

AROC Impairment Specific Report

Orthopaedic Fractures

INPATIENT – PATHWAY 3

January 2022 – December 2022

Anywhere Hospital



**Australasian
Faculty of
Rehabilitation
Medicine**



australian health services
research institute



**UNIVERSITY
OF WOLLONGONG
AUSTRALIA**

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AN-SNAP Changes

- This is the second AROC report to use the Australian National Sub-Acute and Non-Acute Patient (AN-SNAP) Version 5 Classification, introduced by Independent Health and Aged Care Pricing Authority (IHACPA) in July 2022.
- Like previous AN-SNAP classification versions, Version 5 uses impairment, age, weighted FIM motor admission score and FIM cognition score to determine which rehabilitation class an episode should be assigned to. AN-SNAP Version 5 has 48 inpatient admitted overnight adult classes (the full list of classes can be found in Appendix 3).
- Information about how the **AN-SNAP class** has changed since Version 4 and a description of **Impairment specific weighted FIM scores** can be found in Appendix 1. Further information about AN-SNAP Version 5 is available on the IHACPA and AROC websites.

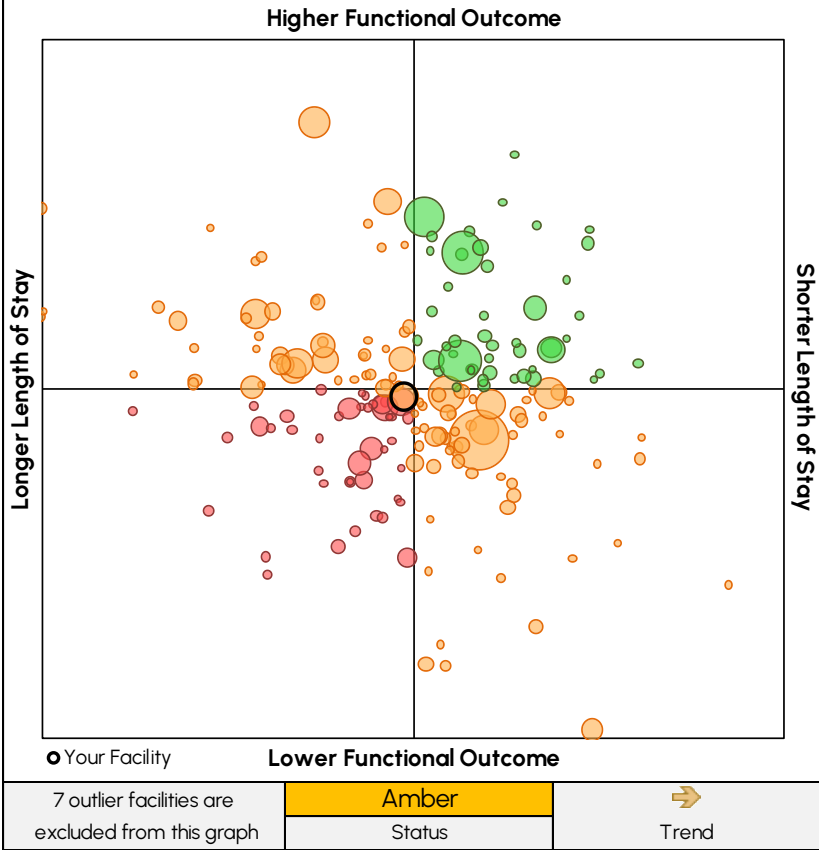
What does using AN-SNAP V5 mean for this report?

- **DASHBOARD:** Where you are positioned in the quadrant graph in 2022 is based on V5 casemix-adjusted data, however comparison data from years prior to 2022 uses V4 casemix-adjusted data.
- **OUTCOMES ANALYSIS:** All years' data presented in time-series analysis is casemix-adjusted using AN-SNAP V5 with 2022 as the base year.

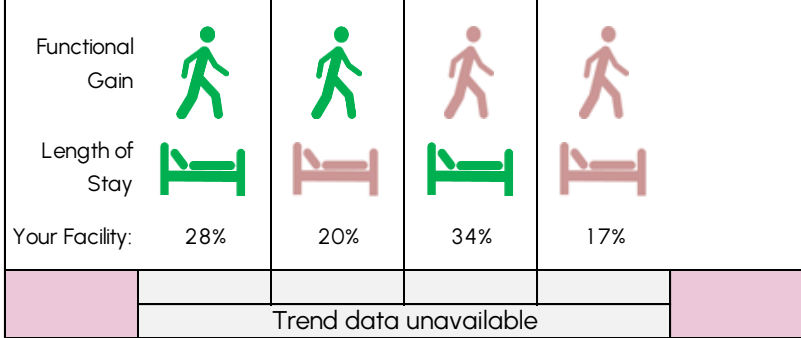
Orthopaedic Fractures Dashboard



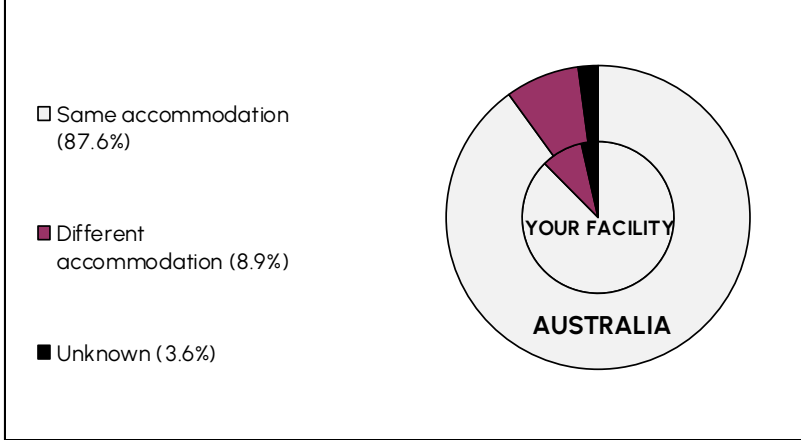
Rehabilitation Outcomes by Facility - AUSTRALIA



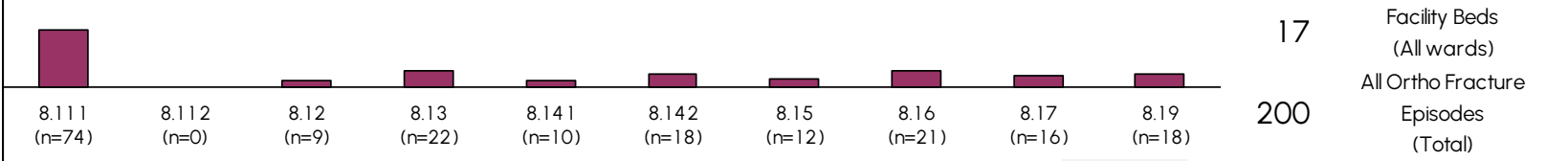
Performance Against Benchmark



Change in Accommodation



Number of Episodes by Impairment



Orthopaedic Fractures Dashboard

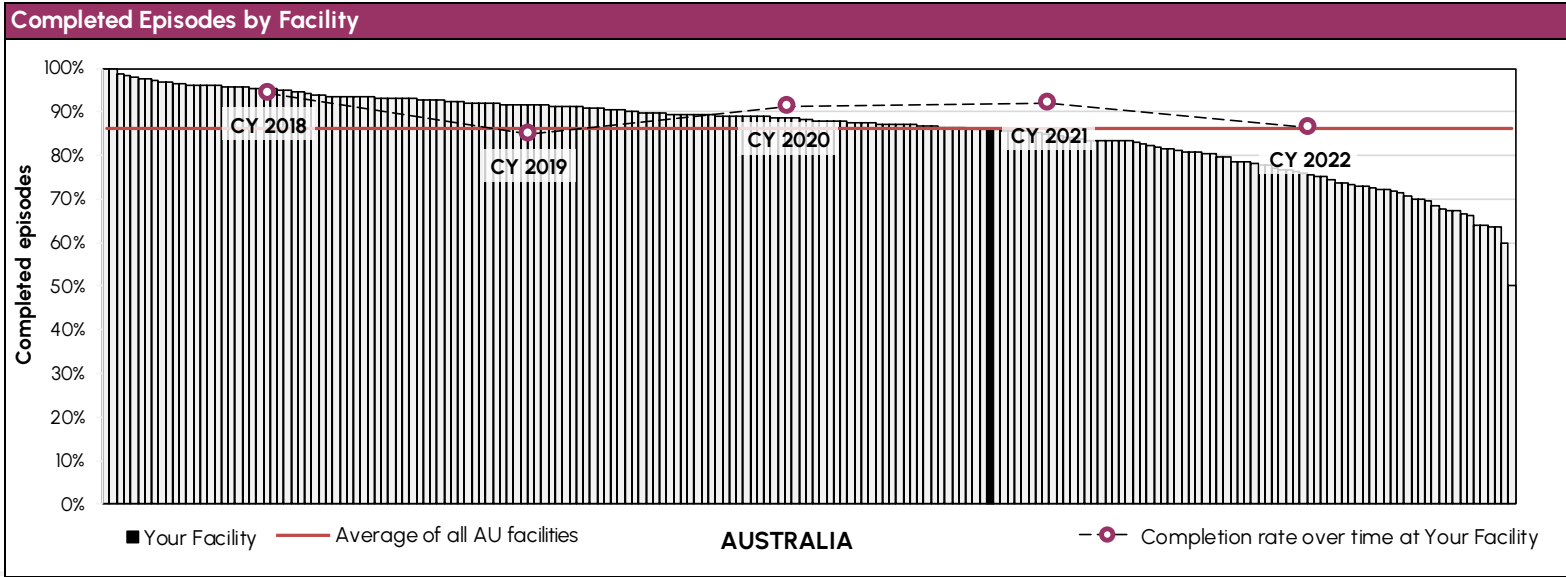


Key Indicators*	
YOUR FACILITY	AUSTRALIA
Average Age: 80.3	Average Age: 78.9
Mortality Rate: 0.5%	Mortality Rate: 0.2%
% with at least one comorbidity: 53%	% with at least one comorbidity: 48%
% with at least one complication: 26%	% with at least one complication: 25%
% episodes with start delays: 7%	% episodes with start delays: 11%
Days between onset and rehab episode: 11.8	Days between onset and rehab episode: 13.2
Days between clinically rehab ready & start date: 0.3	Days between clinically rehab ready & start date: 0.4

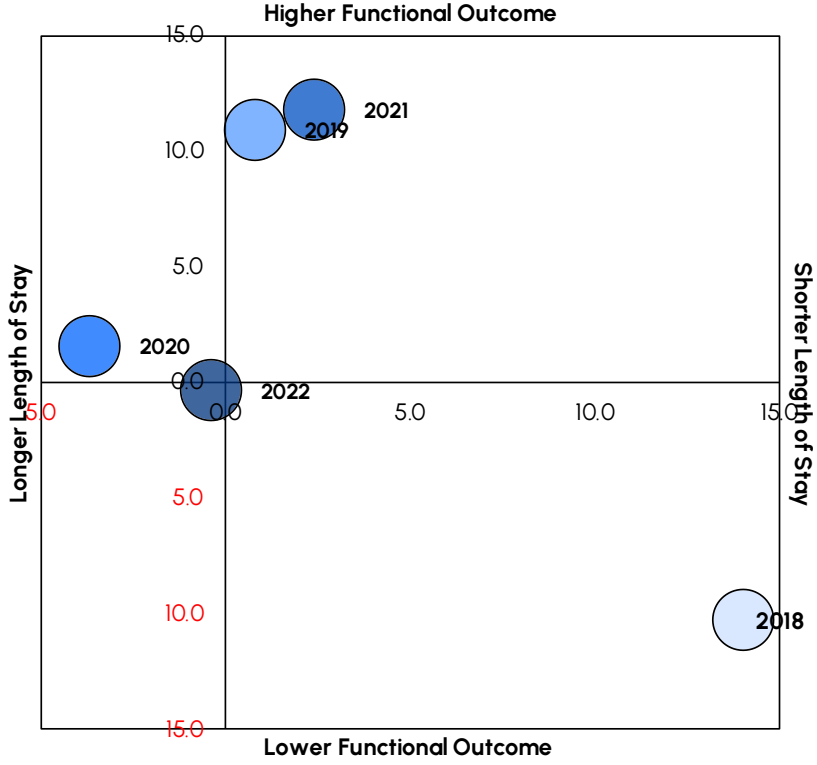
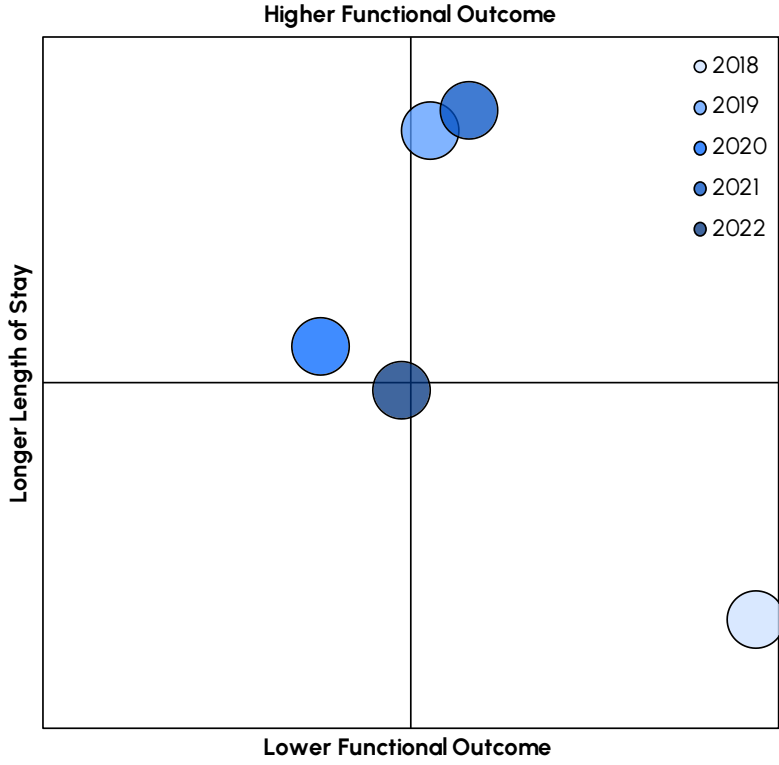
* Mean value provided unless otherwise specified

Facility FIM Training*	
FIM Credentialed Staff per 100 Episodes	FIM Credentialed Facility Trainers
11.7 Your Facility	3 Your Facility
6.8 AUSTRALIA (Mean)	2 AROC Suggested Minimum

*This includes all impairments from all wards



Quadrant Position – last 5 years



NB: Data from before FY22 is benchmarked using AN-SNAP V4 classes. FY22 onwards benchmarked using AN-SNAP V5 classes.

NOTE: Includes only completed episodes with valid FIM & LOS; where n<20 no dot will be shown

Data used in this report

- Orthopaedic fracture episodes discharged during the reporting period (January 2022 – December 2022) and time series data covering five years.
- Benchmark group is AUSTRALIA.
- Casemix analysis uses version 5 AN-SNAP classes (Appendix 3). Casemix adjustment is calculated against AUSTRALIA data.
- Unit of counting is by concatenated* episode, not by patient.
- Where there are less than five episodes within a subgroup, summary data are not provided. Missing data and ungroupable AN-SNAP classes are excluded from figures, but are included in tables.
- Facilities will only receive this report when the facility reports a minimum of 20 completed orthopaedic fracture episodes.

The immediate impact of COVID-19 on rehabilitation was a 12% decline in the number of rehabilitation episodes following temporary suspension of elective surgeries, ward re-assignments and closures, and fewer traumatic accidents. The ongoing impact of COVID-19 on rehabilitation from still reduced inpatient beds, increasing patient complexity and staffing issues has seen inpatient rehabilitation episodes decline 20% compared to the years prior to COVID. See **COVID-19** in Appendix 1 glossary for information about the collection of data for COVID patients.

Note: Appendix 1 (Glossary) contains definitions of concepts referred to in this report. An understanding of these will help with interpretation of the data. This report should be considered in conjunction with the Outcome Benchmarks Report for your facility.

*Refer to Appendix 1 for more details about the process of data concatenation.

Orthopaedic fracture episodes were identified as those with the following AROC impairment codes:

- 8.111 – Fracture of hip, unilateral
- 8.112 – Fracture of hip, bilateral
- 8.12 – Fracture of shaft of femur
- 8.13 – Fracture of pelvis
- 8.141 – Fracture of knee
- 8.142 – Fracture of leg, ankle, foot
- 8.15 – Fracture of upper limb
- 8.16 – Fracture of spine
- 8.17 – Fracture of multiple sites
- 8.19 – Other orthopaedic fracture

NOTE: A list of all impairment codes can be found in Appendix 2.

Levels of functioning for orthopaedic fractures are categorised by the following version 5 AN-SNAP classes:

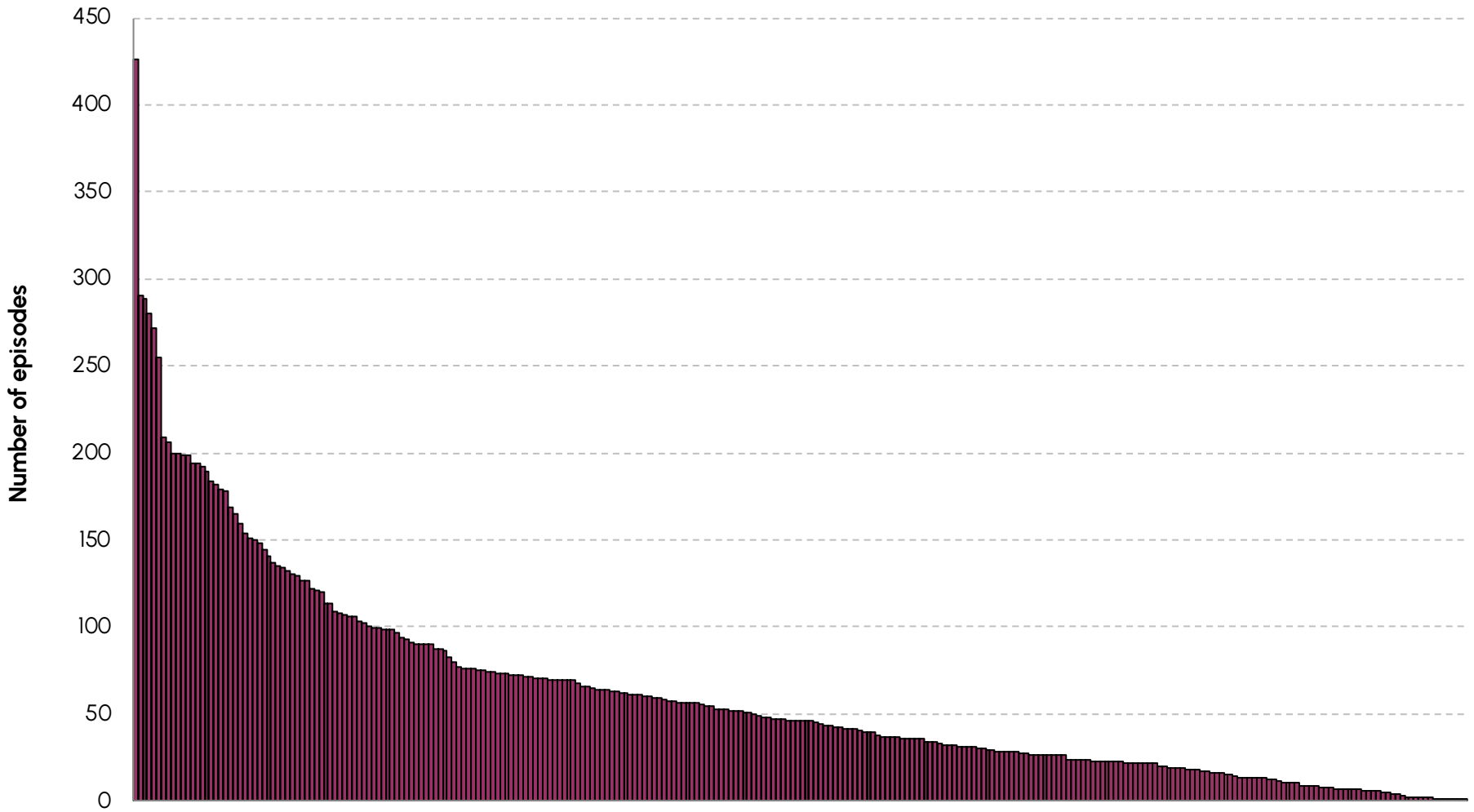
- 5AH1 Orthopaedic fractures, weighted FIM motor 48 - 91, FIM cognition 33 - 35
- 5AH2 Orthopaedic fractures, weighted FIM motor 48 - 91, FIM cognition 21 - 32
- 5AH3 Orthopaedic fractures, weighted FIM motor 48 - 91, FIM cognition 5 - 20
- 5AH4 Orthopaedic fractures, weighted FIM motor 19-47
- 5AZ3 Weighted FIM motor score 13-18, All other impairments, Age \geq 79
- 5AZ4 Weighted FIM motor score 13-18, All other impairments, Age \leq 18-78

NOTE: A list of all AN-SNAP classes can be found in Appendix 3.



The BIG picture

Volume of episodes by facilities treating orthopaedic fractures



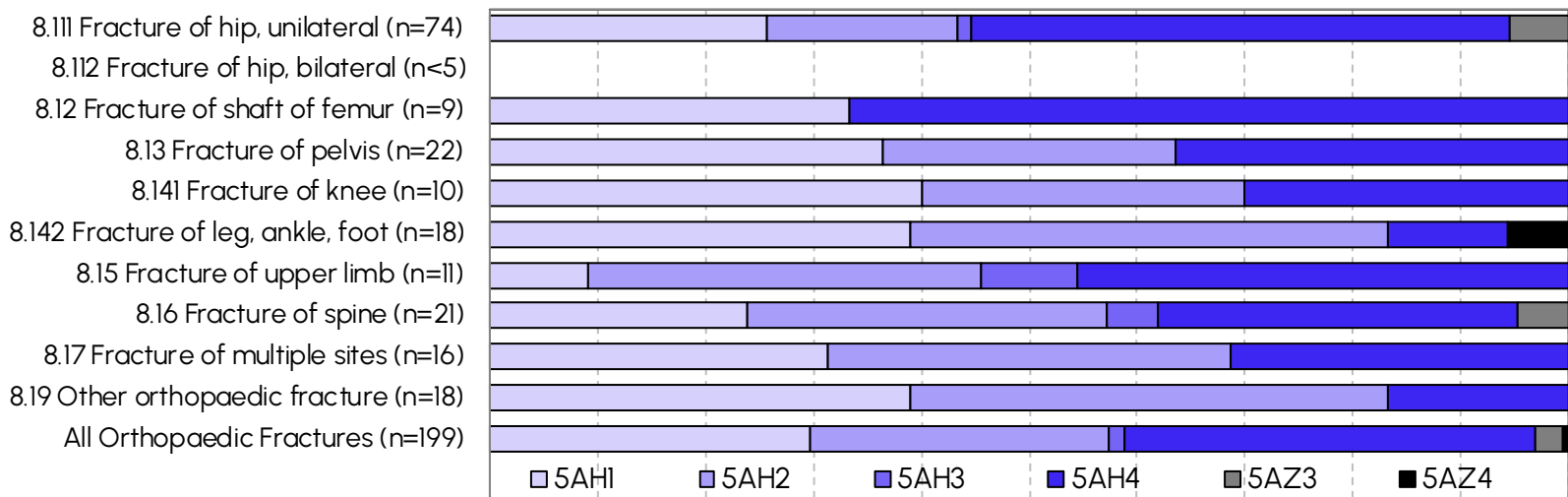
AUSTRALIA

NOTE: 280 facilities reported at least one orthopaedic fracture episode, with 217 facilities reporting between 20 and 426 episodes in this reporting period

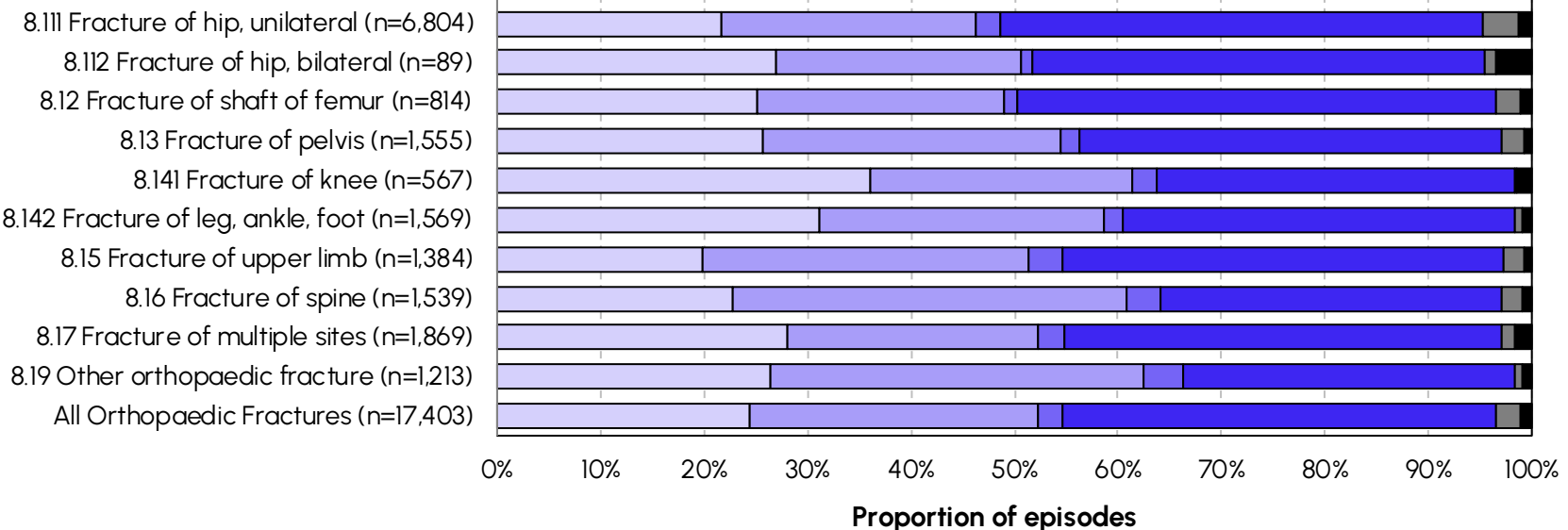
Proportion of episodes by impairment code and AN-SNAP class



YOUR FACILITY



AUSTRALIA



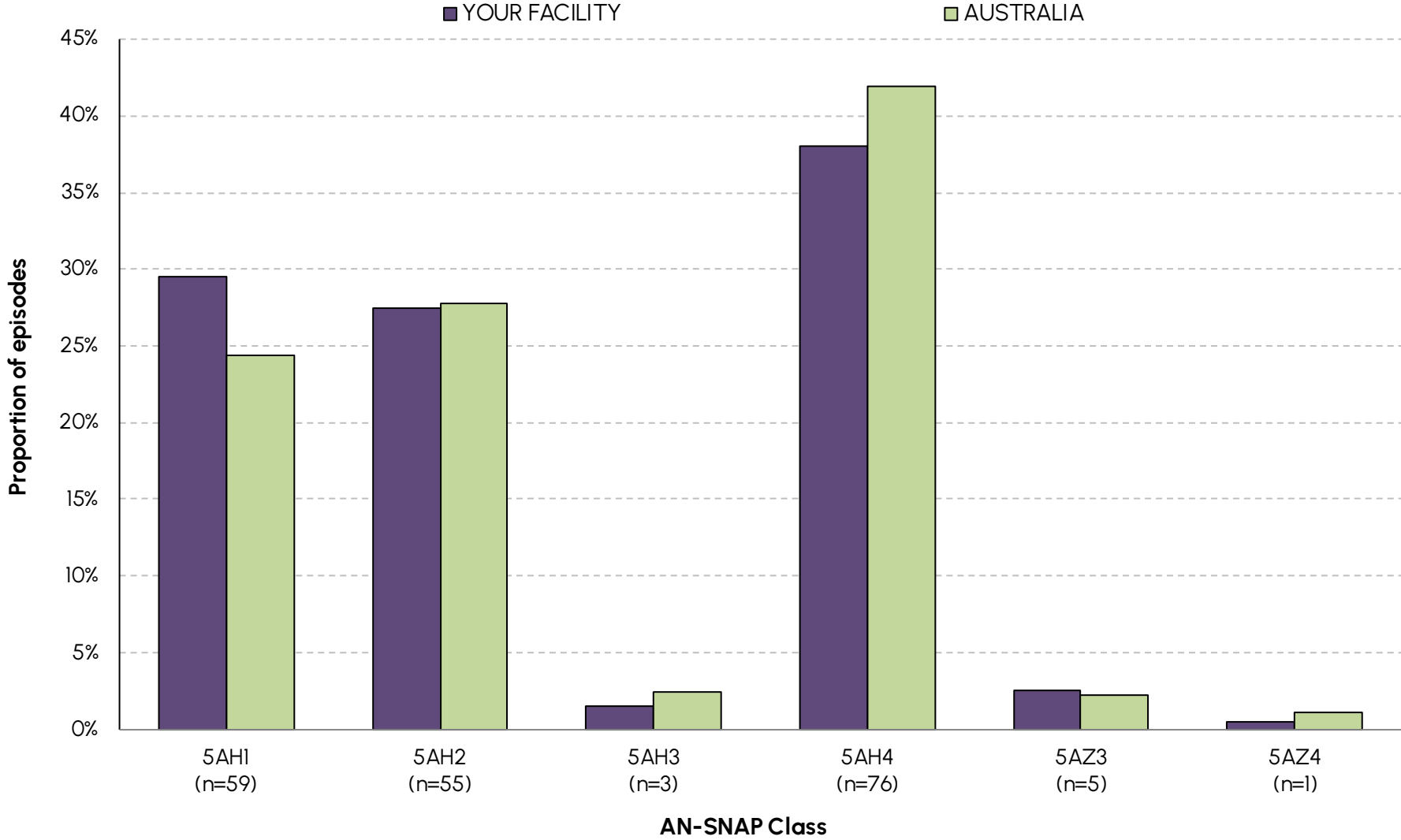
Episodes by impairment code and AN-SNAP class

Impairment	YOUR FACILITY — N (%)							All Orthopaedic Fractures
	5AH1	5AH2	5AH3	5AH4	5AZ3	5AZ4		
8.111 Fracture of hip, unilateral	19 (25.7)	13 (17.6)	1 (1.4)	37 (50.0)	4 (5.4)	0 (0.0)	74 (100.0)	
8.112 Fracture of hip, bilateral	0 —	0 —	0 —	0 —	0 —	0 —	0 —	
8.12 Fracture of shaft of femur	3 (33.3)	0 (0.0)	0 (0.0)	6 (66.7)	0 (0.0)	0 (0.0)	9 (100.0)	
8.13 Fracture of pelvis	8 (36.4)	6 (27.3)	0 (0.0)	8 (36.4)	0 (0.0)	0 (0.0)	22 (100.0)	
8.141 Fracture of knee	4 (40.0)	3 (30.0)	0 (0.0)	3 (30.0)	0 (0.0)	0 (0.0)	10 (100.0)	
8.142 Fracture of leg, ankle, foot	7 (38.9)	8 (44.4)	0 (0.0)	2 (11.1)	0 (0.0)	1 (5.6)	18 (100.0)	
8.15 Fracture of upper limb	1 (9.1)	4 (36.4)	1 (9.1)	5 (45.5)	0 (0.0)	0 (0.0)	11 (100.0)	
8.16 Fracture of spine	5 (23.8)	7 (33.3)	1 (4.8)	7 (33.3)	1 (4.8)	0 (0.0)	21 (100.0)	
8.17 Fracture of multiple sites	5 (31.3)	6 (37.5)	0 (0.0)	5 (31.3)	0 (0.0)	0 (0.0)	16 (100.0)	
8.19 Other orthopaedic fracture	7 (38.9)	8 (44.4)	0 (0.0)	3 (16.7)	0 (0.0)	0 (0.0)	18 (100.0)	
All Orthopaedic Fractures	59 (29.6)	55 (27.6)	3 (1.5)	76 (38.2)	5 (2.5)	1 (0.5)	199 (100.0)	

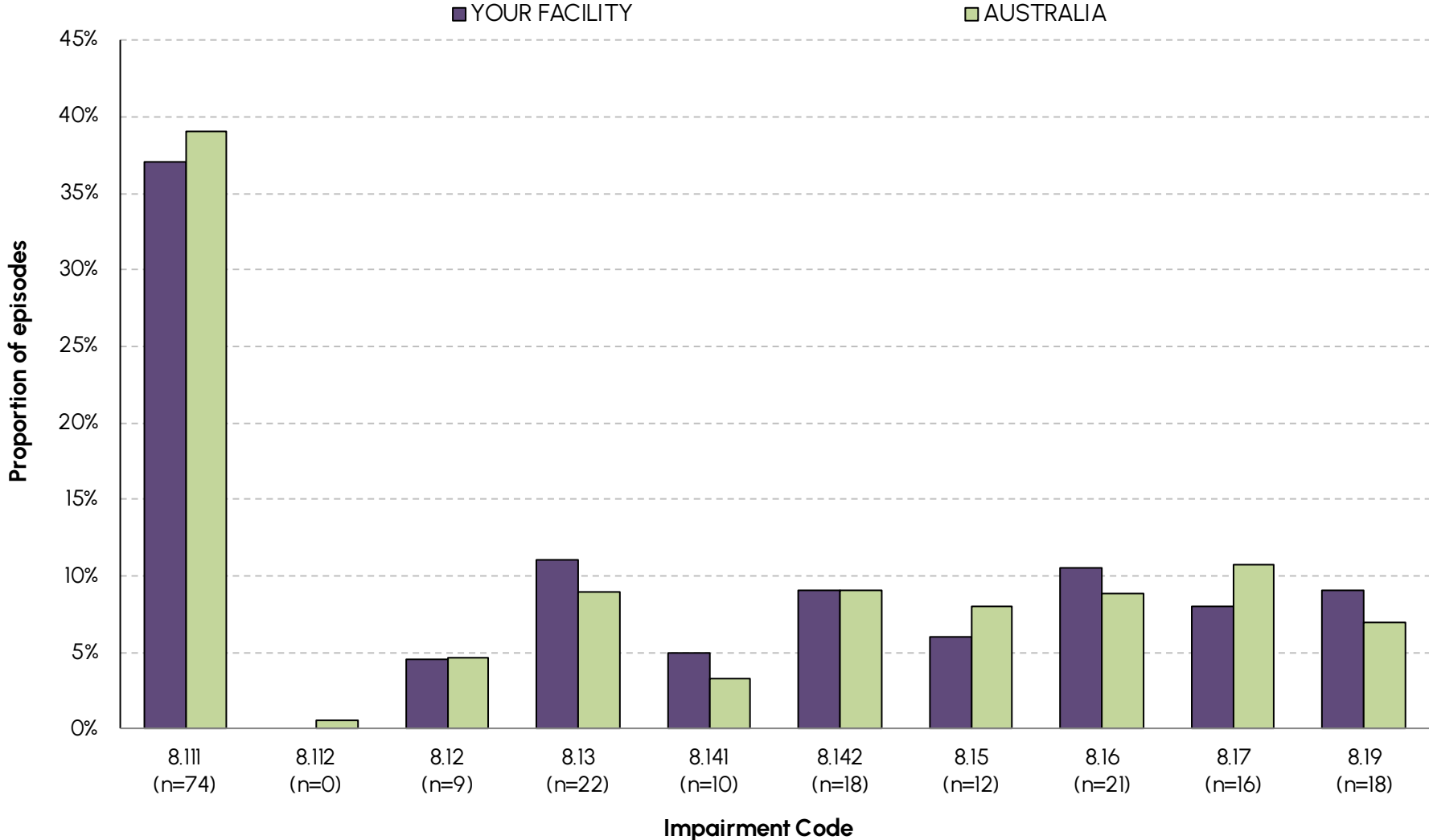
Impairment	AUSTRALIA — N (%)							All Orthopaedic Fractures
	5AH1	5AH2	5AH3	5AH4	5AZ3	5AZ4		
8.111 Fracture of hip, unilateral	1,470 (21.6)	1,683 (24.7)	151 (2.2)	3,183 (46.8)	232 (3.4)	85 (1.2)	6,804 (100.0)	
8.112 Fracture of hip, bilateral	24 (27.0)	21 (23.6)	1 (1.1)	39 (43.8)	1 (1.1)	3 (3.4)	89 (100.0)	
8.12 Fracture of shaft of femur	205 (25.2)	194 (23.8)	10 (1.2)	377 (46.3)	20 (2.5)	8 (1.0)	814 (100.0)	
8.13 Fracture of pelvis	398 (25.6)	450 (28.9)	28 (1.8)	633 (40.7)	34 (2.2)	12 (0.8)	1,555 (100.0)	
8.141 Fracture of knee	204 (36.0)	144 (25.4)	13 (2.3)	197 (34.7)	1 (0.2)	8 (1.4)	567 (100.0)	
8.142 Fracture of leg, ankle, foot	489 (31.2)	432 (27.5)	27 (1.7)	595 (37.9)	13 (0.8)	13 (0.8)	1,569 (100.0)	
8.15 Fracture of upper limb	275 (19.9)	437 (31.6)	43 (3.1)	592 (42.8)	27 (2.0)	10 (0.7)	1,384 (100.0)	
8.16 Fracture of spine	350 (22.7)	586 (38.1)	51 (3.3)	509 (33.1)	29 (1.9)	14 (0.9)	1,539 (100.0)	
8.17 Fracture of multiple sites	522 (27.9)	456 (24.4)	45 (2.4)	794 (42.5)	23 (1.2)	29 (1.6)	1,869 (100.0)	
8.19 Other orthopaedic fracture	319 (26.3)	439 (36.2)	46 (3.8)	389 (32.1)	10 (0.8)	10 (0.8)	1,213 (100.0)	
All Orthopaedic Fractures	4,256 (24.5)	4,842 (27.8)	415 (2.4)	7,308 (42.0)	390 (2.2)	192 (1.1)	17,403 (100.0)	

**There were 1 episodes in YOUR FACILITY and 17 episodes in AUSTRALIA with AN-SNAP class 599A

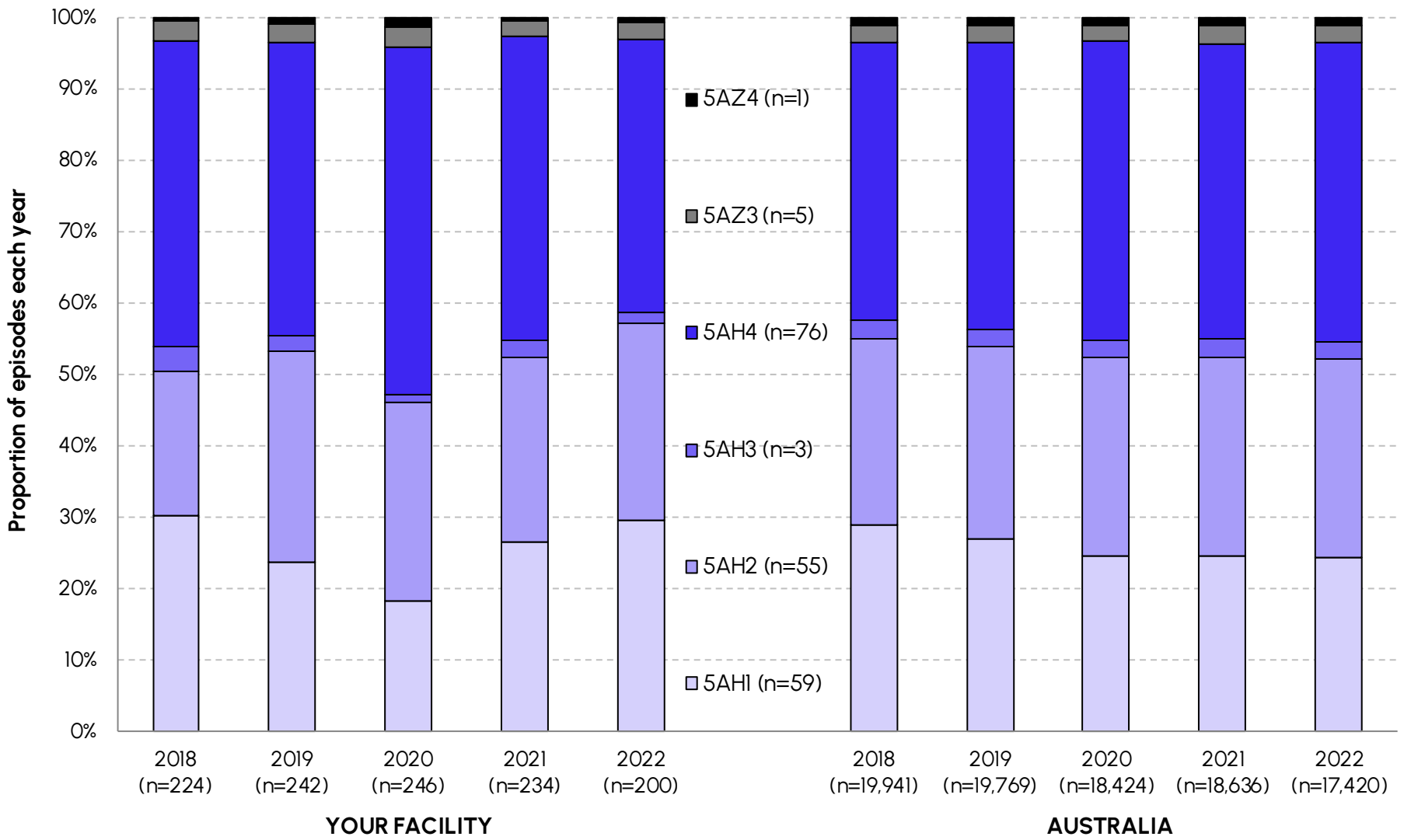
Proportion of episodes by AN-SNAP class



Proportion of episodes by impairment code



Proportion of episodes by AN-SNAP class over time

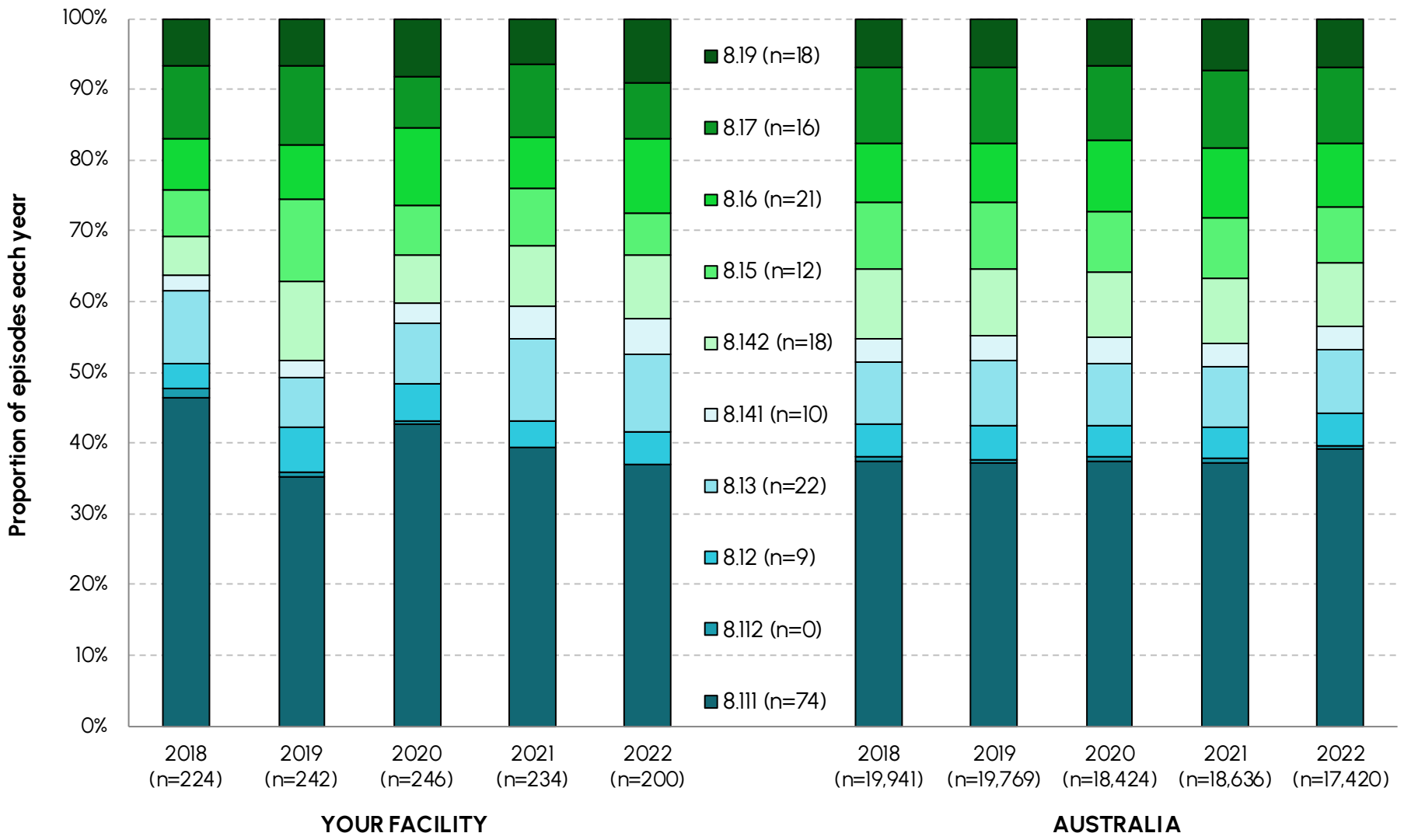


Episodes by AN-SNAP class over time

AN-SNAP class V5	YOUR FACILITY — N					AUSTRALIA — N				
	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
5AH1 (motor 48-91, cognition 33-35)	68	57	45	62	59	5,780	5,357	4,544	4,580	4,256
5AH2 (motor 48-91, cognition 21-32)	45	71	68	60	55	5,194	5,315	5,101	5,190	4,842
5AH3 (motor 48-91, cognition 5-20)	8	5	3	6	3	517	465	455	480	415
5AH4 (motor 19-47)	96	99	119	99	76	7,742	7,966	7,735	7,706	7,308
5AZ3 (motor 13-18, Age ≥ 79)	6	6	7	5	5	497	469	404	473	390
5AZ4 (motor 13-18, Age 18-78)	1	2	3	1	1	198	182	178	195	192
Ungroupable	0	2	1	1	1	13	15	7	12	17
All Fracture AN-SNAP classes	224	242	246	234	200	19,941	19,769	18,424	18,636	17,420

AN-SNAP class V5	YOUR FACILITY — %					AUSTRALIA — %				
	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
5AH1 (motor 48-91, cognition 33-35)	30.4	23.6	18.3	26.5	29.5	29.0	27.1	24.7	24.6	24.4
5AH2 (motor 48-91, cognition 21-32)	20.1	29.3	27.6	25.6	27.5	26.0	26.9	27.7	27.8	27.8
5AH3 (motor 48-91, cognition 5-20)	3.6	2.1	1.2	2.6	1.5	2.6	2.4	2.5	2.6	2.4
5AH4 (motor 19-47)	42.9	40.9	48.4	42.3	38.0	38.8	40.3	42.0	41.4	42.0
5AZ3 (motor 13-18, Age ≥ 79)	2.7	2.5	2.8	2.1	2.5	2.5	2.4	2.2	2.5	2.2
5AZ4 (motor 13-18, Age 18-78)	0.4	0.8	1.2	0.4	0.5	1.0	0.9	1.0	1.0	1.1
Ungroupable	0.0	0.8	0.4	0.4	0.5	0.1	0.1	0.0	0.1	0.1
All Fracture AN-SNAP classes	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Proportion of episodes by impairment code over time



Episodes by impairment code over time

Impairment	YOUR FACILITY — N					AUSTRALIA — N				
	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
8.111 Fracture of hip, unilateral	104	85	105	92	74	7,482	7,343	6,906	6,945	6,807
8.112 Fracture of hip, bilateral	3	2	1	0	0	102	115	102	89	89
8.12 Fracture of shaft of femur	8	15	13	9	9	906	949	816	822	814
8.13 Fracture of pelvis	23	17	21	27	22	1,791	1,811	1,632	1,606	1,560
8.141 Fracture of knee	5	6	7	11	10	630	681	659	625	567
8.142 Fracture of leg, ankle, foot	12	27	17	20	18	1,956	1,879	1,724	1,718	1,571
8.15 Fracture of upper limb	15	28	17	19	12	1,881	1,844	1,549	1,568	1,386
8.16 Fracture of spine	16	19	27	17	21	1,697	1,670	1,858	1,860	1,540
8.17 Fracture of multiple sites	23	27	18	24	16	2,128	2,112	1,958	2,022	1,872
8.19 Other orthopaedic fracture	15	16	20	15	18	1,368	1,365	1,220	1,381	1,214
All Orthopaedic Fractures	224	242	246	234	200	19,941	19,769	18,424	18,636	17,420

Impairment	YOUR FACILITY — %					AUSTRALIA — %				
	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
8.111 Fracture of hip, unilateral	46.4	35.1	42.7	39.3	37.0	37.5	37.1	37.5	37.3	39.1
8.112 Fracture of hip, bilateral	1.3	0.8	0.4	0.0	0.0	0.5	0.6	0.6	0.5	0.5
8.12 Fracture of shaft of femur	3.6	6.2	5.3	3.8	4.5	4.5	4.8	4.4	4.4	4.7
8.13 Fracture of pelvis	10.3	7.0	8.5	11.5	11.0	9.0	9.2	8.9	8.6	9.0
8.141 Fracture of knee	2.2	2.5	2.8	4.7	5.0	3.2	3.4	3.6	3.4	3.3
8.142 Fracture of leg, ankle, foot	5.4	11.2	6.9	8.5	9.0	9.8	9.5	9.4	9.2	9.0
8.15 Fracture of upper limb	6.7	11.6	6.9	8.1	6.0	9.4	9.3	8.4	8.4	8.0
8.16 Fracture of spine	7.1	7.9	11.0	7.3	10.5	8.5	8.4	10.1	10.0	8.8
8.17 Fracture of multiple sites	10.3	11.2	7.3	10.3	8.0	10.7	10.7	10.6	10.8	10.7
8.19 Other orthopaedic fracture	6.7	6.6	8.1	6.4	9.0	6.9	6.9	6.6	7.4	7.0
All Orthopaedic Fractures	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Summary of your incomplete episodes

Complete episode analysis	YOUR FACILITY		AUSTRALIA	
	No.	(%)	No.	(%)
Total reporting episodes	200		17,420	
Incomplete episodes	28	(14.0)	2,405	(13.8)

Reason for incomplete:

Discharged home with end FIM=18	0	(0.0)	14	(0.6)
Discharged home with no end FIM	2	(7.1)	29	(1.2)
Discharged to another hospital	10	(35.7)	1,168	(48.6)
Discharged back to acute same hospital	12	(42.9)	916	(38.1)
Discharged at own risk	2	(7.1)	154	(6.4)
Change of care type (LOS<1 week)	0	(0.0)	18	(0.7)
Died	1	(3.6)	29	(1.2)
Other/Unknown Discharge	1	(3.6)	77	(3.2)

Impairment Code:	YOUR FACILITY			
	Incomplete Episodes		Complete episodes	

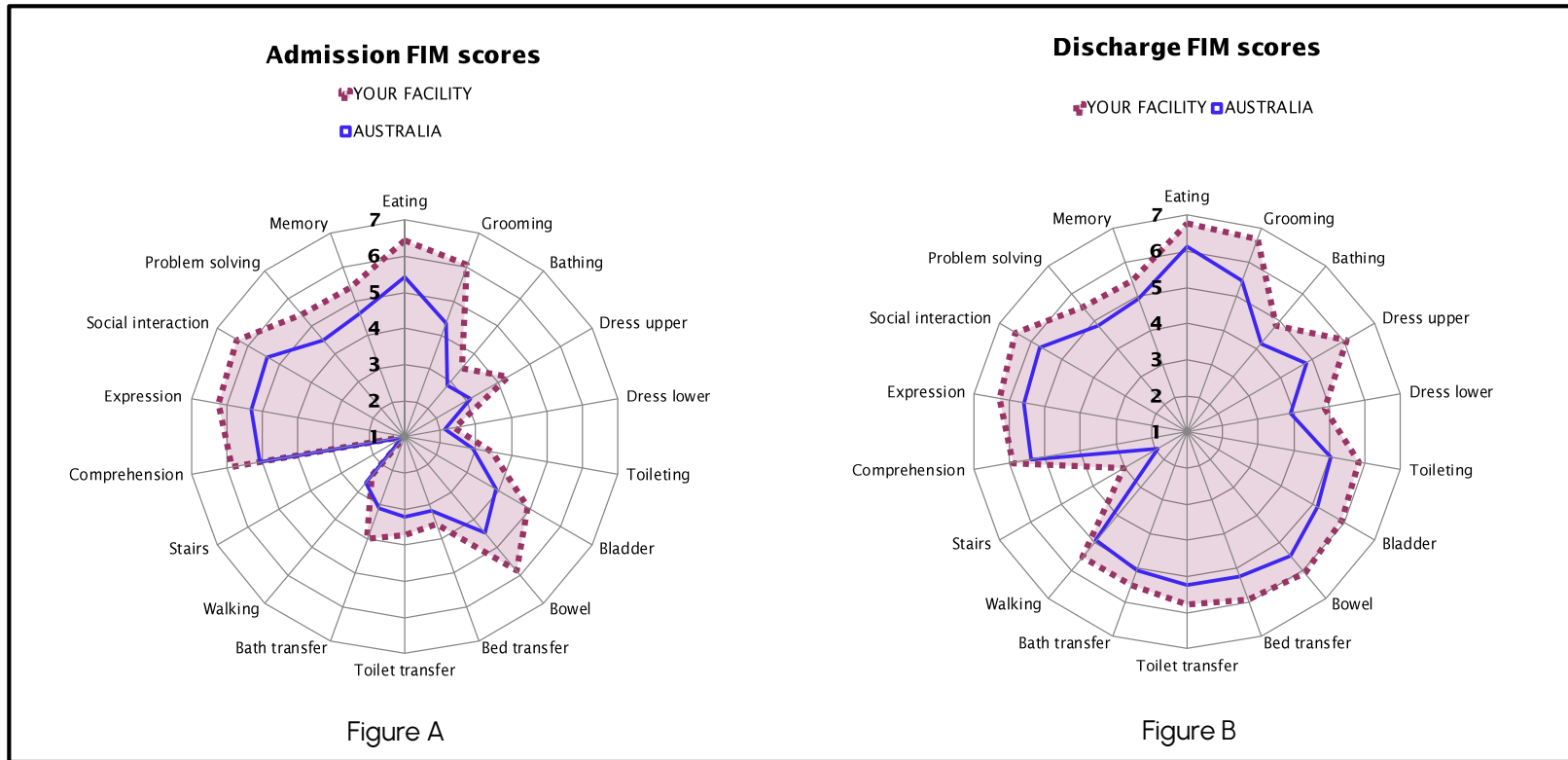
8.111 Fracture of hip, unilateral	13	(46.4)	61	(35.5)
8.112 Fracture of hip, bilateral	0	(0.0)	0	(0.0)
8.12 Fracture of shaft of femur	0	(0.0)	9	(5.2)
8.13 Fracture of pelvis	1	(3.6)	21	(12.2)
8.141 Fracture of knee	2	(7.1)	8	(4.7)
8.142 Fracture of leg, ankle, foot	3	(10.7)	15	(8.7)
8.15 Fracture of upper limb	3	(10.7)	9	(5.2)
8.16 Fracture of spine	5	(17.9)	16	(9.3)
8.17 Fracture of multiple sites	1	(3.6)	15	(8.7)
8.19 Other orthopaedic fracture	0	(0.0)	18	(10.5)

AN-SNAP Class:

5AH1 (motor 48-91, cognition 33-35)	6	(22.2)	53	(30.8)
5AH2 (motor 48-91, cognition 21-32)	3	(11.1)	52	(30.2)
5AH3 (motor 48-91, cognition 5-20)	0	(0.0)	3	(1.7)
5AH4 (motor 19-47)	16	(59.3)	60	(34.9)
5AZ3 (motor 13-18, Age ≥ 79)	1	(3.7)	4	(2.3)
5AZ4 (motor 13-18, Age 18-78)	1	(3.7)	0	(0.0)

Review of FIM item scoring by AN-SNAP class

Interpreting the comparative FIM item scoring charts



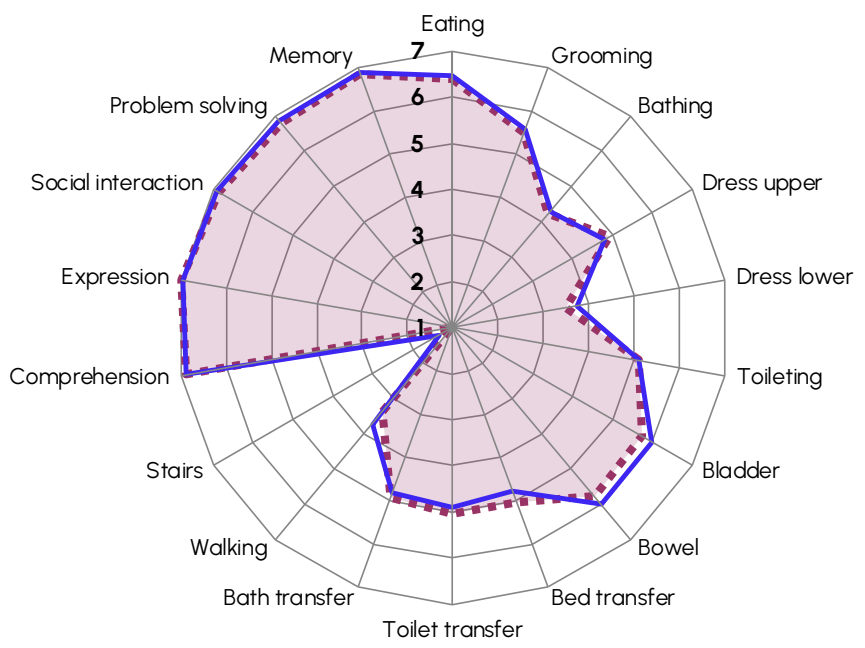
The FIM splat provides a graphic presentation of functional status in a radar chart. The 18 FIM items are arranged in order as 'spokes' of a wheel and the scoring levels from 1 (total dependence) to 7 (total independence) run from the centre outwards. The mean FIM item score for each item is indicated – a perfect score would be demonstrated as a large circle. The two FIM splats compare FIM scoring on admission (Figure A) and discharge (Figure B) between YOUR FACILITY and NATIONAL data – differences in the two shaded areas indicate differences in mean admission/discharge scoring. Graphs include completed episodes with valid FIM scoring.

Comparative FIM item scoring AN-SNAP class 5AH1



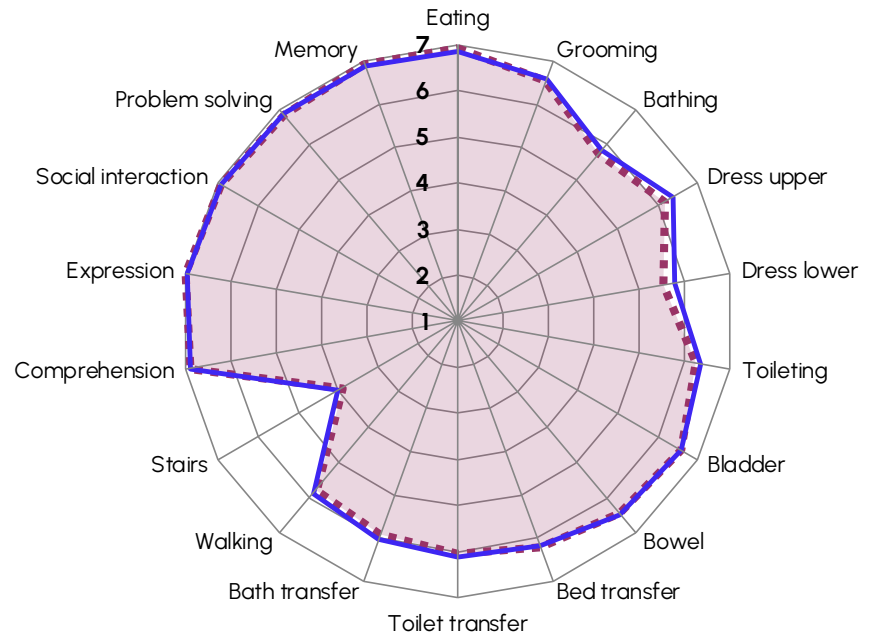
5AH1 Admission FIM scores

- YOUR FACILITY (n=53)
- AUSTRALIA (n=3,963)



5AH1 Discharge FIM scores

- YOUR FACILITY (n=53)
- AUSTRALIA (n=3,963)



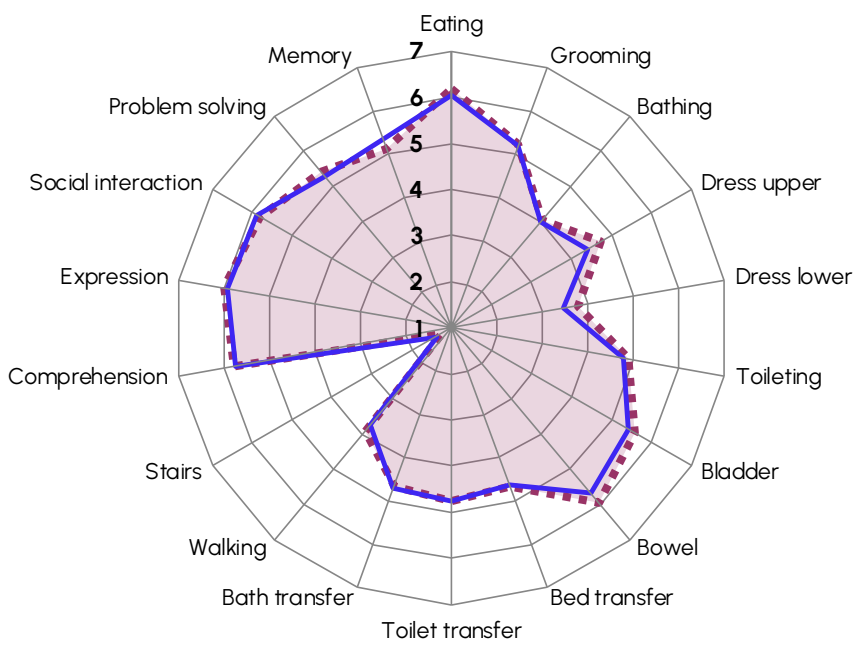
NOTE: Includes only completed episodes with valid FIM scores

Comparative FIM item scoring AN-SNAP class 5AH2



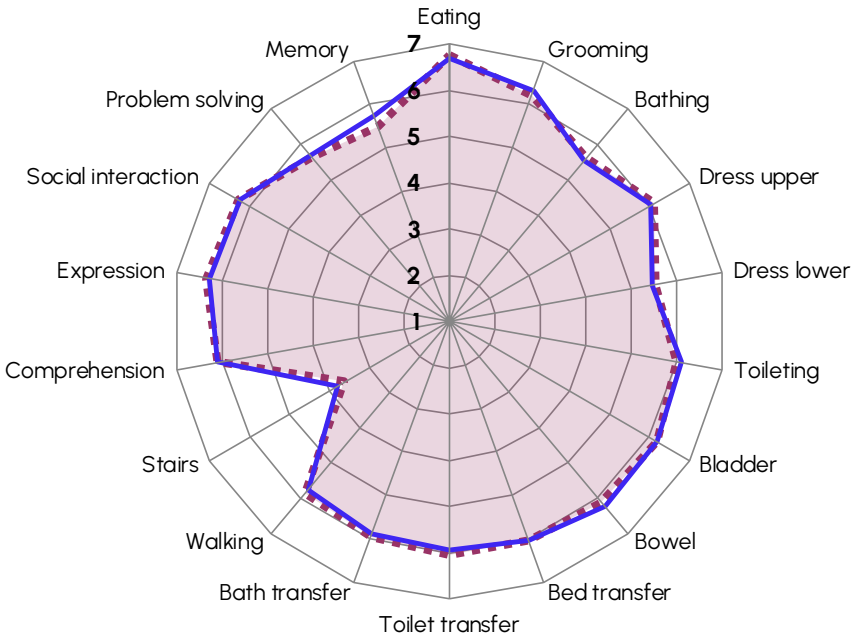
5AH2 Admission FIM scores

- YOUR FACILITY (n=52)
- AUSTRALIA (n=4,379)



5AH2 Discharge FIM scores

- YOUR FACILITY (n=52)
- AUSTRALIA (n=4,379)



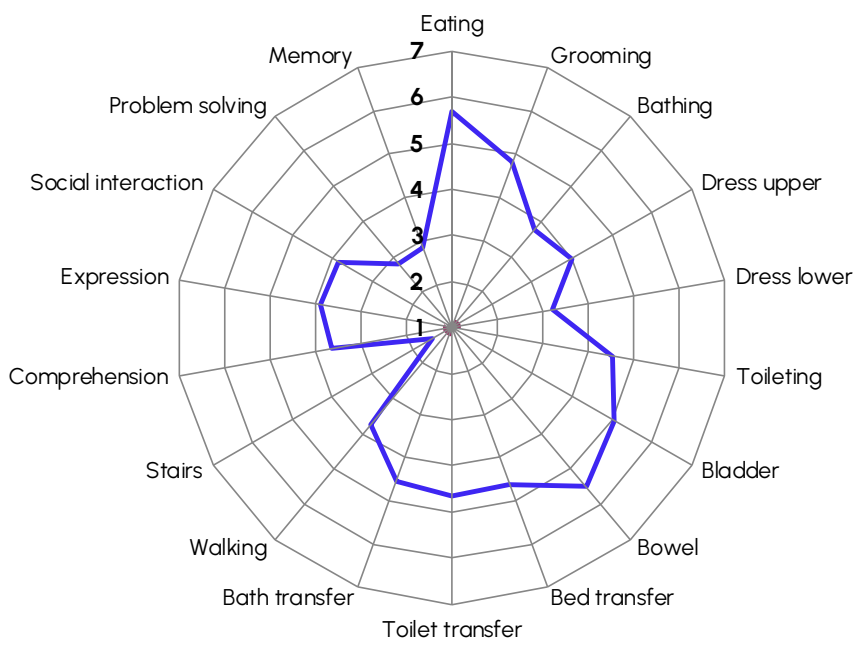
NOTE: Includes only completed episodes with valid FIM scores

Comparative FIM item scoring AN-SNAP class 5AH3



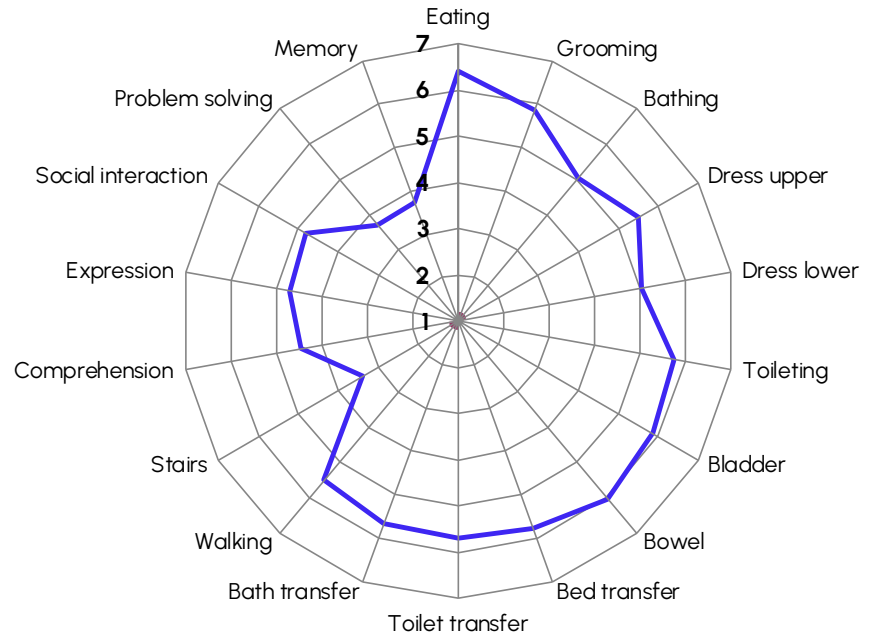
5AH3 Admission FIM scores

- YOUR FACILITY (n<5)
- AUSTRALIA (n=350)



5AH3 Discharge FIM scores

- YOUR FACILITY (n<5)
- AUSTRALIA (n=350)



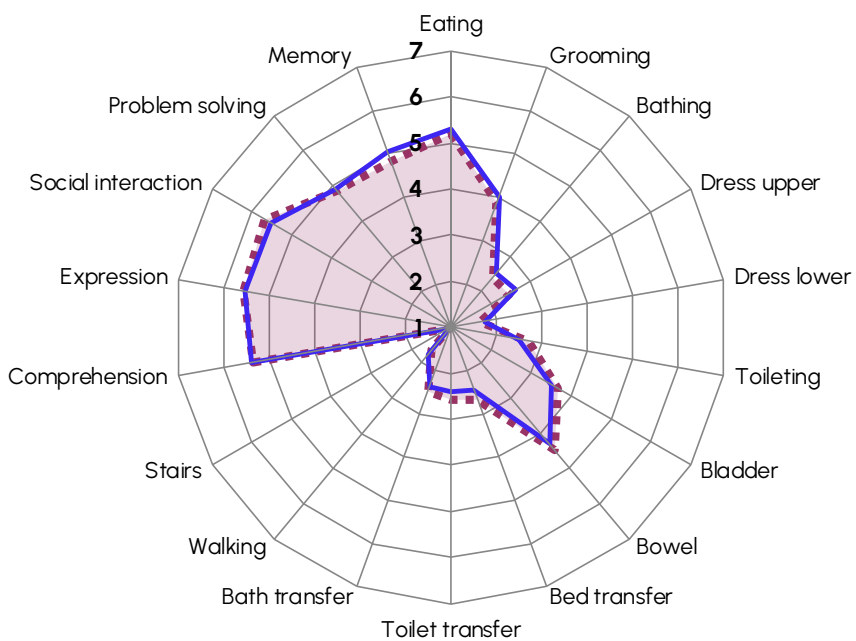
NOTE: Includes only completed episodes with valid FIM scores

Comparative FIM item scoring AN-SNAP class 5AH4



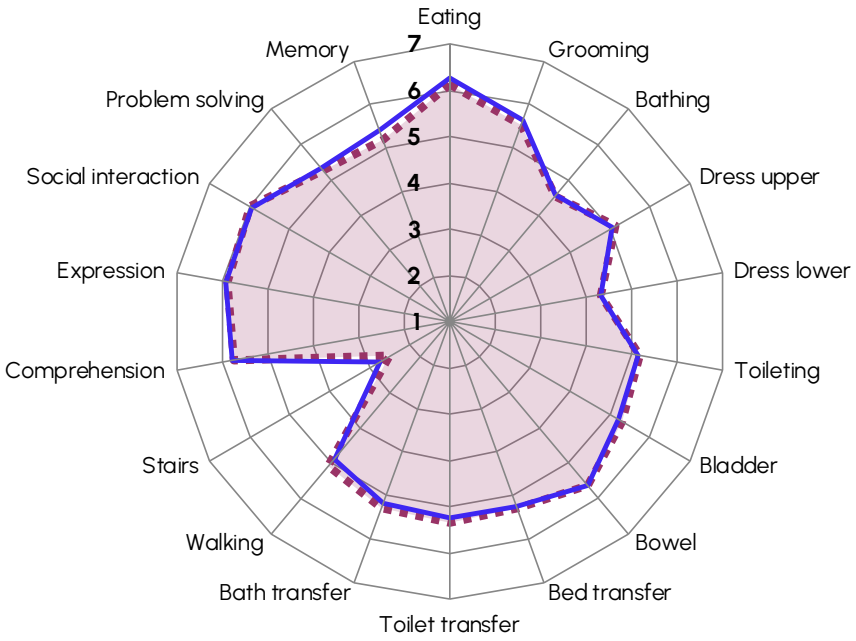
5AH4 Admission FIM scores

- YOUR FACILITY (n=60)
- AUSTRALIA (n=5,948)

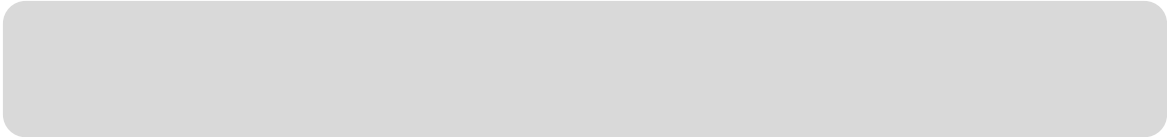


5AH4 Discharge FIM scores

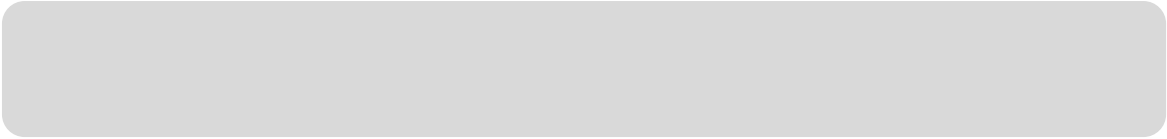
- YOUR FACILITY (n=60)
- AUSTRALIA (n=5,948)



NOTE: Includes only completed episodes with valid FIM scores



Outcome analysis



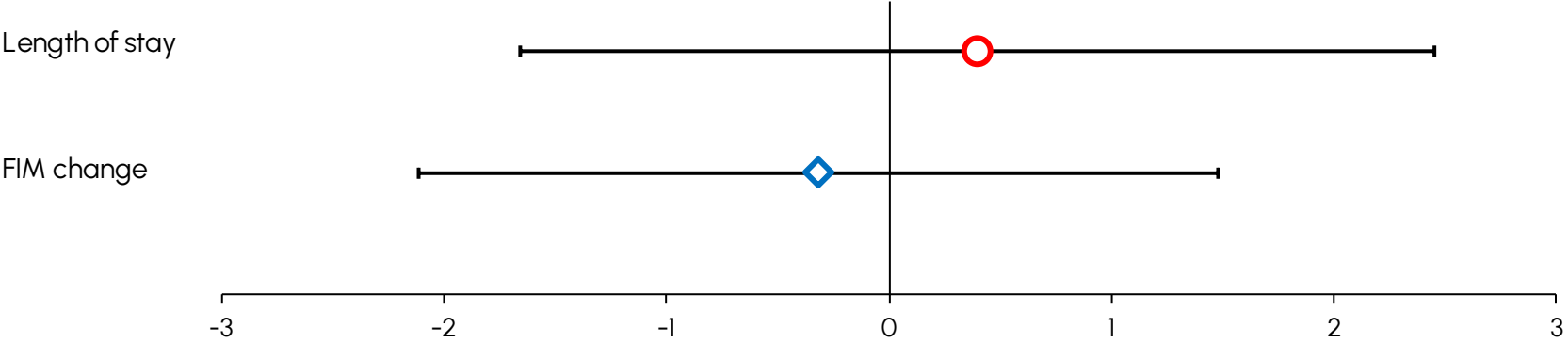
Completed episodes by AN-SNAP class and impairment code

AN-SNAP class V5	YOUR FACILITY			AUSTRALIA		
	All episodes	Completed episodes	% Complete	All episodes	Completed episodes	% Complete
5AH1 (motor 48-91, cognition 33-35)	59	53	89.8	4,256	3,963	93.1
5AH2 (motor 48-91, cognition 21-32)	55	52	94.5	4,842	4,379	90.4
5AH3 (motor 48-91, cognition 5-20)	3	3	100.0	415	350	84.3
5AH4 (motor 19-47)	76	60	78.9	7,308	5,949	81.4
5AZ3 (motor 13-18, Age ≥ 79)	5	4	80.0	390	256	65.6
5AZ4 (motor 13-18, Age 18-78)	1	0	0.0	192	118	61.5
Ungroupable	1	0	0.0	17	0	0.0
All Fracture AN-SNAP classes	200	172	86.0	17,420	15,015	86.2

Impairment	YOUR FACILITY			AUSTRALIA		
	All episodes	Completed episodes	% Complete	All episodes	Completed episodes	% Complete
8.111 Fracture of hip, unilateral	74	61	82.4	6,807	5,771	84.8
8.112 Fracture of hip, bilateral	0	0	—	89	77	86.5
8.12 Fracture of shaft of femur	9	9	100.0	814	697	85.6
8.13 Fracture of pelvis	22	21	95.5	1,560	1,362	87.3
8.141 Fracture of knee	10	8	80.0	567	496	87.5
8.142 Fracture of leg, ankle, foot	18	15	83.3	1,571	1,402	89.2
8.15 Fracture of upper limb	12	9	75.0	1,386	1,202	86.7
8.16 Fracture of spine	21	16	76.2	1,540	1,331	86.4
8.17 Fracture of multiple sites	16	15	93.8	1,872	1,631	87.1
8.19 Other orthopaedic fracture	18	18	100.0	1,214	1,046	86.2
All Fracture AN-SNAP classes	200	172	86.0	17,420	15,015	86.2

NOTE: All outcomes analysis are based on completed episodes. A definition of completed episodes can be found in Appendix 1 (Glossary).

Casemix-adjusted* relative means

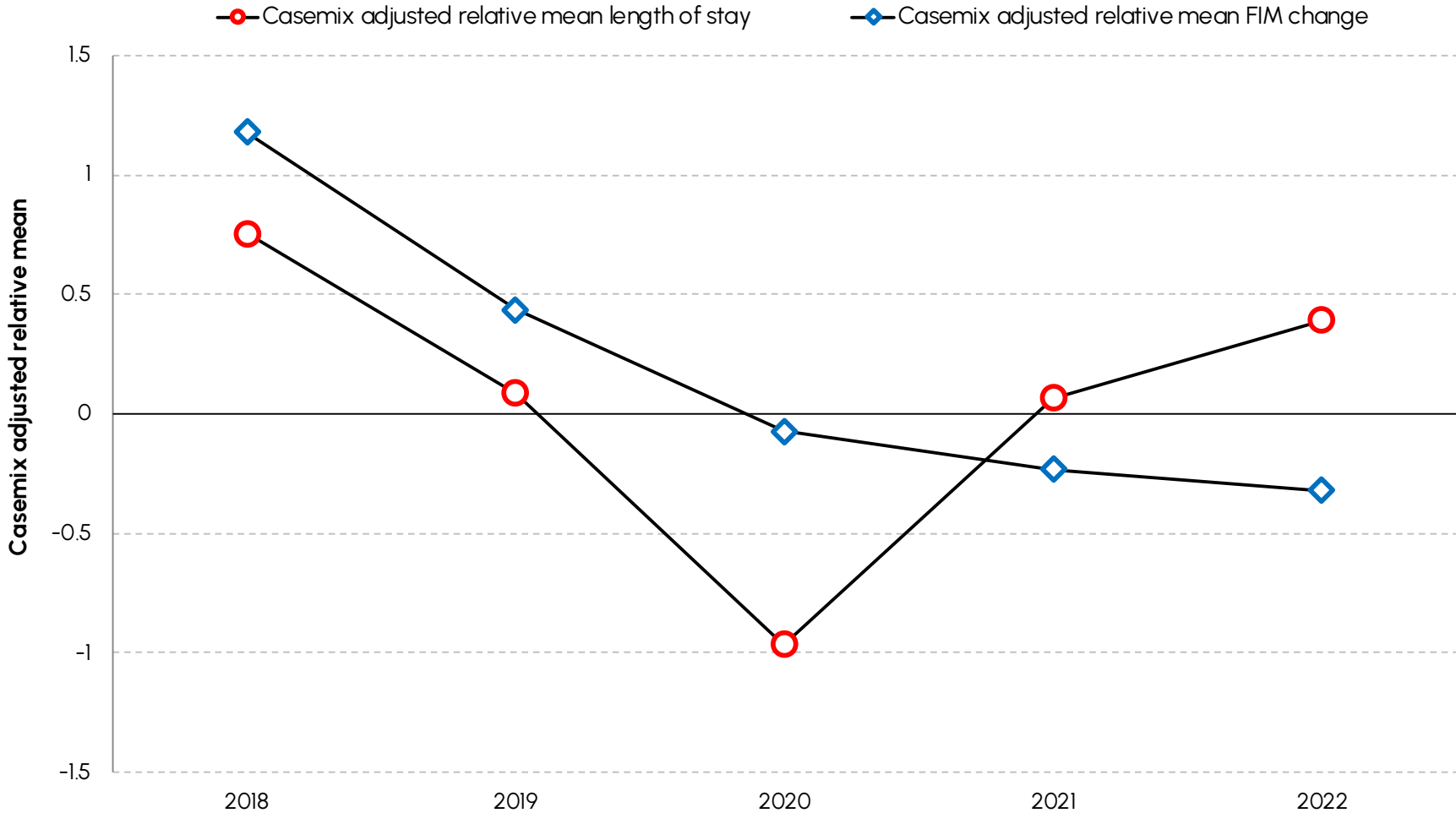


Casemix-adjusted relative means with 95% confidence intervals

Outcome measures	YOUR FACILITY		AUSTRALIA
	Casemix-adjusted* relative mean	95% CI	IQR
Length of stay	0.4	-1.7 to 2.4	-7.5 to 4.0
FIM change	-0.3	-2.1 to 1.5	-7.5 to 7.4

NOTE: Includes only completed episodes with valid FIM scores and LOS

Casemix-adjusted* relative means over time



*Casemix-adjusted values based on CY 2022

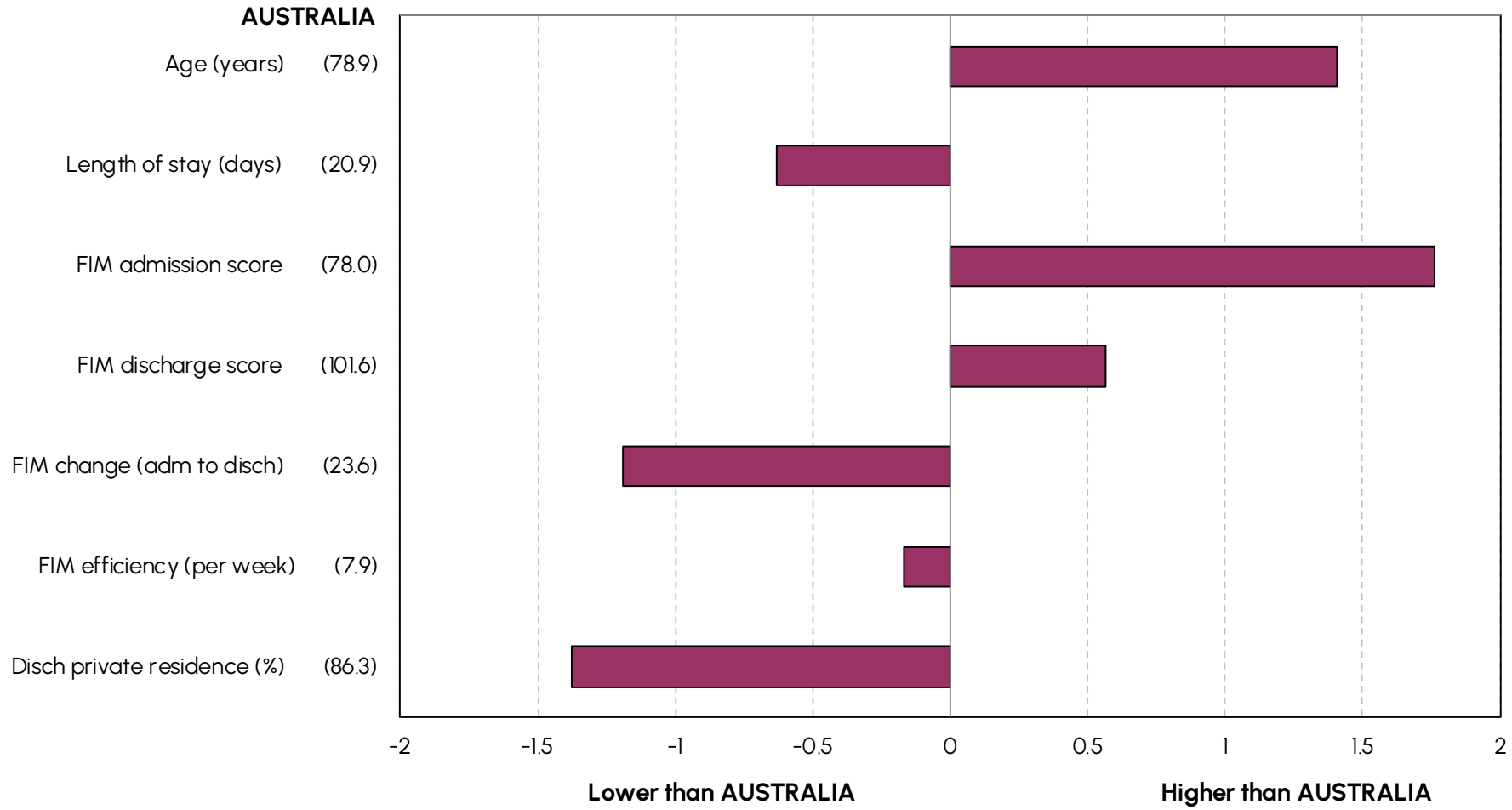
YOUR FACILITY

NOTE: Includes only completed episodes with valid FIM scores and LOS; where n<5 the casemix-adjusted relative mean will not be shown

Outcome measures – difference from National



How YOUR FACILITY is different to AUSTRALIA



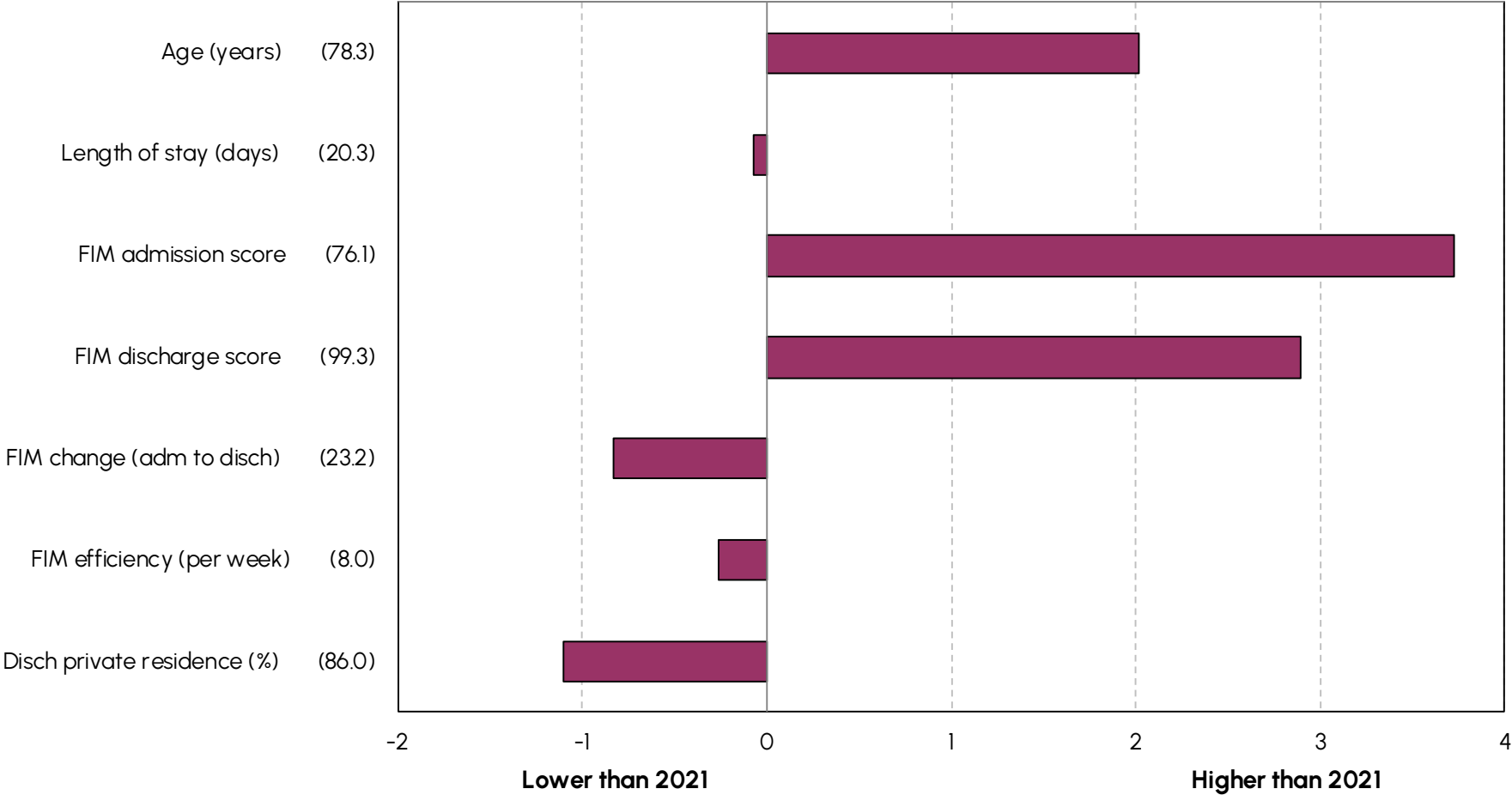
NOTE: Includes only completed episodes with valid FIM scores and LOS

Outcome measures – difference from last year



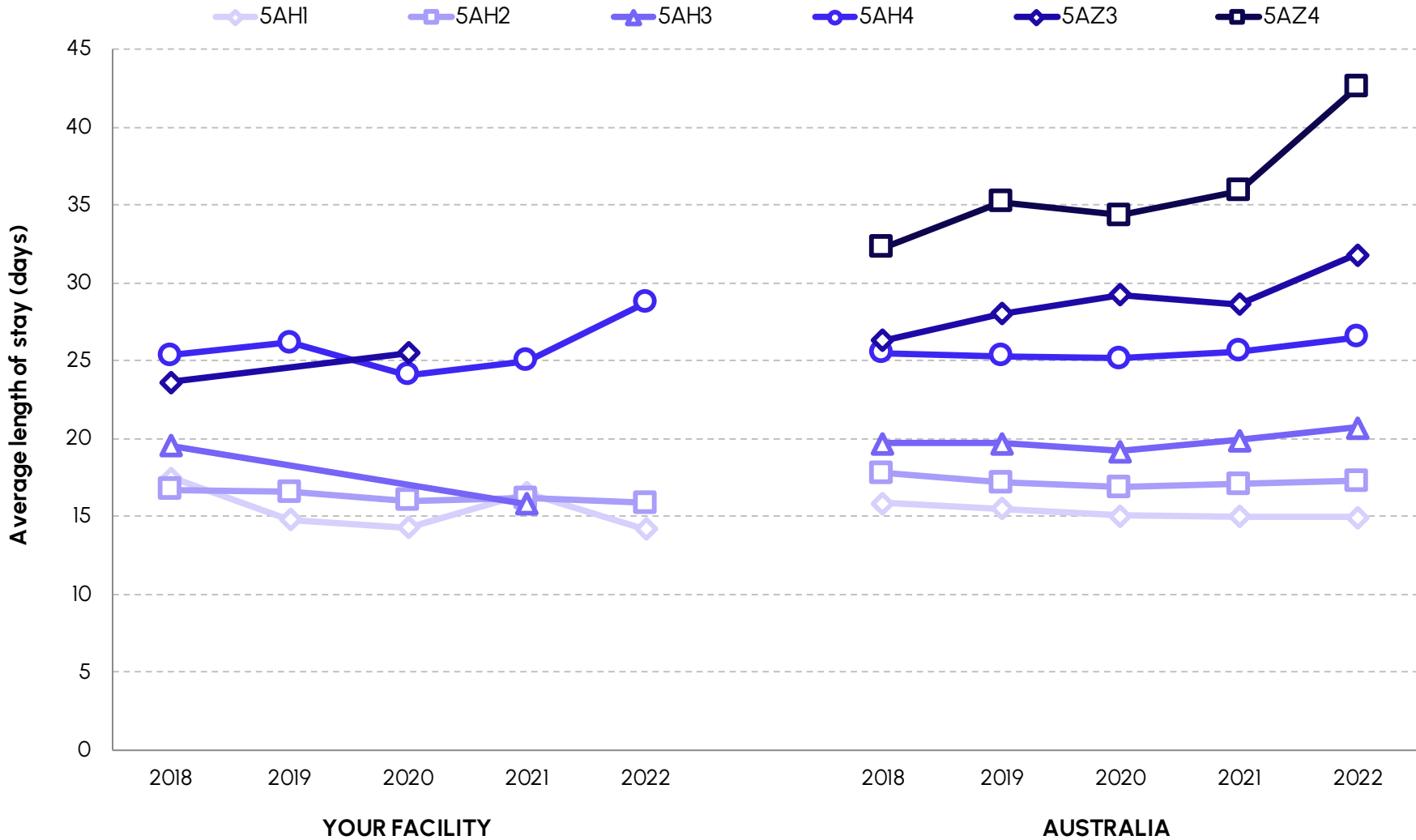
How YOUR FACILITY has changed since 2021

2021



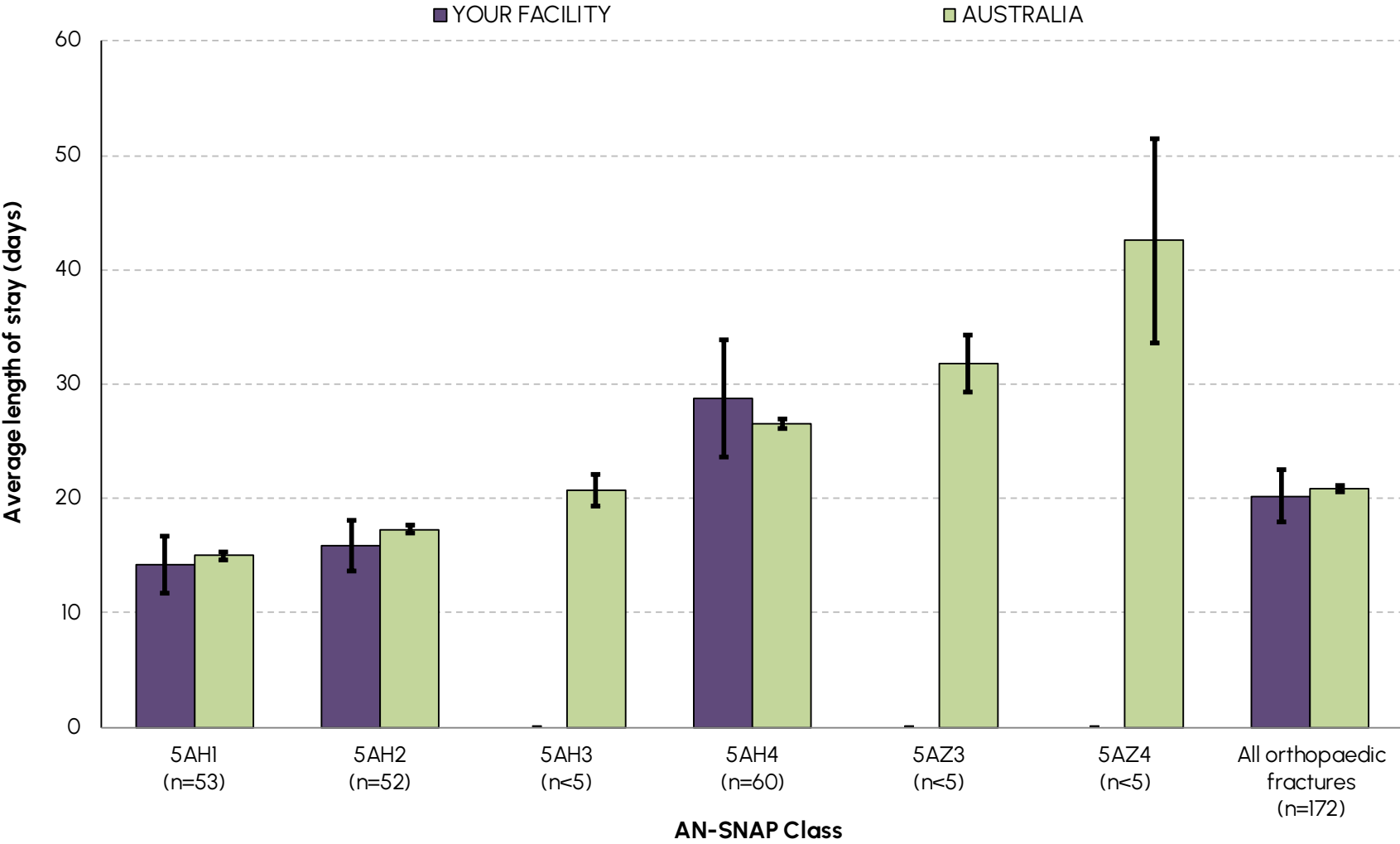
NOTE: Includes only completed episodes with valid FIM scores and LOS

Average length of stay by AN-SNAP class over time



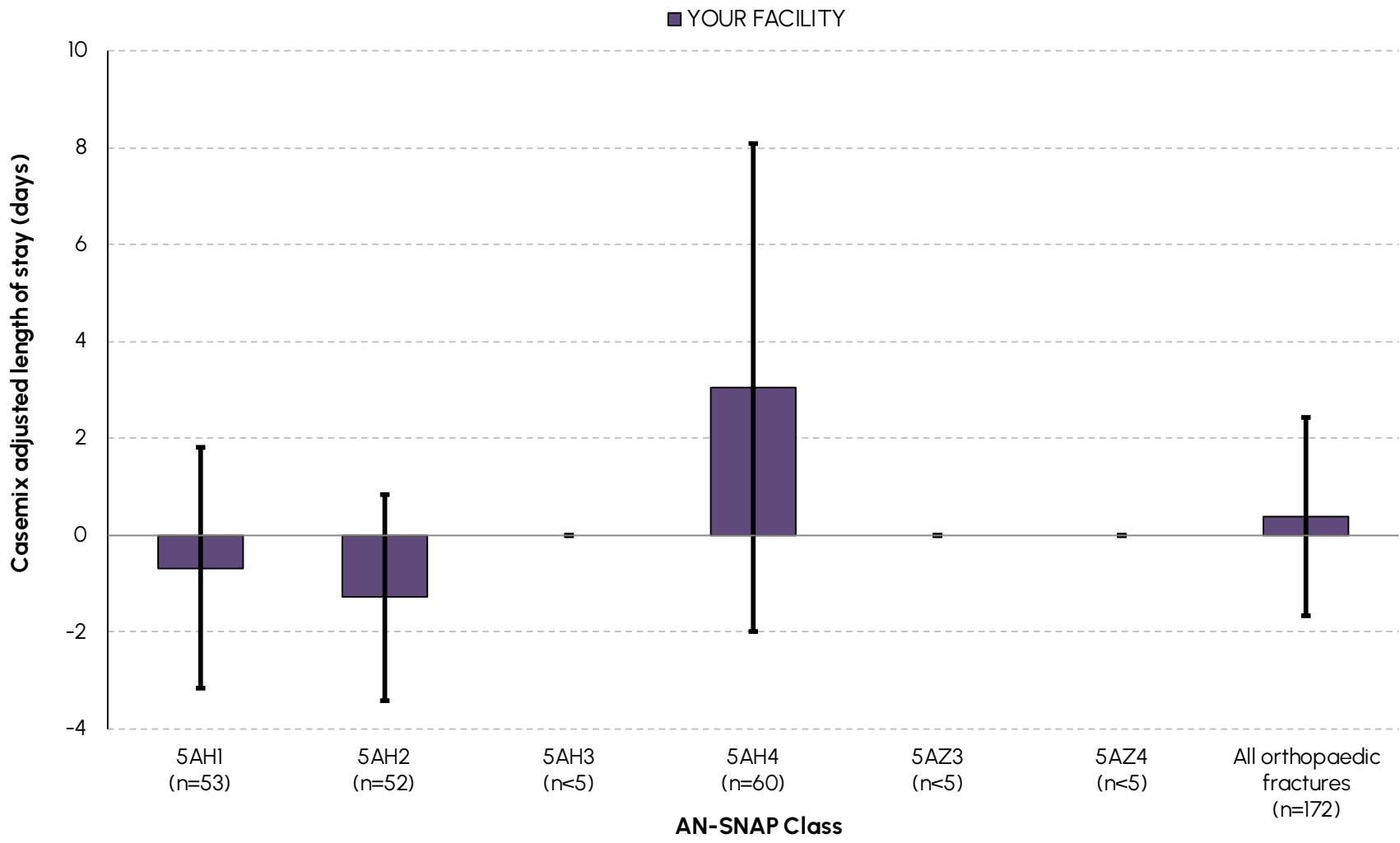
NOTE: Includes only completed episodes with valid LOS; where n<5 average LOS will not be shown

Average length of stay by AN-SNAP class



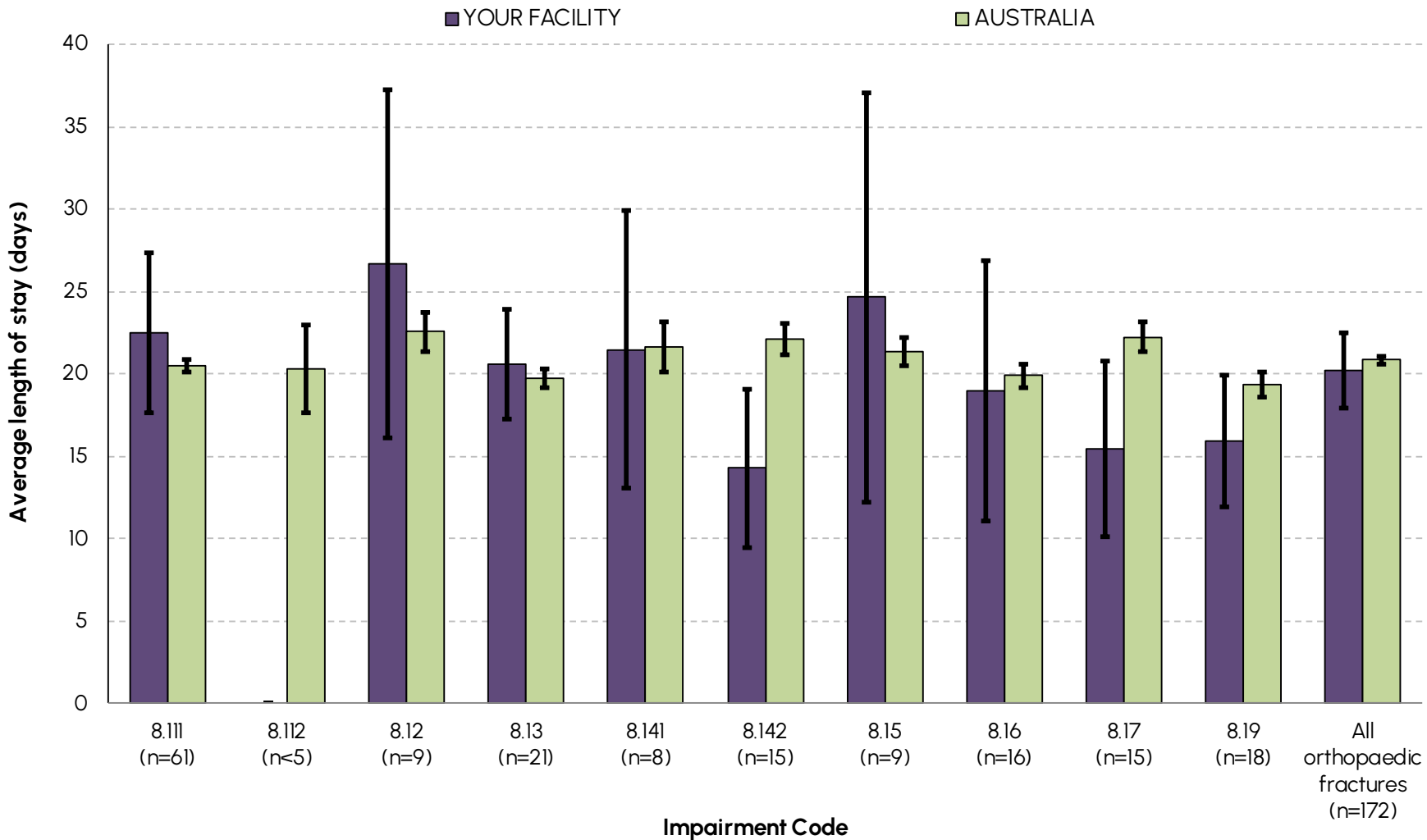
NOTE: Includes only completed episodes with valid LOS; where n<5 average LOS will not be shown

Casemix-adjusted relative mean length of stay by AN-SNAP class



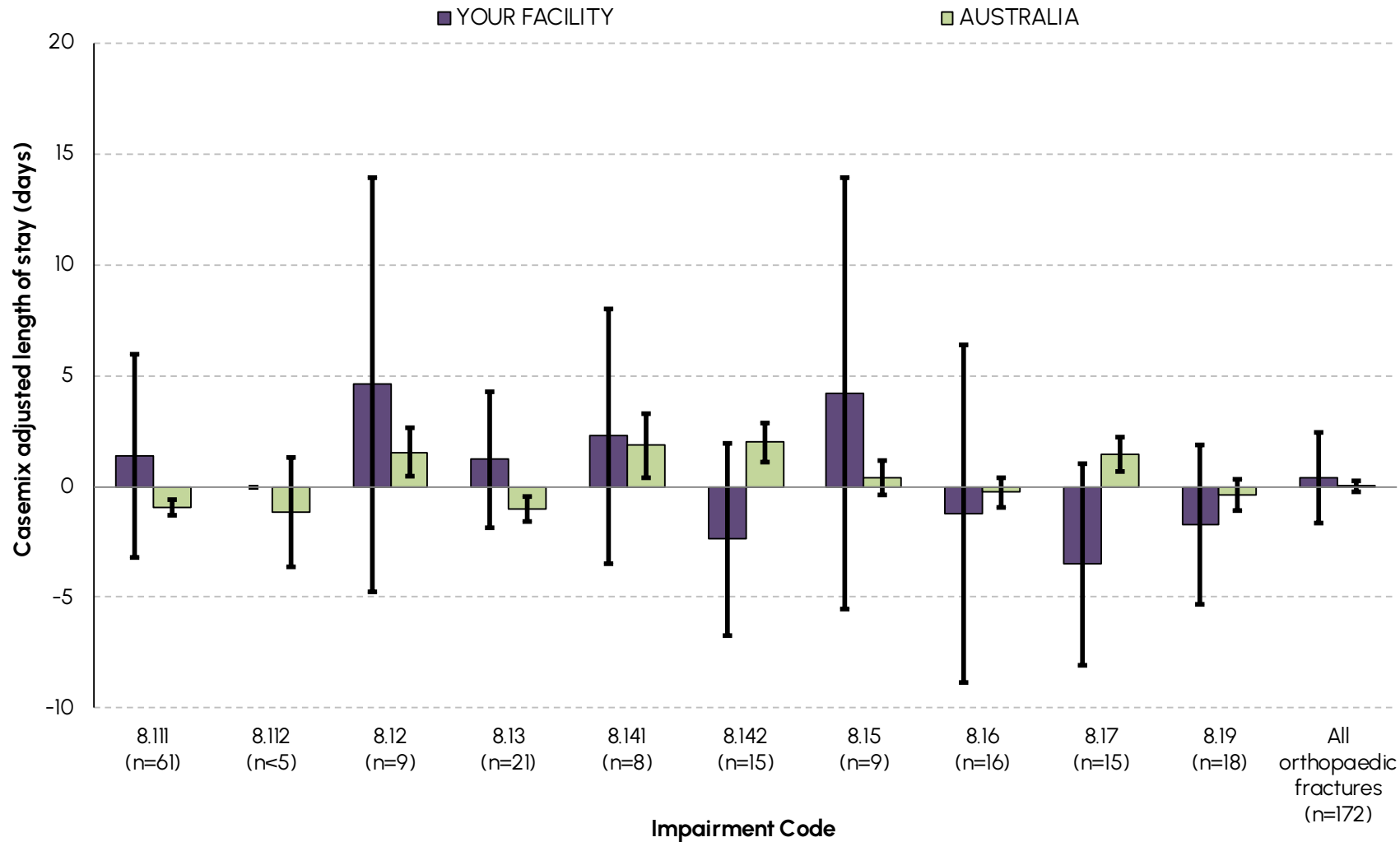
NOTE: Includes only completed episodes with valid LOS; where n<5 CARMi LOS will not be shown

Average length of stay by impairment



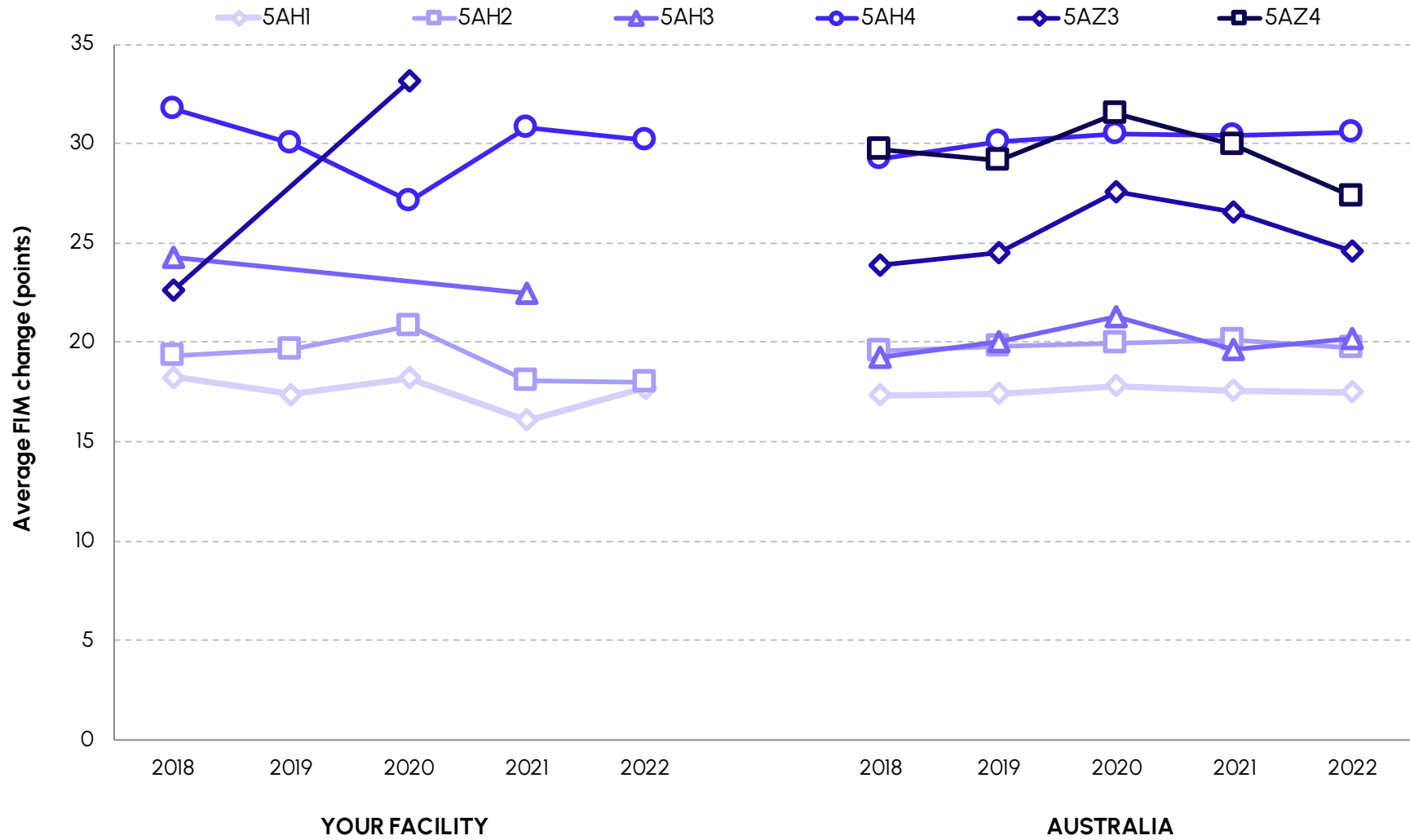
NOTE: Includes only completed episodes with valid LOS, where n<5 average LOS will not be shown

Casemix-adjusted relative mean length of stay by impairment



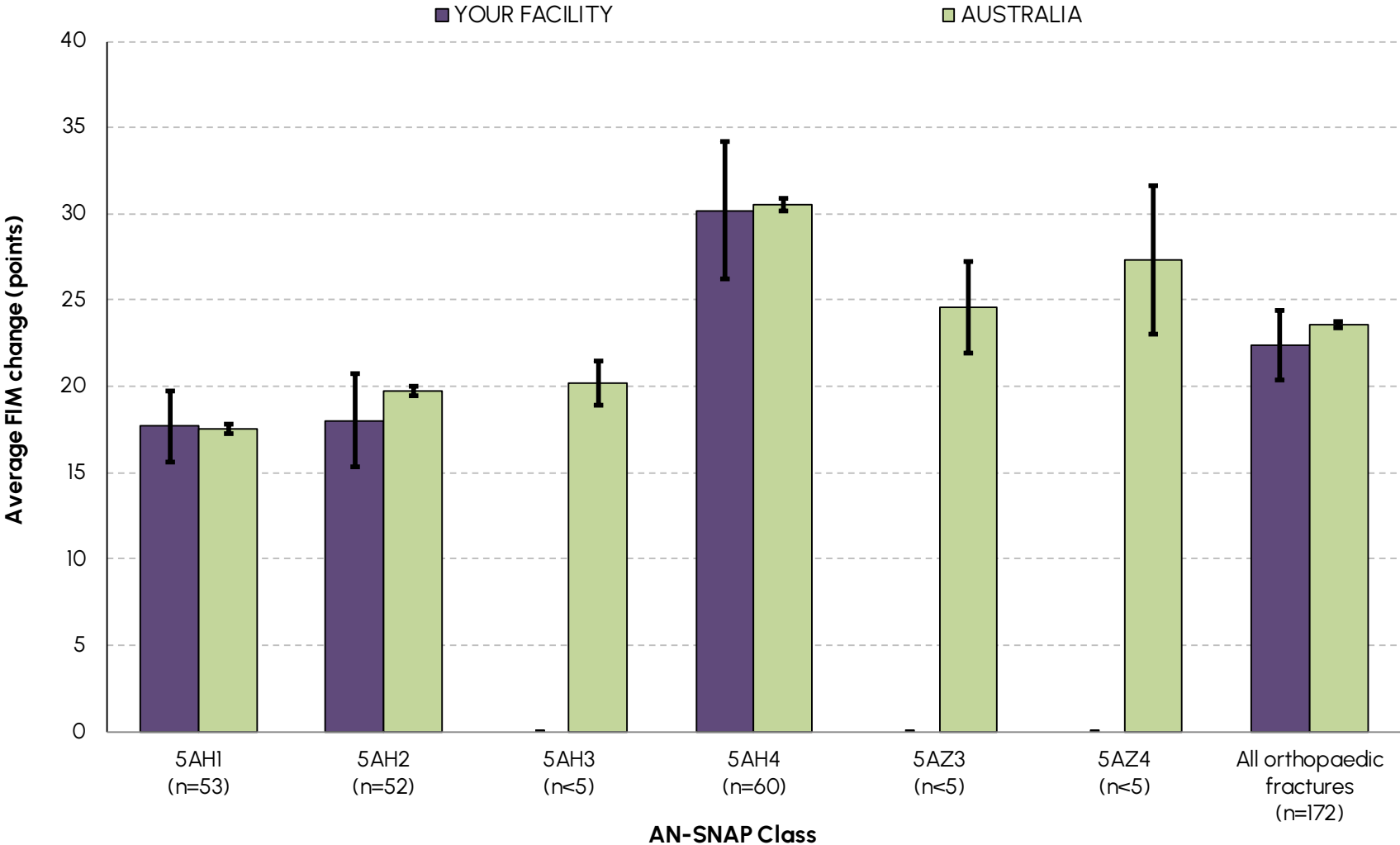
NOTE: Includes only completed episodes with valid LOS; where n<5 CARMi LOS will not be shown

Average FIM change by AN-SNAP class over time



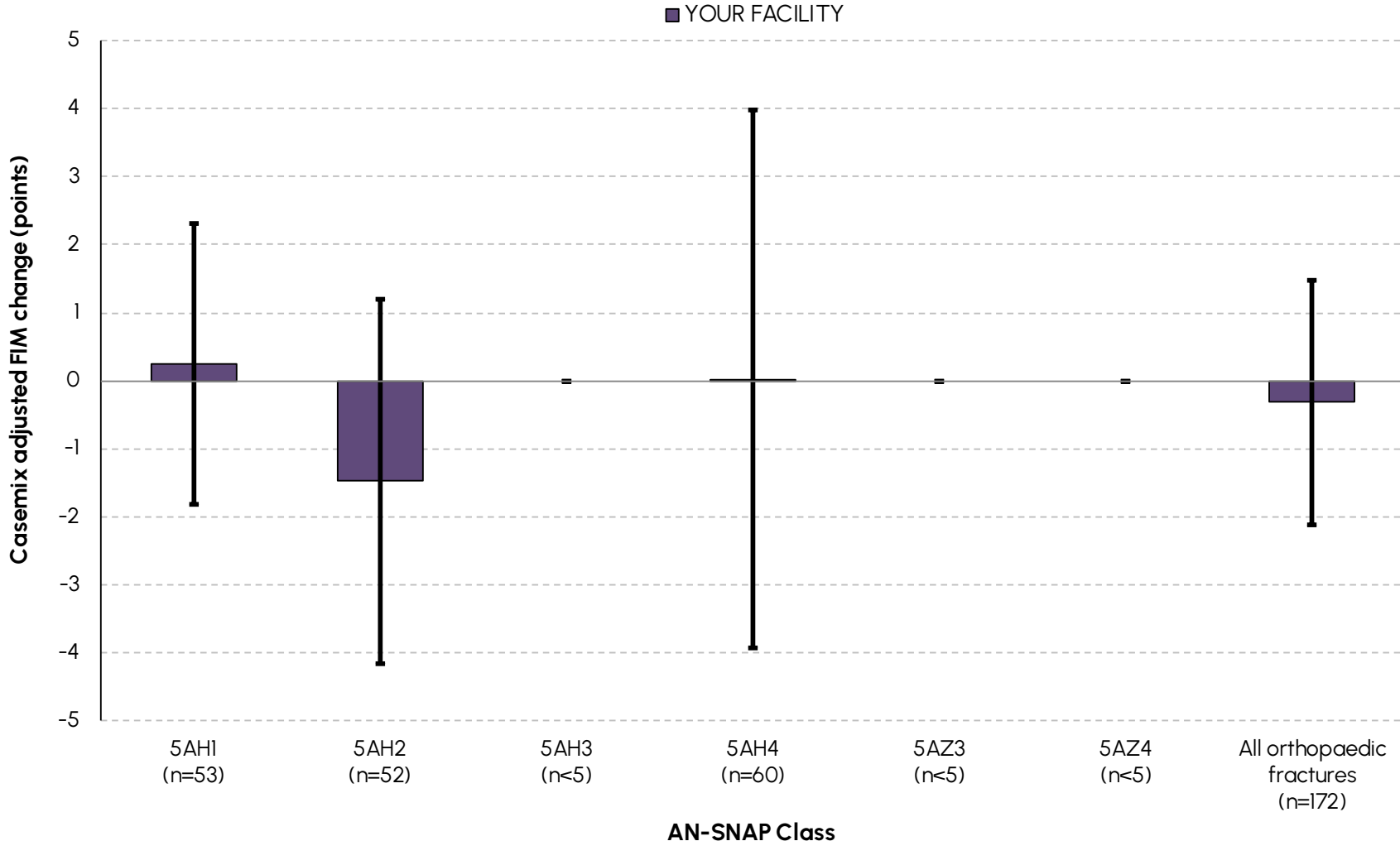
NOTE: Includes only completed episodes with valid FIM scores; where n<5 average FIM change will not be shown

Average FIM change by AN-SNAP class



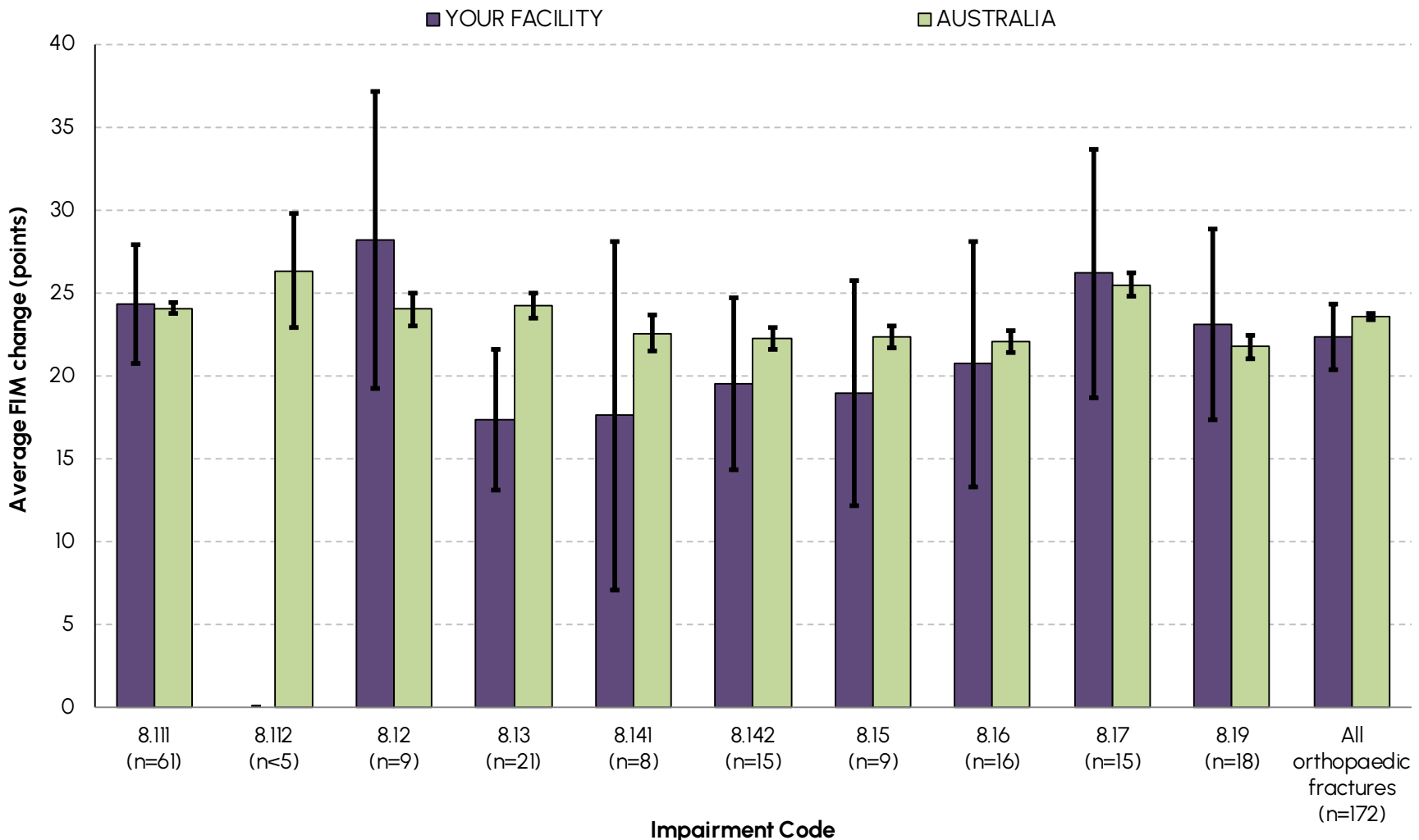
NOTE: Includes only completed episodes with valid FIM scores; where n<5 average FIM change will not be shown

Casemix-adjusted relative mean FIM change by AN-SNAP class



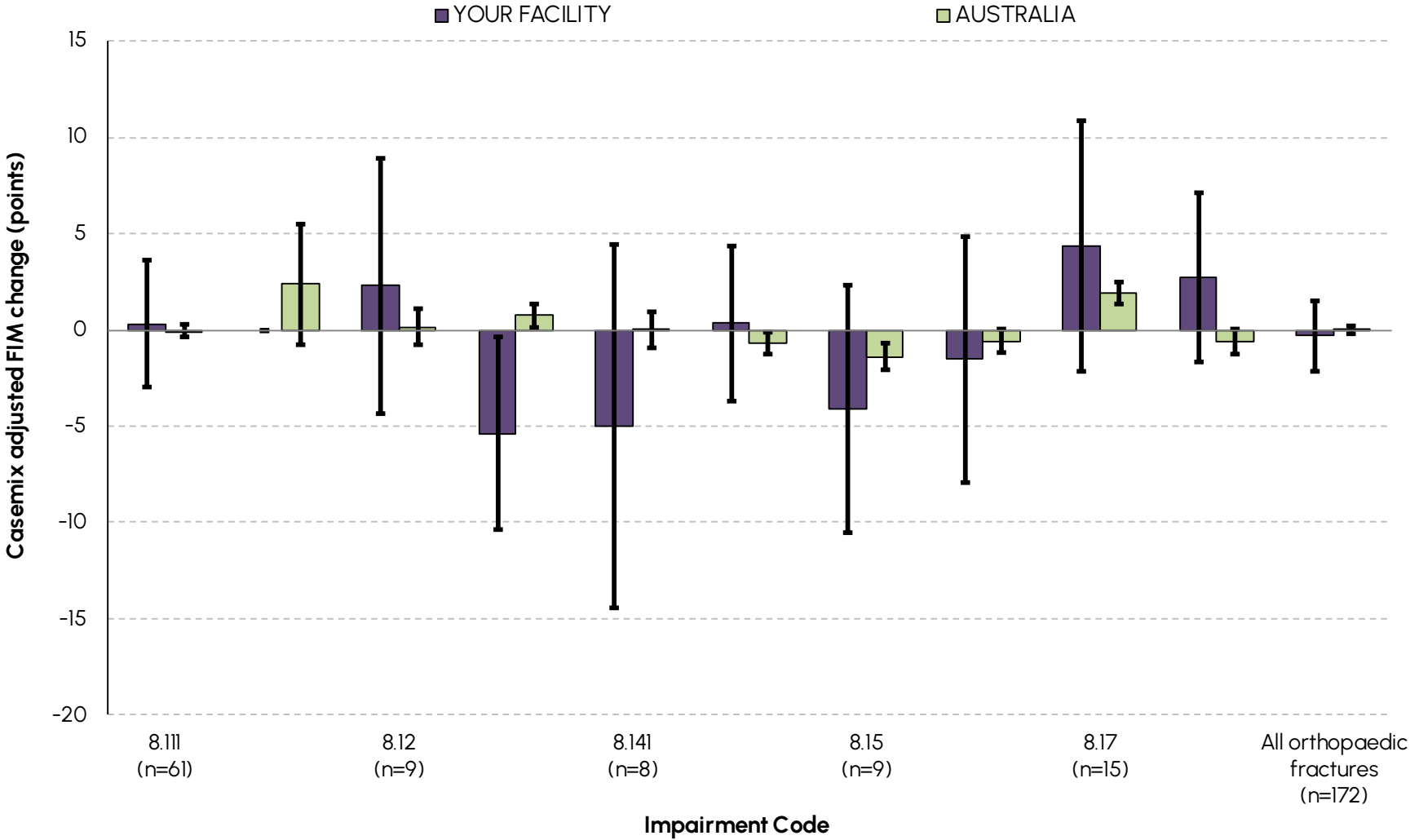
NOTE: Includes only completed episodes with valid FIM scores, where n<5 CARMI FIM change will not be shown

Average FIM change by impairment



NOTE: Includes only completed episodes with valid FIM scores, where n<5 average FIM change will not be shown

Casemix-adjusted relative mean FIM change by impairment



NOTE: Includes only completed episodes with valid FIM scores, where n<5 CARMI FIM change will not be shown

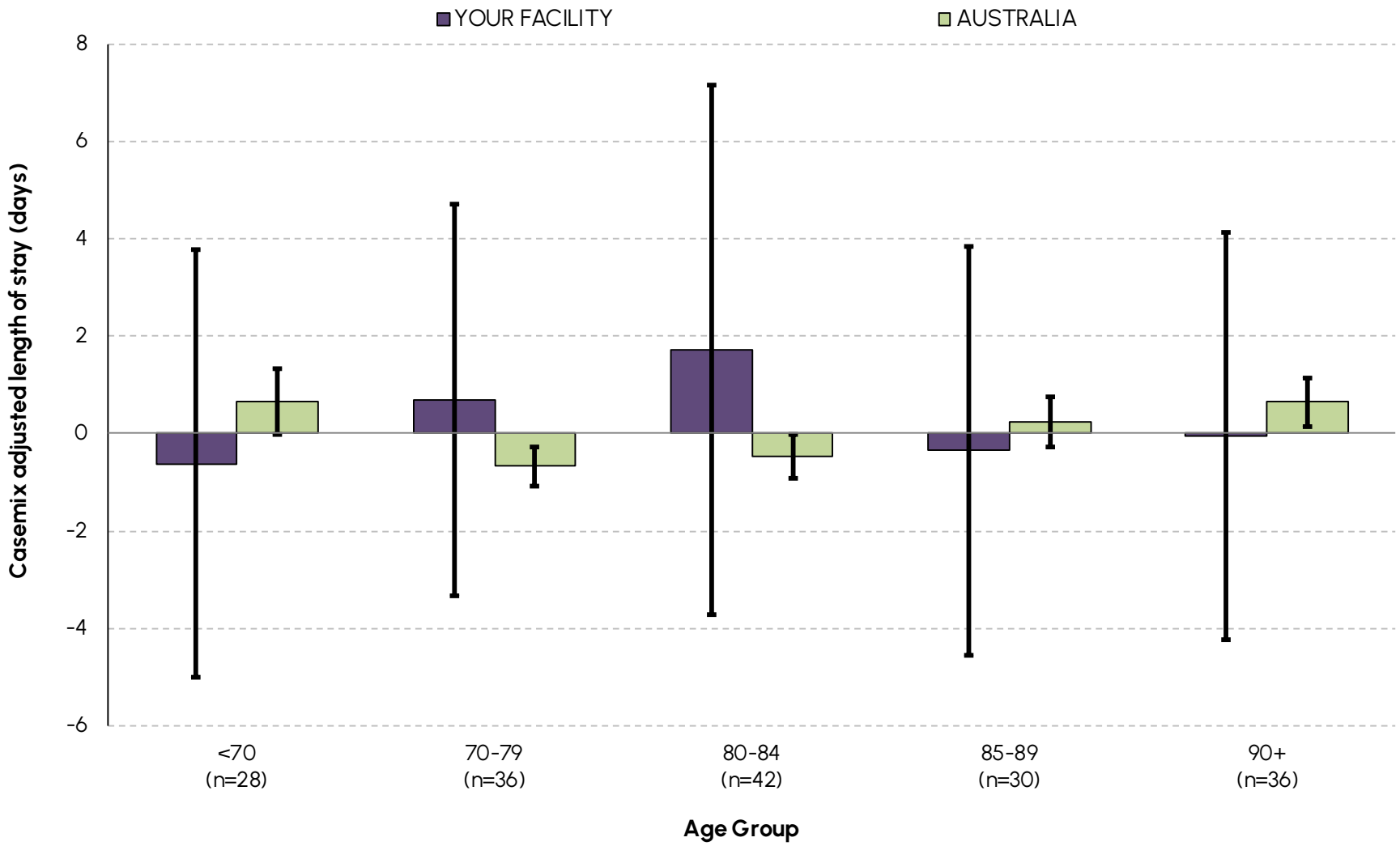
Casemix-adjusted relative mean and average length of stay and FIM change by AN-SNAP class and impairment

AN-SNAP class V5	YOUR FACILITY						AUSTRALIA											
	CARMI (95%CI)			Average (95%CI)			Average (95%CI)			Average (95%CI)								
	LOS	FIM change		LOS	FIM change		LOS	FIM change		LOS	FIM change							
5AH1 (motor 48-91, cognition 33-35)	-0.7	(-3.2 - 1.8)		0.3	(-1.8 - 2.3)		14.2	(11.7 - 16.7)		17.7	(15.6 - 19.8)		15.0	(14.7 - 15.2)		17.5	(17.2 - 17.8)	
5AH2 (motor 48-91, cognition 21-32)	-1.3	(-3.4 - 0.8)		-1.5	(-4.2 - 1.2)		15.9	(13.7 - 18.0)		18.0	(15.3 - 20.7)		17.3	(16.9 - 17.6)		19.7	(19.4 - 20.0)	
5AH3 (motor 48-91, cognition 5-20)	—	—		—	—		—	—		—	—		20.7	(19.3 - 22.1)		20.2	(18.9 - 21.5)	
5AH4 (motor 19-47)	3.0	(-2.0 - 8.1)		0.0	(-3.9 - 4.0)		28.8	(23.7 - 33.8)		30.2	(26.2 - 34.2)		26.5	(26.1 - 26.9)		30.6	(30.2 - 30.9)	
5AZ3 (motor 13-18, Age ≥ 79)	—	—		—	—		—	—		—	—		31.8	(29.3 - 34.4)		24.6	(22.0 - 27.2)	
5AZ4 (motor 13-18, Age 18-78)	—	—		—	—		—	—		—	—		42.6	(33.7 - 51.5)		27.3	(23.0 - 31.7)	
All Fracture AN-SNAP classes	0.4	(-1.7 - 2.4)		-0.3	(-2.1 - 1.5)		20.2	(17.9 - 22.4)		22.4	(20.4 - 24.4)		20.9	(20.6 - 21.2)		23.6	(23.4 - 23.8)	

Impairment	YOUR FACILITY						AUSTRALIA											
	CARMI (95%CI)			Average (95%CI)			Average (95%CI)			Average (95%CI)								
	LOS	FIM change		LOS	FIM change		LOS	FIM change		LOS	FIM change							
8.111 Fracture of hip, unilateral	1.4	(-3.2 - 5.9)		0.3	(-3.0 - 3.6)		22.5	(17.7 - 27.4)		24.4	(20.8 - 28.0)		20.5	(20.1 - 20.9)		24.1	(23.8 - 24.4)	
8.112 Fracture of hip, bilateral	—	—		—	—		—	—		—	—		20.3	(17.7 - 23.0)		26.4	(23.0 - 29.8)	
8.12 Fracture of shaft of femur	4.6	(-4.8 - 14.0)		2.3	(-4.3 - 8.9)		26.7	(16.1 - 37.2)		28.2	(19.2 - 37.2)		22.6	(21.4 - 23.8)		24.0	(23.0 - 25.1)	
8.13 Fracture of pelvis	1.2	(-1.8 - 4.3)		-5.4	(-10.4 - -0.4)		20.6	(17.3 - 24.0)		17.3	(13.1 - 21.6)		19.7	(19.2 - 20.3)		24.3	(23.5 - 25.0)	
8.141 Fracture of knee	2.3	(-3.5 - 8.0)		-5.0	(-14.4 - 4.4)		21.5	(13.1 - 29.9)		17.6	(7.1 - 28.1)		21.6	(20.1 - 23.2)		22.6	(21.5 - 23.7)	
8.142 Fracture of leg, ankle, foot	-2.4	(-6.7 - 1.9)		0.4	(-3.7 - 4.4)		14.3	(9.5 - 19.0)		19.5	(14.4 - 24.7)		22.1	(21.2 - 23.1)		22.2	(21.6 - 22.9)	
8.15 Fracture of upper limb	4.2	(-5.5 - 13.9)		-4.1	(-10.5 - 2.3)		24.7	(12.2 - 37.1)		19.0	(12.2 - 25.8)		21.4	(20.5 - 22.2)		22.4	(21.7 - 23.1)	
8.16 Fracture of spine	-1.2	(-8.9 - 6.4)		-1.5	(-8.0 - 4.9)		19.0	(11.1 - 26.9)		20.8	(13.3 - 28.2)		19.9	(19.2 - 20.6)		22.1	(21.4 - 22.7)	
8.17 Fracture of multiple sites	-3.5	(-8.0 - 1.0)		4.3	(-2.1 - 10.8)		15.5	(10.2 - 20.8)		26.2	(18.7 - 33.7)		22.2	(21.4 - 23.1)		25.5	(24.8 - 26.2)	
8.19 Other orthopaedic fracture	-1.7	(-5.3 - 1.9)		2.7	(-1.6 - 7.1)		15.9	(11.9 - 20.0)		23.1	(17.3 - 28.9)		19.4	(18.6 - 20.2)		21.8	(21.0 - 22.5)	
All Orthopaedic Fractures	0.4	(-1.7 - 2.4)		-0.3	(-2.1 - 1.5)		20.2	(17.9 - 22.4)		22.4	(20.4 - 24.4)		20.9	(20.6 - 21.2)		23.6	(23.4 - 23.8)	

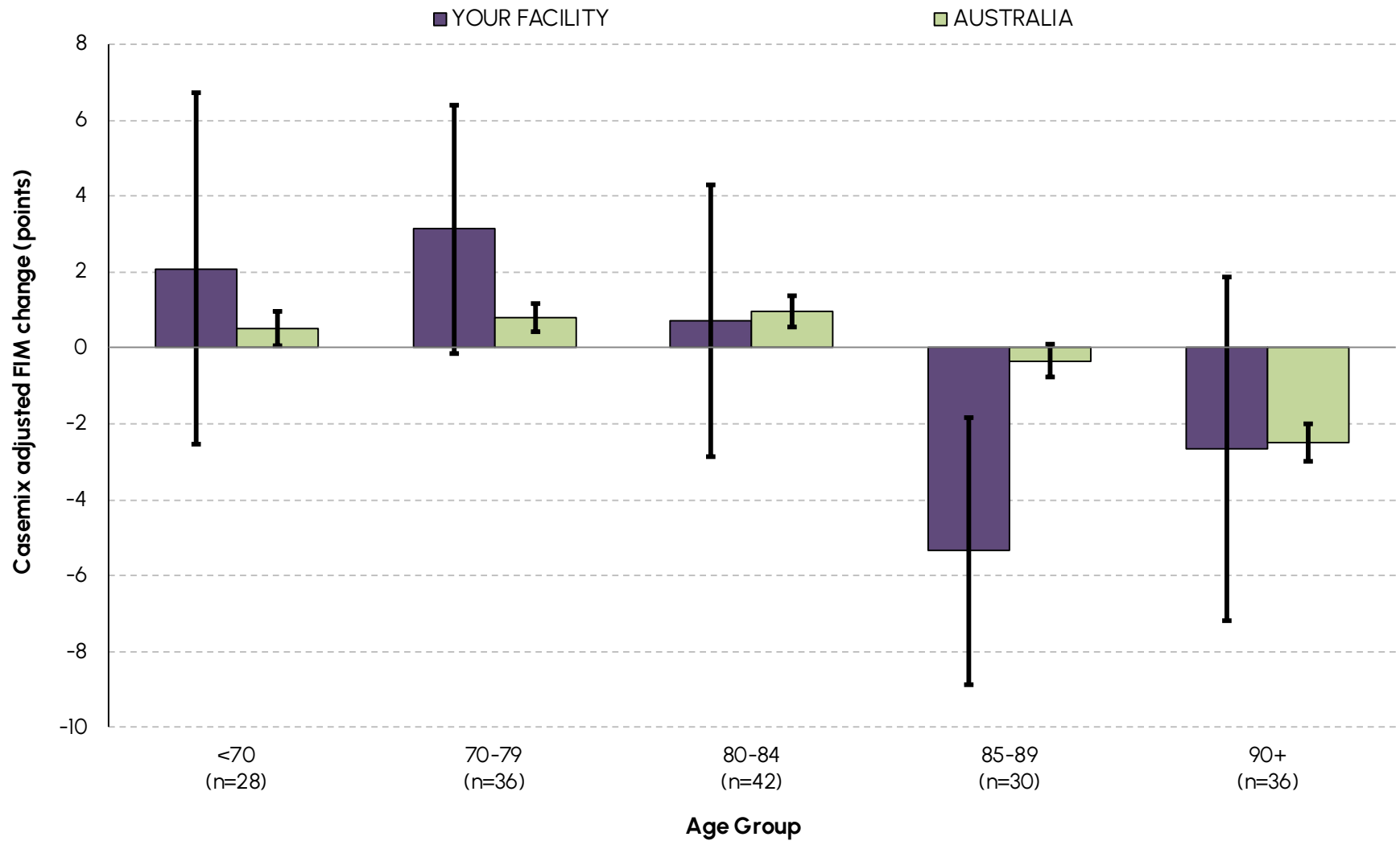
NOTE: Includes only completed episodes with valid FIM scores and LOS, where n<5 no values provided

Casemix-adjusted relative mean length of stay by age group*



NOTE: Includes only completed episodes with valid LOS and age, where n<5 CARMi LOS will not be shown
 * Approximately 20% total population per age group

Casemix-adjusted relative mean FIM change by age group*



NOTE: Includes only completed episodes with valid FIM scores and age, where n<5 CARMI FIM change will not be shown
 * Approximately 20% total population per age group

Average and casemix-adjusted relative mean length of stay and FIM change by age group*

Age group	YOUR FACILITY				AUSTRALIA			
	LOS (95%CI)		FIM change (95%CI)		LOS (95%CI)		FIM change (95%CI)	
<70	16.8	(11.4 – 22.2)	22.3	(16.2 – 28.4)	20.5	(19.7 – 21.2)	22.9	(22.4 – 23.5)
70-79	18.9	(14.4 – 23.5)	24.2	(20.2 – 28.2)	19.8	(19.3 – 20.2)	23.9	(23.5 – 24.3)
80-84	23.0	(17.4 – 28.6)	25.5	(21.6 – 29.4)	20.3	(19.8 – 20.8)	24.5	(24.0 – 24.9)
85-89	19.1	(14.7 – 23.5)	16.8	(13.0 – 20.6)	21.6	(21.0 – 22.1)	23.8	(23.4 – 24.3)
90+	21.8	(17.0 – 26.7)	21.7	(17.2 – 26.2)	22.8	(22.3 – 23.4)	22.4	(21.9 – 23.0)

Age group	YOUR FACILITY				AUSTRALIA			
	CARMi LOS (95%CI)		ΔARMI FIM change (95%CI)		CARMi LOS (95%CI)		ΔARMI FIM change (95%CI)	
<70	-0.6	(-5.0 – 3.8)	2.1	(-2.5 – 6.7)	0.7	(0.0 – 1.3)	0.5	(0.1 – 1.0)
70-79	0.7	(-3.3 – 4.7)	3.1	(-0.2 – 6.4)	-0.7	(-1.1 – -0.3)	0.8	(0.4 – 1.2)
80-84	1.7	(-3.7 – 7.2)	0.7	(-2.9 – 4.3)	-0.5	(-0.9 – 0.0)	1.0	(0.5 – 1.4)
85-89	-0.3	(-4.5 – 3.8)	-5.3	(-8.9 – -1.8)	0.2	(-0.3 – 0.8)	-0.3	(-0.8 – 0.1)
90+	0.0	(-4.2 – 4.1)	-2.7	(-7.2 – 1.9)	0.6	(0.1 – 1.1)	-2.5	(-3.0 – -2.0)

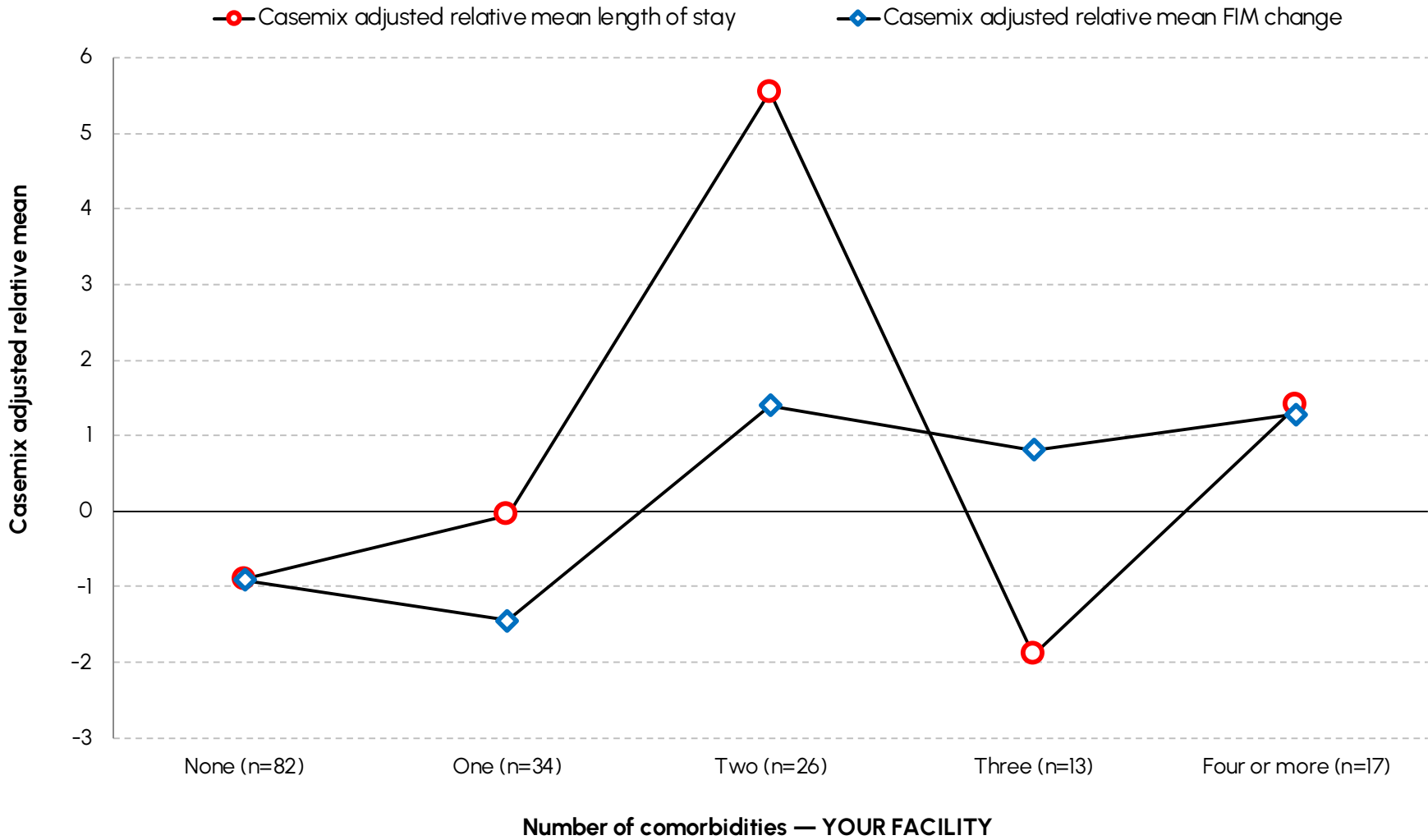
NOTE: Includes only completed episodes with valid FIM scores and LOS and age, where n<5 no values provided

*Approximately 20% national population per age group



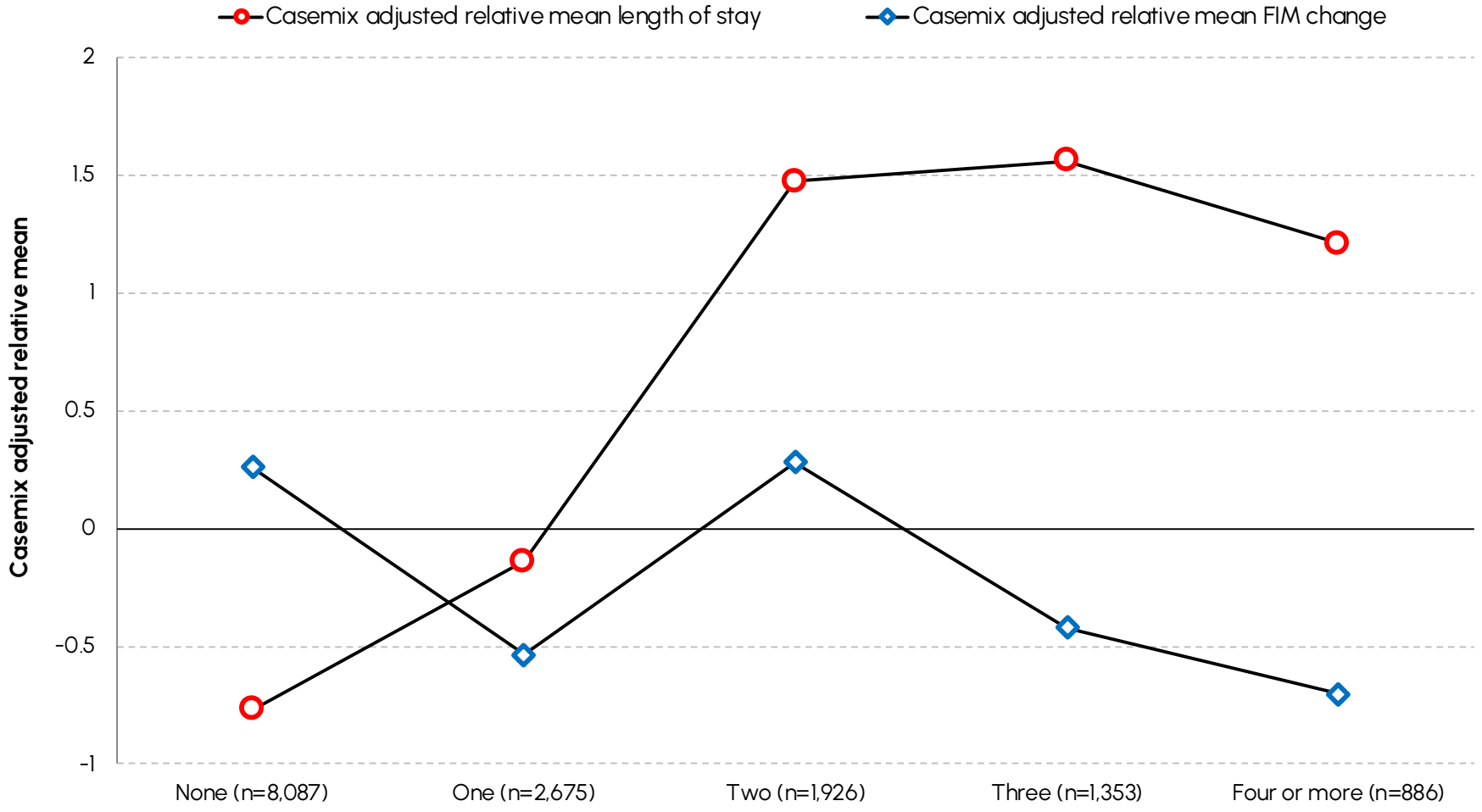
Explanatory data

Casemix-adjusted relative mean length of stay and FIM change by number of comorbidities



NOTE: Includes only completed episodes with valid FIM scores and LOS; where n<5 the casemix-adjusted relative mean will not be shown

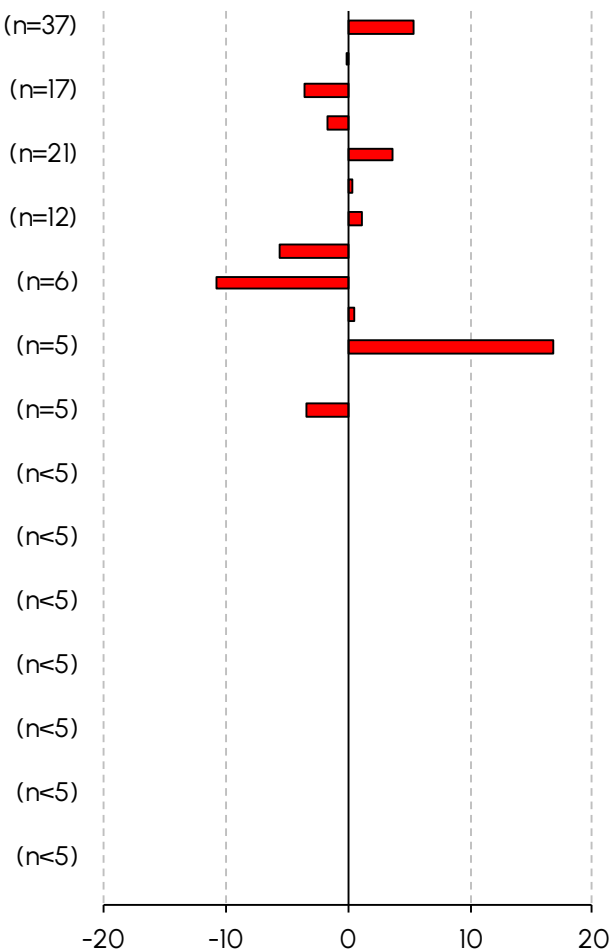
Casemix-adjusted relative mean length of stay and FIM change by number of comorbidities



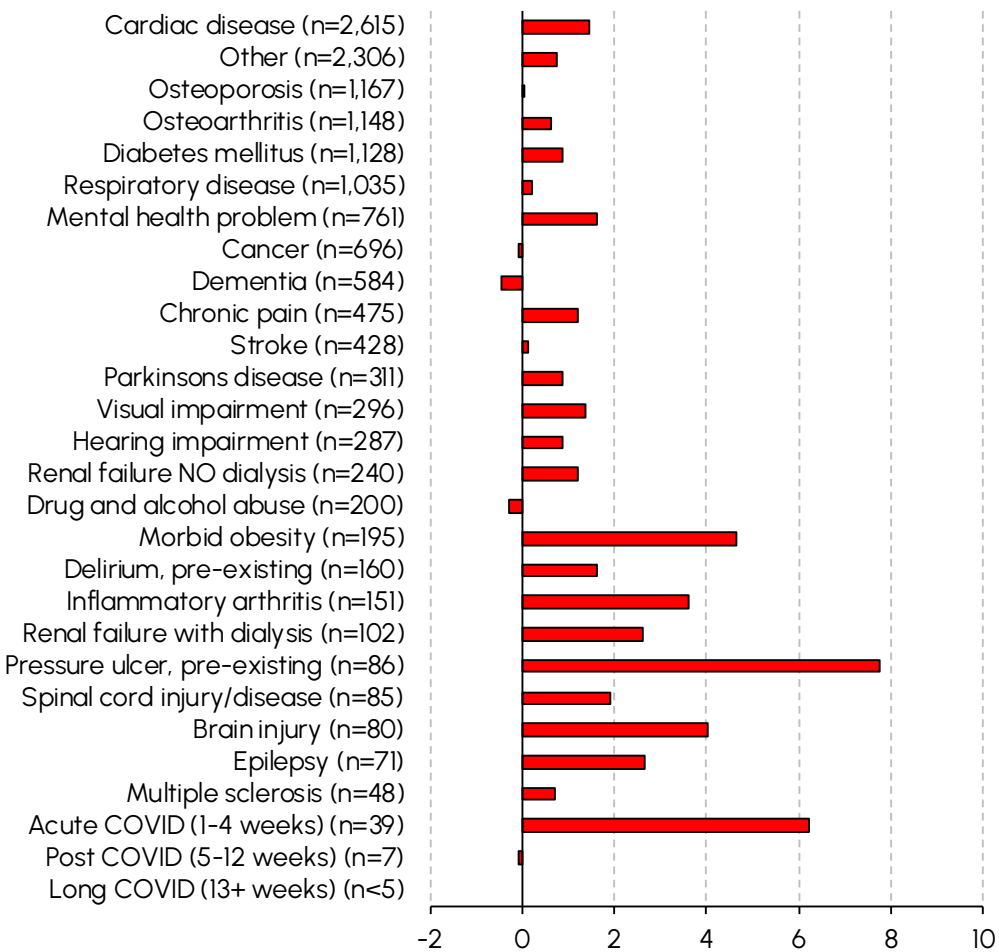
Number of comorbidities — AUSTRALIA

NOTE: Includes only completed episodes with valid FIM scores and LOS; where n<5 the casemix-adjusted relative mean will not be shown

Casemix-adjusted relative mean length of stay by type of comorbidity



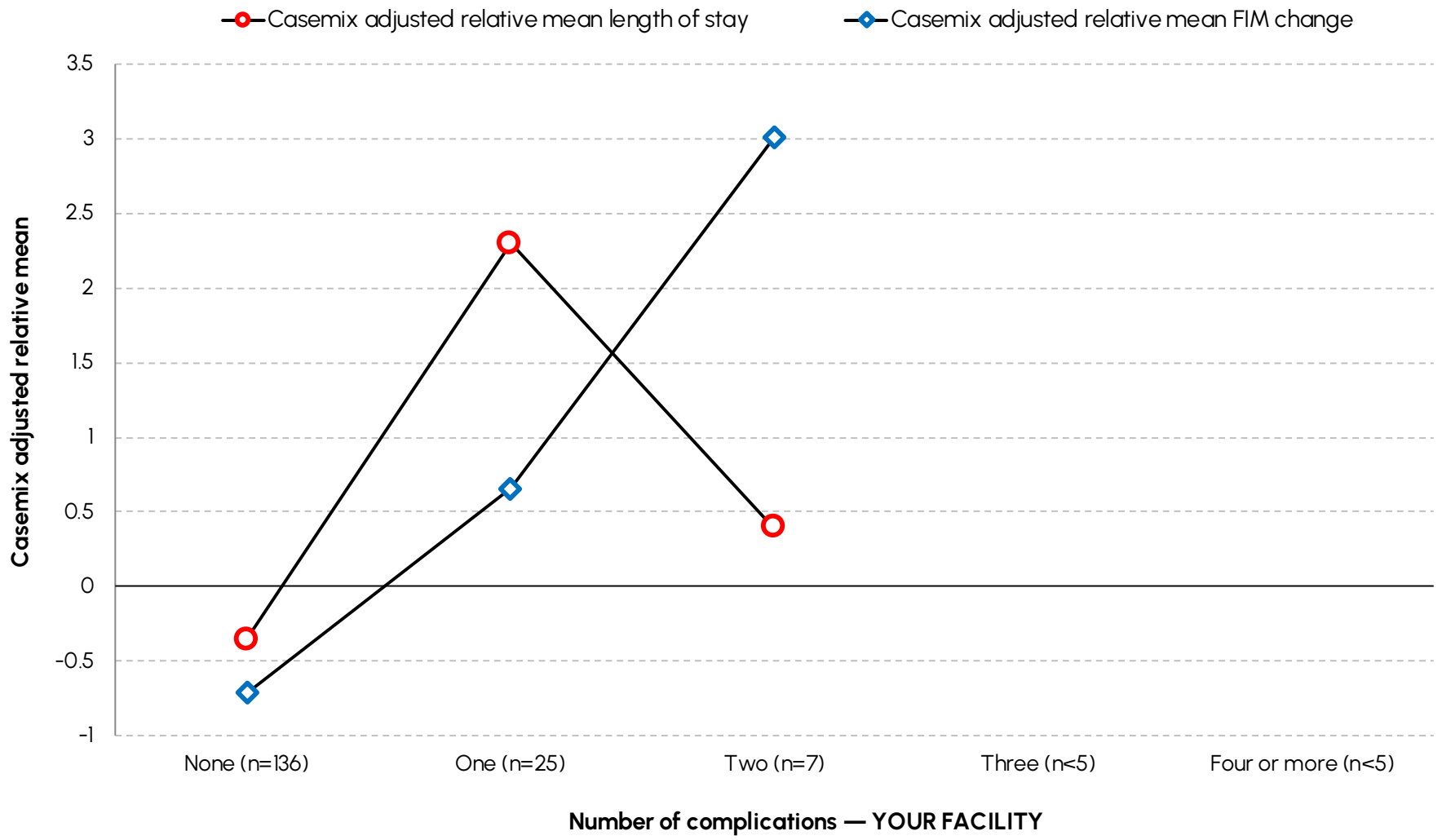
CARMIL OS — YOUR FACILITY



CARMIL OS — AUSTRALIA

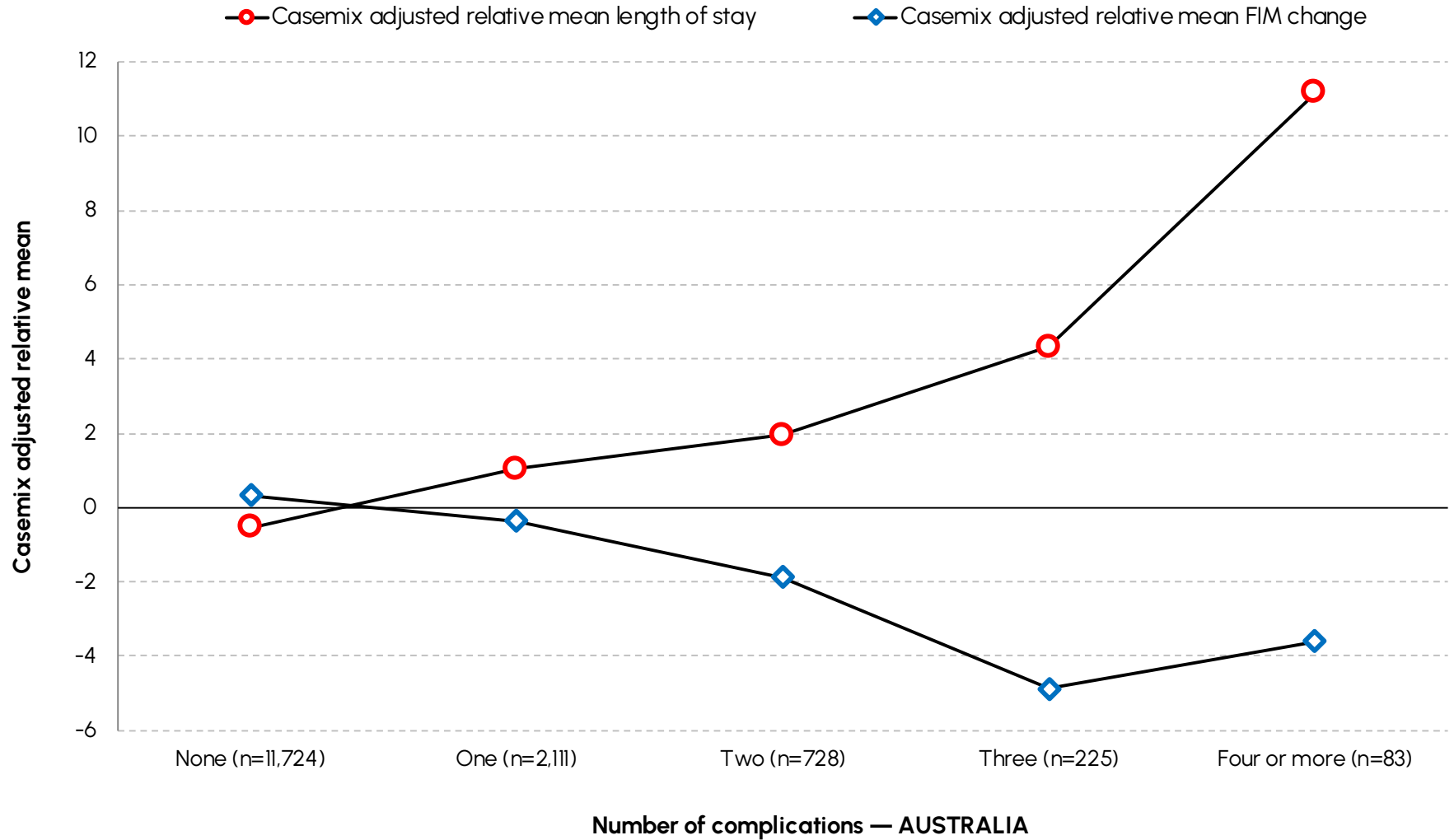
NOTE: Includes only completed episodes with valid LOS
 * No data included where number of episodes <5

Casemix-adjusted relative mean length of stay and FIM change by number of complications



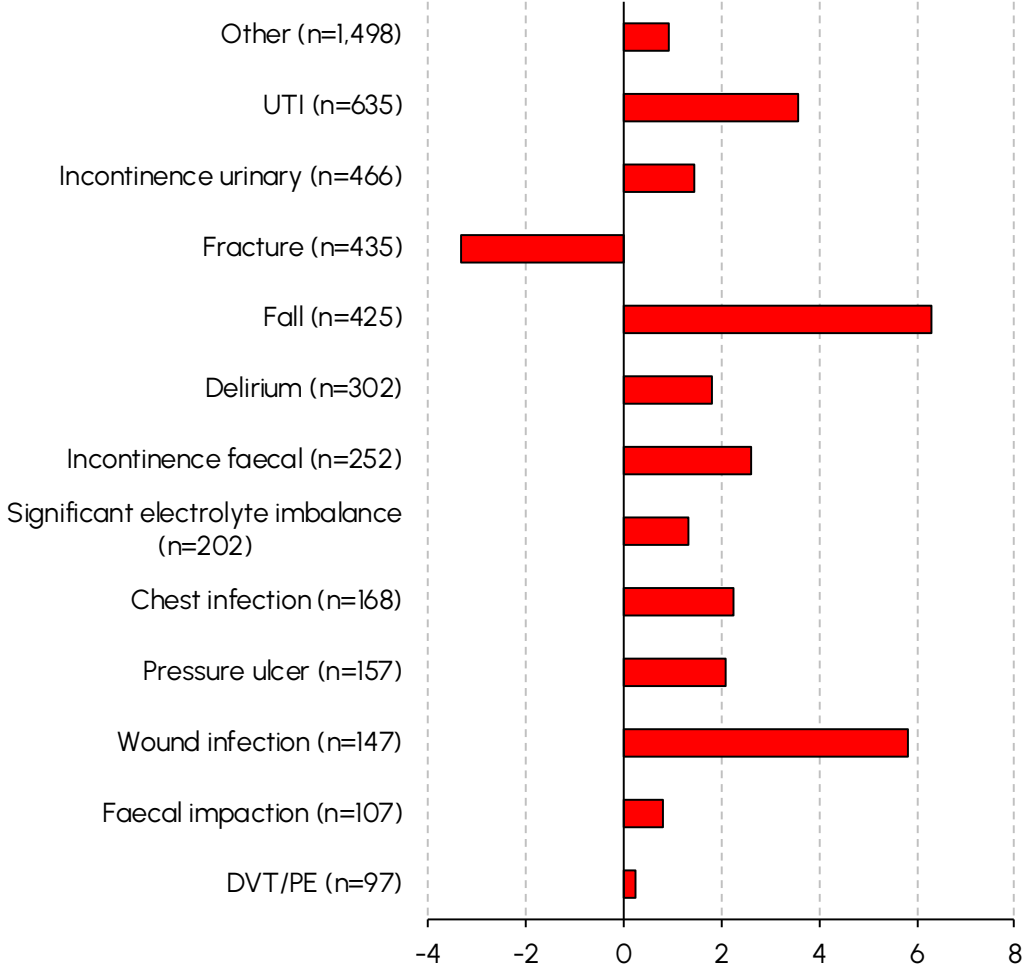
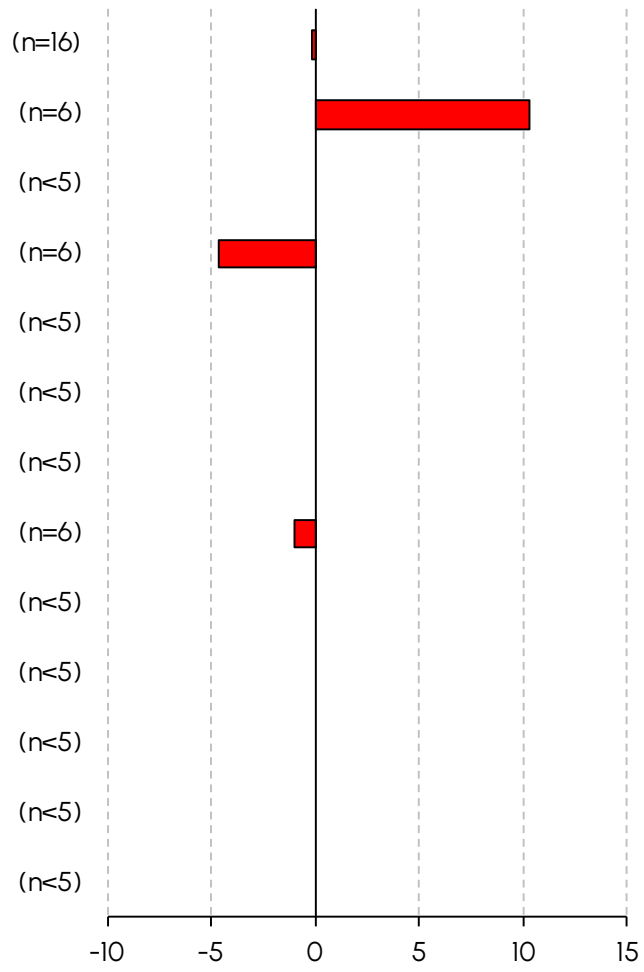
NOTE: Includes only completed episodes with valid FIM scores and LOS; where n<5 the casemix-adjusted relative mean will not be shown

Casemix-adjusted relative mean length of stay and FIM change by number of complications



NOTE: Includes only completed episodes with valid FIM scores and LOS; where n<5 the casemix-adjusted relative mean will not be shown

Casemix-adjusted relative mean length of stay by type of complication

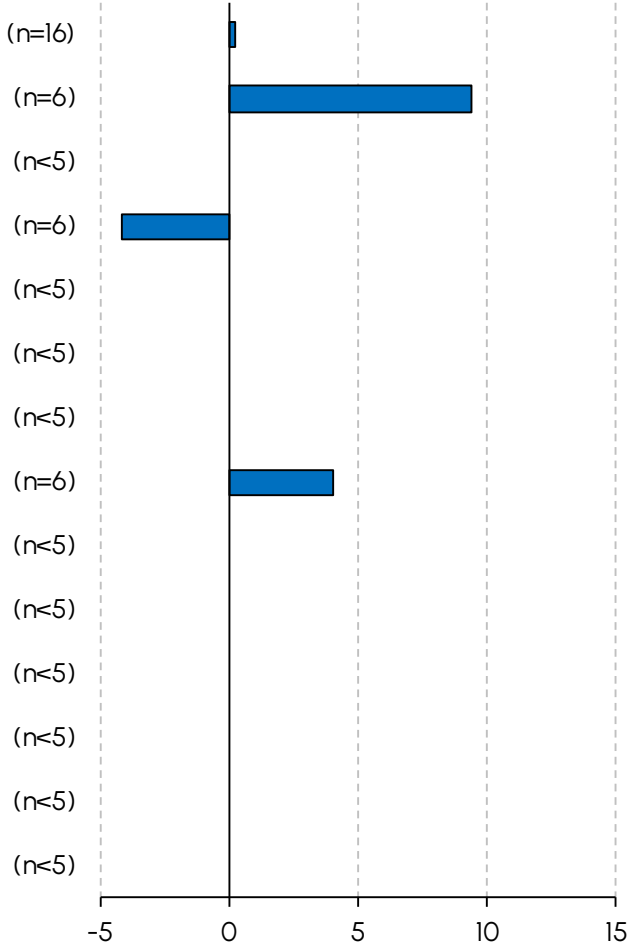


CARMILOS — YOUR FACILITY

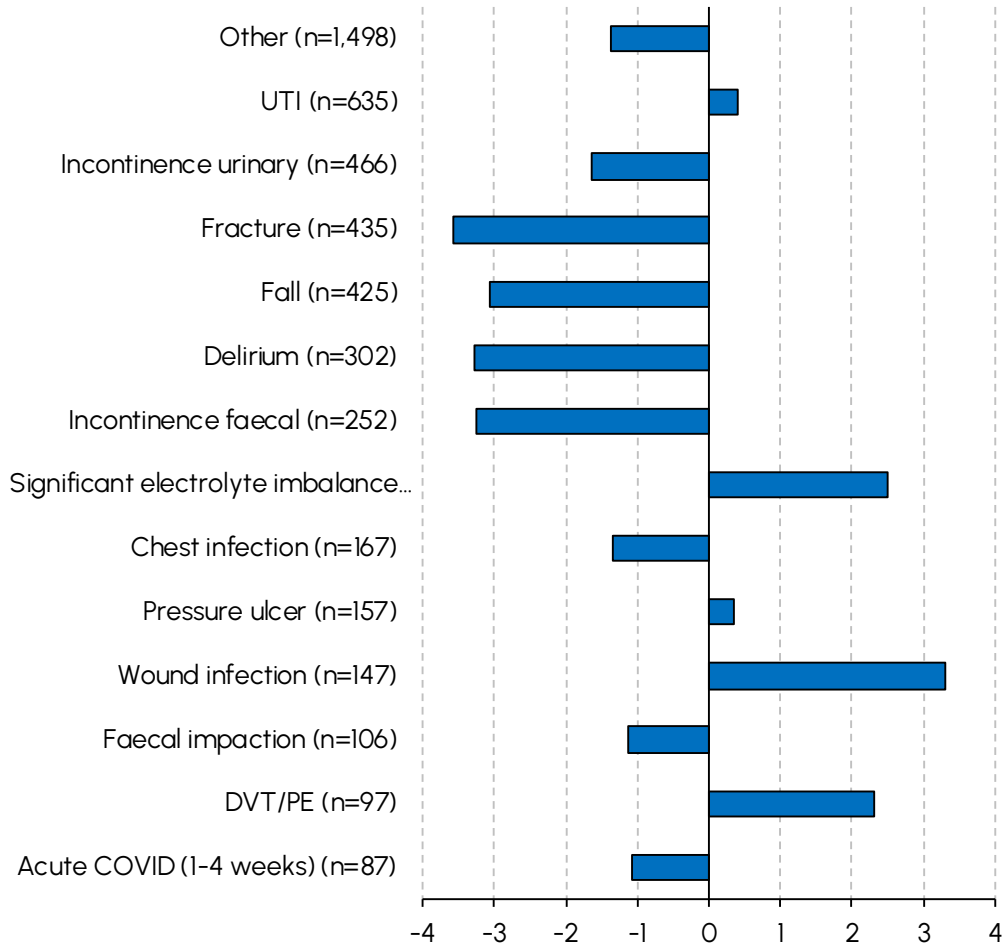
NOTE: Includes only completed episodes with valid LOS
 * No data included where number of episodes <5

CARMILOS — AUSTRALIA

Casemix-adjusted relative mean FIM change by type of complication



CARMi FIM change — YOUR FACILITY



CARMi FIM change — AUSTRALIA

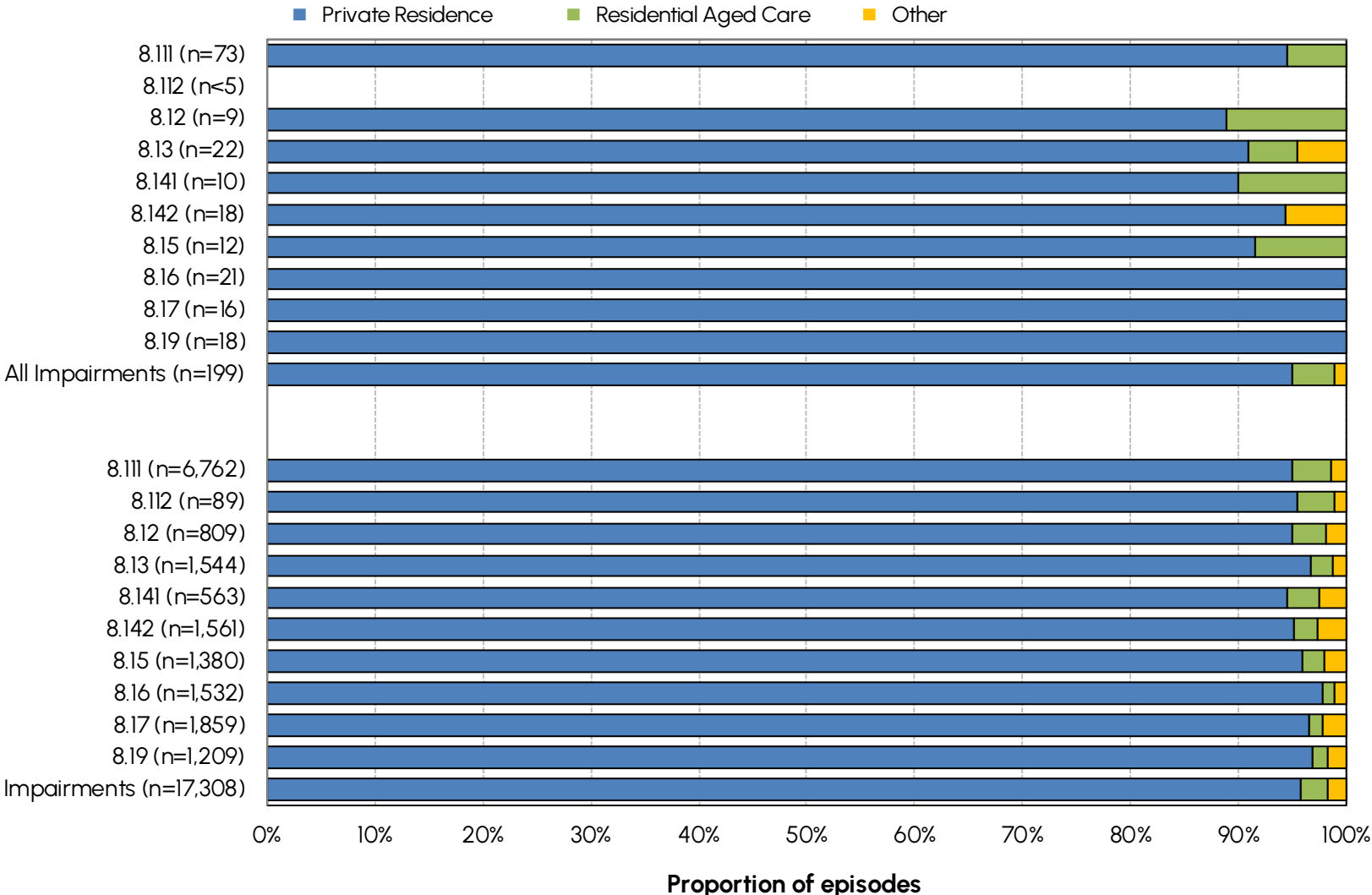
NOTE: Includes only completed episodes with valid FIM scores
 * No data included where number of episodes <5

Type of accommodation prior to impairment



YOUR FACILITY

AUSTRALIA

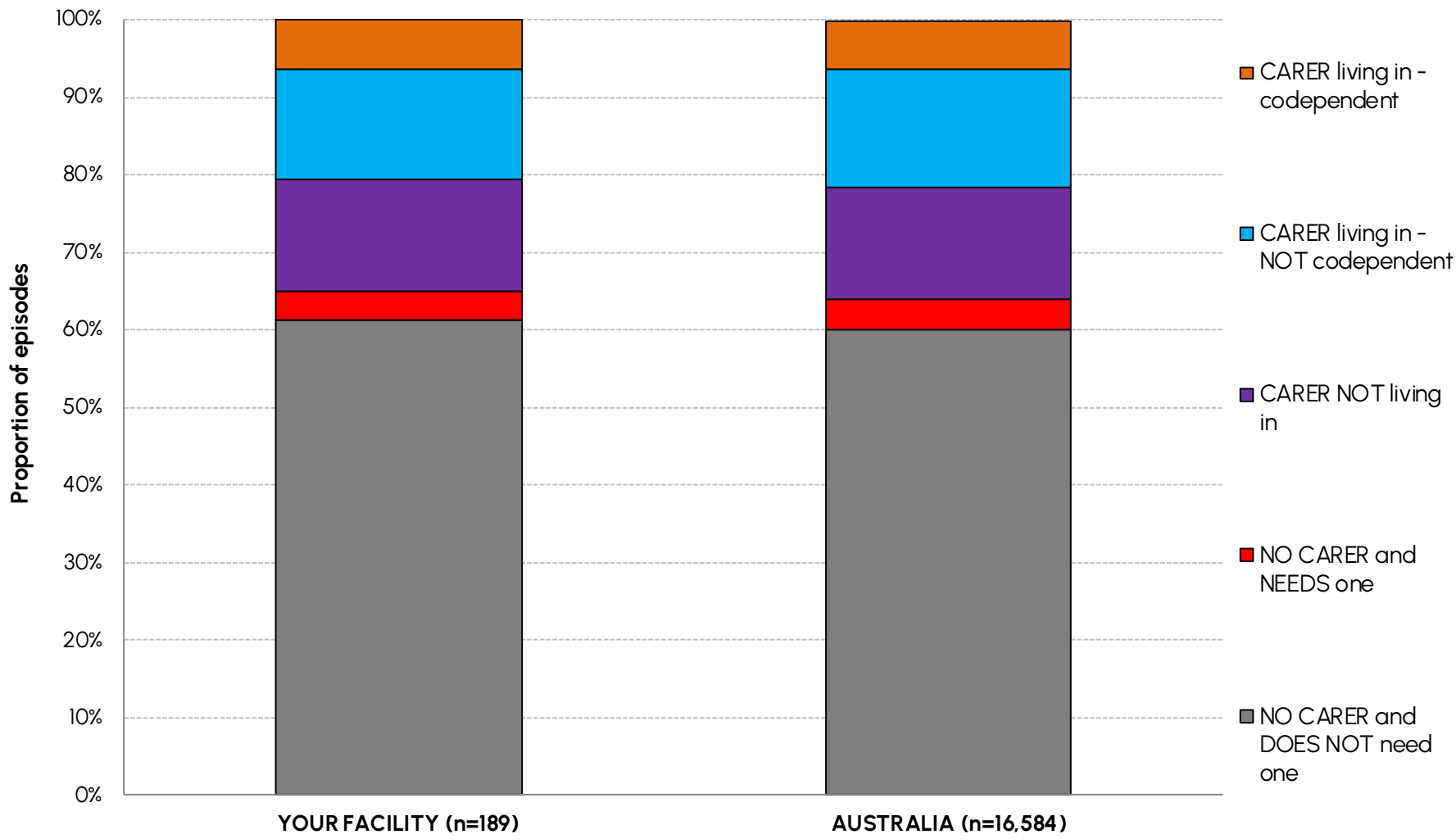


Type of accommodation prior to impairment

Impairment	YOUR FACILITY — N (%)				
	Private residence	Residential Aged Care	Other	Unknown	All episodes
8.111 Fracture of hip, unilateral	69 (93.2)	4 (5.4)	0 (0.0)	1	74 (100.0)
8.112 Fracture of hip, bilateral	0 —	0 —	0 —	0	0 —
8.12 Fracture of shaft of femur	8 (88.9)	1 (11.1)	0 (0.0)	0	9 (100.0)
8.13 Fracture of pelvis	20 (90.9)	1 (4.5)	1 (4.5)	0	22 (100.0)
8.141 Fracture of knee	9 (90.0)	1 (10.0)	0 (0.0)	0	10 (100.0)
8.142 Fracture of leg, ankle, foot	17 (94.4)	0 (0.0)	1 (5.6)	0	18 (100.0)
8.15 Fracture of upper limb	11 (91.7)	1 (8.3)	0 (0.0)	0	12 (100.0)
8.16 Fracture of spine	21 (100.0)	0 (0.0)	0 (0.0)	0	21 (100.0)
8.17 Fracture of multiple sites	16 (100.0)	0 (0.0)	0 (0.0)	0	16 (100.0)
8.19 Other orthopaedic fracture	18 (100.0)	0 (0.0)	0 (0.0)	0	18 (100.0)
All Orthopaedic Fractures	189 (94.5)	8 (4.0)	2 (1.0)	1	200 (100.0)

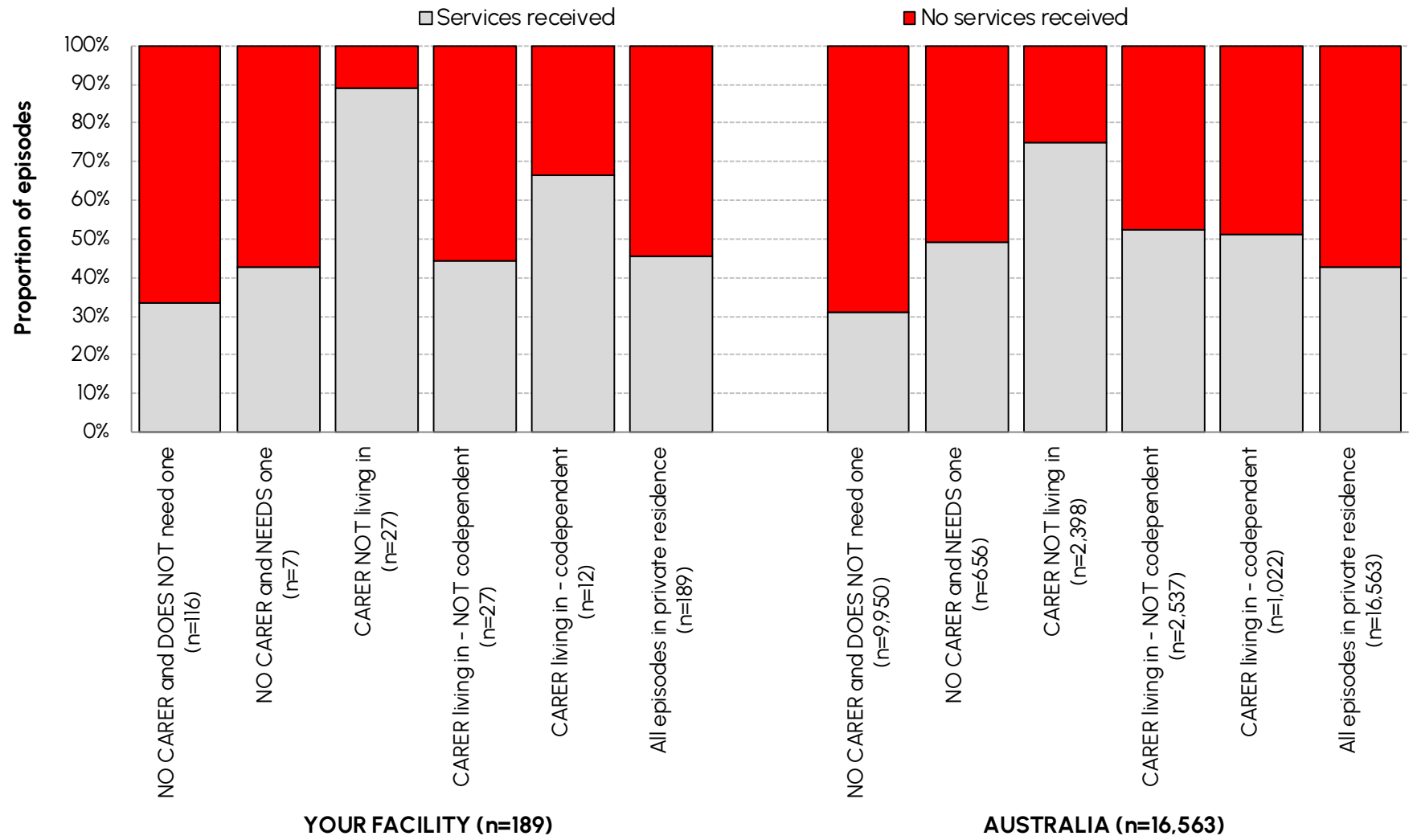
Impairment	AUSTRALIA — N (%)				
	Private residence	Residential Aged Care	Other	Unknown	All episodes
8.111 Fracture of hip, unilateral	6,426 (94.4)	249 (3.7)	87 (1.3)	45	6,807 (100.0)
8.112 Fracture of hip, bilateral	85 (95.5)	3 (3.4)	1 (1.1)	0	89 (100.0)
8.12 Fracture of shaft of femur	769 (94.5)	25 (3.1)	15 (1.8)	5	814 (100.0)
8.13 Fracture of pelvis	1,494 (95.8)	32 (2.1)	18 (1.2)	16	1,560 (100.0)
8.141 Fracture of knee	532 (93.8)	17 (3.0)	14 (2.5)	4	567 (100.0)
8.142 Fracture of leg, ankle, foot	1,487 (94.7)	34 (2.2)	40 (2.5)	10	1,571 (100.0)
8.15 Fracture of upper limb	1,325 (95.6)	27 (1.9)	28 (2.0)	6	1,386 (100.0)
8.16 Fracture of spine	1,498 (97.3)	19 (1.2)	15 (1.0)	8	1,540 (100.0)
8.17 Fracture of multiple sites	1,797 (96.0)	23 (1.2)	39 (2.1)	13	1,872 (100.0)
8.19 Other orthopaedic fracture	1,171 (96.5)	17 (1.4)	21 (1.7)	5	1,214 (100.0)
All Orthopaedic Fractures	#### (95.2)	446 (2.6)	278 (1.6)	112	#### (100.0)

Carer status prior to impairment



NOTE: Includes only those episodes coming from private residence

Any services received prior to impairment by carer status



YOUR FACILITY (n=189)

AUSTRALIA (n=16,563)

NOTE: Includes only those episodes coming from private residence and with known carer status and known services status.

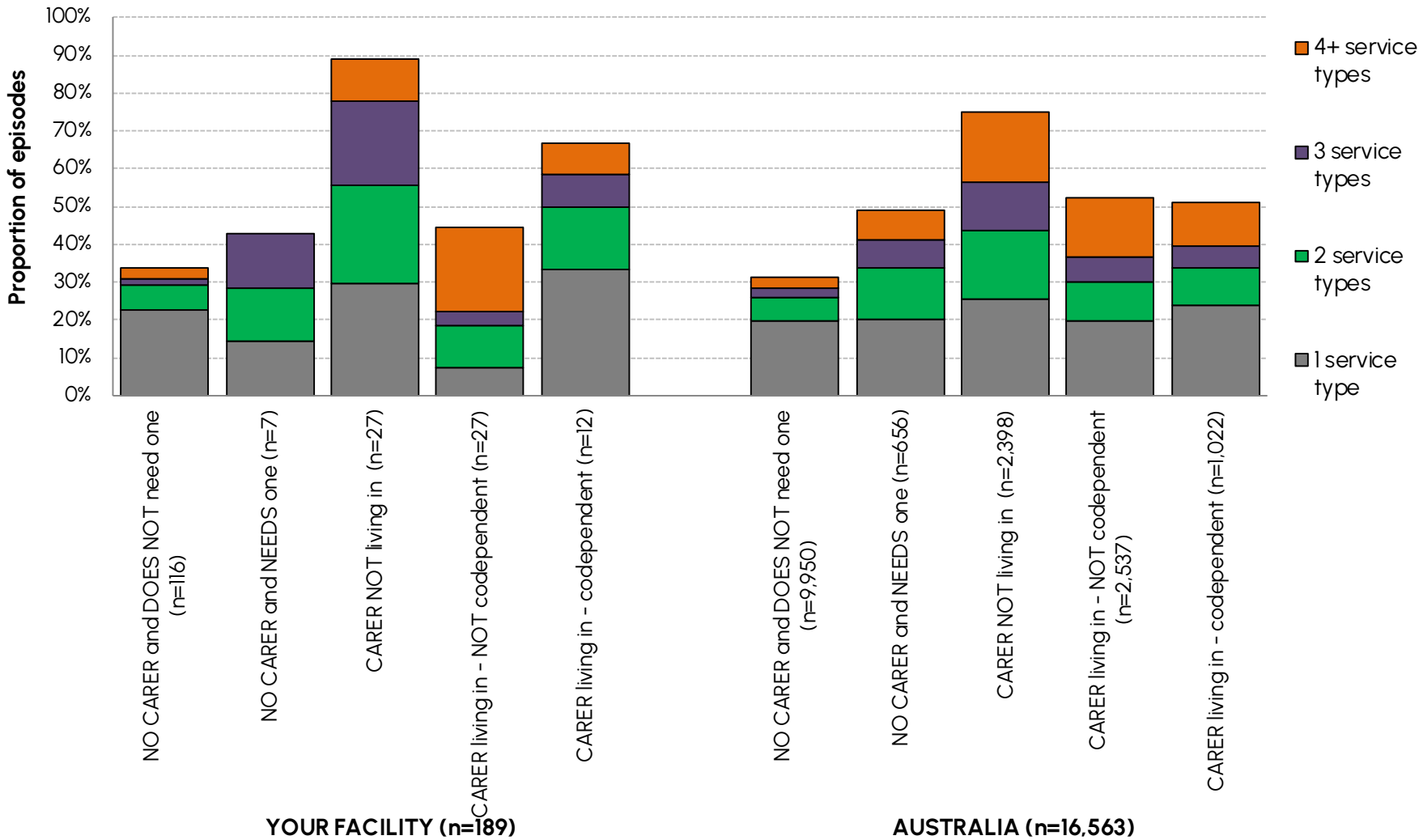
Carer status and any services received prior to impairment

Carer status prior to this impairmer	YOUR FACILITY		AUSTRALIA	
	No.	%	No.	%
NO CARER and DOES NOT need one	116	61.4	9,951	60.1
NO CARER and NEEDS one	7	3.7	656	4.0
CARER NOT living in	27	14.3	2,398	14.5
CARER living in - NOT codependent	27	14.3	2,537	15.3
CARER living in - codependent	12	6.3	1,022	6.2
Missing	0		20	
All episodes in private residence	189	100.0	16,584	100.0

Carer status prior to this impairmer	Any services received prior to this impairment?			
	YOUR FACILITY		AUSTRALIA	
	Yes (%)	No (%)	Yes (%)	No (%)
NO CARER and DOES NOT need one	33.6	66.4	31.1	68.9
NO CARER and NEEDS one	42.9	57.1	49.1	50.9
CARER NOT living in	88.9	11.1	74.8	25.2
CARER living in - NOT codependent	44.4	55.6	52.2	47.8
CARER living in - codependent	66.7	33.3	51.1	48.9
All episodes in private residence	45.5	54.5	42.6	57.4

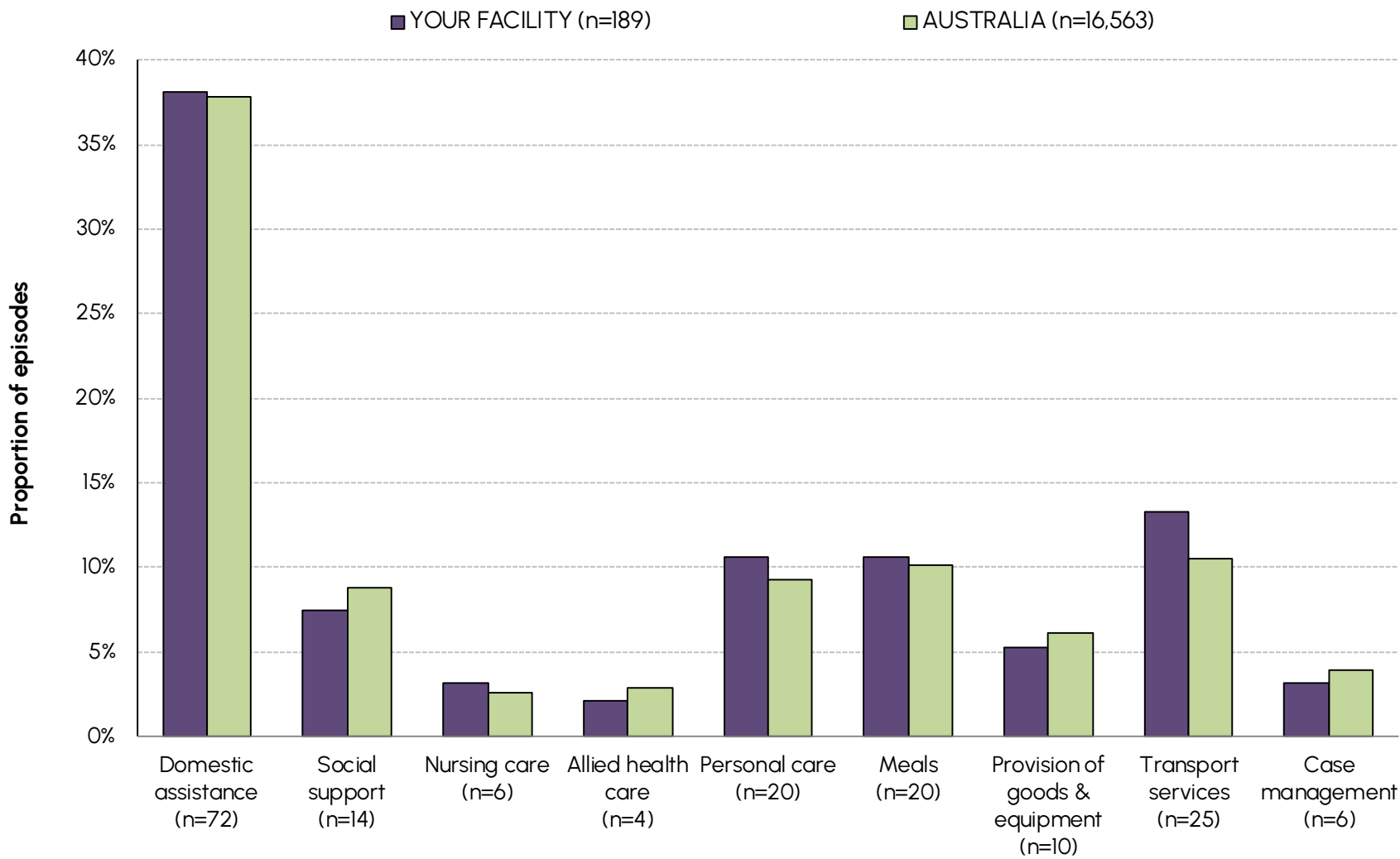
NOTE: Includes only those episodes coming from private residence and with known carer status.

Number of services received prior to impairment by carer status



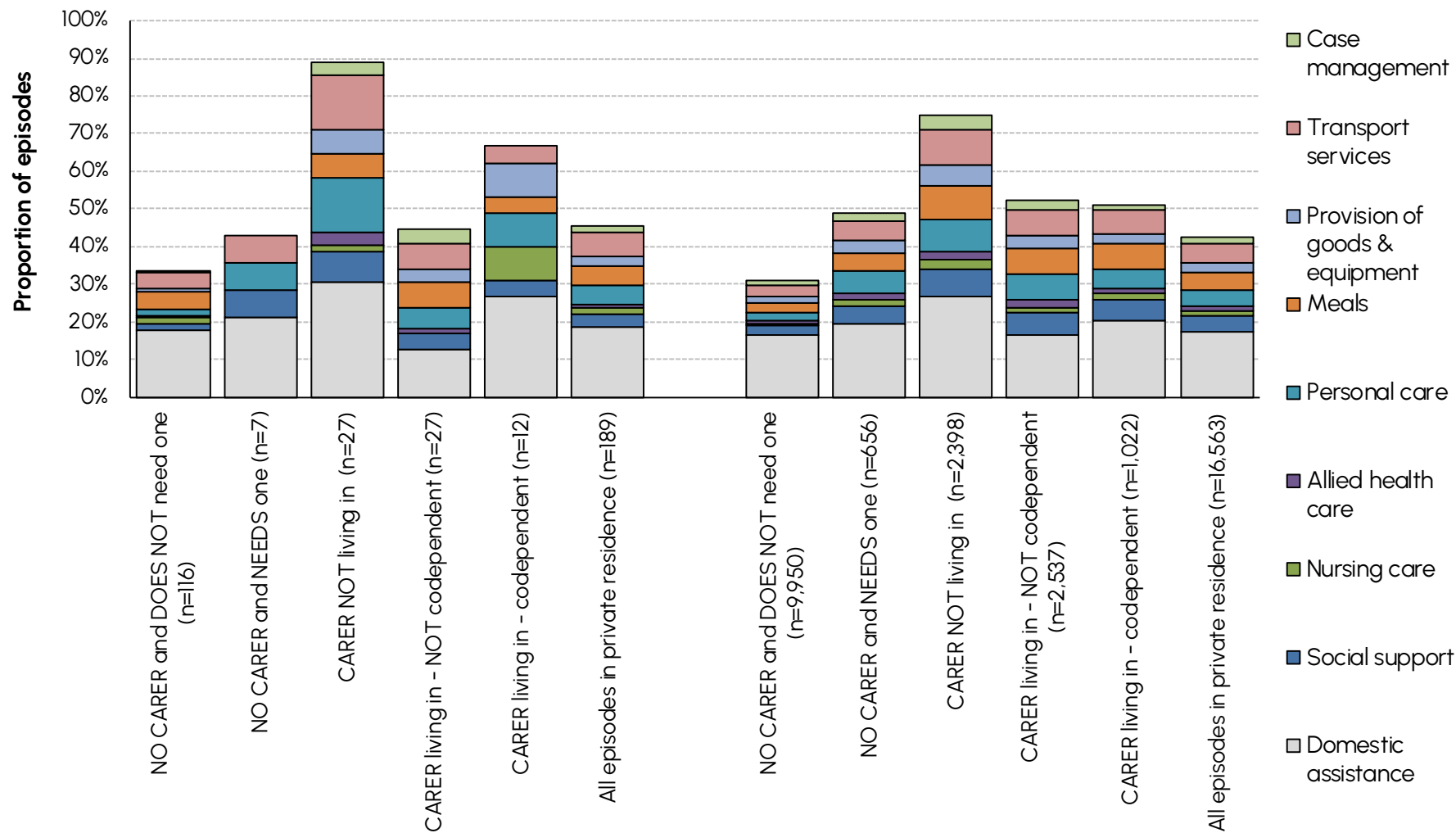
NOTE: Includes only those episodes coming from private residence and with known carer status and known services status

Type of services received prior to impairment



NOTE: Includes only those episodes coming from private residence and with known carer status and known services status

Type of services received prior to impairment by carer status



YOUR FACILITY (n=189)

AUSTRALIA (n=16,563)

NOTE: Includes only those episodes coming from private residence and with known carer status and known services status

Number and type of services received prior to impairment by carer status

Services received prior to this impairment	Carer status prior to discharge - YOUR FACILITY						All episodes in private residence
	NO CARER and DOES NOT need	NO CARER and NEEDS one	CARER NOT living in	CARER living in - NOT codependen	CARER living in - codependen		
Number of episodes in private residence	116	7	27	27	12		189
Percent of episodes receiving:							
No services	66.4	57.1	11.1	55.6	33.3		54.5
1 service type	22.4	14.3	29.6	7.4	33.3		21.7
2 service types	6.9	14.3	25.9	11.1	16.7		11.1
3 service types	1.7	14.3	22.2	3.7	8.3		5.8
4 or more service types	2.6	0.0	11.1	22.2	8.3		6.9
Service Type received							
Domestic assistance	28.4	42.9	70.4	40.7	50.0		38.1
Social support	2.6	14.3	18.5	14.8	8.3		7.4
Nursing care	2.6	0.0	3.7	0.0	16.7		3.2
Allied health care	0.9	0.0	7.4	3.7	0.0		2.1
Personal care	2.6	14.3	33.3	18.5	16.7		10.6
Meals	7.8	0.0	14.8	22.2	8.3		10.6
Provision of goods & equipment	0.9	0.0	14.8	11.1	16.7		5.3
Transport services	6.9	14.3	33.3	22.2	8.3		13.2
Case management	0.9	0.0	7.4	11.1	0.0		3.2

NOTE: Includes only those episodes coming from private residence and with known carer status and known services status

Number and type of services received prior to impairment by carer status

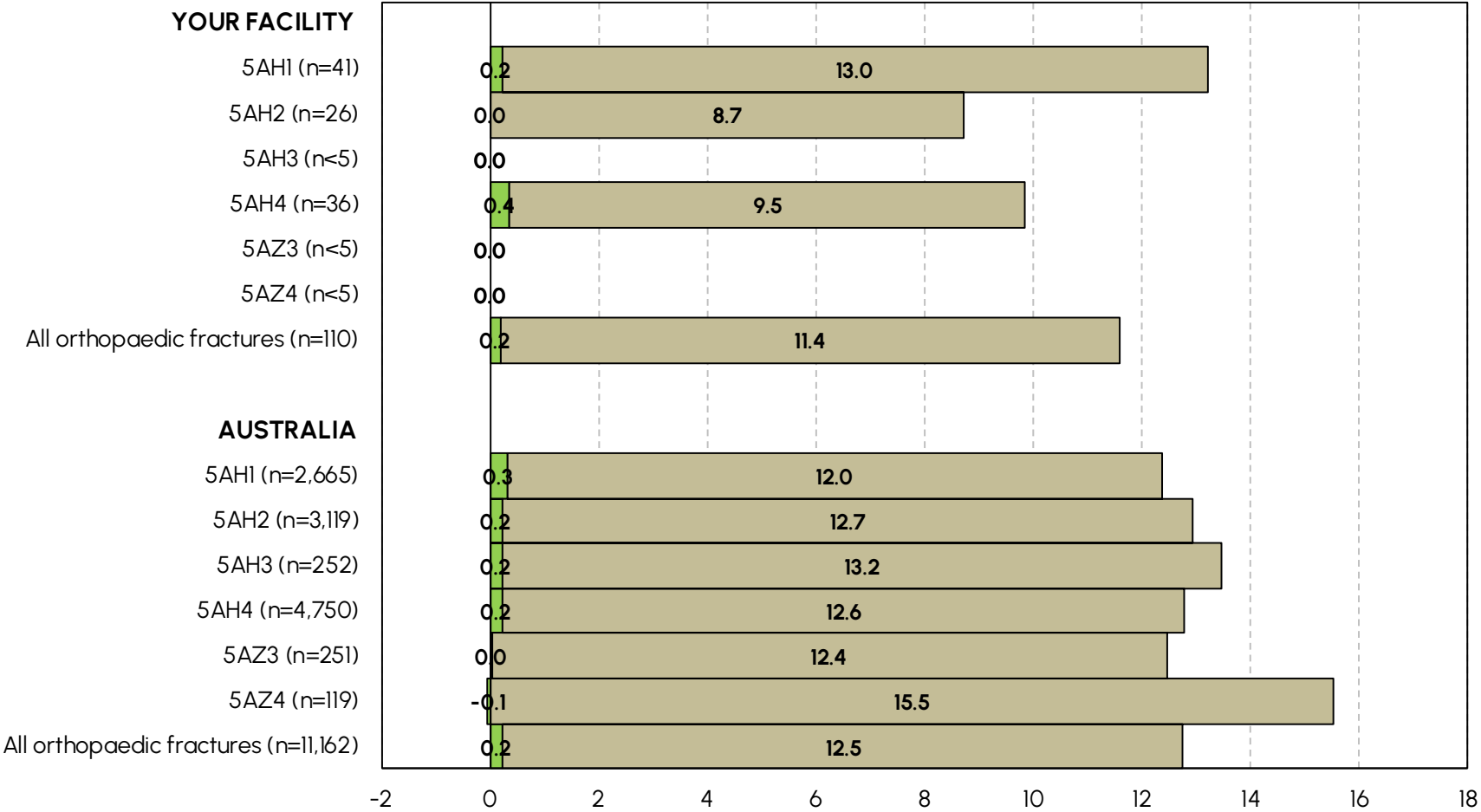
Carer status prior to discharge - AUSTRALIA						
Services received prior to this impairment	NO CARER and DOES NOT need	NO CARER and NEEDS one	CARER NOT living in	CARER living in - NOT codependen	CARER living in - codependen	All episodes in private residence
Number of episodes in private residence	9,950	656	2,398	2,537	1,022	16,563
Percent of episodes receiving:						
No services	68.9	50.9	25.2	47.8	48.9	57.4
1 service type	19.6	20.1	25.5	19.7	23.7	20.7
2 service types	6.1	13.6	18.2	10.4	9.9	9.1
3 service types	2.7	7.5	12.9	6.3	5.8	5.1
4 or more service types	2.7	7.9	18.2	15.8	11.7	7.7
Service Type received						
Domestic assistance	27.8	43.1	68.3	44.0	45.2	37.8
Social support	4.3	10.8	18.8	15.1	11.8	8.8
Nursing care	1.1	4.0	6.2	4.1	3.6	2.6
Allied health care	1.6	3.4	5.6	5.1	2.7	2.9
Personal care	3.1	13.4	22.4	18.7	11.8	9.2
Meals	4.7	10.8	22.5	17.2	14.5	10.1
Provision of goods & equipment	3.1	7.3	14.1	10.0	5.8	6.1
Transport services	5.0	11.3	23.8	17.7	13.9	10.5
Case management	2.0	5.0	9.7	6.4	2.9	3.9

NOTE: Includes only those episodes coming from private residence and with known carer status and known services status

Days from injury to episode start with an acute admission by AN-SNAP class



■ Injury to acute admission
 ■ Acute admission to rehabilitation episode start



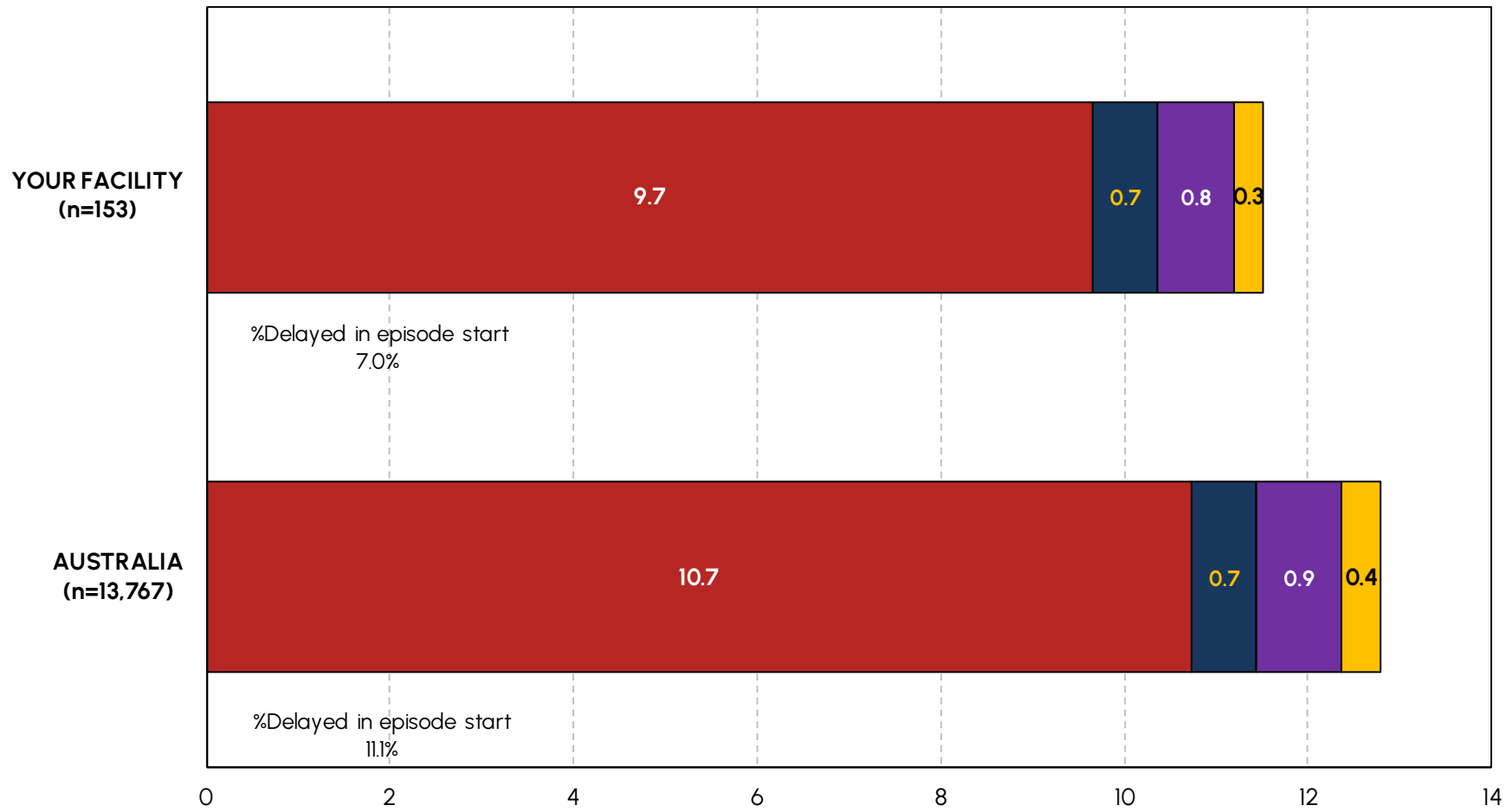
*No data provided when less than 5 episodes have dates
 NOTE: Includes first admissions where all dates have been entered only

Average number of days between dates

Days from referral to rehabilitation episode start

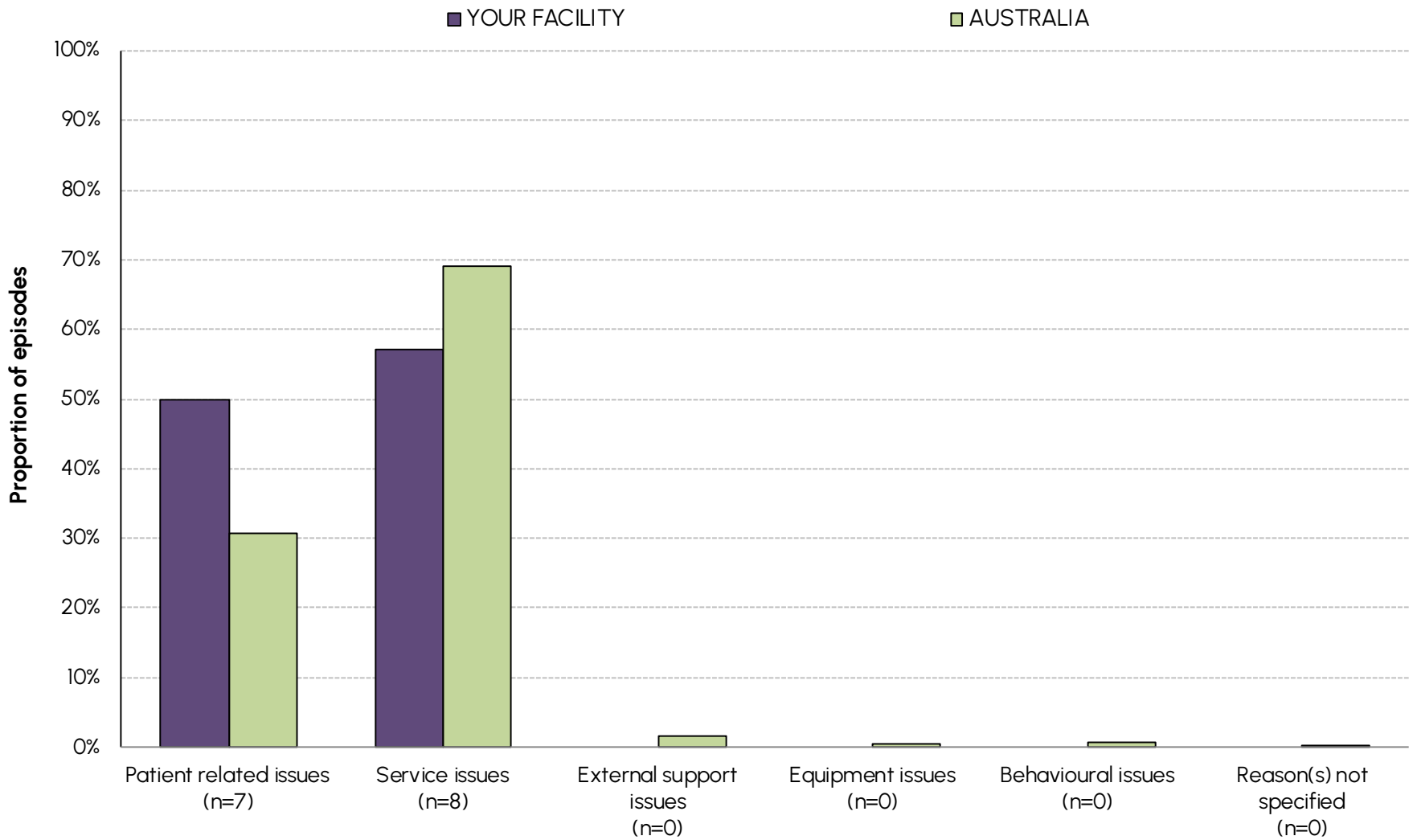


■ Injury to referral
 ■ Referral to assessment
 ■ Assessment to clinically rehab ready
 ■ Clinically rehab ready to rehab episode start



*No data provided when less than 5 episodes have dates
 NOTE: Includes first admissions where all dates have been entered only
Average number of days between dates

Type of delay in episode start



Delays in episode start

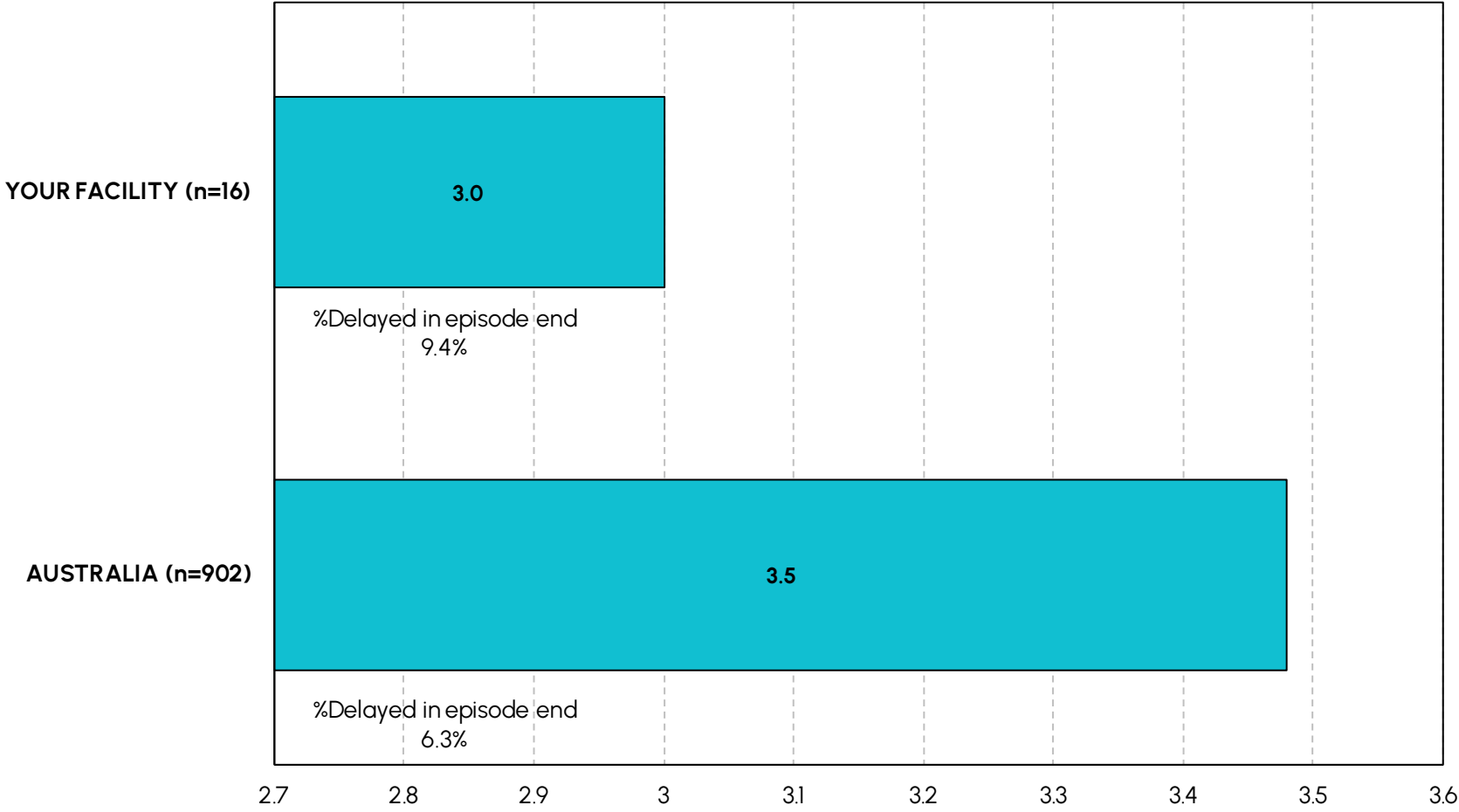
Delay in episode start	YOUR FACILITY		AUSTRALIA	
	No.	%	No.	%
No delay	185	93.0	15,286	88.9
Delay in episode start	14	7.0	1,915	11.1
Missing	1		219	
All episodes	200	100.0	17,420	100.0

Reasons for delay in episode start	YOUR FACILITY		AUSTRALIA	
	No.	%	No.	%
Patient related issues	7	50.0	588	30.7
Service issues	8	57.1	1,323	69.1
External support issues	0	0.0	32	1.7
Equipment issues	0	0.0	7	0.4
Behavioural issues	0	0.0	11	0.6
Reason(s) not specified	0	0.0	5	0.3

Days from clinically ready to discharge



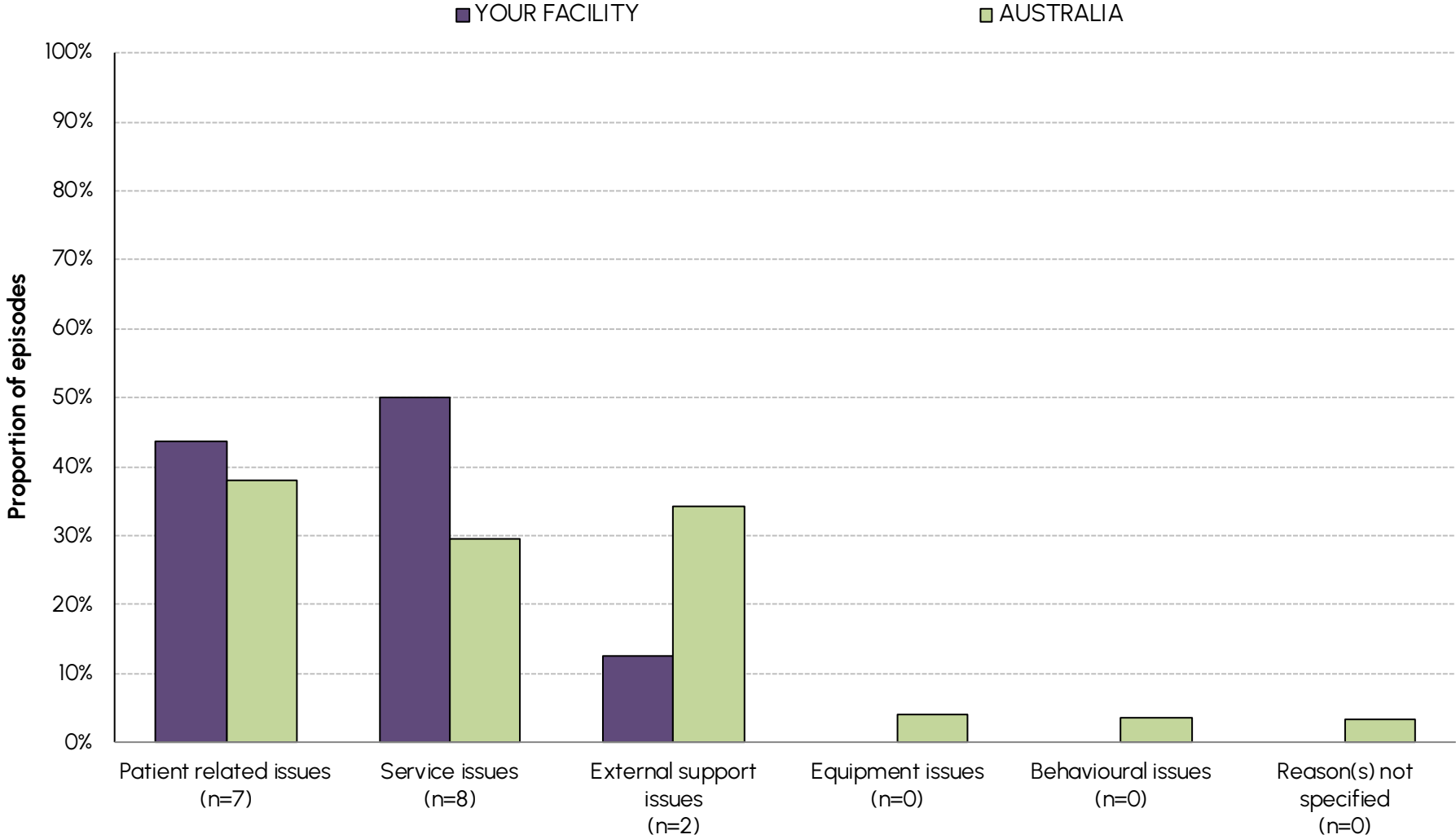
■ Community ready to episode end (where a delay was reported)



*No data provided when less than 5 episodes have dates
NOTE: Includes completed episodes with a delay in discharge

Average number of days between dates

Type of delay in episode end



NOTE: Includes completed episodes only

Delays in episode end

	YOUR FACILITY		AUSTRALIA	
	No.	%	No.	%
Delay in episode end				
No delay	154	90.6	13,760	93.7
Delay in episode end	16	9.4	926	6.3
Missing	2		220	
All episodes	172	100.0	14,906	100.0

	YOUR FACILITY		AUSTRALIA	
	No.	%	No.	%
Reasons for delay in episode end				
Patient related issues	7	43.8	352	38.0
Service issues	8	50.0	273	29.5
External support issues	2	12.5	318	34.3
Equipment issues	0	0.0	38	4.1
Behavioural issues	0	0.0	33	3.6
Reason(s) not specified	0	0.0	31	3.3

NOTE: Includes completed episodes only

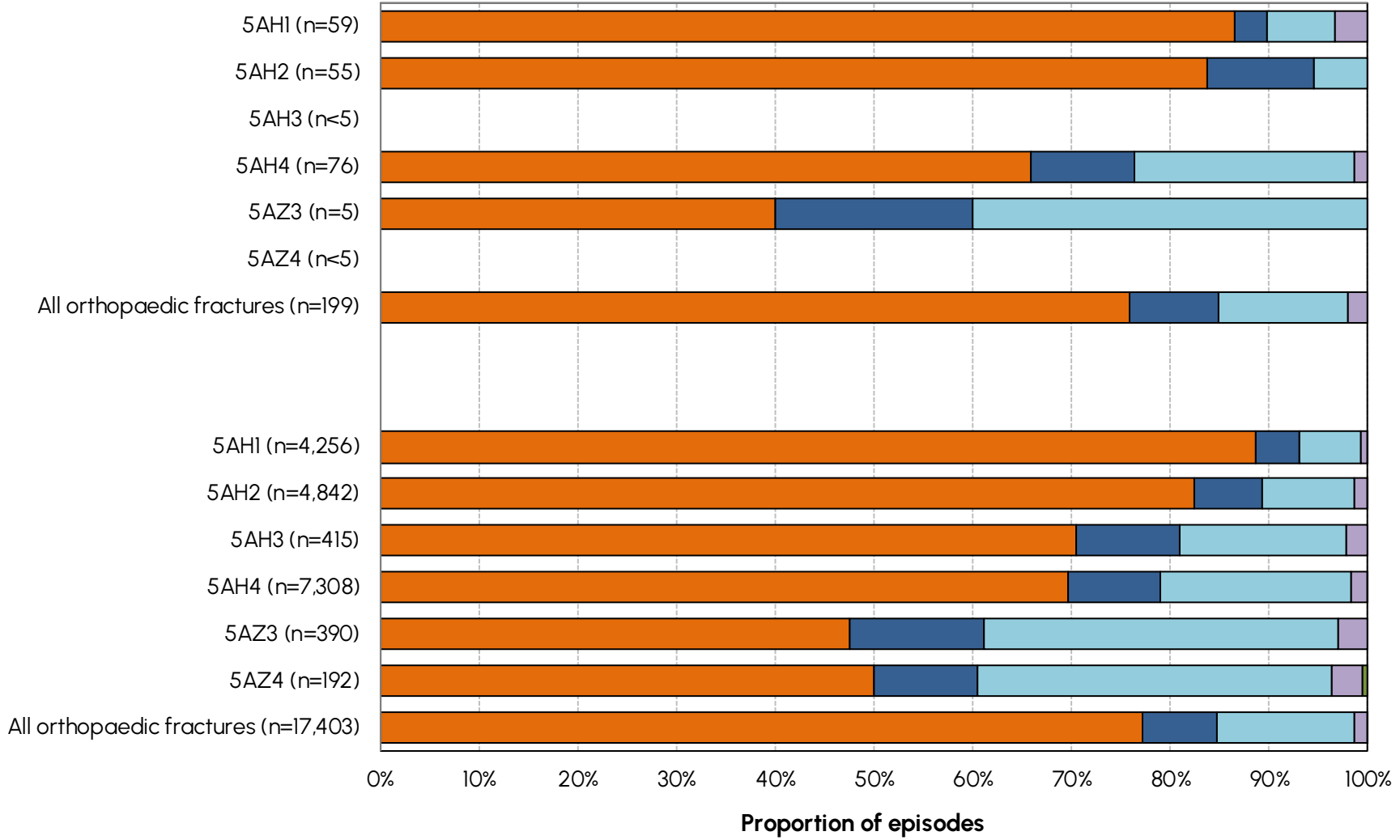
Discharge destination by AN-SNAP class



■ Final Accommodation
 ■ Interim Accommodation
 ■ Remaining in Hospital
 ■ Other
 ■ Unknown

YOUR FACILITY

AUSTRALIA



Discharge destination by AN-SNAP class



AN-SNAP class V5	YOUR FACILITY — N					AUSTRALIA — N				
	Final Accom	Interim Accom	Remainin g in	Other	Unknown	Final Accom	Interim Accom	Remainin g in	Other	Unknown
5AH1 (motor 48-91, cognition 33-35)	51	2	4	2	0	3,770	188	264	32	2
5AH2 (motor 48-91, cognition 21-32)	46	6	3	0	0	3,991	334	447	68	2
5AH3 (motor 48-91, cognition 5-20)	2	1	0	0	0	292	44	70	9	0
5AH4 (motor 19-47)	50	8	17	1	0	5,084	687	1,416	119	2
5AZ3 (motor 13-18, Age ≥ 79)	2	1	2	0	0	185	53	140	12	0
5AZ4 (motor 13-18, Age 18-78)	0	0	0	1	0	96	20	69	6	1
All Fracture AN-SNAP classes	151	18	26	4	0	13,418	1,326	2,406	246	7

AN-SNAP class V5	YOUR FACILITY — %					AUSTRALIA — %				
	Final Accom	Interim Accom	Remainin g in	Other	Unknown	Final Accom	Interim Accom	Remainin g in	Other	Unknown
5AH1 (motor 48-91, cognition 33-35)	86.4	3.4	6.8	3.4	0.0	88.6	4.4	6.2	0.8	0.0
5AH2 (motor 48-91, cognition 21-32)	83.6	10.9	5.5	0.0	0.0	82.4	6.9	9.2	1.4	0.0
5AH3 (motor 48-91, cognition 5-20)	66.7	33.3	0.0	0.0	0.0	70.4	10.6	16.9	2.2	0.0
5AH4 (motor 19-47)	65.8	10.5	22.4	1.3	0.0	69.6	9.4	19.4	1.6	0.0
5AZ3 (motor 13-18, Age ≥ 79)	40.0	20.0	40.0	0.0	0.0	47.4	13.6	35.9	3.1	0.0
5AZ4 (motor 13-18, Age 18-78)	0.0	0.0	0.0	100.0	0.0	50.0	10.4	35.9	3.1	0.5
All Fracture AN-SNAP classes	75.9	9.0	13.1	2.0	0.0	77.1	7.6	13.8	1.4	0.0

Discharge destination by impairment

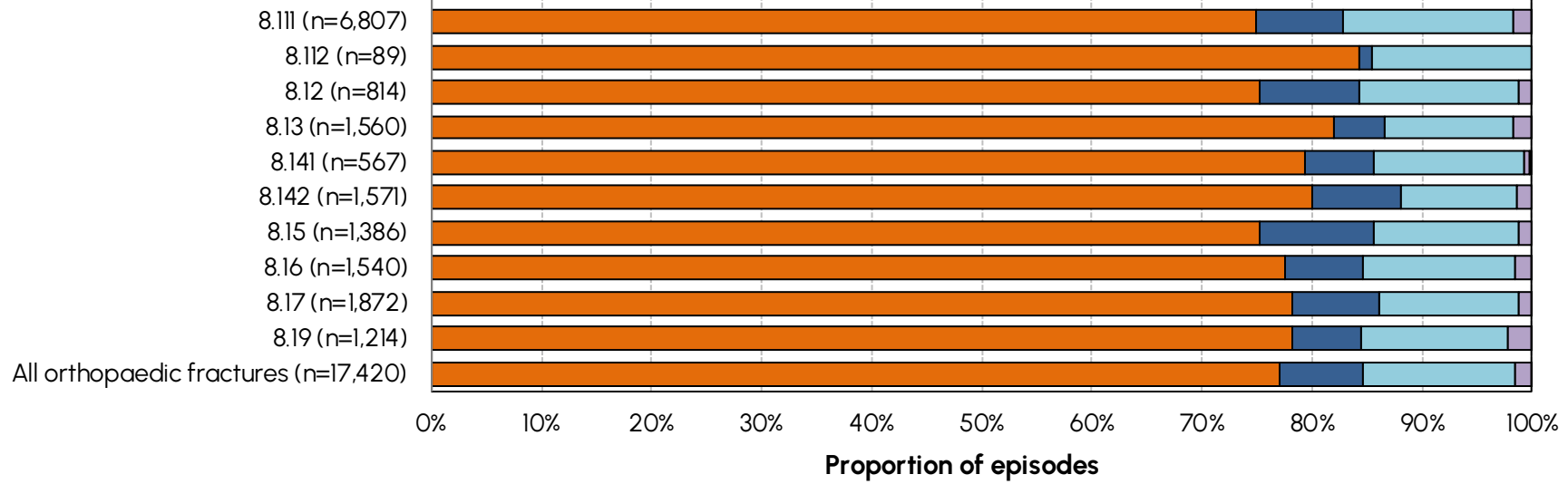


■ Final Accommodation
 ■ Interim Accommodation
 ■ Remaining in Hospital
 ■ Other
 ■ Unknown

YOUR FACILITY



AUSTRALIA

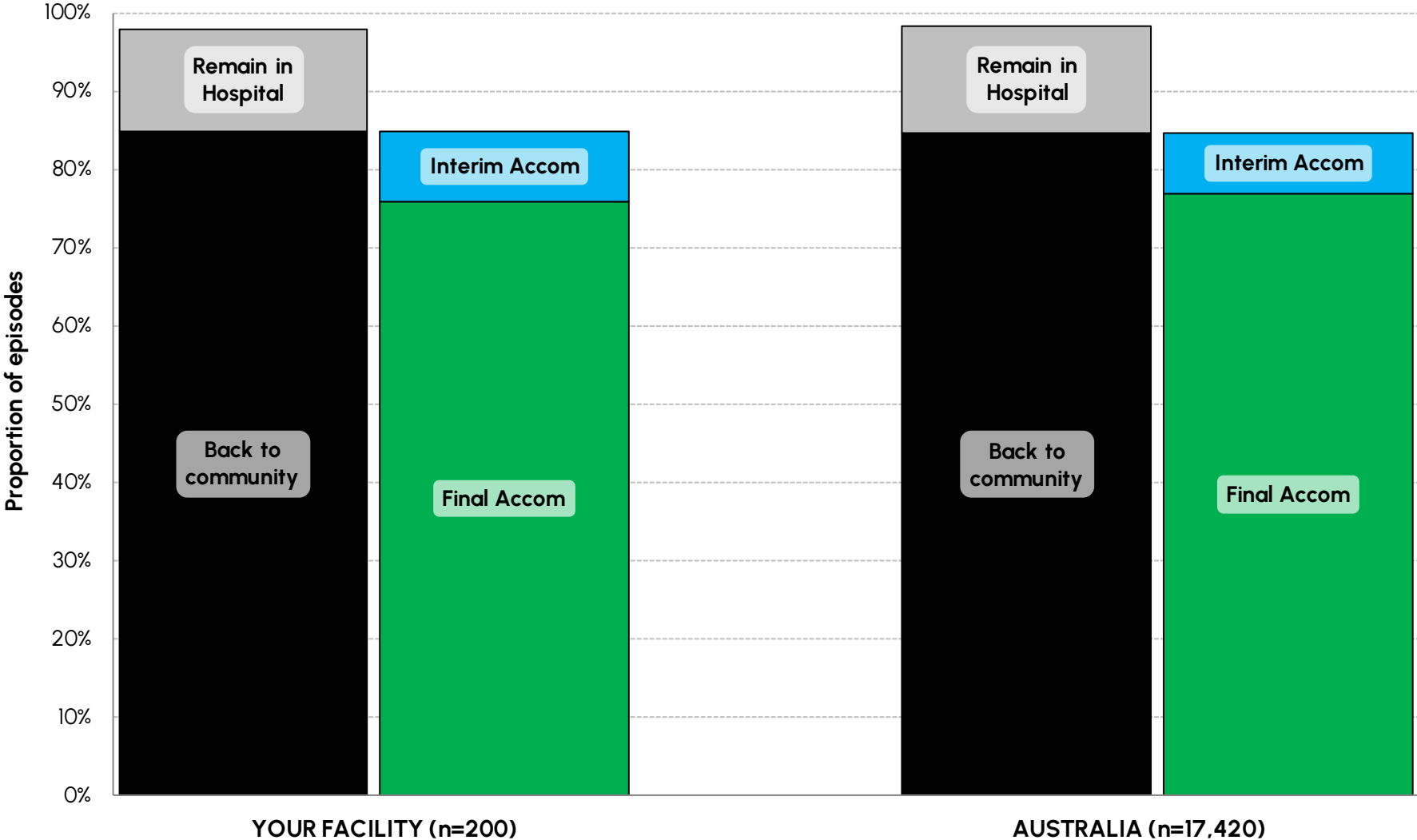


Discharge destination by impairment

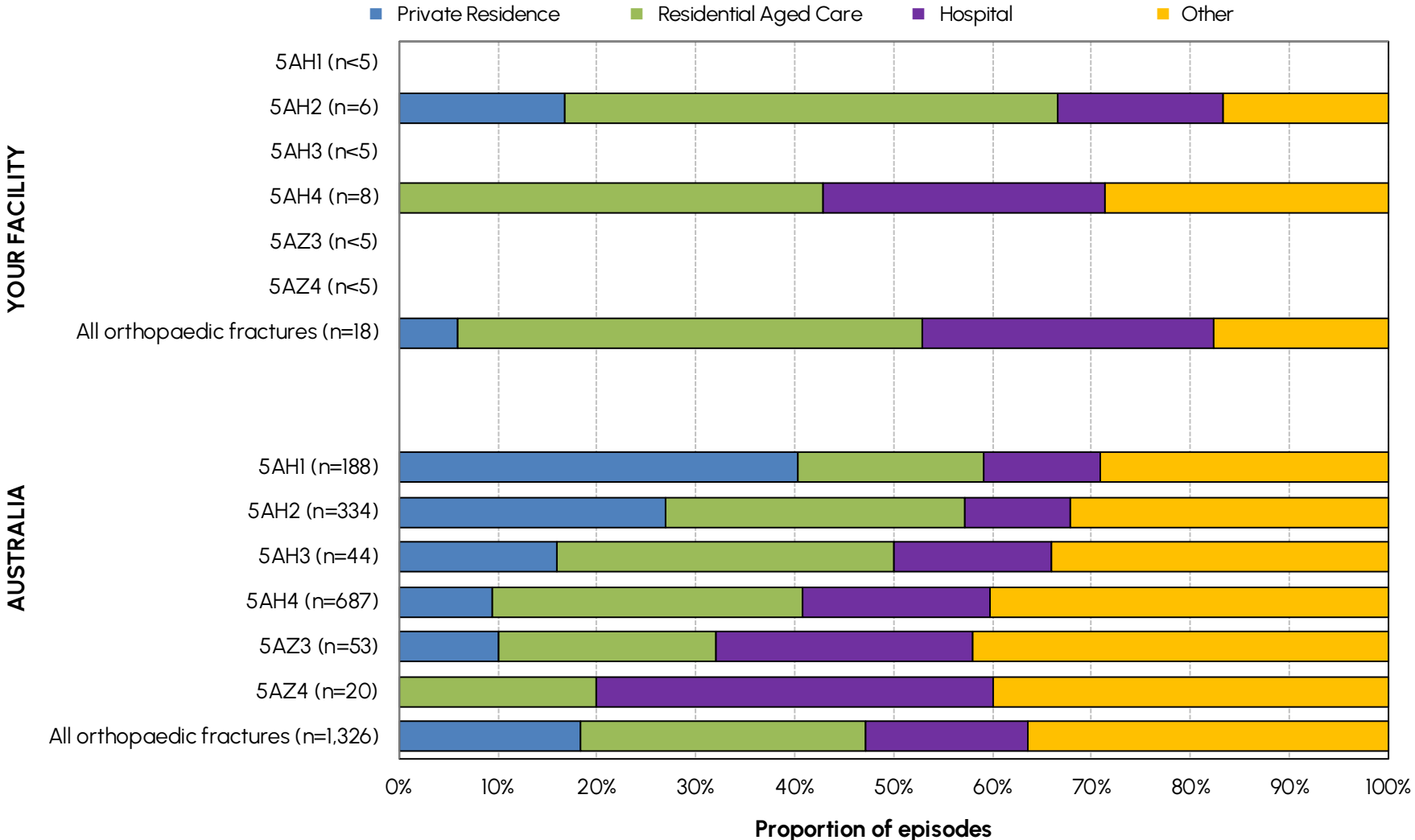
Impairment	YOUR FACILITY — N					AUSTRALIA — N				
	Final Accom	Interim Accom	Remainin g in	Other	Unknown	Final Accom	Interim Accom	Remainin g in	Other	Unknown
8.111 Fracture of hip, unilateral	55	5	12	2	0	5,100	540	1,056	106	5
8.112 Fracture of hip, bilateral	0	0	0	0	0	75	1	13	0	0
8.12 Fracture of shaft of femur	8	1	0	0	0	613	73	118	9	1
8.13 Fracture of pelvis	18	2	2	0	0	1,280	72	182	24	2
8.141 Fracture of knee	8	0	2	0	0	450	35	78	3	1
8.142 Fracture of leg, ankle, foot	14	1	2	1	0	1,256	128	166	21	0
8.15 Fracture of upper limb	6	4	1	1	0	1,042	144	184	16	0
8.16 Fracture of spine	12	3	6	0	0	1,193	111	213	21	2
8.17 Fracture of multiple sites	14	1	1	0	0	1,465	148	236	21	2
8.19 Other orthopaedic fracture	17	1	0	0	0	949	76	163	25	1
All Orthopaedic Fractures	152	18	26	4	0	13,423	1,328	2,409	246	14

Impairment	YOUR FACILITY — %					AUSTRALIA — %				
	Final Accom	Interim Accom	Remainin g in	Other	Unknown	Final Accom	Interim Accom	Remainin g in	Other	Unknown
8.111 Fracture of hip, unilateral	74.3	6.8	16.2	2.7	0.0	74.9	7.9	15.5	1.6	0.1
8.112 Fracture of hip, bilateral	—	—	—	—	—	84.3	1.1	14.6	0.0	0.0
8.12 Fracture of shaft of femur	88.9	11.1	0.0	0.0	0.0	75.3	9.0	14.5	1.1	0.1
8.13 Fracture of pelvis	81.8	9.1	9.1	0.0	0.0	82.1	4.6	11.7	1.5	0.1
8.141 Fracture of knee	80.0	0.0	20.0	0.0	0.0	79.4	6.2	13.8	0.5	0.2
8.142 Fracture of leg, ankle, foot	77.8	5.6	11.1	5.6	0.0	79.9	8.1	10.6	1.3	0.0
8.15 Fracture of upper limb	50.0	33.3	8.3	8.3	0.0	75.2	10.4	13.3	1.2	0.0
8.16 Fracture of spine	57.1	14.3	28.6	0.0	0.0	77.5	7.2	13.8	1.4	0.1
8.17 Fracture of multiple sites	87.5	6.3	6.3	0.0	0.0	78.3	7.9	12.6	1.1	0.1
8.19 Other orthopaedic fracture	94.4	5.6	0.0	0.0	0.0	78.2	6.3	13.4	2.1	0.1
All Orthopaedic Fractures	76.0	9.0	13.0	2.0	0.0	77.1	7.6	13.8	1.4	0.1

Discharge destination



Interim accommodation post discharge by AN-SNAP class



NOTE: Includes only those episodes with mode of episode end equal to interim accommodation

Interim accommodation post discharge by AN-SNAP class

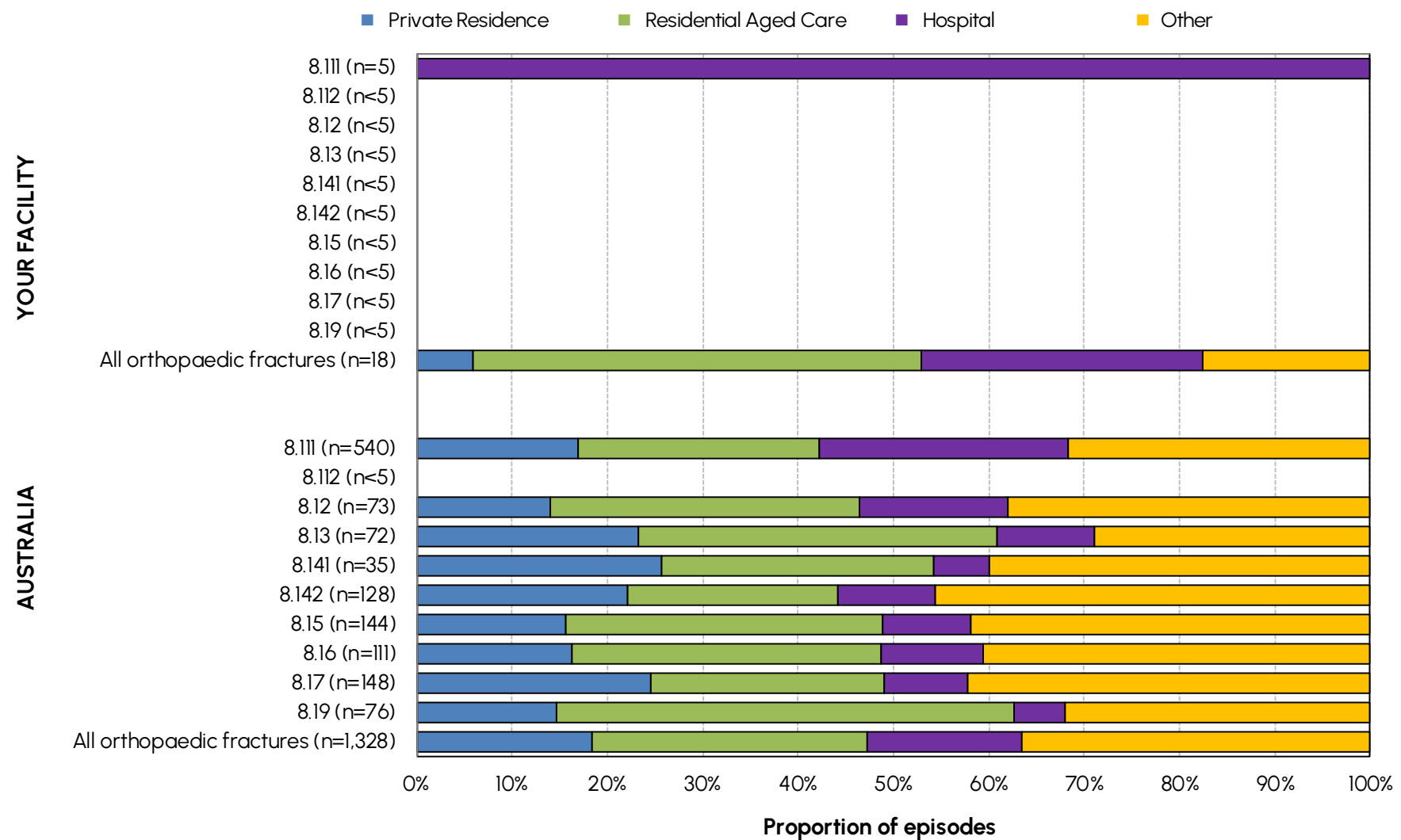
AN-SNAP class V5	YOUR FACILITY — N (%)				
	Private residence	Residential Aged Care	Hospital	Other	All episodes**
5AH1 (motor 48-91, cognition 33-35)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)	2 (100.0)
5AH2 (motor 48-91, cognition 21-32)	1 (16.7)	3 (50.0)	1 (16.7)	1 (16.7)	6 (100.0)
5AH3 (motor 48-91, cognition 5-20)	0 (0.0)	1 (100.0)	0 (0.0)	0 (0.0)	1 (100.0)
5AH4 (motor 19-47)	0 (0.0)	3 (37.5)	2 (25.0)	2 (25.0)	8 (100.0)
5AZ3 (motor 13-18, Age ≥ 79)	0 (0.0)	1 (100.0)	0 (0.0)	0 (0.0)	1 (100.0)
5AZ4 (motor 13-18, Age 18-78)	0 —	0 —	0 —	0 —	0 —
All Fracture AN-SNAP classes	1 (5.6)	8 (44.4)	5 (27.8)	3 (16.7)	18 (100.0)

AN-SNAP class V5	AUSTRALIA — N (%)				
	Private residence	Residential Aged Care	Hospital	Other	All episodes**
5AH1 (motor 48-91, cognition 33-35)	75 (39.9)	35 (18.6)	22 (11.7)	52 (27.7)	188 (100.0)
5AH2 (motor 48-91, cognition 21-32)	89 (26.6)	100 (29.9)	35 (10.5)	100 (29.9)	334 (100.0)
5AH3 (motor 48-91, cognition 5-20)	7 (15.9)	15 (34.1)	7 (15.9)	15 (34.1)	44 (100.0)
5AH4 (motor 19-47)	64 (9.3)	211 (30.7)	128 (18.6)	256 (37.3)	687 (100.0)
5AZ3 (motor 13-18, Age ≥ 79)	5 (9.4)	11 (20.8)	13 (24.5)	21 (39.6)	53 (100.0)
5AZ4 (motor 13-18, Age 18-78)	0 (0.0)	4 (20.0)	8 (40.0)	8 (40.0)	20 (100.0)
All Fracture AN-SNAP classes	240 (18.1)	376 (28.4)	213 (16.1)	452 (34.1)	1,326 (100.0)

** There were 1 episode(s) in YOUR FACILITY and 45 episodes in AUSTRALIA with unknown interim accommodation

NOTE: Includes only those episodes with mode of episode end equal to interim accommodation

Interim accommodation post discharge by impairment



NOTE: Includes only those episodes with mode of episode end equal to interim accommodation

Interim accommodation post discharge by impairment

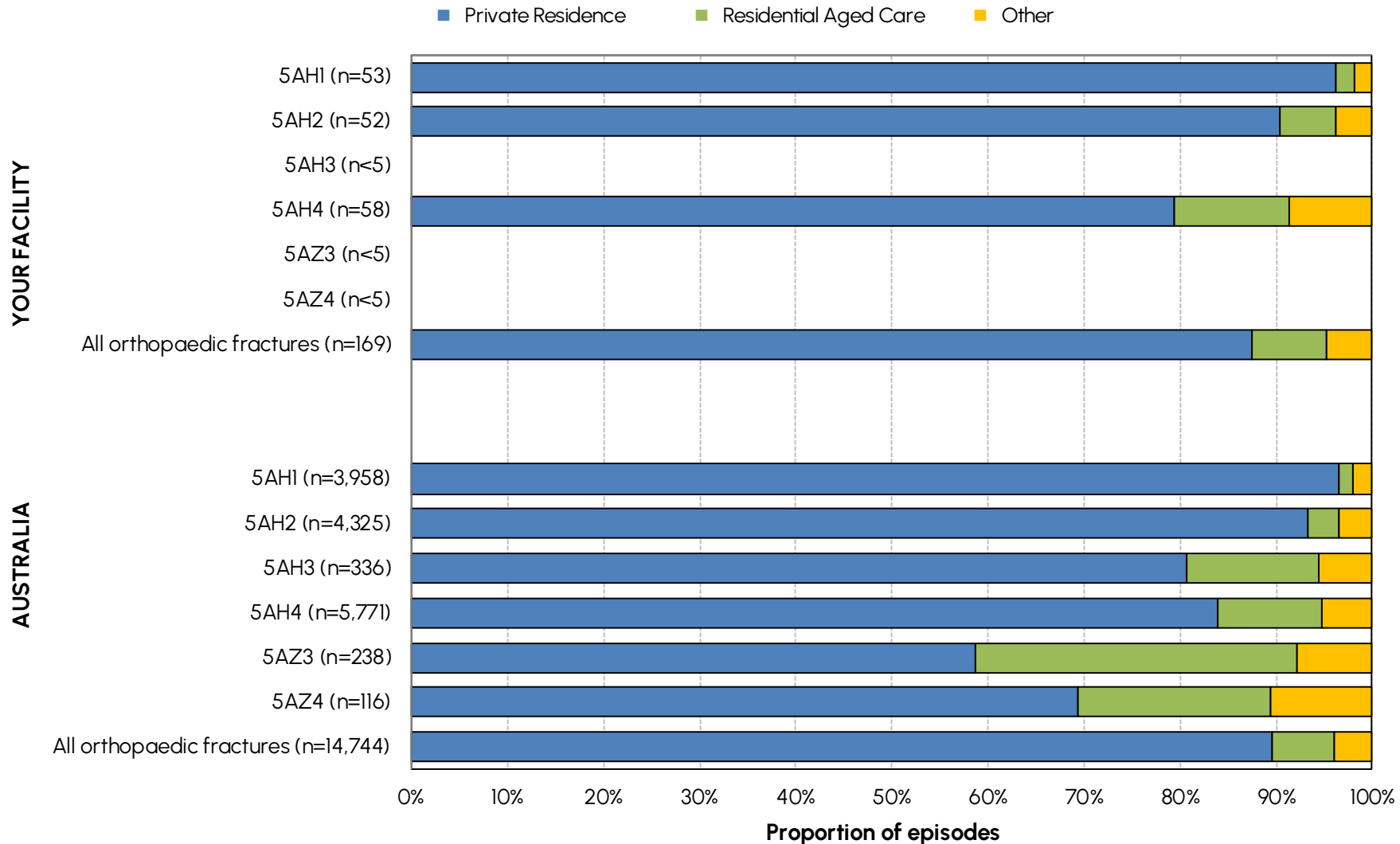
Impairment	YOUR FACILITY — N (%)				
	Private residence	Residential Aged Care	Hospital	Other	All episodes**
8.111 Fracture of hip, unilateral	0 (0.0)	0 (0.0)	4 (80.0)	0 (0.0)	5 (100.0)
8.112 Fracture of hip, bilateral	0 —	0 —	0 —	0 —	0 —
8.12 Fracture of shaft of femur	0 (0.0)	1 (100.0)	0 (0.0)	0 (0.0)	1 (100.0)
8.13 Fracture of pelvis	0 (0.0)	2 (100.0)	0 (0.0)	0 (0.0)	2 (100.0)
8.141 Fracture of knee	0 —	0 —	0 —	0 —	0 —
8.142 Fracture of leg, ankle, foot	0 (0.0)	1 (100.0)	0 (0.0)	0 (0.0)	1 (100.0)
8.15 Fracture of upper limb	1 (25.0)	1 (25.0)	1 (25.0)	1 (25.0)	4 (100.0)
8.16 Fracture of spine	0 (0.0)	1 (33.3)	0 (0.0)	2 (66.7)	3 (100.0)
8.17 Fracture of multiple sites	0 (0.0)	1 (100.0)	0 (0.0)	0 (0.0)	1 (100.0)
8.19 Other orthopaedic fracture	0 (0.0)	1 (100.0)	0 (0.0)	0 (0.0)	1 (100.0)
All Orthopaedic Fractures	1 (5.6)	8 (44.4)	5 (27.8)	3 (16.7)	18 (100.0)

Impairment	AUSTRALIA — N (%)				
	Private residence	Residential Aged Care	Hospital	Other	All episodes**
8.111 Fracture of hip, unilateral	90 (16.7)	134 (24.8)	138 (25.6)	161 (29.8)	540 (100.0)
8.112 Fracture of hip, bilateral	0 (0.0)	1 (100.0)	0 (0.0)	0 (0.0)	1 (100.0)
8.12 Fracture of shaft of femur	10 (13.7)	23 (31.5)	11 (15.1)	24 (32.9)	73 (100.0)
8.13 Fracture of pelvis	16 (22.2)	26 (36.1)	7 (9.7)	19 (26.4)	72 (100.0)
8.141 Fracture of knee	9 (25.7)	10 (28.6)	2 (5.7)	13 (37.1)	35 (100.0)
8.142 Fracture of leg, ankle, foot	28 (21.9)	28 (21.9)	13 (10.2)	57 (44.5)	128 (100.0)
8.15 Fracture of upper limb	22 (15.3)	47 (32.6)	13 (9.0)	57 (39.6)	144 (100.0)
8.16 Fracture of spine	18 (16.2)	36 (32.4)	12 (10.8)	41 (36.9)	111 (100.0)
8.17 Fracture of multiple sites	36 (24.3)	36 (24.3)	13 (8.8)	58 (39.2)	148 (100.0)
8.19 Other orthopaedic fracture	11 (14.5)	36 (47.4)	4 (5.3)	23 (30.3)	76 (100.0)
All Orthopaedic Fractures	240 (18.1)	377 (28.4)	213 (16.0)	453 (34.1)	1,328 (100.0)

** There were 1 episode(s) in YOUR FACILITY and 45 episodes in AUSTRALIA with unknown interim accommodation

NOTE: Includes only those episodes with mode of episode end equal to interim accommodation

Final accommodation post discharge by AN-SNAP class



NOTE: Includes only those episodes with mode of episode end equal to either final or interim accommodation

Final accommodation post discharge by AN-SNAP class

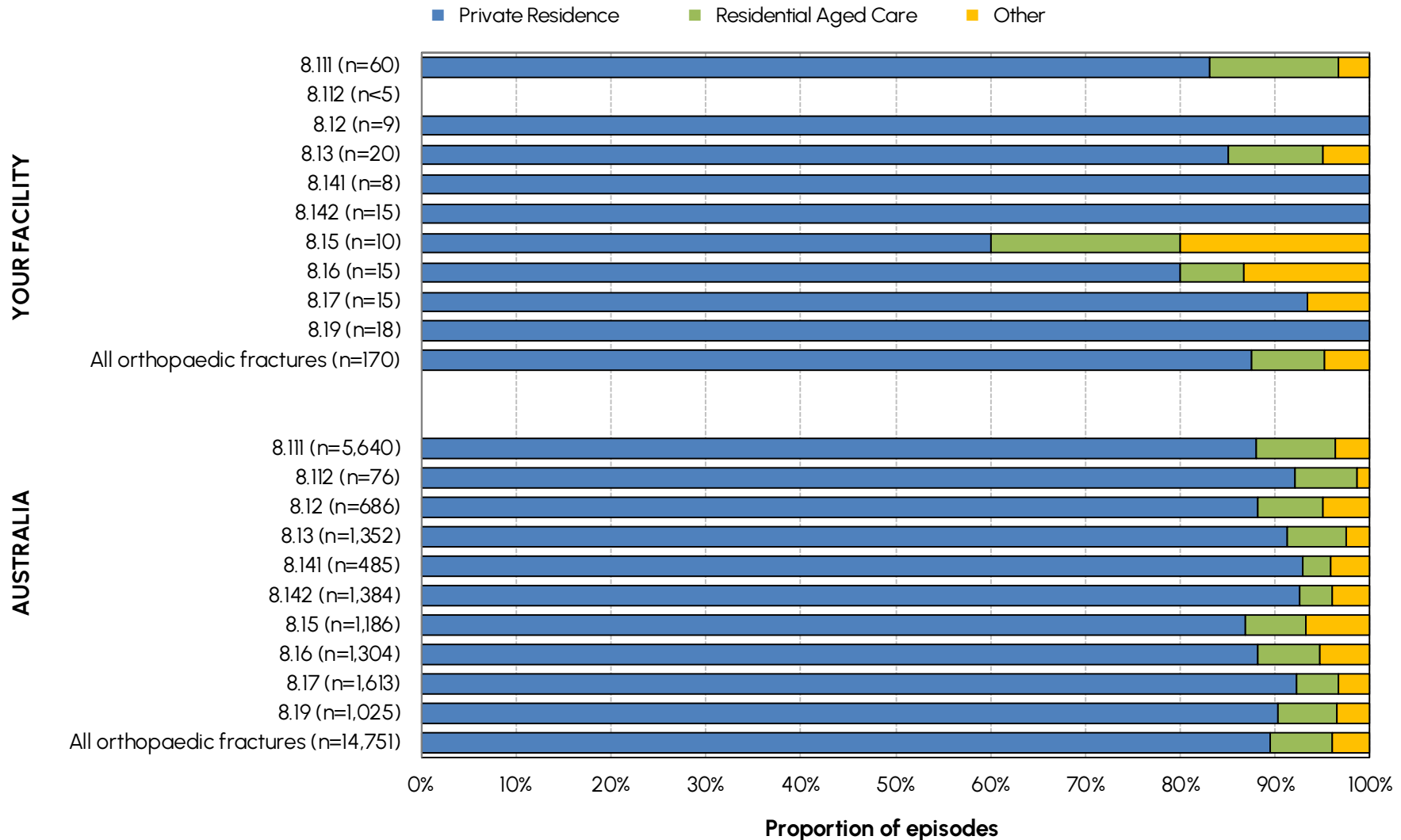


AN-SNAP class V5	YOUR FACILITY — N (%)				
	Private residence	Residential Aged Care	Other	Missing	All episodes
5AH1 (motor 48-91, cognition 33-35)	50 (96.2)	1 (1.9)	1 (1.9)	1	52 (100.0)
5AH2 (motor 48-91, cognition 21-32)	47 (90.4)	3 (5.8)	2 (3.8)	0	52 (100.0)
5AH3 (motor 48-91, cognition 5-20)	2 (66.7)	1 (33.3)	0 (0.0)	0	3 (100.0)
5AH4 (motor 19-47)	46 (79.3)	7 (12.1)	5 (8.6)	0	58 (100.0)
5AZ3 (motor 13-18, Age ≥ 79)	2 (66.7)	1 (33.3)	0 (0.0)	0	3 (100.0)
5AZ4 (motor 13-18, Age 18-78)	0 —	0 —	0 —	0	0 —
All Fracture AN-SNAP classes	147 (87.5)	13 (7.7)	8 (4.8)	1	168 (100.0)

AN-SNAP class V5	AUSTRALIA — N (%)				
	Private residence	Residential Aged Care	Other	Missing	All episodes
5AH1 (motor 48-91, cognition 33-35)	3,779 (95.5)	54 (1.4)	80 (2.0)	45	3,958 (100.0)
5AH2 (motor 48-91, cognition 21-32)	3,983 (92.1)	137 (3.2)	150 (3.5)	55	4,325 (100.0)
5AH3 (motor 48-91, cognition 5-20)	264 (78.6)	45 (13.4)	18 (5.4)	9	336 (100.0)
5AH4 (motor 19-47)	4,742 (82.2)	607 (10.5)	301 (5.2)	121	5,771 (100.0)
5AZ3 (motor 13-18, Age ≥ 79)	136 (57.1)	78 (32.8)	18 (7.6)	6	238 (100.0)
5AZ4 (motor 13-18, Age 18-78)	79 (68.1)	23 (19.8)	12 (10.3)	2	116 (100.0)
All Fracture AN-SNAP classes	##### (88.1)	944 (6.4)	579 (3.9)	238	##### (100.0)

NOTE: Includes only those episodes with mode of episode end equal to either final or interim accommodation

Final accommodation post discharge by impairment



NOTE: Includes only those episodes with mode of episode end equal to either final or interim accommodation

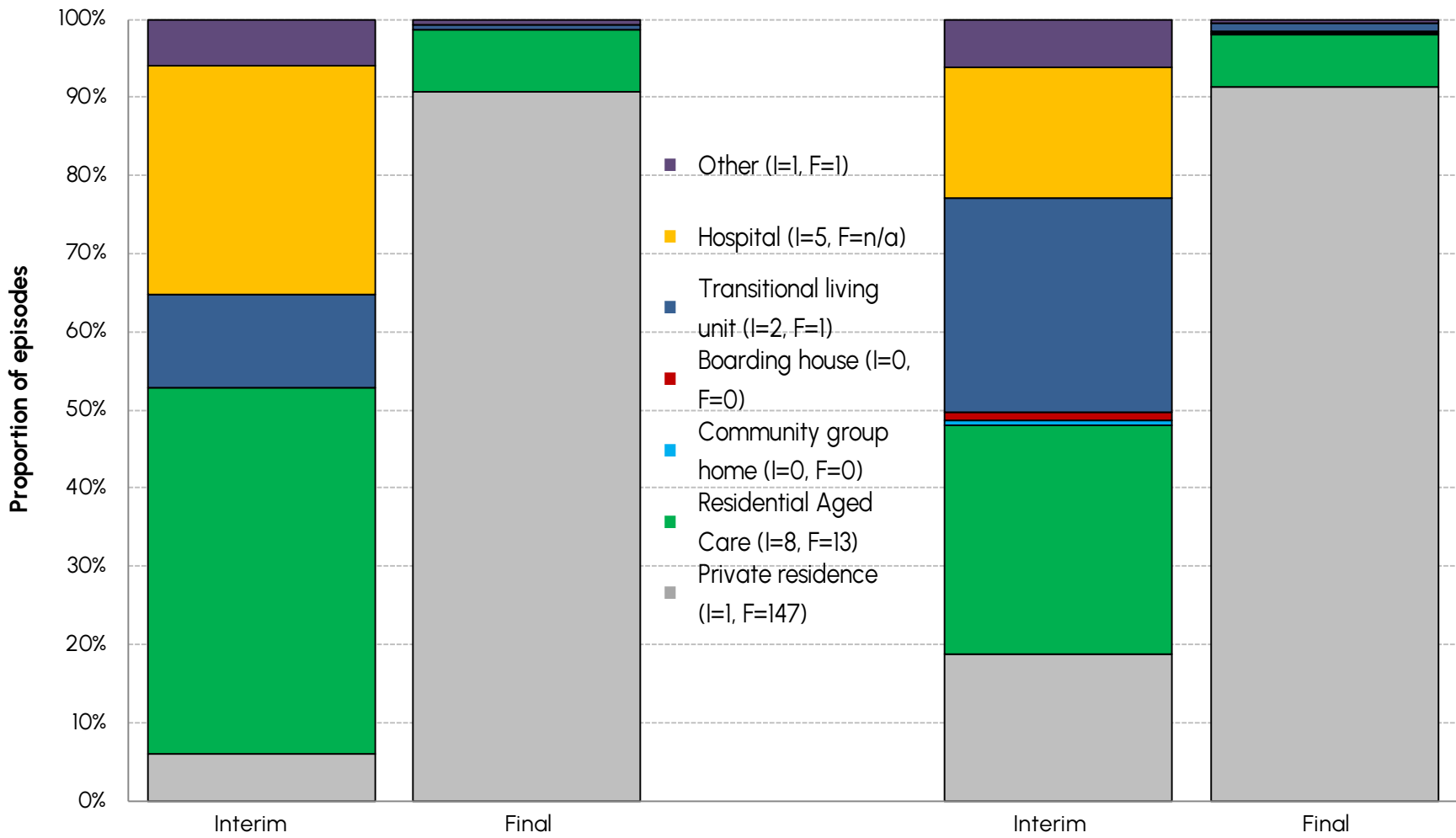
Final accommodation post discharge by impairment

Impairment	YOUR FACILITY — N (%)				
	Private residence	Residential Aged Care	Other	Missing	All episodes
8.111 Fracture of hip, unilateral	49 (83.1)	8 (13.6)	2 (3.4)	1	59 (100.0)
8.112 Fracture of hip, bilateral	0 —	0 —	0 —	0	0 —
8.12 Fracture of shaft of femur	9 (100.0)	0 (0.0)	0 (0.0)	0	9 (100.0)
8.13 Fracture of pelvis	17 (85.0)	2 (10.0)	1 (5.0)	0	20 (100.0)
8.141 Fracture of knee	8 (100.0)	0 (0.0)	0 (0.0)	0	8 (100.0)
8.142 Fracture of leg, ankle, foot	15 (100.0)	0 (0.0)	0 (0.0)	0	15 (100.0)
8.15 Fracture of upper limb	6 (60.0)	2 (20.0)	2 (20.0)	0	10 (100.0)
8.16 Fracture of spine	12 (80.0)	1 (6.7)	2 (13.3)	0	15 (100.0)
8.17 Fracture of multiple sites	14 (93.3)	0 (0.0)	1 (6.7)	0	15 (100.0)
8.19 Other orthopaedic fracture	18 (100.0)	0 (0.0)	0 (0.0)	0	18 (100.0)
All Orthopaedic Fractures	148 (87.6)	13 (7.7)	8 (4.7)	1	169 (100.0)

Impairment	AUSTRALIA — N (%)				
	Private residence	Residential Aged Care	Other	Missing	All episodes
8.111 Fracture of hip, unilateral	4,878 (86.5)	462 (8.2)	199 (3.5)	101	5,640 (100.0)
8.112 Fracture of hip, bilateral	69 (90.8)	5 (6.6)	1 (1.3)	1	76 (100.0)
8.12 Fracture of shaft of femur	600 (87.5)	46 (6.7)	34 (5.0)	6	686 (100.0)
8.13 Fracture of pelvis	1,212 (89.6)	82 (6.1)	34 (2.5)	24	1,352 (100.0)
8.141 Fracture of knee	442 (91.1)	14 (2.9)	20 (4.1)	9	485 (100.0)
8.142 Fracture of leg, ankle, foot	1,253 (90.5)	46 (3.3)	55 (4.0)	30	1,384 (100.0)
8.15 Fracture of upper limb	1,019 (85.9)	75 (6.3)	79 (6.7)	13	1,186 (100.0)
8.16 Fracture of spine	1,136 (87.1)	84 (6.4)	68 (5.2)	16	1,304 (100.0)
8.17 Fracture of multiple sites	1,466 (90.9)	69 (4.3)	53 (3.3)	25	1,613 (100.0)
8.19 Other orthopaedic fracture	914 (89.2)	62 (6.0)	36 (3.5)	13	1,025 (100.0)
All Orthopaedic Fractures	#### (88.1)	945 (6.4)	579 (3.9)	238	#### (100.0)

NOTE: Includes only those episodes with mode of episode end equal to either final or interim accommodation

Interim and final accommodation post discharge



YOUR FACILITY (n=200)

AUSTRALIA (n=17,420)

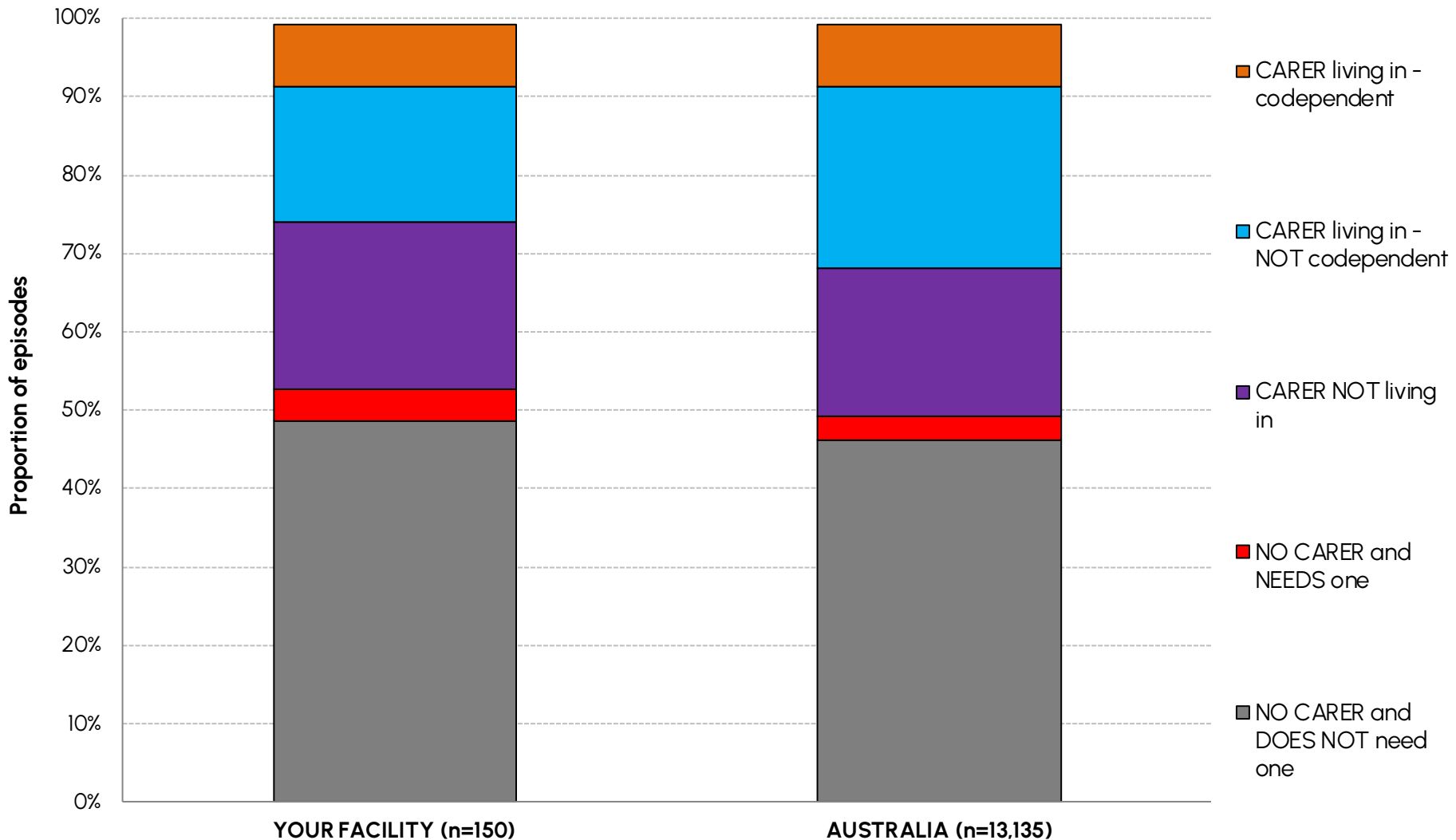
NOTE: Includes only those episodes with mode of episode end equal to either final or interim accommodation

Interim and final accommodation post discharge

Accommodation	YOUR FACILITY				AUSTRALIA			
	Interim	(%)	Final	(%)	Interim	(%)	Final	(%)
Private residence	1	(5.9)	147	(90.7)	240	(18.7)	12,983	(91.4)
Residential Aged Care	8	(47.1)	13	(8.0)	376	(29.4)	944	(6.6)
Community group home	0	(0.0)	0	(0.0)	7	(0.5)	33	(0.2)
Boarding house	0	(0.0)	0	(0.0)	13	(1.0)	14	(0.1)
Transitional living unit	2	(11.8)	1	(0.6)	353	(27.6)	154	(1.1)
Hospital	5	(29.4)	n/a		213	(16.6)	n/a	
Other	1	(5.9)	1	(0.6)	79	(6.2)	73	(0.5)
Missing/Unknown	1		7		45		543	
All episodes	18	(100.0)	169	(100.0)	1,326	(100.0)	####	(100.0)

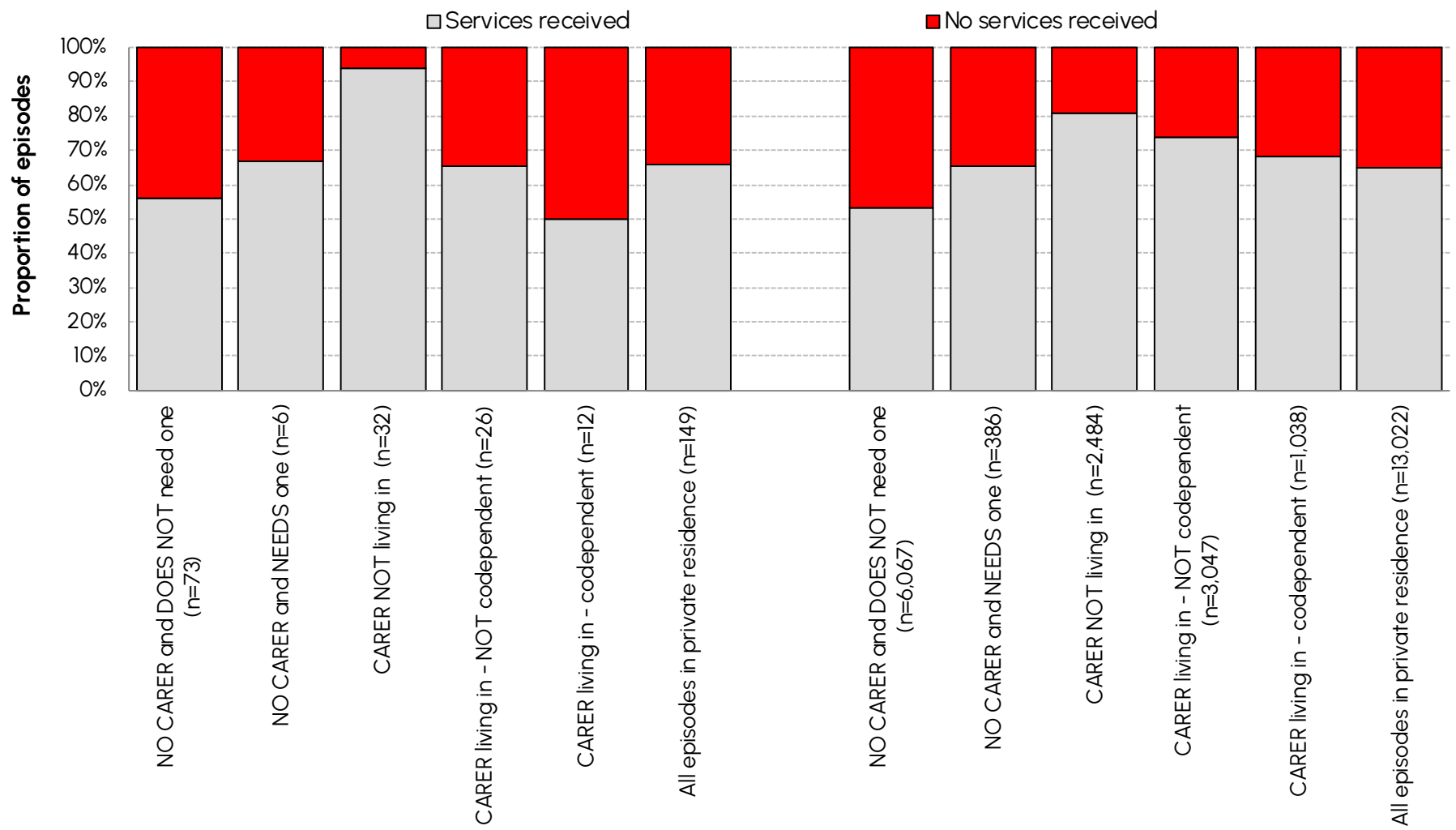
NOTE: Includes only those episodes with mode of episode end equal to either final or interim accommodation

Carer status post discharge



NOTE: Includes only those episodes whose final accommodation is private residence

Any services received post discharge by carer status



YOUR FACILITY (n=149)

AUSTRALIA (n=13,022)

NOTE: Includes only those episodes whose final accommodation is private residence and with known carer status and known services status

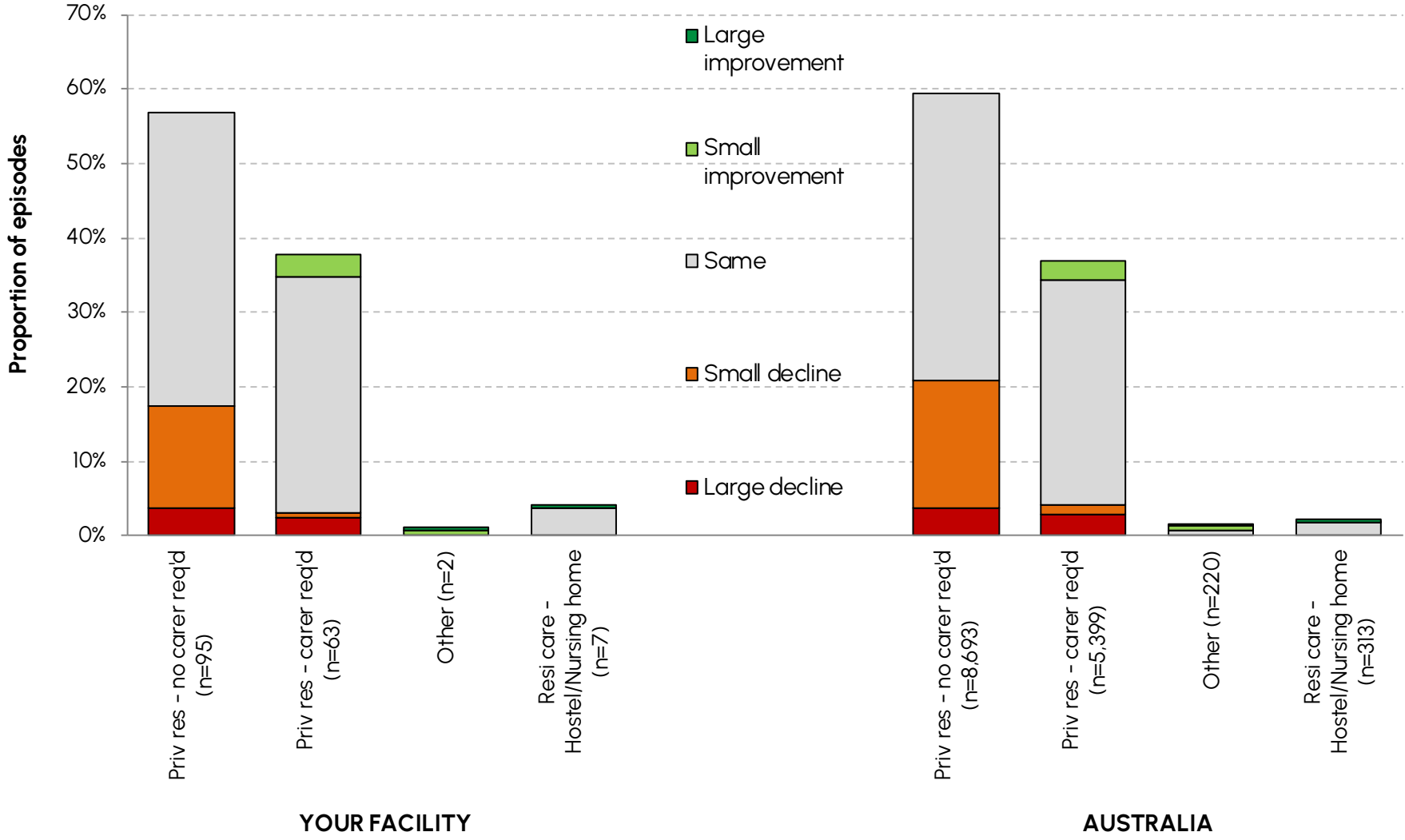
Carer status and any services received post discharge

Carer status post discharge	YOUR FACILITY		AUSTRALIA	
	No.	%	No.	%
NO CARER and DOES NOT need one	73	49.0	6,068	46.6
NO CARER and NEEDS one	6	4.0	386	3.0
CARER NOT living in	32	21.5	2,484	19.1
CARER living in - NOT codependent	26	17.4	3,051	23.4
CARER living in - codependent	12	8.1	1,039	8.0
Missing	1		107	
All episodes in private residence	150	100.0	13,135	100.0

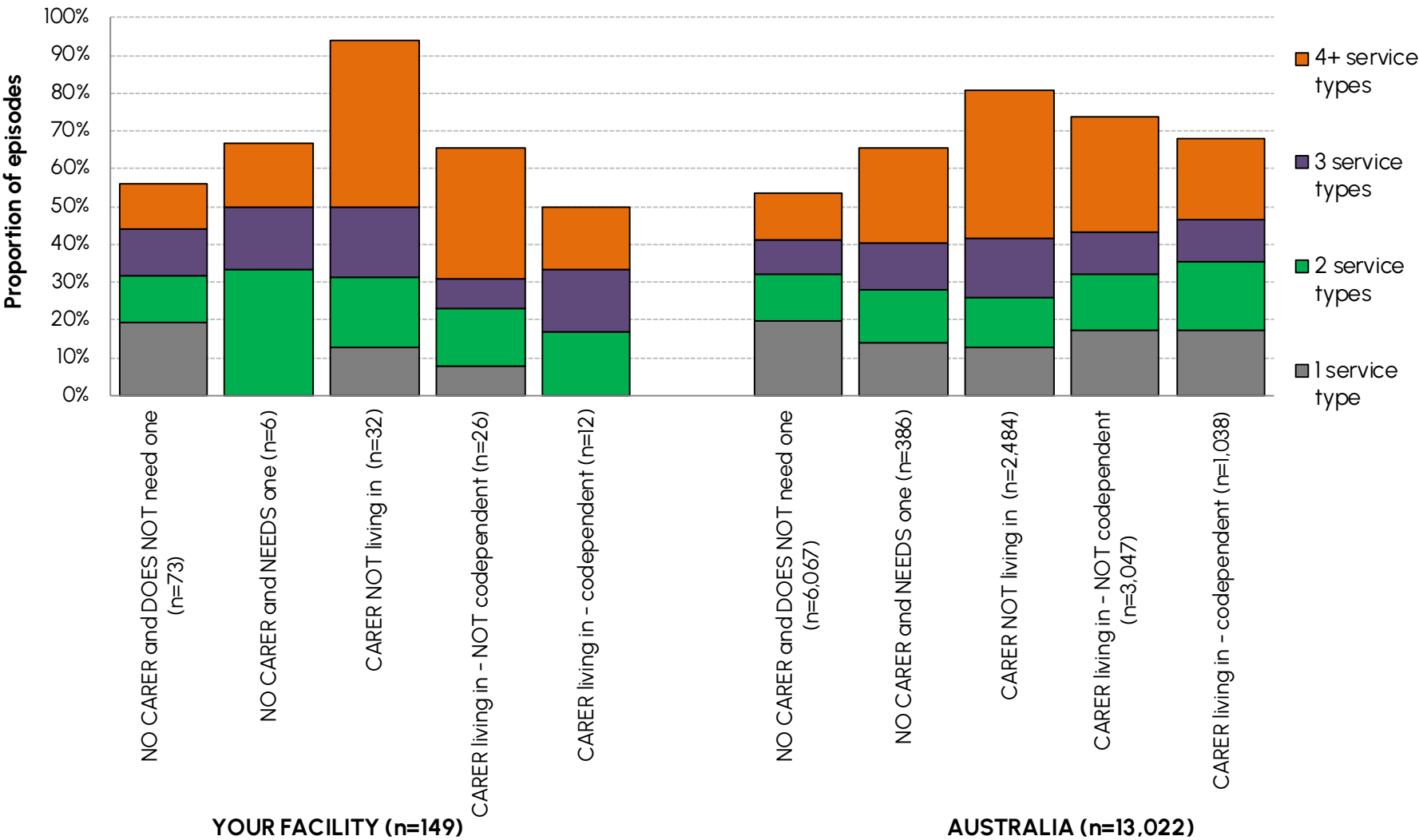
Carer status post discharge	Any services received post discharge?			
	YOUR FACILITY		AUSTRALIA	
	Yes (%)	No (%)	Yes (%)	No (%)
NO CARER and DOES NOT need one	56.2	43.8	53.5	46.5
NO CARER and NEEDS one	66.7	33.3	65.5	34.5
CARER NOT living in	93.8	6.3	80.9	19.1
CARER living in - NOT codependent	65.4	34.6	73.7	26.3
CARER living in - codependent	50.0	50.0	68.1	31.9
All episodes in private residence	65.8	34.2	65.0	35.0

NOTE: Includes only those episodes whose final accommodation is private residence and with known carer status and known services status

Change in prior accommodation post discharge

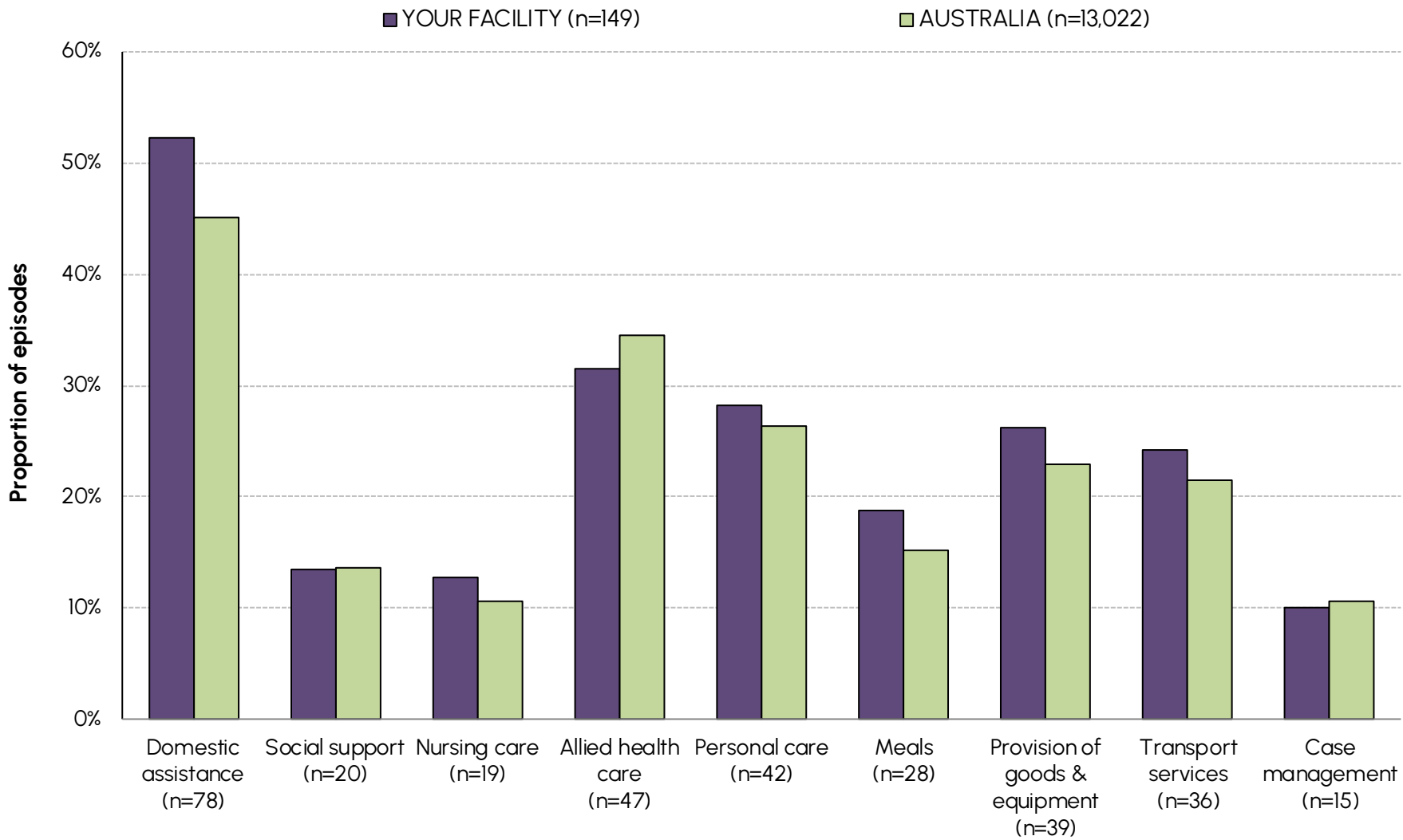


Number of services received post discharge by carer status



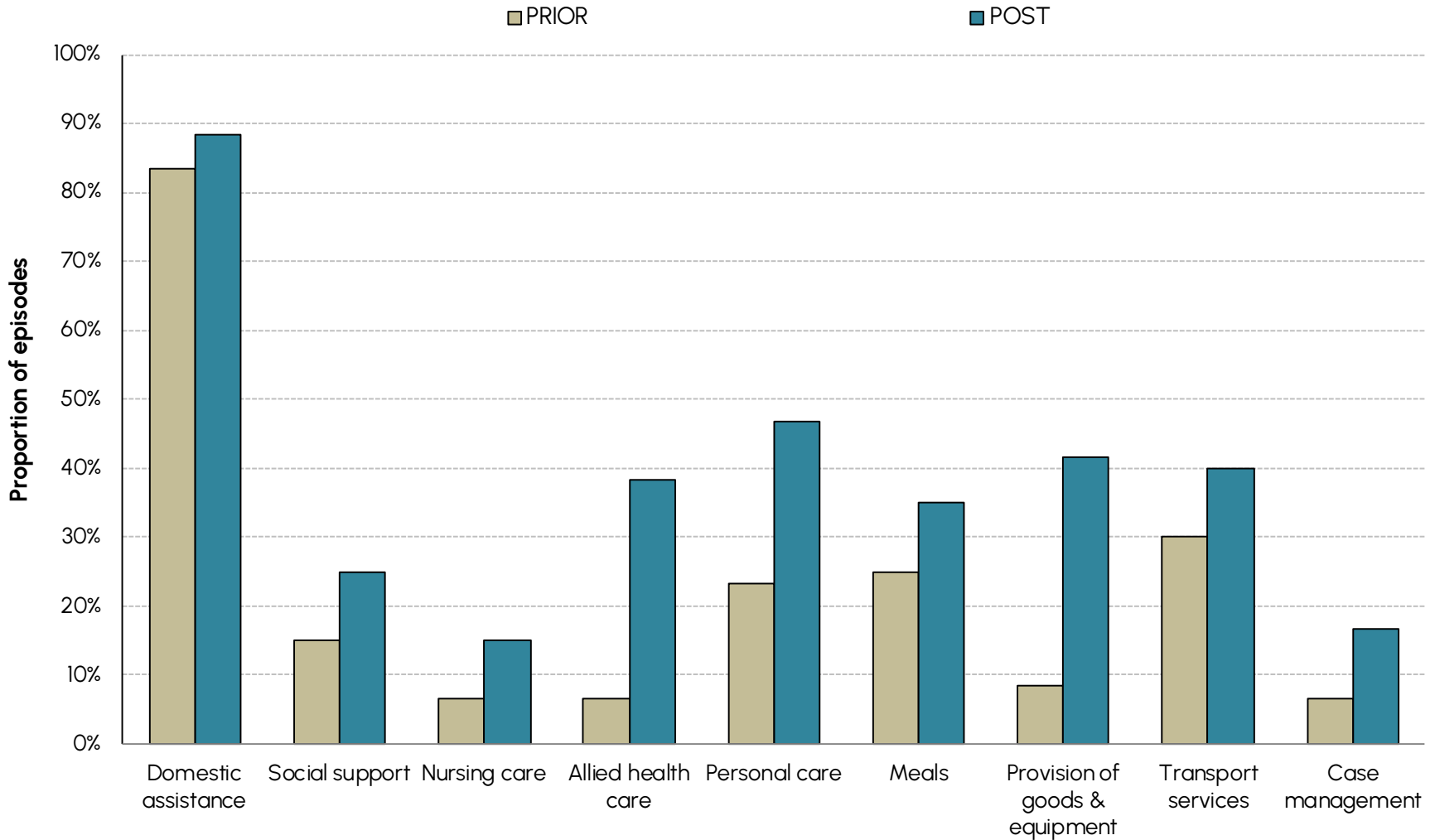
NOTE: Includes only those episodes whose final accommodation is private residence and with known carer status and known services status

Type of services received post discharge



NOTE: Includes only those episodes whose final accommodation is private residence and with known carer status and known services status

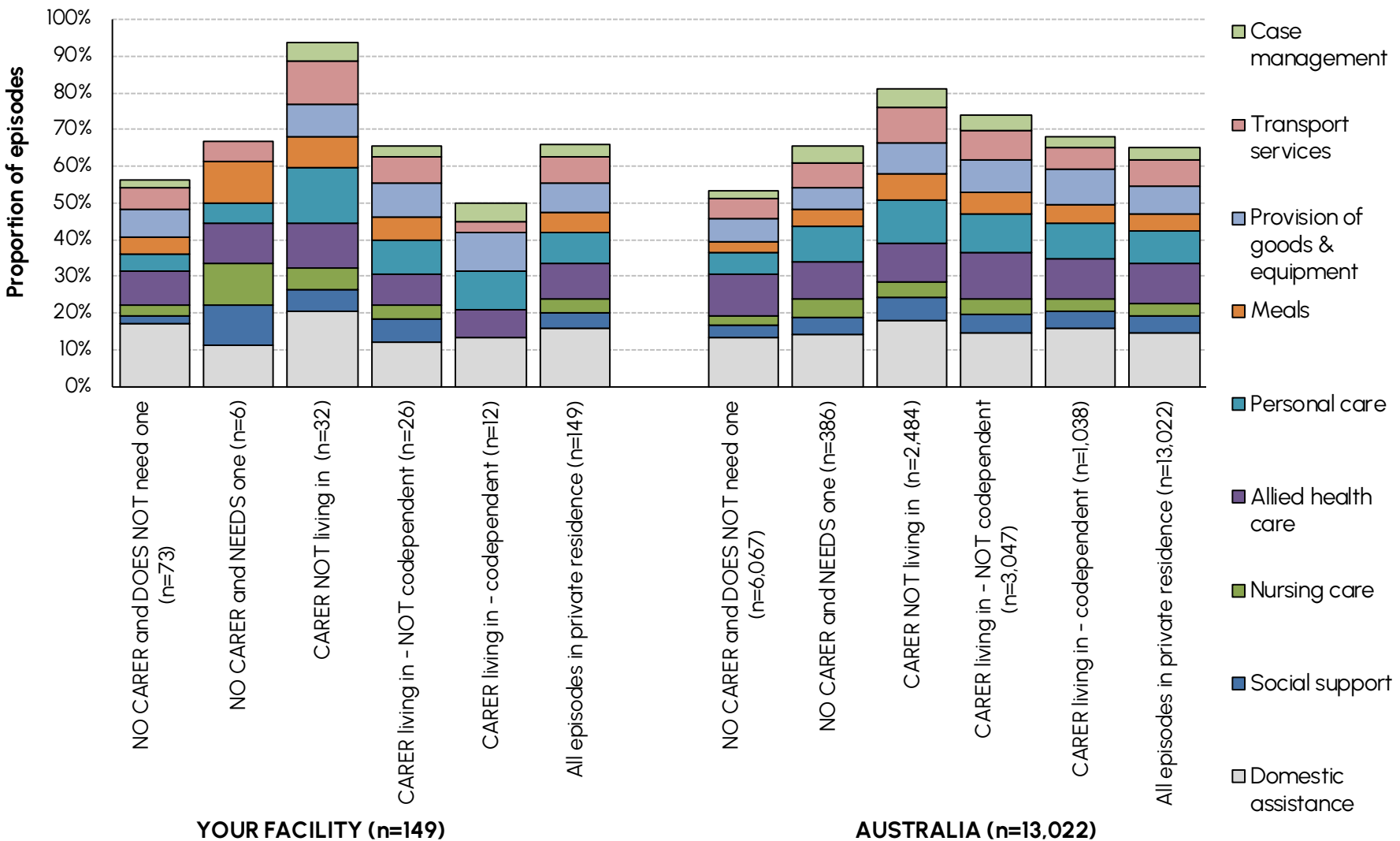
Type of services received pre and post rehabilitation



YOUR FACILITY (n=60)

NOTE: Includes only those episodes whose final accommodation is private residence and with known carer status and received services both pre and post the episode

Type of services received post discharge by carer status



NOTE: Includes only those episodes whose final accommodation is private residence and with known carer status and known services status

Number and type of services received post discharge by carer status – Your facility



Services received post discharge	Carer status post discharge - YOUR FACILITY					
	NO CARER and DOES NOT need	NO CARER and NEEDS one	CARER NOT living in	CARER living in - NOT codependen	CARER living in - codependen	All episodes in private residence
Number of episodes in private residence	73	6	32	26	12	149
Percent of episodes receiving:						
No services	43.8	33.3	6.3	34.6	50.0	34.2
1 service type	19.2	0.0	12.5	7.7	0.0	13.4
2 service types	12.3	33.3	18.8	15.4	16.7	15.4
3 service types	12.3	16.7	18.8	7.7	16.7	13.4
4 or more service types	12.3	16.7	43.8	34.6	16.7	23.5
Service Type received						
Domestic assistance	46.6	33.3	75.0	50.0	41.7	52.3
Social support	5.5	33.3	21.9	26.9	0.0	13.4
Nursing care	8.2	33.3	21.9	15.4	0.0	12.8
Allied health care	26.0	33.3	43.8	34.6	25.0	31.5
Personal care	12.3	16.7	56.3	38.5	33.3	28.2
Meals	12.3	33.3	31.3	26.9	0.0	18.8
Provision of goods & equipment	20.5	0.0	31.3	38.5	33.3	26.2
Transport services	16.4	16.7	43.8	30.8	8.3	24.2
Case management	5.5	0.0	18.8	11.5	16.7	10.1

NOTE: Includes only those episodes whose final accommodation is private residence and with known carer status and known services status

Number and type of services received post discharge by carer status - National

Carer status post discharge - AUSTRALIA						
Services received post discharge	NO CARER and DOES NOT need	NO CARER and NEEDS one	CARER NOT living in	CARER living in - NOT codependen	CARER living in - codependen	All episodes in private residence
Number of episodes in private residence	6,067	386	2,484	3,047	1,038	13,022
Percent of episodes receiving:						
No services	46.5	34.5	19.1	26.3	31.9	35.0
1 service type	19.7	14.0	12.6	17.1	17.3	17.4
2 service types	12.4	14.0	13.3	14.8	18.2	13.7
3 service types	9.0	12.4	15.5	11.4	11.1	11.1
4 or more service types	12.3	25.1	39.5	30.4	21.5	22.8
Service Type received						
Domestic assistance	33.9	47.9	66.7	48.5	47.6	45.1
Social support	7.9	15.0	23.0	17.2	13.4	13.6
Nursing care	7.0	17.4	15.0	13.0	10.7	10.5
Allied health care	28.6	32.6	39.6	43.0	33.0	34.5
Personal care	14.5	33.2	43.5	34.2	28.5	26.3
Meals	7.9	15.5	27.3	19.7	15.6	15.2
Provision of goods & equipment	15.9	19.9	30.9	28.8	28.0	22.9
Transport services	12.9	22.8	36.1	27.5	17.7	21.4
Case management	6.2	15.3	17.9	13.2	9.5	10.6

NOTE: Includes only those episodes whose final accommodation is private residence and with known carer status and known services status

AN-SNAP class

The Australian National Sub-Acute and Non-Acute Patient Classification (AN-SNAP) is a casemix classification for sub-acute and non-acute care provided in a variety of treatment settings. Version 5, introduced in July 2022 and used in these reports, uses the episode's impairment, age, weighted FIM motor admission score and FIM cognition score to determine which of 48 inpatient (admitted overnight adult) rehabilitation classes the episode should be assigned to.

Between AN-SNAP V4 and V5 there have been some minor refinements to the positioning of age and FIM score splits, and minor revisions to the impairment-specific weights used for the FIM item scores in the calculation of a motor score; orthopaedic replacement classes (lost in Version 4) have returned and brain injury classes are now split first on cognition FIM scores and second on motor FIM scores. Refer Appendix 3 for the full list of classes and the section Impairment specific weighted FIM scores below for more detail about how the items are weighted. For more information about AN-SNAP class V5 please refer to the AROC website.

AROC

The Australasian Rehabilitation Outcomes Centre (AROC) is the Australian and New Zealand rehabilitation medicine **integrated outcomes centre** that collects rehabilitation outcome measures at point-of-care from both private and public rehabilitation services across both countries. Established in 2002 it is a joint initiative of the Australasian rehabilitation sector (providers, payers, regulators and consumers) and current membership encompasses close to 100% of all Australian and New Zealand rehabilitation services, who routinely submit deidentified data to AROC for each rehabilitation episode, including information about demographics, process indicators and functional status.

Benchmark group

In Calendar Year 2015 new benchmark groups were introduced. With the exception of brain injury and spinal cord dysfunction an episode's benchmark group is determined by the country of the submitting facility and can be either Australia or New Zealand. For episodes recorded as brain injury or spinal cord dysfunction (or major multi trauma involving brain injury and/or spinal cord dysfunction) the benchmark group is determined by first admission episodes reported by all specialist (brain/spinal) units in both Australia and New Zealand, calculated separately for traumatic and non-traumatic episodes. The benchmark data set is all episodes during the reporting period in the AROC database.

Appendix 1: Glossary

Casemix-adjusted relative mean

A comparison of some statistics such as length of stay and FIM change is only possible if the groups being compared comprise similar episodes. The specific impairment, level of functional independence, age and other factors relating to the episode have an impact on these statistics. If, for example, your average length of stay were different from the benchmark group, we could not tell if your episodes really were different or if the difference was merely due to the unique casemix.

To overcome this difficulty, it is possible to statistically control for casemix. This is achieved by adjusting measures such as length of stay and FIM change so that the comparison is only made between similar types of episodes.

In this report we have calculated casemix-adjusted relative mean length of stay and casemix-adjusted relative mean FIM change for completed episodes. To do this, we needed to know the LOS (or FIM change) and AN-SNAP class for each episode as well as the mean LOS (or FIM change) for the benchmark group for each AN-SNAP class. We then calculated the difference between each episode LOS (or FIM change) and the mean LOS (or FIM change) of the appropriate AN-SNAP class. These differences were then averaged to produce the casemix-adjusted relative mean. This may be easier to understand as a set of two equations illustrated below.

For each episode calculate:

LOSdiff = episode’s LOS – mean LOS appropriate AN-SNAP class.

Casemix-adjusted relative mean = Sum of LOSdiff for all episodes divided by Number of episodes

A casemix-adjusted relative mean length of stay of, say, -2 days would indicate that, on average, your facility has a LOS of 2 days less than similar episodes in the benchmark group. A casemix-adjusted relative mean FIM change of, say, 4 would indicate that, on average, your facility improved 4 FIM points more than similar episodes in the benchmark group. It is important to consider both of these statistics together. For example, your episodes may have stayed longer than similar episodes in the benchmark group, but they may also have achieved a greater functional improvement.

Complete/incomplete episode

An episode is considered “complete” for the purpose of calculating outcome statistics in this report if (A) the mode of episode end was either 1 (discharged to usual accommodation) or 2 (discharged to interim accommodation) AND total FIM score at episode end was greater than 18, or (B) the mode of episode end was 7 (change of care type within sub-acute/non-acute care) AND length of stay greater than 6 days.

Confidence interval for a mean

To decide if a difference between your facility's mean score and the benchmark group's mean is statistically significant, look at the two confidence intervals. If they overlap, the difference is not likely to be statistically significant. For example your facility's mean onset to first admission may be 16 days while the benchmark group's mean is 12 days. These values are certainly different, but the difference may not be statistically significant. If the 95% confidence interval of your data were (13 – 19) (i.e. 13 days to 19 days) and that of the benchmark group data set were (10.5 – 13.5) (i.e. 10.5 days to 13.5 days), the difference is not likely to be statistically significant as the two confidence intervals overlap. Note that this is a conservative comparison and is not as accurate as a formal statistical test.

COVID-19

The immediate impact of COVID-19 on rehabilitation was a 12% decline in the number of rehabilitation episodes following temporary suspension of elective surgeries, ward re-assignments and closures, and fewer traumatic accidents. The ongoing impact of COVID-19 on rehabilitation from still reduced inpatient beds, increasing patient complexity and staffing issues has seen inpatient rehabilitation episodes decline 20% compared to the years prior to COVID.

The extent of the impact of COVID-19 on the demand for rehabilitation in both the inpatient or community rehabilitation is yet to be fully realised. To help measure the impact of COVID, and importantly long COVID, AROC added COVID specific impairment codes, comorbidity and complication codes to the AROC datasets effective July 2022. Appendix 2 lists the COVID impairment codes, which map to AN-SNAP V5 classes 5A91-5A93 & 5AZ3-5AZ4. COVID related data provided to AROC through the adjunct data collection along with entries in the patient comment field have been mapped to the new COVID codes.

- **Guidelines for the collection and coding of COVID-19 AROC data** can be found at <https://documents.uow.edu.au/content/groups/public/@web/@chsd/@aroc/documents/doc/uow272916.pdf>
- **The AROC COVID Coding Decision Tree** can be found at <https://documents.uow.edu.au/content/groups/public/@web/@chsd/@aroc/documents/doc/uow272917.pdf>
- Updated **Data Collection Forms** can be found at <https://ahsri.atlassian.net/wiki/spaces/AD/pages/17268778/Data+Collection+Forms>
- Services who do not have access to the new COVID codes are asked to identify patients who have had COVID-19 in the AROC data set services by entering the relevant **COVID-19 impairment code, comorbidity or complication** (as appropriate) in the patient comment field.

COVID-19 (cont.)

The potential sequelae of COVID-19 appear to be numerous, so the functional deficits of these patients that result in the need for rehabilitation can be quite varied. To enable comprehensive reporting of rehabilitation outcomes for these patients, the National COVID-19 rehabilitation adjunct data collection was created, in collaboration with the NSW Agency for Clinical Innovation's Rehabilitation Community of Practice.

The national COVID-19 rehabilitation adjunct data collection covers all care settings – in-reach, inpatient and ambulatory – and services do not need to be an AROC member to participate. The data collection is to be completed for **ALL** patients who have received a positive diagnosis of COVID-19 and are now participating in rehabilitation in any care setting (even if COVID codes have been used in the AROC data collection). Where possible and appropriate, the National COVID-19 rehabilitation adjunct data will be linked with the AROC inpatient and/or ambulatory data collections.

The National COVID-19 rehabilitation adjunct data collection is entered online at <https://apps.ahsri.uow.edu.au/redcap/surveys/?s=DR4AE3FHAX>.

All relevant data items must be known prior to commencing data entry as there is no save and resume function. For convenience a data collection form is provided as an optional mechanism to collect the data (available here <https://apps.ahsri.uow.edu.au/downloads/CovidCollection.pdf>).

Data Concatenation

Increasingly some jurisdictions have introduced business rules around data collection that have resulted in episodes of rehabilitation being ended and then re-commenced a few days later. AROC definitions would record these as one episode with the period in between defined as a suspension of rehabilitation. Such business rules result in two (or more) episodes of rehabilitation being reported to AROC when only one full episode should be reported.

Whilst this happens much more frequently in some impairment groups (e.g. spinal cord injury & brain injury) it does impact all impairments to some degree. Reporting of multiple episodes impacts outcomes analysis, resulting in shorter than real length of stays and reduced FIM change being reported.

Concatenated episodes will have a revised Length of stay and FIM change (start details will be taken from the identified primary episode; end details from the identified final episode), and will also have a revised number of suspensions (being the sum across all concatenated 'submitted episodes' plus the number of breaks between 'submitted episodes') and a revised number of suspension days (being the sum across all concatenated 'submitted episodes' plus the sum of all days between 'submitted episodes').

Submitted episodes to AROC are identified for concatenation based on the following rules:

- Subsequent episodes **MUST** have same impairment code and be from same reporting facility with same MRN and DOB.
- Leading episode must be discharged into the hospital system with following episode being admitted from hospital system.
- Number of days between episodes being 0-14 days for spinal and 0-7 days for all other impairments.

To make it easier for AROC to identify episodes that should be concatenated in January 2014 the data item Mode of Episode Start had an additional code set value added: **9 = recommenced rehabilitation episode following suspension.**

Data completeness score

The data completeness score is the average percent reported for all AROC data items (including impairment specific items where relevant) with the exception of those items that are optional. Path, facility code, facility name, MRN and episode end date are not included as these fields are used to extract the data for reporting.

Functional Independence Measure (FIM)

The Functional Independence Measure (FIM) is used as a tool to assess the functional independence of patients at episode start and end.

- The **FIM motor score** is the sum of the scores obtained for the first thirteen (13) items in the FIM instrument. A higher FIM motor score indicates a greater level of functional independence in motor skills.
- The **FIM cognition score** is the sum of the scores obtained for the final five (5) items in the FIM instrument. A higher FIM cognition score indicates better cognitive function.

FIM change

The change in functional status from the beginning to the end of the episode is measured by the change in FIM score. This is calculated as the FIM score at the end of the episode minus the FIM score at the start of the episode. In some instances the change in total FIM score (the sum of items 1 to 18) is calculated. In other cases either the change in FIM motor score (the sum of items 1 to 13) or the change in FIM cognition score (the sum of items 14 to 18) is calculated.

A higher FIM score corresponds to higher level of function while a lower FIM score represents less functional independence. This means that a positive value for the change in FIM score indicates functional improvement during the episode. A negative value for the change in FIM score indicates a decline in functional independence during the episode.

FIM efficiency

The FIM efficiency indicates the average FIM improvement per day. This statistic is calculated as the mean FIM change divided by the mean length of stay (LOS).

Impairment-specific weighted FIM motor scores

AN-SNAP v5, like Version 4, uses impairment-specific weighted FIM motor scores in the inpatient (admitted overnight adult) rehabilitation classes. Weights reflect the relative impact of each item on the cost of caring for the rehabilitation patient. If an item has a weight of more than 1, it will have an impact on the cost of care that is more than average – a weight less than 1 implies the impact will be less than average. Within each impairment type, the weights are scaled to sum to 13 – thus both weighted and unweighted scores range from a minimum of 13 to a maximum of 91. Where impairments are grouped together in the classification, a single set of weights for that group has been derived. The exception is the FIM motor item stairs where all weights were set to 1.

Interquartile range (IQR)

The middle 50% — between the 25% percentile and the 75% percentile.

Length of stay (LOS)

The length of stay (LOS) of an episode is the number of days on which care has been provided. It is calculated as the end date minus the start date, minus the number of leave days during the episode.

Mean

The mean, or average, is a measure of the "centre" of your data. It is calculated by adding all data values and dividing by the number of values. The mean can be used to calculate a total. For example, if the mean length of stay were 21 days for a group of 30 episodes, the total number of bed days could be calculated as 21 multiplied by 30.

Mean or median - which to use?

The mean and the median are both measures of the "centre" of your data. For data that are symmetric about the mean (e.g. normally distributed data), the mean and the median will be close to each other. However they may have very different values for some data sets.

As an example, consider length of stay. Typically, most episodes within a class will have roughly the same length of stay. However, there will be a few episodes that are longer than the others and a smaller number that are very long. These longer lengths of stay have the effect of increasing the mean length of stay, but have little or no effect on the median.

If you want to know how long episodes in this class "typically" stay, you will probably be interested in the median as this gives you the middle value - half the episodes are longer and half the episodes are shorter. If, however, your interest is in allocation of resources and you want to know how long episodes stay on average, or if you want to get an idea of the total number of days of care provided to episodes in this class, you will need to look at the mean. (The total days can be calculated by multiplying the mean with the number in the class).

Median

The median provides the middle value of your data – half the values lie above it and half the values lie below. For example, if your median length of stay were 20 days, half of your episodes would have stayed for 20 days or less, while the other half would have stayed 20 days or longer. Note that the median, unlike the mean, cannot be used to calculate the total number of bed days.

Relative Functional Gain (RFG) and Relative Functional Efficiency (RFE)

FIM change measures the absolute difference between admission FIM and discharge FIM scores, i.e. client 1 had a 10 point improvement (admission 46 - discharge 56) and client 2 also had a ten point improvement (admission 116 - discharge 126). FIM change does not take into account the proportion of FIM change possible, i.e. client 1 improved 10 points out of possible 80 (126-46) and client 2 improved 10 points out of a possible 10 (126-116). So not all patients that improve 10 FIM points are the same. This proportion of FIM change possible is known as the Relative Functional Gain (RFG) and tries to take into account the amount of FIM gain possible. RFG is calculated as follows:

- If actual FIM change > 0 [improved]
 - **(Discharge FIM - Admission FIM)/(126 - Admission FIM)**
 - e.g. $(90 - 50)/(126-50) = 40/76 = 52.6\%$
- If actual FIM change < 0 [declined]
 - **(Discharge FIM - Admission FIM)/ (Admission FIM)**
 - e.g. $(90 - 100)/100 = -10/100 = -10\%$
- If actual FIM change = 0 [no change]
 - 0%

FIM efficiency measures the absolute difference between admission FIM and discharge FIM scores per day, without taking into account the proportion of FIM change possible. The Relative Functional Gain per day is known as the Relative Functional Efficiency (RFE), and is calculated as the RFG divided by the length of stay (LOS).

Submitted versus reporting episodes

Submitted episodes are those submitted to AROC either via direct data entry or upload through AROC Online Services. These episodes have not been concatenated.

The reporting data used by AROC in this report is made up of concatenated episodes. For most episodes there is no difference between the submitted episode and the one used for reporting.

Valid FIM

For an episode to have a Valid FIM flag it must be a complete episode and each of the 18 items on admission and discharge must have been answered with a valid response of 1-7. The Valid FIM flag is used in analysis which measures FIM scores as an outcome.

Valid LOS

For an episode to have a Valid LOS flag it must be a complete episode with a length of stay ranging between 1 and 500 days. The Valid LOS flag is used in analysis which measures LOS as an outcome.

Version 4 data set

The version 4 (V4) AROC dataset was introduced on 1 July 2012. V4 is designed as a bank of data items, combinations of which are used to describe 4 possible pathways of care (see the AROC website for more information about the different pathways). NOTE: This report utilises only Pathway 3 data (inpatient direct care).

Appendix 2: AROC Impairment Codes

STROKE

Haemorrhagic

- 1.11 Left body involvement
- 1.12 Right body involvement
- 1.13 Bilateral involvement
- 1.14 No paresis
- 1.19 Other haemorrhagic stroke

Ischaemic

- 1.21 Left body involvement (right brain)
- 1.22 Right body involvement (left brain)
- 1.23 Bilateral involvement
- 1.24 No paresis
- 1.29 Other ischaemic stroke

BRAIN DYSFUNCTION

Non-traumatic

- 2.11 Sub-arachnoid haemorrhage
- 2.12 Anoxic brain damage
- 2.13 Other non-traumatic brain dysfunction

Traumatic

- 2.21 Open injury
- 2.22 Closed injury

NEUROLOGICAL CONDITIONS

- 3.1 Multiple Sclerosis
- 3.2 Parkinsonism
- 3.3 Polyneuropathy
- 3.4 Guillian-Barre
- 3.5 Cerebral palsy
- 3.8 Neuromuscular disorders
- 3.9 Other neurological conditions

SPINAL CORD DYSFUNCTION

Non traumatic spinal cord dysfunction

- 4.111 Paraplegia, incomplete
- 4.112 Paraplegia, complete
- 4.1211 Quadriplegia, incomplete C1-4
- 4.1212 Quadriplegia, incomplete C5-8
- 4.1221 Quadriplegia, complete C1-4
- 4.1222 Quadriplegia, complete C5-8
- 4.13 Other non-traumatic spinal cord dysfunction

Traumatic spinal cord dysfunction

- 4.211 Paraplegia, incomplete
- 4.212 Paraplegia, complete
- 4.2211 Quadriplegia, incomplete C1-4
- 4.2212 Quadriplegia, incomplete C5-8
- 4.2221 Quadriplegia, complete C1-4
- 4.2222 Quadriplegia, complete C5-8
- 4.23 Other traumatic spinal cord dysfunction

AMPUTATION OF LIMB

Not resulting from trauma

- 5.11 Single upper above elbow
- 5.12 Single upper below elbow
- 5.13 Single lower above knee (includes through knee)
- 5.14 Single lower below knee
- 5.15 Double lower above knee (includes through knee)
- 5.16 Double lower above/below knee
- 5.17 Double lower below knee
- 5.18 Partial foot (single or double)
- 5.19 Other amputation not from trauma

AMPUTATION OF LIMB

Resulting from trauma

- 5.21 Single upper above elbow
- 5.22 Single upper below elbow
- 5.23 Single lower above knee (includes through knee)
- 5.24 Single lower below knee
- 5.25 Double lower above knee (includes through knee)
- 5.26 Double lower above/below knee
- 5.27 Double lower below knee
- 5.28 Partial foot (single or double)
- 5.29 Other amputation from trauma

ARTHRITIS

- 6.1 Rheumatoid arthritis
- 6.2 Osteoarthritis
- 6.9 Other arthritis

PAIN SYNDROMES

- 7.1 Neck pain
- 7.2 Back Pain
- 7.3 Extremity pain
- 7.4 Headache (includes migraine)
- 7.5 Multi-site pain
- 7.9 Other pain (includes abdo/chest wall)

Appendix 2: AROC Impairment Codes

ORTHOPAEDIC CONDITIONS

Fractures (includes dislocation)

- 8.111 Fracture of hip, unilateral (incl. #NOF)
- 8.112 Fracture of hip, bilateral (incl. #NOF)
- 8.12 Fracture of shaft of femur
- 8.13 Fracture of pelvis
- 8.141 Fracture of knee
- 8.142 Fracture of lower leg, ankle, foot
- 8.15 Fracture of upper limb
- 8.16 Fracture of spine
- 8.17 Fracture of multiple sites
- 8.19 Other orthopaedic fracture

Post Orthopaedic Surgery

- 8.211 Unilateral hip replacement
- 8.212 Bilateral hip replacement
- 8.221 Unilateral knee replacement
- 8.222 Bilateral knee replacement
- 8.231 Knee and hip replacement, same side
- 8.232 Knee and hip replacement, diff sides
- 8.24 Shoulder replacement
- 8.25 Post spinal surgery
- 8.26 Other orthopaedic surgery

Soft tissue injury

- 8.3 Soft tissue injury

CARDIAC

- 9.1 Following recent onset of new cardiac impairment
- 9.2 Chronic cardiac insufficiency
- 9.3 Heart and heart/lung transplant

PULMONARY

- 10.1 Chronic obstructive pulmonary disease
- 10.2 Lung transplant
- 10.9 Other pulmonary

BURNS

- 11 Burns

CONGENITAL DEFORMITIES

- 12.1 Spina bifida
- 12.9 Other congenital deformity

OTHER DISABLING IMPAIRMENTS

- 13.1 Lymphoedema
- 13.3 Conversion disorder
- 13.9 Other disabling impairments that cannot be classified into a specific group

MAJOR MULTIPLE TRAUMA

- 14.1 Brain + spinal cord injury
- 14.2 Brain + multiple fracture/amputation
- 14.3 Spinal cord + multi fracture/amputation
- 14.9 Other multiple trauma

DEVELOPMENTAL DISABILITIES

- 15.1 Developmental disabilities (excludes cerebral palsy)

RE-CONDITIONING/RESTORATIVE

- 16.1 Re-conditioning following surgery
- 16.2 Reconditioning following medical illness
- 16.3 Cancer rehabilitation

COVID-19 CONDITIONS

- 18.1 COVID-19 with pulmonary issues
- 18.2 COVID-19 with deconditioning
- 18.9 COVID-19 all other

Appendix 3: AN-SNAP V5 Overnight Rehabilitation Classes



Class Description of AN-SNAP class

5AA1	Stroke, Weighted FIM Motor 63 - 91, FIM Cognition 30 - 35
5AA2	Stroke, Weighted FIM Motor 63 - 91, FIM Cognition 21 - 29
5AA3	Stroke, Weighted FIM Motor 63 - 91, FIM Cognition 5 - 20
5AA4	Stroke, Weighted FIM Motor 44 - 62, FIM Cognition 18 - 35
5AA5	Stroke, Weighted FIM Motor 44 - 62, FIM Cognition 5 - 17
5AA6	Stroke, Weighted FIM Motor 19 - 43, Age >= 80
5AA7	Stroke, Weighted FIM Motor 19 - 43, Age 67 - 79
5AA8	Stroke, Weighted FIM Motor 19 - 43 Age 18 - 66
5AB1	Brain dysfunction, FIM Cognition 27 - 35 Weighted FIM Motor 59 - 91
5AB2	Brain dysfunction, FIM Cognition 27 - 35 Weighted FIM Motor 19 - 58
5AB3	Brain dysfunction, FIM Cognition 19 - 26 Weighted FIM Motor 50 - 91
5AB4	Brain dysfunction, FIM Cognition 19 - 26 Weighted FIM Motor 19 - 49
5AB5	Brain dysfunction, FIM Cognition 5 - 18 Weighted FIM Motor 39 - 91
5AB6	Brain dysfunction, FIM Cognition 5 - 18 Weighted FIM Motor 19 - 38
5AC1	Neurological conditions, Weighted FIM Motor 70 - 91
5AC2	Neurological conditions, Weighted FIM Motor 50 - 69
5AC3	Neurological conditions, Weighted FIM Motor 19 - 49
5AD1	Spinal cord dysfunction, Weighted FIM Motor 55 - 91
5AD2	Spinal cord dysfunction, Weighted FIM Motor 37 - 54
5AD3	Spinal cord dysfunction, Weighted FIM Motor 19 - 36
5AE1	Amputation of limb, Weighted FIM Motor 19-91
5AH1	Orthopaedic conditions, fractures, Weighted FIM Motor 48 - 91, FIM Cognition 33 - 35
5AH2	Orthopaedic conditions, fractures, Weighted FIM Motor 48 - 91, FIM Cognition 21 - 32
5AH3	Orthopaedic conditions, fractures, Weighted FIM Motor 48 - 91, FIM Cognition 5 - 20

Class Description of AN-SNAP class

5AH4	Orthopaedic conditions, fractures, Weighted FIM Motor 19 - 47
5A41	Orthopaedic conditions, replacement (knee, hip, shoulder), Weighted FIM Motor 61 - 91
5A42	Orthopaedic conditions, replacement (knee, hip, shoulder), Weighted FIM Motor 45 - 60
5A43	Orthopaedic conditions, replacement (knee, hip, shoulder), Weighted FIM Motor 19 - 44
5A21	Orthopaedic conditions, all other, Weighted FIM Motor 57 - 91
5A22	Orthopaedic conditions, all other, Weighted FIM Motor 41 - 56
5A23	Orthopaedic conditions, all other, Weighted FIM Motor 19 - 40
5A31	Cardiac, Pain syndromes, and Pulmonary, Weighted FIM Motor 66 - 91
5A32	Cardiac, Pain syndromes, and Pulmonary, Weighted FIM Motor 38 - 65
5A33	Cardiac, Pain syndromes, and Pulmonary, Weighted FIM Motor 19 - 37
5AP1	Major Multiple Trauma, Weighted FIM Motor 51 - 91
5AP2	Major Multiple Trauma, Weighted FIM Motor 19 - 50
5AR1	Reconditioning, Weighted FIM Motor 64 - 91, FIM Cognition 29 - 35
5AR2	Reconditioning, Weighted FIM Motor 64 - 91, FIM Cognition 5 - 28
5AR3	Reconditioning, Weighted FIM Motor 48 - 63, FIM Cognition 19 - 35
5AR4	Reconditioning, Weighted FIM Motor 48 - 63, FIM Cognition 5 - 18
5AR5	Reconditioning, Weighted FIM Motor 19 - 47
5A91	All other impairments, Weighted FIM Motor 61 - 91
5A92	All other impairments, Weighted FIM Motor 42 - 60
5A93	All other impairments, Weighted FIM Motor 19 - 41
5AZ1	Weighted FIM Motor score 13-18, Brain, Spine, MMT, Burns, Age >= 59
5AZ2	Weighted FIM Motor score 13-18, Brain, Spine, MMT, Burns, Age 18 - 58
5AZ3	Weighted FIM Motor score 13-18, All other impairments, Age >= 79
5AZ4	Weighted FIM Motor score 13-18, All other impairments, Age 18 - 78

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- **Disclaimer**

AROC has made every effort to ensure that the data used in these reports are accurate. Data submitted to AROC are checked for anomalies and facilities are asked to re-submit data prior to the production of AROC reports. We have provided general guidelines on the interpretation of the information reported but would advise readers to use their professional judgement in considering all information contained in this report.
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