

# AROC Impairment Specific Report

## Orthopaedic Fractures

INPATIENT – PATHWAY 3

July 2019 – June 2020

Anywhere Hospital



**Australasian  
Faculty of  
Rehabilitation  
Medicine**



australian health services  
research institute



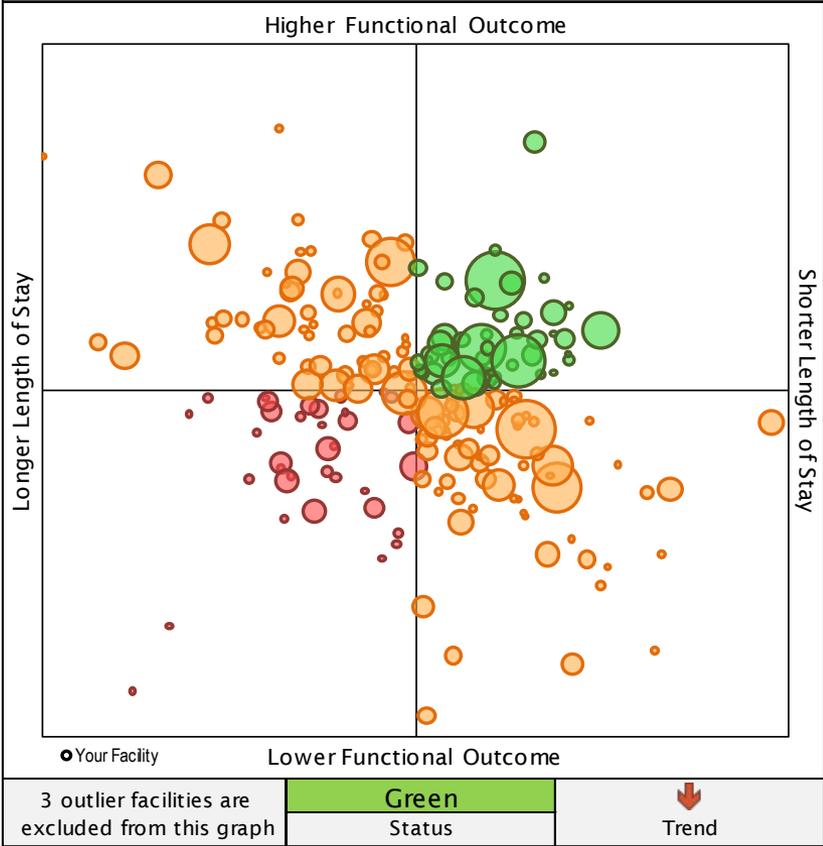
**UNIVERSITY  
OF WOLLONGONG  
AUSTRALIA**

Orthopaedic fractures dashboard.....	3
Data used in this report.....	5
Orthopaedic fractures impairment codes.....	6
Orthopaedic fractures AN-SNAP classes.....	7
The BIG picture.....	8
Review of FIM item scoring by AN-SNAP class.....	19
Outcomes analysis.....	25
Explanatory data.....	45
Appendix 1: Glossary.....	96
Appendix 2: AROC impairment codes.....	104
Appendix 3: AN-SNAP classes.....	106
Acknowledgements.....	107
AROC contact details.....	108

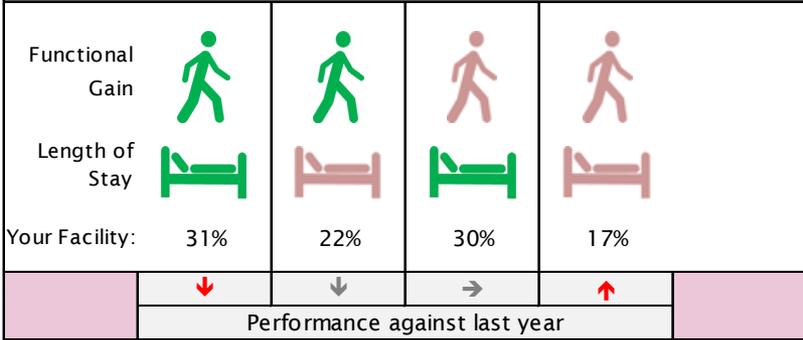
# Orthopaedic Fractures Dashboard



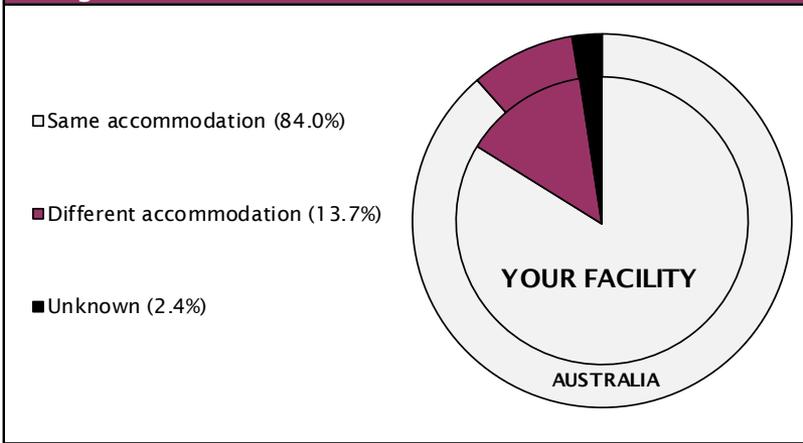
## Rehabilitation Outcomes by Facility - AUSTRALIA



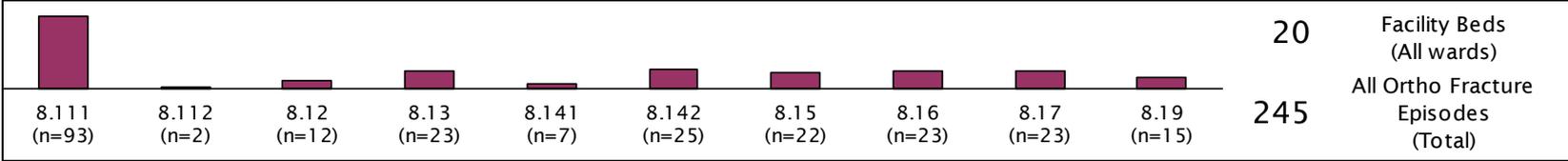
## Performance Against Benchmark



## Change in Accommodation



## Number of Episodes by Impairment



# Orthopaedic Fractures Dashboard

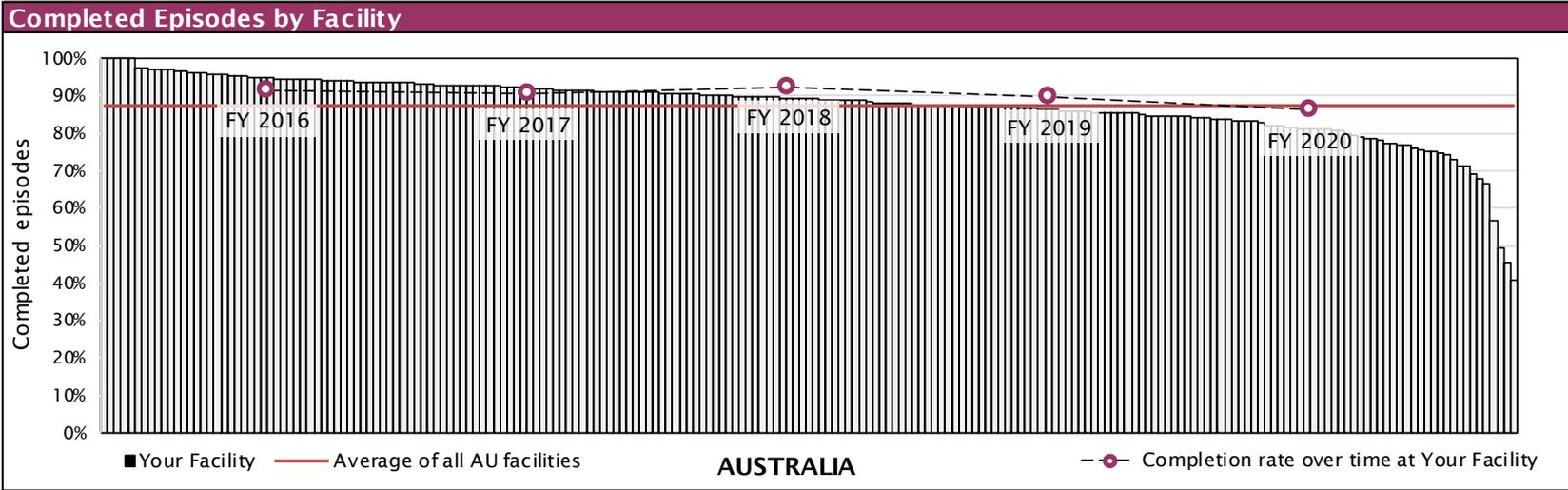


Key Indicators*	
YOUR FACILITY	AUSTRALIA
Average Age: <b>78.4</b>	Average Age: 78.4
Mortality Rate: <b>0.4%</b>	Mortality Rate: 0.2%
% with at least one comorbidity: <b>49%</b>	% with at least one comorbidity: 53%
% with at least one complication: <b>28%</b>	% with at least one complication: 27%
% episodes with start delays: <b>12%</b>	% episodes with start delays: 9%
Days between onset and rehab episode: <b>11.4</b>	Days between onset and rehab episode: 11.9
Days between clinically rehab ready & start date: <b>0.4</b>	Days between clinically rehab ready & start date: 0.3

\* Mean value provided unless otherwise specified

Facility FIM Training*	
FIM Credentialed Staff per 100 Episodes	FIM Credentialed Facility Trainers
11.7 Your Facility	<b>3</b> Your Facility
6.9 AUSTRALIA (Mean)	<b>2</b> AROC Suggested Minimum

\*This includes all impairments from all wards



# Data used in this report

- Orthopaedic fracture episodes discharged during the reporting period (July 2019 – June 2020) and time series data covering five years.
- Benchmark group is AUSTRALIA.
- Casemix analysis uses version 4 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.

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.

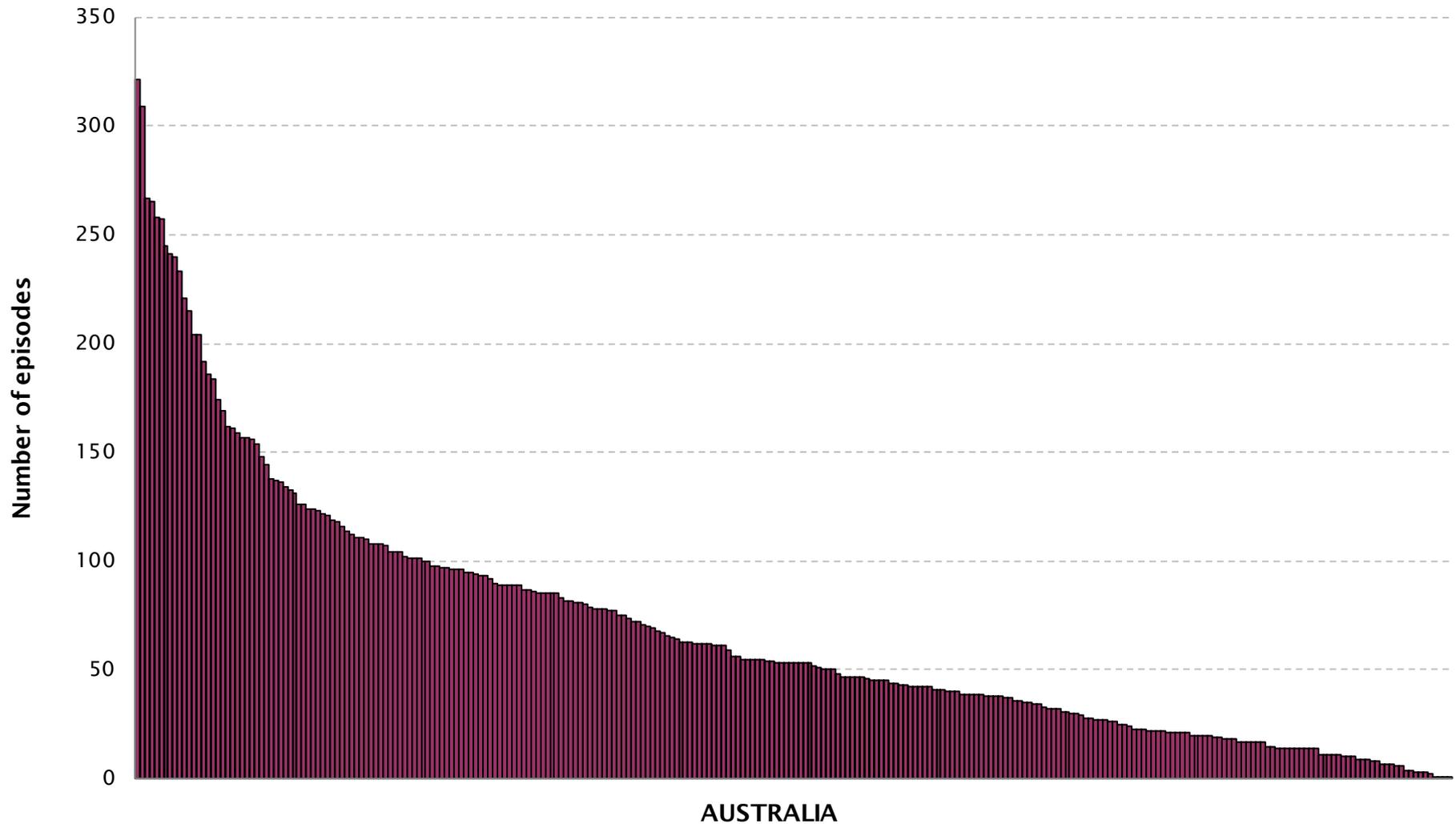
Levels of functioning for orthopaedic fractures are categorised by the following version 4 AN-SNAP classes:

- 4AH1 Orthopaedic fractures, weighted FIM motor 49-91, FIM cognition 33-35
- 4AH2 Orthopaedic fractures, weighted FIM motor 49-91, FIM cognition 5-32
- 4AH3 Orthopaedic fractures, weighted FIM motor 38-48
- 4AH4 Orthopaedic fractures, weighted FIM motor 19-37
- 4AZ3 Weighted FIM motor score 13-18, All other impairments, Age  $\geq$  65
- 4AZ4 Weighted FIM motor score 13-18, All other impairments, Age  $\leq$  64

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

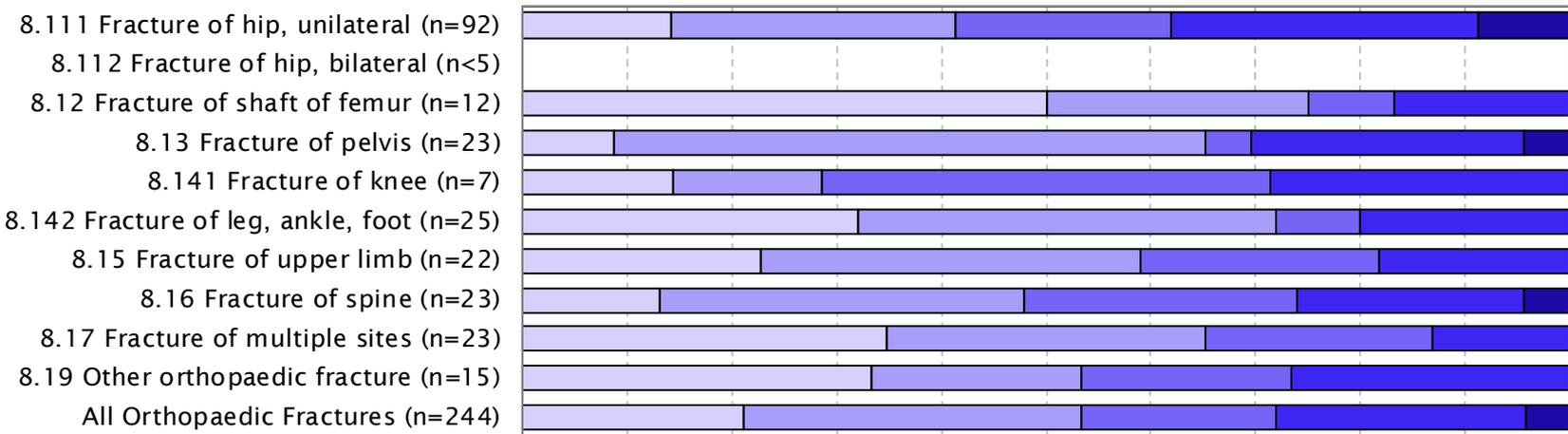


NOTE: 276 facilities reported at least one orthopaedic fracture episode, with 226 facilities reporting between 20 and 321 episodes in this reporting period

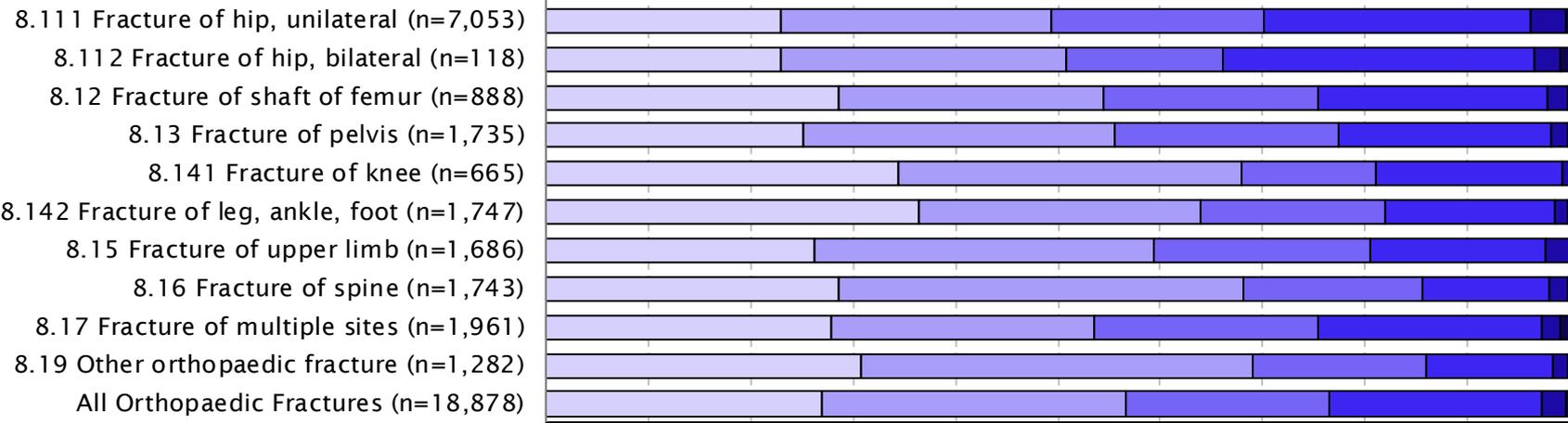
# Proportion of episodes by impairment code and AN-SNAP class



YOUR FACILITY



AUSTRALIA



0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Proportion of episodes

# Episodes by impairment code and AN-SNAP class

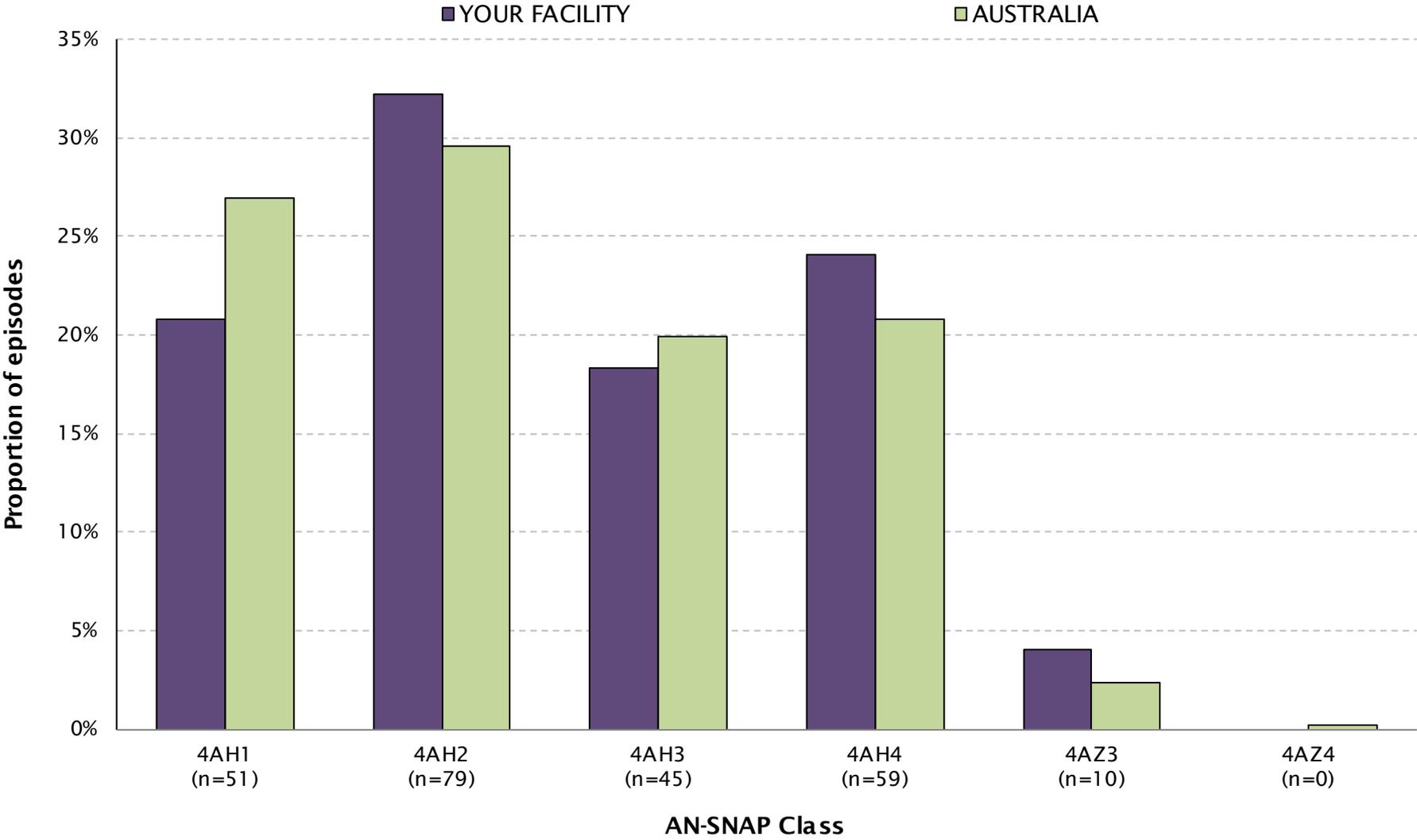


YOUR FACILITY — N (%)							
Impairment	4AH1	4AH2	4AH3	4AH4	4AZ3	4AZ4	All Orthopaedic Fractures
8.111 Fracture of hip, unilateral	13 (14.1)	25 (27.2)	19 (20.7)	27 (29.3)	8 (8.7)	0 (0.0)	92 (100.0)
8.112 Fracture of hip, bilateral	0 (0.0)	1 (50.0)	0 (0.0)	1 (50.0)	0 (0.0)	0 (0.0)	2 (100.0)
8.12 Fracture of shaft of femur	6 (50.0)	3 (25.0)	1 (8.3)	2 (16.7)	0 (0.0)	0 (0.0)	12 (100.0)
8.13 Fracture of pelvis	2 (8.7)	13 (56.5)	1 (4.3)	6 (26.1)	1 (4.3)	0 (0.0)	23 (100.0)
8.141 Fracture of knee	1 (14.3)	1 (14.3)	3 (42.9)	2 (28.6)	0 (0.0)	0 (0.0)	7 (100.0)
8.142 Fracture of leg, ankle, foot	8 (32.0)	10 (40.0)	2 (8.0)	5 (20.0)	0 (0.0)	0 (0.0)	25 (100.0)
8.15 Fracture of upper limb	5 (22.7)	8 (36.4)	5 (22.7)	4 (18.2)	0 (0.0)	0 (0.0)	22 (100.0)
8.16 Fracture of spine	3 (13.0)	8 (34.8)	6 (26.1)	5 (21.7)	1 (4.3)	0 (0.0)	23 (100.0)
8.17 Fracture of multiple sites	8 (34.8)	7 (30.4)	5 (21.7)	3 (13.0)	0 (0.0)	0 (0.0)	23 (100.0)
8.19 Other orthopaedic fracture	5 (33.3)	3 (20.0)	3 (20.0)	4 (26.7)	0 (0.0)	0 (0.0)	15 (100.0)
<b>All Orthopaedic Fractures</b>	<b>51 (20.9)</b>	<b>79 (32.4)</b>	<b>45 (18.4)</b>	<b>59 (24.2)</b>	<b>10 (4.1)</b>	<b>0 (0.0)</b>	<b>244 (100.0)</b>

AUSTRALIA — N (%)							
Impairment	4AH1	4AH2	4AH3	4AH4	4AZ3	4AZ4	All Orthopaedic Fractures
8.111 Fracture of hip, unilateral	1,622 (23.0)	1,863 (26.4)	1,465 (20.8)	1,835 (26.0)	252 (3.6)	16 (0.2)	7,053 (100.0)
8.112 Fracture of hip, bilateral	27 (22.9)	33 (28.0)	18 (15.3)	36 (30.5)	3 (2.5)	1 (0.8)	118 (100.0)
8.12 Fracture of shaft of femur	254 (28.6)	229 (25.8)	186 (20.9)	200 (22.5)	18 (2.0)	1 (0.1)	888 (100.0)
8.13 Fracture of pelvis	435 (25.1)	528 (30.4)	381 (22.0)	360 (20.7)	29 (1.7)	2 (0.1)	1,735 (100.0)
8.141 Fracture of knee	229 (34.4)	223 (33.5)	87 (13.1)	121 (18.2)	5 (0.8)	0 (0.0)	665 (100.0)
8.142 Fracture of leg, ankle, foot	636 (36.4)	480 (27.5)	315 (18.0)	292 (16.7)	21 (1.2)	3 (0.2)	1,747 (100.0)
8.15 Fracture of upper limb	443 (26.3)	559 (33.2)	355 (21.1)	289 (17.1)	40 (2.4)	0 (0.0)	1,686 (100.0)
8.16 Fracture of spine	498 (28.6)	688 (39.5)	307 (17.6)	215 (12.3)	33 (1.9)	2 (0.1)	1,743 (100.0)
8.17 Fracture of multiple sites	547 (27.9)	503 (25.7)	430 (21.9)	430 (21.9)	33 (1.7)	18 (0.9)	1,961 (100.0)
8.19 Other orthopaedic fracture	395 (30.8)	490 (38.2)	217 (16.9)	160 (12.5)	19 (1.5)	1 (0.1)	1,282 (100.0)
<b>All Orthopaedic Fractures</b>	<b>5,086 (26.9)</b>	<b>5,596 (29.6)</b>	<b>3,761 (19.9)</b>	<b>3,938 (20.9)</b>	<b>453 (2.4)</b>	<b>44 (0.2)</b>	<b>18,878 (100.0)</b>

\*\*There were 1 episodes in YOUR FACILITY and 14 episodes in AUSTRALIA with AN-SNAP class 499A

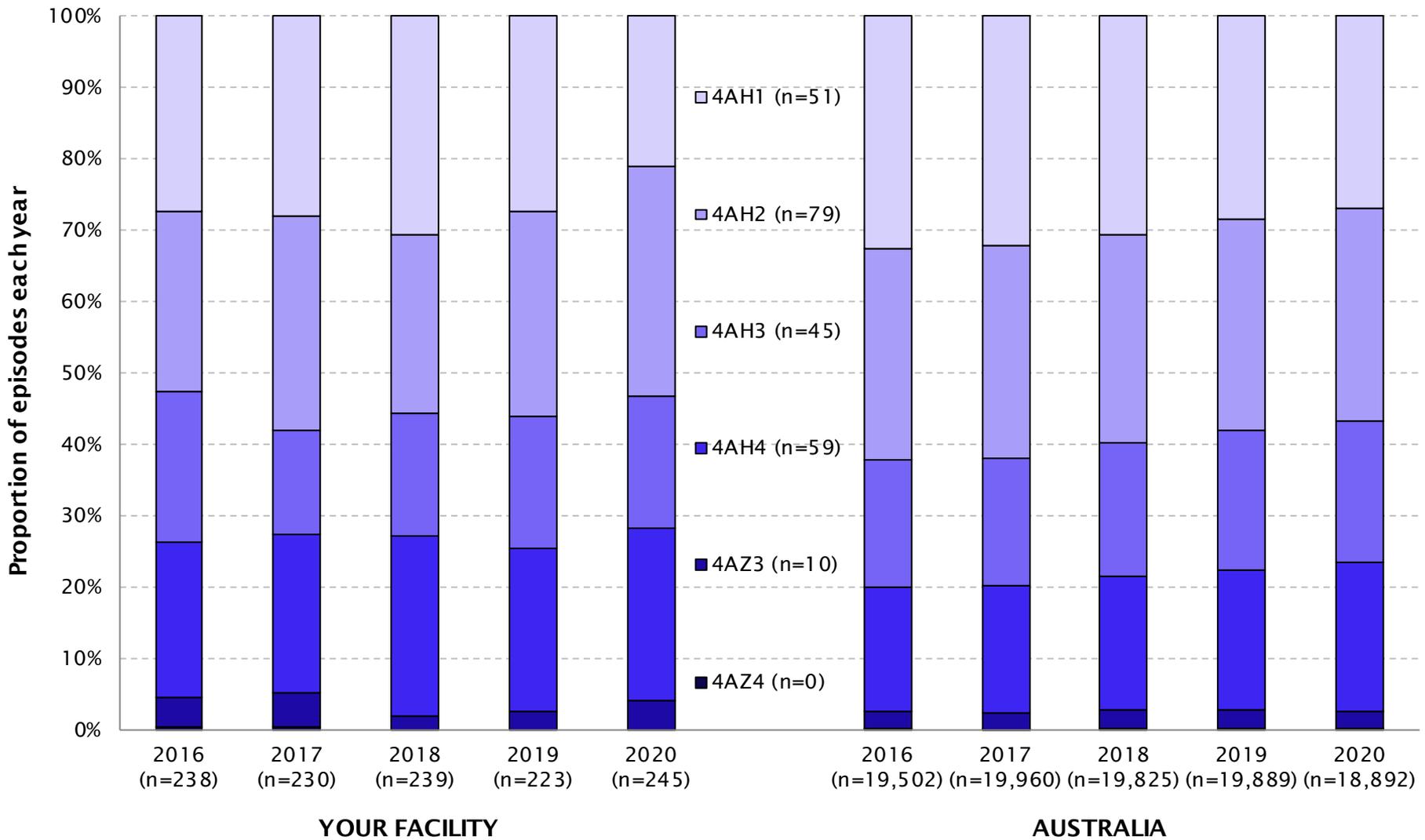
# Proportion of episodes by AN-SNAP class



# Proportion of episodes by impairment code



# Proportion of episodes by AN-SNAP class over time

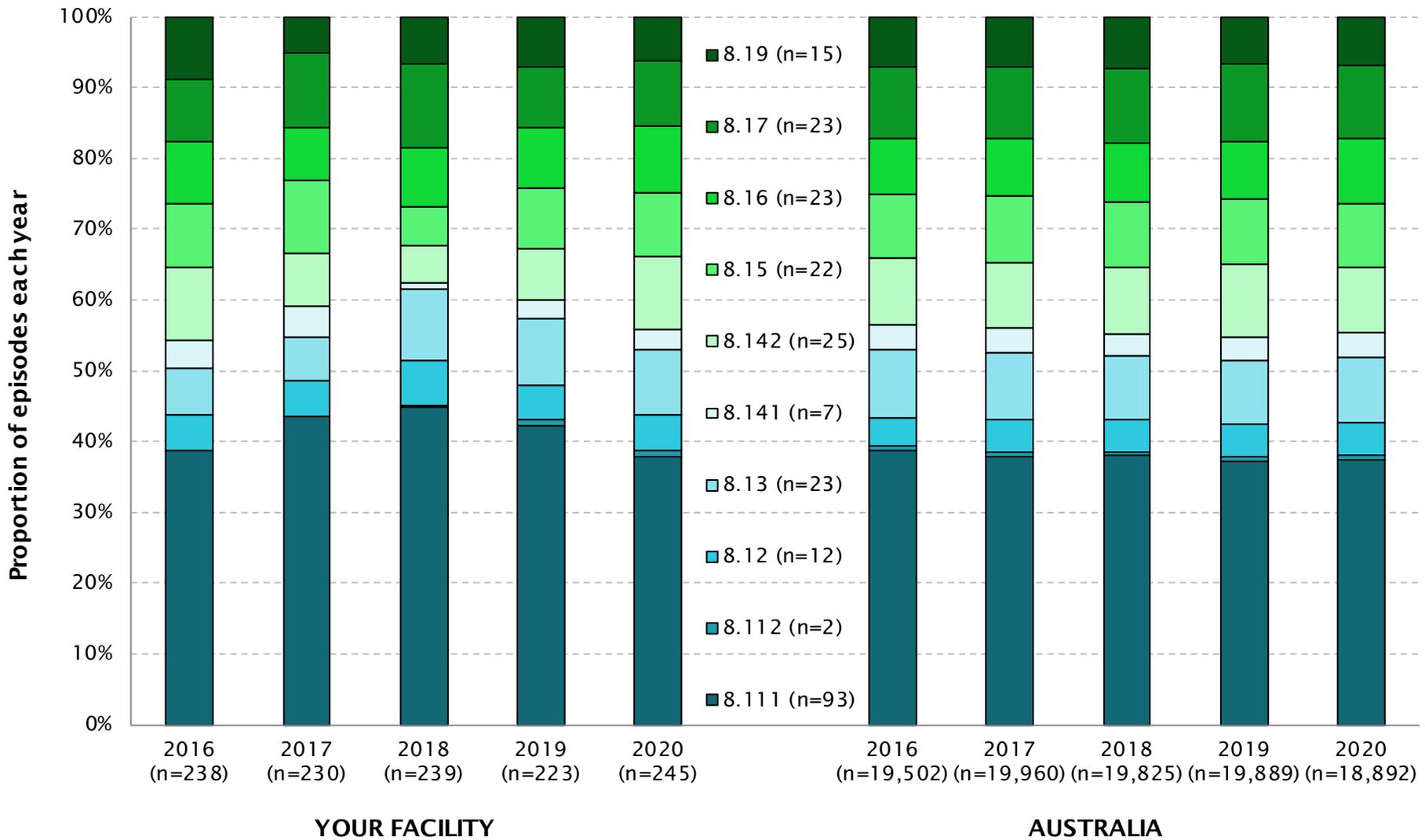


# Episodes by AN-SNAP class over time

AN-SNAP class V4	YOUR FACILITY — N					AUSTRALIA — N				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
4AH1 (motor 49-91, cognition 33-35)	65	64	73	61	51	6,339	6,410	6,070	5,635	5,086
4AH2 (motor 49-91, cognition 5-32)	60	69	60	64	79	5,769	5,933	5,761	5,905	5,596
4AH3 (motor 38-48)	50	33	41	41	45	3,465	3,545	3,688	3,854	3,761
4AH4 (motor 19-37)	52	51	60	51	59	3,406	3,564	3,712	3,897	3,938
4AZ3 (motor 13-18, Age ≥ 65)	10	11	5	6	10	469	465	542	533	453
4AZ4 (motor 13-18, Age ≤ 64)	1	1	0	0	0	42	27	37	54	44
499A (Data error - ungroupable)	0	1	0	0	1	12	16	15	11	14
<b>All Fracture AN-SNAP classes</b>	<b>238</b>	<b>230</b>	<b>239</b>	<b>223</b>	<b>245</b>	<b>19,502</b>	<b>19,960</b>	<b>19,825</b>	<b>19,889</b>	<b>18,892</b>

AN-SNAP class V4	YOUR FACILITY — %					AUSTRALIA — %				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
4AH1 (motor 49-91, cognition 33-35)	27.3	27.8	30.5	27.4	20.8	32.5	32.1	30.6	28.3	26.9
4AH2 (motor 49-91, cognition 5-32)	25.2	30.0	25.1	28.7	32.2	29.6	29.7	29.1	29.7	29.6
4AH3 (motor 38-48)	21.0	14.3	17.2	18.4	18.4	17.8	17.8	18.6	19.4	19.9
4AH4 (motor 19-37)	21.8	22.2	25.1	22.9	24.1	17.5	17.9	18.7	19.6	20.8
4AZ3 (motor 13-18, Age ≥ 65)	4.2	4.8	2.1	2.7	4.1	2.4	2.3	2.7	2.7	2.4
4AZ4 (motor 13-18, Age ≤ 64)	0.4	0.4	0.0	0.0	0.0	0.2	0.1	0.2	0.3	0.2
499A (Data error - ungroupable)	0.0	0.4	0.0	0.0	0.4	0.1	0.1	0.1	0.1	0.1
<b>All Fracture AN-SNAP classes</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

# Proportion of episodes by impairment code over time



# Episodes by impairment code over time



Impairment	YOUR FACILITY — N					AUSTRALIA — N				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
8.111 Fracture of hip, unilateral	92	100	107	94	93	7,536	7,553	7,541	7,407	7,056
8.112 Fracture of hip, bilateral	0	0	1	2	2	155	138	110	102	120
8.12 Fracture of shaft of femur	12	12	15	11	12	770	912	891	924	888
8.13 Fracture of pelvis	16	14	24	21	23	1,857	1,869	1,791	1,807	1,735
8.141 Fracture of knee	9	10	2	6	7	685	713	616	664	665
8.142 Fracture of leg, ankle, foot	25	17	13	16	25	1,848	1,856	1,861	2,030	1,749
8.15 Fracture of upper limb	21	24	13	19	22	1,764	1,858	1,838	1,827	1,688
8.16 Fracture of spine	21	17	20	19	23	1,518	1,612	1,627	1,631	1,745
8.17 Fracture of multiple sites	21	24	28	19	23	1,984	2,021	2,098	2,175	1,963
8.19 Other orthopaedic fracture	21	12	16	16	15	1,385	1,428	1,452	1,322	1,283
<b>All Orthopaedic Fractures</b>	<b>238</b>	<b>230</b>	<b>239</b>	<b>223</b>	<b>245</b>	<b>19,502</b>	<b>19,960</b>	<b>19,825</b>	<b>19,889</b>	<b>18,892</b>

Impairment	YOUR FACILITY — %					AUSTRALIA — %				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
8.111 Fracture of hip, unilateral	38.7	43.5	44.8	42.2	38.0	38.6	37.8	38.0	37.2	37.3
8.112 Fracture of hip, bilateral	0.0	0.0	0.4	0.9	0.8	0.8	0.7	0.6	0.5	0.6
8.12 Fracture of shaft of femur	5.0	5.2	6.3	4.9	4.9	3.9	4.6	4.5	4.6	4.7
8.13 Fracture of pelvis	6.7	6.1	10.0	9.4	9.4	9.5	9.4	9.0	9.1	9.2
8.141 Fracture of knee	3.8	4.3	0.8	2.7	2.9	3.5	3.6	3.1	3.3	3.5
8.142 Fracture of leg, ankle, foot	10.5	7.4	5.4	7.2	10.2	9.5	9.3	9.4	10.2	9.3
8.15 Fracture of upper limb	8.8	10.4	5.4	8.5	9.0	9.0	9.3	9.3	9.2	8.9
8.16 Fracture of spine	8.8	7.4	8.4	8.5	9.4	7.8	8.1	8.2	8.2	9.2
8.17 Fracture of multiple sites	8.8	10.4	11.7	8.5	9.4	10.2	10.1	10.6	10.9	10.4
8.19 Other orthopaedic fracture	8.8	5.2	6.7	7.2	6.1	7.1	7.2	7.3	6.6	6.8
<b>All Orthopaedic Fractures</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

# Summary of your incomplete episodes



Complete episode analysis	YOUR FACILITY		AUSTRALIA	
	No.	(%)	No.	(%)
Total reporting episodes	245		18,892	
Incomplete episodes	33	(13.5)	2,386	(12.6)

## Reason for incomplete:

Discharged home with end FIM=18	0	(0.0)	23	(1.0)
Discharged home with no end FIM	1	(3.0)	20	(0.8)
Discharged to another hospital	12	(36.4)	1,258	(52.7)
Discharged back to acute	16	(48.5)	812	(34.0)
Discharged at own risk	3	(9.1)	148	(6.2)
Change of care type (LOS<1 week)	0	(0.0)	21	(0.9)
Died	1	(3.0)	37	(1.6)
Other/Unknown Discharge	0	(0.0)	67	(2.8)

Impairment Code:	YOUR FACILITY	
	Incomplete Episodes	Complete episodes

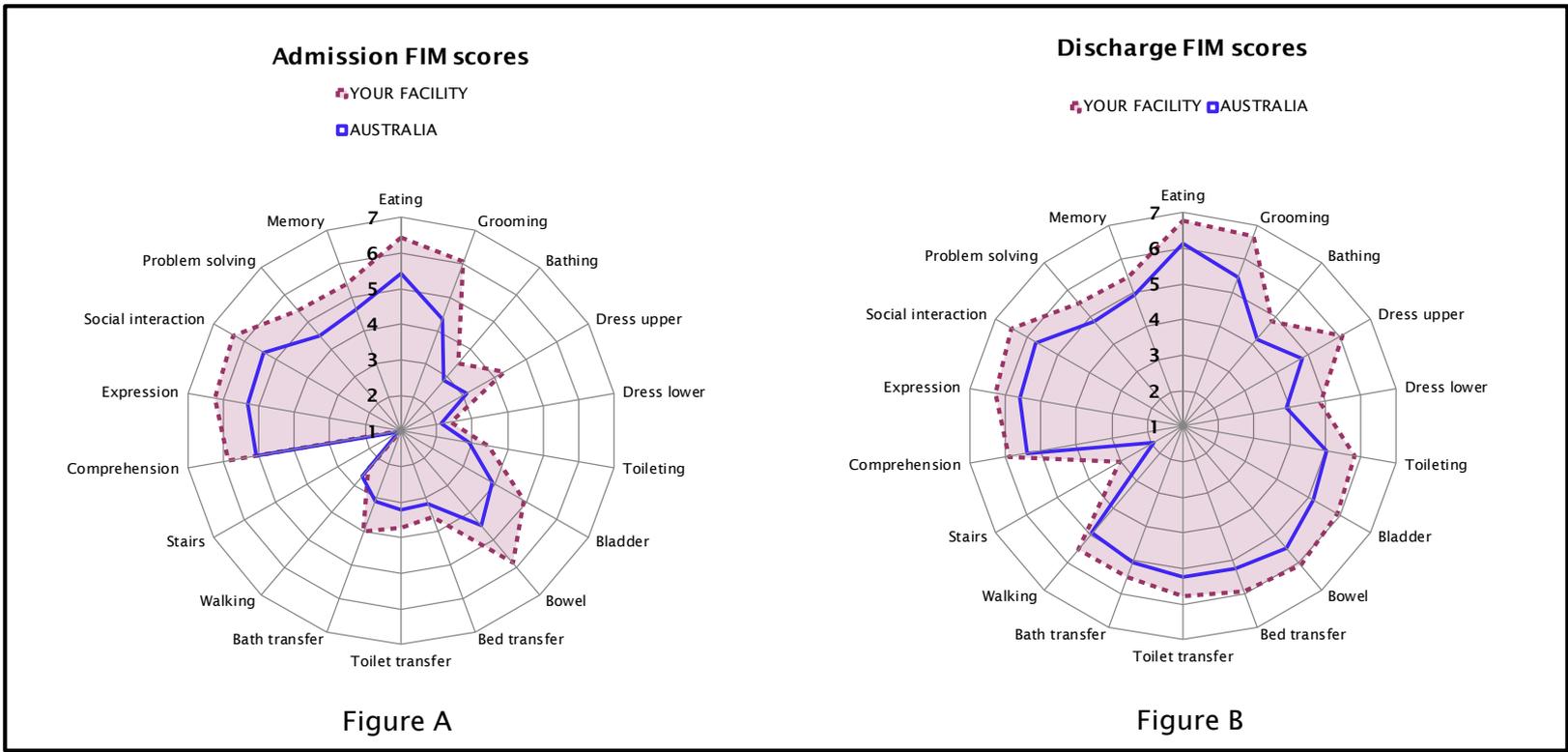
8.111 Fracture of hip, unilateral	13	(39.4)	80	(37.7)
8.112 Fracture of hip, bilateral	1	(3.0)	1	(0.5)
8.12 Fracture of shaft of femur	0	(0.0)	12	(5.7)
8.13 Fracture of pelvis	3	(9.1)	20	(9.4)
8.141 Fracture of knee	2	(6.1)	5	(2.4)
8.142 Fracture of leg, ankle, foot	3	(9.1)	22	(10.4)
8.15 Fracture of upper limb	1	(3.0)	21	(9.9)
8.16 Fracture of spine	4	(12.1)	19	(9.0)
8.17 Fracture of multiple sites	4	(12.1)	19	(9.0)
8.19 Other orthopaedic fracture	2	(6.1)	13	(6.1)

## AN-SNAP Class:

4AH1 (motor 49-91, cognition 33-35)	3	(9.4)	48	(22.6)
4AH2 (motor 49-91, cognition 5-32)	10	(31.3)	69	(32.5)
4AH3 (motor 38-48)	6	(18.8)	39	(18.4)
4AH4 (motor 19-37)	9	(28.1)	50	(23.6)
4AZ3 (motor 13-18, Age ≥ 65)	4	(12.5)	6	(2.8)
4AZ4 (motor 13-18, Age ≤ 64)	0	(0.0)	0	(0.0)

# Review of FIM item scoring by AN-SNAP class

# Interpreting the comparative FIM item scoring charts



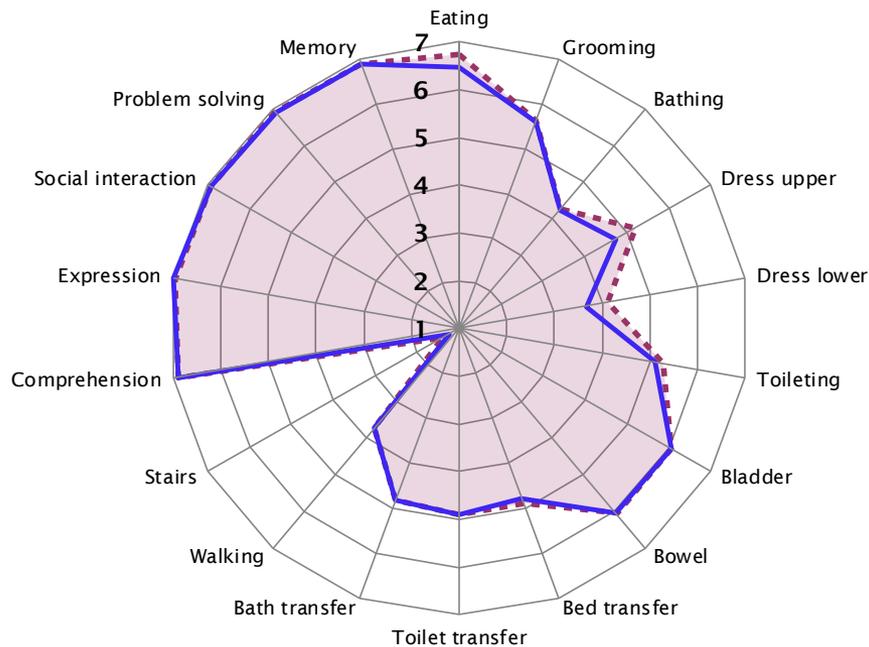
The FIM splat provides a graphic presentation of functional status in a radar chart. The 18 FIM items are arranged in order as 'spokes' of a wheel and the scoring levels from 1 (total dependence) to 7 (total independence) run from the centre outwards. The mean FIM item score for each item is indicated – 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 4AH1



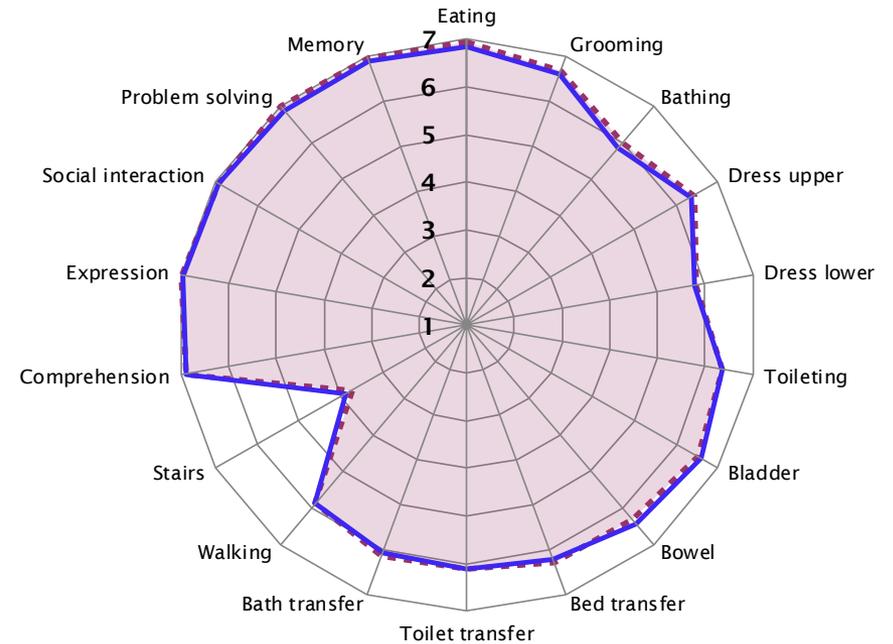
## 4AH1 Admission FIM scores

- YOUR FACILITY (n=48)
- AUSTRALIA (n=4,733)



## 4AH1 Discharge FIM scores

- YOUR FACILITY (n=48)
- AUSTRALIA (n=4,733)



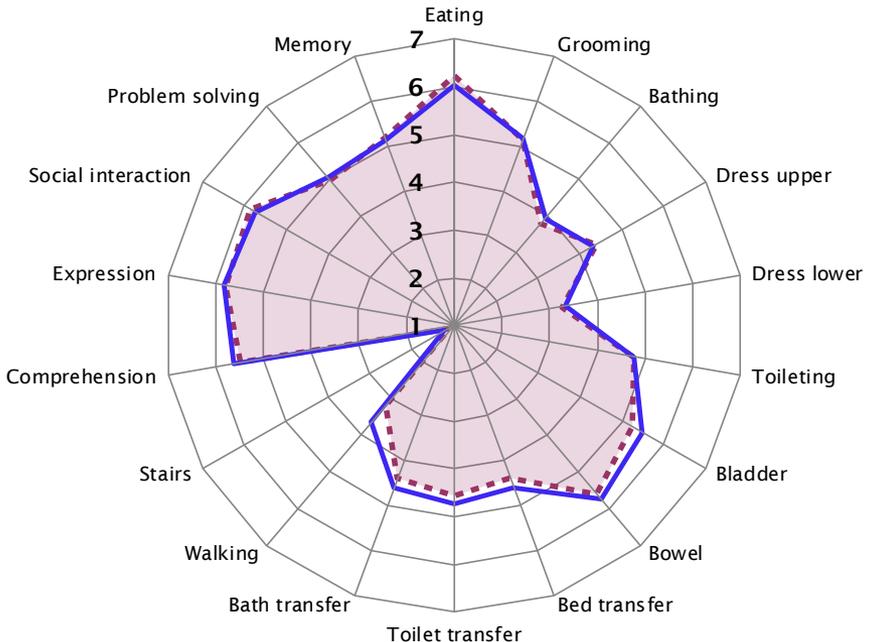
NOTE: Includes only completed episodes with valid FIM scores

# Comparative FIM item scoring AN-SNAP class 4AH2



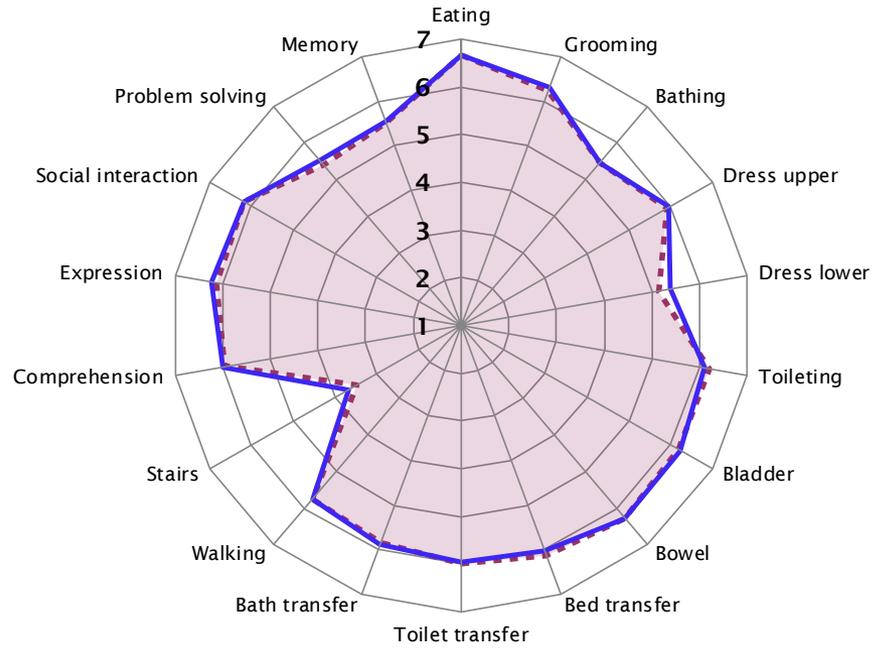
## 4AH2 Admission FIM scores

- YOUR FACILITY (n=69)
- AUSTRALIA (n=5,109)



## 4AH2 Discharge FIM scores

- YOUR FACILITY (n=69)
- AUSTRALIA (n=5,109)



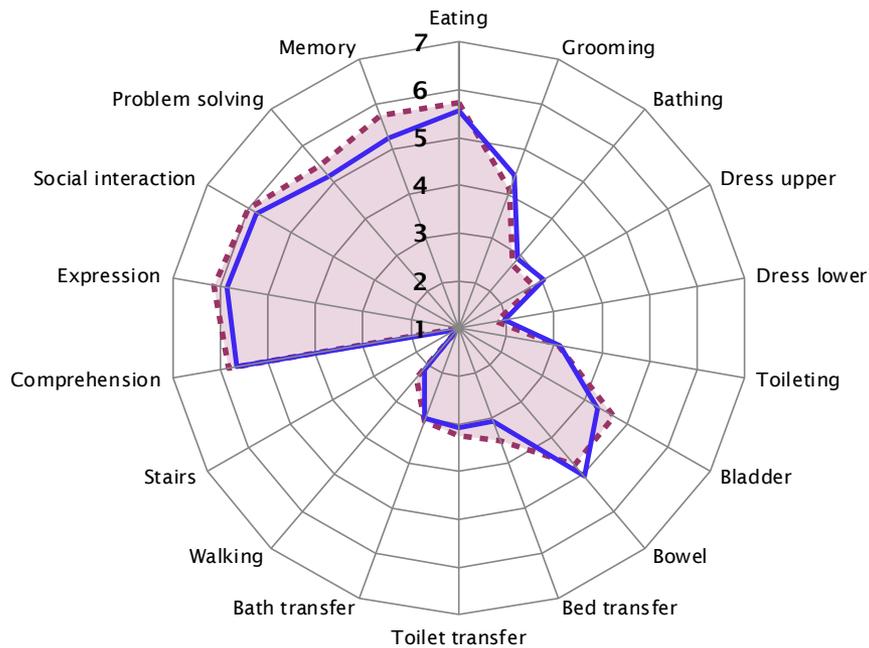
NOTE: Includes only completed episodes with valid FIM scores

# Comparative FIM item scoring AN-SNAP class 4AH3



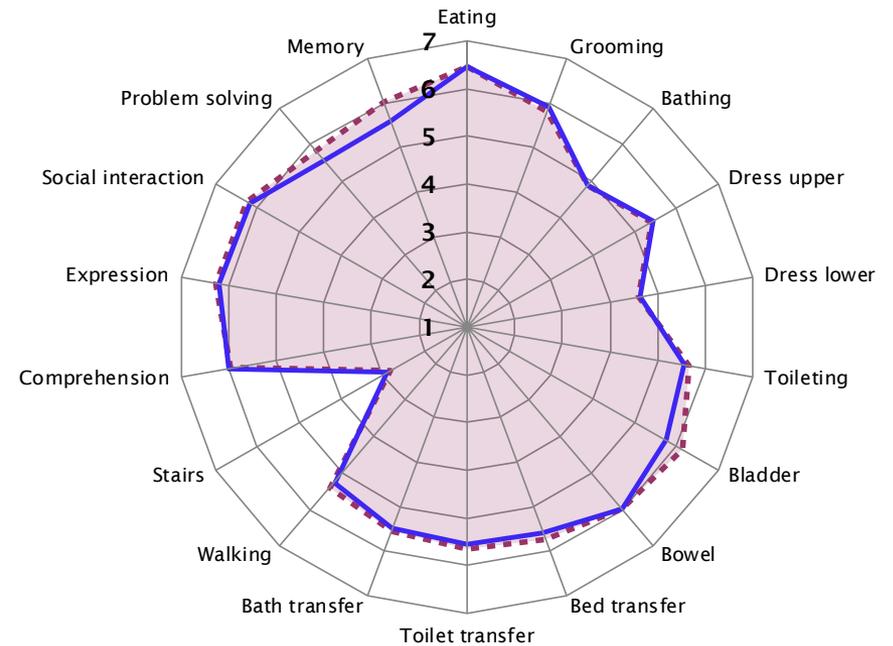
## 4AH3 Admission FIM scores

- YOUR FACILITY (n=39)
- AUSTRALIA (n=3,239)



## 4AH3 Discharge FIM scores

- YOUR FACILITY (n=39)
- AUSTRALIA (n=3,239)



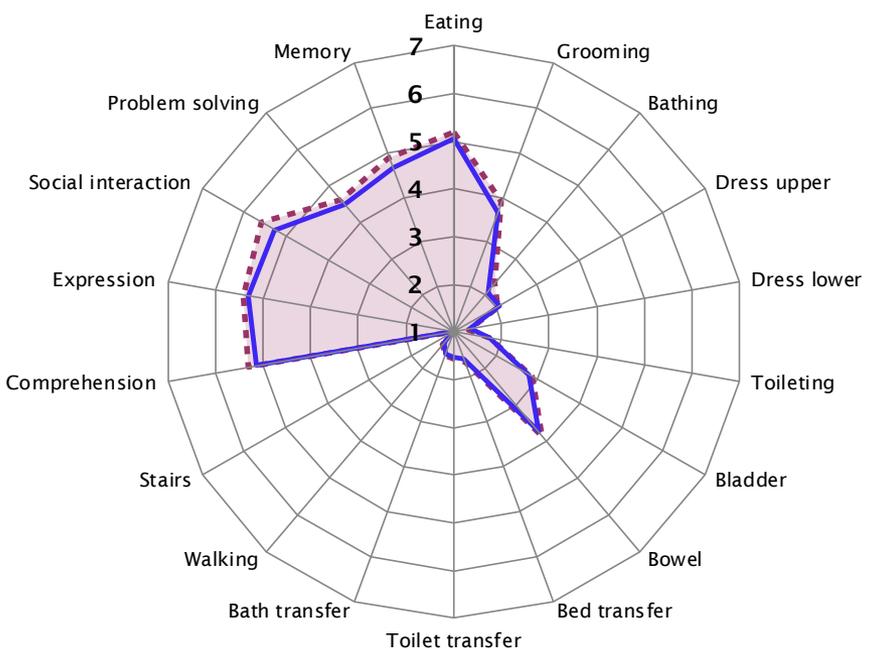
NOTE: Includes only completed episodes with valid FIM scores

# Comparative FIM item scoring AN-SNAP class 4AH4



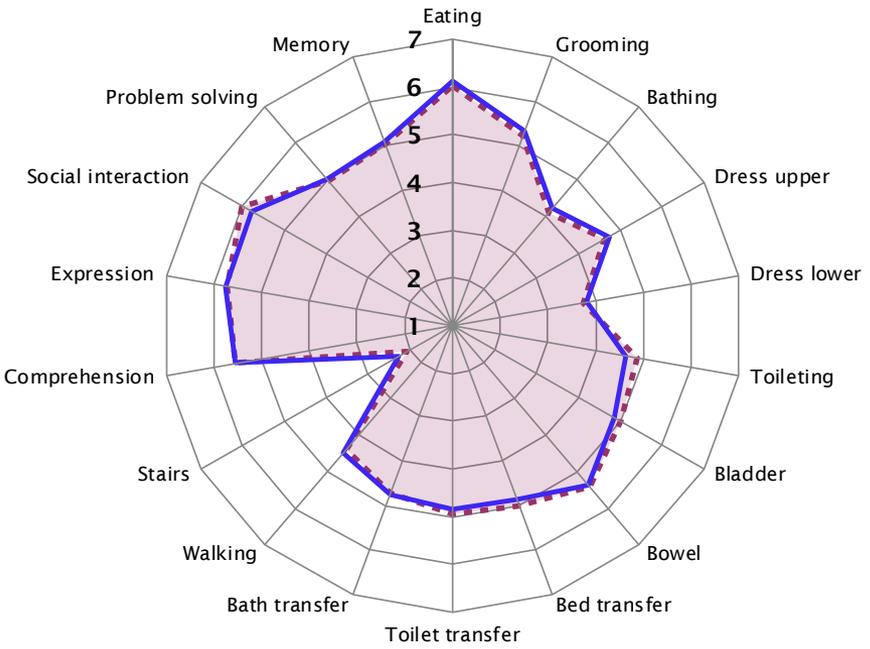
## 4AH4 Admission FIM scores

- YOUR FACILITY (n=50)
- AUSTRALIA (n=3,082)



## 4AH4 Discharge FIM scores

- YOUR FACILITY (n=50)
- AUSTRALIA (n=3,082)



NOTE: Includes only completed episodes with valid FIM scores

# Outcome analysis

# Completed episodes by AN-SNAP class and impairment code

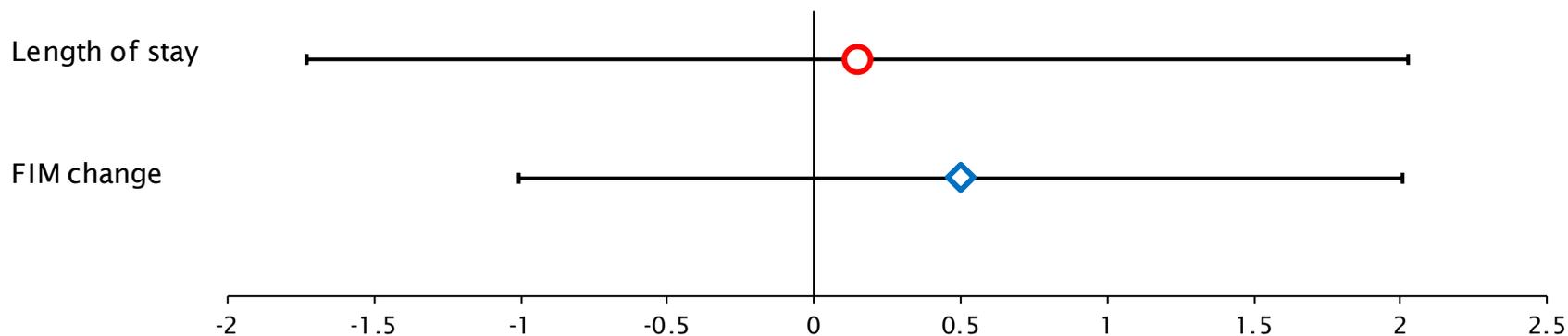


AN-SNAP class V4	YOUR FACILITY			AUSTRALIA		
	All episodes	Completed episodes	% Complete	All episodes	Completed episodes	% Complete
4AH1 (motor 49-91, cognition 33-35)	51	48	94.1	5,086	4,733	93.1
4AH2 (motor 49-91, cognition 5-32)	79	69	87.3	5,596	5,109	91.3
4AH3 (motor 38-48)	45	39	86.7	3,761	3,239	86.1
4AH4 (motor 19-37)	59	50	84.7	3,938	3,083	78.3
4AZ3 (motor 13-18, Age ≥ 65)	10	6	60.0	453	309	68.2
4AZ4 (motor 13-18, Age ≤ 64)	0	0	—	44	32	72.7
499A (Data error - ungroupable)	1	0	0.0	14	1	7.1
<b>All Fract ure AN-SNAP classes</b>	<b>245</b>	<b>212</b>	<b>86.5</b>	<b>18,892</b>	<b>16,506</b>	<b>87.4</b>

Impairment	YOUR FACILITY			AUSTRALIA		
	All episodes	Completed episodes	% Complete	All episodes	Completed episodes	% Complete
8.111 Fracture of hip, unilateral	93	80	86.0	7,056	6,054	85.8
8.112 Fracture of hip, bilateral	2	1	50.0	120	101	84.2
8.12 Fracture of shaft of femur	12	12	100.0	888	762	85.8
8.13 Fracture of pelvis	23	20	87.0	1,735	1,573	90.7
8.141 Fracture of knee	7	5	71.4	665	592	89.0
8.142 Fracture of leg, ankle, foot	25	22	88.0	1,749	1,556	89.0
8.15 Fracture of upper limb	22	21	95.5	1,688	1,498	88.7
8.16 Fracture of spine	23	19	82.6	1,745	1,532	87.8
8.17 Fracture of multiple sites	23	19	82.6	1,963	1,723	87.8
8.19 Other orthopaedic fracture	15	13	86.7	1,283	1,115	86.9
<b>All Fract ure AN-SNAP classes</b>	<b>245</b>	<b>212</b>	<b>86.5</b>	<b>18,892</b>	<b>16,506</b>	<b>87.4</b>

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

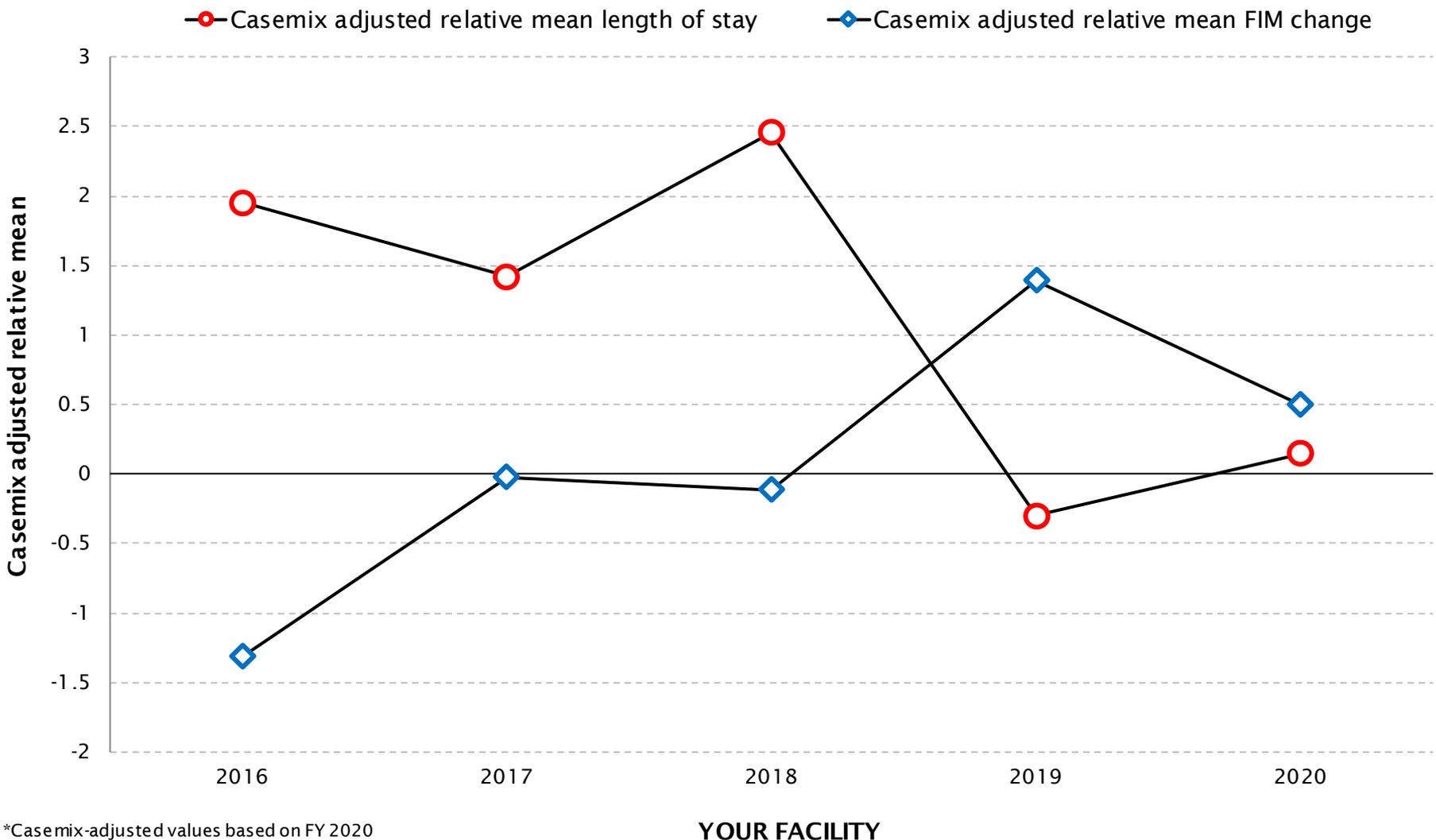


Casemix-adjusted relative means with 95% confidence intervals

Out come measures	YOUR FACILITY		AUSTRALIA
	Casemix-adjusted* relative mean	95% CI	IQR
Length of stay	0.1	-1.7 to 2.0	-7.4 to 4.5
FIM change	0.5	-1.0 to 2.0	-7.1 to 7.5

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

# Casemix-adjusted\* relative means over time



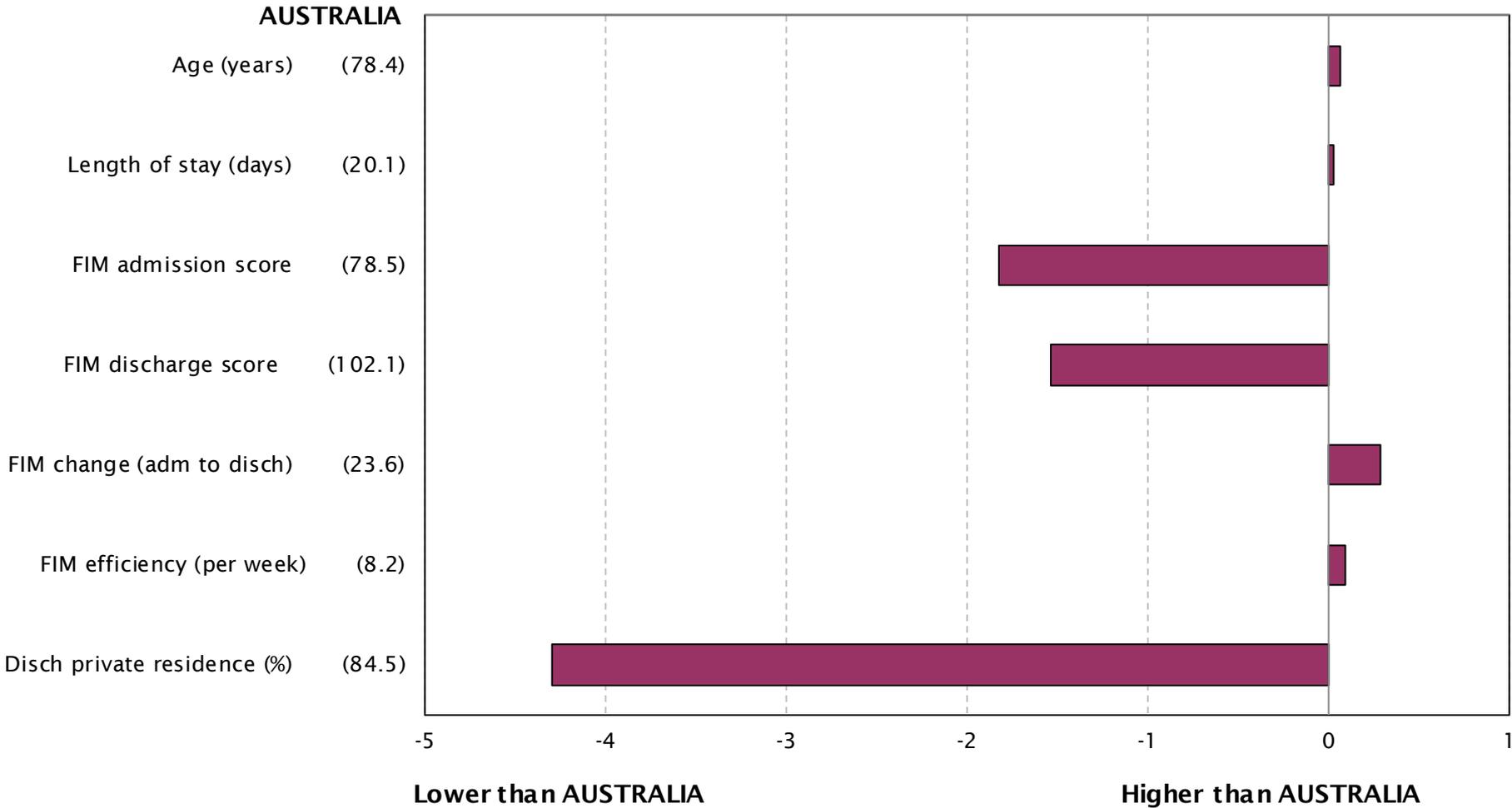
\*Casemix-adjusted values based on FY 2020

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

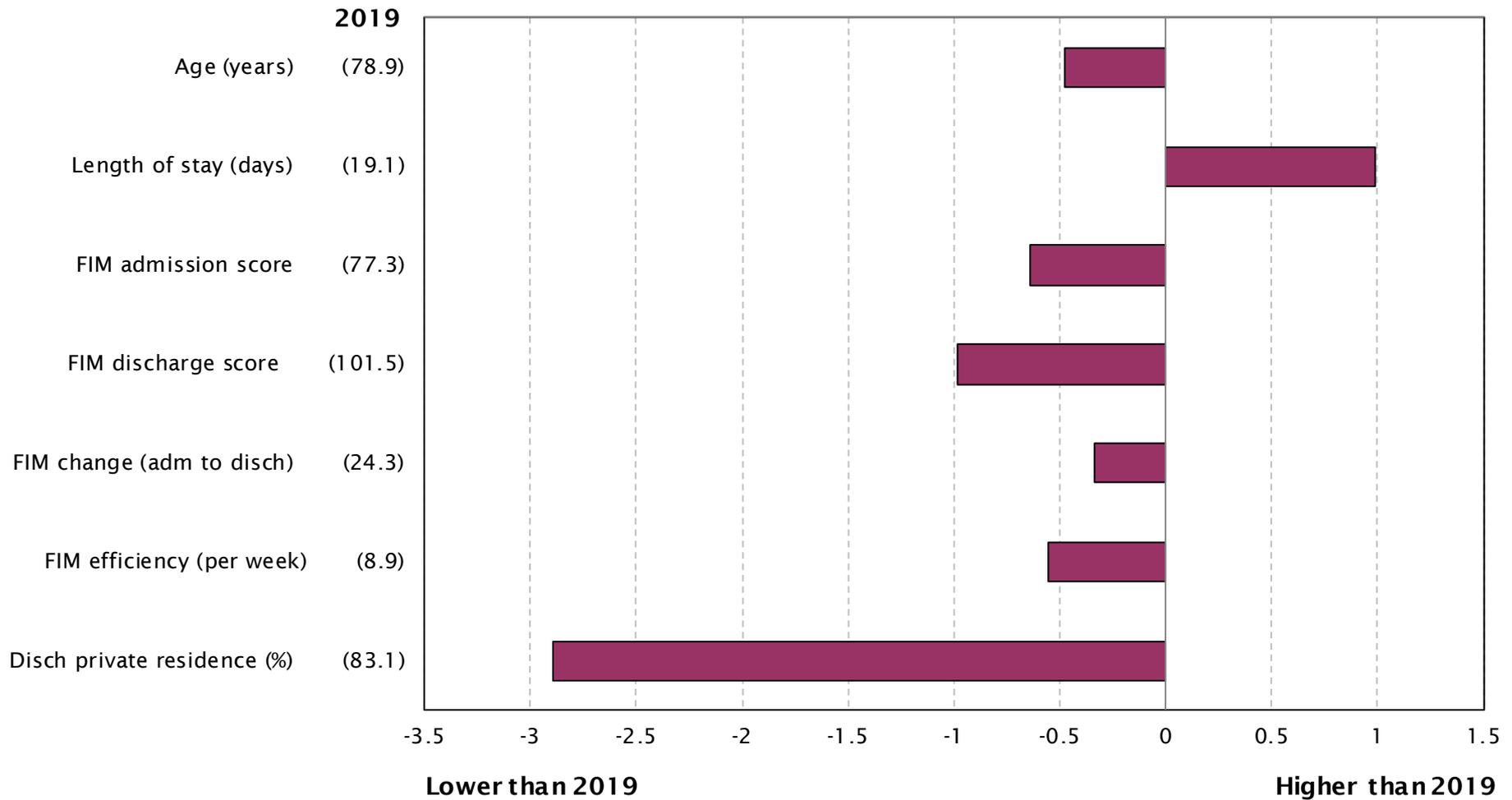


NOTE: Includes only completed episodes with valid FIM scores and LOS

# Outcome measures – difference from last year

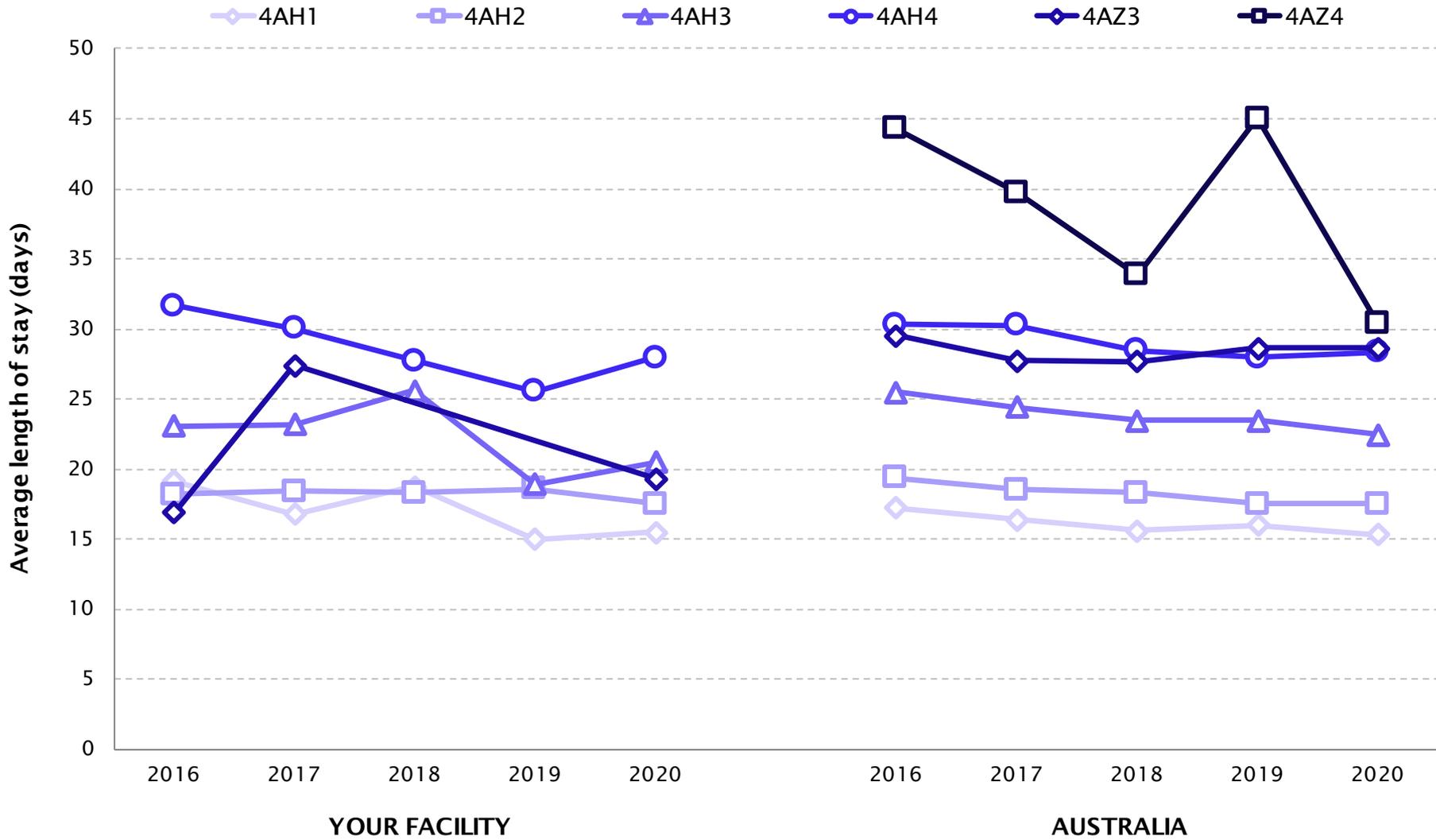


## How YOUR FACILITY has changed since 2019



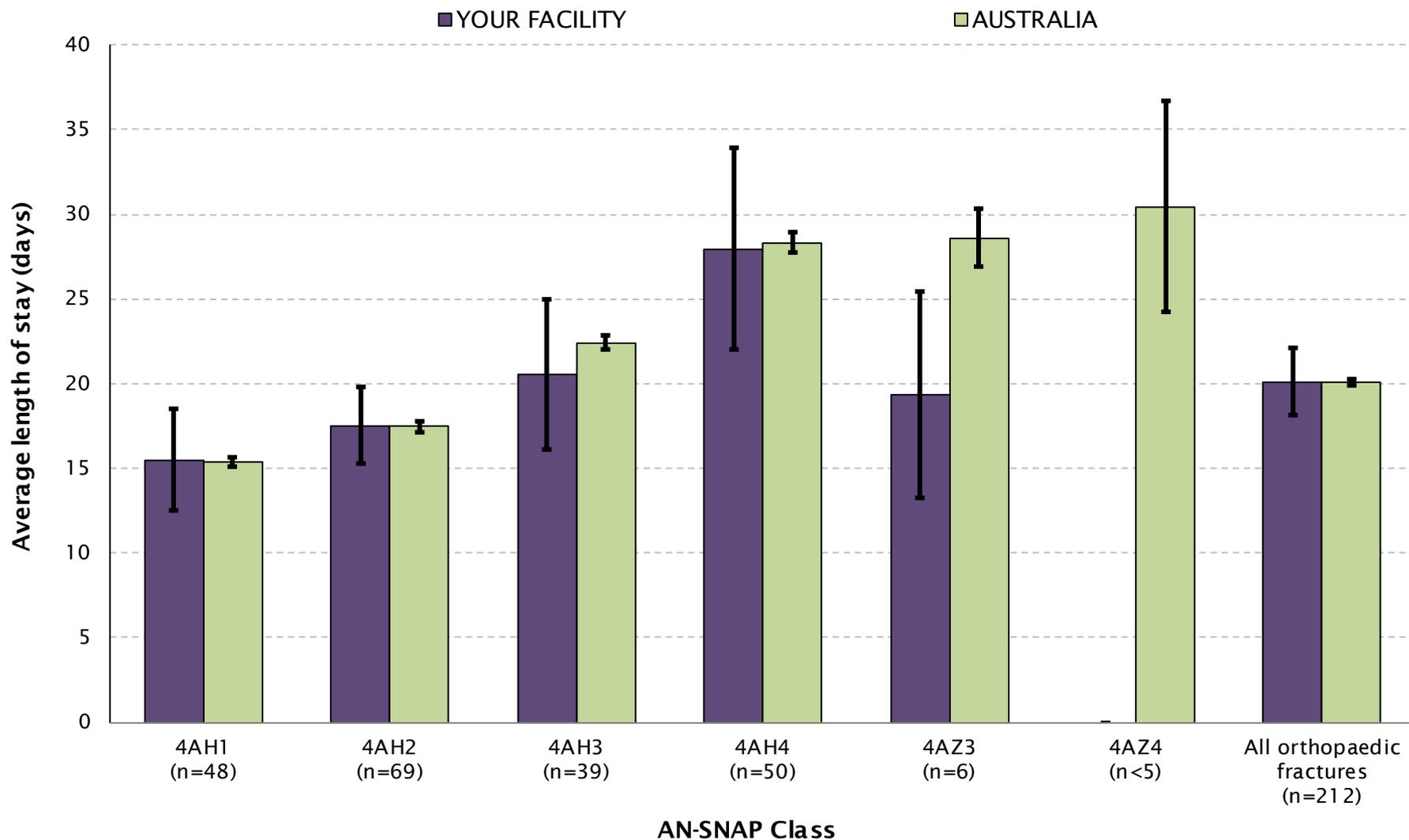
NOTE: Includes only completed episodes with valid FIM scores and LOS

# Average length of stay by AN-SNAP class over time



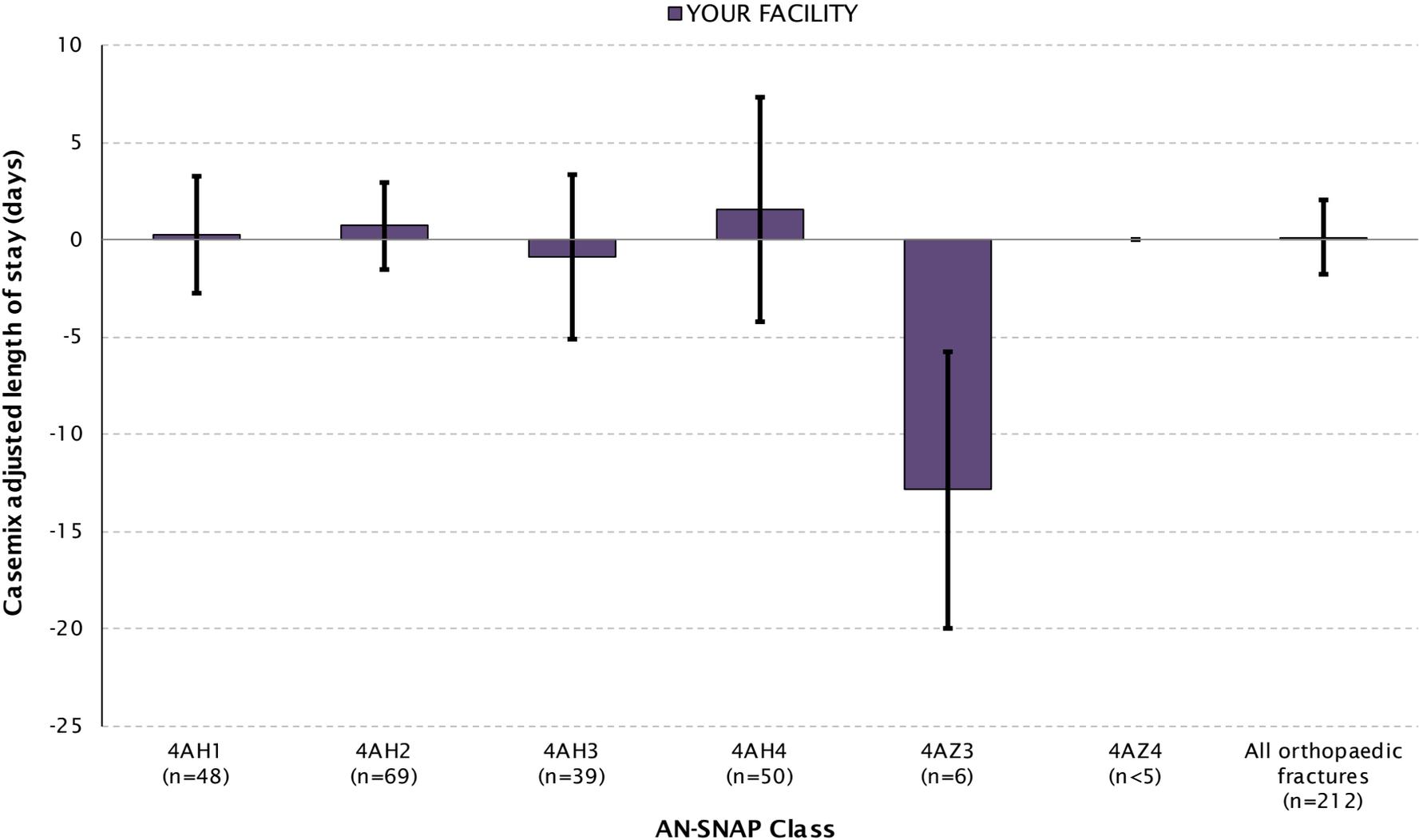
NOTE: Includes only completed episodes with valid LOS; where n<5 average LOS will not be shown

# Average length of stay by AN-SNAP class



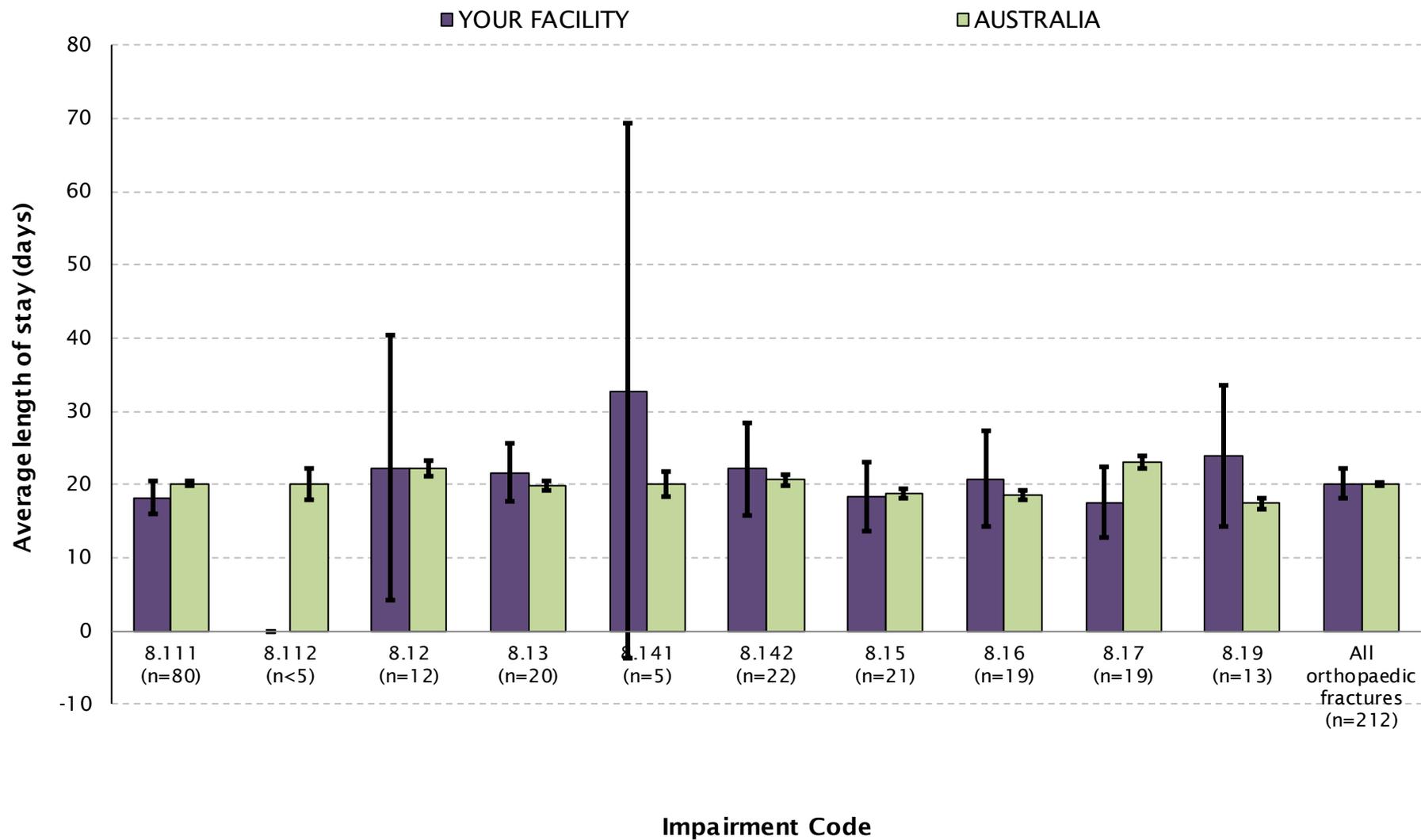
NOTE: Includes only completed episodes with valid LOS; where n<5 average LOS will not be shown

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



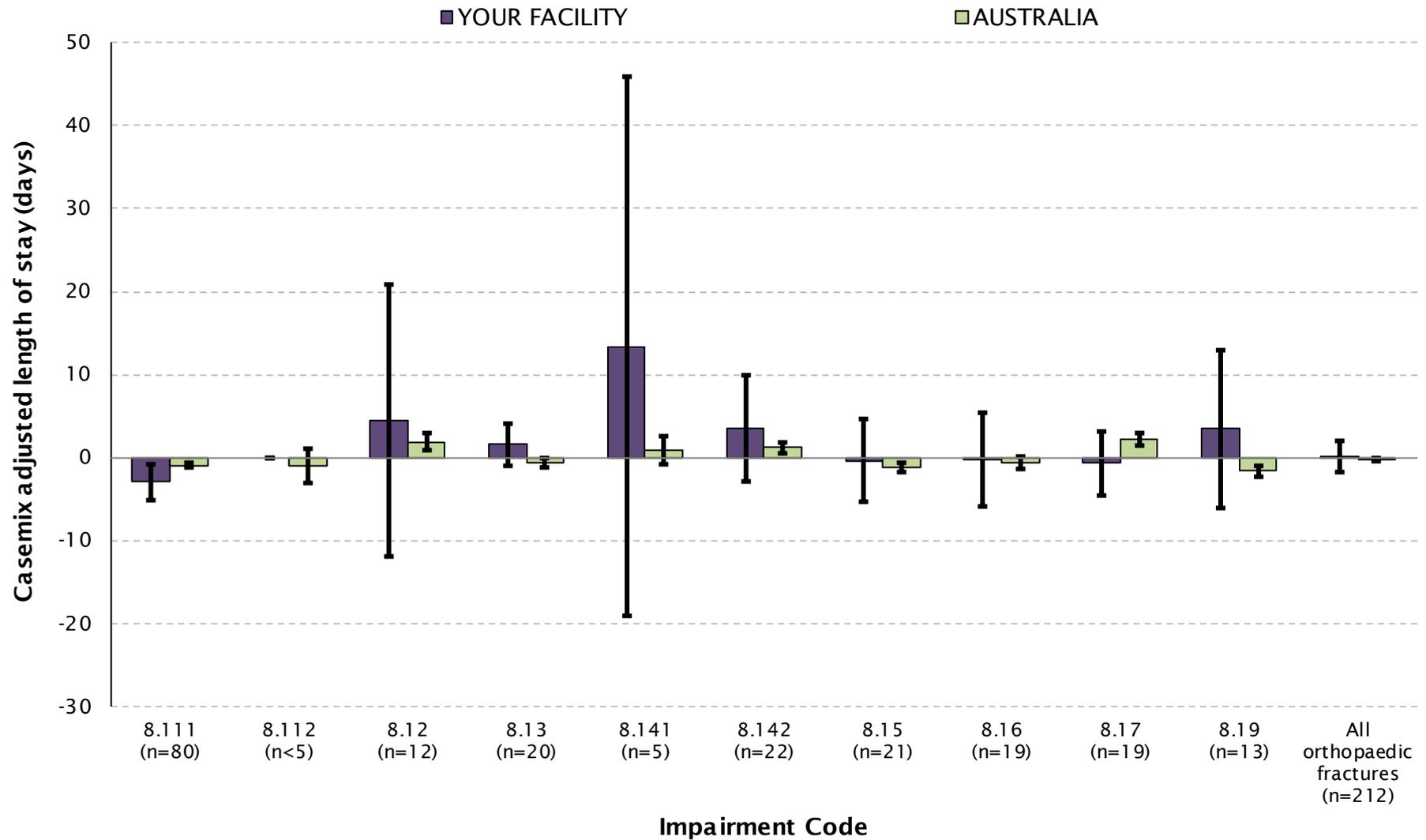
NOTE: Includes only completed episodes with valid LOS; where n<5 CARMi LOS will not be shown

# Average length of stay by impairment



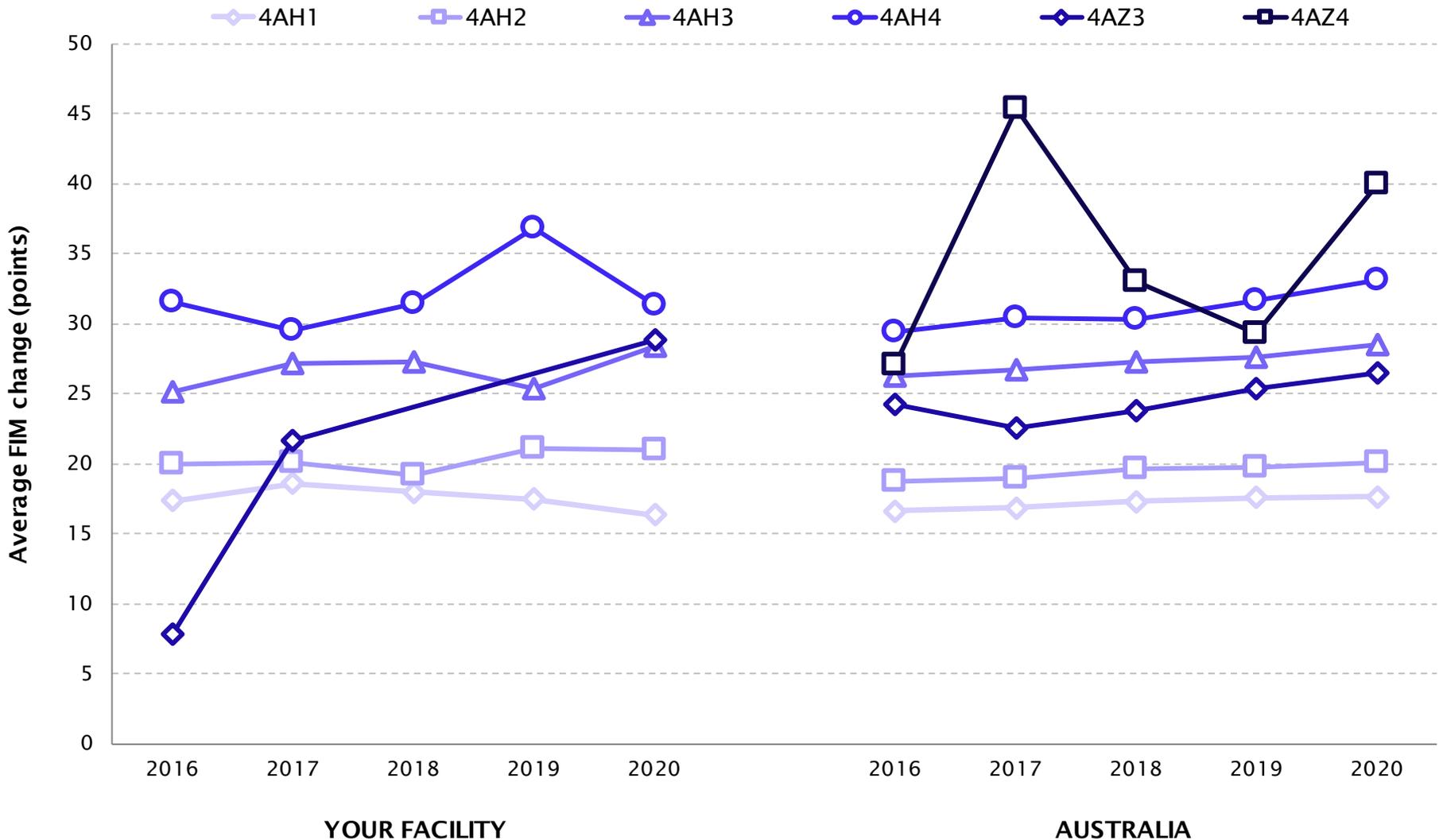
NOTE: Includes only completed episodes with valid LOS, where n<5 average LOS will not be shown

# Casemix-adjusted relative mean length of stay by impairment



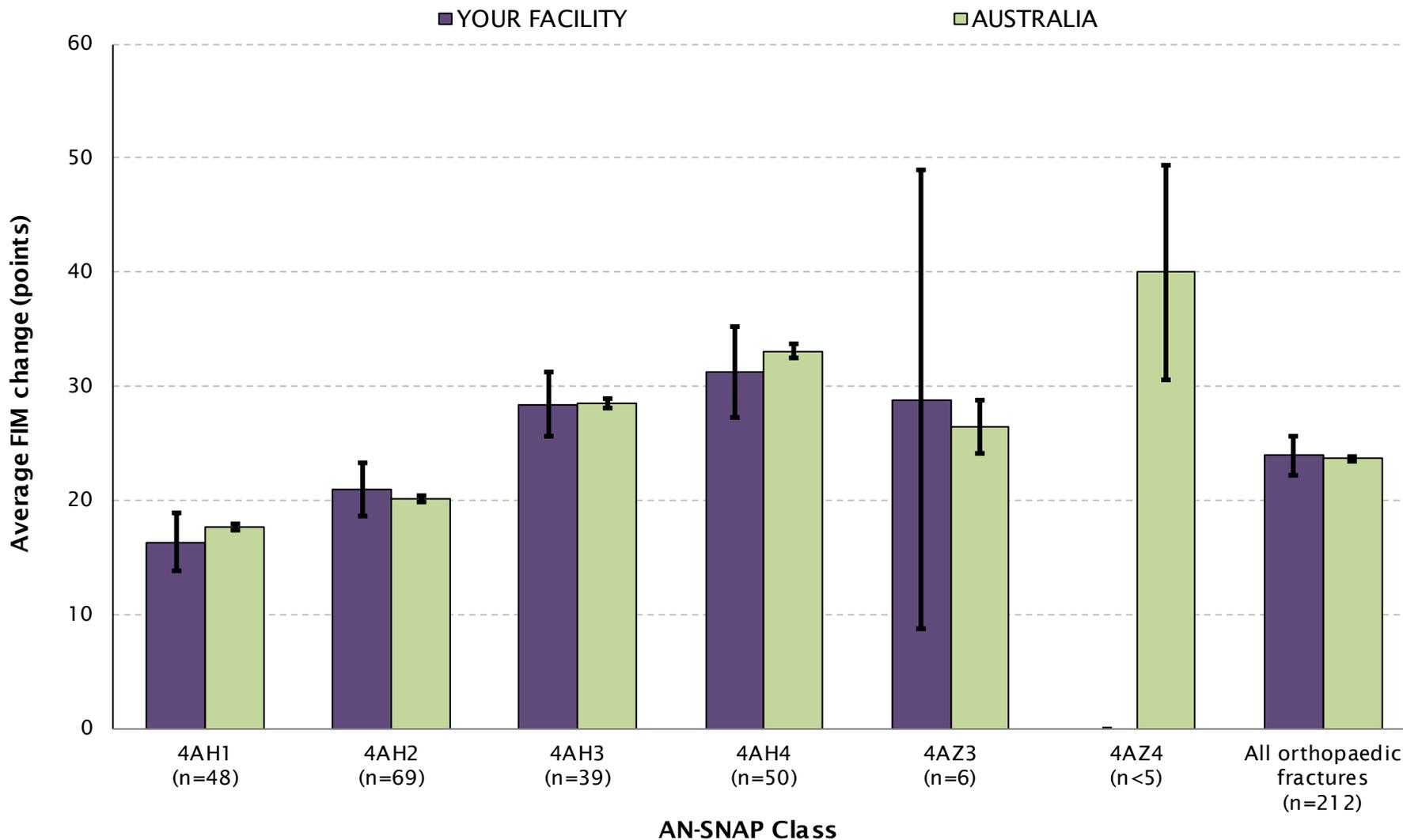
NOTE: Includes only completed episodes with valid LOS; where n<5 CARMi LOS will not be shown

# Average FIM change by AN-SNAP class over time



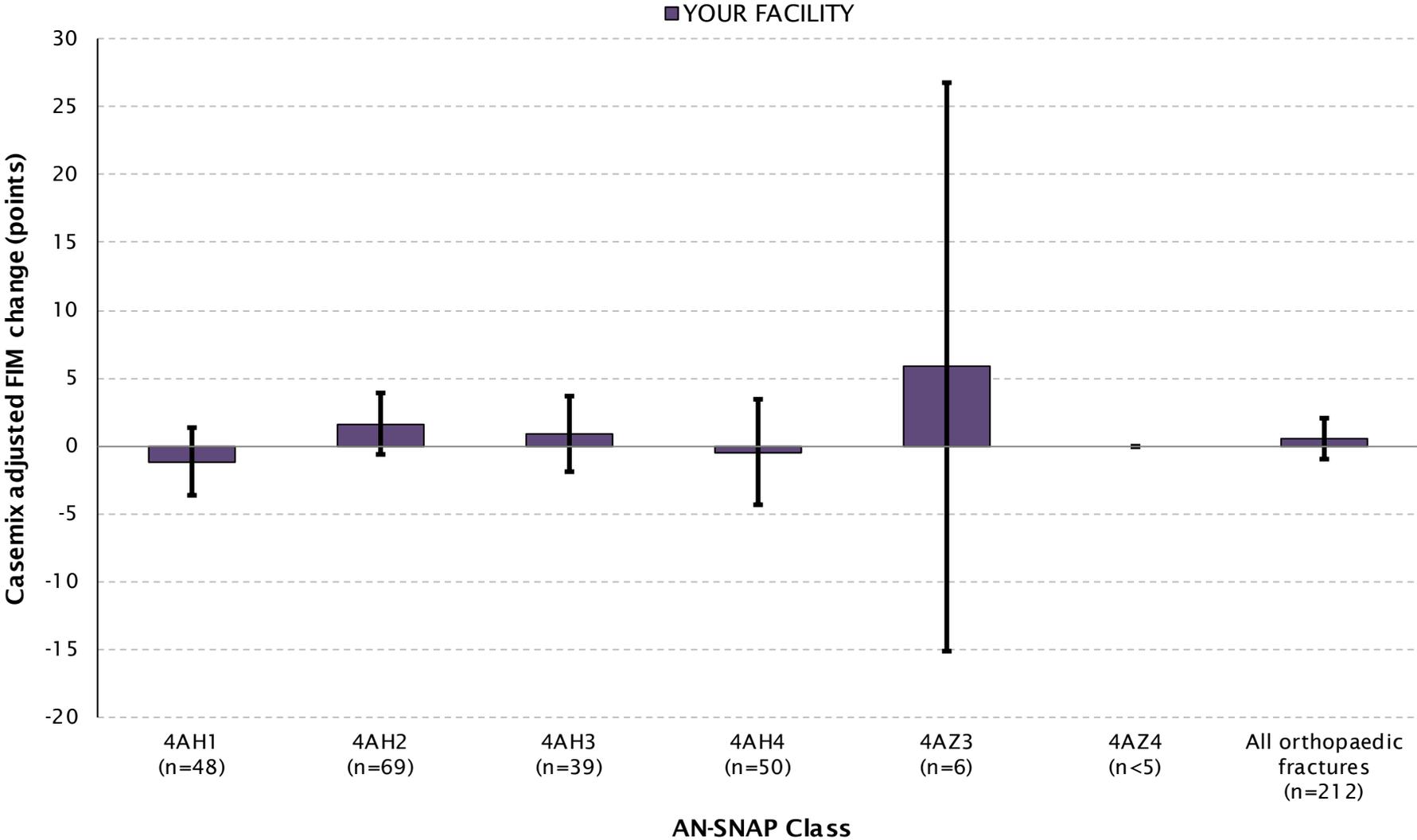
NOTE: Includes only completed episodes with valid FIM scores; where n<5 average FIM change will not be shown

# Average FIM change by AN-SNAP class



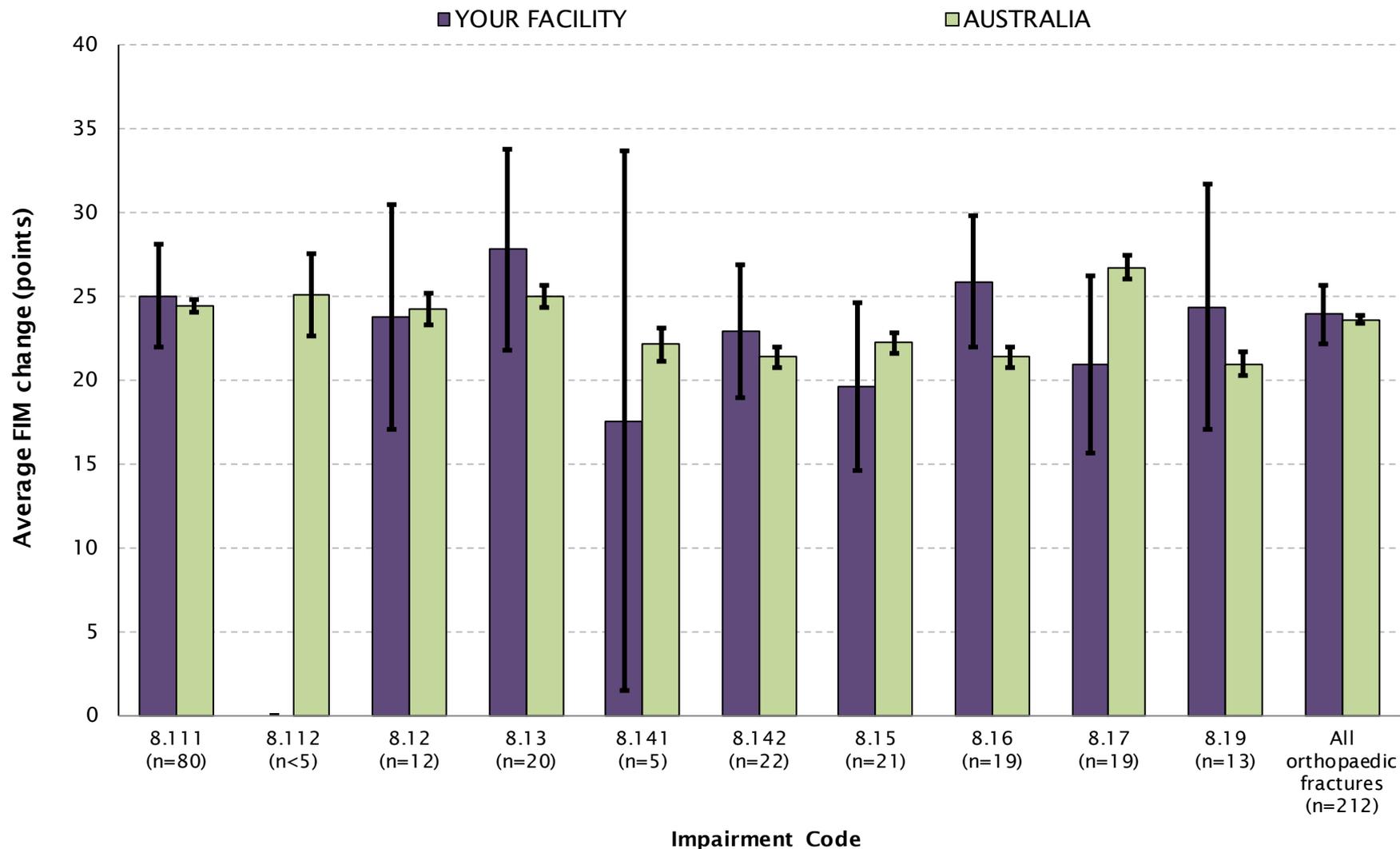
NOTE: Includes only completed episodes with valid FIM scores; where n<5 average FIM change will not be shown

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



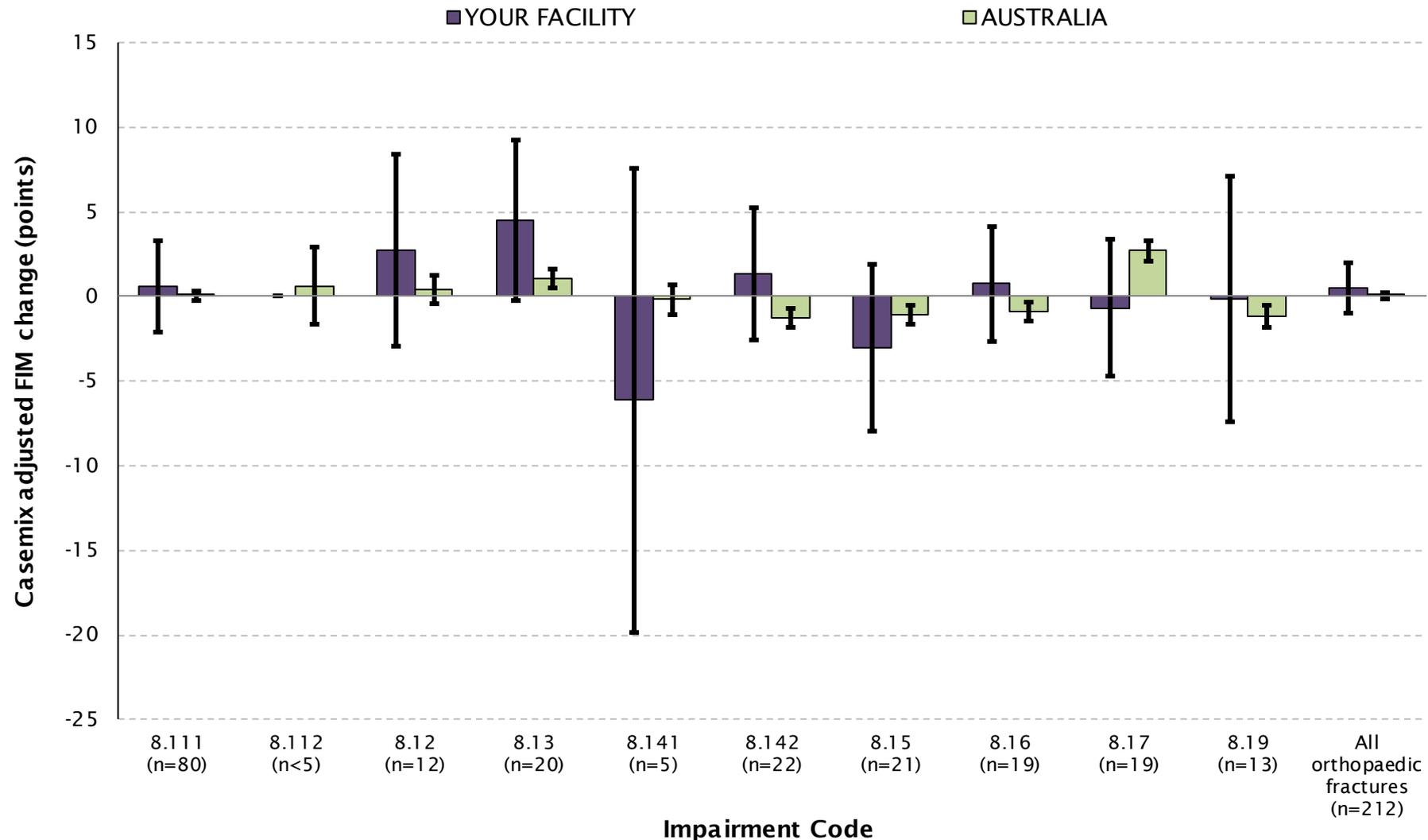
NOTE: Includes only completed episodes with valid FIM scores, where n<5 CARMi FIM change will not be shown

# 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

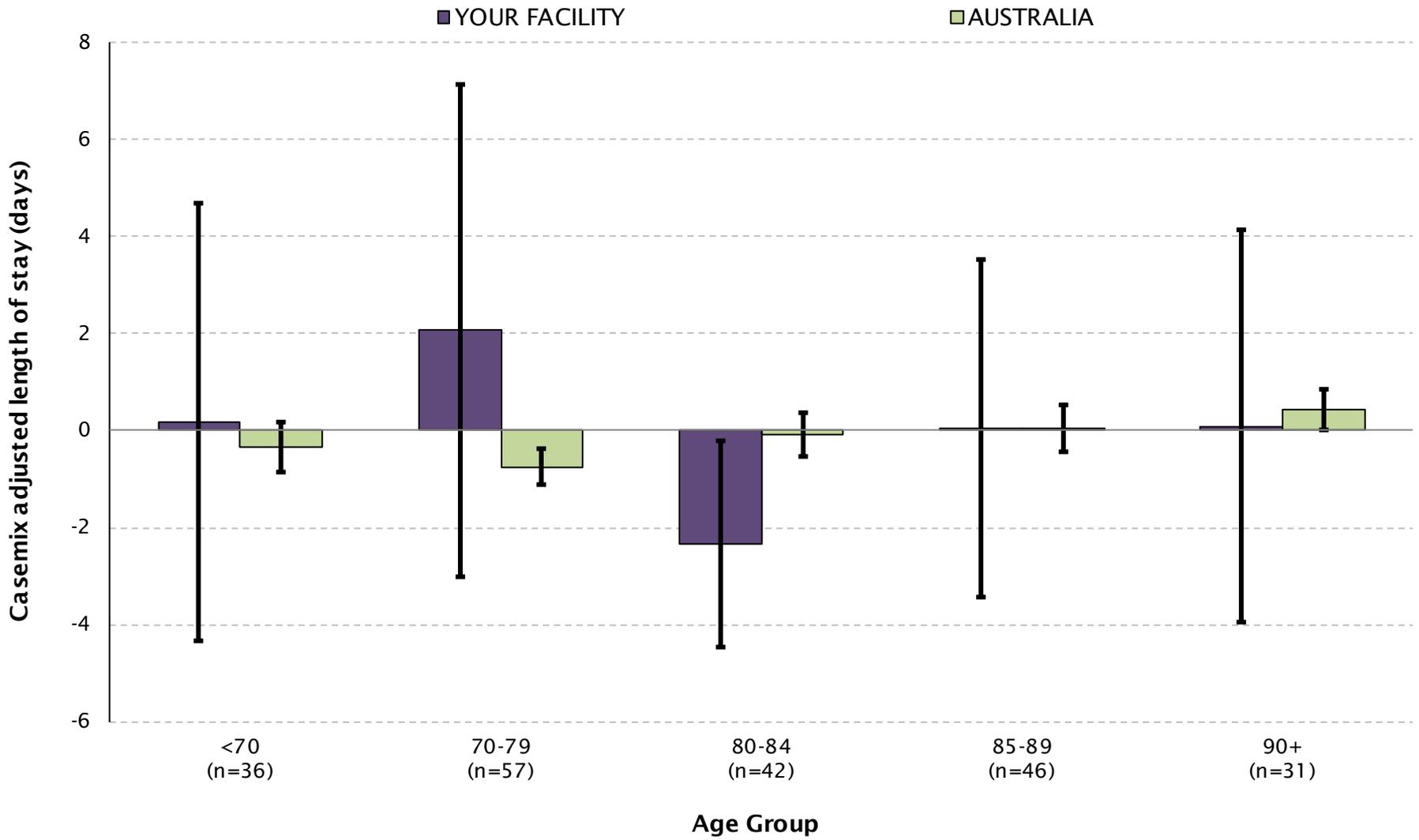


AN-SNAP class V4	YOUR FACILITY						AUSTRALIA			
	CARMi (95%CI)			Average (95%CI)			Average (95%CI)			
	LOS	FIM change		LOS	FIM change		LOS	FIM change		
4AH1 (motor 49-91, cognition 33-35)	0.3 (-2.7 - 3.3)	-1.2 (-3.7 - 1.4)		15.5 (12.5 - 18.5)	16.4 (13.8 - 18.9)		15.3 (15.1 - 15.6)	17.6 (17.4 - 17.9)		
4AH2 (motor 49-91, cognition 5-32)	0.7 (-1.5 - 3.0)	1.6 (-0.6 - 3.9)		17.5 (15.3 - 19.8)	20.9 (18.6 - 23.3)		17.5 (17.2 - 17.8)	20.1 (19.8 - 20.4)		
4AH3 (motor 38-48)	-0.9 (-5.1 - 3.3)	0.9 (-1.8 - 3.7)		20.5 (16.1 - 24.9)	28.4 (25.6 - 31.2)		22.4 (22.0 - 22.9)	28.5 (28.1 - 29.0)		
4AH4 (motor 19-37)	1.6 (-4.2 - 7.4)	-0.4 (-4.3 - 3.4)		28.0 (22.0 - 33.9)	31.3 (27.3 - 35.3)		28.3 (27.7 - 29.0)	33.1 (32.5 - 33.7)		
4AZ3 (motor 13-18, Age ≥ 65)	-12.9 (-19.9 - -5.8)	5.8 (-15.1 - 26.8)		19.3 (13.2 - 25.4)	28.8 (8.7 - 49.0)		28.6 (26.9 - 30.3)	26.4 (24.1 - 28.8)		
4AZ4 (motor 13-18, Age ≤ 64)	—	—		—	—		30.4 (24.2 - 36.7)	40.0 (30.6 - 49.4)		
<b>All Fracture AN-SNAP classes</b>	<b>0.1 (-1.7 - 2.0)</b>	<b>0.5 (-1.0 - 2.0)</b>		<b>20.1 (18.1 - 22.1)</b>	<b>23.9 (22.2 - 25.6)</b>		<b>20.1 (19.9 - 20.3)</b>	<b>23.6 (23.4 - 23.8)</b>		

Impairment	YOUR FACILITY						AUSTRALIA			
	CARMi (95%CI)			Average (95%CI)			Average (95%CI)			
	LOS	FIM change		LOS	FIM change		LOS	FIM change		
8.111 Fracture of hip, unilateral	-2.9 (-5.1 - -0.8)	0.6 (-2.1 - 3.3)		18.2 (16.0 - 20.4)	25.0 (22.0 - 28.1)		20.1 (19.8 - 20.4)	24.4 (24.1 - 24.8)		
8.112 Fracture of hip, bilateral	—	—		—	—		20.1 (17.9 - 22.3)	25.1 (22.7 - 27.6)		
8.12 Fracture of shaft of femur	4.4 (-12.0 - 20.9)	2.7 (-2.9 - 8.4)		22.3 (4.1 - 40.4)	23.8 (17.1 - 30.4)		22.3 (21.1 - 23.4)	24.2 (23.3 - 25.2)		
8.13 Fracture of pelvis	1.6 (-1.0 - 4.2)	4.5 (-0.3 - 9.2)		21.7 (17.7 - 25.6)	27.8 (21.8 - 33.8)		19.9 (19.3 - 20.4)	25.0 (24.3 - 25.6)		
8.141 Fracture of knee	13.4 (-19.0 - 45.9)	-6.1 (-19.8 - 7.6)		32.8 (-3.7 - 69.3)	17.6 (1.5 - 33.7)		20.0 (18.3 - 21.7)	22.1 (21.1 - 23.1)		
8.142 Fracture of leg, ankle, foot	3.5 (-2.9 - 10.0)	1.4 (-2.5 - 5.3)		22.1 (15.8 - 28.5)	23.0 (19.0 - 26.9)		20.6 (19.9 - 21.4)	21.4 (20.8 - 22.0)		
8.15 Fracture of upper limb	-0.3 (-5.3 - 4.6)	-3.0 (-8.0 - 1.9)		18.4 (13.7 - 23.1)	19.6 (14.6 - 24.7)		18.8 (18.2 - 19.4)	22.2 (21.6 - 22.8)		
8.16 Fracture of spine	-0.2 (-5.9 - 5.5)	0.8 (-2.6 - 4.2)		20.8 (14.2 - 27.3)	25.9 (22.0 - 29.8)		18.6 (17.9 - 19.3)	21.4 (20.8 - 22.0)		
8.17 Fracture of multiple sites	-0.7 (-4.5 - 3.2)	-0.7 (-4.7 - 3.3)		17.6 (12.8 - 22.4)	20.9 (15.7 - 26.2)		23.0 (22.2 - 23.8)	26.7 (26.1 - 27.4)		
8.19 Other orthopaedic fracture	3.5 (-6.0 - 13.0)	-0.1 (-7.4 - 7.1)		23.9 (14.4 - 33.5)	24.4 (17.1 - 31.7)		17.4 (16.7 - 18.0)	21.0 (20.3 - 21.7)		
<b>All Orthopaedic Fractures</b>	<b>0.1 (-1.7 - 2.0)</b>	<b>0.5 (-1.0 - 2.0)</b>		<b>20.1 (18.1 - 22.1)</b>	<b>23.9 (22.2 - 25.6)</b>		<b>20.1 (19.9 - 20.3)</b>	<b>23.6 (23.4 - 23.8)</b>		

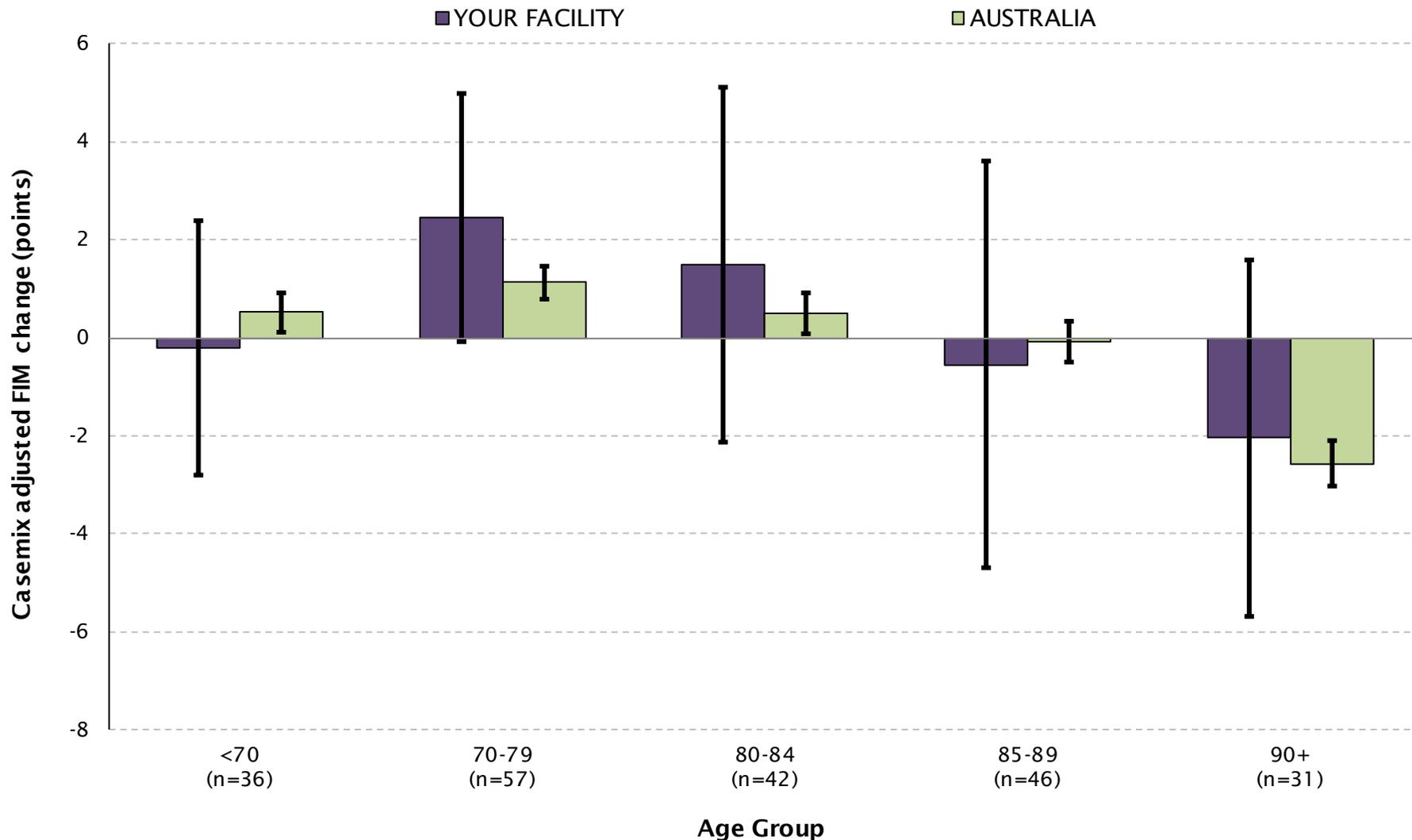
NOTE: Includes only completed episodes with valid FIM scores and LOS, where n<5 no values provided

# 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	19.3 (14.4 - 24.3)	22.9 (19.4 - 26.5)	19.0 (18.5 - 19.6)	22.9 (22.4 - 23.3)
70-79	21.9 (16.4 - 27.3)	25.6 (22.4 - 28.9)	18.9 (18.5 - 19.3)	24.0 (23.6 - 24.4)
80-84	16.7 (14.2 - 19.3)	23.8 (19.7 - 27.9)	20.1 (19.7 - 20.6)	24.1 (23.6 - 24.5)
85-89	20.9 (17.3 - 24.5)	23.2 (19.0 - 27.4)	20.8 (20.3 - 21.3)	24.0 (23.6 - 24.5)
90+	21.2 (17.7 - 24.7)	23.2 (19.5 - 26.9)	22.4 (21.9 - 22.8)	23.0 (22.5 - 23.5)

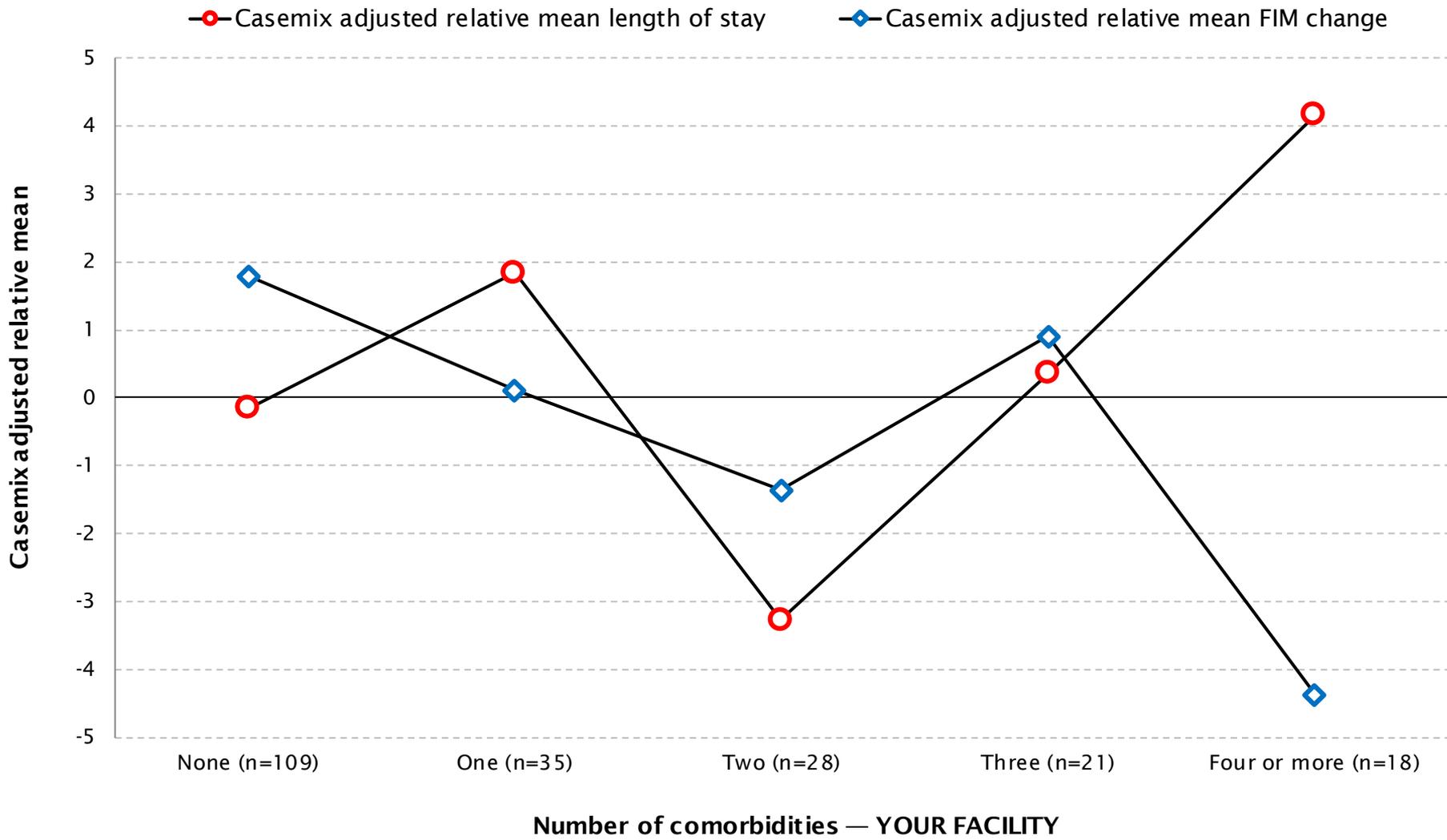
Age group	YOUR FACILITY		AUSTRALIA	
	CARMI LOS (95%CI)	CARMI FIM change (95%CI)	CARMI LOS (95%CI)	CARMI FIM change (95%CI)
<70	0.2 (-4.3 - 4.7)	-0.2 (-2.8 - 2.4)	-0.3 (-0.8 - 0.2)	0.5 (0.1 - 0.9)
70-79	2.1 (-3.0 - 7.1)	2.5 (-0.1 - 5.0)	-0.7 (-1.1 - -0.4)	1.1 (0.8 - 1.5)
80-84	-2.3 (-4.5 - -0.2)	1.5 (-2.1 - 5.1)	-0.1 (-0.5 - 0.4)	0.5 (0.1 - 0.9)
85-89	0.0 (-3.4 - 3.5)	-0.6 (-4.7 - 3.6)	0.0 (-0.4 - 0.5)	-0.1 (-0.5 - 0.3)
90+	0.1 (-3.9 - 4.1)	-2.0 (-5.7 - 1.6)	0.4 (0.0 - 0.9)	-2.6 (-3.0 - -2.1)

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

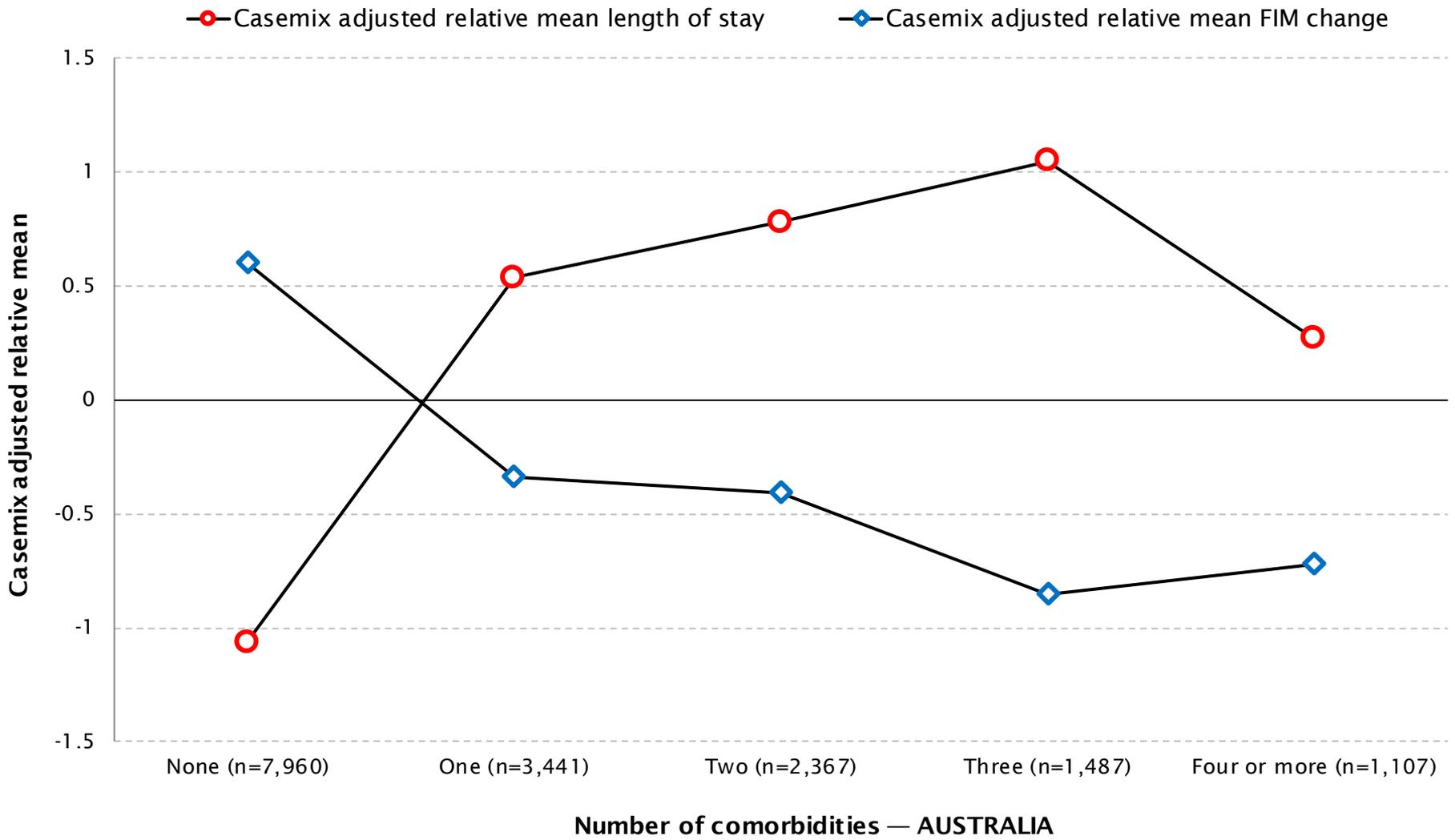
## Explanatory data

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



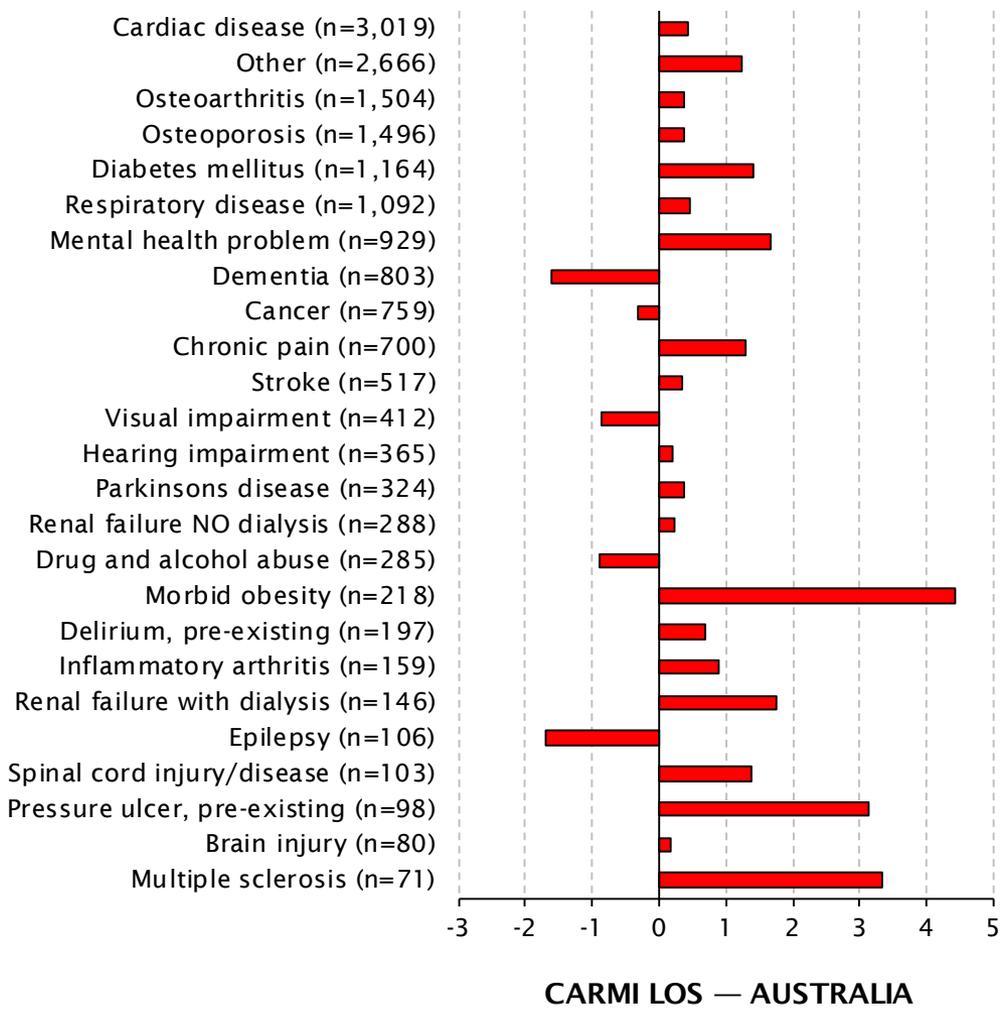
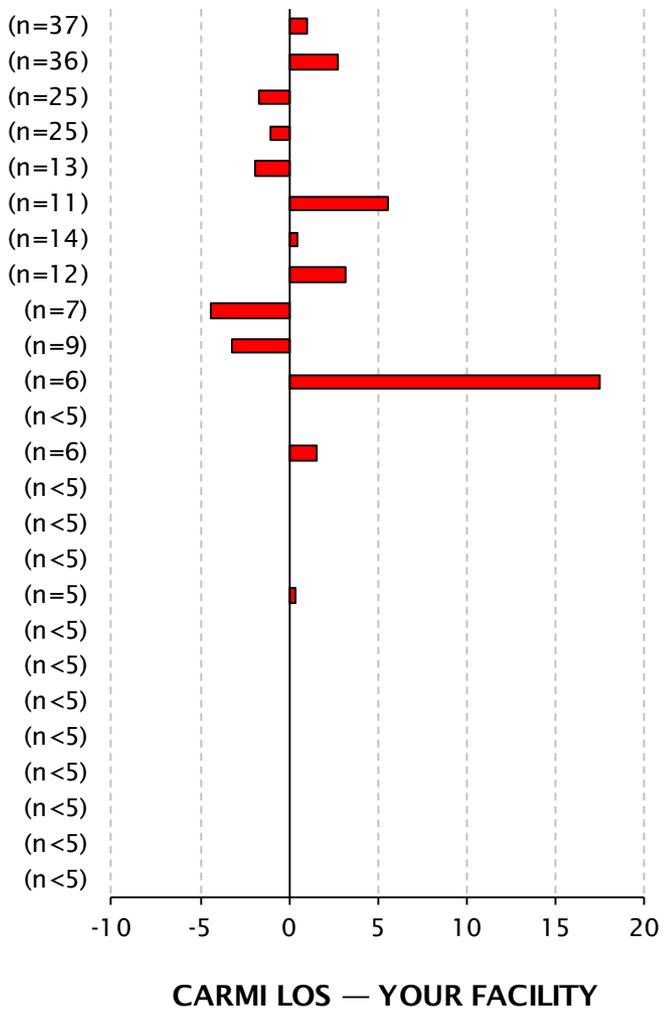
NOTE: Includes only completed episodes with valid FIM scores and LOS; where n<5 the casemix-adjusted relative mean will not be shown

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



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

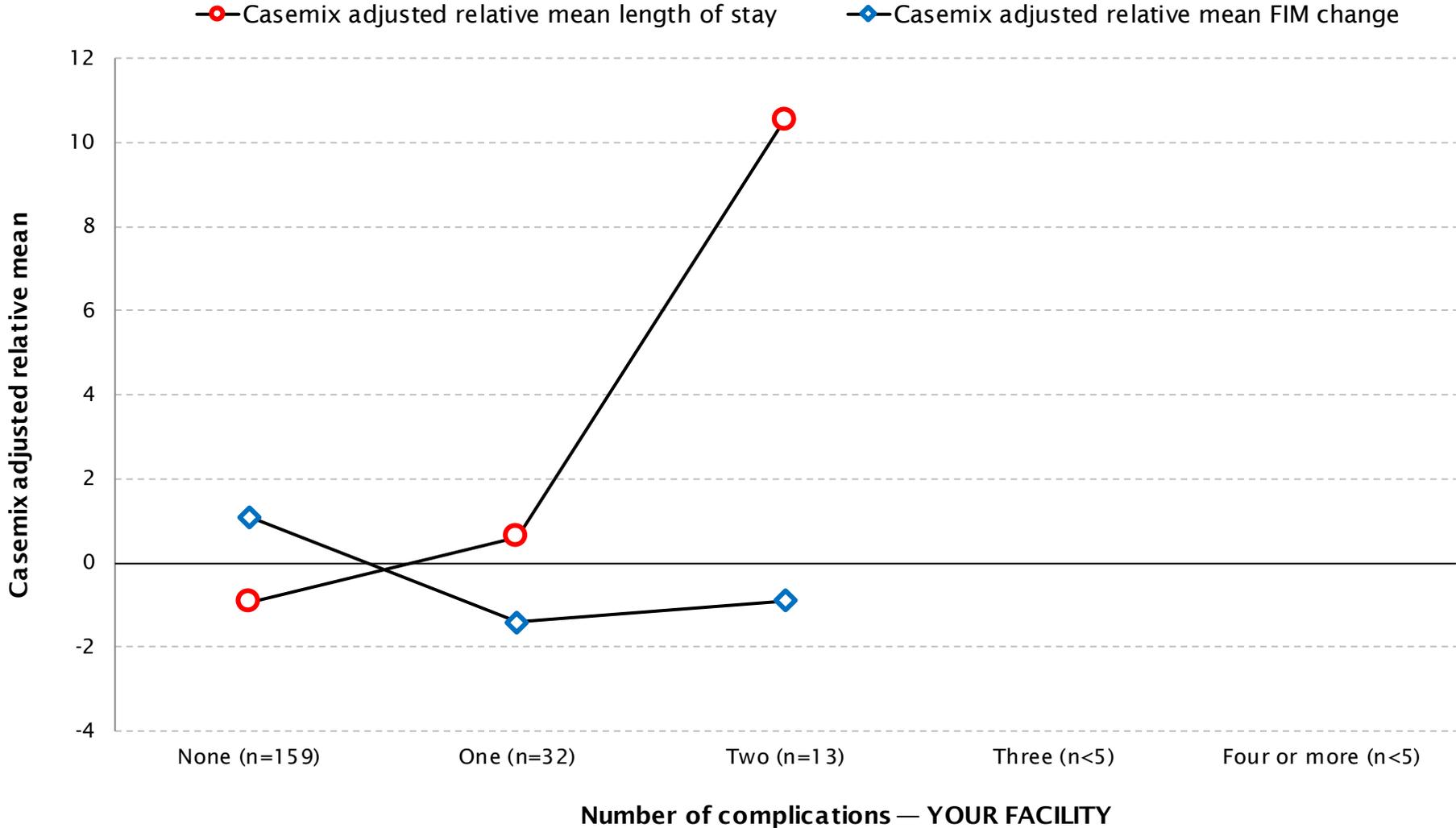
# Casemix-adjusted relative mean length of stay by type of comorbidity



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

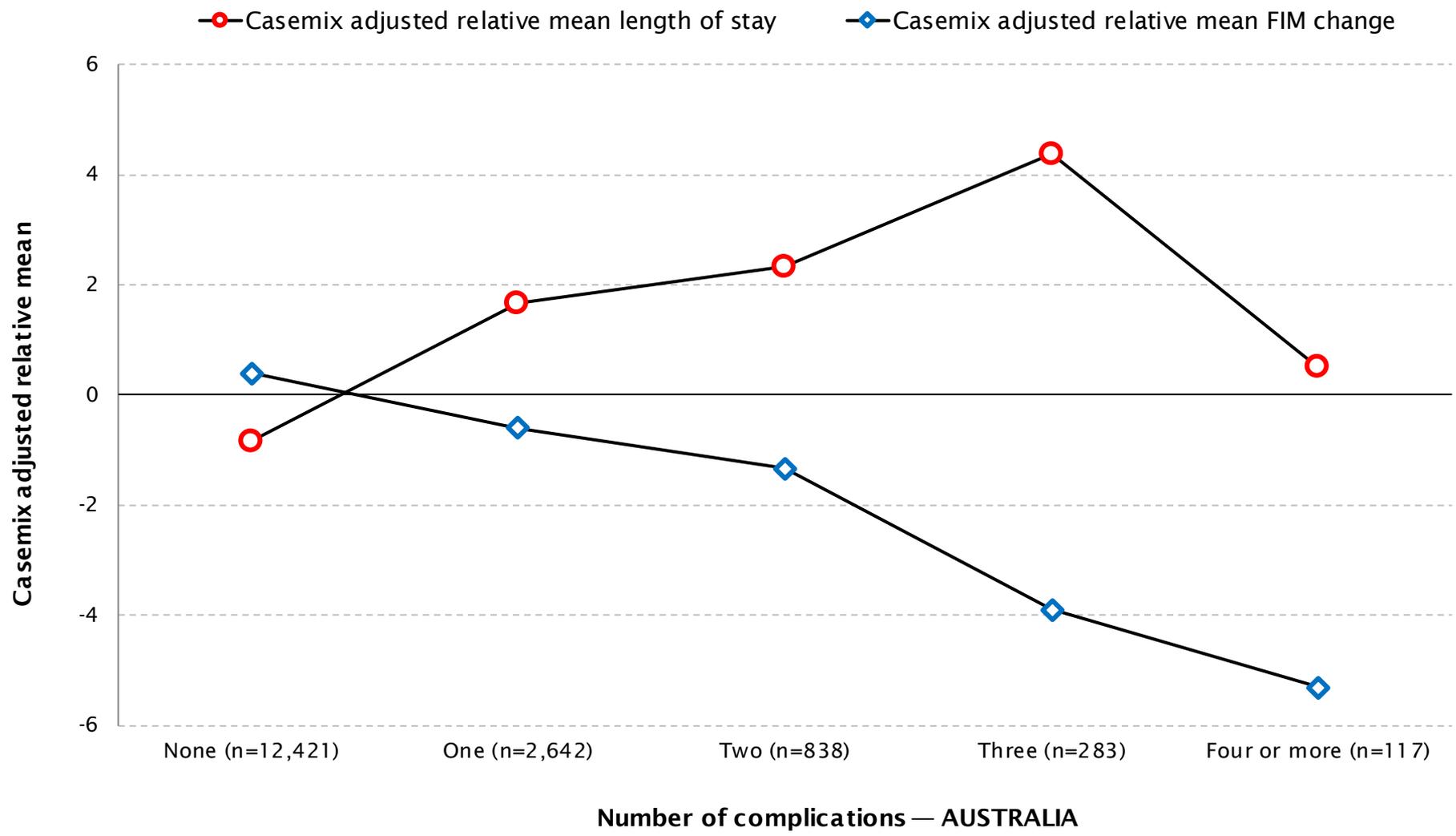


# Casemix-adjusted relative mean length of stay and FIM change by number of complications



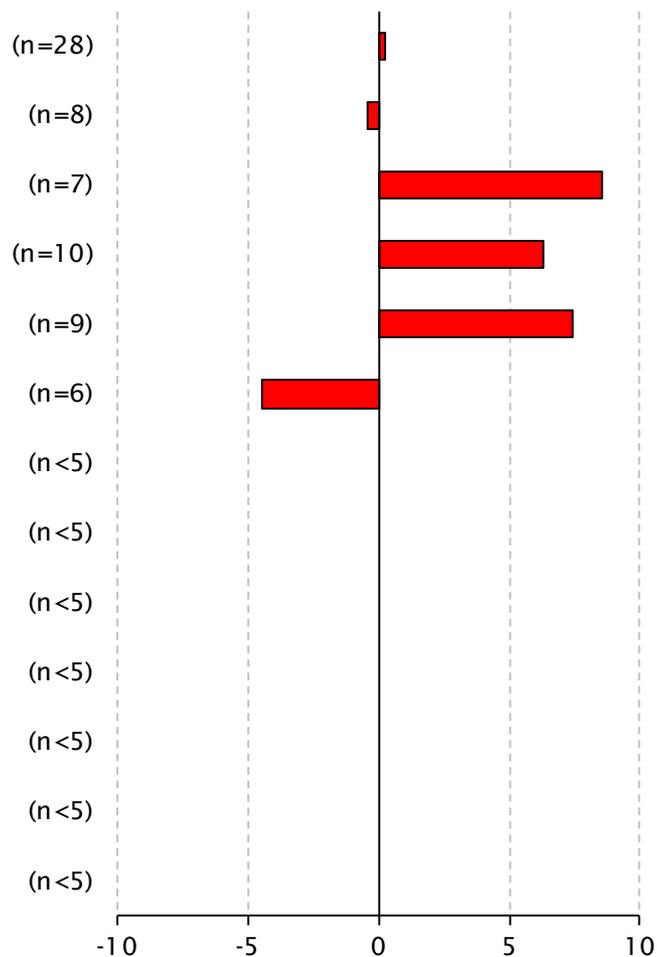
NOTE: Includes only completed episodes with valid FIM scores and LOS; where n<5 the casemix-adjusted relative mean will not be shown

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

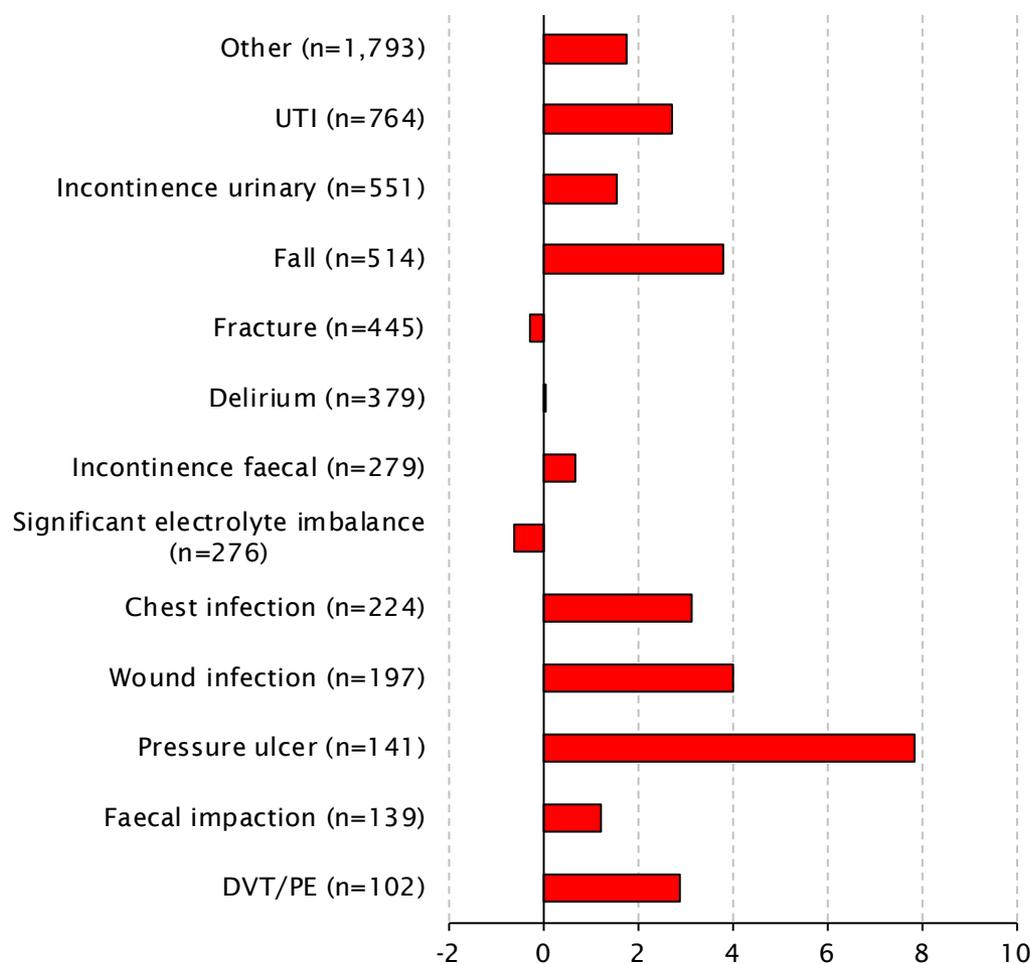


NOTE: Includes only completed episodes with valid FIM scores and LOS; where n<5 the casemix-adjusted relative mean will not be shown

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



**CARMi LOS — YOUR FACILITY**

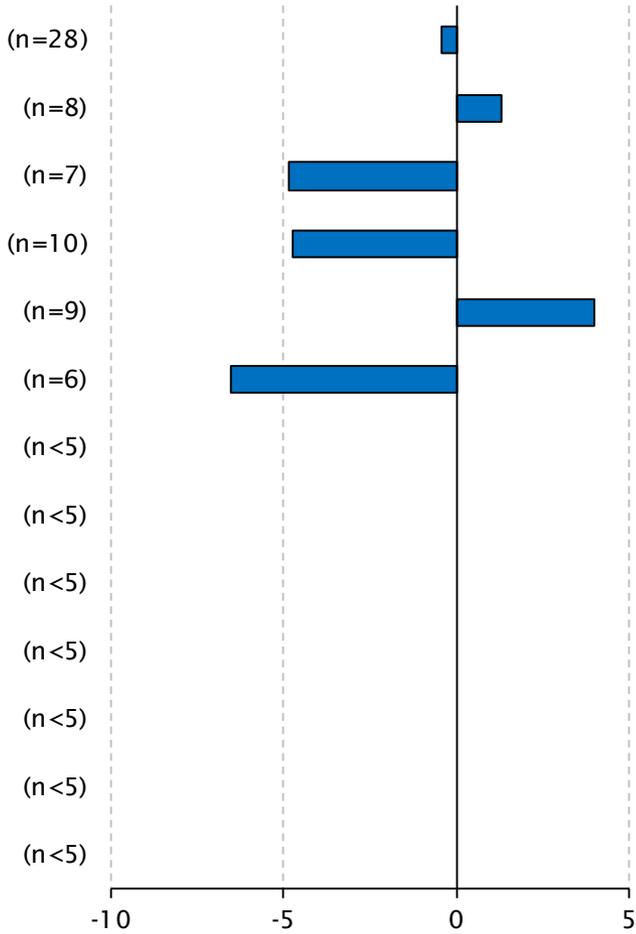


**CARMi LOS — AUSTRALIA**

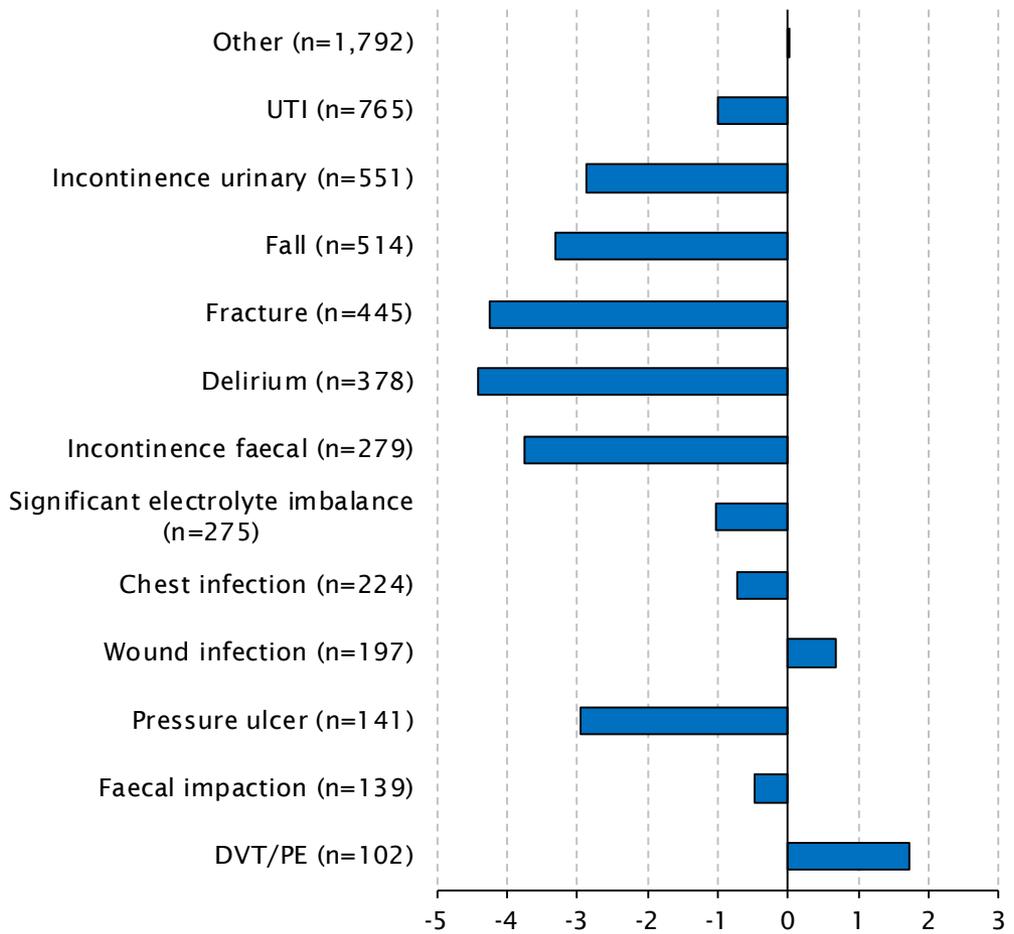
NOTE: Includes only completed episodes with valid LOS

\* No data included where number of episodes <5

# Casemix-adjusted relative mean FIM change by type of complication



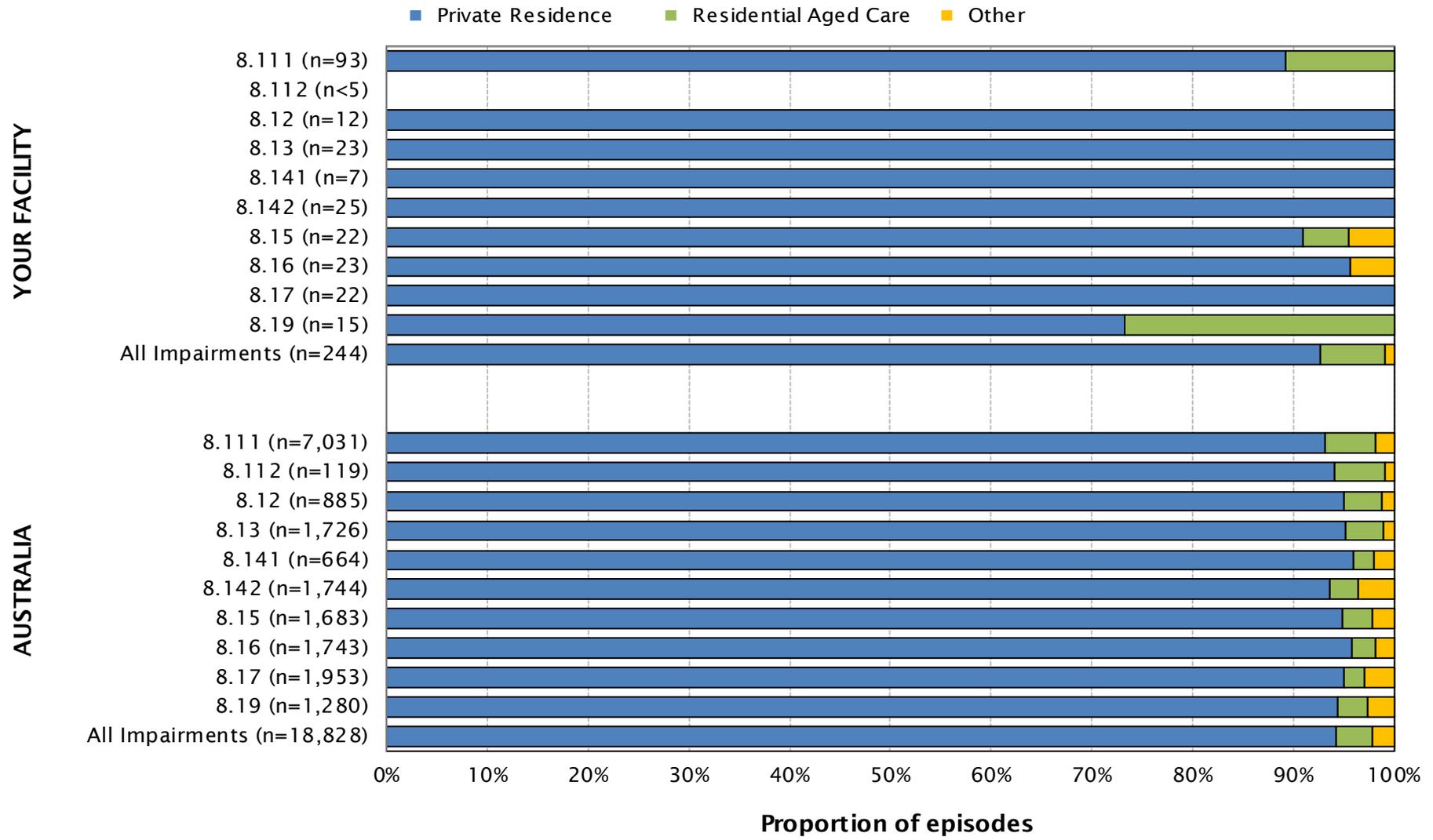
CARMi FIM change — YOUR FACILITY



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



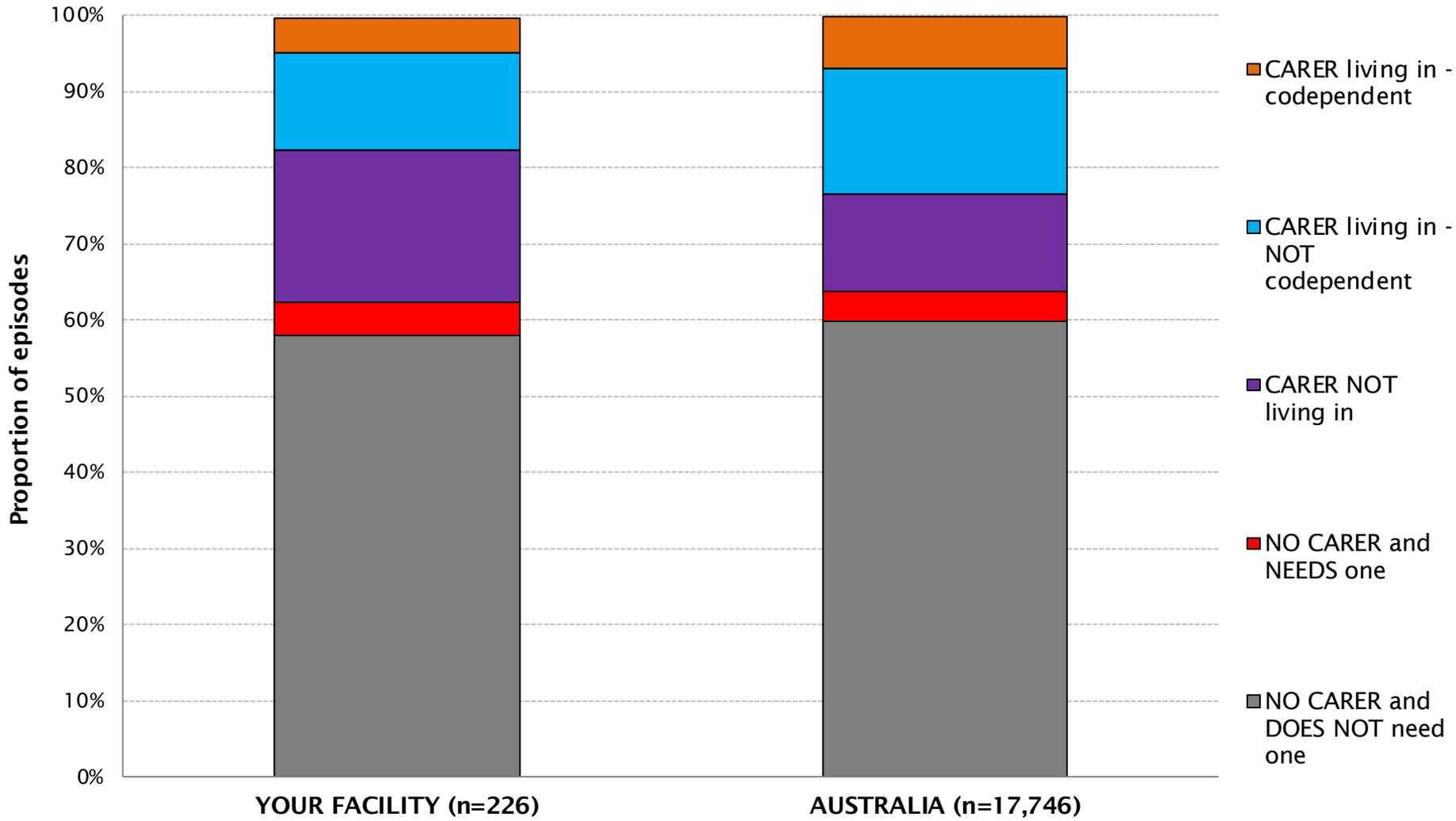
# Type of accommodation prior to impairment



Impairment	YOUR FACILITY — N (%)				
	Private residence	Residential Aged Care	Other	Unknown	All episodes
8.111 Fracture of hip, unilateral	83 (89.2)	10 (10.8)	0 (0.0)	0	93 (100.0)
8.112 Fracture of hip, bilateral	1 (50.0)	1 (50.0)	0 (0.0)	0	2 (100.0)
8.12 Fracture of shaft of femur	12 (100.0)	0 (0.0)	0 (0.0)	0	12 (100.0)
8.13 Fracture of pelvis	23 (100.0)	0 (0.0)	0 (0.0)	0	23 (100.0)
8.141 Fracture of knee	7 (100.0)	0 (0.0)	0 (0.0)	0	7 (100.0)
8.142 Fracture of leg, ankle, foot	25 (100.0)	0 (0.0)	0 (0.0)	0	25 (100.0)
8.15 Fracture of upper limb	20 (90.9)	1 (4.5)	1 (4.5)	0	22 (100.0)
8.16 Fracture of spine	22 (95.7)	0 (0.0)	1 (4.3)	0	23 (100.0)
8.17 Fracture of multiple sites	22 (95.7)	0 (0.0)	0 (0.0)	1	23 (100.0)
8.19 Other orthopaedic fracture	11 (73.3)	4 (26.7)	0 (0.0)	0	15 (100.0)
<b>All Orthopaedic Fractures</b>	<b>226 (92.2)</b>	<b>16 (6.5)</b>	<b>2 (0.8)</b>	<b>1</b>	<b>245 (100.0)</b>

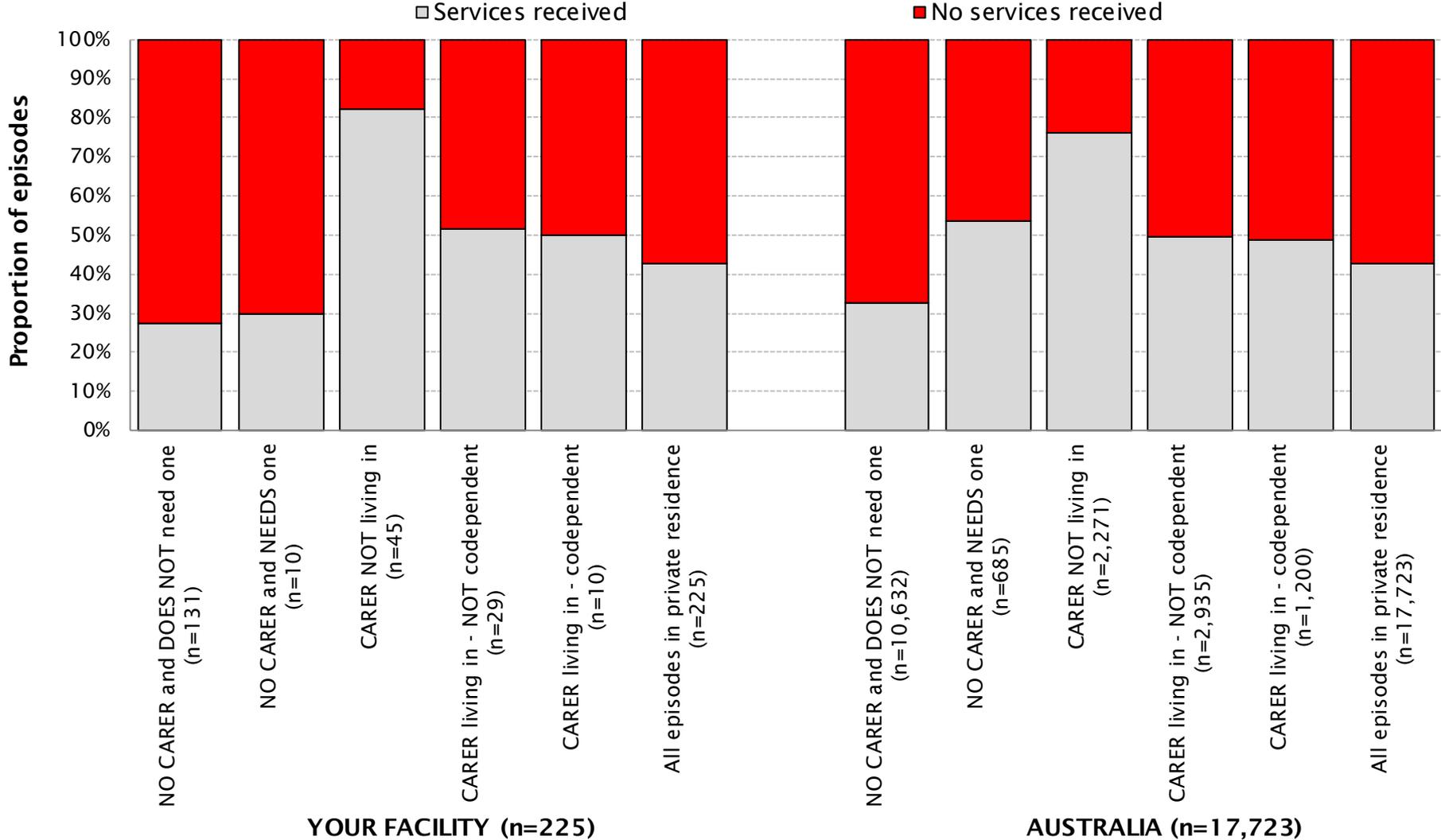
Impairment	AUSTRALIA — N (%)				
	Private residence	Residential Aged Care	Other	Unknown	All episodes
8.111 Fracture of hip, unilateral	6,546 (92.8)	358 (5.1)	127 (1.8)	25	7,056 (100.0)
8.112 Fracture of hip, bilateral	112 (93.3)	6 (5.0)	1 (0.8)	1	120 (100.0)
8.12 Fracture of shaft of femur	841 (94.7)	33 (3.7)	11 (1.2)	3	888 (100.0)
8.13 Fracture of pelvis	1,643 (94.7)	64 (3.7)	19 (1.1)	9	1,735 (100.0)
8.141 Fracture of knee	637 (95.8)	14 (2.1)	13 (2.0)	1	665 (100.0)
8.142 Fracture of leg, ankle, foot	1,634 (93.4)	49 (2.8)	61 (3.5)	5	1,749 (100.0)
8.15 Fracture of upper limb	1,598 (94.7)	48 (2.8)	37 (2.2)	5	1,688 (100.0)
8.16 Fracture of spine	1,669 (95.6)	42 (2.4)	32 (1.8)	2	1,745 (100.0)
8.17 Fracture of multiple sites	1,857 (94.6)	39 (2.0)	57 (2.9)	10	1,963 (100.0)
8.19 Other orthopaedic fracture	1,209 (94.2)	37 (2.9)	34 (2.7)	3	1,283 (100.0)
<b>All Orthopaedic Fractures</b>	<b>17,746 (93.9)</b>	<b>690 (3.7)</b>	<b>392 (2.1)</b>	<b>64</b>	<b>18,892 (100.0)</b>

# Carer status prior to impairment



NOTE: Includes only those episodes coming from private residence

# Any 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.

# Carer status and any services received prior to impairment

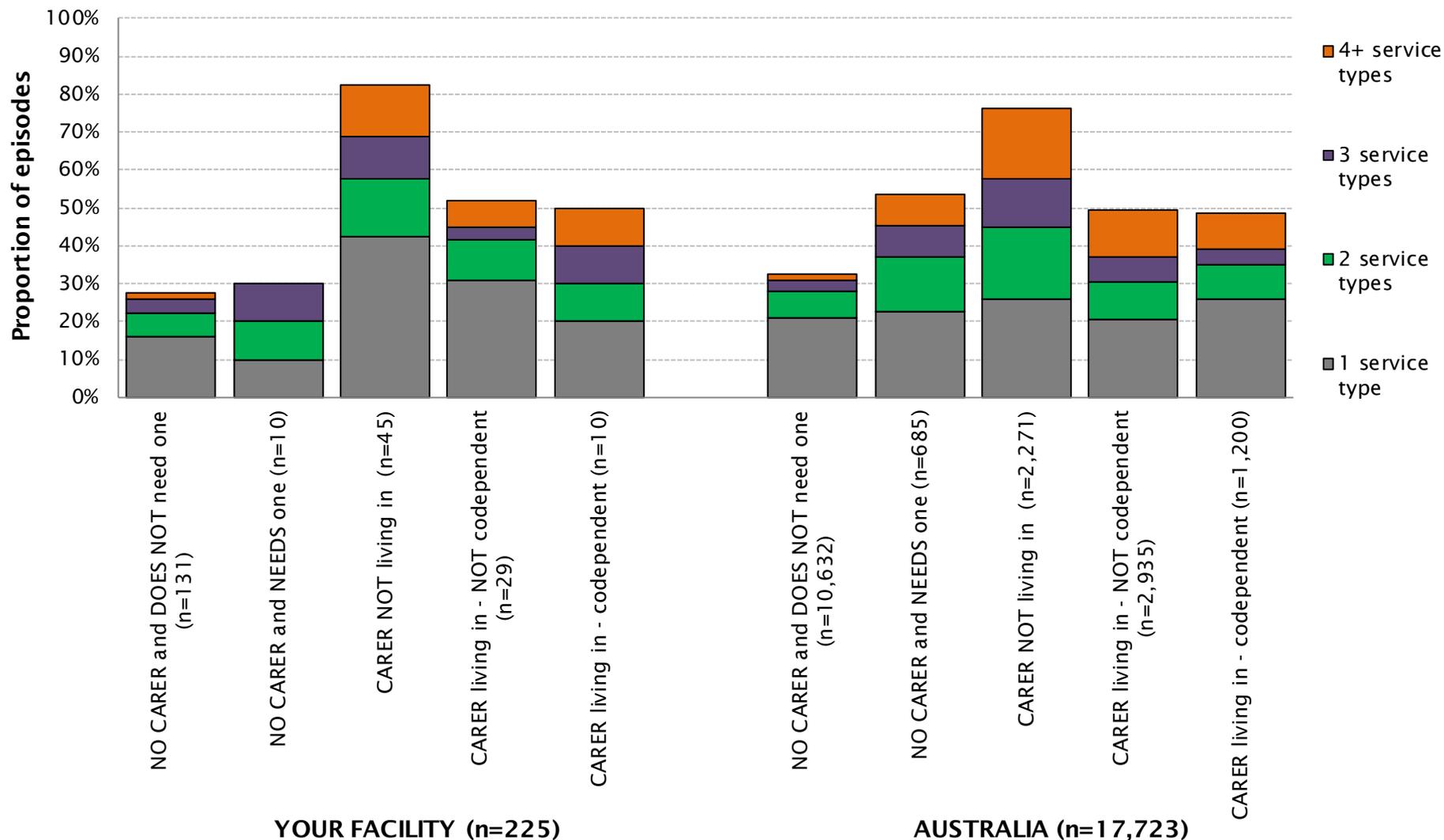


Carer status prior to this impairment	YOUR FACILITY		AUSTRALIA	
	No.	%	No.	%
NO CARER and DOES NOT need one	131	58.2	10,632	60.0
NO CARER and NEEDS one	10	4.4	685	3.9
CARER NOT living in	45	20.0	2,271	12.8
CARER living in - NOT codependent	29	12.9	2,935	16.6
CARER living in - codependent	10	4.4	1,201	6.8
Missing	1		22	
<b>All episodes in private residence</b>	<b>226</b>	<b>100.0</b>	<b>17,746</b>	<b>100.0</b>

Carer status prior to this impairment	Any services received prior to this impairment?			
	YOUR FACILITY		AUSTRALIA	
	Yes (%)	No (%)	Yes (%)	No (%)
NO CARER and DOES NOT need one	27.5	72.5	32.6	67.4
NO CARER and NEEDS one	30.0	70.0	53.7	46.3
CARER NOT living in	82.2	17.8	76.0	24.0
CARER living in - NOT codependent	51.7	48.3	49.6	50.4
CARER living in - codependent	50.0	50.0	48.6	51.4
<b>All episodes in private residence</b>	<b>42.7</b>	<b>57.3</b>	<b>42.9</b>	<b>57.1</b>

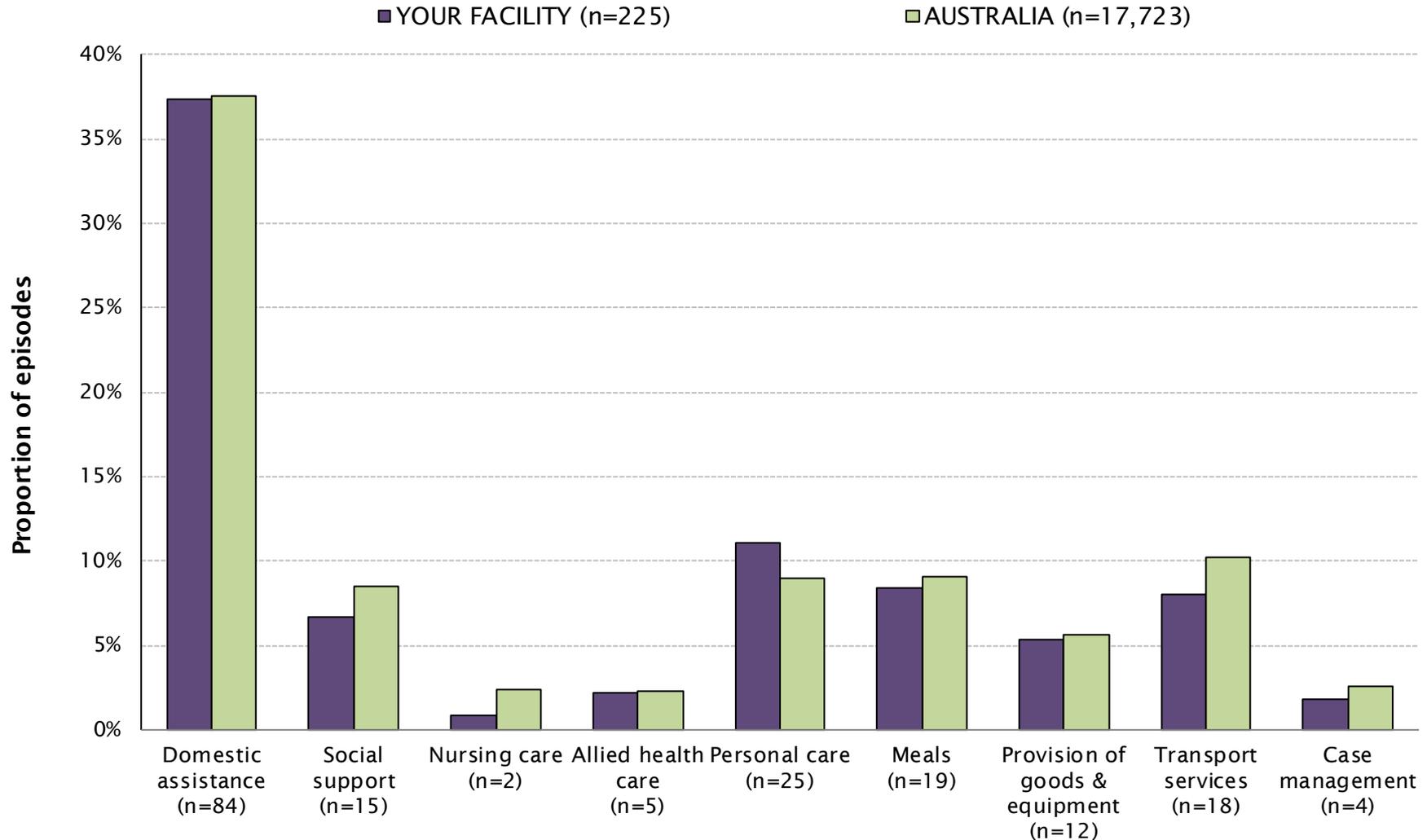
NOTE: Includes only those episodes coming from private residence and with known carer status.

# Number of services received prior to impairment by carer status



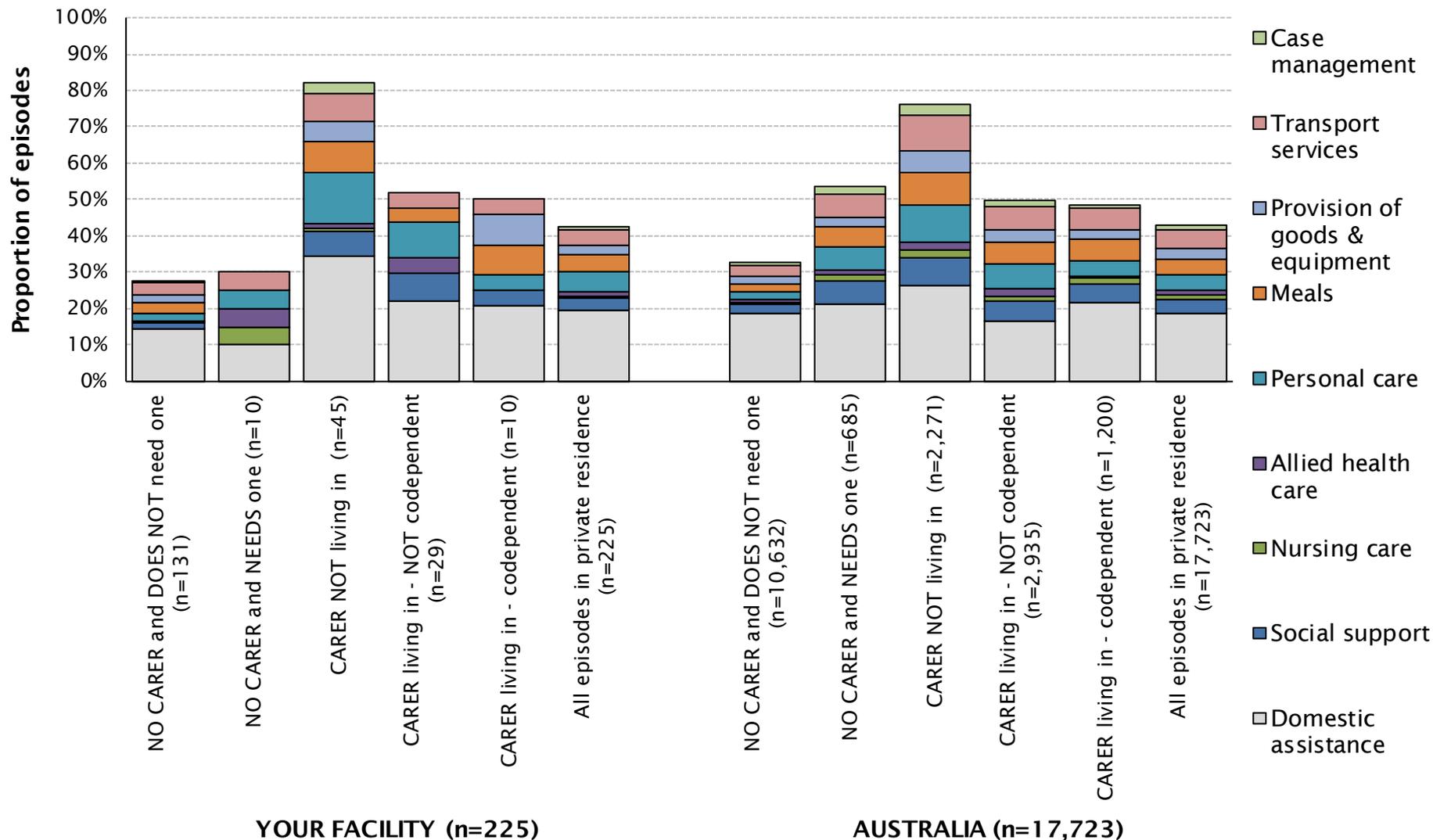
NOTE: Includes only those episodes coming from private residence and with known carer status and known services status

# 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



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 - YOUR FACILITY							All episodes in private residence
Services received prior to this impairment	NO CARER and DOES NOT need one	NO CARER and NEEDS one	CARER NOT living in	CARER living in - NOT codependent	CARER living in - codependent		
Number of episodes in private residence	131	10	45	29	10	225	
<b>Percent of episodes receiving:</b>							
No services	72.5	70.0	17.8	48.3	50.0	57.3	
1 service type	16.0	10.0	42.2	31.0	20.0	23.1	
2 service types	6.1	10.0	15.6	10.3	10.0	8.9	
3 service types	3.8	10.0	11.1	3.4	10.0	5.8	
4 or more service types	1.5	0.0	13.3	6.9	10.0	4.9	
<b>Service Type received</b>							
Domestic assistance	25.2	20.0	71.1	37.9	50.0	36.9	
Social support	3.1	0.0	13.3	13.8	10.0	6.7	
Nursing care	0.0	10.0	2.2	0.0	0.0	0.9	
Allied health care	0.8	10.0	2.2	6.9	0.0	2.2	
Personal care	3.8	10.0	28.9	17.2	10.0	11.1	
Meals	5.3	0.0	17.8	6.9	20.0	8.4	
Provision of goods & equipment	3.8	0.0	11.1	0.0	20.0	5.3	
Transport services	5.3	10.0	15.6	6.9	10.0	8.0	
Case management	0.8	0.0	6.7	0.0	0.0	1.8	

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

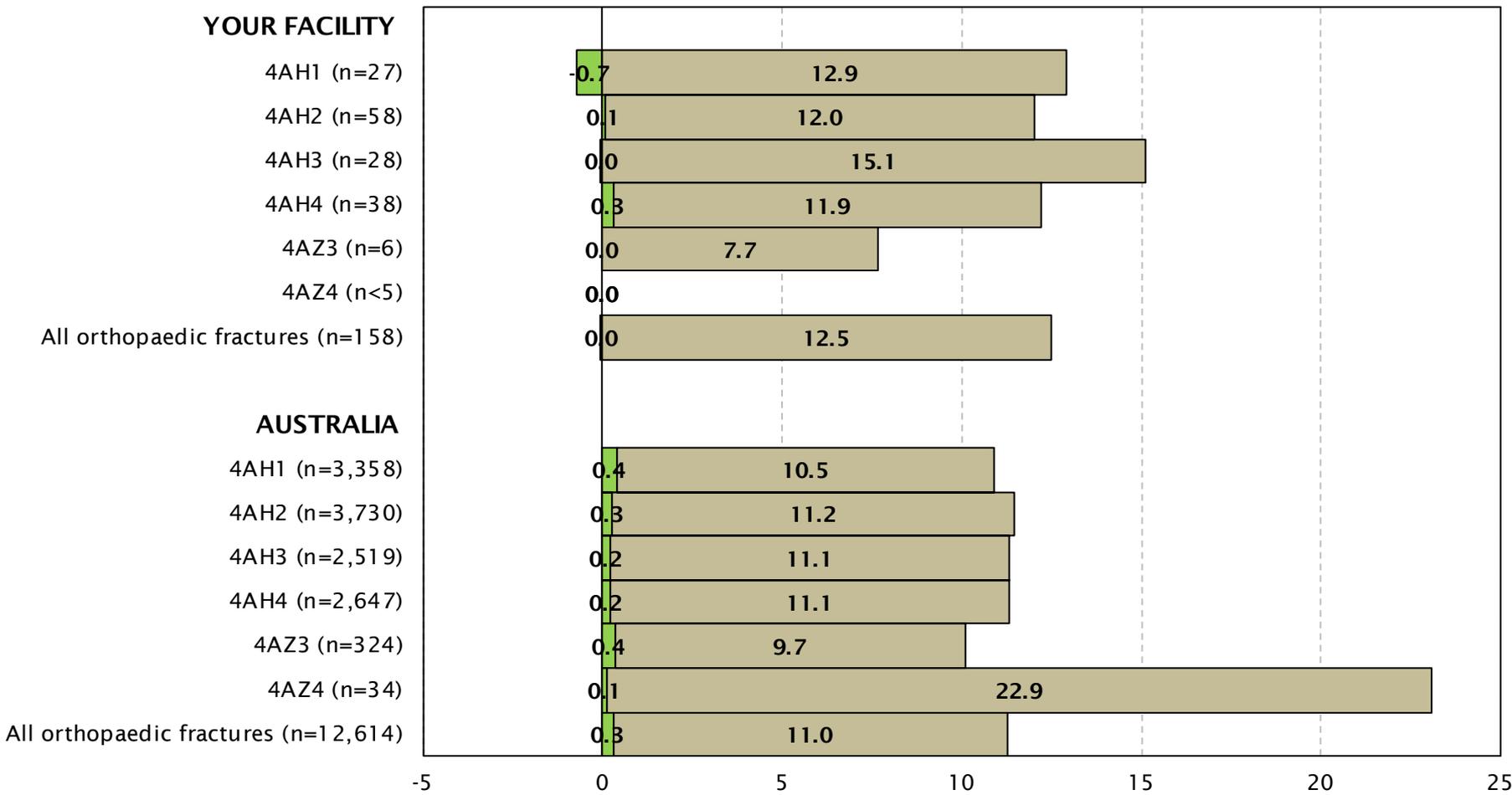


Carer status prior to discharge - AUSTRALIA						
Services received prior to this impairment	NO CARER and DOES NOT need one	NO CARER and NEEDS one	CARER NOT living in	CARER living in - NOT codependent	CARER living in - codependent	All episodes in private residence
Number of episodes in private residence	10,632	685	2,271	2,935	1,200	17,723
<b>Percent of episodes receiving:</b>						
No services	67.4	46.3	24.0	50.4	51.4	57.1
1 service type	21.1	22.6	25.9	20.5	25.8	22.0
2 service types	7.0	14.3	18.8	9.7	9.1	9.4
3 service types	2.7	8.5	13.1	6.6	4.3	5.0
4 or more service types	1.7	8.0	18.2	12.7	9.3	6.4
<b>Service Type received</b>						
Domestic assistance	29.0	45.0	67.5	41.0	43.4	37.5
Social support	4.1	13.7	19.5	13.9	10.9	8.5
Nursing care	1.0	3.5	6.5	3.6	2.8	2.4
Allied health care	1.0	2.6	5.3	4.6	1.5	2.3
Personal care	3.2	13.1	25.5	16.8	8.2	9.0
Meals	3.8	12.1	23.2	15.1	11.7	9.0
Provision of goods & equipment	2.9	5.1	15.3	8.2	5.7	5.7
Transport services	4.9	13.9	25.1	16.4	11.8	10.2
Case management	1.1	4.5	7.8	3.9	2.1	2.6

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

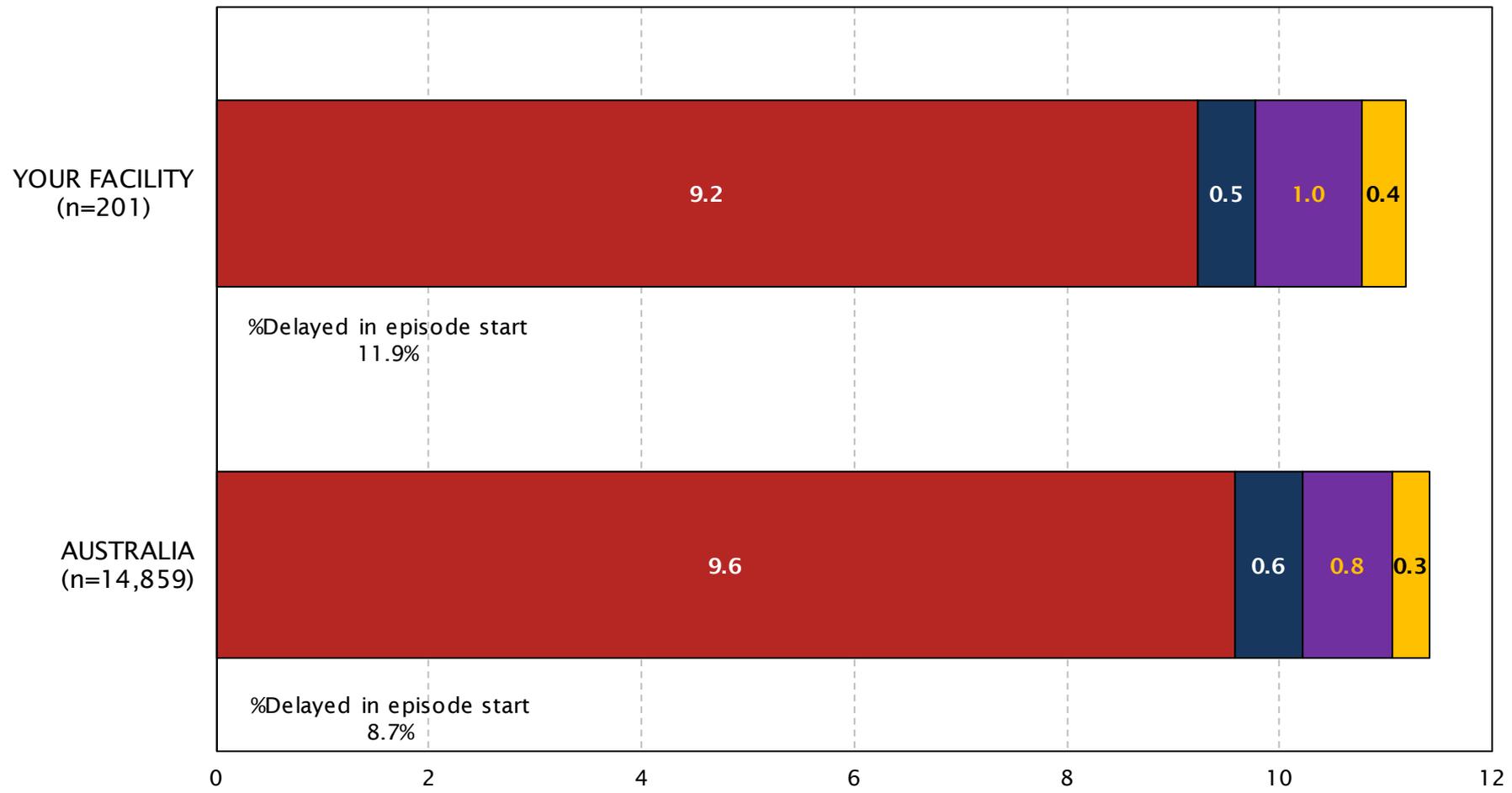
Average number of days between dates

NOTE: Includes first admissions where all dates have been entered only

# 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

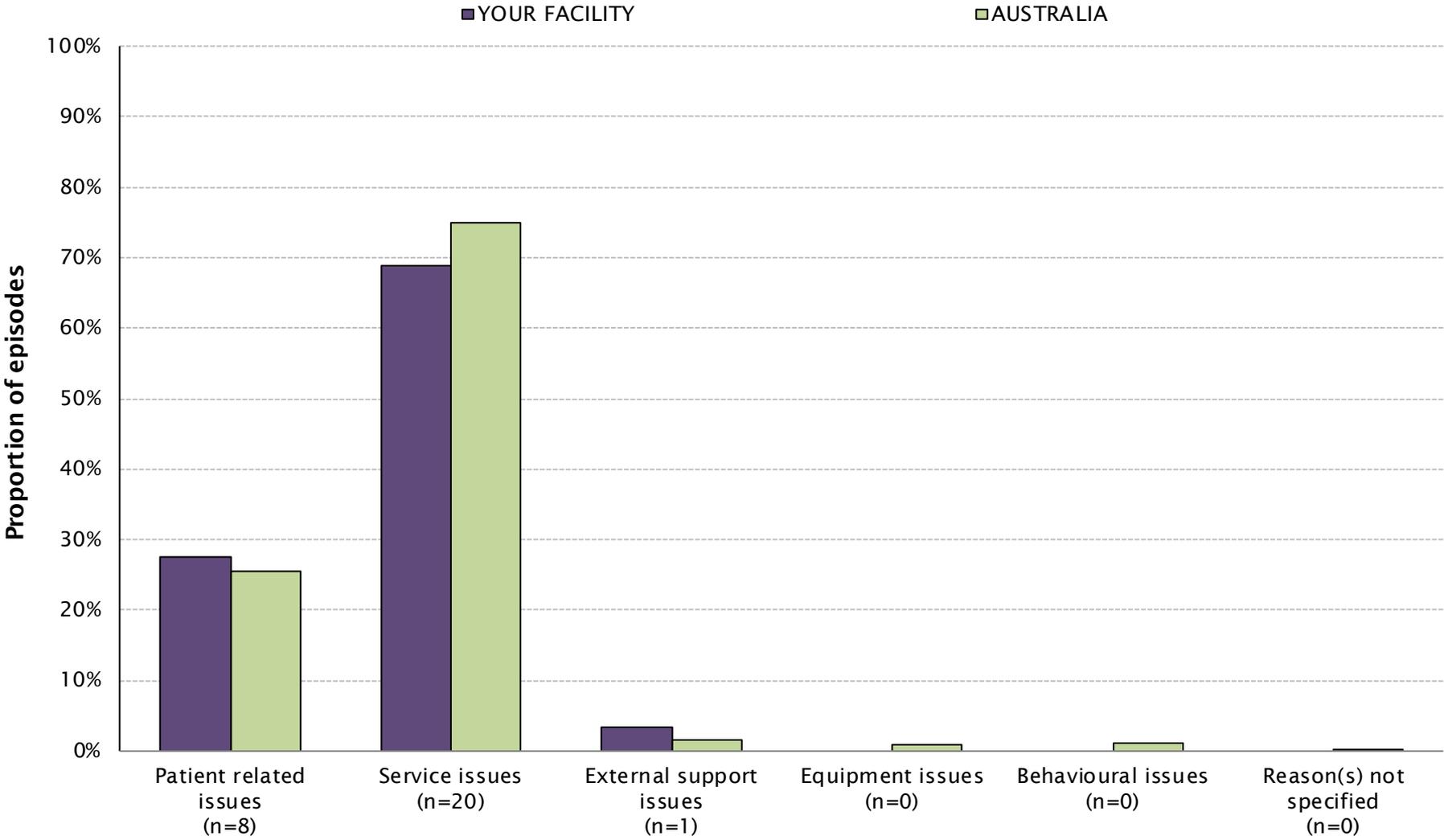


\*No data provided when less than 5 episodes have dates

**Average number of days between dates**

NOTE: Includes first admissions where all dates have been entered only

# Type of delay in episode start



# Delays in episode start

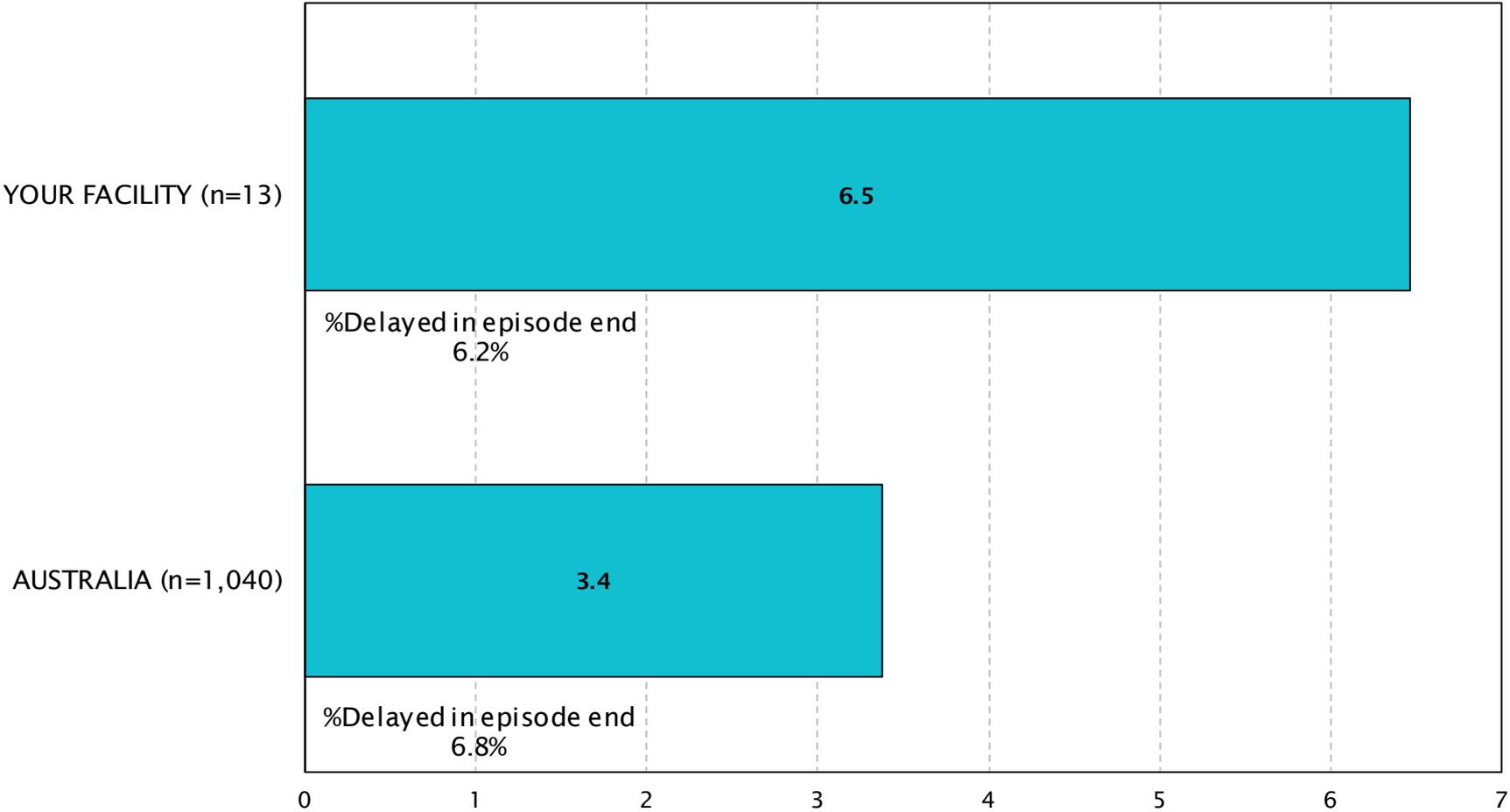
Delay in episode start	YOUR FACILITY		AUSTRALIA	
	No.	%	No.	%
No delay	215	88.1	16,953	91.3
Delay in episode start	29	11.9	1,617	8.7
Missing	1		322	
<b>All episodes</b>	<b>245</b>	<b>100.0</b>	<b>18,892</b>	<b>100.0</b>

Reasons for delay in episode start	YOUR FACILITY		AUSTRALIA	
	No.	%	No.	%
Patient related issues	8	27.6	413	25.5
Service issues	20	69.0	1,212	75.0
External support issues	1	3.4	26	1.6
Equipment issues	0	0.0	13	0.8
Behavioural issues	0	0.0	17	1.1
Reason(s) not specified	0	0.0	2	0.1

# Days from clinically ready to discharge



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

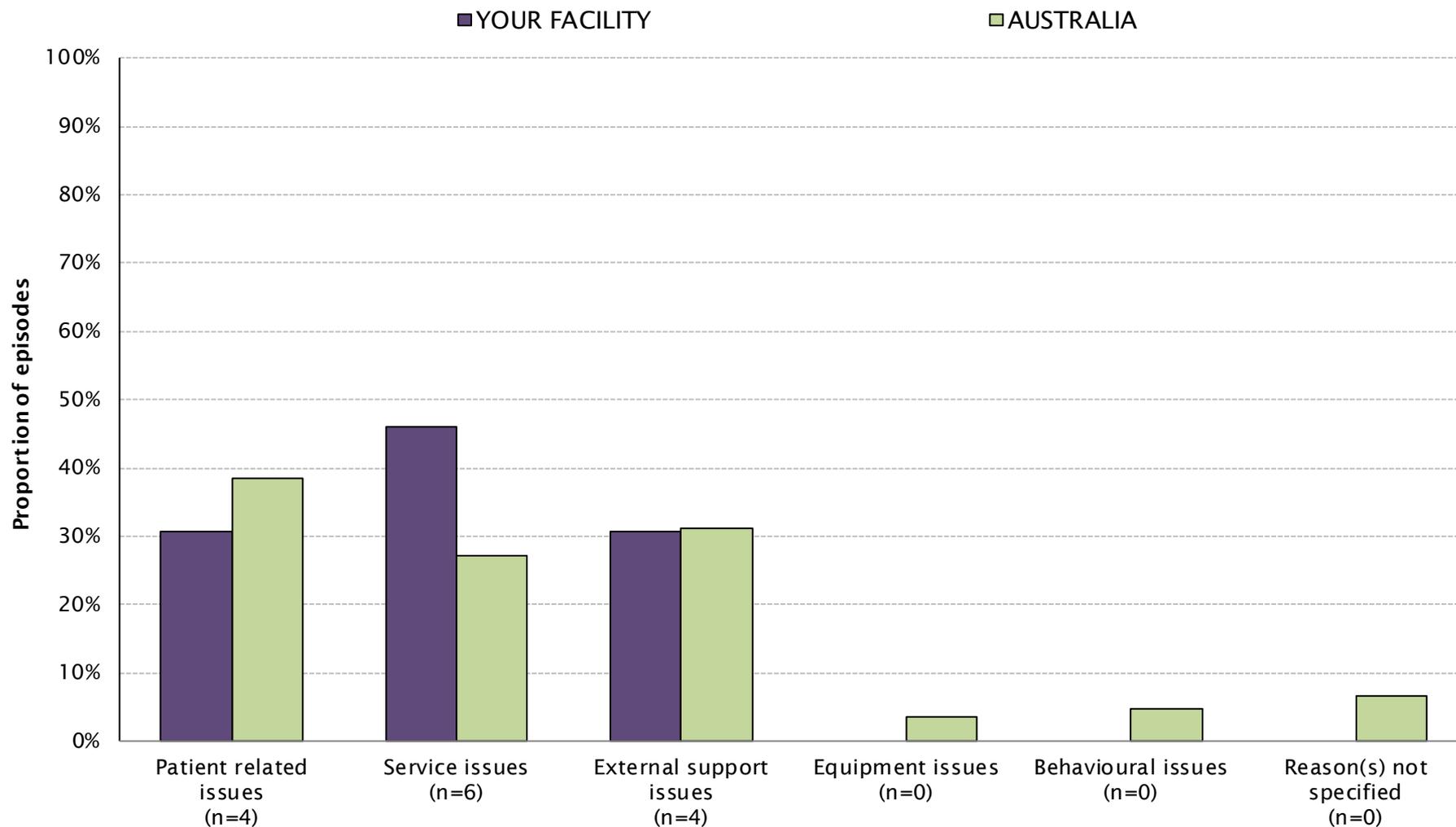


\*No data provided when less than 5 episodes have dates

Average number of days between dates

NOTE: Includes completed episodes with a delay in discharge

# Type of delay in episode end



NOTE: Includes completed episodes only

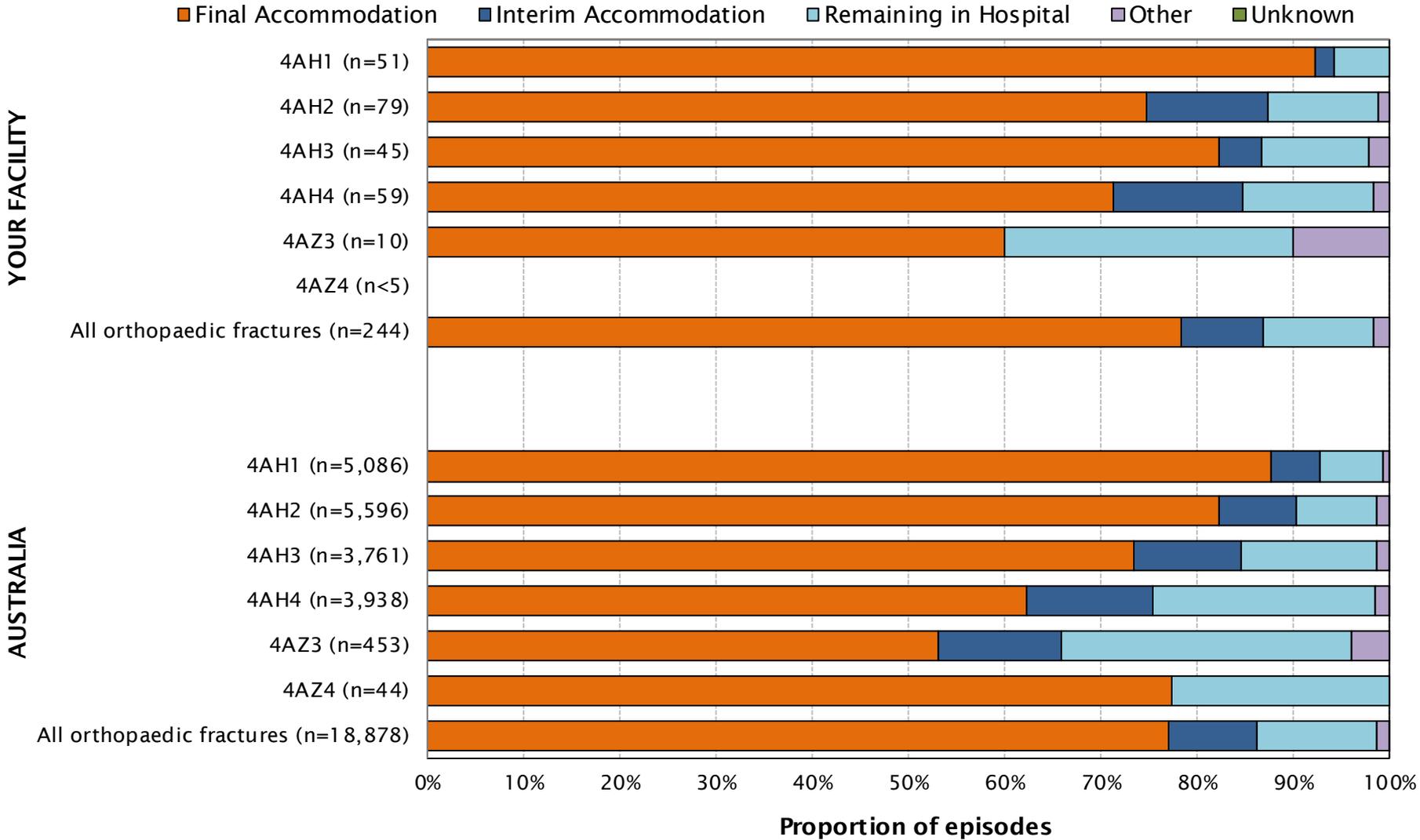
# Delays in episode end

Delay in episode end	YOUR FACILITY		AUSTRALIA	
	No.	%	No.	%
No delay	198	93.8	15,058	93.2
Delay in episode end	13	6.2	1,104	6.8
Missing	1		245	
<b>All episodes</b>	<b>212</b>	<b>100.0</b>	<b>16,407</b>	<b>100.0</b>

Reasons for delay in episode end	YOUR FACILITY		AUSTRALIA	
	No.	%	No.	%
Patient related issues	4	30.8	426	38.6
Service issues	6	46.2	299	27.1
External support issues	4	30.8	345	31.3
Equipment issues	0	0.0	41	3.7
Behavioural issues	0	0.0	54	4.9
Reason(s) not specified	0	0.0	74	6.7

NOTE: Includes completed episodes only

# Discharge destination by AN-SNAP class



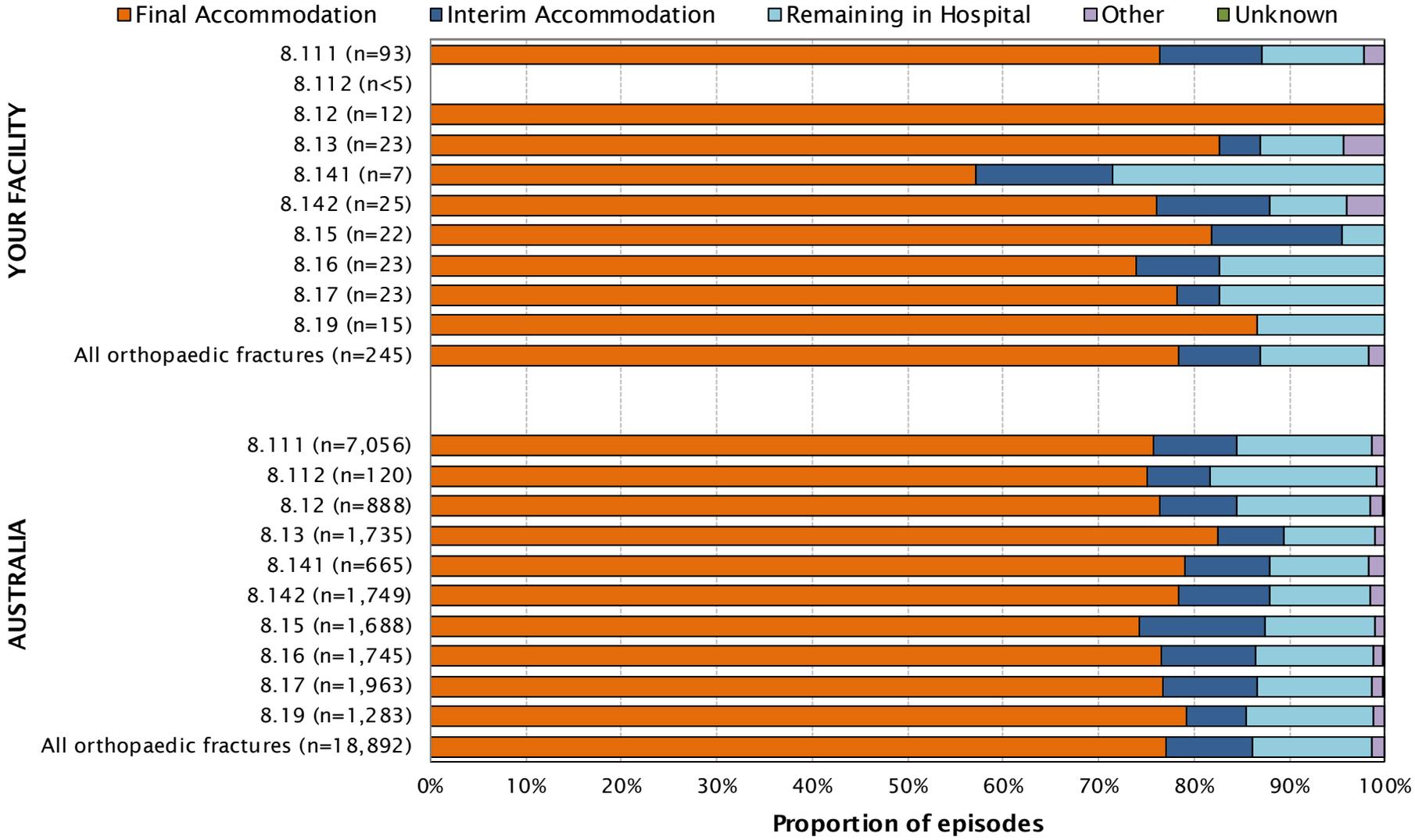
# Discharge destination by AN-SNAP class



AN-SNAP class V4	YOUR FACILITY — N					AUSTRALIA — N				
	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown
4AH1 (motor 49-91, cognition 33-35)	47	1	3	0	0	4,456	263	329	36	2
4AH2 (motor 49-91, cognition 5-32)	59	10	9	1	0	4,602	452	469	69	4
4AH3 (motor 38-48)	37	2	5	1	0	2,761	418	529	51	2
4AH4 (motor 19-37)	42	8	8	1	0	2,454	516	905	61	2
4AZ3 (motor 13-18, Age ≥ 65)	6	0	3	1	0	240	58	137	18	0
4AZ4 (motor 13-18, Age ≤ 64)	0	0	0	0	0	34	0	10	0	0
<b>All Fracture AN-SNAP classes</b>	<b>191</b>	<b>21</b>	<b>28</b>	<b>4</b>	<b>0</b>	<b>14,547</b>	<b>1,707</b>	<b>2,379</b>	<b>235</b>	<b>10</b>

AN-SNAP class V4	YOUR FACILITY — %					AUSTRALIA — %				
	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown
4AH1 (motor 49-91, cognition 33-35)	92.2	2.0	5.9	0.0	0.0	87.6	5.2	6.5	0.7	0.0
4AH2 (motor 49-91, cognition 5-32)	74.7	12.7	11.4	1.3	0.0	82.2	8.1	8.4	1.2	0.1
4AH3 (motor 38-48)	82.2	4.4	11.1	2.2	0.0	73.4	11.1	14.1	1.4	0.1
4AH4 (motor 19-37)	71.2	13.6	13.6	1.7	0.0	62.3	13.1	23.0	1.5	0.1
4AZ3 (motor 13-18, Age ≥ 65)	60.0	0.0	30.0	10.0	0.0	53.0	12.8	30.2	4.0	0.0
4AZ4 (motor 13-18, Age ≤ 64)	—	—	—	—	—	77.3	0.0	22.7	0.0	0.0
<b>All Fracture AN-SNAP classes</b>	<b>78.3</b>	<b>8.6</b>	<b>11.5</b>	<b>1.6</b>	<b>0.0</b>	<b>77.1</b>	<b>9.0</b>	<b>12.6</b>	<b>1.2</b>	<b>0.1</b>

# Discharge destination by impairment



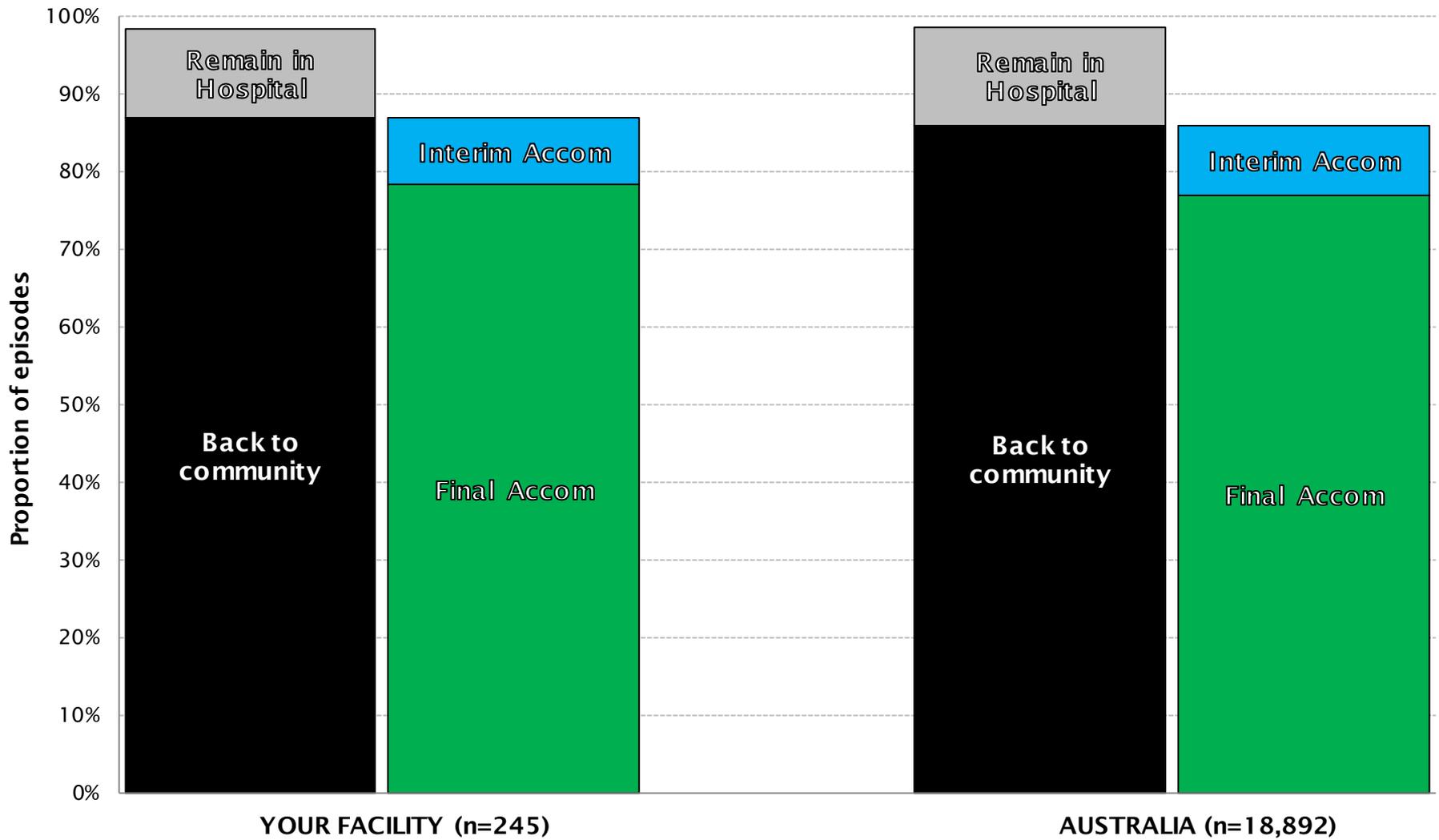
# Discharge destination by impairment



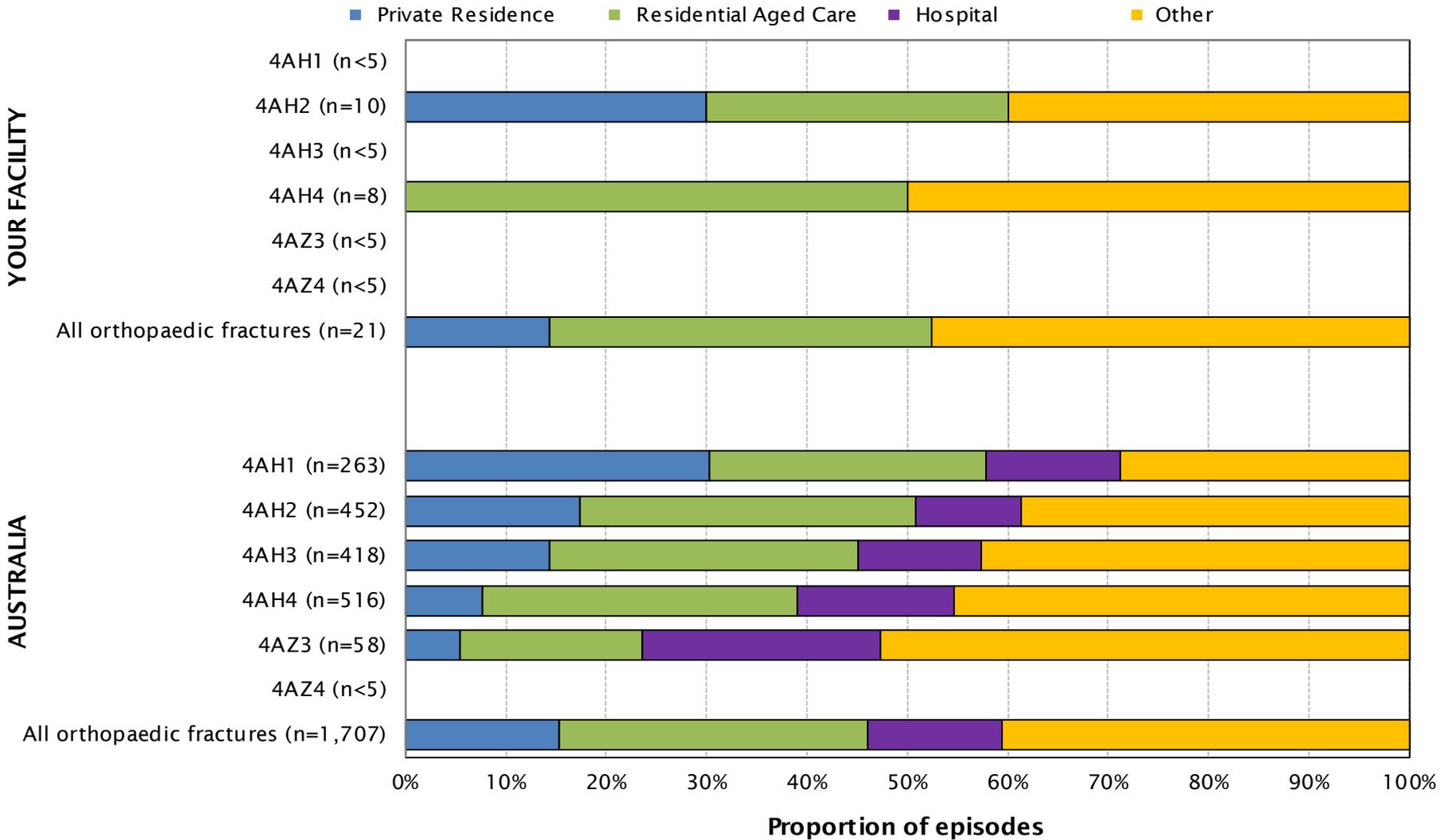
Impairment	YOUR FACILITY — N					AUSTRALIA — N				
	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown
8.111 Fracture of hip, unilateral	71	10	10	2	0	5,346	608	1,005	91	6
8.112 Fracture of hip, bilateral	1	0	1	0	0	90	8	21	1	0
8.12 Fracture of shaft of femur	12	0	0	0	0	679	71	124	12	2
8.13 Fracture of pelvis	19	1	2	1	0	1,430	121	167	17	0
8.141 Fracture of knee	4	1	2	0	0	526	59	69	11	0
8.142 Fracture of leg, ankle, foot	19	3	2	1	0	1,370	169	182	28	0
8.15 Fracture of upper limb	18	3	1	0	0	1,254	223	192	17	2
8.16 Fracture of spine	17	2	4	0	0	1,335	174	214	19	3
8.17 Fracture of multiple sites	18	1	4	0	0	1,507	193	235	25	3
8.19 Other orthopaedic fracture	13	0	2	0	0	1,015	81	172	14	1
<b>All Orthopaedic Fractures</b>	<b>192</b>	<b>21</b>	<b>28</b>	<b>4</b>	<b>0</b>	<b>14,552</b>	<b>1,707</b>	<b>2,381</b>	<b>235</b>	<b>17</b>

Impairment	YOUR FACILITY — %					AUSTRALIA — %				
	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown
8.111 Fracture of hip, unilateral	76.3	10.8	10.8	2.2	0.0	75.8	8.6	14.2	1.3	0.1
8.112 Fracture of hip, bilateral	50.0	0.0	50.0	0.0	0.0	75.0	6.7	17.5	0.8	0.0
8.12 Fracture of shaft of femur	100.0	0.0	0.0	0.0	0.0	76.5	8.0	14.0	1.4	0.2
8.13 Fracture of pelvis	82.6	4.3	8.7	4.3	0.0	82.4	7.0	9.6	1.0	0.0
8.141 Fracture of knee	57.1	14.3	28.6	0.0	0.0	79.1	8.9	10.4	1.7	0.0
8.142 Fracture of leg, ankle, foot	76.0	12.0	8.0	4.0	0.0	78.3	9.7	10.4	1.6	0.0
8.15 Fracture of upper limb	81.8	13.6	4.5	0.0	0.0	74.3	13.2	11.4	1.0	0.1
8.16 Fracture of spine	73.9	8.7	17.4	0.0	0.0	76.5	10.0	12.3	1.1	0.2
8.17 Fracture of multiple sites	78.3	4.3	17.4	0.0	0.0	76.8	9.8	12.0	1.3	0.2
8.19 Other orthopaedic fracture	86.7	0.0	13.3	0.0	0.0	79.1	6.3	13.4	1.1	0.1
<b>All Orthopaedic Fractures</b>	<b>78.4</b>	<b>8.6</b>	<b>11.4</b>	<b>1.6</b>	<b>0.0</b>	<b>77.0</b>	<b>9.0</b>	<b>12.6</b>	<b>1.2</b>	<b>0.1</b>

# 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



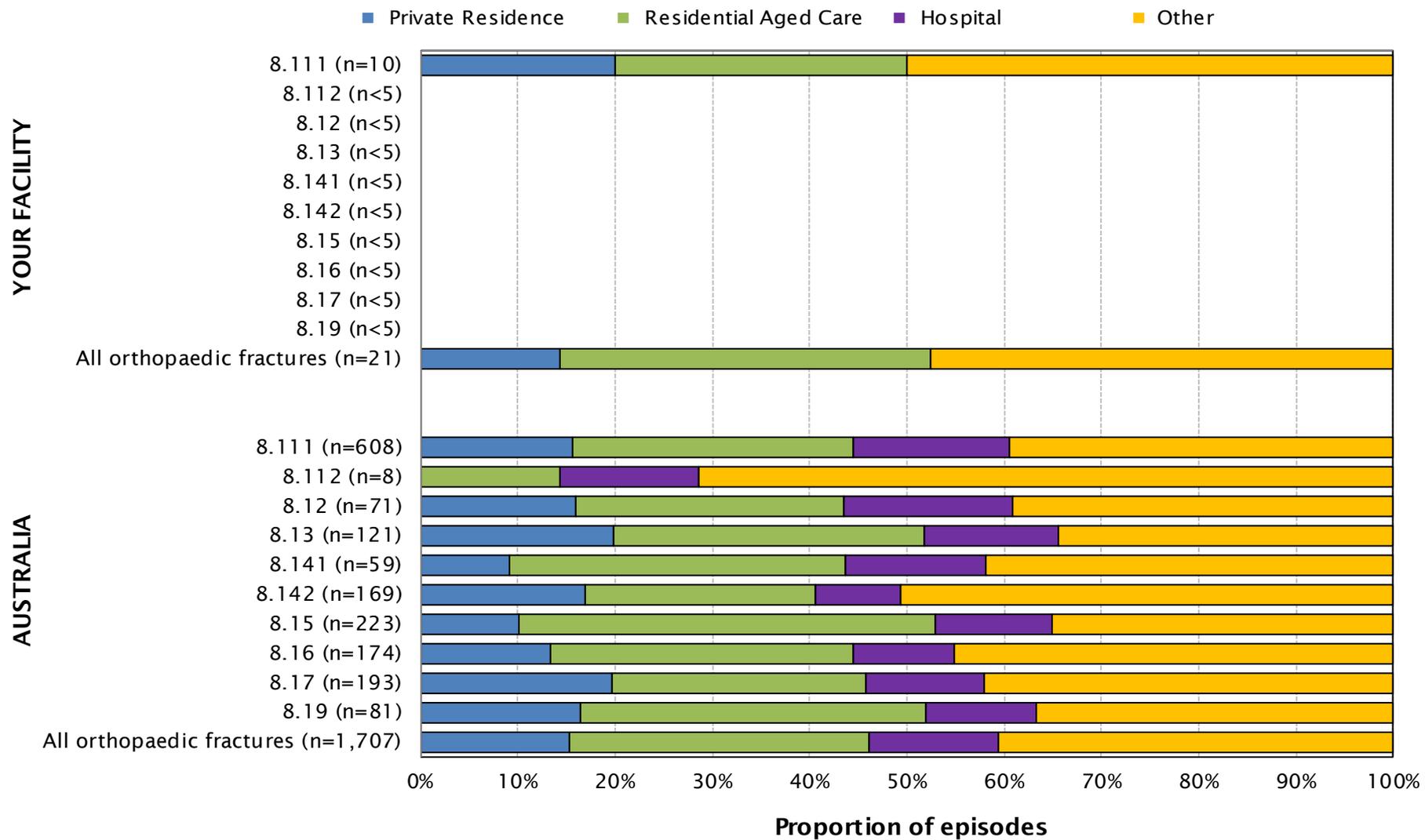
YOUR FACILITY — N (%)					
AN-SNAP class V4	Private residence	Residential Aged Care	Hospital	Other	All episodes**
4AH1 (motor 49-91, cognition 33-35)	0 (0.0)	1 (100.0)	0 (0.0)	0 (0.0)	1 (100.0)
4AH2 (motor 49-91, cognition 5-32)	3 (30.0)	3 (30.0)	0 (0.0)	4 (40.0)	10 (100.0)
4AH3 (motor 38-48)	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	2 (100.0)
4AH4 (motor 19-37)	0 (0.0)	4 (50.0)	0 (0.0)	4 (50.0)	8 (100.0)
4AZ3 (motor 13-18, Age ≥ 65)	0 —	0 —	0 —	0 —	0 —
4AZ4 (motor 13-18, Age ≤ 64)	0 —	0 —	0 —	0 —	0 —
<b>All Fracture AN-SNAP classes</b>	<b>3 (14.3)</b>	<b>8 (38.1)</b>	<b>0 (0.0)</b>	<b>10 (47.6)</b>	<b>21 (100.0)</b>

AUSTRALIA — N (%)					
AN-SNAP class V4	Private residence	Residential Aged Care	Hospital	Other	All episodes**
4AH1 (motor 49-91, cognition 33-35)	77 (29.3)	70 (26.6)	34 (12.9)	73 (27.8)	263 (100.0)
4AH2 (motor 49-91, cognition 5-32)	77 (17.0)	148 (32.7)	47 (10.4)	171 (37.8)	452 (100.0)
4AH3 (motor 38-48)	58 (13.9)	124 (29.7)	50 (12.0)	172 (41.1)	418 (100.0)
4AH4 (motor 19-37)	38 (7.4)	156 (30.2)	78 (15.1)	225 (43.6)	516 (100.0)
4AZ3 (motor 13-18, Age ≥ 65)	3 (5.2)	10 (17.2)	13 (22.4)	29 (50.0)	58 (100.0)
4AZ4 (motor 13-18, Age ≤ 64)	0 —	0 —	0 —	0 —	0 —
<b>All Fracture AN-SNAP classes</b>	<b>253 (14.8)</b>	<b>508 (29.8)</b>	<b>222 (13.0)</b>	<b>670 (39.3)</b>	<b>1,707 (100.0)</b>

\*\* There were 0 episode(s) in YOUR FACILITY and 54 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



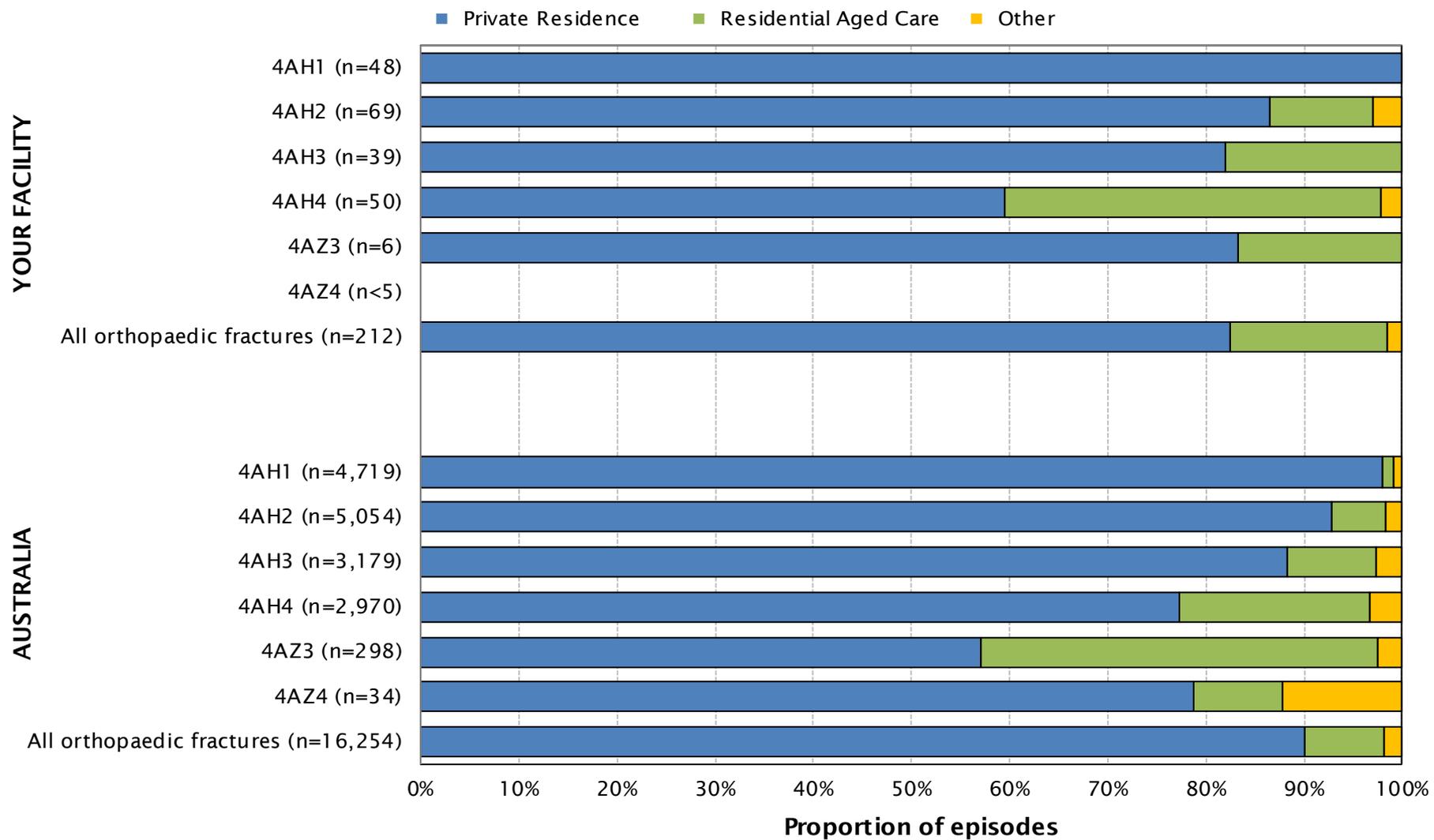
Impairment	YOUR FACILITY — N (%)				
	Private residence	Residential Aged Care	Hospital	Other	All episodes**
8.111 Fracture of hip, unilateral	2 (20.0)	3 (30.0)	0 (0.0)	5 (50.0)	10 (100.0)
8.112 Fracture of hip, bilateral	0 —	0 —	0 —	0 —	0 —
8.12 Fracture of shaft of femur	0 —	0 —	0 —	0 —	0 —
8.13 Fracture of pelvis	0 (0.0)	0 (0.0)	0 (0.0)	1 (100.0)	1 (100.0)
8.141 Fracture of knee	0 (0.0)	1 (100.0)	0 (0.0)	0 (0.0)	1 (100.0)
8.142 Fracture of leg, ankle, foot	0 (0.0)	1 (33.3)	0 (0.0)	2 (66.7)	3 (100.0)
8.15 Fracture of upper limb	0 (0.0)	2 (66.7)	0 (0.0)	1 (33.3)	3 (100.0)
8.16 Fracture of spine	0 (0.0)	1 (50.0)	0 (0.0)	1 (50.0)	2 (100.0)
8.17 Fracture of multiple sites	1 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (100.0)
8.19 Other orthopaedic fracture	0 —	0 —	0 —	0 —	0 —
<b>All Orthopaedic Fractures</b>	<b>3 (14.3)</b>	<b>8 (38.1)</b>	<b>0 (0.0)</b>	<b>10 (47.6)</b>	<b>21 (100.0)</b>

Impairment	AUSTRALIA — N (%)				
	Private residence	Residential Aged Care	Hospital	Other	All episodes**
8.111 Fracture of hip, unilateral	92 (15.1)	170 (28.0)	95 (15.6)	232 (38.2)	608 (100.0)
8.112 Fracture of hip, bilateral	0 (0.0)	1 (12.5)	1 (12.5)	5 (62.5)	8 (100.0)
8.12 Fracture of shaft of femur	11 (15.5)	19 (26.8)	12 (16.9)	27 (38.0)	71 (100.0)
8.13 Fracture of pelvis	23 (19.0)	37 (30.6)	16 (13.2)	40 (33.1)	121 (100.0)
8.141 Fracture of knee	5 (8.5)	19 (32.2)	8 (13.6)	23 (39.0)	59 (100.0)
8.142 Fracture of leg, ankle, foot	27 (16.0)	38 (22.5)	14 (8.3)	81 (47.9)	169 (100.0)
8.15 Fracture of upper limb	22 (9.9)	93 (41.7)	26 (11.7)	76 (34.1)	223 (100.0)
8.16 Fracture of spine	23 (13.2)	54 (31.0)	18 (10.3)	78 (44.8)	174 (100.0)
8.17 Fracture of multiple sites	37 (19.2)	49 (25.4)	23 (11.9)	79 (40.9)	193 (100.0)
8.19 Other orthopaedic fracture	13 (16.0)	28 (34.6)	9 (11.1)	29 (35.8)	81 (100.0)
<b>All Orthopaedic Fractures</b>	<b>253 (14.8)</b>	<b>508 (29.8)</b>	<b>222 (13.0)</b>	<b>670 (39.3)</b>	<b>1,707 (100.0)</b>

\*\* There were 0 episode(s) in YOUR FACILITY and 54 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

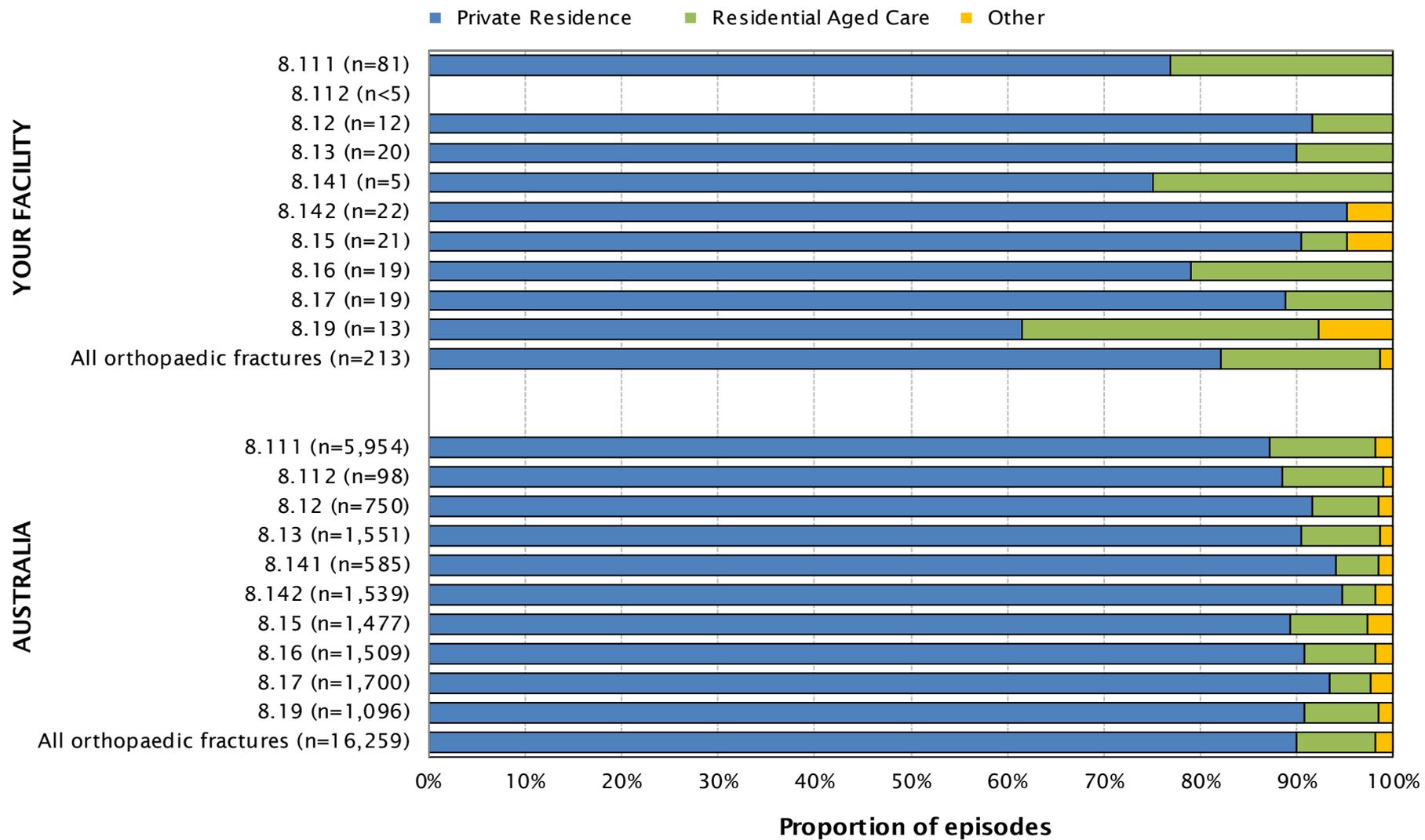


AN-SNAP class V4	YOUR FACILITY — N (%)				
	Private residence	Residential Aged Care	Other	Missing	All episodes
4AH1 (motor 49-91, cognition 33-35)	47 (97.9)	0 (0.0)	1 (2.1)	0	48 (100.0)
4AH2 (motor 49-91, cognition 5-32)	58 (85.3)	7 (10.3)	3 (4.4)	1	68 (100.0)
4AH3 (motor 38-48)	32 (82.1)	7 (17.9)	0 (0.0)	0	39 (100.0)
4AH4 (motor 19-37)	28 (56.0)	18 (36.0)	4 (8.0)	0	50 (100.0)
4AZ3 (motor 13-18, Age ≥ 65)	5 (83.3)	1 (16.7)	0 (0.0)	0	6 (100.0)
4AZ4 (motor 13-18, Age ≤ 64)	0 —	0 —	0 —	0	0 —
<b>All Fracture AN-SNAP classes</b>	<b>170 (80.6)</b>	<b>33 (15.6)</b>	<b>8 (3.8)</b>	<b>1</b>	<b>211 (100.0)</b>

AN-SNAP class V4	AUSTRALIA — N (%)				
	Private residence	Residential Aged Care	Other	Missing	All episodes
4AH1 (motor 49-91, cognition 33-35)	4,495 (95.3)	55 (1.2)	107 (2.3)	62	4,719 (100.0)
4AH2 (motor 49-91, cognition 5-32)	4,500 (89.0)	270 (5.3)	189 (3.7)	95	5,054 (100.0)
4AH3 (motor 38-48)	2,651 (83.4)	272 (8.6)	174 (5.5)	82	3,179 (100.0)
4AH4 (motor 19-37)	2,138 (72.0)	535 (18.0)	219 (7.4)	78	2,970 (100.0)
4AZ3 (motor 13-18, Age ≥ 65)	158 (53.0)	112 (37.6)	12 (4.0)	16	298 (100.0)
4AZ4 (motor 13-18, Age ≤ 64)	26 (76.5)	3 (8.8)	4 (11.8)	1	34 (100.0)
<b>All Fracture AN-SNAP classes</b>	<b>13,968 (85.9)</b>	<b>1,247 (7.7)</b>	<b>705 (4.3)</b>	<b>334</b>	<b>16,254 (100.0)</b>

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

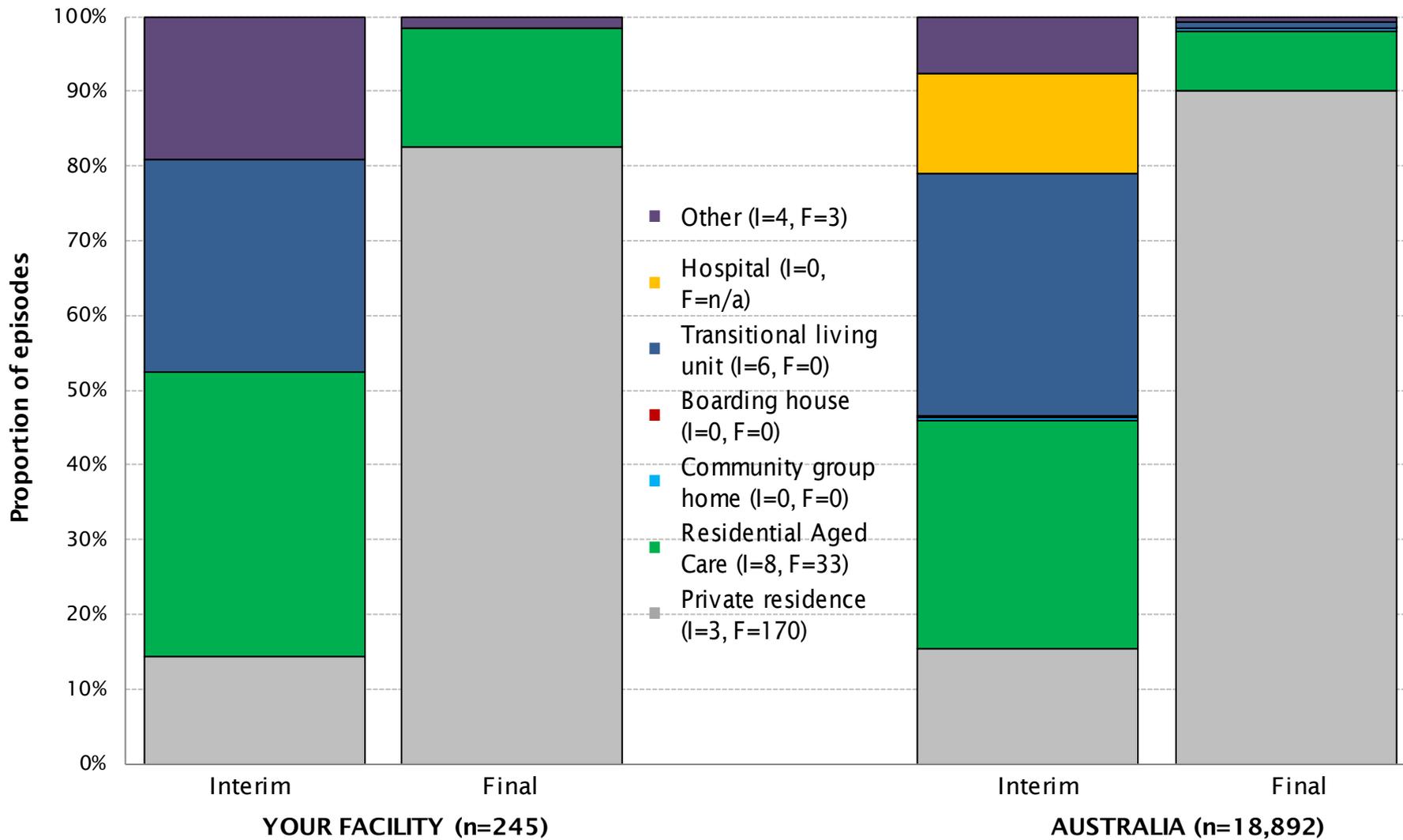


Impairment	YOUR FACILITY — N (%)				
	Private residence	Residential Aged Care	Other	Missing	All episodes
8.111 Fracture of hip, unilateral	60 (74.1)	18 (22.2)	3 (3.7)	0	81 (100.0)
8.112 Fracture of hip, bilateral	0 (0.0)	1 (100.0)	0 (0.0)	0	1 (100.0)
8.12 Fracture of shaft of femur	11 (91.7)	1 (8.3)	0 (0.0)	0	12 (100.0)
8.13 Fracture of pelvis	18 (90.0)	2 (10.0)	0 (0.0)	0	20 (100.0)
8.141 Fracture of knee	3 (60.0)	1 (20.0)	1 (20.0)	0	5 (100.0)
8.142 Fracture of leg, ankle, foot	20 (90.9)	0 (0.0)	2 (9.1)	0	22 (100.0)
8.15 Fracture of upper limb	19 (90.5)	1 (4.8)	1 (4.8)	0	21 (100.0)
8.16 Fracture of spine	15 (78.9)	4 (21.1)	0 (0.0)	0	19 (100.0)
8.17 Fracture of multiple sites	16 (88.9)	2 (11.1)	0 (0.0)	1	18 (100.0)
8.19 Other orthopaedic fracture	8 (61.5)	4 (30.8)	1 (7.7)	0	13 (100.0)
<b>All Orthopaedic Fractures</b>	<b>170 (80.2)</b>	<b>34 (16.0)</b>	<b>8 (3.8)</b>	<b>1</b>	<b>212 (100.0)</b>

Impairment	AUSTRALIA — N (%)				
	Private residence	Residential Aged Care	Other	Missing	All episodes
8.111 Fracture of hip, unilateral	4,961 (83.3)	626 (10.5)	246 (4.1)	121	5,954 (100.0)
8.112 Fracture of hip, bilateral	84 (85.7)	10 (10.2)	1 (1.0)	3	98 (100.0)
8.12 Fracture of shaft of femur	660 (88.0)	49 (6.5)	30 (4.0)	11	750 (100.0)
8.13 Fracture of pelvis	1,349 (87.0)	122 (7.9)	48 (3.1)	32	1,551 (100.0)
8.141 Fracture of knee	524 (89.6)	24 (4.1)	26 (4.4)	11	585 (100.0)
8.142 Fracture of leg, ankle, foot	1,379 (89.6)	50 (3.2)	68 (4.4)	42	1,539 (100.0)
8.15 Fracture of upper limb	1,235 (83.6)	112 (7.6)	94 (6.4)	36	1,477 (100.0)
8.16 Fracture of spine	1,313 (87.0)	105 (7.0)	69 (4.6)	22	1,509 (100.0)
8.17 Fracture of multiple sites	1,501 (88.3)	69 (4.1)	92 (5.4)	38	1,700 (100.0)
8.19 Other orthopaedic fracture	966 (88.1)	81 (7.4)	31 (2.8)	18	1,096 (100.0)
<b>All Orthopaedic Fractures</b>	<b>13,972 (85.9)</b>	<b>1,248 (7.7)</b>	<b>705 (4.3)</b>	<b>334</b>	<b>16,259 (100.0)</b>

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

# Interim and final accommodation post discharge



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

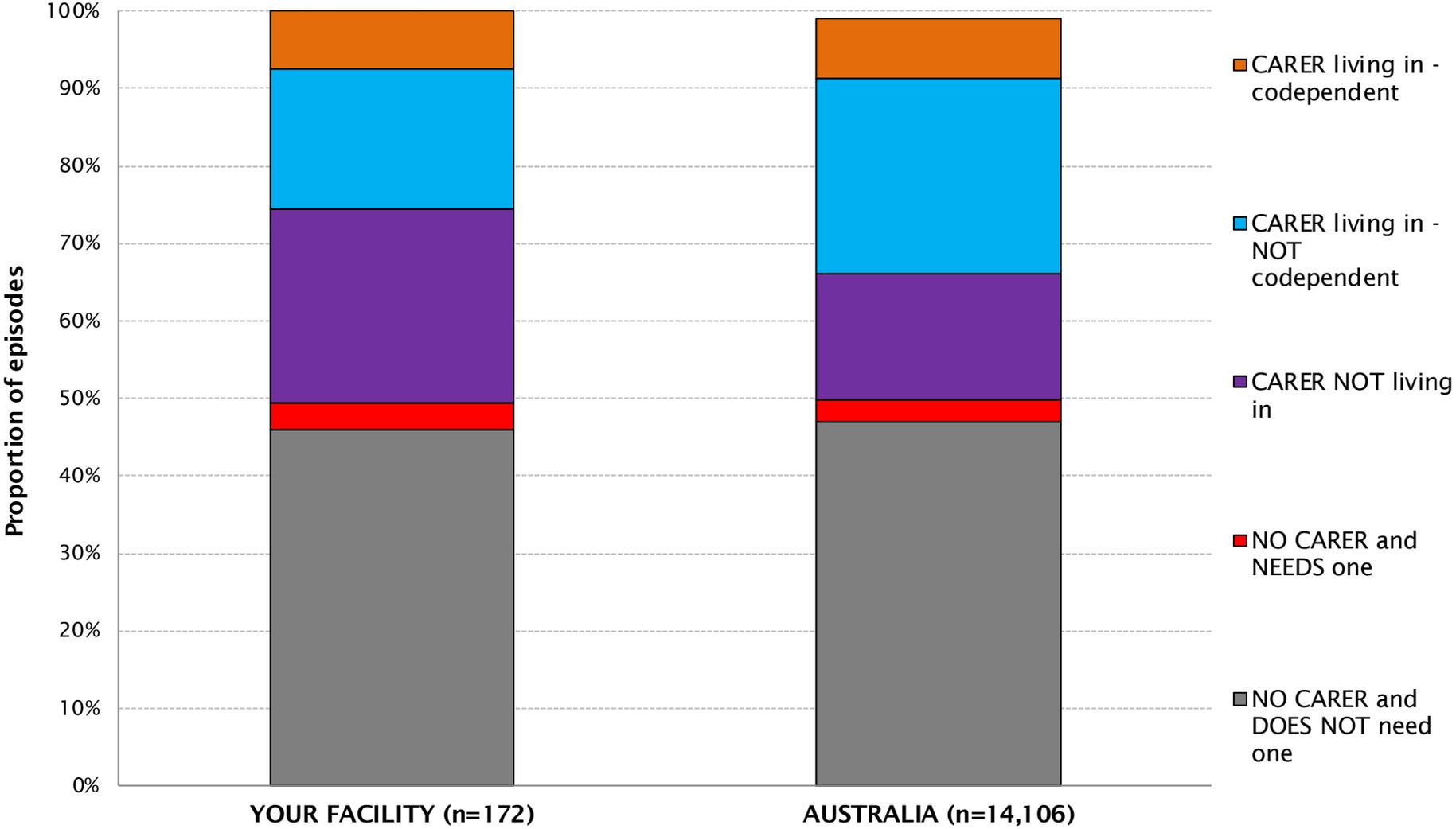
# Interim and final accommodation post discharge



Accommodation	YOUR FACILITY				AUSTRALIA			
	Interim	(%)	Final	(%)	Interim	(%)	Final	(%)
Private residence	3	(14.3)	170	(82.5)	253	(15.3)	13,968	(90.0)
Residential Aged Care	8	(38.1)	33	(16.0)	508	(30.7)	1,247	(8.0)
Community group home	0	(0.0)	0	(0.0)	5	(0.3)	45	(0.3)
Boarding house	0	(0.0)	0	(0.0)	5	(0.3)	24	(0.2)
Transitional living unit	6	(28.6)	0	(0.0)	534	(32.3)	123	(0.8)
Hospital	0	(0.0)	n/a		222	(13.4)	n/a	
Other	4	(19.0)	3	(1.5)	126	(7.6)	107	(0.7)
Missing/Unknown	0		6		54		740	
<b>All episodes</b>	<b>21</b>	<b>(100.0)</b>	<b>212</b>	<b>(100.0)</b>	<b>1,707</b>	<b>(100.0)</b>	<b>16,254</b>	<b>(100.0)</b>

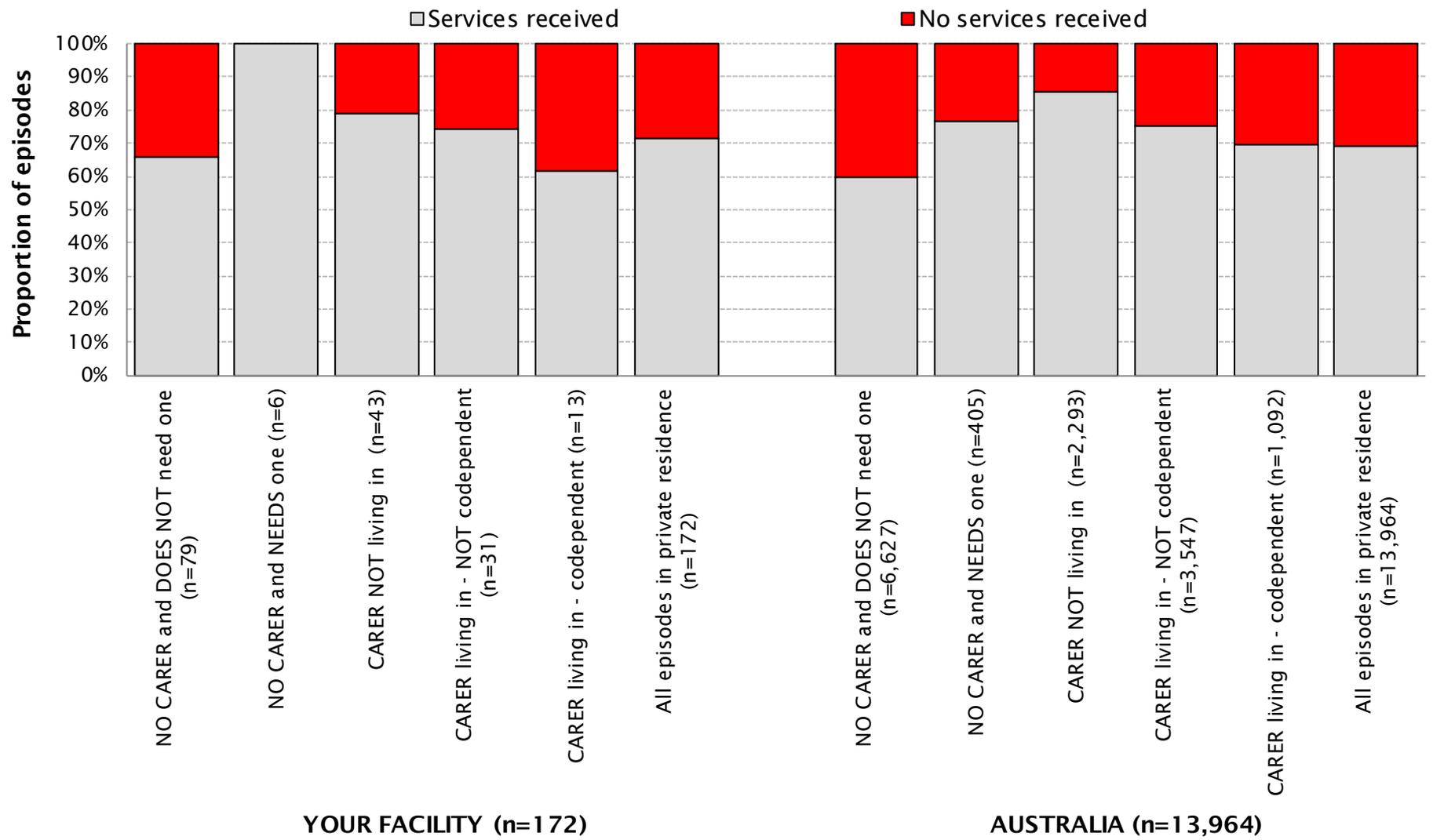
NOTE: Includes only those episodes with mode of episode end equal to either final or interim accommodation

# Carer status post discharge



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

# Any services received post discharge by carer status



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

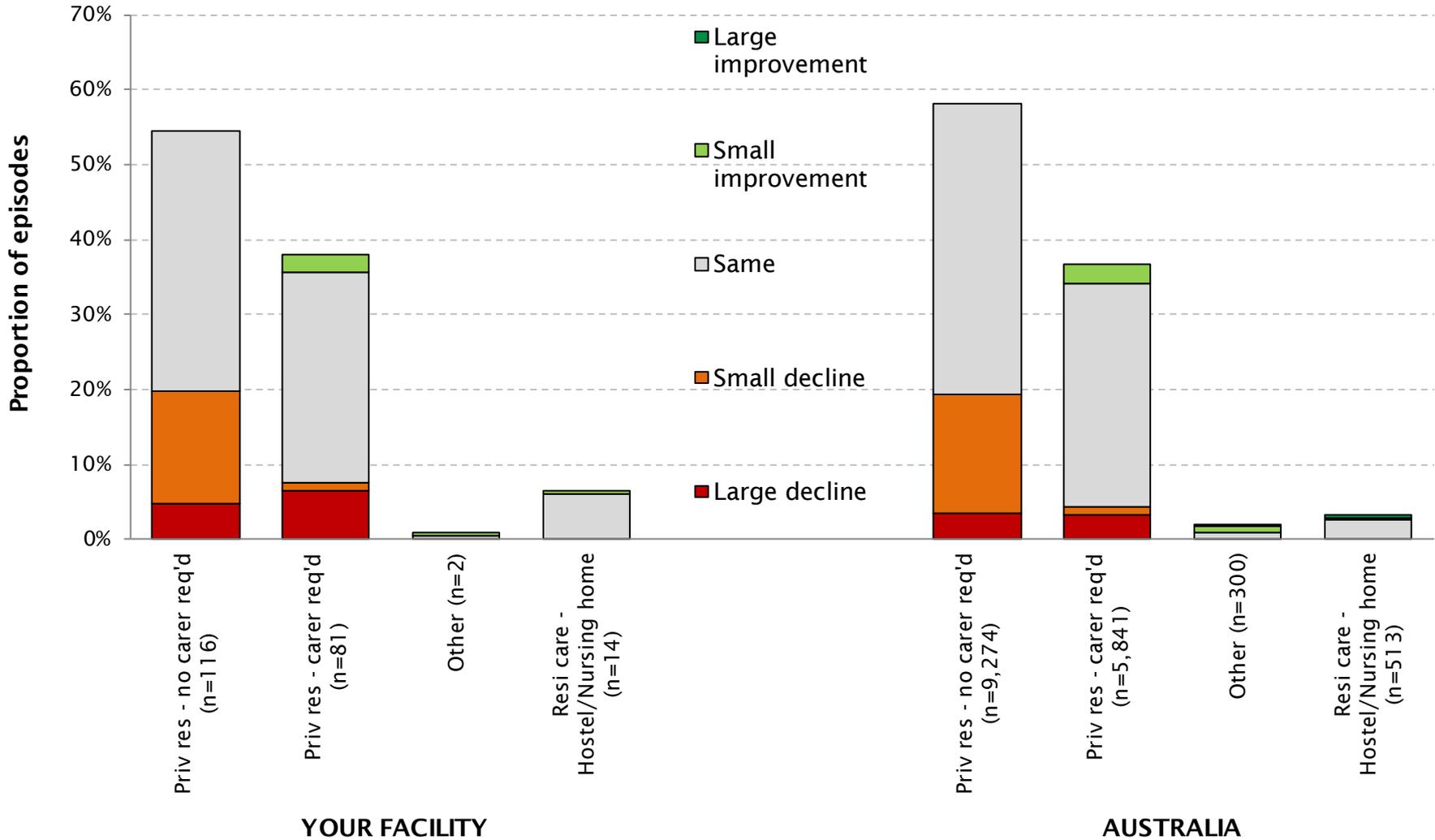


Carer status post discharge	YOUR FACILITY		AUSTRALIA	
	No.	%	No.	%
NO CARER and DOES NOT need one	79	45.9	6,637	47.5
NO CARER and NEEDS one	6	3.5	405	2.9
CARER NOT living in	43	25.0	2,293	16.4
CARER living in - NOT codependent	31	18.0	3,547	25.4
CARER living in - codependent	13	7.6	1,094	7.8
Missing	0		130	
<b>All episodes in private residence</b>	<b>172</b>	<b>100.0</b>	<b>14,106</b>	<b>100.0</b>

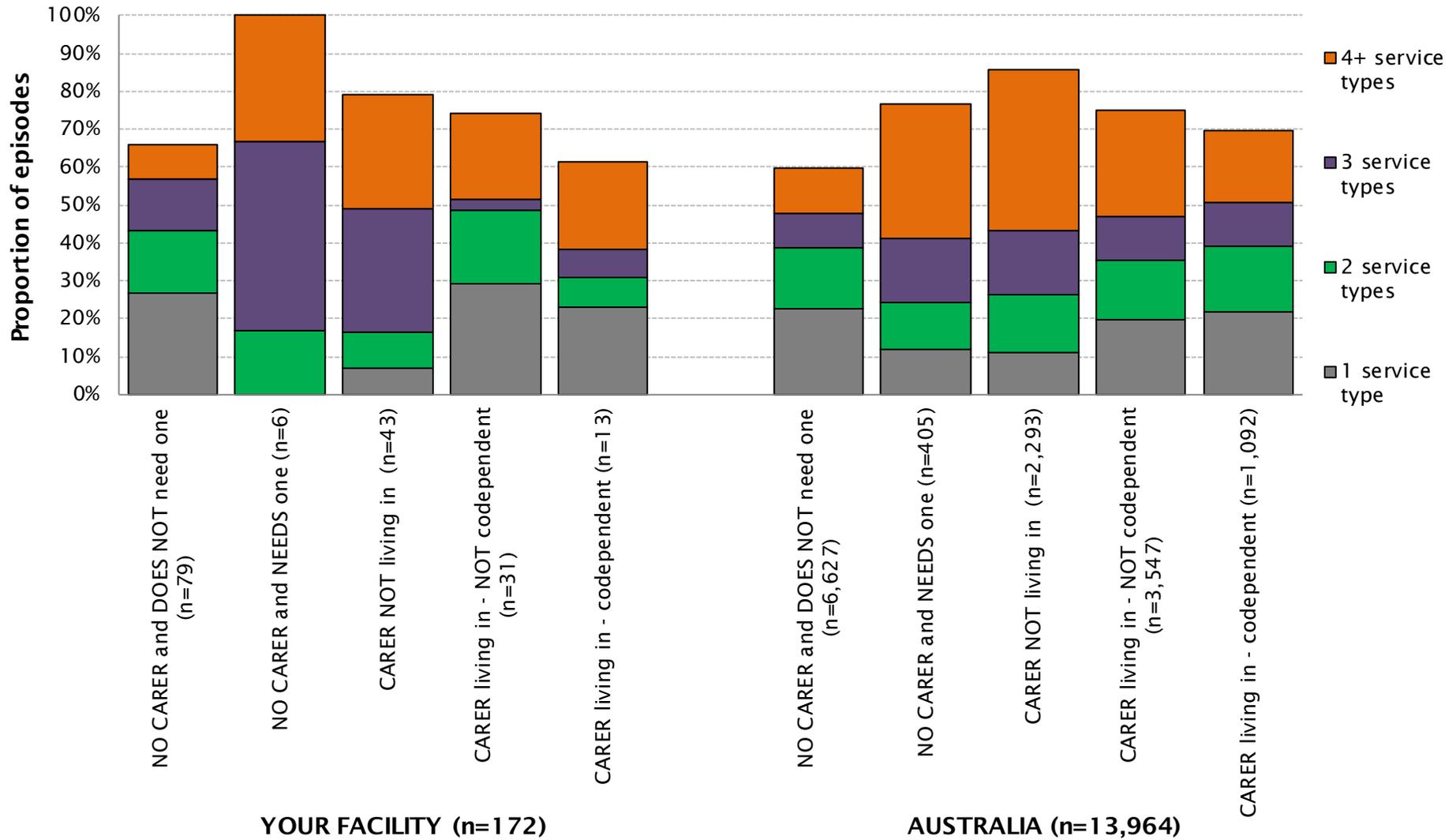
Carer status post discharge	Any services received post discharge?			
	YOUR FACILITY		AUSTRALIA	
	Yes (%)	No (%)	Yes (%)	No (%)
NO CARER and DOES NOT need one	65.8	34.2	59.9	40.1
NO CARER and NEEDS one	100.0	0.0	76.8	23.2
CARER NOT living in	79.1	20.9	85.6	14.4
CARER living in - NOT codependent	74.2	25.8	75.0	25.0
CARER living in - codependent	61.5	38.5	69.8	30.2
<b>All episodes in private residence</b>	<b>71.5</b>	<b>28.5</b>	<b>69.2</b>	<b>30.8</b>

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

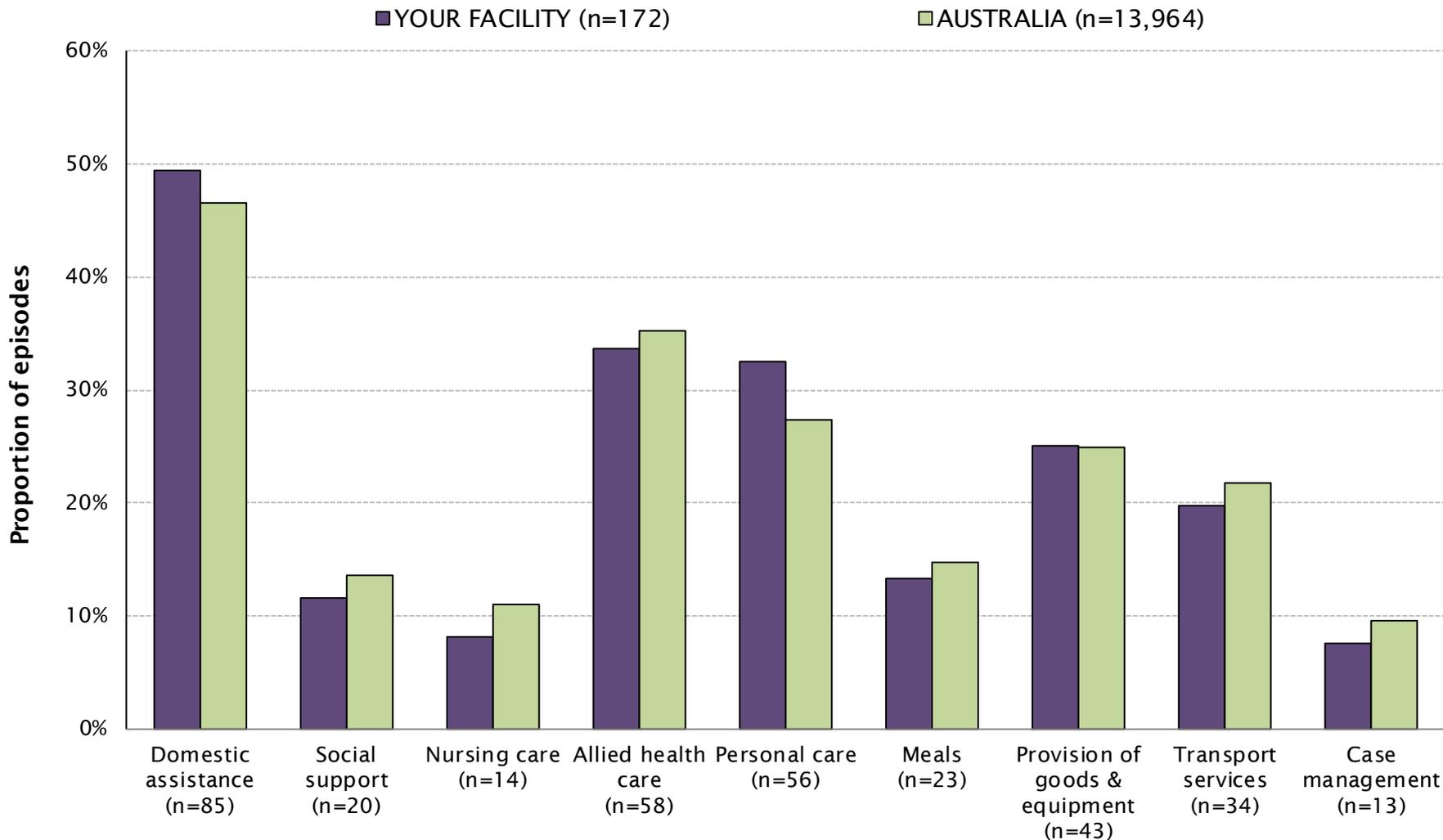


# Number of services received post discharge by carer status



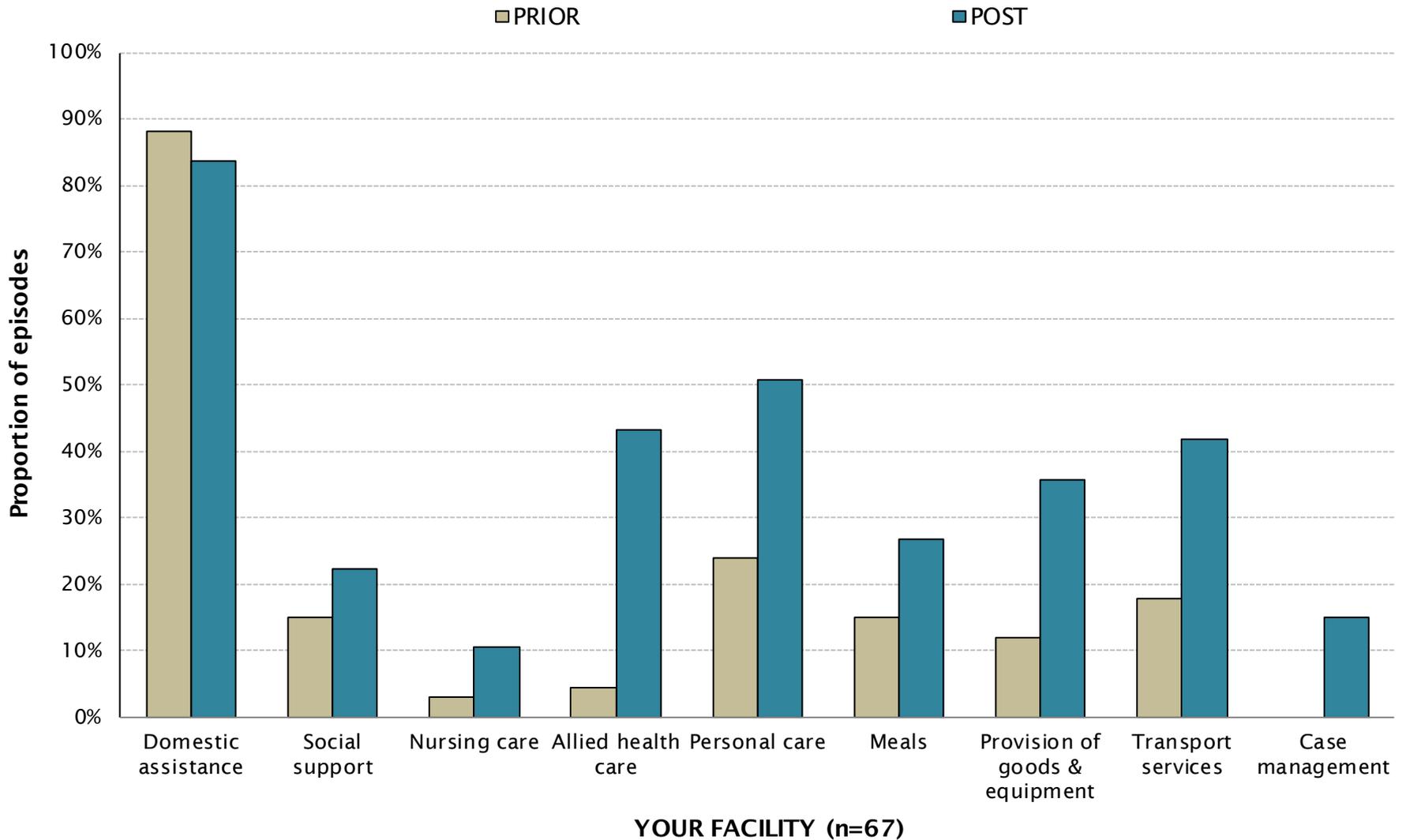
NOTE: Includes only those episodes whose final accommodation is private residence and with known carer status and known services status

# Type of services received post discharge



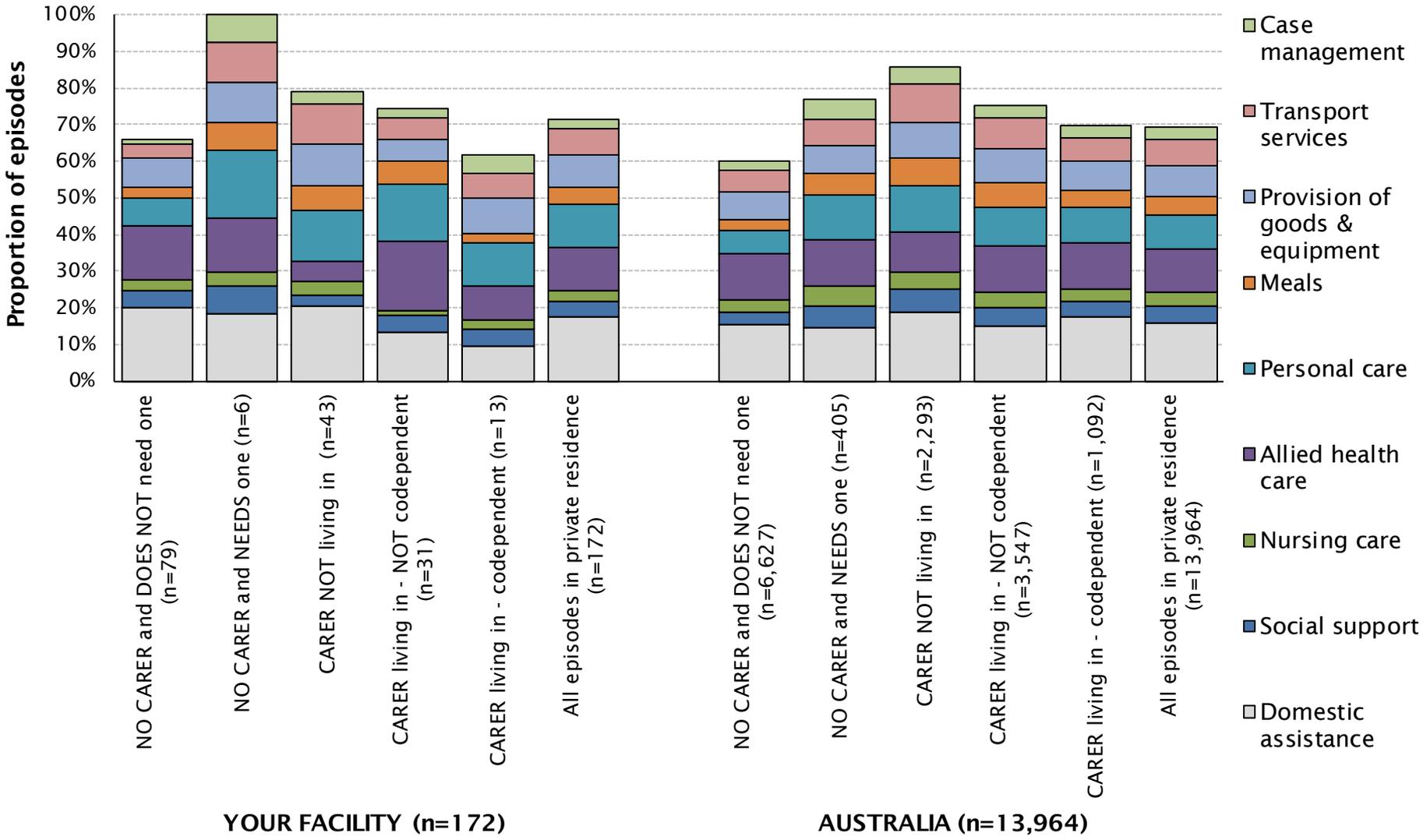
NOTE: Includes only those episodes whose final accommodation is private residence and with known carer status and known services status

# Type of services received pre and post rehabilitation



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



Carer status post discharge - YOUR FACILITY						
Services received post discharge	NO CARER and DOES NOT need one	NO CARER and NEEDS one	CARER NOT living in	CARER living in - NOT codependent	CARER living in - codependent	All episodes in private residence
Number of episodes in private residence	79	6	43	31	13	172
<b>Percent of episodes receiving:</b>						
No services	34.2	0.0	20.9	25.8	38.5	28.5
1 service type	26.6	0.0	7.0	29.0	23.1	20.9
2 service types	16.5	16.7	9.3	19.4	7.7	14.5
3 service types	13.9	50.0	32.6	3.2	7.7	17.4
4 or more service types	8.9	33.3	30.2	22.6	23.1	18.6
<b>Service Type received</b>						
Domestic assistance	44.3	83.3	69.8	35.5	30.8	49.4
Social support	10.1	33.3	9.3	12.9	15.4	11.6
Nursing care	6.3	16.7	14.0	3.2	7.7	8.1
Allied health care	32.9	66.7	18.6	51.6	30.8	33.7
Personal care	16.5	83.3	46.5	41.9	38.5	32.6
Meals	6.3	33.3	23.3	16.1	7.7	13.4
Provision of goods & equipment	17.7	50.0	39.5	16.1	30.8	25.0
Transport services	8.9	50.0	37.2	16.1	23.1	19.8
Case management	2.5	33.3	11.6	6.5	15.4	7.6

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 one	NO CARER and NEEDS one	CARER NOT living in	CARER living in - NOT codependent	CARER living in - codependent	All episodes in private residence
Number of episodes in private residence	6,627	405	2,293	3,547	1,092	13,964
<b>Percent of episodes receiving:</b>						
No services	40.1	23.2	14.4	25.0	30.2	30.8
1 service type	22.4	11.9	11.1	19.7	21.6	19.5
2 service types	16.2	12.6	15.2	15.8	17.3	15.9
3 service types	9.2	16.8	17.0	11.3	11.9	11.5
4 or more service types	12.0	35.6	42.2	28.2	19.0	22.3
<b>Service Type received</b>						
Domestic assistance	37.1	53.6	71.0	47.3	47.0	46.5
Social support	8.1	22.0	23.3	17.3	11.6	13.6
Nursing care	7.5	19.8	17.3	12.8	9.5	11.0
Allied health care	30.2	46.7	40.6	40.1	33.8	35.2
Personal care	15.6	45.9	47.9	34.1	26.1	27.3
Meals	6.6	21.7	29.0	20.6	12.2	14.7
Provision of goods & equipment	18.2	27.4	36.2	30.5	22.5	24.9
Transport services	13.8	26.7	38.9	26.3	16.8	21.7
Case management	5.9	20.0	16.8	10.7	9.2	9.6

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

# Appendix 1: Glossary

## **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 4, introduced in July 2016 and used in these reports, uses the episode's impairment, age, weighted FIM motor admission score and FIM cognition score to determine which of 50 inpatient (admitted overnight adult) rehabilitation classes the episode should be assigned to.

Between AN-SNAP V3 and V4 there have been some minor refinements to the positioning of age and FIM score splits, however the greatest change has been the introduction of impairment-specific weights to FIM item scores in the calculation of a motor score, the introduction of reconditioning only classes and the removal of orthopaedic replacement classes (now grouped with all other orthopaedic conditions). 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 V4 please refer to the AROC website.

## **AROC**

The Australasian Rehabilitation Outcomes Centre (AROC) was established in 2002 and current membership encompasses close to 100% of all Australian and New Zealand rehabilitation facilities. Facilities 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.

# Appendix 1: Glossary

## 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.

## 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.**

# Appendix 1: Glossary

## 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

Impairment-specific weighted FIM motor scores are new to the inpatient (admitted overnight adult) rehabilitation AN-SNAP V4 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 Major Multiple Trauma (MMT) where there were too few episodes to develop relative weights and so 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.

# Appendix 1: Glossary

## **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.

## **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.

## **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 6 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 Orthopaedic fractures

### 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 Orthopaedic fractures

## 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

# Appendix 3: AN-SNAP V4 Overnight Rehabilitation Classes



## Class Description of AN- SNAP class

4AZ1	Weighted FIM motor score 13- 18, Brain, Spine, MMT, Age ≥ 49
4AZ2	Weighted FIM motor score 13- 18, Brain, Spine, MMT, Age ≤ 48
4AZ3	Weighted FIM motor score 13- 18, All other impairments, Age ≥ 65
4AZ4	Weighted FIM motor score 13- 18, All other impairments, Age ≤ 64
4AA1	Stroke, weighted FIM motor 51- 91, FIM cognition 29- 35
4AA2	Stroke, weighted FIM motor 51- 91, FIM cognition 19- 28
4AA3	Stroke, weighted FIM motor 51- 91, FIM cognition 5- 18
4AA4	Stroke, weighted FIM motor 36- 50, Age ≥ 68
4AA5	Stroke, weighted FIM motor 36- 50, Age ≤ 67
4AA6	Stroke, weighted FIM motor 19- 35, Age ≥ 68
4AA7	Stroke, weighted FIM motor 19- 35, Age ≤ 67
4AB1	Brain dysfunction, weighted FIM motor 71- 91, FIM cognition 26- 35
4AB2	Brain dysfunction, weighted FIM motor 71- 91, FIM cognition 5- 25
4AB3	Brain dysfunction, weighted FIM motor 41- 70, FIM cognition 26- 35
4AB4	Brain dysfunction, weighted FIM motor 41- 70, FIM cognition 17- 25
4AB5	Brain dysfunction, weighted FIM motor 41- 70, FIM cognition 5- 16
4AB6	Brain dysfunction, weighted FIM motor 29- 40
4AB7	Brain dysfunction, weighted FIM motor 19- 28
4AC1	Neurological conditions, weighted FIM motor 62- 91
4AC2	Neurological conditions, weighted FIM motor 43- 61
4AC3	Neurological conditions, weighted FIM motor 19- 42
4AD1	Spinal cord dysfunction, Age ≥ 50, weighted FIM motor 42- 91
4AD2	Spinal cord dysfunction, Age ≥ 50, weighted FIM motor 19- 41
4AD3	Spinal cord dysfunction, Age ≤ 49, weighted FIM motor 34- 91
4AD4	Spinal cord dysfunction, Age ≤ 49, weighted FIM motor 19- 33

## Class Description of AN- SNAP class

4AE1	Amputation of limb, Age ≥ 54, weighted FIM motor 68- 91
4AE2	Amputation of limb, Age ≥ 54, weighted FIM motor 31- 67
4AE3	Amputation of limb, Age ≥ 54, weighted FIM motor 19- 30
4AE4	Amputation of limb, Age ≤ 53, weighted FIM motor 19- 91
4AH1	Orthopaedic conditions, fractures, weighted FIM motor 49- 91, FIM cognition 33- 35
4AH2	Orthopaedic conditions, fractures, weighted FIM motor 49- 91, FIM cognition 5- 32
4AH3	Orthopaedic conditions, fractures, weighted FIM motor 38- 48
4AH4	Orthopaedic conditions, fractures, weighted FIM motor 19- 37
4A21	Orthopaedic conditions, all other, weighted FIM motor 68- 91
4A22	Orthopaedic conditions, all other, weighted FIM motor 50- 67
4A23	Orthopaedic conditions, all other, weighted FIM motor 19- 49
4A31	Cardiac, Pain syndromes, Pulmonary, weighted FIM motor 72- 91
4A32	Cardiac, Pain syndromes, Pulmonary, weighted FIM motor 55- 71
4A33	Cardiac, Pain syndromes, Pulmonary, weighted FIM motor 34- 54
4A34	Cardiac, Pain syndromes, Pulmonary, weighted FIM motor 19- 33
4AP1	Major Multiple Trauma, weighted FIM motor 19- 91
4AR1	Reconditioning, weighted FIM motor 67- 91
4AR2	Reconditioning, weighted FIM motor 50- 66, FIM cognition 26- 35
4AR3	Reconditioning, weighted FIM motor 50- 66, FIM cognition 5- 25
4AR4	Reconditioning, weighted FIM motor 34- 49, FIM cognition 31- 35
4AR5	Reconditioning, weighted FIM motor 34- 49, FIM cognition 5- 30
4AR6	Reconditioning, weighted FIM motor 19- 33
4A91	All other impairments, weighted FIM motor 55- 91
4A92	All other impairments, weighted FIM motor 33- 54
4A93	All other impairments, weighted FIM motor 19- 32
499A	Adult Overnight Rehabilitation - Ungroupable

- **AROC wish to acknowledge the valuable contributions made by:**
  - Members of the Management Advisory Group of the Australasian Rehabilitation Outcomes Centre
  - Members of the Scientific and Clinical Advisory Committee of the Australasian Rehabilitation Outcomes Centre
  - The many staff from the rehabilitation facilities who have spent a great deal of time and care to collect, collate and correct the data, without whose considerable effort these reports would not be possible.
- **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.
- **Copyright**

This work is copyright. It may be produced in whole or in part for study or training purposes subject to the inclusion of an acknowledgment of the source and no commercial usage or sale. Reproduction for purposes other than those above requires the written permission of AROC.
- **Suggested acknowledgement**

Anywhere Hospital AROC Impairment Specific Report on Orthopaedic Fractures (Inpatient - pathway 3), July 2019 – June 2020. Australasian Rehabilitation Outcomes Centre (2020).

**A**ustralasian **R**ehabilitation **O**utcomes **C**entre  
Australian Health Services Research Institute  
iC Enterprise 1, Innovation Campus  
University of Wollongong NSW 2522  
Phone: +61 2 4221 4411  
Email: [aroc@uow.edu.au](mailto:aroc@uow.edu.au)  
Web: [aroc.org.au](http://aroc.org.au)