ESRG

Table D.1: Historical and forecasted episodes by Enhanced Service Related Groups (ESRG Version 6, ACT modification), ACT public hospitals

SRG	ESRG version 6 ACT mod	Stay type	Episodes, year ended 30 June						5 year CAGR (%)				
			2016	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041
Acute													
11 Cardiology	111 Chest pain	Same day	1,936	2,365	2,790	3,287	3,729	4,144	4.1%	3.4%	3.7%	3.4%	3.1%
		Overnight	624	634	576	561	567	576	0.3%	-1.9%	-1.1%	-0.5%	-0.3%
112 Unstable angina		Same day	39	44	45	49	50	51	2.4%	0.5%	1.5%	1.7%	1.6%
		Overnight	91	55	53	53	58	55	-9.6%	-0.7%	-2.2%	0.6%	-0.3%
113 Heart failure & shock		Same day	52	72	100	129	149	161	6.7%	6.8%	6.7%	5.1%	4.0%
		Overnight	580	545	624	687	770	757	-1.2%	2.7%	2.6%	2.5%	1.7%
114 Arrhythmia, cardiac arrest & conduction disord.		Same day	444	493	602	716	819	894	2.1%	4.1%	4.0%	3.7%	2.9%
		Overnight	444	489	467	463	484	463	1.9%	-0.9%	-0.9%	-0.2%	-0.3%
115 AMI w/o invasive cardiac investigative proc		Same day	32	49	44	41	49	51	8.9%	-2.1%	-1.7%	0.7%	0.6%
		Overnight	215	279	268	300	332	356	5.3%	-0.8%	1.2%	1.9%	1.8%
116 Syncope & collapse		Same day	263	393	476	567	662	738	8.4%	3.9%	4.4%	3.8%	3.5%
		Overnight	307	371	399	431	463	497	3.9%	1.5%	2.0%	1.4%	1.5%
117 Coronary atherosclerosis		Same day	77	74	74	79	89	89	-0.8%	0.0%	1.4%	2.2%	1.0%
		Overnight	67	64	63	65	62	64	-0.9%	-0.3%	0.7%	-0.1%	-0.1%
118 Valvular disorders		Same day	152	245	293	357	396	438	10.0%	3.6%	5.0%	3.8%	3.0%
		Overnight	87	96	109	119	128	141	2.0%	2.6%	2.9%	1.9%	1.9%
119 Cardiology, other		Same day	98	187	247	298	352	385	13.8%	5.7%	5.3%	4.6%	3.7%
		Overnight	353	405	434	497	548	613	2.8%	1.4%	2.5%	2.3%	2.2%
12 Interventional cardiology	121 Invasive cardiac investigative proc	Same day	716	563	524	526	526	499	-4.7%	-1.4%	-0.5%	-0.7%	-0.7%
		Overnight	261	227	224	214	251	246	-2.8%	-0.3%	-1.9%	0.5%	0.1%
122 Percutaneous coronary angioplasty		Same day	47	90	116	146	153	169	13.9%	5.2%	5.8%	4.2%	3.6%
		Overnight	654	793	826	903	1,027	1,137	3.9%	0.8%	1.3%	1.9%	2.1%
123 Pacemaker procs		Same day	67	109	111	118	132	151	10.2%	0.4%	1.3%	2.2%	2.2%
		Overnight	169	226	282	322	391	434	6.0%	4.5%	3.3%	3.5%	2.8%
129 Interventional cardiology, other		Same day	16	30	25	28	27	28	13.4%	-3.6%	0.0%	-0.8%	-0.4%
		Overnight	68	71	122	140	179	184	0.9%	11.4%	6.9%	4.7%	3.6%
13 Dermatology	131 Dermatology	Same day	243	312	286	282	300	306	5.1%	-1.7%	-0.7%	0.4%	0.1%
		Overnight	176	234	274	309	347	389	5.9%	3.2%	3.6%	2.9%	2.9%
14 Endocrinology	141 Diabetes	Same day	71	76	85	100	107	113	1.4%	2.3%	3.1%	3.0%	2.0%
		Overnight	263	325	386	435	457	503	4.3%	3.5%	3.0%	2.3%	2.1%
149 Endocrinology, other		Same day	50	87	68	53	52	54	11.7%	-4.8%	-4.3%	-3.3%	-2.1%
		Overnight	113	79	93	98	99	103	-6.9%	3.3%	3.0%	1.1%	0.7%
15 Gastroenterology	151 Oesophagitis & gastroenteritis	Same day	508	703	1,011	1,192	1,349	1,447	6.7%	7.5%	5.7%	4.3%	3.2%
		Overnight	615	684	760	848	942	1,026	2.1%	2.1%	2.2%	2.5%	2.1%
152 Complex endoscopy		Same day	405	586	727	893	990	1,181	7.7%	4.4%	4.2%	3.4%	3.3%
		Overnight	178	152	174	178	173	183	-3.1%	2.7%	1.5%	0.6%	0.8%
154 Cirrhosis, alcoh. hep. & liver/g'bladder conds		Same day	318	321	302	313	329	341	0.2%	-1.2%	-0.1%	0.4%	0.7%
		Overnight	623	698	738	803	867	929	2.3%	1.1%	1.2%	1.6%	1.7%
155 Digestive malignancy		Same day	15	21	19	15	17	20	7.0%	-2.0%	-3.7%	-2.0%	-0.3%
		Overnight	77	57	55	52	52	52	-5.8%	-0.7%	-1.6%	-0.1%	0.0%
156 Gastrointestinal haemorrhage		Same day	59	98	107	139	168	187	10.7%	1.8%	4.4%	4.2%	3.8%
		Overnight	192	246	299	370	444	482	5.1%	4.0%	4.8%	4.4%	3.4%
157 Inflammatory bowel disease		Same day	1,645	2,316	3,395	3,876	4,134	4,387	7.1%	7.9%	5.0%	3.4%	2.5%

(continued)

SRG	ESRG version 6 ACT mod	Stay type	Episodes, year ended 30 June						5 year CAGR (%)				
			2016	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041
		Overnight	72	78	84	94	104	112	1.6%	1.5%	2.4%	2.3%	1.9%
	158 Gastrointestinal obstruction	Same day	36	28	32	35	40	42	-4.9%	2.7%	2.9%	2.5%	1.8%
		Overnight	308	360	439	530	608	669	3.2%	4.0%	4.2%	3.8%	3.1%
	159 Gastroenterology, other	Same day	710	1,231	1,605	1,948	2,167	2,338	11.6%	5.4%	5.4%	4.3%	3.3%
		Overnight	1,280	1,662	1,956	2,345	2,687	3,002	5.4%	3.3%	4.0%	3.6%	3.2%
16 Diagnostic GI	161 Diagnostic colonoscopy	Same day	906	1,091	1,247	1,415	1,572	1,828	3.8%	2.7%	3.0%	2.4%	2.7%
		Overnight	186	193	201	204	222	234	0.7%	0.8%	0.2%	0.3%	1.2%
	162 Diagnostic gastroscopy	Same day	416	690	749	814	841	911	10.6%	1.7%	1.3%	1.3%	1.1%
		Overnight	335	371	416	481	533	608	2.1%	2.3%	3.0%	2.6%	2.8%
17 Haematology	174 Bone marrow transplant	Same day											
		Overnight	32	31	28	29	27	31	-0.6%	-2.0%	-0.7%	-0.5%	-0.2%
	175 Lymphoma & leukaemia	Same day	60	67	75	88	113	111	2.2%	2.3%	5.8%	4.0%	2.9%
		Overnight	273	313	315	338	352	357	2.8%	0.1%	1.4%	0.9%	0.8%
	179 Haematology, other	Same day	1,092	1,227	1,323	1,407	1,549	1,673	2.4%	1.5%	1.6%	1.7%	1.7%
		Overnight	537	548	574	629	678	678	0.4%	0.9%	1.5%	1.5%	1.0%
18 Immunology & infections	181 Immunology	Same day	86	239	319	380	407	433	22.7%	5.9%	5.4%	3.9%	2.8%
		Overnight	43	122	168	191	212	218	23.2%	6.6%	5.8%	4.5%	3.1%
	184 Infectious diseases	Same day	8	6					-5.6%	-19.7%	-4.4%	-1.4%	-1.7%
		Overnight	95	146	187	203	212	224	9.0%	5.1%	3.7%	2.2%	1.6%
20 Chemotherapy	201 Chemotherapy	Same day	748	203	217	200	197	219	-23.0%	1.3%	-1.7%	-1.8%	-0.7%
21 Neurology	211 Stroke	Same day	47	42	48	53	55	59	-2.2%	2.7%	2.6%	2.1%	1.5%
		Overnight	527	624	644	692	755	802	3.4%	0.6%	1.2%	1.6%	1.5%
	212 TIA	Same day	50	75	71	83	94	108	8.4%	-1.1%	1.6%	2.0%	2.2%
		Overnight	172	190	189	204	234	248	2.0%	-0.1%	1.2%	1.9%	2.0%
	213 Seizures	Same day	259	304	332	383	431	468	3.3%	1.8%	2.8%	2.6%	2.4%
		Overnight	368	371	384	387	400	415	0.2%	0.7%	0.5%	0.7%	0.5%
	214 Headache	Same day	456	737	922	1,118	1,280	1,384	10.1%	4.6%	4.8%	4.2%	3.4%
		Overnight	233	345	429	539	615	673	8.2%	4.5%	4.8%	4.3%	3.5%
	215 Dysequilibrium	Same day	238	496	670	810	899	988	15.8%	6.2%	5.7%	4.2%	3.4%
		Overnight	178	297	377	474	546	609	10.8%	4.9%	5.2%	4.5%	3.8%
	216 Nervous system neoplasm	Same day	12	25	20	22	23	27	15.8%	-4.4%	-0.5%	0.3%	0.5%
		Overnight	101	95	91	99	104	123	-1.2%	-0.9%	0.8%	0.7%	1.4%
	217 MS, cerebellar ataxia & degen. NS disorders	Same day	495	1,254	1,328	1,662	1,936	2,128	20.4%	1.2%	4.4%	4.1%	3.5%
		Overnight	152	156	180	201	211	233	0.5%	2.9%	3.5%	2.1%	2.3%
	218 Cranial & peripheral nerve disorders	Same day	433	823	1,202	1,380	1,484	1,570	13.7%	7.9%	5.5%	3.8%	2.7%
		Overnight	106	133	172	205	249	265	4.6%	5.3%	4.3%	4.4%	3.7%
	219 Neurology, other	Same day	172	326	383	477	531	608	13.6%	3.3%	4.6%	3.8%	3.7%
		Overnight	374	441	538	654	757	813	3.4%	4.1%	4.6%	3.9%	3.1%
22 Renal medicine	221 Renal failure	Same day	20	33	46	59	71	74	10.5%	6.9%	6.3%	6.9%	4.7%
		Overnight	244	239	243	293	326	375	-0.4%	0.3%	2.8%	2.7%	2.9%
	229 Renal medicine, other	Same day	251	326	315	323	343	357	5.4%	-0.7%	0.2%	0.9%	0.7%
		Overnight	98	137	117	121	140	133	6.9%	-3.1%	-1.6%	0.3%	0.3%
23 Renal dialysis	231 Renal dialysis	Same day	21,854	21,803	21,437	21,515	21,785	22,084	0.0%	-0.3%	-0.1%	0.0%	0.1%
24 Respiratory medicine	241 Bronchitis & asthma	Same day	128	193	242	281	315	351	8.6%	4.6%	4.4%	3.8%	3.2%
		Overnight	417	313	320	298	290	299	-5.6%	0.4%	-1.3%	-1.1%	-0.7%

(continued)

SRG	ESRG version 6 ACT mod	Stay type	Episodes, year ended 30 June						5 year CAGR (%)					
			2016	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041	
	242 Chronic obstructive airways disease	Same day	55	67	100	125	146	171	4.0%	8.3%	7.4%	4.8%	4.2%	
		Overnight	609	425	464	428	425	433	-6.9%	1.8%	-0.3%	-0.6%	-0.4%	
	243 Respiratory infections or inflammations	Same day	141	120	157	163	188	200	-3.2%	5.5%	3.6%	2.8%	2.4%	
		Overnight	1,400	999	1,053	1,206	1,344	1,437	-6.5%	1.1%	2.4%	2.3%	1.9%	
	244 Bronchoscopy	Same day	13	26	18	16	18	20	14.9%	-7.1%	-5.6%	-2.2%	0.3%	
		Overnight	54	63	66	73	80	85	3.1%	0.9%	1.5%	1.7%	1.2%	
	245 Respiratory neoplasms	Same day		13	7	9	9	10	26.6%	-11.6%	-4.0%	-2.8%	-0.6%	
		Overnight	115	138	136	137	144	144	3.7%	-0.3%	0.7%	1.3%	0.7%	
	246 Pulmonary embolism	Same day	28	48	71	79	92	94	11.4%	8.1%	5.7%	4.3%	2.6%	
		Overnight	208	226	251	256	263	273	1.7%	2.1%	1.2%	0.5%	0.6%	
	247 Whooping cough & acute bronchiolitis	Same day	20	42	39	41	46	53	16.0%	-1.5%	0.3%	1.3%	2.0%	
		Overnight	150	170	150	135	132	129	2.5%	-2.5%	-2.3%	-1.4%	-1.4%	
	248 Respiratory signs & sympt	Same day	143	237	335	399	440	464	10.6%	7.2%	5.2%	3.9%	2.8%	
		Overnight	179	236	334	391	442	464	5.7%	7.2%	5.4%	4.2%	3.0%	
	249 Respiratory medicine, other	Same day	131	263	368	436	477	523	15.0%	6.9%	5.8%	4.0%	3.3%	
		Overnight	896	1,028	1,507	1,750	2,057	2,300	2.8%	8.0%	4.8%	4.4%	3.5%	
25 Rheumatology	251 Rheumatology	Same day	1,590	1,715	2,448	2,869	3,113	3,344	1.5%	7.4%	5.0%	3.7%	2.8%	
		Overnight	249	282	309	331	366	381	2.5%	1.8%	1.5%	1.7%	1.5%	
27 General medicine	271 Kidney & urinary tract infections	Same day	265	429	517	650	731	830	10.1%	3.8%	4.5%	4.0%	3.7%	
		Overnight	755	931	970	1,094	1,194	1,289	4.3%	0.8%	1.9%	1.9%	1.9%	
	272 Cellulitis	Same day	133	214	295	345	375	406	10.0%	6.6%	5.3%	4.0%	3.0%	
		Overnight	872	1,044	1,326	1,569	1,789	2,002	3.7%	4.9%	4.4%	3.7%	3.2%	
	275 Injuries – non-surgical	Same day	519	1,030	1,400	1,710	1,941	2,088	14.7%	6.3%	5.7%	4.6%	3.5%	
		Overnight	506	682	870	1,060	1,210	1,339	6.2%	5.0%	4.9%	4.1%	3.4%	
	277 Septicaemia	Same day	16	11		8	9	11	-7.2%	-14.6%	-3.5%	0.0%	1.9%	
		Overnight	387	461	686	851	992	1,145	3.6%	8.3%	6.0%	4.8%	4.4%	
	278 Surgical follow up	Same day	9	21	14	17	17	19	18.5%	-7.8%	-2.3%	-1.2%	0.3%	
		Overnight	43	54	75	76	101	107	4.7%	6.8%	1.4%	2.6%	2.0%	
	279 General medicine, other	Same day	997	898	1,077	1,266	1,425	1,546	-2.1%	3.7%	3.6%	3.3%	2.5%	
		Overnight	482	686	815	1,012	1,142	1,251	7.3%	3.5%	4.8%	3.8%	3.1%	
	280 Delirium	Same day	24	35	44	50	53	59	7.8%	4.7%	4.0%	3.2%	2.9%	
		Overnight	130	164	189	227	255	280	4.8%	2.9%	3.3%	3.4%	2.8%	
	281 Dementia	Same day	17	24	36	45	53	59	7.1%	8.4%	7.2%	5.6%	4.5%	
		Overnight	93	152	235	300	363	397	10.3%	9.1%	7.2%	5.8%	4.7%	
	282 Ear & upper respiratory infections	Same day	238	361	376	404	420	451	8.7%	0.8%	1.4%	1.1%	1.2%	
		Overnight	467	353	370	395	407	428	-5.4%	0.9%	1.3%	1.0%	1.0%	
	283 Venous thrombosis	Same day	27	76	102	121	144	152	23.0%	6.1%	5.5%	4.6%	3.3%	
		Overnight	60	70	70	73	82	85	3.1%	0.0%	1.0%	1.8%	1.5%	
	284 Nutritional & metabolic disorders	Same day	332	559	714	845	940	1,011	11.0%	5.0%	4.7%	4.1%	3.1%	
		Overnight	263	328	402	467	542	598	4.5%	4.2%	3.5%	3.3%	3.2%	
	285 Viral illnesses	Same day	115	146	170	179	187	203	4.9%	3.1%	2.5%	1.9%	1.6%	
		Overnight	194	149	198	209	220	234	-5.1%	5.9%	3.4%	2.0%	1.9%	
	286 Pain management	Same day	108	334	473	585	618	675	25.3%	7.2%	6.5%	4.3%	3.2%	
		Overnight	105	178	242	296	325	367	11.1%	6.3%	5.7%	4.8%	3.5%	
	41 Breast surgery	411 Breast surgery	Same day	75	98	99	94	98	98	5.5%	0.2%	-2.1%	-0.4%	-0.4%

(continued)

SRG	ESRG version 6 ACT mod	Stay type	Episodes, year ended 30 June						5 year CAGR (%)				
			2016	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041
42 Cardiothoracic surgery	421 Coronary bypass	Overnight	213	291	325	361	391	432	6.4%	2.2%	1.9%	1.9%	2.2%
		Same day											
		Overnight	110	87	81	92	91	82	-4.6%	-1.4%	2.0%	0.6%	0.3%
43 Colorectal surgery	429 Cardiothoracic surgery, other	Same day	7						7.0%	-7.8%	-7.4%	-10.1%	-4.0%
		Overnight	223	217	225	214	200	226	-0.5%	0.7%	-0.7%	-1.3%	0.1%
		Same day	37	135	149	187	221	267	29.5%	2.0%	3.6%	3.5%	4.2%
44 Upper gastrointestinal s'gery	432 Anal, stomal & pilonidal procs	Overnight	190	267	223	243	240	245	7.0%	-3.5%	-0.9%	-0.8%	-0.3%
		Same day	8	7					-2.6%	-15.6%	-9.0%	-4.2%	-6.3%
		Overnight	404	373	383	409	404	396	-1.6%	0.5%	1.3%	0.8%	0.2%
44 Upper gastrointestinal s'gery	441 Cholecystectomy	Same day	4	17	16	20	17	23	33.6%	-1.2%	5.8%	2.7%	2.2%
		Overnight	550	674	620	647	636	664	4.2%	-1.7%	-0.4%	0.0%	0.1%
		Overnight		24	26	34	39	35	1.6%	5.5%	5.3%	4.3%	
46 Neurosurgery	443 Bariatric procs	Same day	11	19	15	14	11	13	11.6%	-4.6%	-4.4%	-4.1%	-1.6%
		Overnight	249	378	384	392	434	431	8.7%	0.3%	1.7%	1.7%	0.9%
		Same day	30	51	63	78	97	111	11.2%	4.3%	4.8%	4.9%	4.3%
46 Neurosurgery	461 Head injury	Overnight	115	132	134	135	140	142	2.8%	0.3%	0.6%	0.5%	0.6%
		Same day							-12.9%				
		Overnight	203	279	374	436	488	535	6.6%	6.0%	4.8%	3.9%	3.1%
46 Neurosurgery	462 Craniotomy	Same day	403	645	787	1,036	1,149	1,268	9.9%	4.1%	5.3%	4.6%	3.3%
		Overnight	501	602	664	760	883	952	3.7%	2.0%	2.6%	2.9%	2.6%
		Same day							-5.9%				3.2%
47 Oral and maxillofacial s'gery	469 Neurosurgery, other	Overnight	222	242	249	255	253	297	1.7%	0.6%	0.5%	0.1%	0.9%
		Same day	476	473	567	714	763	842	-0.1%	3.7%	4.7%	3.4%	2.9%
		Overnight	53	64	63	53	53	51	3.8%	-0.3%	-2.1%	-1.4%	-0.9%
47 Oral and maxillofacial s'gery	471 Dental extractions & restorations	Same day	227	337	411	505	559	635	8.2%	4.1%	5.1%	4.0%	3.4%
		Overnight	292	305	305	297	298	307	0.9%	0.0%	-0.8%	-0.5%	0.2%
		Same day	46	33	40	44	60	42	-6.4%	3.9%	1.6%	2.6%	1.3%
48 ENT/head & neck	481 Tonsillectomy & adenoidectomy	Overnight	310	247	226	211	191	218	-4.4%	-1.8%	-2.2%	-1.7%	-0.7%
		Same day	146	54	46	53	67	48	-18.0%	-3.2%	1.1%	0.6%	-1.0%
		Overnight	9						-15.0%	-12.9%	-4.4%	-3.1%	0.0%
48 ENT/head & neck	482 Myringotomy w tube insertion	Same day	257	402	463	566	645	743	9.4%	2.9%	3.5%	3.5%	3.3%
		Overnight	231	292	372	452	535	583	4.8%	5.0%	4.7%	4.4%	3.4%
		Same day	11	7					-8.6%	-6.5%	-4.4%	0.0%	-3.2%
48 ENT/head & neck	483 Non-proc ENT	Overnight	42	64	83	98	118	136	8.8%	5.3%	4.7%	4.0%	3.6%
		Same day	107	233	231	308	345	369	16.8%	-0.2%	4.1%	2.7%	2.7%
		Overnight	475	505	532	539	505	481	1.2%	1.0%	0.4%	-0.1%	-0.4%
49 Orthopaedics	484 Head & neck surgery	Same day	942	1,672	1,991	2,404	2,740	2,989	12.2%	3.6%	4.2%	3.8%	3.2%
		Overnight	645	792	823	945	1,072	1,158	4.2%	0.8%	2.3%	2.4%	2.2%
		Same day	1,016	1,205	1,429	1,717	2,015	2,193	3.5%	3.5%	4.1%	3.9%	3.2%
49 Orthopaedics	492 Wrist & hand procs incl carpal tunnel	Overnight	235	290	287	269	241	234	4.3%	-0.2%	-0.9%	-1.6%	-1.3%
		Overnight	129	160	183	216	248	271	4.4%	2.7%	3.1%	3.0%	2.6%
		Same day	122	118	91	112	92	91	-0.7%	-5.1%	-2.0%	-1.0%	-1.1%
49 Orthopaedics	493 Hip replacement for trauma	Overnight	176	167	159	151	143	169	-1.0%	-1.0%	0.4%	-0.4%	0.3%
		Same day	627	1,177	1,464	1,756	1,918	2,051	13.4%	4.5%	4.9%	3.8%	2.9%
		Overnight	2,320	2,387	2,084	1,993	2,021	2,054	0.6%	-2.7%	-1.5%	-0.8%	-0.3%
49 Orthopaedics	494 Knee procs	Same day											
		Overnight											
		Overnight											
49 Orthopaedics	495 Orthopaedic surgery, other	Same day											
		Overnight											
		Overnight											

(continued)

SRG	ESRG version 6 ACT mod	Stay type	Episodes, year ended 30 June						5 year CAGR (%)					
			2016	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041	
	496 Hip replacement or revision, other	Same day			3	1	1	1						0.0%
		Overnight	121	432	348	340	328	369	29.0%	-4.2%	-0.2%	-1.1%	0.3%	
	497 Knee replacement or revision	Overnight	139	460	439	438	466	499	27.0%	-0.9%	0.4%	1.1%	1.1%	
	498 Hip fracture	Same day		9	7	10	13	13	12.5%	-4.9%	1.2%	3.8%	2.2%	
		Overnight	36	36	53	55	67	72	0.0%	8.0%	5.8%	4.9%	4.3%	
	499 Non-surgical orthopaedics, other	Same day	227	393	419	517	584	660	11.6%	1.3%	4.0%	3.6%	3.2%	
		Overnight	314	539	603	731	833	945	11.4%	2.3%	3.3%	3.4%	3.3%	
50 Ophthalmology	502 Non-proc ophthalmology	Same day	140	170	214	273	302	324	4.0%	4.7%	5.2%	4.3%	3.1%	
		Overnight	91	113	152	176	208	248	4.4%	6.1%	4.8%	4.3%	4.0%	
	503 Glaucoma & lens procs	Same day	1,167	1,712	2,136	2,400	2,509	2,662	8.0%	4.5%	3.1%	2.0%	1.6%	
		Overnight	52	70	75	77	100	103	6.1%	1.4%	2.8%	2.5%	2.8%	
	509 Eye procs, other	Same day	230	253	397	463	469	521	1.9%	9.4%	4.6%	2.2%	2.7%	
		Overnight	147	142	137	126	130	130	-0.7%	-0.7%	-0.3%	-0.5%	-0.1%	
51 Plastic & reconstructive s'gery	511 Microvasc tissue transfer or skin grafts	Same day	155	202	273	319	371	398	5.4%	6.2%	6.3%	4.9%	3.2%	
		Overnight	200	247	252	239	243	254	4.3%	0.4%	-1.0%	-0.6%	-0.4%	
	512 Skin, subcutaneous tissue & breast procs	Same day	419	546	589	594	575	562	5.4%	1.5%	1.1%	0.1%	-0.5%	
		Overnight	125	151	118	108	104	103	3.9%	-4.8%	-2.0%	-2.0%	-0.7%	
	519 Plastic & reconstructive surgery, other	Same day	36	60	57	66	80	86	10.8%	-1.0%	0.5%	3.2%	1.7%	
		Overnight	37	55	74	94	97	117	8.3%	6.1%	5.7%	3.3%	3.5%	
52 Urology	521 Cystourethroscopy	Same day	744	1,060	1,407	1,724	1,998	2,256	7.3%	5.8%	4.9%	4.2%	3.7%	
		Overnight	82	41	57	53	49	51	-12.9%	6.8%	0.4%	-0.9%	0.0%	
	522 Urinary stones & obstruction	Same day	343	450	562	692	764	856	5.6%	4.5%	5.1%	3.8%	3.2%	
		Overnight	454	529	666	786	890	967	3.1%	4.7%	4.2%	3.6%	2.9%	
	523 TURP	Same day					6			0.0%		11.8%		
		Overnight	87	106	120	132	132	126	4.0%	2.5%	1.5%	1.1%	0.5%	
	525 Male reproductive disorders	Same day	140	271	373	443	533	545	14.1%	6.6%	4.7%	4.6%	3.4%	
		Overnight	188	155	179	176	198	207	-3.8%	2.9%	1.3%	1.5%	1.1%	
	526 Male reproductive procs	Same day	150	218	313	368	392	442	7.8%	7.5%	4.3%	3.1%	2.4%	
		Overnight	191	181	236	260	291	344	-1.1%	5.5%	3.4%	2.8%	3.2%	
	527 Kidney & urin. tract sympt & disorders	Same day	387	446	520	635	714	818	2.9%	3.1%	4.6%	3.6%	3.2%	
		Overnight	453	579	619	714	777	872	5.0%	1.3%	2.6%	2.3%	2.3%	
	529 Urological procs, other	Same day	295	455	520	626	715	814	9.1%	2.7%	2.5%	3.3%	3.5%	
		Overnight	646	612	641	675	679	723	-1.1%	0.9%	0.9%	0.6%	0.8%	
53 Vascular surgery	531 Vein ligation & stripping	Same day	101	61	45	45	30	38	-9.6%	-5.9%	-1.2%	-3.7%	-1.0%	
		Overnight	53	73	44	40	36	29	6.6%	-9.6%	-3.7%	-2.3%	-2.8%	
	532 Non-proc vasc s'gery incl skin ulcers	Same day	105	101	126	136	138	156	-0.8%	4.5%	2.4%	2.0%	1.5%	
		Overnight	132	143	179	207	234	266	1.6%	4.6%	3.5%	3.0%	3.4%	
	533 Vascular angioplasty	Same day	13	132	139	151	158	166	59.0%	1.0%	2.6%	2.2%	1.6%	
		Overnight	326	384	484	594	690	759	3.3%	4.7%	4.9%	4.0%	3.3%	
	539 Vascular surgery, other	Same day	14	51	67	80	97	102	29.5%	5.6%	5.1%	6.1%	4.2%	
		Overnight	326	468	538	599	628	697	7.5%	2.8%	2.4%	2.0%	2.0%	
54 General surgery	542 Abdominal pain	Same day	837	1,399	1,636	2,021	2,311	2,554	10.8%	3.2%	4.4%	4.1%	3.4%	
		Overnight	669	704	681	727	796	842	1.0%	-0.7%	0.6%	1.3%	1.3%	
	543 Appendicectomy	Same day		12	14	13	13	16	32.0%	3.1%	0.0%	0.0%	1.2%	
		Overnight	657	704	708	739	761	766	1.4%	0.1%	0.5%	0.7%	0.4%	

(continued)

SRG	ESRG version 6 ACT mod	Stay type	Episodes, year ended 30 June						5 year CAGR (%)				
			2016	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041
	544 Endocrine procs	Same day							3.8%	-10.9%	-14.9%		
		Overnight	127	162	220	252	277	317	5.0%	6.3%	4.8%	3.8%	3.2%
	545 Hernia procs	Same day	106	125	114	132	128	150	3.4%	-1.8%	0.5%	0.6%	1.7%
		Overnight	329	377	360	318	326	330	2.8%	-0.9%	-2.1%	-1.5%	-0.7%
	546 Post-op infections & sequelae of treat.	Same day	118	242	287	352	415	449	15.4%	3.5%	4.9%	4.4%	3.7%
		Overnight	418	493	486	516	545	578	3.4%	-0.3%	0.7%	0.8%	1.1%
	547 Major injuries	Same day	40	68	73	78	88	89	11.2%	1.4%	1.2%	2.0%	1.9%
		Overnight	224	331	355	438	527	593	8.1%	1.4%	3.7%	3.8%	3.8%
	548 Injuries, other	Same day	840	1,807	2,389	2,909	3,265	3,481	16.6%	5.7%	5.7%	4.4%	3.4%
		Overnight	454	833	1,084	1,319	1,500	1,636	12.9%	5.4%	5.1%	4.0%	3.1%
	549 General surgery, other	Same day	428	425	415	440	440	444	-0.1%	-0.5%	-0.1%	-0.3%	-0.1%
		Overnight	403	407	490	504	525	534	0.2%	3.8%	1.5%	1.0%	1.0%
62 Extensive burns	621 Extensive burns	Same day							-24.2%	24.6%	0.0%	-2.2%	-1.7%
		Overnight	11	10	12	12	13	15	-1.9%	3.7%	-0.9%	2.0%	1.8%
63 Tracheostomy & ventilation	631 Tracheostomy or ventilation	Overnight	188	227	219	234	247	266	3.8%	-0.7%	0.9%	0.8%	0.9%
71 Gynaecology	711 Abortion w D&C ... hysterotomy	Same day	280	359	352	401	432	470	5.1%	-0.4%	2.4%	1.9%	2.1%
		Overnight	62	101	107	121	127	141	10.3%	1.2%	1.7%	1.9%	1.9%
	712 Endoscopic proc for female reproductive	Same day	70	51	49	52	53	36	-6.1%	-0.8%	-0.4%	0.4%	-2.8%
		Overnight	56	65	70	94	105	128	3.0%	1.5%	1.8%	2.2%	2.8%
	713 Conisation, vagina, cervix & vulva proc	Same day	184	190	214	250	244	280	0.6%	2.4%	1.8%	2.2%	2.0%
		Overnight	47	62	68	77	88	98	5.7%	1.9%	2.3%	2.7%	3.2%
	714 Diagnostic curettage or hysteroscopy	Same day	215	272	329	371	415	487	4.8%	3.9%	3.6%	3.3%	3.3%
		Overnight	28	29	41	45	45	55	0.7%	7.2%	4.6%	2.7%	2.0%
	715 Hysterectomy	Same day											0.0%
		Overnight	149	194	179	223	223	256	5.4%	-1.6%	1.4%	1.3%	1.4%
	717 Non-proc gynaecology	Same day	331	666	826	1,004	1,131	1,215	15.0%	4.4%	5.1%	4.1%	3.3%
		Overnight	305	424	574	671	731	794	6.8%	6.2%	4.9%	3.6%	3.0%
	718 Gynaecological oncology	Same day	10	7				8	-6.9%	-10.6%	0.0%	-5.2%	0.0%
		Overnight	39	47	44	47	45	47	3.8%	-1.3%	-0.2%	0.4%	0.5%
	719 Gynaecological surgery, other	Same day	271	335	377	455	488	542	4.3%	2.4%	3.1%	2.3%	2.4%
		Overnight	370	406	426	472	506	579	1.9%	1.0%	1.4%	1.6%	1.9%
72 Obstetrics	721 Antenatal admission	Same day	457	659	939	1,034	1,164	1,269	7.6%	7.3%	4.6%	3.6%	2.7%
		Overnight	675	783	842	877	931	1,006	3.0%	1.5%	1.3%	1.0%	1.3%
	722 Vaginal delivery	Same day	413	351	320	329	349	362	-3.2%	-1.8%	-0.2%	0.5%	0.6%
		Overnight	3,392	2,901	2,756	2,764	2,962	3,063	-3.1%	-1.0%	-0.2%	0.5%	0.7%
	723 Caesarean delivery	Same day	19						-30.9%	0.0%	8.0%	0.0%	2.4%
		Overnight	1,461	1,937	1,821	1,900	1,986	2,076	5.8%	-1.2%	0.4%	0.5%	0.9%
	724 Postnatal admission	Same day	57	81	84	102	119	129	7.3%	0.7%	3.0%	3.5%	3.1%
		Overnight	267	292	238	211	210	204	1.8%	-4.0%	-2.7%	-1.6%	-1.5%
73 Qualified neonate	731 Qualified neonate	Same day	60										
		Overnight	998	692	706	722	755	802	-7.1%	0.4%	0.5%	0.4%	0.8%
74 Unqualified neonate	741 Unqualified neonate	Same day	777	600	567	574	601	625	-5.0%	-1.1%	-0.2%	0.3%	0.5%
		Overnight	3,802	3,873	3,737	3,799	4,005	4,261	0.4%	-0.7%	0.0%	0.7%	0.8%
75 Perinatology	751 Perinatology	Same day											
		Overnight	466	510	495	505	523	547	1.8%	-0.6%	0.1%	0.3%	0.5%

(continued)

SRG	ESRG version 6 ACT mod	Stay type	Episodes, year ended 30 June						5 year CAGR (%)				
			2016	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041
81 Drug & alcohol	813 Poisoning/toxic effects of drugs...	Same day	298	377	426	513	577	635	4.8%	2.5%	3.6%	3.3%	2.9%
		Overnight	448	420	546	630	704	796	-1.3%	5.4%	4.2%	3.4%	3.1%
	814 Drug & alcohol dependence or withdrawal	Same day	74	100	118	147	160	175	6.2%	3.4%	4.7%	3.5%	3.1%
		Overnight	572	555	592	628	680	735	-0.6%	1.3%	1.3%	1.6%	1.4%
	815 Drug & alcohol intoxication	Same day	111	183	248	289	318	336	10.5%	6.3%	5.5%	3.7%	2.7%
		Overnight	82	126	145	165	189	206	9.0%	2.8%	3.2%	3.2%	2.8%
82 Acute mental health	823 Mental health treatment, same day excl. ECT	Same day	141	200	380	454	525	623	7.2%	13.7%	9.7%	6.5%	4.8%
		Overnight	8							0.0%	0.0%	0.0%	0.0%
	824 Mental health treatment, same day incl. ECT	Same day	6	12	12	12	12	12	14.9%	0.0%	0.0%	0.0%	0.0%
		Overnight	50	53	66	68	70	72	1.2%	4.5%	2.2%	1.5%	1.1%
	825 Psychotic disorders	Overnight	64	103	133	156	174	189	10.0%	5.2%	5.3%	4.3%	3.2%
	826 Affective disorders	Overnight	28	10	11	11	11	11	-18.6%	1.9%	0.0%	0.0%	0.0%
	828 Anxiety disorders	Overnight	23	51	67	77	85	93	17.3%	5.6%	5.2%	4.3%	3.4%
	829 Acute mental health, other	Overnight	20	49	76	81	101	110	19.6%	9.2%	5.5%	5.7%	3.5%
	881 Eating & obsessive-compulsive disorders	Overnight	202	174	159	159	159	159	-2.9%	-1.8%	0.0%	0.0%	0.0%
83 Specialist mental health	839 Specialist mental health	Same day	1,862	2,456	3,329	3,985	4,394	4,648	5.7%	6.3%	4.6%	3.7%	2.8%
		Overnight											
Mental health													
84 Rehabilitation	919 Rehabilitation	Same day	744	513	971	1,048	1,194	1,324	-7.2%	13.6%	3.6%	2.9%	2.3%
		Overnight	1,402	1,984	2,968	3,527	4,165	4,445	7.2%	8.4%	6.2%	4.8%	3.8%
Subacute													
85 Psychogeriatric	851 Psychogeriatric	Same day	16		51	58	64	69	24.0%	1.6%	2.6%	2.4%	2.0%
		Overnight	65	51	31	26	26	29	-4.7%	-9.5%	-7.0%	-4.3%	-2.2%
86 Palliative care	861 Palliative care	Same day	745	797	744	719	743	757	1.4%	-1.4%	-1.1%	-0.5%	-0.2%
		Overnight	17	9						-11.9%	-19.7%	-15.4%	-4.2%
87 Maintenance	871 Maintenance	Same day	1,061	1,330	1,409	1,655	1,932	2,161	4.6%	1.2%	2.7%	3.1%	2.9%
		Overnight	6	6	9	11	14	14	24.6%	8.4%	7.0%	4.4%	2.6%
92 Geriatric eval. and management	921 Geriatric evaluation and management	Same day	305	513	493	515	539	516	11.0%	-0.8%	0.2%	0.4%	0.2%
		Overnight	40	71	79	89	102	110	12.2%	2.2%	2.4%	3.1%	2.1%
99 Unallocated	999 Unallocated	Same day	256	278	302	352	390	442	1.7%	1.7%	2.4%	2.1%	2.4%
		Overnight											

Appendix E

Forecast average length of stay by ESRG

Table E.1: Historical and forecasted ALOS for overnight episodes, by Enhanced Service Related Groups (ESRG Version 6, ACT modification), ACT public hospitals

SRG	ESRG version 6 ACT mod	2016	2021	2026	2031	2036	2041
Acute							
11 Cardiology	111 Chest pain	1.4	1.3	1.2	1.1	1.1	1.1
	112 Unstable angina	1.8	1.9	1.8	1.8	1.9	1.7
	113 Heart failure & shock	6.5	5.6	5.1	4.7	4.6	4.2
	114 Arrhythmia, cardiac arrest & conduction disorders	2.8	2.3	2.0	1.9	1.7	1.7
	115 AMI w/o invasive cardiac investigative procedure	3.6	2.7	2.5	2.2	2.0	2.0
	116 Syncope & collapse	2.4	2.9	2.4	2.4	2.2	2.2
	117 Coronary atherosclerosis	3.2	1.7	1.6	1.5	1.4	1.3
	118 Valvular disorders	2.4	2.3	1.9	1.7	1.6	1.5
	119 Cardiology, other	7.3	6.2	7.1	7.2	7.6	7.5
12 Interventional cardiology	121 Invasive cardiac investigative procedure	3.6	2.9	3.4	3.0	3.3	3.3
	122 Percutaneous coronary angioplasty	2.6	2.9	2.3	2.1	1.9	1.9
	123 Pacemaker procedures	2.7	2.7	2.7	2.8	2.9	3.1
	129 Interventional cardiology, other	5.1	5.4	3.7	3.8	3.8	2.8
13 Dermatology	131 Dermatology	4.7	4.3	4.2	4.0	4.1	4.0
14 Endocrinology	141 Diabetes	4.7	4.2	3.3	3.2	2.9	2.9
	149 Endocrinology, other	4.5	5.2	4.2	4.2	4.4	4.3
15 Gastroenterology	151 Oesophagitis & gastroenteritis	2.7	2.5	2.3	2.1	2.0	1.9
	152 Complex endoscopy	6.5	5.7	4.6	4.1	3.5	4.0
	154 Cirrhosis, alcoholic hepatitis & other liver & gallbladder conditions	5.7	6.2	5.5	5.2	5.1	4.7
	155 Digestive malignancy	6.8	9.7	8.5	8.0	9.2	9.8
	156 Gastrointestinal haemorrhage	3.8	4.2	3.7	3.4	3.3	3.1
	157 Inflammatory bowel disease	4.2	4.3	3.7	3.7	3.5	3.2
	158 Gastrointestinal obstruction	3.8	3.2	2.8	2.7	2.6	2.4
	159 Gastroenterology, other	3.5	3.6	3.1	3.1	3.0	2.9
	16 Diagnostic GI	161 Diagnostic colonoscopy	5.5	5.2	5.0	4.7	4.4
162 Diagnostic gastroscopy		5.0	4.8	4.7	4.6	4.2	4.3
17 Haematology	174 Bone marrow transplant	20.1	16.9	16.5	19.3	17.1	18.3
	175 Lymphoma & leukaemia	13.9	11.6	12.2	11.5	11.6	11.9
	179 Haematology, other	4.2	5.2	4.3	4.3	4.1	3.9
18 Immunology & infections	181 Immunology	1.7	1.3	1.4	1.4	1.4	1.4
	184 Infectious diseases	11.2	12.9	13.3	13.1	14.5	15.2
21 Neurology	211 Stroke	5.3	5.1	5.8	5.9	6.0	6.1
	212 TIA	3.1	2.8	2.4	2.2	2.1	2.0
	213 Seizures	3.2	2.8	3.0	2.8	2.6	2.7

(continued)

SRG	ESRG version 6 ACT mod	2016	2021	2026	2031	2036	2041
	214 Headache	2.3	2.0	1.8	1.7	1.7	1.7
	215 Dysequilibrium	2.6	1.9	1.9	1.8	1.6	1.6
	216 Nervous system neoplasm	8.7	6.3	6.6	5.9	4.8	5.0
	217 Multiple sclerosis, cerebellar ataxia & degenerative nervous system disorders	7.2	5.1	5.0	4.9	4.4	4.7
	218 Cranial & peripheral nerve disorders	5.8	5.5	5.1	5.3	5.3	4.8
	219 Neurology, other	5.5	6.0	5.4	5.3	5.2	5.1
22 Renal medicine	221 Renal failure	6.9	5.4	4.6	4.2	4.5	4.3
	229 Renal medicine, other	4.9	4.1	3.9	4.3	4.3	4.0
24 Respiratory medicine	241 Bronchitis & asthma	2.6	3.1	3.0	2.8	3.2	3.3
	242 Chronic obstructive airways disease	5.0	4.5	3.4	3.2	2.9	3.0
	243 Respiratory infections or inflammations	4.8	5.1	4.4	4.3	4.1	4.0
	244 Bronchoscopy	8.7	9.6	9.0	10.0	10.3	10.0
	245 Respiratory neoplasms	8.2	8.1	8.2	7.5	7.5	7.0
	246 Pulmonary embolism	4.4	4.5	4.4	4.4	4.2	4.4
	247 Whooping cough & acute bronchiolitis	1.9	1.8	1.5	1.3	1.2	1.2
	248 Respiratory signs & symptoms	2.0	2.0	2.2	2.2	1.8	1.7
	249 Respiratory medicine, other	6.6	6.7	8.3	9.1	8.8	8.8
25 Rheumatology	251 Rheumatology	4.7	5.3	4.4	3.9	3.8	3.6
27 General medicine	271 Kidney & urinary tract infections	4.3	4.5	4.0	3.9	3.8	3.7
	272 Cellulitis	4.6	4.4	3.8	3.6	3.4	3.3
	275 Injuries – non-surgical	3.1	3.3	3.8	4.1	4.1	4.6
	277 Septicaemia	8.7	8.6	7.8	7.5	7.3	7.3
	278 Surgical follow up	3.4	2.9	3.5	3.5	3.7	3.7
	279 General medicine, other	4.3	4.4	4.1	3.7	3.4	3.4
	280 Delirium	5.9	7.2	6.4	6.3	6.4	6.7
	281 Dementia	7.3	7.4	9.5	8.9	9.2	9.2
	282 Ear & upper respiratory infections	2.1	2.0	2.3	2.3	2.3	2.3
	283 Venous thrombosis	4.4	3.9	3.0	3.1	2.8	2.6
	284 Nutritional & metabolic disorders	5.2	4.8	4.4	4.3	4.1	3.8
	285 Viral illnesses	2.4	2.0	2.1	2.1	2.0	2.0
	286 Pain management	3.2	3.1	3.6	3.6	3.7	3.6
41 Breast surgery	411 Breast surgery	3.4	2.5	2.7	2.3	2.3	2.2
42 Cardiothoracic surgery	421 Coronary bypass	9.9	10.7	10.7	10.2	9.9	9.8
	429 Cardiothoracic surgery, other	9.8	10.4	10.6	10.3	11.1	10.4
43 Colorectal surgery	432 Anal, stomal & pilonidal procedures	2.3	2.1	2.4	2.5	2.7	2.7
	439 Colorectal surgery, other	11.4	10.9	8.6	8.0	8.8	8.0
44 Upper gastrointestinal surgery	441 Cholecystectomy	3.3	3.7	3.6	3.9	4.1	4.2
	443 Bariatric procedures		2.1	2.3	2.2	2.3	1.9

(continued)

SRG	ESRG version 6 ACT mod	2016	2021	2026	2031	2036	2041
46 Neurosurgery	449 Upper gastrointestinal surgery, other	9.9	8.7	8.7	8.8	8.3	8.5
	461 Head injury	4.7	5.7	5.6	5.9	6.0	6.1
	462 Craniotomy	10.2	8.8	8.0	7.5	7.1	6.9
47 Oral and maxillofacial surgery	463 Neurosurgery – non-procedural	5.8	4.5	4.3	3.9	4.0	3.8
	469 Neurosurgery, other	5.9	4.4	4.8	4.3	3.9	3.5
	471 Dental extractions & restorations	1.9	2.0	1.9	2.1	2.0	2.1
48 Ear, nose & throat/head & neck	479 Oral and maxillofacial surgery	2.5	2.6	2.6	2.7	2.9	2.9
	481 Tonsillectomy & adenoidectomy	1.2	1.2	1.2	1.2	1.3	1.3
	482 Myringotomy w tube insertion	2.9	3.5	3.0	3.0	3.5	3.5
49 Orthopaedics	483 Non-procedural ENT	4.1	3.7	3.4	3.5	3.6	3.7
	484 Head & neck surgery	3.5	5.3	5.5	7.4	7.8	7.1
	489 Procedural ENT, other	1.4	1.7	1.7	1.9	2.1	2.2
	491 Injuries to limbs – medical	3.4	3.0	3.4	3.0	3.1	3.1
	492 Wrist & hand procedures incl carpal tunnel	2.3	2.1	2.4	2.6	2.8	2.9
	493 Hip replacement for trauma	10.0	8.8	8.6	7.9	7.8	7.8
	494 Knee procedures	1.7	2.3	2.2	2.4	2.6	2.8
50 Ophthalmology	495 Orthopaedic surgery, other	5.4	5.8	6.3	6.9	7.3	7.8
	496 Hip replacement or revision, other	10.7	7.7	9.5	8.9	9.8	10.1
	497 Knee replacement or revision	6.5	6.2	8.2	8.6	8.5	9.0
	498 Hip fracture	5.0	3.7	6.7	7.4	6.2	5.9
	499 Non-surgical orthopaedics, other	8.5	8.9	9.8	10.5	10.1	10.6
	502 Non-procedural ophthalmology	3.4	3.7	3.5	3.4	3.5	3.5
51 Plastic & reconstructive surgery	503 Glaucoma & lens procedures	1.8	1.4	1.7	1.6	1.6	1.7
	509 Eye procedures, other	1.8	2.5	2.4	2.9	2.9	2.9
	511 Microvascular tissue transfer or skin grafts	10.1	6.1	5.0	4.9	4.4	4.5
52 Urology	512 Skin, subcutaneous tissue & breast procedures	3.1	3.8	3.7	3.1	3.8	4.1
	519 Plastic & reconstructive surgery, other	3.1	2.8	2.6	2.6	2.9	2.8
	521 Cystourethroscopy	2.6	1.9	1.9	2.5	1.7	2.5
53 Vascular surgery	522 Urinary stones & obstruction	2.4	2.1	1.7	1.7	1.6	1.6
	523 TURP	3.0	3.0	3.6	2.2	3.4	3.2
	525 Male reproductive system disorders	3.2	4.0	4.3	4.1	4.1	3.8
	526 Male reproductive system procedures	2.5	2.6	2.8	3.0	3.0	3.0
	527 Kidney & urinary tract signs, symptoms & disorders	4.2	4.2	4.1	3.9	4.0	3.8
	529 Urological procedures, other	4.8	4.5	4.0	3.9	3.7	3.8
53 Vascular surgery	531 Vein ligation & stripping	1.3	1.3	1.7	1.4	1.9	1.4
	532 Non-procedural vascular surgery incl skin ulcers	5.0	4.5	4.0	4.5	4.6	4.5
	533 Vascular angioplasty	3.5	3.5	2.7	2.6	2.5	2.3
	539 Vascular surgery, other	10.1	7.8	8.4	8.0	7.9	8.0

(continued)

SRG	ESRG version 6 ACT mod	2016	2021	2026	2031	2036	2041
54 General surgery	542 Abdominal pain	1.7	1.8	1.7	1.8	1.9	1.8
	543 Appendicectomy	2.5	2.4	2.2	2.0	1.9	1.8
	544 Endocrine procedures	2.9	2.6	2.0	1.9	2.0	1.9
	545 Hernia procedures	2.0	1.9	2.0	2.2	2.2	2.3
	546 Post-operative infections & sequelae of treatment	3.9	3.2	3.1	2.7	2.5	2.6
	547 Major injuries	8.8	7.0	6.5	5.9	5.7	6.0
	548 Injuries, other	2.7	2.5	2.1	2.0	1.8	1.8
	549 General surgery, other	7.8	8.3	7.8	7.5	7.5	7.6
62 Extensive burns	621 Extensive burns	2.9	2.9	6.2	4.3	6.3	6.5
63 Tracheostomy & ventilation	631 Tracheostomy or ventilation	27.4	28.3	30.3	30.1	29.8	29.4
71 Gynaecology	711 Abortion w D&C, aspiration curettage or hysterotomy	1.3	1.6	1.7	1.7	1.8	1.8
	712 Endoscopic proc for female reproductive system	2.5	2.0	2.0	2.3	2.4	2.3
	713 Conisation, vagina, cervix & vulva proc	2.9	2.1	2.3	2.3	2.4	2.5
	714 Diagnostic curettage or hysteroscopy	2.9	1.4	2.1	2.0	2.3	2.7
	715 Hysterectomy	2.9	2.4	2.8	2.2	2.3	2.1
	717 Non-procedural gynaecology	1.9	2.0	2.0	2.0	2.0	2.0
	718 Gynaecological oncology	5.8	8.6	6.9	6.2	5.3	4.1
	719 Gynaecological surgery, other	2.1	2.2	2.0	1.9	1.8	1.9
72 Obstetrics	721 Antenatal admission	2.6	2.3	1.8	1.7	1.6	1.6
	722 Vaginal delivery	2.3	2.3	2.1	2.0	2.0	1.9
	723 Caesarean delivery	4.1	3.8	3.3	3.0	2.9	2.7
	724 Postnatal admission	2.5	2.4	2.1	1.9	1.8	1.8
73 Qualified neonate	731 Qualified neonate	4.9	5.1	4.2	4.0	4.1	3.7
74 Unqualified neonate	741 Unqualified neonate						
75 Perinatology	751 Perinatology	16.5	17.0	12.8	12.0	13.2	11.6
81 Drug & alcohol	813 Poisoning or toxic effects of drugs & other substances	2.2	2.1	2.1	2.1	2.1	2.1
	814 Drug & alcohol dependence or withdrawal	4.6	4.5	4.1	4.0	3.9	3.7
	815 Drug & alcohol intoxication	1.2	1.7	1.4	1.3	1.3	1.2
82 Acute mental health	825 Psychotic disorders	2.0	1.2	1.6	1.6	1.6	1.6
	826 Affective disorders	6.5	3.1	4.4	4.0	4.0	4.1
	828 Anxiety disorders	4.4	4.0	4.5	4.6	4.9	5.2
	829 Acute mental health, other	4.0	2.4	2.6	2.6	2.6	2.6
	881 Eating & obsessive-compulsive disorders	17.7	20.5	20.0	20.0	19.9	20.0
	882 Personality disorders & acute reactions	2.0	3.4	4.4	5.0	5.0	4.8
83 Specialist mental health	839 Specialist mental health	19.8	18.6	21.3	21.2	21.2	21.2
Mental health							
84 Rehabilitation	919 Rehabilitation	13.3	16.8	17.0	17.7	17.9	17.6
Subacute							

(continued)

SRG	ESRG version 6 ACT mod	2016	2021	2026	2031	2036	2041
85 Psychogeriatric	851 Psychogeriatric	9.2	26.2	20.8	22.7	21.2	23.6
86 Palliative care	861 Palliative care	10.4	10.6	10.8	10.8	10.8	10.8
87 Maintenance	871 Maintenance	22.4	19.1	23.6	21.8	21.3	20.9
92 Geriatric evaluation and management	921 Geriatric evaluation and management	9.9	8.5	7.2	6.7	6.6	6.8
99 Unallocated	999 Unallocated	13.6	9.6	7.9	7.2	7.0	8.2

Appendix F

ESRG version 6 with ACT modification

Table F.1: Descriptions of ESRG Version 6, ACT Modification

SRG version 6, ACT modification	ESRG version 6, ACT modification
11 Cardiology	111 Chest pain 112 Unstable angina 113 Heart failure & shock 114 Arrhythmia, cardiac arrest & conduction disorders 115 AMI w/o invasive cardiac investigative procedure 116 Syncope & collapse 117 Coronary atherosclerosis 118 Valvular disorders 119 Cardiology, other
12 Interventional cardiology	121 Invasive cardiac investigative procedure 122 Percutaneous coronary angioplasty 123 Pacemaker procedures 129 Interventional cardiology, other
13 Dermatology	131 Dermatology
14 Endocrinology	141 Diabetes 149 Endocrinology, other
15 Gastroenterology	151 Oesophagitis & gastroenteritis 152 Complex endoscopy 154 Cirrhosis, alcoholic hepatitis & other liver & gallbladder conditions 155 Digestive malignancy 156 Gastrointestinal haemorrhage 157 Inflammatory bowel disease 158 Gastrointestinal obstruction 159 Gastroenterology, other
16 Diagnostic GI	161 Diagnostic colonoscopy 162 Diagnostic gastroscopy
17 Haematology	174 Bone marrow transplant 175 Lymphoma & leukaemia 179 Haematology, other
18 Immunology & infections	181 Immunology 184 Infectious diseases
20 Chemotherapy	201 Chemotherapy
21 Neurology	211 Stroke 212 TIA

(continued)

SRG version 6, ACT modification	ESRG version 6, ACT modification
	213 Seizures
	214 Headache
	215 Dysequilibrium
	216 Nervous system neoplasm
	217 Multiple sclerosis, cerebellar ataxia & degenerative nervous system disorders
	218 Cranial & peripheral nerve disorders
	219 Neurology, other
22 Renal medicine	221 Renal failure
	229 Renal medicine, other
23 Renal dialysis	231 Renal dialysis
24 Respiratory medicine	241 Bronchitis & asthma
	242 Chronic obstructive airways disease
	243 Respiratory infections or inflammations
	244 Bronchoscopy
	245 Respiratory neoplasms
	246 Pulmonary embolism
	247 Whooping cough & acute bronchiolitis
	248 Respiratory signs & symptoms
	249 Respiratory medicine, other
25 Rheumatology	251 Rheumatology
27 General medicine	271 Kidney & urinary tract infections
	272 Cellulitis
	275 Injuries – non-surgical
	277 Septicaemia
	278 Surgical follow up
	279 General medicine, other
	280 Delirium
	281 Dementia
	282 Ear & upper respiratory infections
	283 Venous thrombosis
	284 Nutritional & metabolic disorders
	285 Viral illnesses
	286 Pain management
41 Breast surgery	411 Breast surgery
42 Cardiothoracic surgery	421 Coronary bypass

(continued)

SRG version 6, ACT modification	ESRG version 6, ACT modification
	429 Cardiothoracic surgery, other
43 Colorectal surgery	432 Anal, stomal & pilonidal procedures
	439 Colorectal surgery, other
44 Upper gastrointestinal surgery	441 Cholecystectomy
	443 Bariatric procedures
	449 Upper gastrointestinal surgery, other
46 Neurosurgery	461 Head injury
	462 Craniotomy
	463 Neurosurgery – non-procedural
	469 Neurosurgery, other
47 Oral and maxillofacial surgery	471 Dental extractions & restorations
	479 Oral and maxillofacial surgery
48 Ear, nose & throat/head & neck	481 Tonsillectomy & adenoidectomy
	482 Myringotomy w tube insertion
	483 Non-procedural ENT
	484 Head & neck surgery
	489 Procedural ENT, other
49 Orthopaedics	491 Injuries to limbs – medical
	492 Wrist & hand procedures incl carpal tunnel
	493 Hip replacement for trauma
	494 Knee procedures
	495 Orthopaedic surgery, other
	496 Hip replacement or revision, other
	497 Knee replacement or revision
	498 Hip fracture
	499 Non-surgical orthopaedics, other
50 Ophthalmology	502 Non-procedural ophthalmology
	503 Glaucoma & lens procedures
	509 Eye procedures, other
51 Plastic & reconstructive surgery	511 Microvascular tissue transfer or skin grafts
	512 Skin, subcutaneous tissue & breast procedures
	519 Plastic & reconstructive surgery, other
52 Urology	521 Cystourethroscopy
	522 Urinary stones & obstruction
	523 TURP

(continued)

SRG version 6, ACT modification	ESRG version 6, ACT modification
	525 Male reproductive system disorders
	526 Male reproductive system procedures
	527 Kidney & urinary tract signs, symptoms & disorders
	529 Urological procedures, other
53 Vascular surgery	531 Vein ligation & stripping
	532 Non-procedural vascular surgery incl skin ulcers
	533 Vascular angioplasty
54 General surgery	539 Vascular surgery, other
	542 Abdominal pain
	543 Appendicectomy
	544 Endocrine procedures
	545 Hernia procedures
	546 Post-operative infections & sequelae of treatment
	547 Major injuries
	548 Injuries, other
	549 General surgery, other
61 Transplantation	611 Transplantation
62 Extensive burns	621 Extensive burns
63 Tracheostomy & ventilation	631 Tracheostomy or ventilation
71 Gynaecology	711 Abortion w D&C, aspiration curettage or hysterotomy
	712 Endoscopic proc for female reproductive system
	713 Conisation, vagina, cervix & vulva proc
	714 Diagnostic curettage or hysteroscopy
	715 Hysterectomy
	717 Non-procedural gynaecology
	718 Gynaecological oncology
	719 Gynaecological surgery, other
72 Obstetrics	721 Antenatal admission
	722 Vaginal delivery
	723 Caesarean delivery
	724 Postnatal admission
73 Qualified neonate	731 Qualified neonate
74 Unqualified neonate	741 Unqualified neonate
75 Perinatology	751 Perinatology
81 Drug & alcohol	813 Poisoning or toxic effects of drugs & other substances

(continued)

SRG version 6, ACT modification	ESRG version 6, ACT modification
	814 Drug & alcohol dependence or withdrawal
	815 Drug & alcohol intoxication
82 Acute mental health	823 Mental health treatment, same day excl. ECT
	824 Mental health treatment, same day incl. ECT
	825 Psychotic disorders
	826 Affective disorders
	828 Anxiety disorders
	829 Acute mental health, other
83 Specialist mental health	839 Specialist mental health
85 Psychogeriatric	851 Psychogeriatric
86 Palliative care	861 Palliative care
87 Maintenance	871 Maintenance
82 Acute mental health	881 Eating & obsessive-compulsive disorders
	882 Personality disorders & acute reactions
84 Rehabilitation	919 Rehabilitation
92 Geriatric evaluation and management	921 Geriatric evaluation and management
99 Unallocated	999 Unallocated