

# AROC Impairment Specific Report

## Inpatient – Pathway 3

### ORTHOPAEDIC REPLACEMENTS

Anywhere Hospital

July 2016 – June 2017



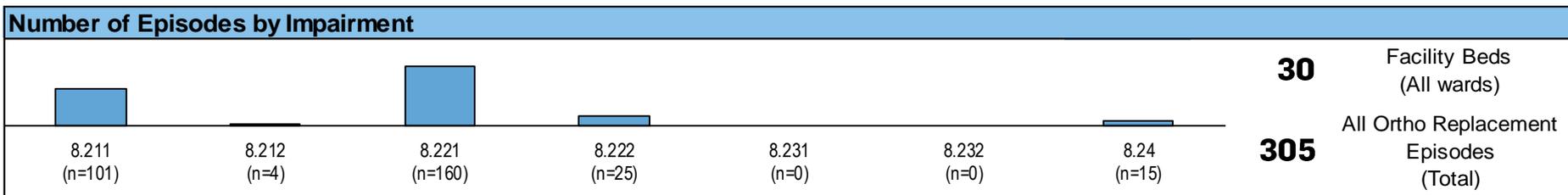
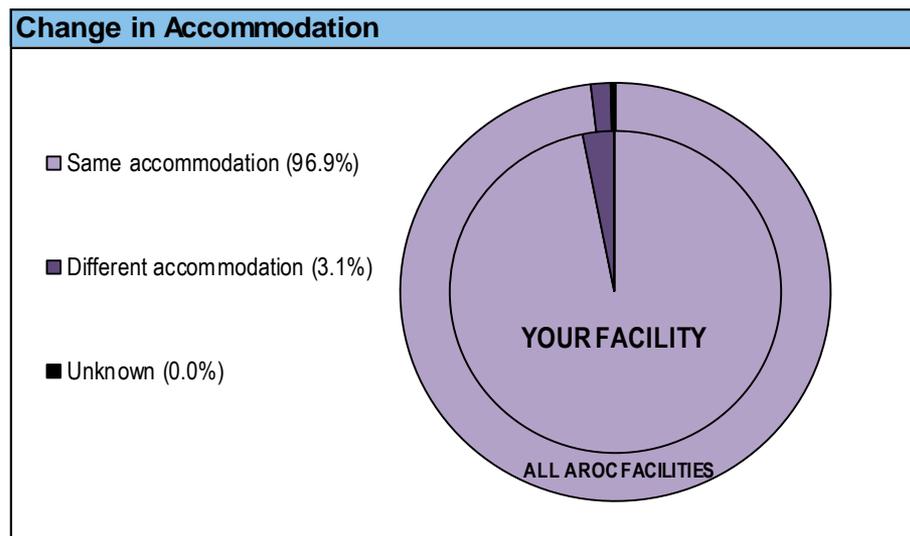
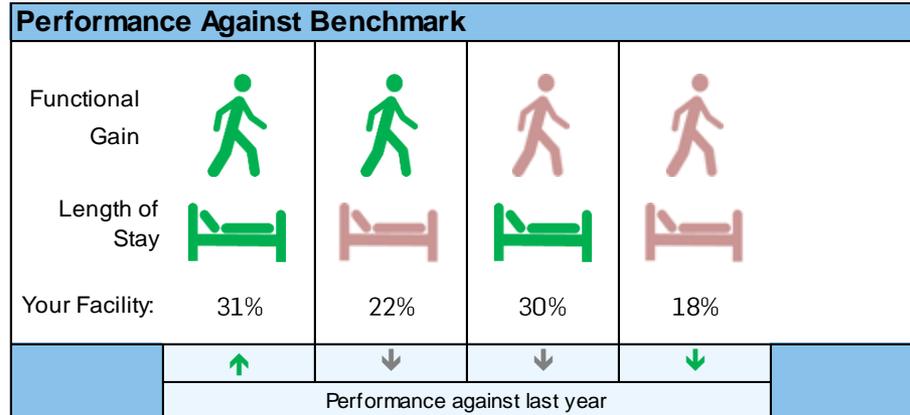
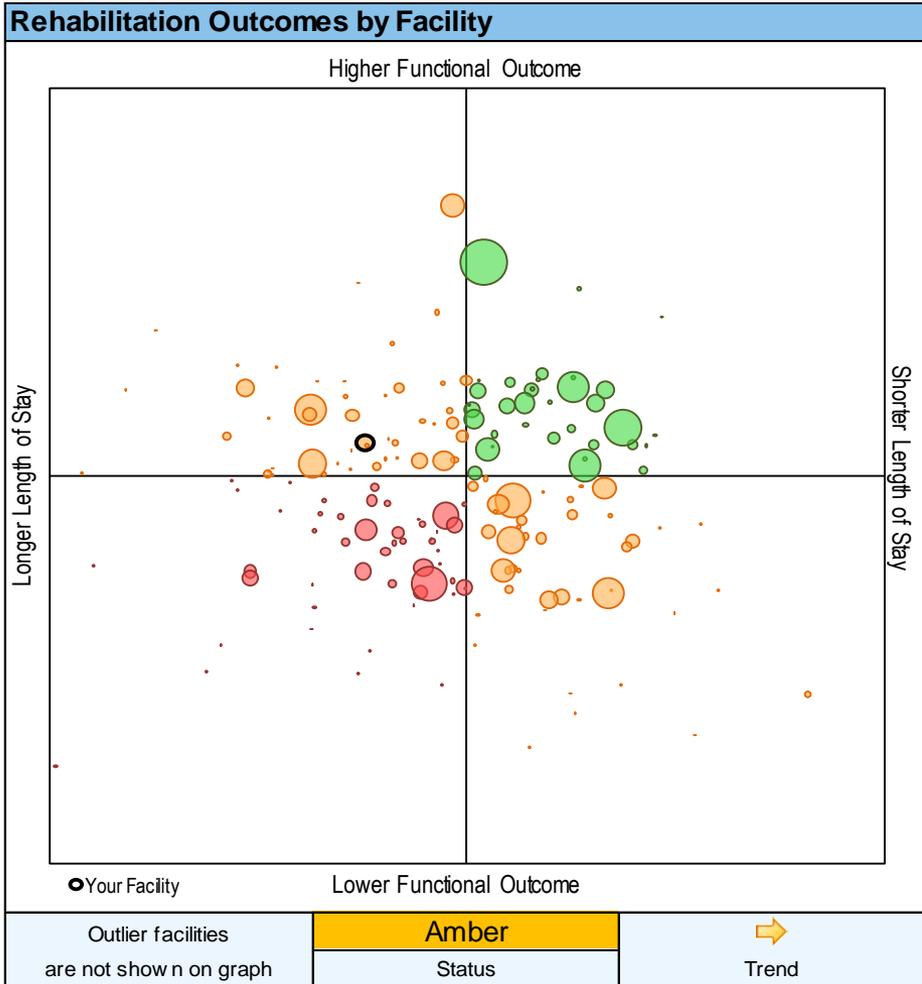
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# Orthopaedic Replacements Dashboard (FY 2017)

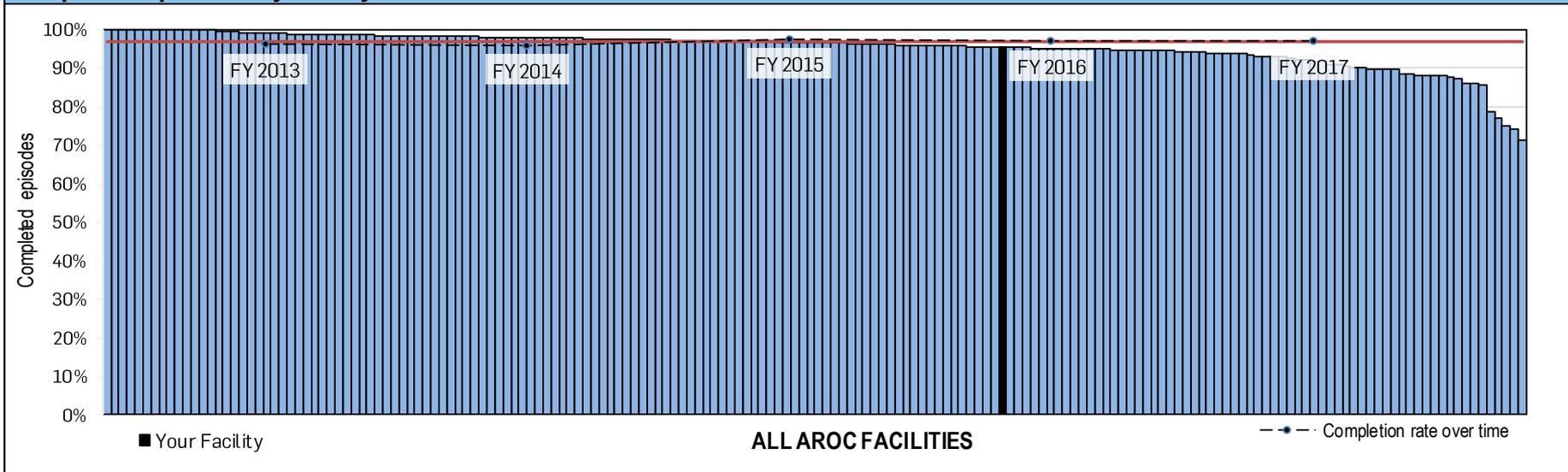
Key Indicators*	
YOUR FACILITY	ALL AROC FACILITIES
Average Age: <b>71.4</b>	Average Age: <b>71.4</b>
Mortality Rate: <b>0.0%</b>	Mortality Rate: <b>0.0%</b>
% with at least one comorbidity: <b>40%</b>	% with at least one comorbidity: <b>37%</b>
% with at least one complication: <b>11%</b>	% with at least one complication: <b>12%</b>
% episodes with start delays: <b>8%</b>	% episodes with start delays: <b>5%</b>
Days between onset and rehab episode: <b>6.8</b>	Days between onset and rehab episode: <b>6.9</b>
Days between clinically rehab ready & start date: <b>0.2</b>	Days between clinically rehab ready & start date: <b>0.2</b>

\* Mean value provided unless otherwise specified

Facility FIM Training*	
FIM Credentialed Staff per 100 Episodes	FIM Credentialed Facility Trainers
2.8 Your Facility	<b>3</b> Your Facility
6.4 ALL AROC FACILITIES (Mean)	<b>2</b> AROC Suggested Minimum

\*This includes all impairments from all wards

## Completed Episodes by Facility



# Introducing the Impairment Specific Reports

This report compares YOUR FACILITY's data to ALL AROC FACILITIES data. Each impairment specific report is structured as a series of chapters. Each report will present an overall big picture chapter on the impairment, followed by a chapter looking at FIM item scoring at YOUR FACILITY as compared to ALL AROC FACILITIES data by AN-SNAP class. An outcomes analysis chapter follows with an explanatory data chapter at the end.

Some facilities only have a small number of episodes. While ALL AROC FACILITIES data includes all facilities with data on this impairment, facilities will only receive this report where they have a minimum of 20 completed episodes within this impairment. An ANYWHERE HOSPITAL report is available for those facilities with too few episodes on the AROC website.

AROC welcomes your feedback on this report.

NOTE: This report should be considered in conjunction with the All Impairments Report & Outcome Benchmarks Report for your facility.

# Data used in this report

This report summarises orthopaedic replacements episodes ending in financial year 2017 (1 July 2016 to 30 June 2017) collected in the V4 data set - Pathway 3 (inpatient direct care). Unit of counting is by concatenated\* episode, not by patient

All tables and graphs present financial year 2017 data unless otherwise indicated, and the number of episodes from YOUR FACILITY in 2017 are provided. Where there are less than five episodes within a subgroup, summary data are not provided.

Case-mix analysis uses version 4 AN-SNAP classes (Appendix 3), introduced July 2016. Casemix adjustment is against YOUR NATIONAL data.

NOTE: Appendix 1 (Glossary) contains definitions of concepts referred to in this report. An understanding of these will help with interpretation of the data.

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

# Orthopaedic replacement impairment codes

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

- 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

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

# Orthopaedic replacement AN-SNAP classes

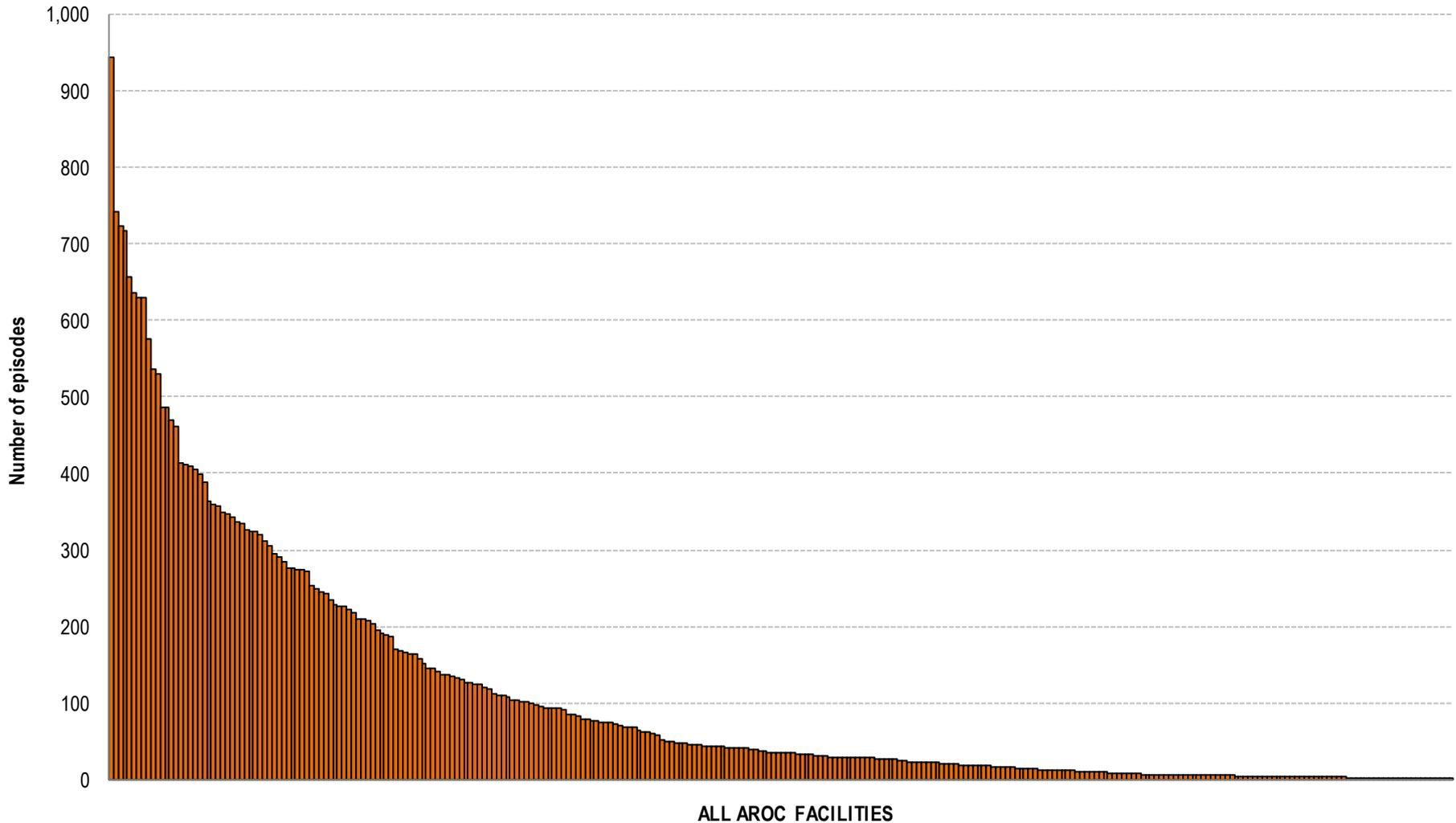
Levels of functioning for orthopaedic replacements are categorised by the following version 4 AN-SNAP classes:

- ❖ 4A21 Orthopaedic conditions, all other (including replacements), weighted FIM motor 68-91
- ❖ 4A22 Orthopaedic conditions, all other (including replacements), weighted FIM motor 50-67
- ❖ 4A23 Orthopaedic conditions, all other (including replacements), weighted FIM motor 19-49
- ❖ 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

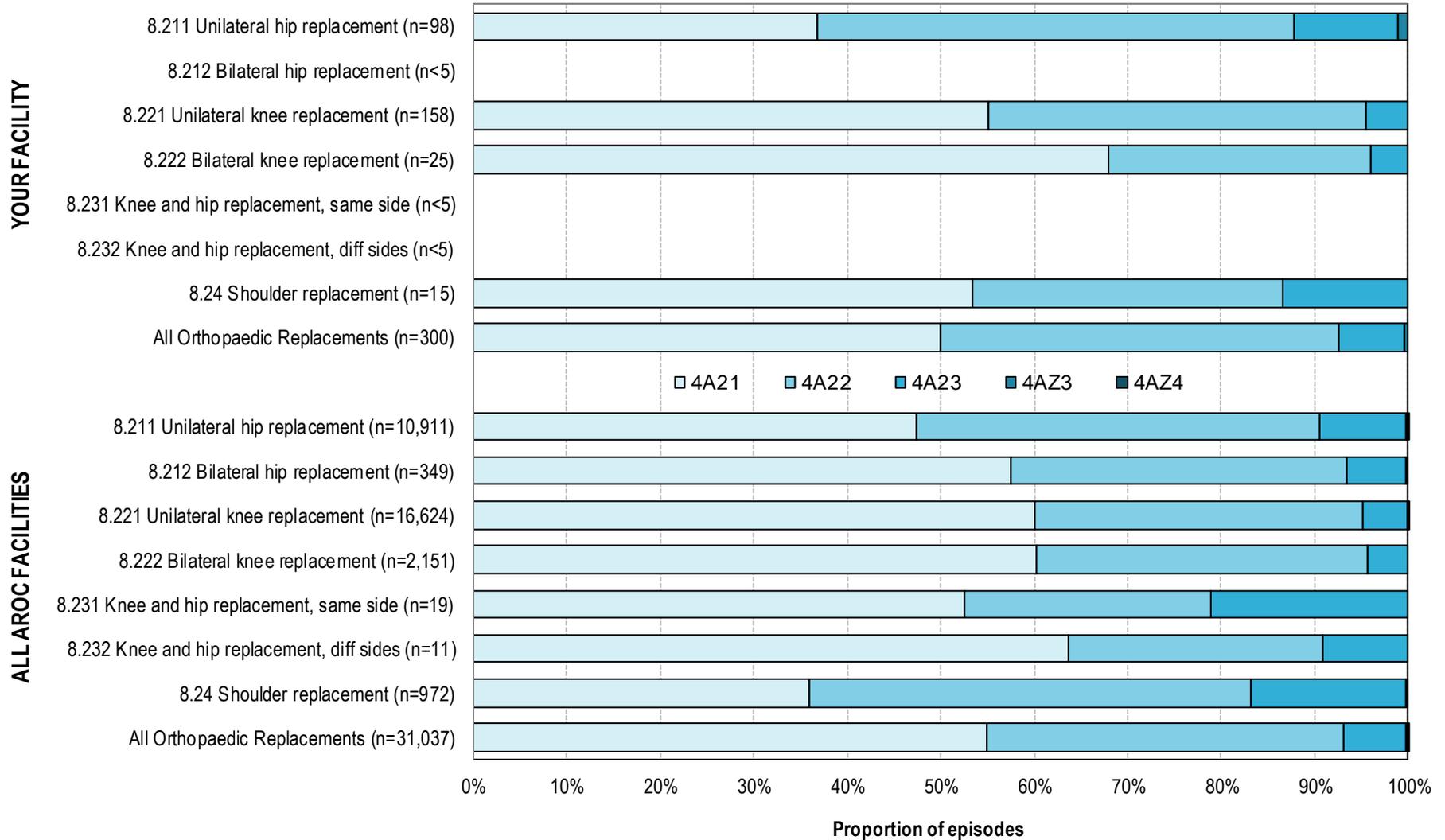
# The BIG picture

# Volume of episodes by facilities treating orthopaedic replacements



NOTE: 288 facilities reported at least one orthopaedic replacement episode, with 182 facilities reporting between 20 and 945 episodes in this reporting period

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



# Episodes by impairment code and AN-SNAP class

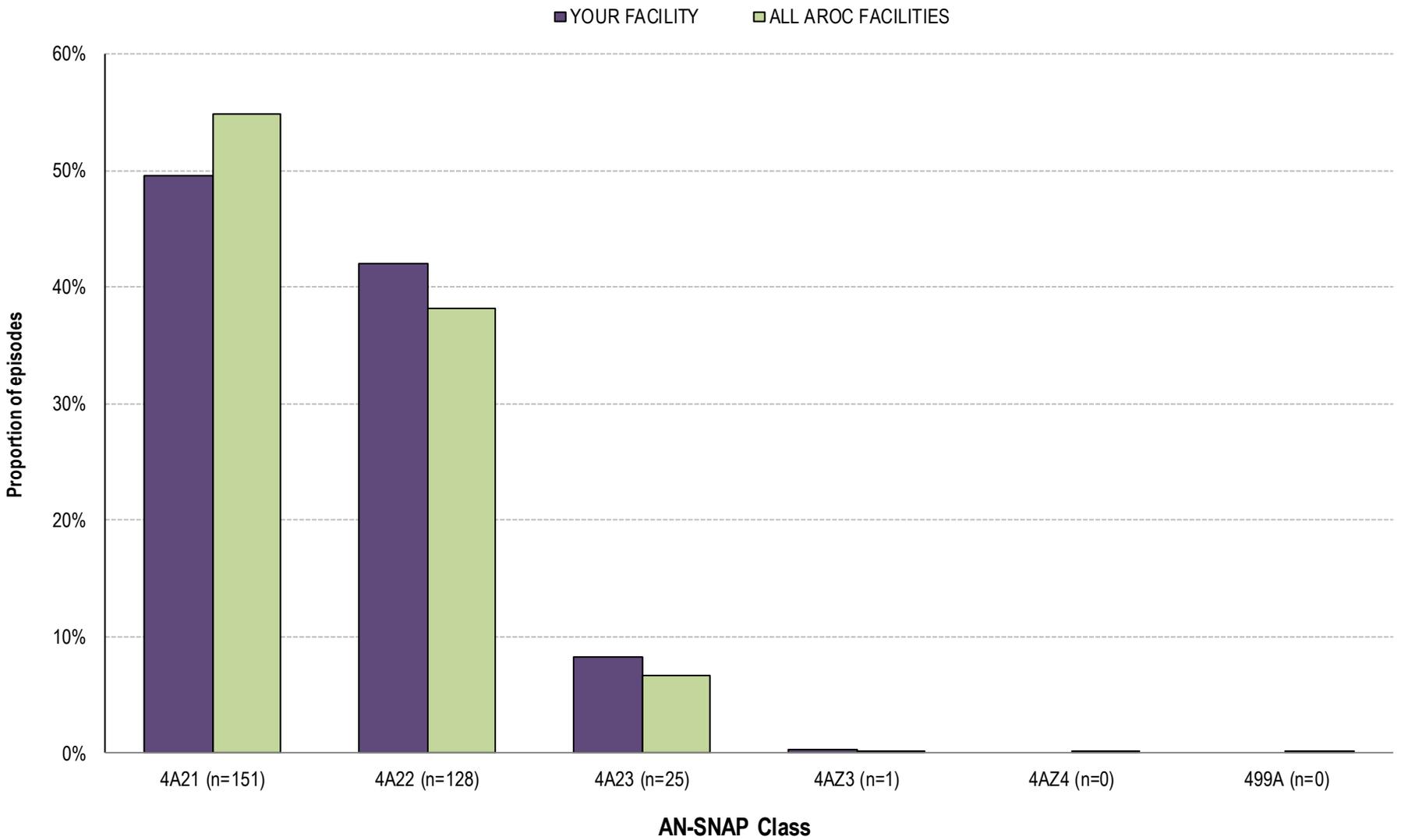


Impairment	YOUR FACILITY — N (%)					All Replacement AN-SNAP classes*
	4A21	4A22	4A23	4AZ3	4AZ4	
8.211 Unilateral hip replacement	36 (36.7%)	50 (51.0%)	11 (11.2%)	1 (1.0%)	0 (0.0%)	<b>98 (100.0%)</b>
8.212 Bilateral hip replacement	3 (75.0%)	0 (0.0%)	1 (25.0%)	0 (0.0%)	0 (0.0%)	<b>4 (100.0%)</b>
8.221 Unilateral knee replacement	87 (55.1%)	64 (40.5%)	7 (4.4%)	0 (0.0%)	0 (0.0%)	<b>158 (100.0%)</b>
8.222 Bilateral knee replacement	17 (68.0%)	7 (28.0%)	1 (4.0%)	0 (0.0%)	0 (0.0%)	<b>25 (100.0%)</b>
8.231 Knee and hip replacement, same side	0 —	0 —	0 —	0 —	0 —	<b>0 —</b>
8.232 Knee and hip replacement, diff sides	0 —	0 —	0 —	0 —	0 —	<b>0 —</b>
8.24 Shoulder replacement	8 (53.3%)	5 (33.3%)	2 (13.3%)	0 (0.0%)	0 (0.0%)	<b>15 (100.0%)</b>
<b>All Orthopaedic Replacements</b>	<b>151 (50.3%)</b>	<b>126 (42.0%)</b>	<b>22 (7.3%)</b>	<b>1 (0.3%)</b>	<b>0 (0.0%)</b>	<b>300 (100.0%)</b>

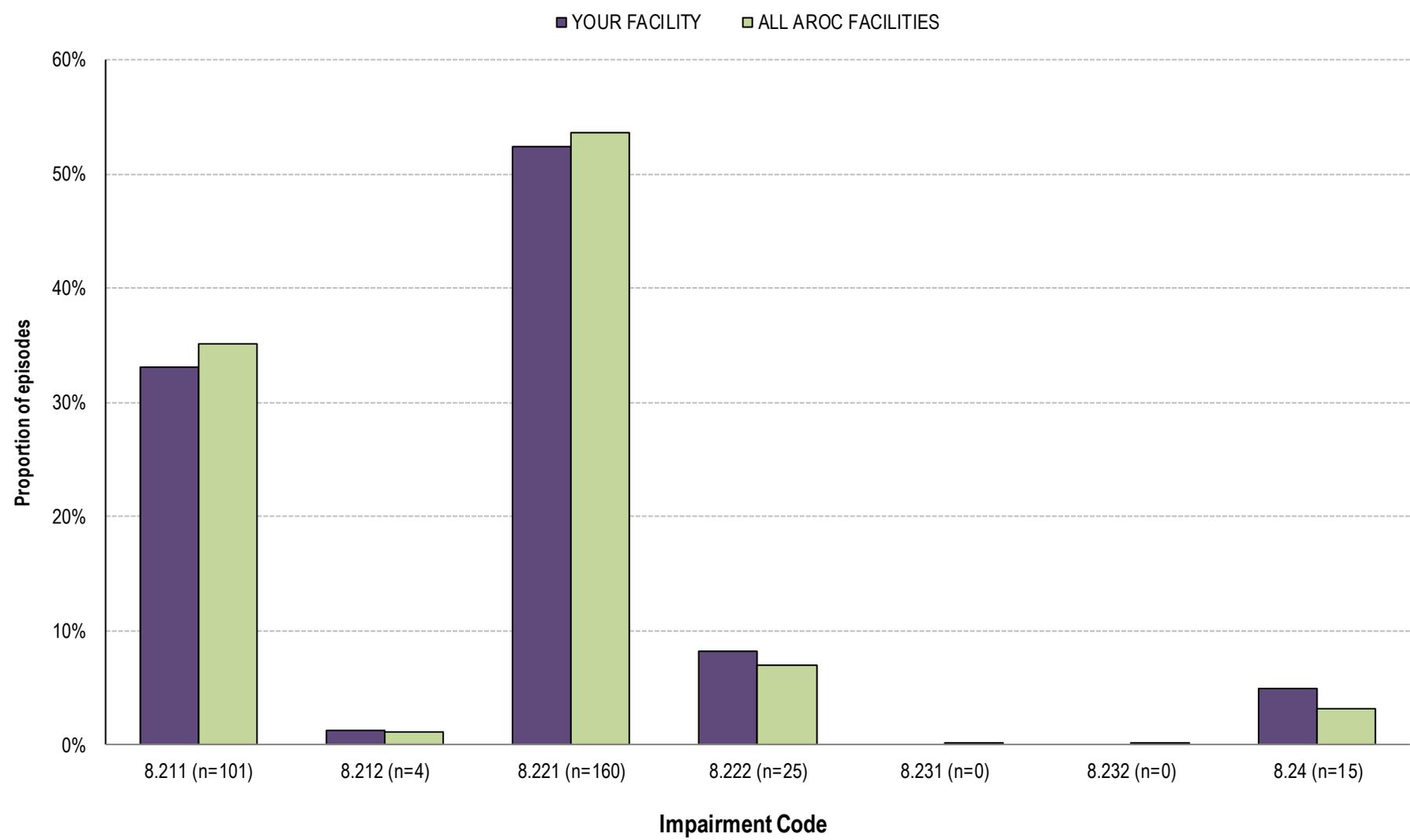
Impairment	ALL AROC FACILITIES — N (%)					All Replacement AN-SNAP classes*
	4A21	4A22	4A23	4AZ3	4AZ4	
8.211 Unilateral hip replacement	5,183 (47.5%)	4,696 (43.0%)	999 (9.2%)	32 (0.3%)	1 (0.0%)	<b>10,911 (100.0%)</b>
8.212 Bilateral hip replacement	201 (57.6%)	125 (35.8%)	22 (6.3%)	1 (0.3%)	0 (0.0%)	<b>349 (100.0%)</b>
8.221 Unilateral knee replacement	9,986 (60.1%)	5,831 (35.1%)	795 (4.8%)	10 (0.1%)	2 (0.0%)	<b>16,624 (100.0%)</b>
8.222 Bilateral knee replacement	1,296 (60.3%)	760 (35.3%)	95 (4.4%)	0 (0.0%)	0 (0.0%)	<b>2,151 (100.0%)</b>
8.231 Knee and hip replacement, same side	10 (52.6%)	5 (26.3%)	4 (21.1%)	0 (0.0%)	0 (0.0%)	<b>19 (100.0%)</b>
8.232 Knee and hip replacement, diff sides	7 (63.6%)	3 (27.3%)	1 (9.1%)	0 (0.0%)	0 (0.0%)	<b>11 (100.0%)</b>
8.24 Shoulder replacement	349 (35.9%)	459 (47.2%)	161 (16.6%)	3 (0.3%)	0 (0.0%)	<b>972 (100.0%)</b>
<b>All Orthopaedic Replacements</b>	<b>17,032 (54.9%)</b>	<b>11,879 (38.3%)</b>	<b>2,077 (6.7%)</b>	<b>46 (0.1%)</b>	<b>3 (0.0%)</b>	<b>31,037 (100.0%)</b>

\*There were 0 episodes in YOUR FACILITY and 30 episodes in ALL AROC FACILITIES with AN-SNAP class 499A

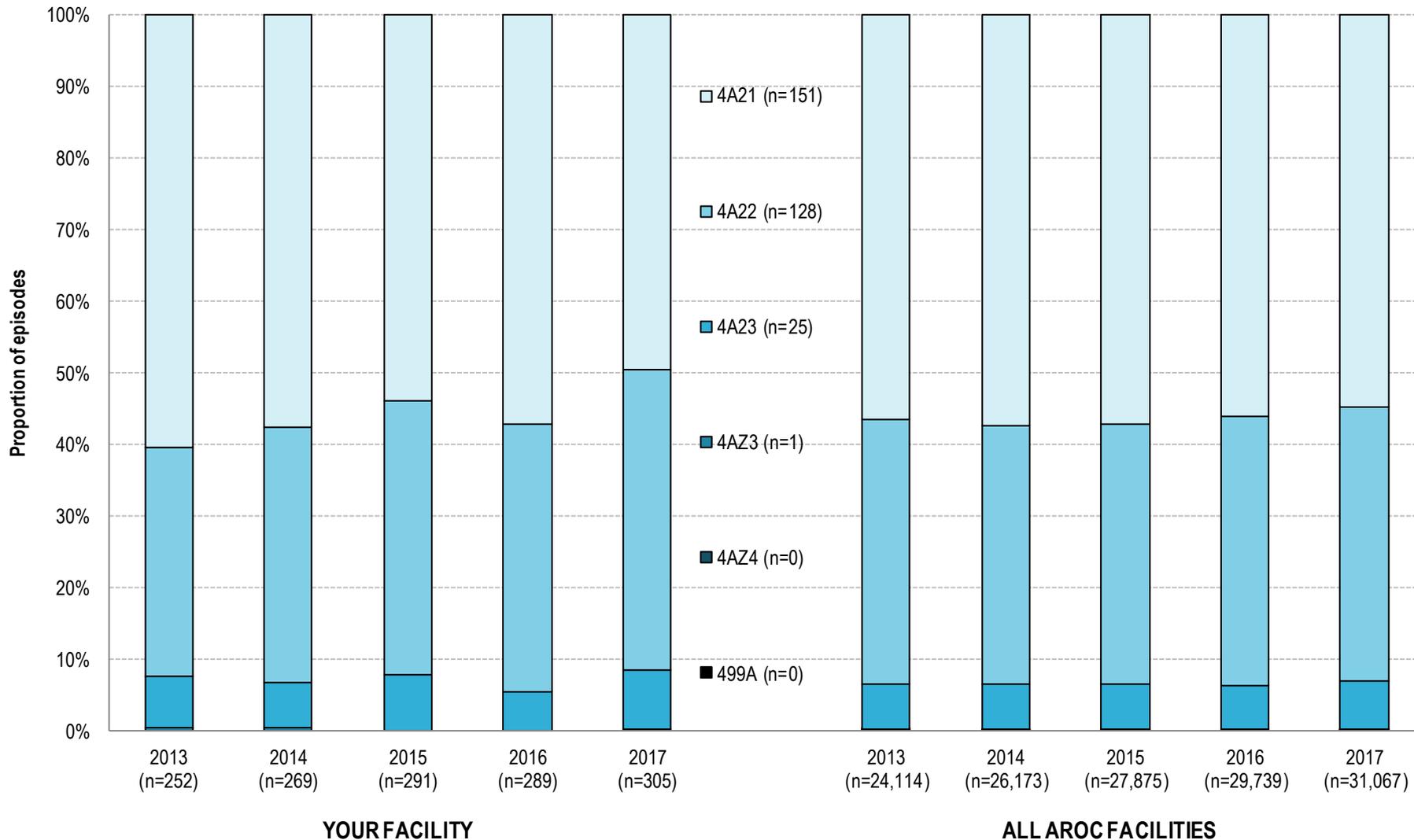
# Proportion of episodes by AN-SNAP class



# Proportion of episodes by impairment code



# Proportion of episodes by AN-SNAP class over time

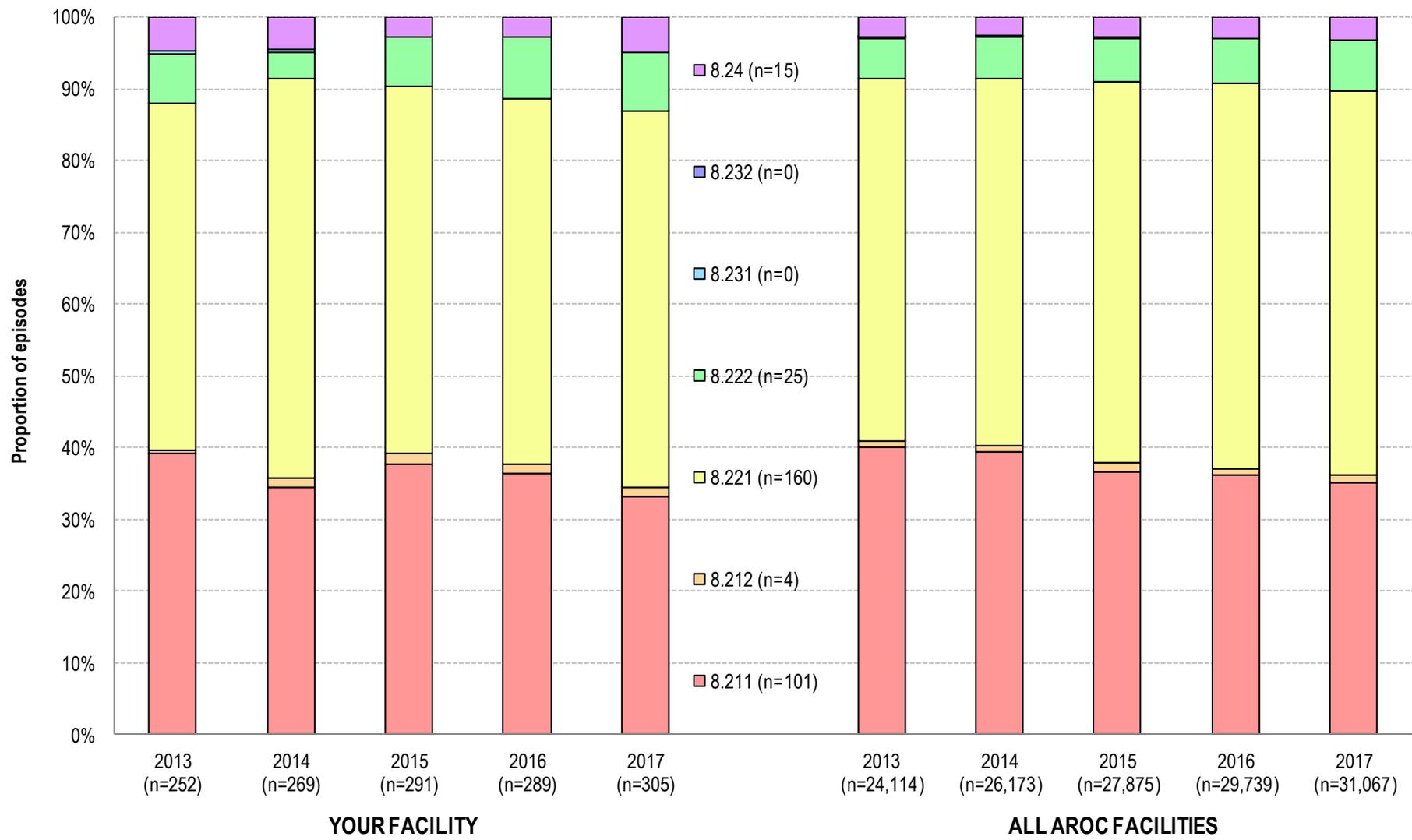


# Episodes by AN-SNAP class over time

AN-SNAP class V4	YOUR FACILITY — N					ALL AROC FACILITIES — N				
	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
4A21 (weighted motor 68-91)	152	155	157	165	151	13,613	15,027	15,919	16,655	17,032
4A22 (weighted motor 50-67)	81	96	111	108	128	8,930	9,452	10,144	11,209	11,879
4A23 (weighted motor 19-49)	18	17	23	16	25	1,501	1,608	1,733	1,808	2,077
4AZ3 (weighted motor 13-18, Age ≥ 65)	1	1	0	0	1	34	55	47	39	46
4AZ4 (weighted motor 13-18, Age ≤ 64)	0	0	0	0	0	7	6	12	6	3
499A (Data error - ungroupable)	0	0	0	0	0	29	25	20	22	30
<b>All Replacement AN-SNAP classes</b>	<b>252</b>	<b>269</b>	<b>291</b>	<b>289</b>	<b>305</b>	<b>24,114</b>	<b>26,173</b>	<b>27,875</b>	<b>29,739</b>	<b>31,067</b>

AN-SNAP class V4	YOUR FACILITY — %					ALL AROC FACILITIES — %				
	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
4A21 (weighted motor 68-91)	60.3%	57.6%	54.0%	57.1%	49.5%	56.5%	57.4%	57.1%	56.0%	54.8%
4A22 (weighted motor 50-67)	32.1%	35.7%	38.1%	37.4%	42.0%	37.0%	36.1%	36.4%	37.7%	38.2%
4A23 (weighted motor 19-49)	7.1%	6.3%	7.9%	5.5%	8.2%	6.2%	6.1%	6.2%	6.1%	6.7%
4AZ3 (weighted motor 13-18, Age ≥ 65)	0.4%	0.4%	0.0%	0.0%	0.3%	0.1%	0.2%	0.2%	0.1%	0.1%
4AZ4 (weighted motor 13-18, Age ≤ 64)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
499A (Data error - ungroupable)	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%
<b>All Replacement 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					ALL AROC FACILITIES — N				
	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
8.211 Unilateral hip replacement	99	93	110	105	101	9,659	10,313	10,213	10,743	10,920
8.212 Bilateral hip replacement	1	3	4	4	4	221	240	337	283	349
8.221 Unilateral knee replacement	122	150	149	147	160	12,197	13,405	14,812	15,960	16,640
8.222 Bilateral knee replacement	17	10	20	25	25	1,342	1,509	1,706	1,874	2,153
8.231 Knee and hip replacement, same side	1	1	0	0	0	23	10	26	24	19
8.232 Knee and hip replacement, diff sides	0	0	0	0	0	9	12	19	7	11
8.24 Shoulder replacement	12	12	8	8	15	663	684	762	848	975
<b>All Orthopaedic Replacements</b>	<b>252</b>	<b>269</b>	<b>291</b>	<b>289</b>	<b>305</b>	<b>24,114</b>	<b>26,173</b>	<b>27,875</b>	<b>29,739</b>	<b>31,067</b>

Impairment	YOUR FACILITY — %					ALL AROC FACILITIES — %				
	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
8.211 Unilateral hip replacement	39.3%	34.6%	37.8%	36.3%	33.1%	40.1%	39.4%	36.6%	36.1%	35.1%
8.212 Bilateral hip replacement	0.4%	1.1%	1.4%	1.4%	1.3%	0.9%	0.9%	1.2%	1.0%	1.1%
8.221 Unilateral knee replacement	48.4%	55.8%	51.2%	50.9%	52.5%	50.6%	51.2%	53.1%	53.7%	53.6%
8.222 Bilateral knee replacement	6.7%	3.7%	6.9%	8.7%	8.2%	5.6%	5.8%	6.1%	6.3%	6.9%
8.231 Knee and hip replacement, same side	0.4%	0.4%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	0.1%
8.232 Knee and hip replacement, diff sides	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
8.24 Shoulder replacement	4.8%	4.5%	2.7%	2.8%	4.9%	2.7%	2.6%	2.7%	2.9%	3.1%
<b>All Orthopaedic Replacements</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

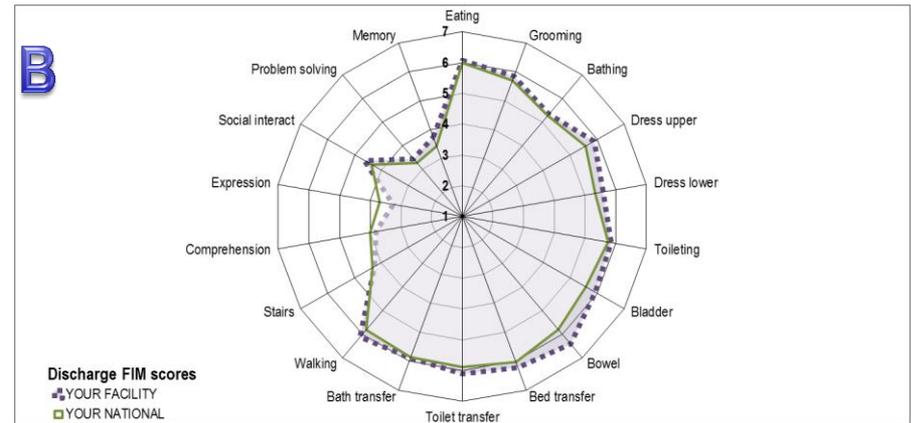
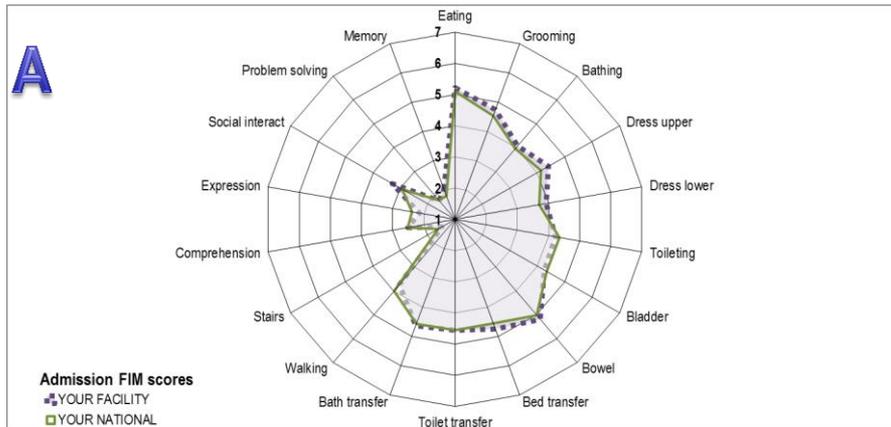


	YOUR FACILITY	ALL AROC FACILITIES
Total reporting episodes	305	31,067
Incomplete episodes	9	970
% incomplete	3.0%	3.1%
<b>Reason for incomplete:</b>		
Discharged home with end FIM=18	0 (0.0%)	8 (0.8%)
Discharged home with no end FIM	0 (0.0%)	25 (2.6%)
Discharged to another hospital	4 (44.4%)	539 (55.6%)
Discharged back to acute	3 (33.3%)	261 (26.9%)
Discharged at own risk	1 (11.1%)	85 (8.8%)
Change of care type (LOS<1 week)	0 (0.0%)	6 (0.6%)
Died	0 (0.0%)	7 (0.7%)
Other/Unknown Discharge	1 (11.1%)	39 (4.0%)

	YOUR FACILITY	
	Incomplete Episodes	Complete episodes
<b>Impairment Code:</b>		
8.211 Unilateral hip replacement	2 (22.2%)	99 (33.4%)
8.212 Bilateral hip replacement	1 (11.1%)	3 (1.0%)
8.221 Unilateral knee replacement	5 (55.6%)	155 (52.4%)
8.222 Bilateral knee replacement	0 (0.0%)	25 (8.4%)
8.231 Knee and hip replacement, same side	0 (0.0%)	0 (0.0%)
8.232 Knee and hip replacement, diff sides	0 (0.0%)	0 (0.0%)
8.24 Shoulder replacement	1 (11.1%)	14 (4.7%)
<b>AN-SNAP Class:</b>		
4A21 (weighted motor 68-91)	5 (55.6%)	146 (49.3%)
4A22 (weighted motor 50-67)	2 (22.2%)	126 (42.6%)
4A23 (weighted motor 19-49)	2 (22.2%)	23 (7.8%)
4AZ3 (weighted motor 13-18, Age ≥ 65)	0 (0.0%)	1 (0.3%)
4AZ4 (weighted motor 13-18, Age ≤ 64)	0 (0.0%)	0 (0.0%)

# Review of FIM item scoring by AN-SNAP class

# Interpreting your comparative FIM scoring charts



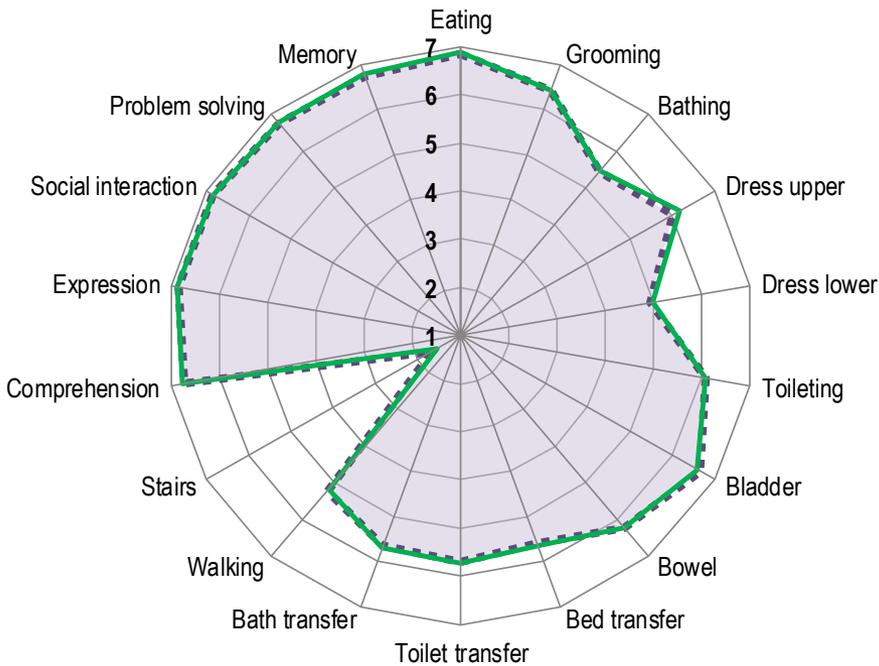
The FIM splat provides a graphic presentation of functional status in a radar chart. The 18 FIM items are arranged in order as 'spokes' of a wheel and the scoring levels from 1 (total dependence) to 7 (total independence) run from the centre outwards. The mean FIM item score for each item is indicated — 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 ALL AROC FACILITIES 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 4A21



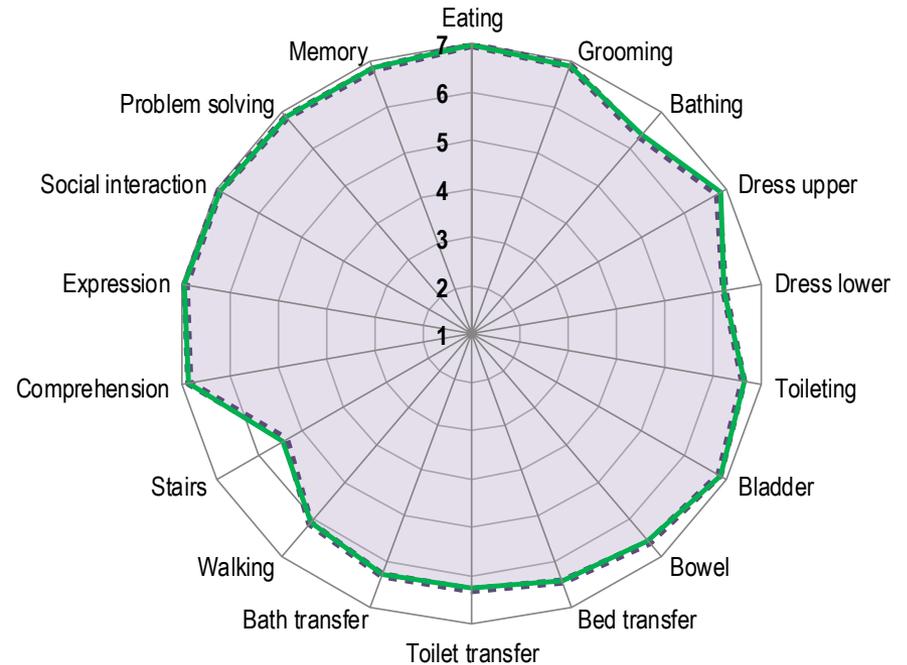
**Admission FIM scores**

- YOUR FACILITY (n=146)
- ALL AROC FACILITIES (n=16,760)



**Discharge FIM scores**

- YOUR FACILITY (n=146)
- ALL AROC FACILITIES (n=16,760)



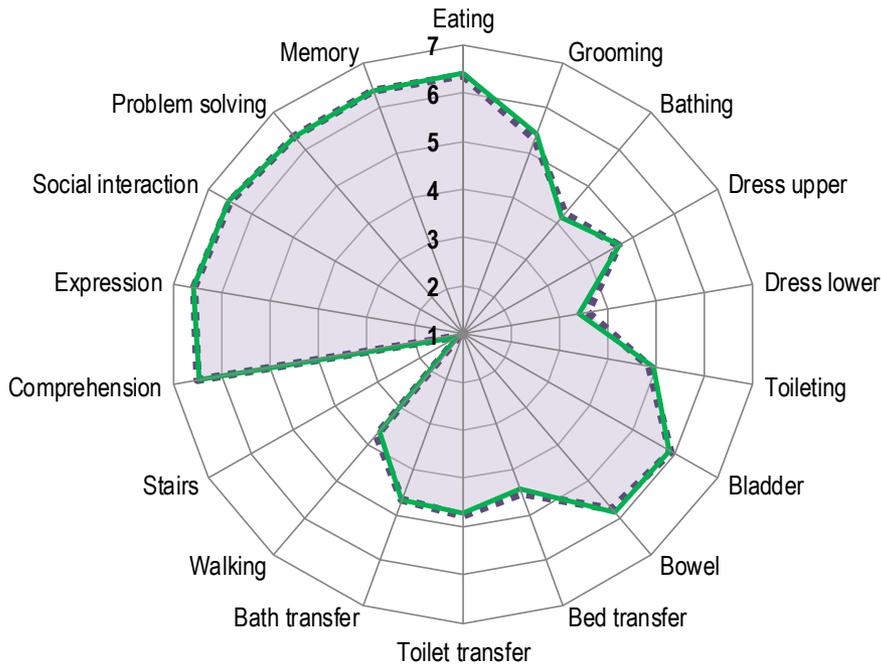
# Comparative FIM item scoring

## AN-SNAP class 4A22



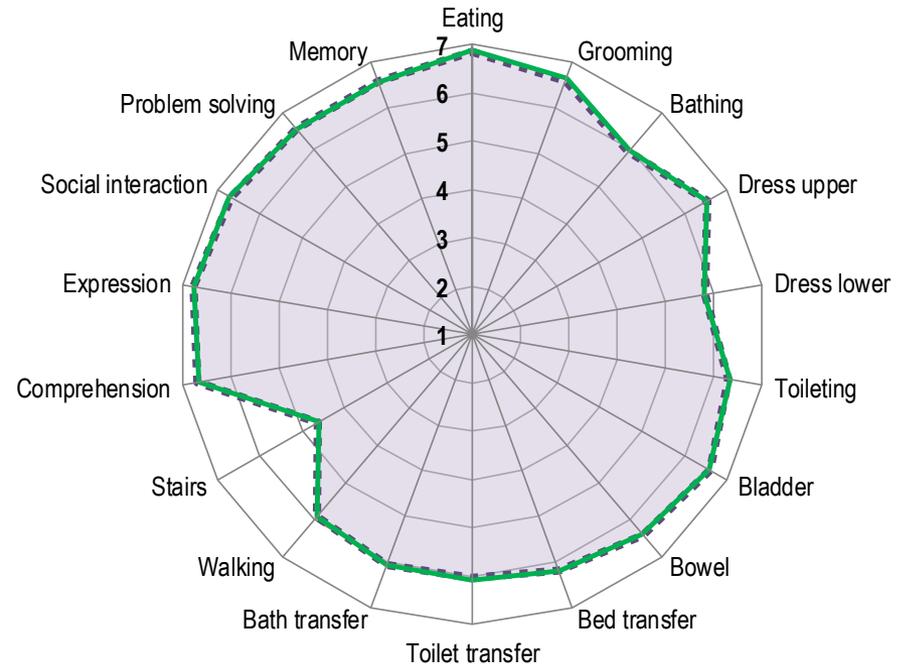
### Admission FIM scores

- YOUR FACILITY (n=124)
- ALL AROC FACILITIES (n=11,452)



### Discharge FIM scores

- YOUR FACILITY (n=124)
- ALL AROC FACILITIES (n=11,452)



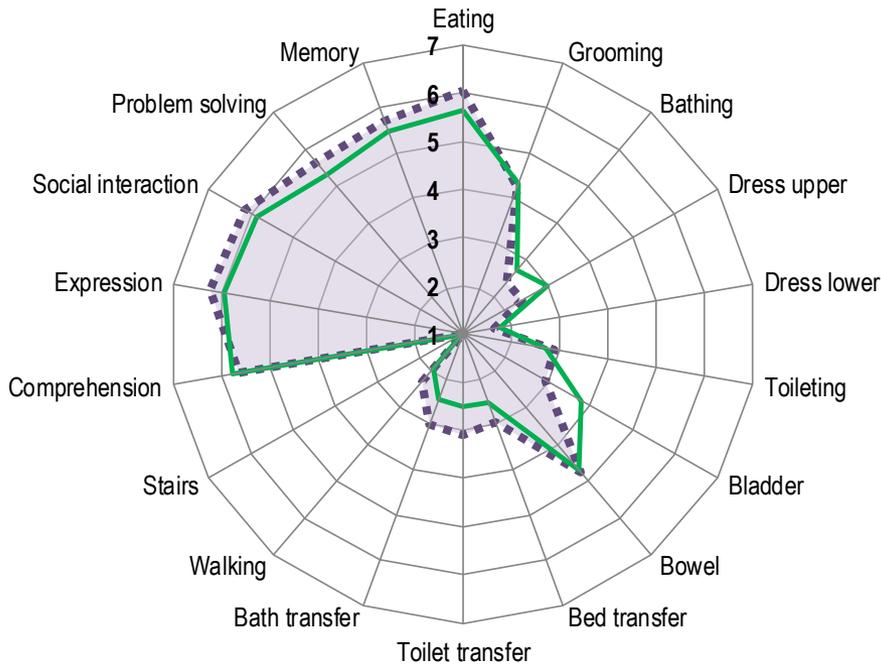
# Comparative FIM item scoring

## AN-SNAP class 4A23



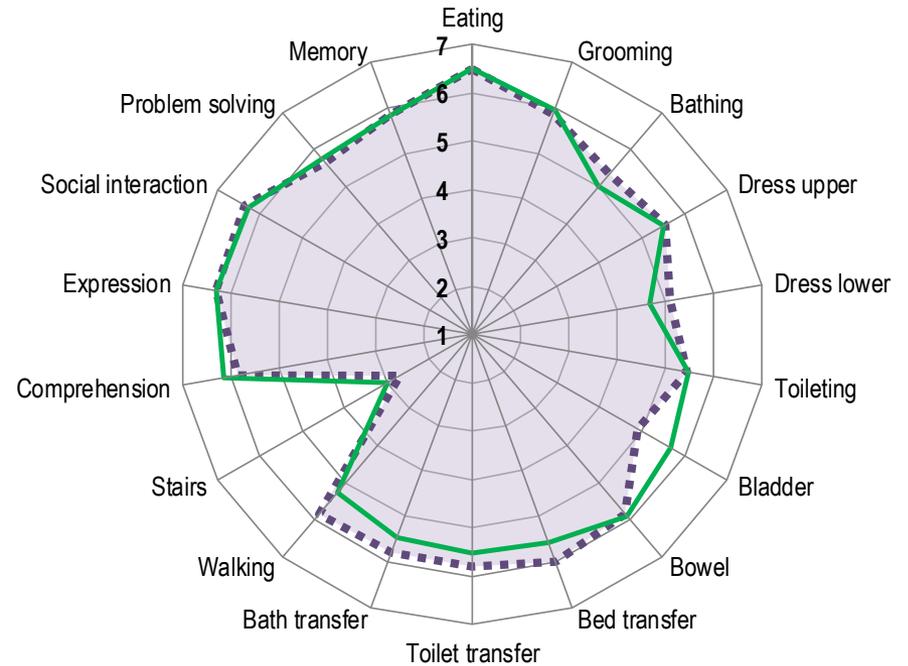
### Admission FIM scores

- YOUR FACILITY (n=20)
- ALL AROC FACILITIES (n=1,847)



### Discharge FIM scores

- YOUR FACILITY (n=20)
- ALL AROC FACILITIES (n=1,847)



# Outcomes Analysis

# Completed episodes by AN-SNAP class and Impairment

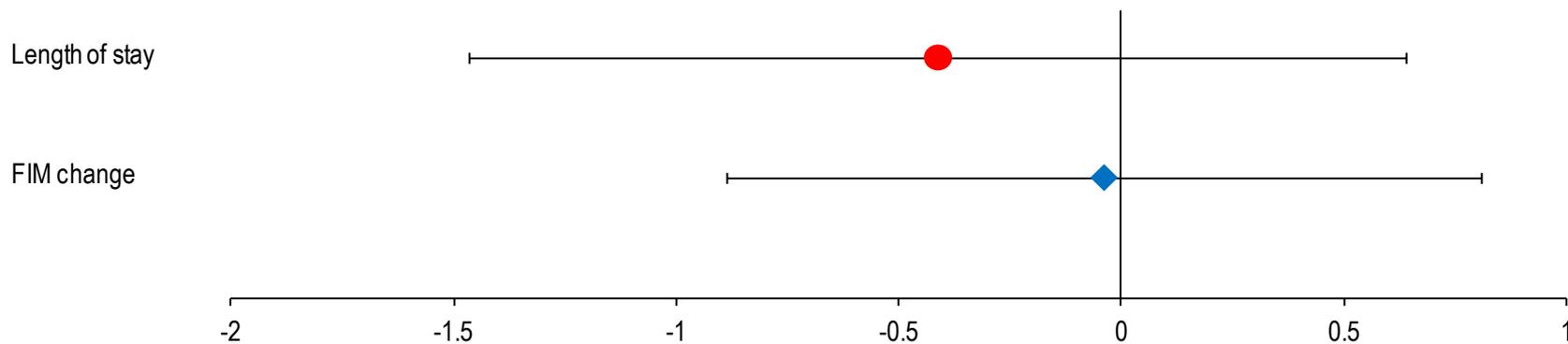


	YOUR FACILITY			ALL AROC FACILITIES		
	All episodes	Completed episodes	% Complete	All episodes	Completed episodes	% Complete
<b>AN-SNAP class V4</b>						
4A21 (weighted motor 68-91)	151	146	96.7%	17,032	16,761	98.4%
4A22 (weighted motor 50-67)	128	124	96.9%	11,879	11,453	96.4%
4A23 (weighted motor 19-49)	25	20	80.0%	2,077	1,848	89.0%
4AZ3 (weighted motor 13-18, Age ≥ 65)	1	1	100.0%	46	31	67.4%
4AZ4 (weighted motor 13-18, Age ≤ 64)	0	0	—	3	1	33.3%
499A (Data error - ungroupable)	0	0	—	30	3	10.0%
<b>All Replacement AN-SNAP classes</b>	<b>305</b>	<b>291</b>	<b>95.4%</b>	<b>31,067</b>	<b>30,097</b>	<b>96.9%</b>

	YOUR FACILITY			ALL AROC FACILITIES		
	All episodes	Completed episodes	% Complete	All episodes	Completed episodes	% Complete
<b>Impairment</b>						
8.211 Unilateral hip replacement	101	96	95.0%	10,920	10,464	95.8%
8.212 Bilateral hip replacement	4	3	75.0%	349	333	95.4%
8.221 Unilateral knee replacement	160	153	95.6%	16,640	16,222	97.5%
8.222 Bilateral knee replacement	25	25	100.0%	2,153	2,110	98.0%
8.231 Knee and hip replacement, same side	0	0	—	19	18	94.7%
8.232 Knee and hip replacement, diff sides	0	0	—	11	9	81.8%
8.24 Shoulder replacement	15	14	93.3%	975	941	96.5%
<b>All Replacement AN-SNAP classes</b>	<b>305</b>	<b>291</b>	<b>95.4%</b>	<b>31,067</b>	<b>30,097</b>	<b>96.9%</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

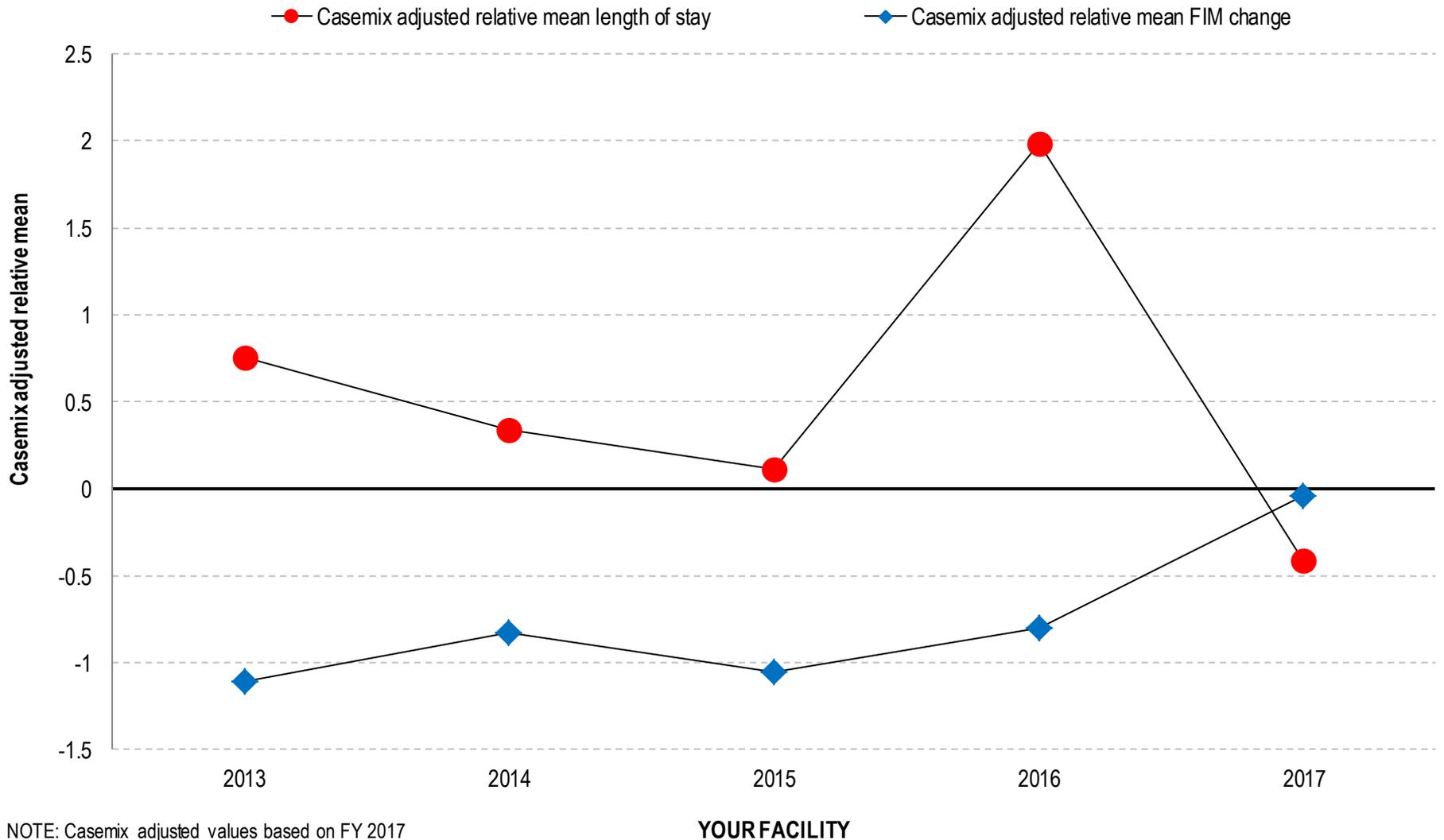


Casemix-adjusted relative means with 95% confidence intervals

Outcome measures	YOUR FACILITY		ALL AROC FACILITIES
	Casemix adjustment relative mean	95% CI	IQR
Length of stay	-0.4	-1.5 to 0.4	-3.6 to 2.2
FIM change	0.0	-0.9 to 0.6	-3.7 to 4.3

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

# Casemix-adjusted relative means over time



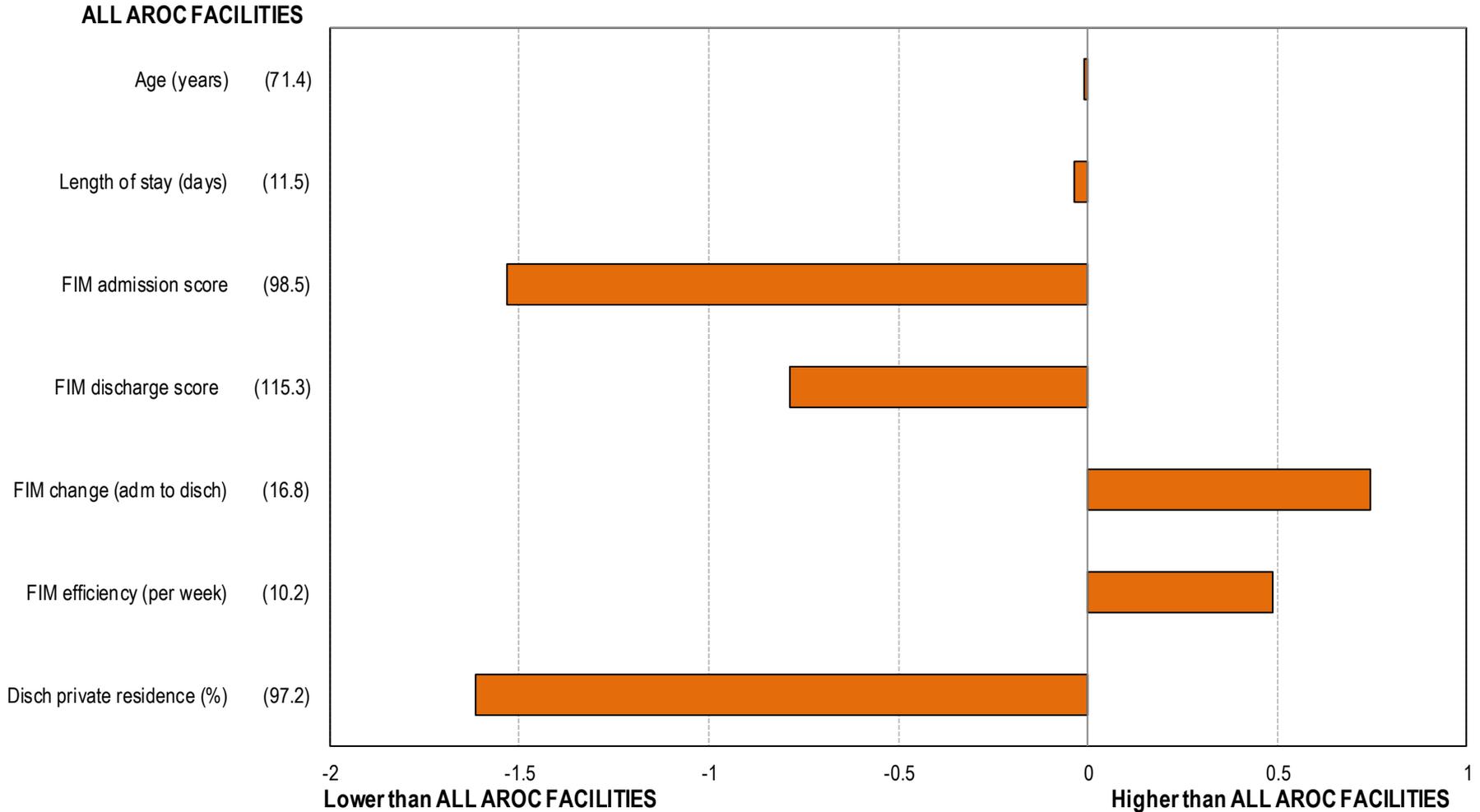
NOTE: Casemix adjusted values based on FY 2017

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 All AROC



How YOUR FACILITY is different to ALL AROC FACILITIES

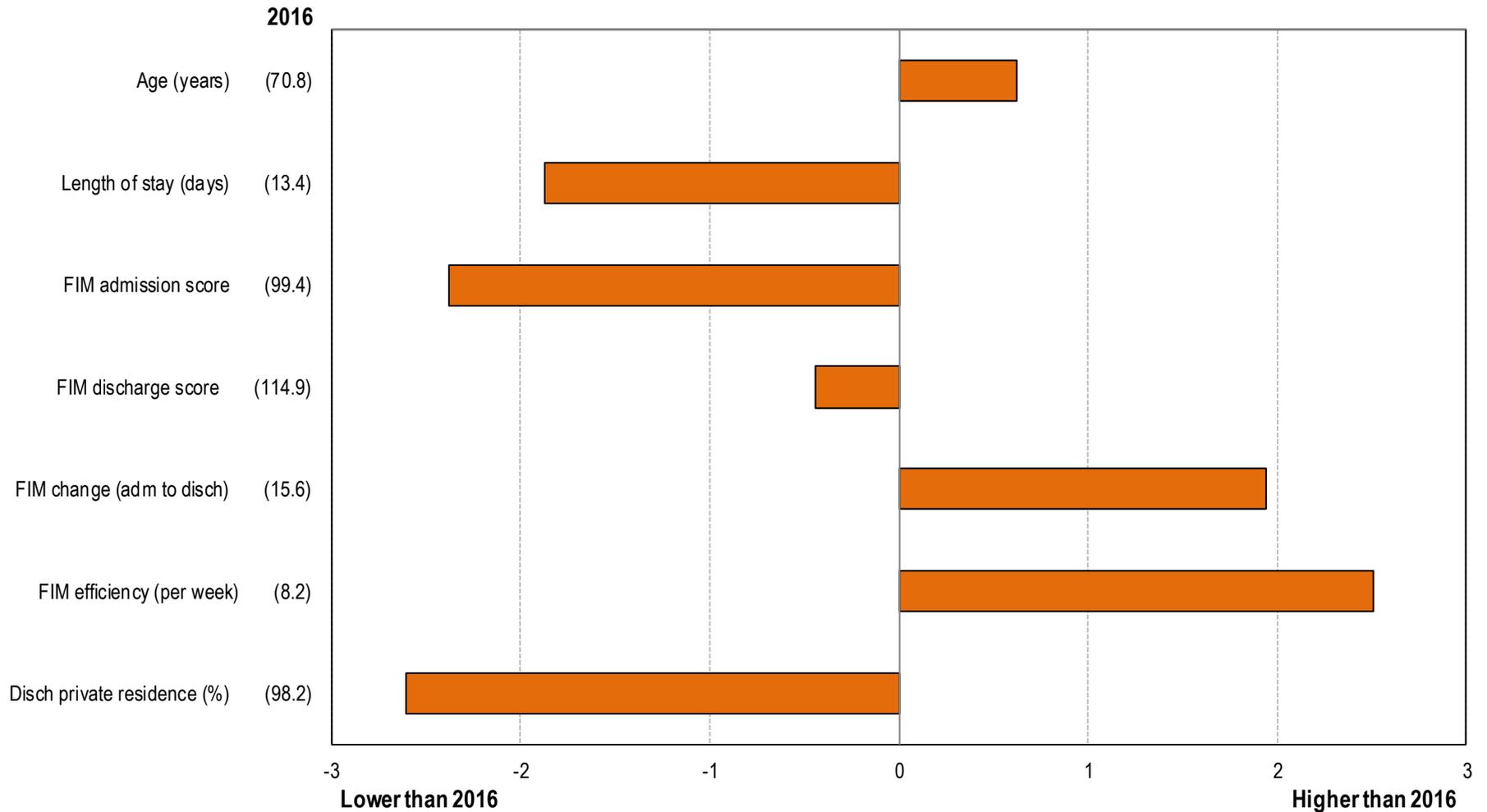


NOTE: Includes only completed episodes with valid FIM scores and LOS

# Outcome measures – difference from last year

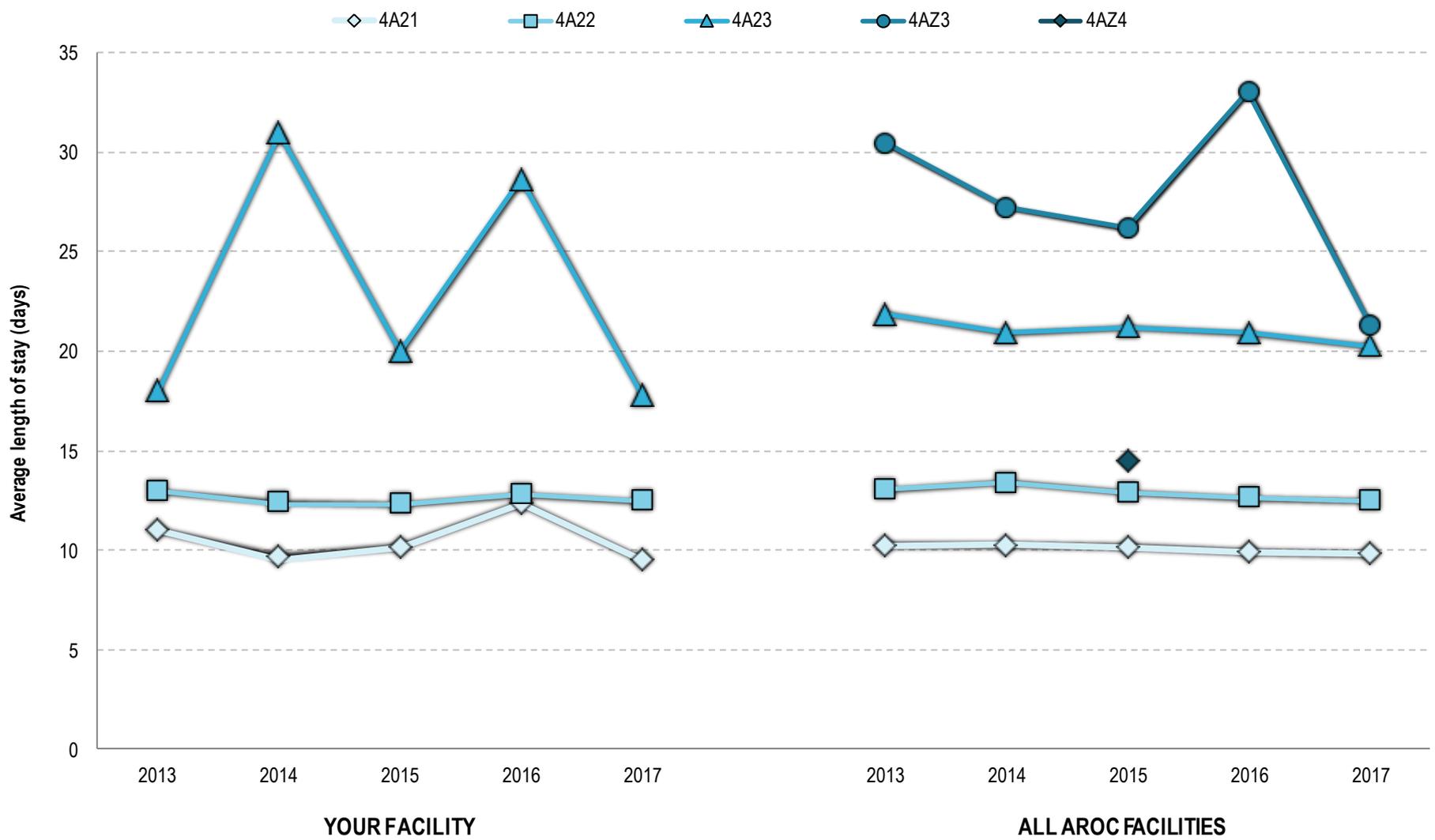


How YOUR FACILITY has changed since 2016



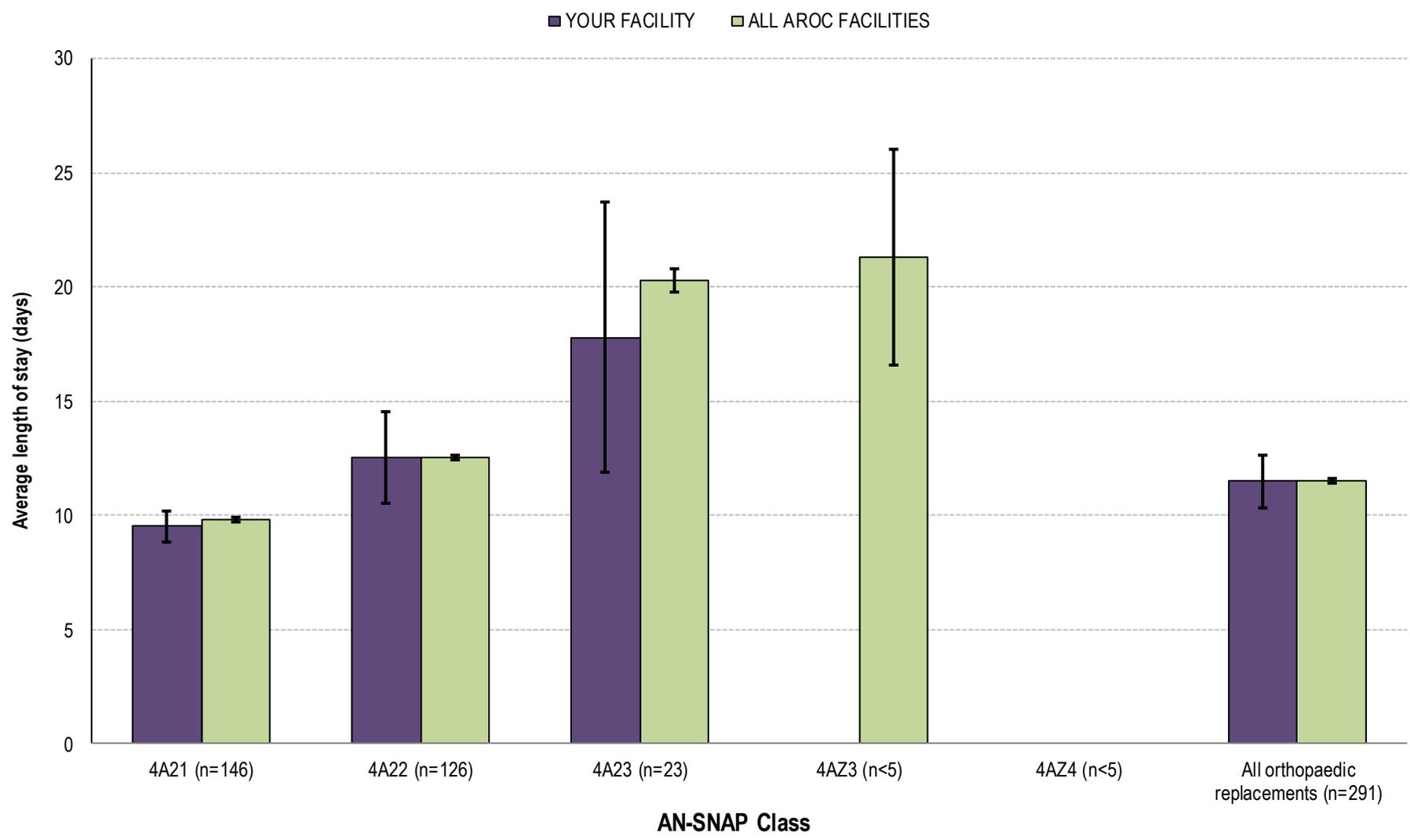
NOTE: Includes only completed episodes with valid FIM scores and LOS

# Average LOS by AN-SNAP class over time



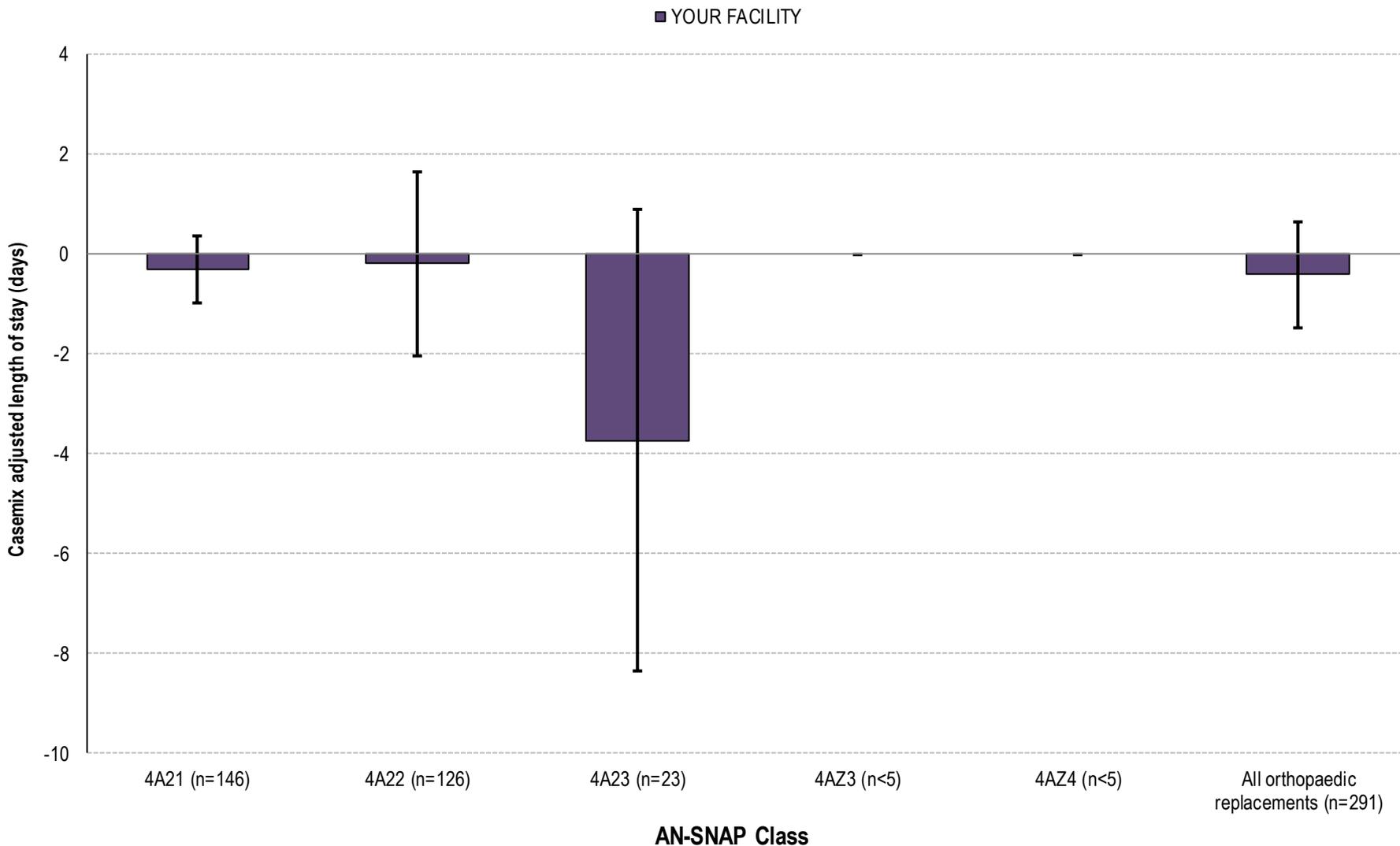
NOTE: Includes only completed episodes with valid LOS; where n<5 average LOS will not be shown

# Average LOS by AN-SNAP class



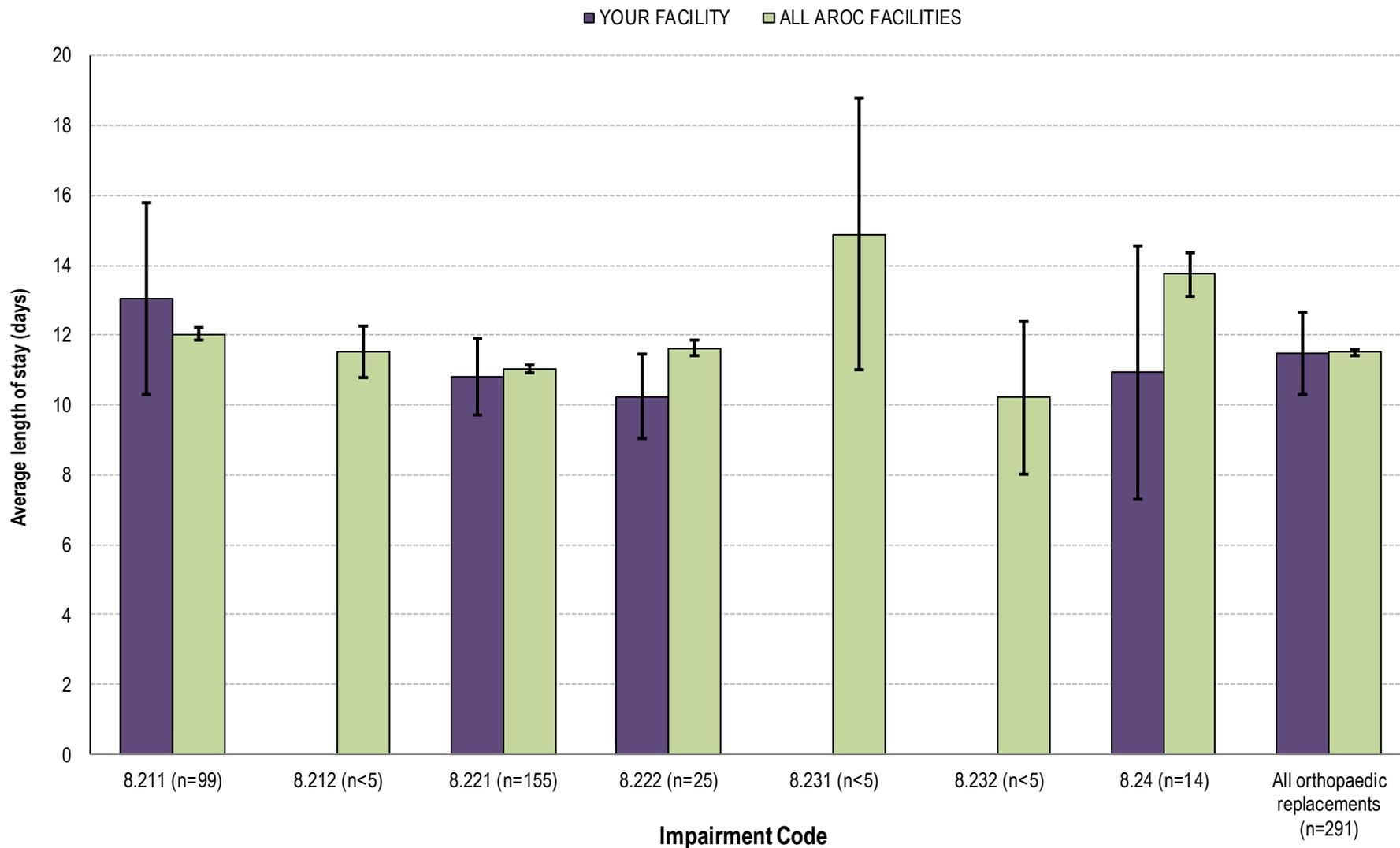
NOTE: Includes only completed episodes with valid LOS, where n<5 average LOS will not be shown

# Casemix-adjusted relative mean LOS by AN-SNAP class



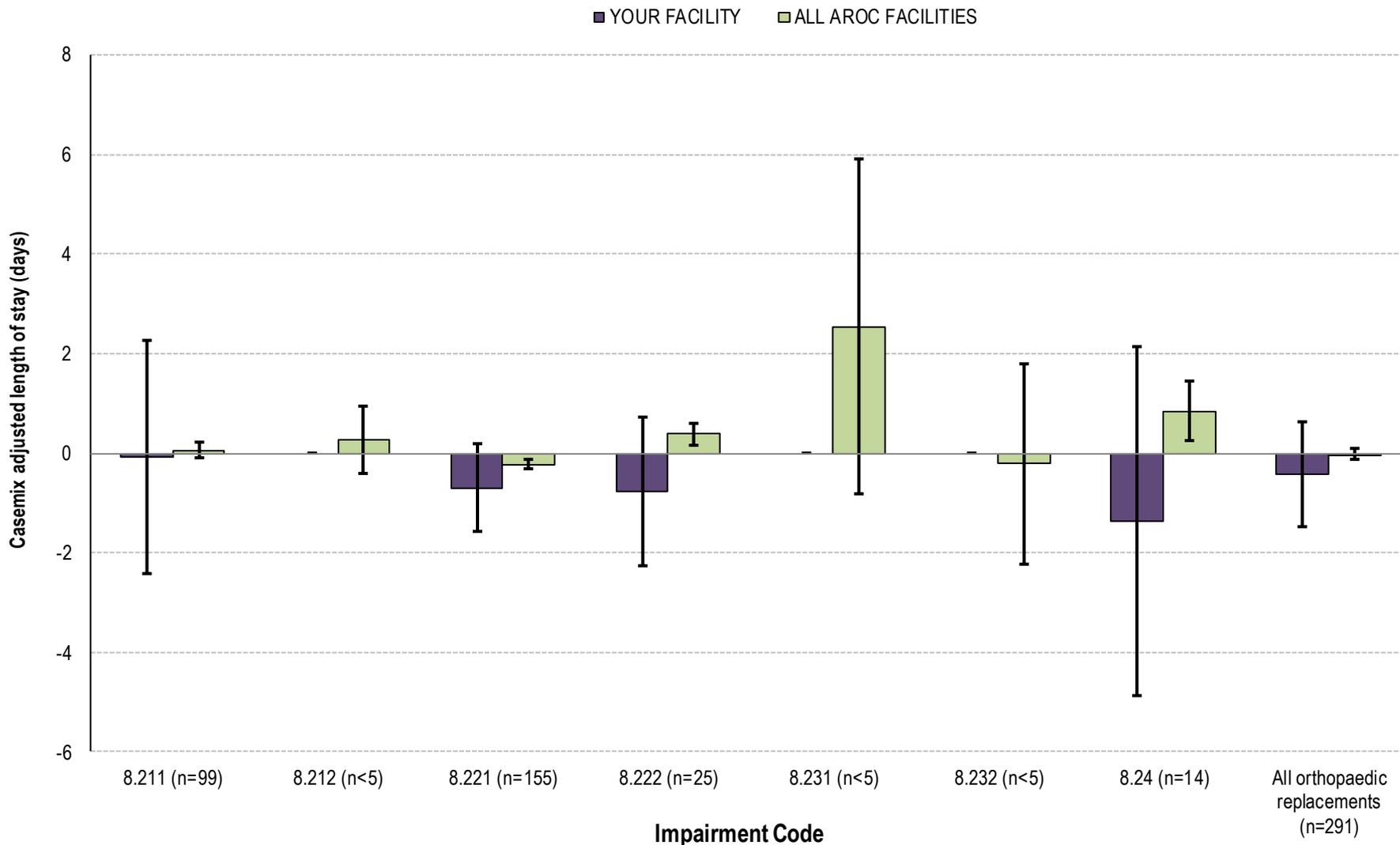
NOTE: Includes only completed episodes with valid LOS; where n<5 CARMi LOS will not be shown

# Average LOS by impairment



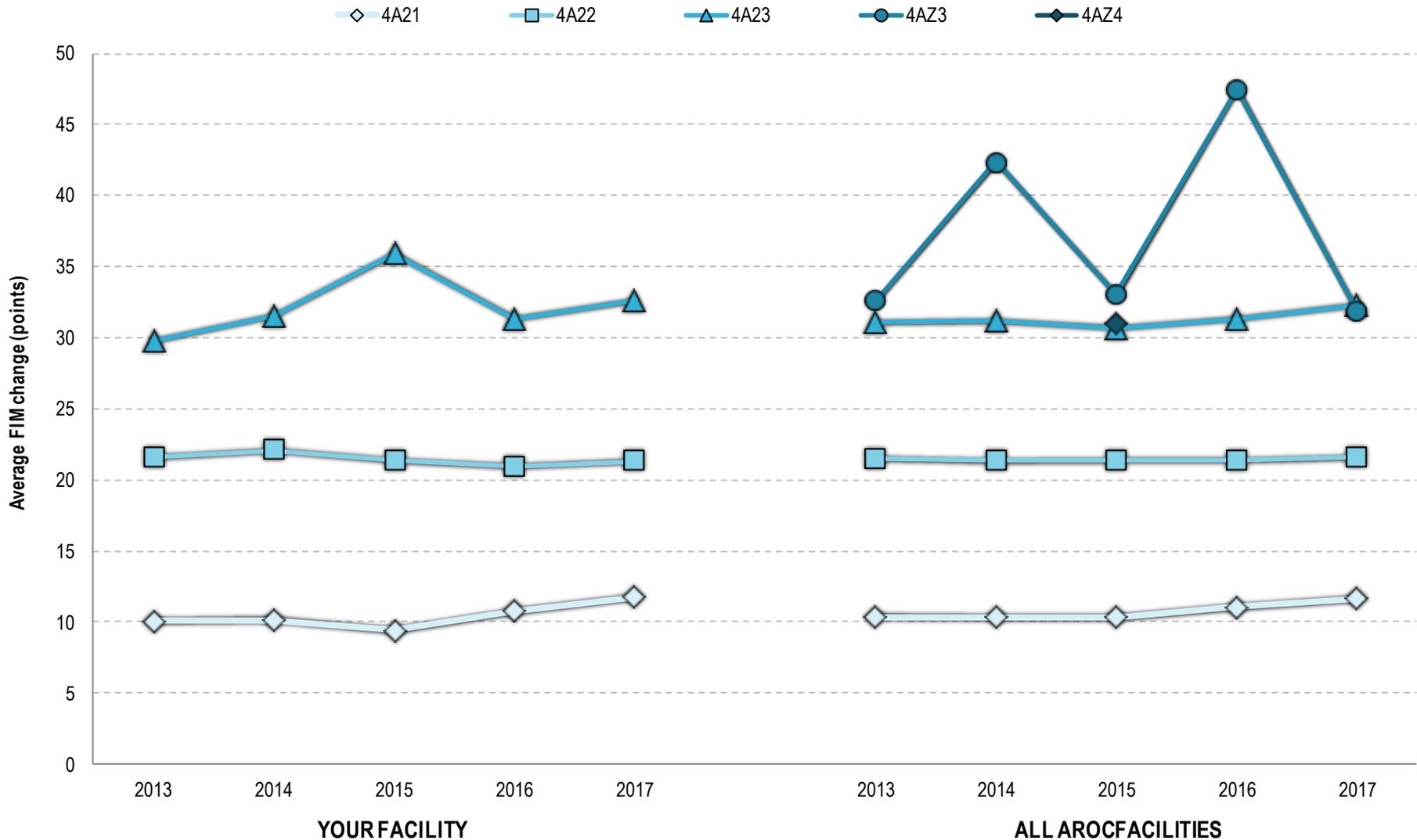
NOTE: Includes only completed episodes with valid LOS, where n<5 average LOS will not be shown

# Casemix-adjusted relative mean LOS by impairment



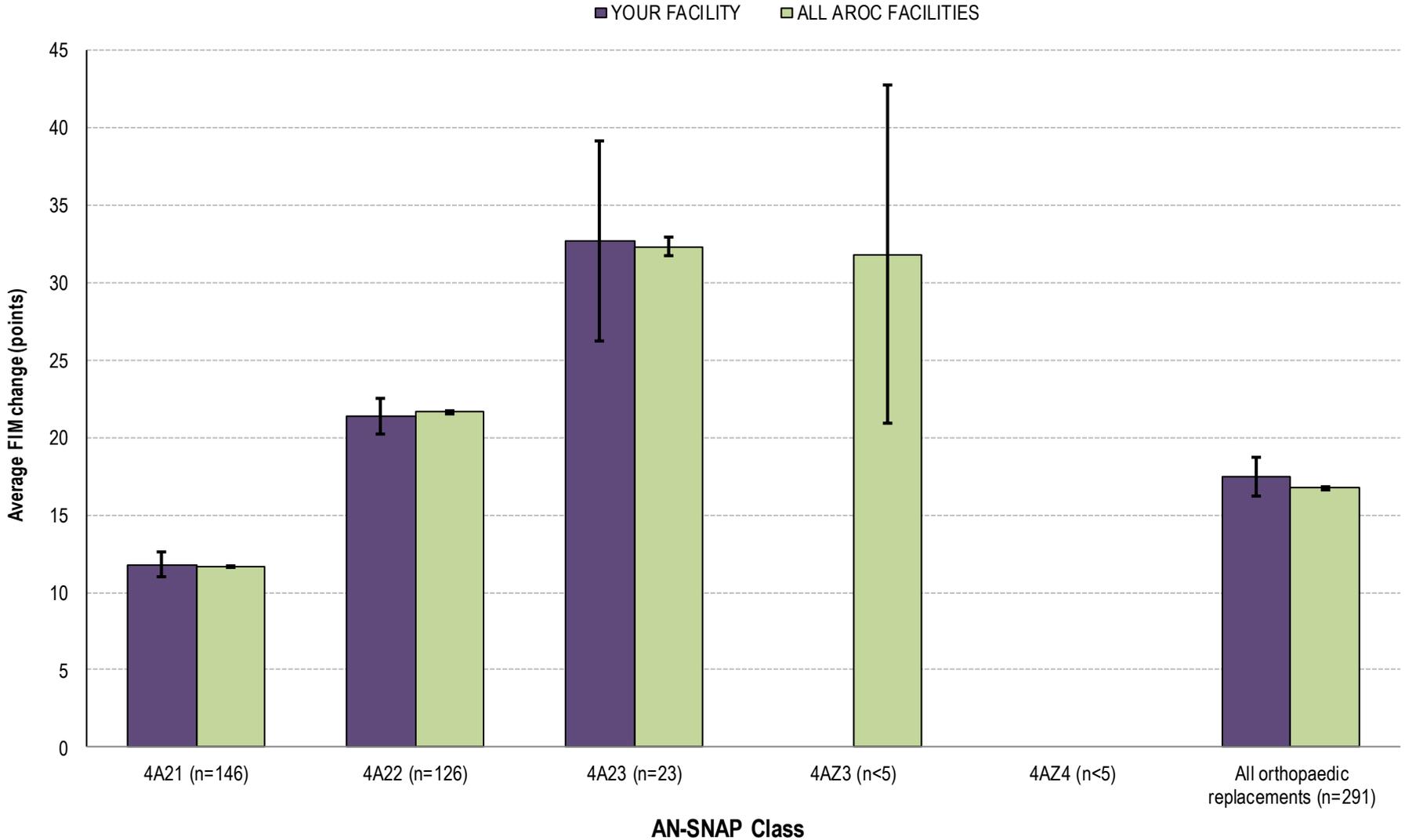
NOTE: Includes only completed episodes with valid LOS; where n<5 CARMI LOS will not be shown

# Average FIM change by AN-SNAP class over time



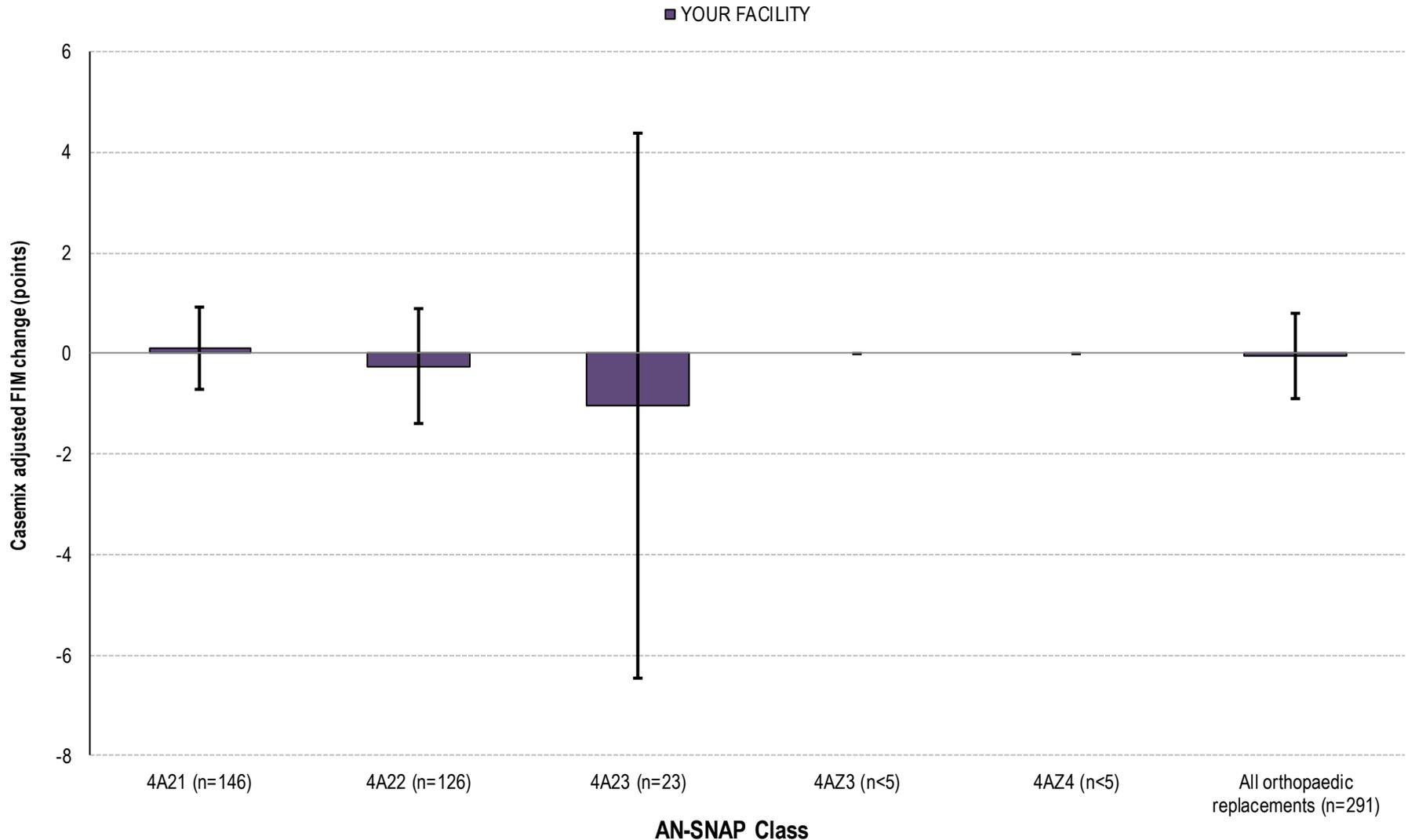
NOTE: Includes only completed episodes with valid FIM scores; where n<5 average FIM change will not be shown

# Average FIM change by AN-SNAP class



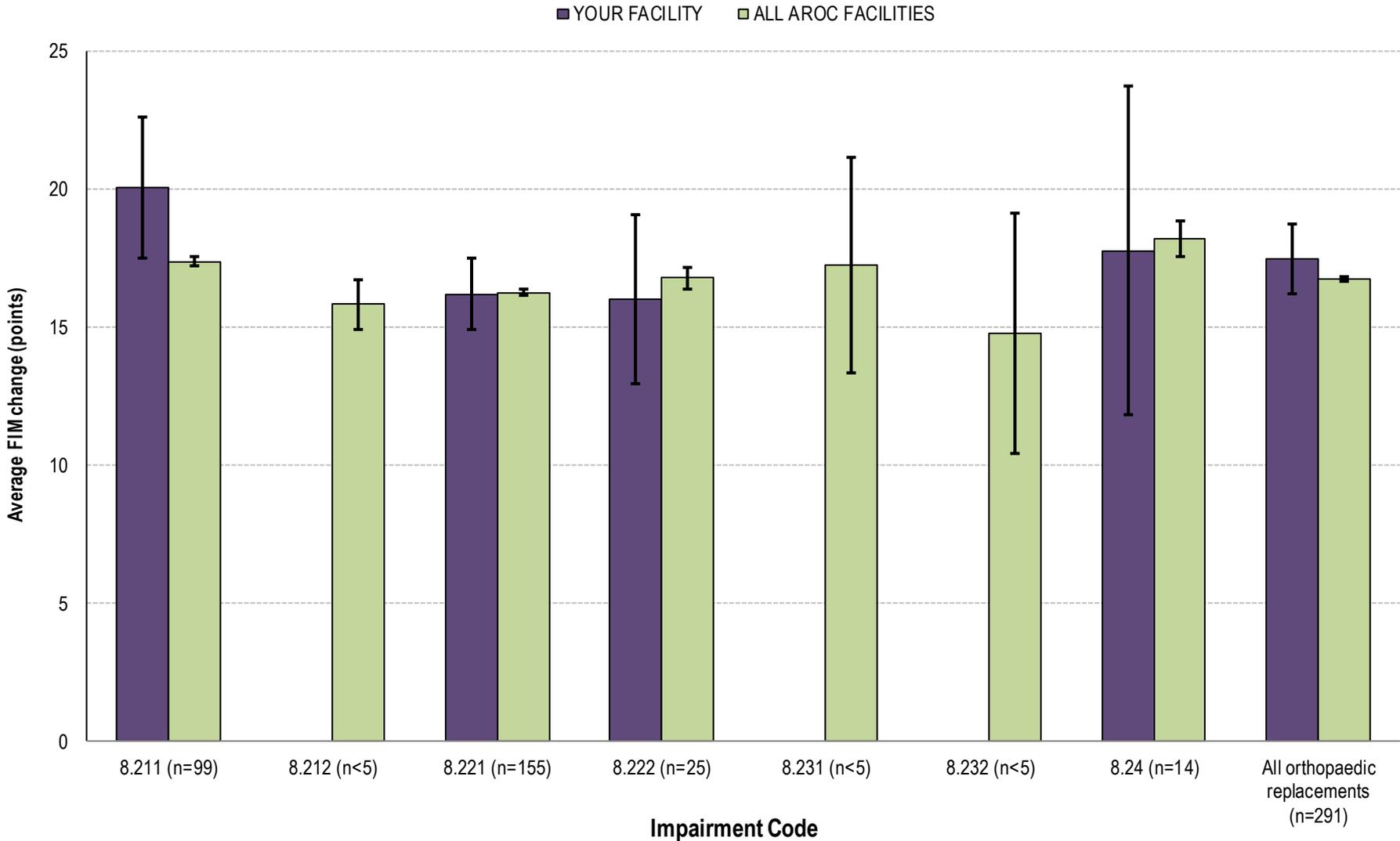
NOTE: Includes only completed episodes with valid FIM scores, where n<5 average FIM change will not be shown

# 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

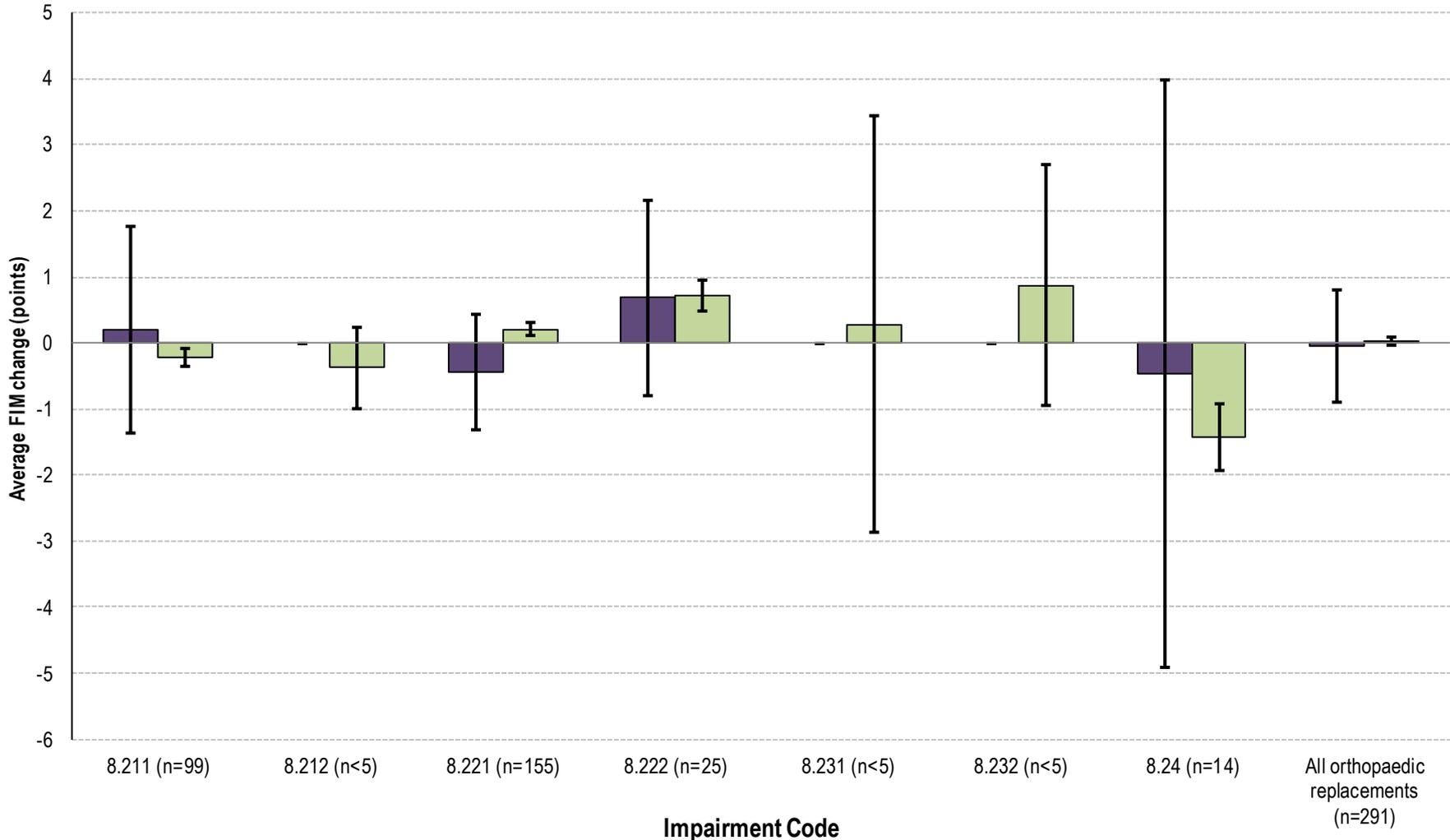


NOTE: Includes only completed episodes with valid FIM scores, where n<5 average FIM change will not be shown

# Casemix-adjusted relative mean FIM change by impairment



■ YOUR FACILITY    ■ ALL AROC FACILITIES



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

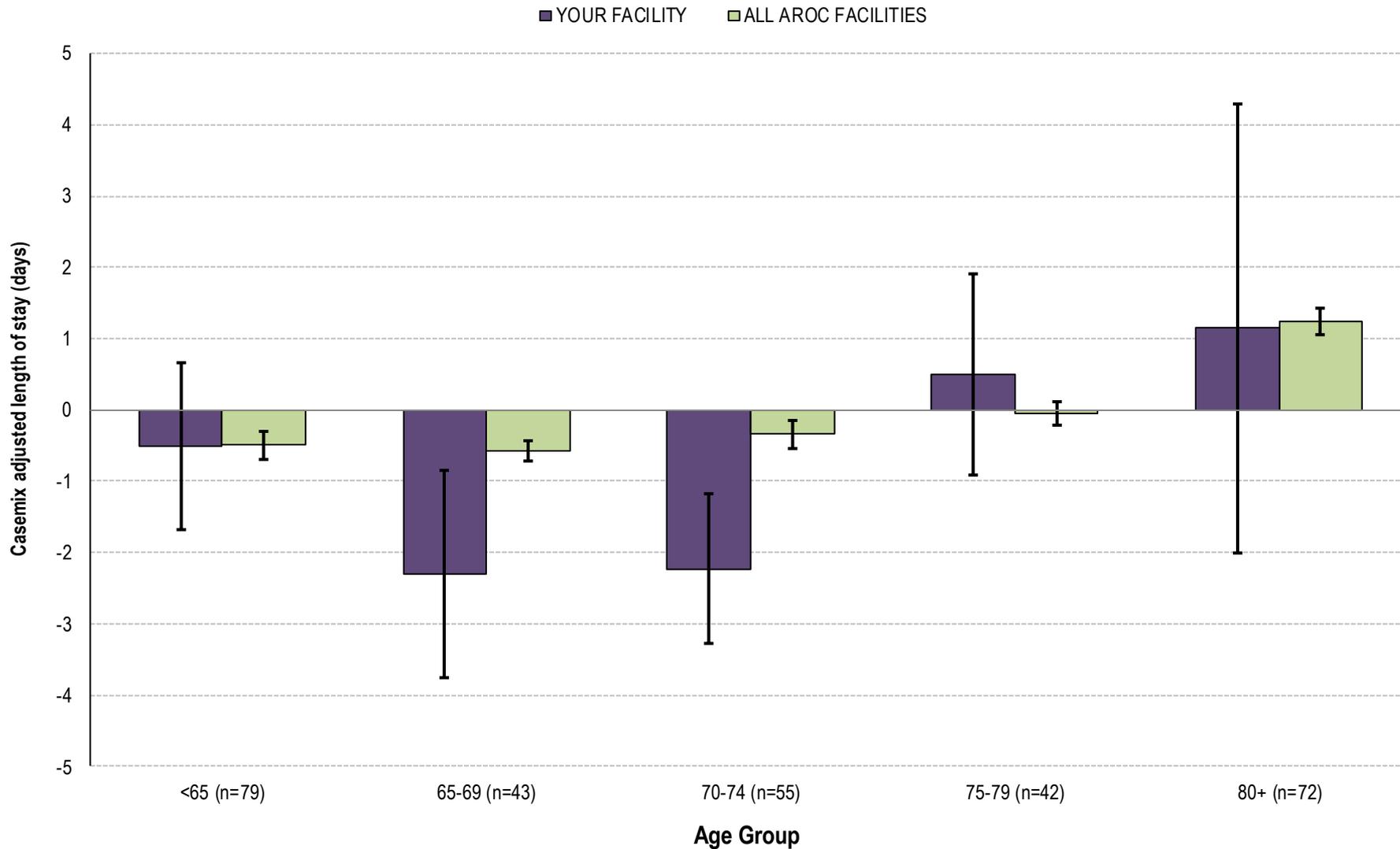


AN-SNAP class V4	YOUR FACILITY				ALL AROC FACILITIES	
	CARMi (95%CI)		Average (95%CI)		Average (95%CI)	
	LOS	FIM change	LOS	FIM change	LOS	FIM change
4A21 (weighted motor 68-91)	-0.3 (-1.0 — 0.4)	0.1 (-0.7 — 0.9)	9.5 (8.8 — 10.2)	11.8 (11.0 — 12.6)	9.8 (9.7 — 9.9)	11.7 (11.6 — 11.7)
4A22 (weighted motor 50-67)	-0.2 (-2.1 — 1.7)	-0.3 (-1.4 — 0.9)	12.5 (10.5 — 14.2)	21.4 (20.2 — 22.5)	12.5 (12.4 — 12.7)	21.6 (21.5 — 21.8)
4A23 (weighted motor 19-49)	-3.7 (-8.4 — 0.9)	-1.0 (-6.5 — 4.4)	17.8 (11.9 — 21.1)	32.7 (26.2 — 37.0)	20.3 (19.8 — 20.8)	32.3 (31.8 — 32.9)
4AZ3 (weighted motor 13-18, Age ≥ 65)	—	—	—	—	21.3 (16.6 — 26.0)	31.8 (20.9 — 42.8)
4AZ4 (weighted motor 13-18, Age ≤ 64)	—	—	—	—	—	—
<b>All Replacement AN-SNAP classes</b>	<b>-0.4 (-1.5 — 0.4)</b>	<b>0.0 (-0.9 — 0.6)</b>	<b>11.5 (10.3 — 12.2)</b>	<b>17.5 (16.2 — 18.3)</b>	<b>11.5 (11.4 — 11.6)</b>	<b>16.8 (16.7 — 16.9)</b>

Impairment	YOUR FACILITY				ALL AROC FACILITIES	
	CARMi (95%CI)		Average (95%CI)		Average (95%CI)	
	LOS	FIM change	LOS	FIM change	LOS	FIM change
8.211 Unilateral hip replacement	-0.1 (-2.4 — 2.3)	0.2 (-1.4 — 1.8)	13.0 (10.3 — 15.0)	20.1 (17.5 — 21.4)	12.0 (11.9 — 12.2)	17.4 (17.2 — 17.6)
8.212 Bilateral hip replacement	—	—	—	—	11.5 (10.8 — 12.3)	15.8 (15.0 — 16.7)
8.221 Unilateral knee replacement	-0.7 (-1.6 — 0.2)	-0.4 (-1.3 — 0.4)	10.8 (9.7 — 11.6)	16.2 (14.9 — 17.4)	11.0 (10.9 — 11.2)	16.3 (16.1 — 16.4)
8.222 Bilateral knee replacement	-0.8 (-2.3 — 0.7)	0.7 (-0.8 — 2.2)	10.2 (9.0 — 11.4)	16.0 (12.9 — 19.1)	11.6 (11.4 — 11.9)	16.8 (16.4 — 17.2)
8.231 Knee and hip replacement, same side	—	—	—	—	14.9 (11.0 — 18.8)	17.3 (13.4 — 21.2)
8.232 Knee and hip replacement, diff sides	—	—	—	—	10.2 (8.0 — 12.4)	14.8 (10.4 — 19.1)
8.24 Shoulder replacement	-1.4 (-4.9 — 2.1)	-0.5 (-4.9 — 4.0)	10.9 (7.3 — 14.6)	17.8 (11.8 — 23.7)	13.7 (13.1 — 14.4)	18.2 (17.6 — 18.8)
<b>All Orthopaedic Replacements</b>	<b>-0.4 (-1.5 — 0.4)</b>	<b>0.0 (-0.9 — 0.6)</b>	<b>11.5 (10.3 — 12.2)</b>	<b>17.5 (16.2 — 18.3)</b>	<b>11.5 (11.4 — 11.6)</b>	<b>16.8 (16.7 — 16.9)</b>

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

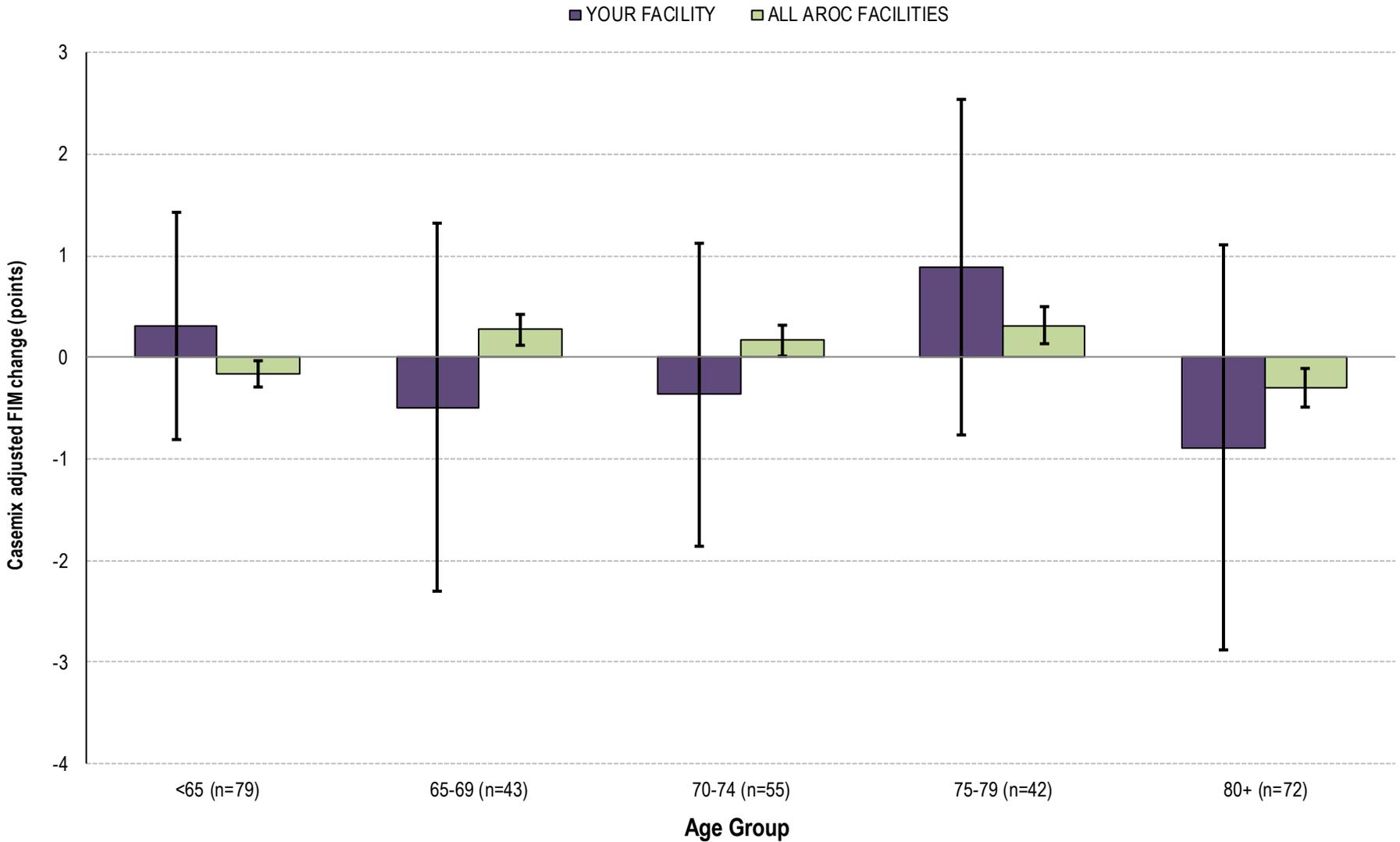
# Casemix-adjusted relative mean LOS by age group\*



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		ALL AROC FACILITIES	
	LOS (95%CI)	FIM change (95%CI)	LOS (95%CI)	FIM change (95%CI)
<65	10.5 (9.2 — 11.8)	15.7 (13.9 — 17.5)	10.3 (10.1 — 10.5)	14.7 (14.5 — 14.9)
65-69	8.8 (7.6 — 10.0)	15.2 (12.6 — 17.8)	10.4 (10.3 — 10.6)	15.7 (15.5 — 15.9)
70-74	9.2 (8.2 — 10.2)	16.4 (14.3 — 18.6)	11.0 (10.8 — 11.2)	16.4 (16.2 — 16.6)
75-79	11.8 (10.4 — 13.2)	17.6 (15.2 — 20.0)	11.8 (11.6 — 12.0)	17.9 (17.6 — 18.1)
80+	14.8 (11.7 — 17.9)	20.6 (18.3 — 22.9)	13.9 (13.7 — 14.1)	19.2 (19.0 — 19.5)

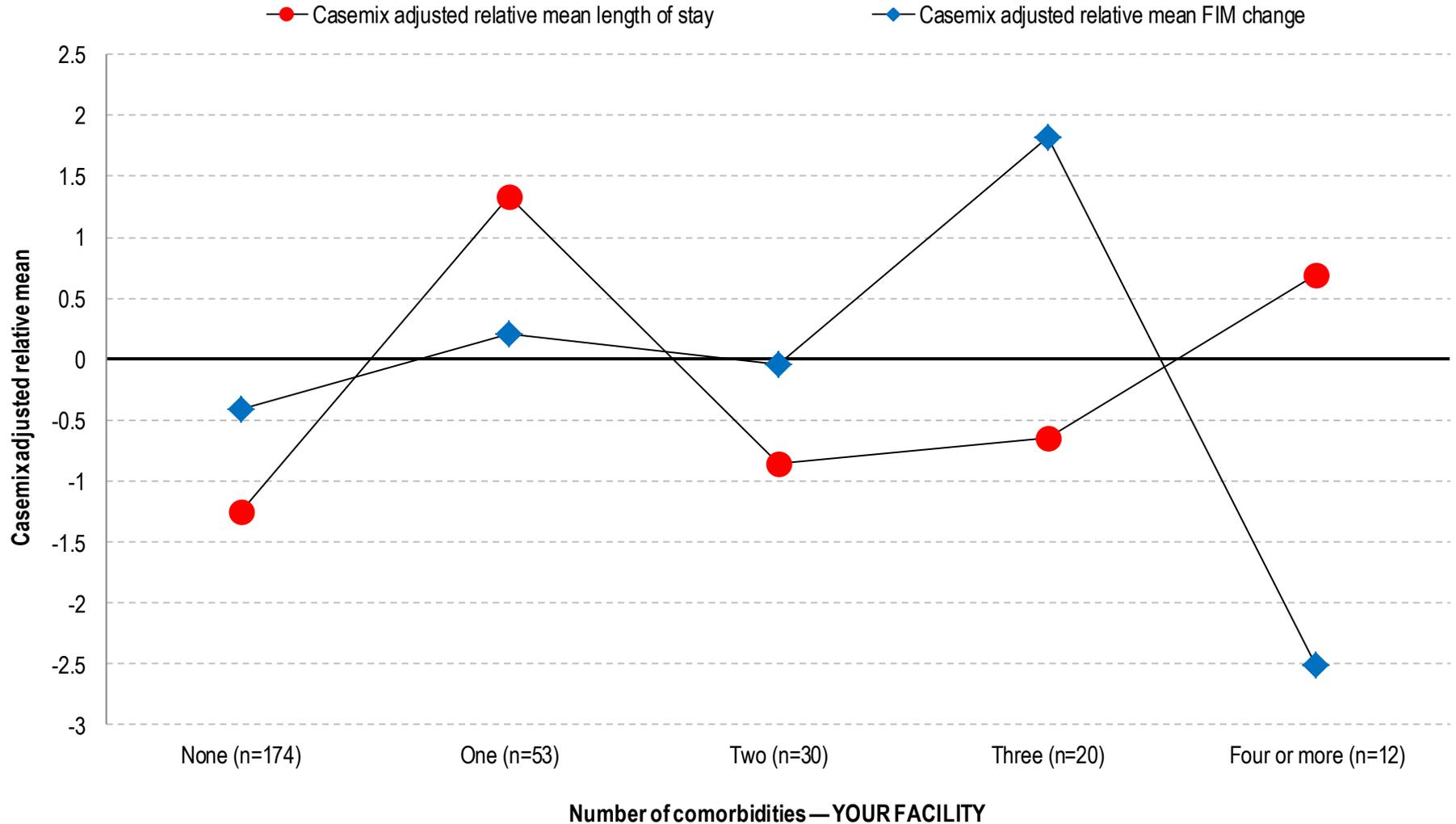
Age group	YOUR FACILITY		ALL AROC FACILITIES	
	CARMI LOS (95%CI)	CARMI FIM change (95%CI)	CARMI LOS (95%CI)	CARMI FIM change (95%CI)
<65	-0.5 (-1.7 — 0.7)	0.3 (-0.8 — 1.4)	-0.5 (-0.7 — -0.3)	-0.2 (-0.3 — 0.0)
65-69	-2.3 (-3.7 — -0.9)	-0.5 (-2.3 — 1.3)	-0.6 (-0.7 — -0.4)	0.3 (0.1 — 0.4)
70-74	-2.2 (-3.3 — -1.2)	-0.4 (-1.9 — 1.1)	-0.3 (-0.5 — -0.1)	0.2 (0.0 — 0.3)
75-79	0.5 (-0.9 — 1.9)	0.9 (-0.8 — 2.5)	-0.1 (-0.2 — 0.1)	0.3 (0.1 — 0.5)
80+	1.2 (-2.0 — 4.3)	-0.9 (-2.9 — 1.1)	1.2 (1.1 — 1.4)	-0.3 (-0.5 — -0.1)

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

\*Approximately 20% total population per age group

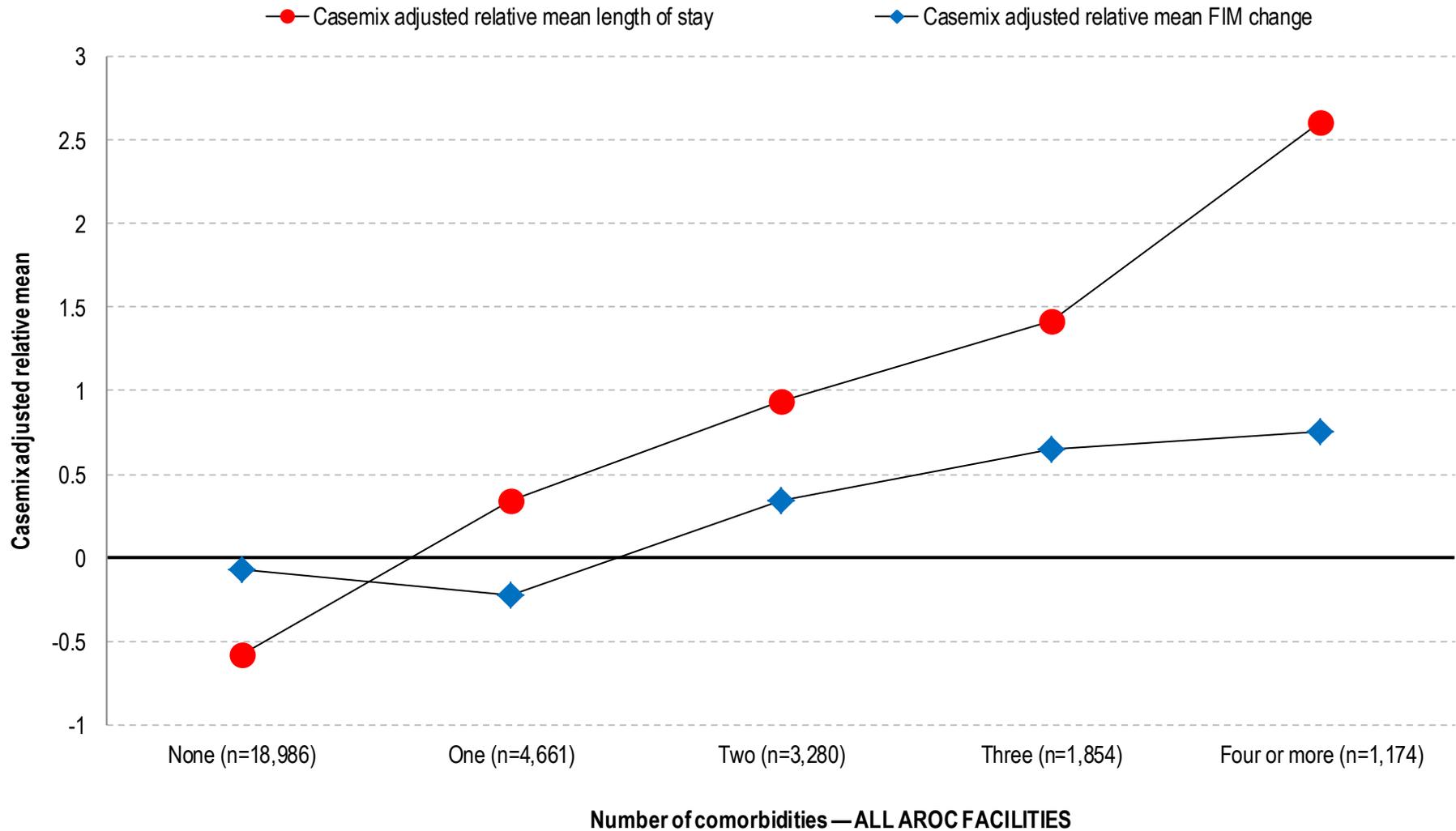
# Explanatory data

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

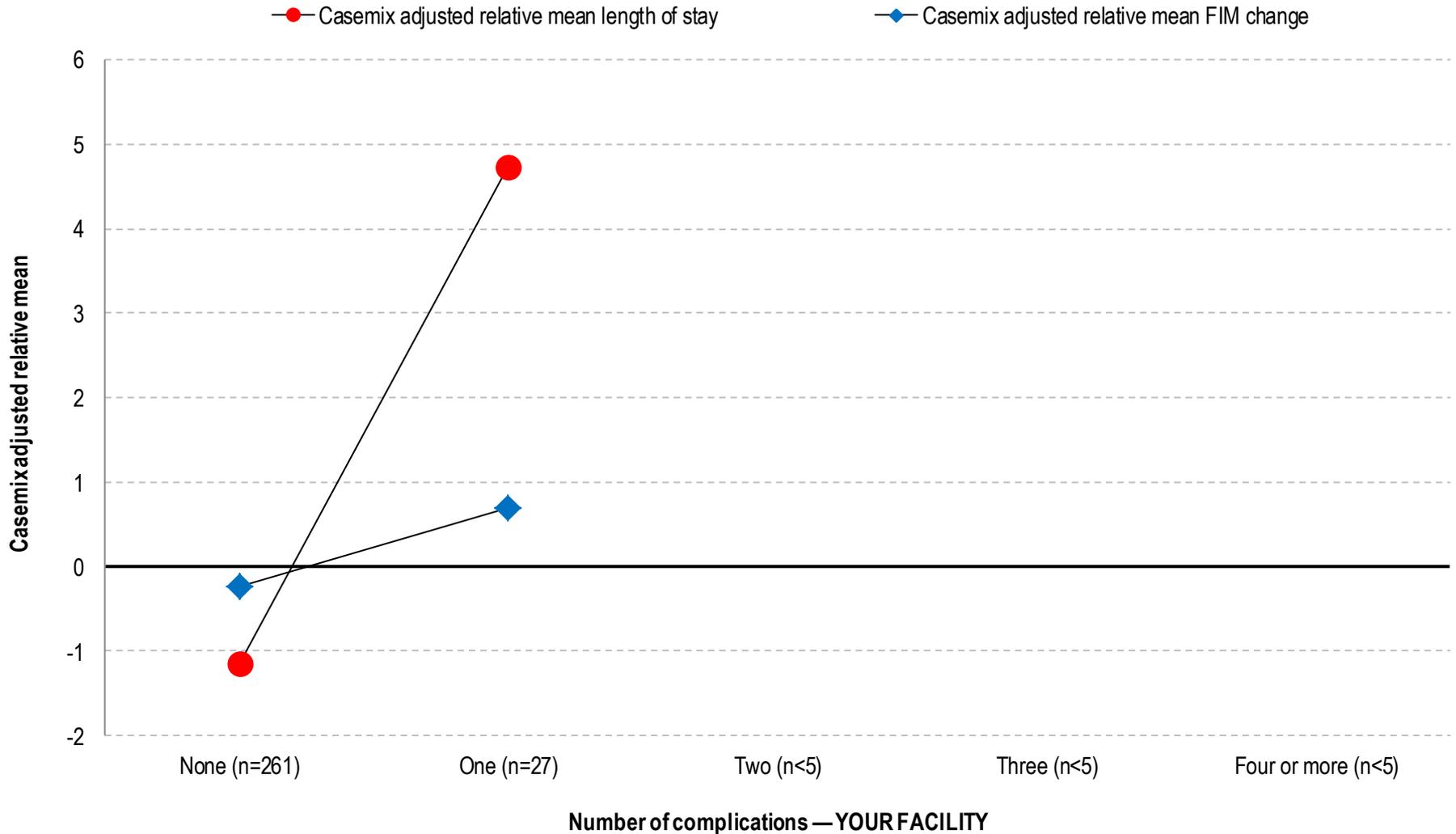


NOTE: Includes only completed episodes with valid FIM scores and LOS; where n<5 the casemix-adjusted relative mean will not be shown



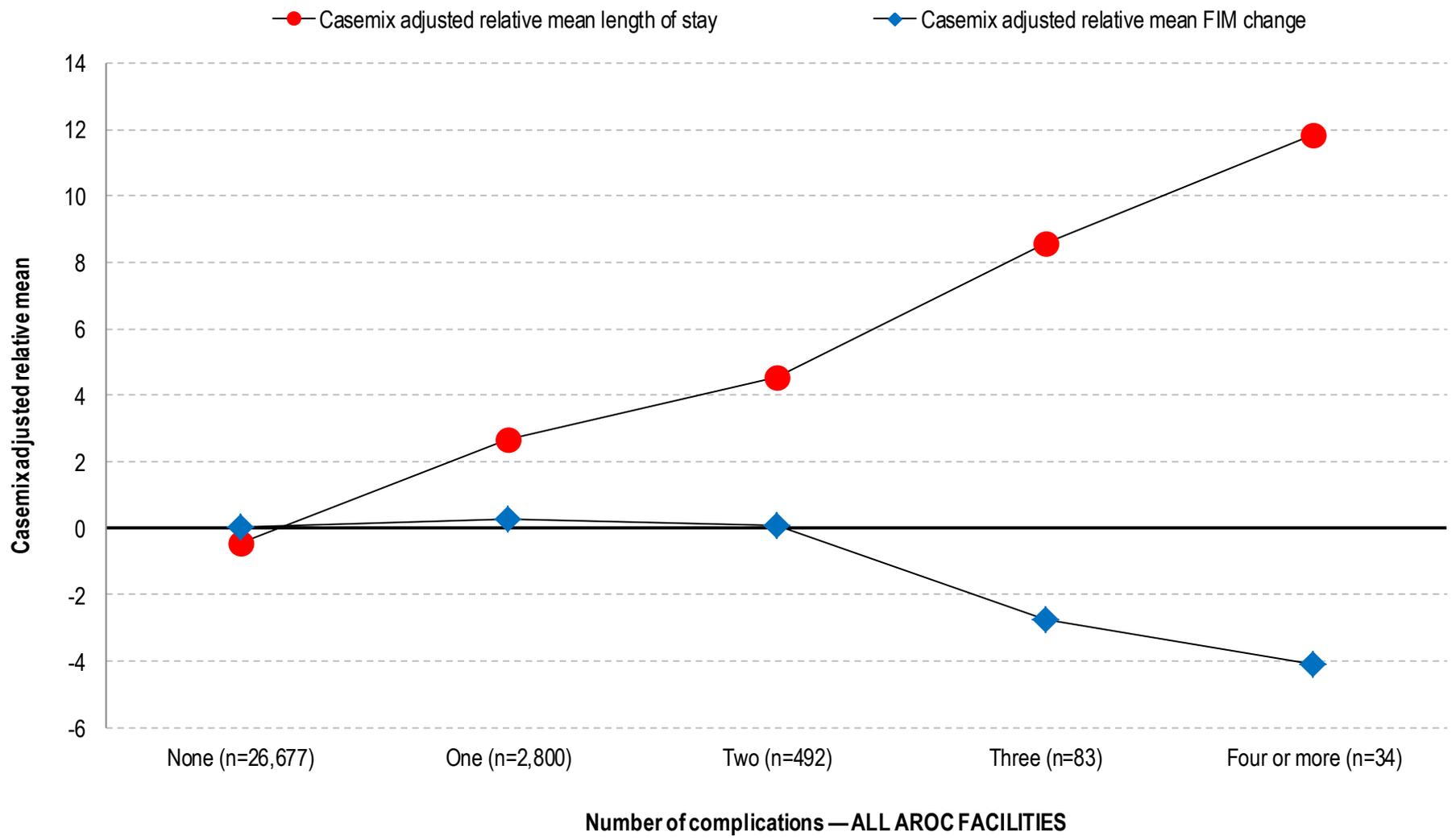


# Casemix-adjusted relative mean LOS and FIM change by number of complications



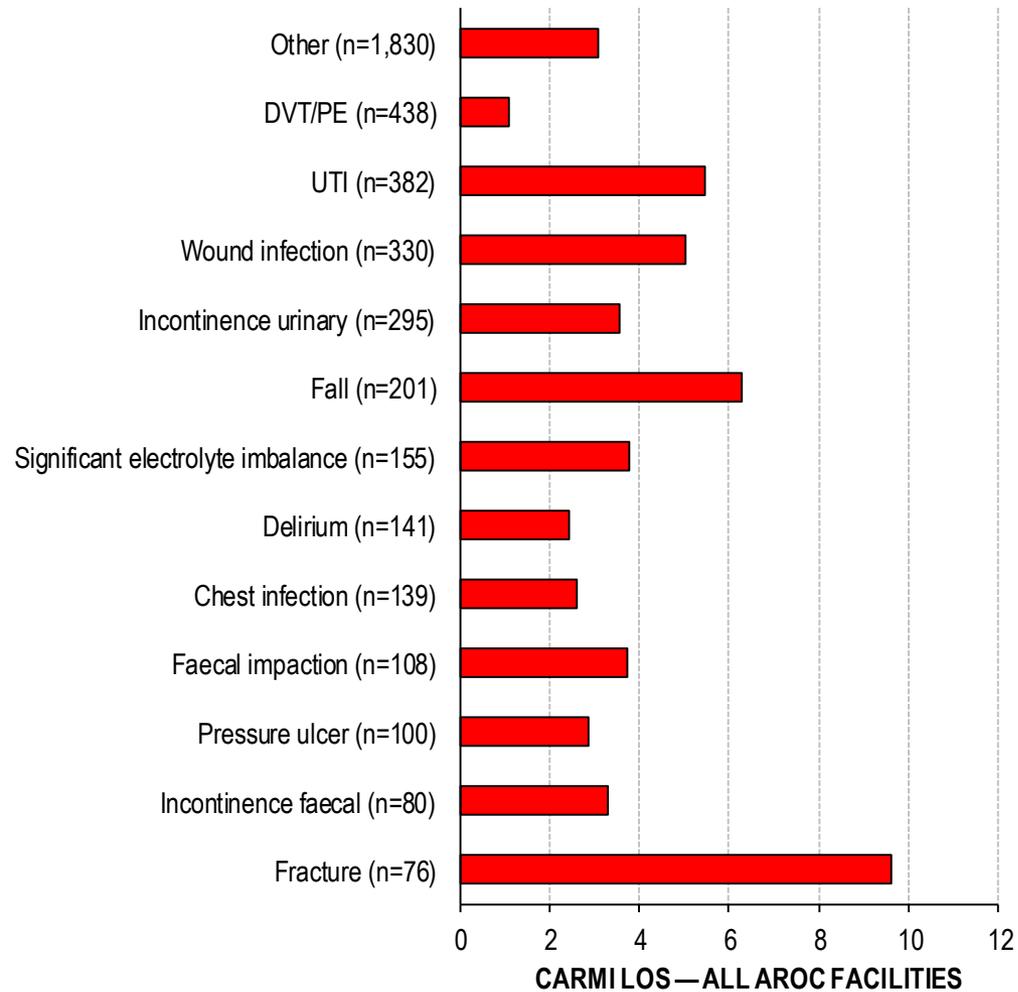
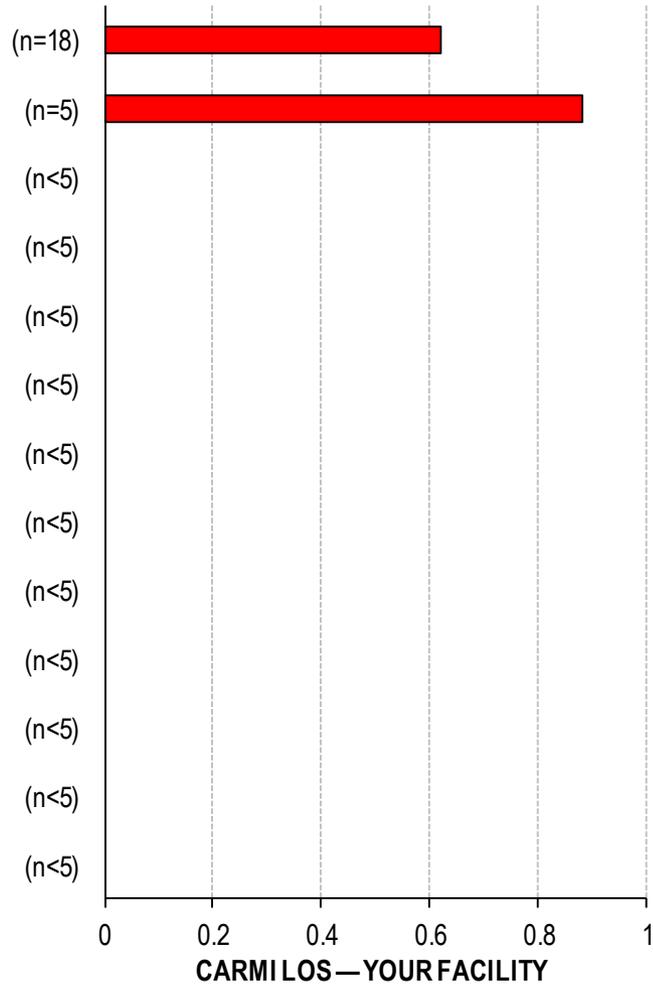
NOTE: Includes only completed episodes with valid FIM scores and LOS; where n<5 the casemix-adjusted relative mean will not be shown

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



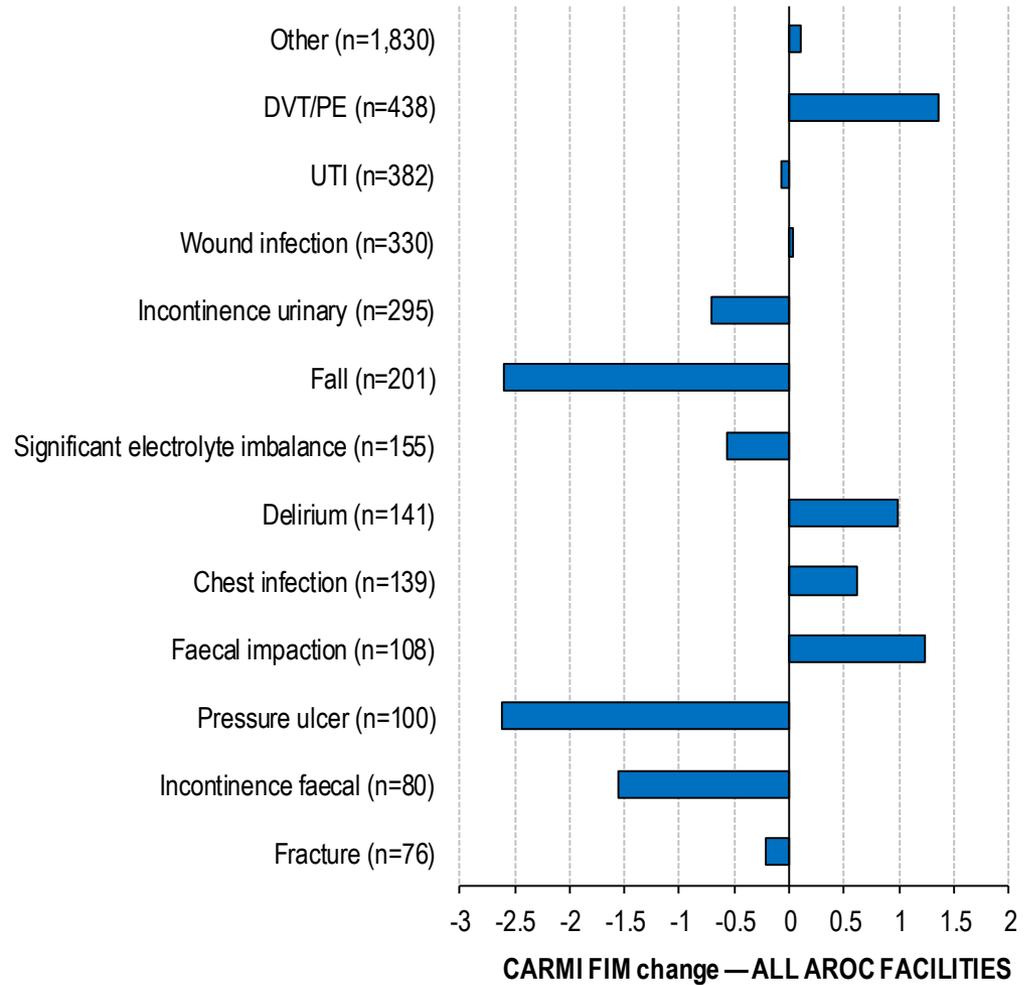
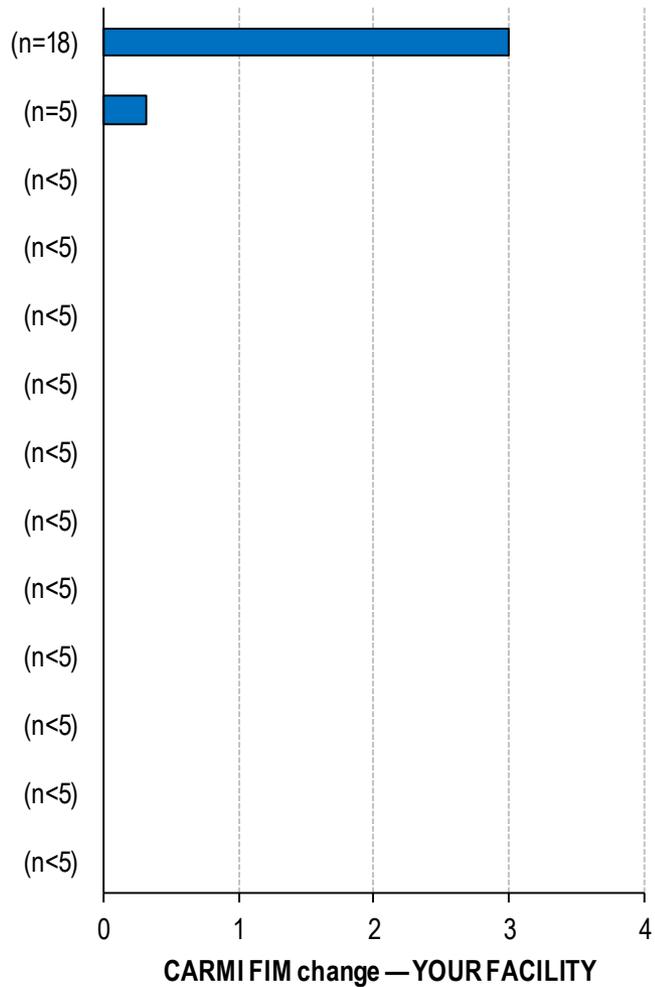
NOTE: Includes only completed episodes with valid FIM scores and LOS; where n<5 the casemix-adjusted relative mean will not be shown

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



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

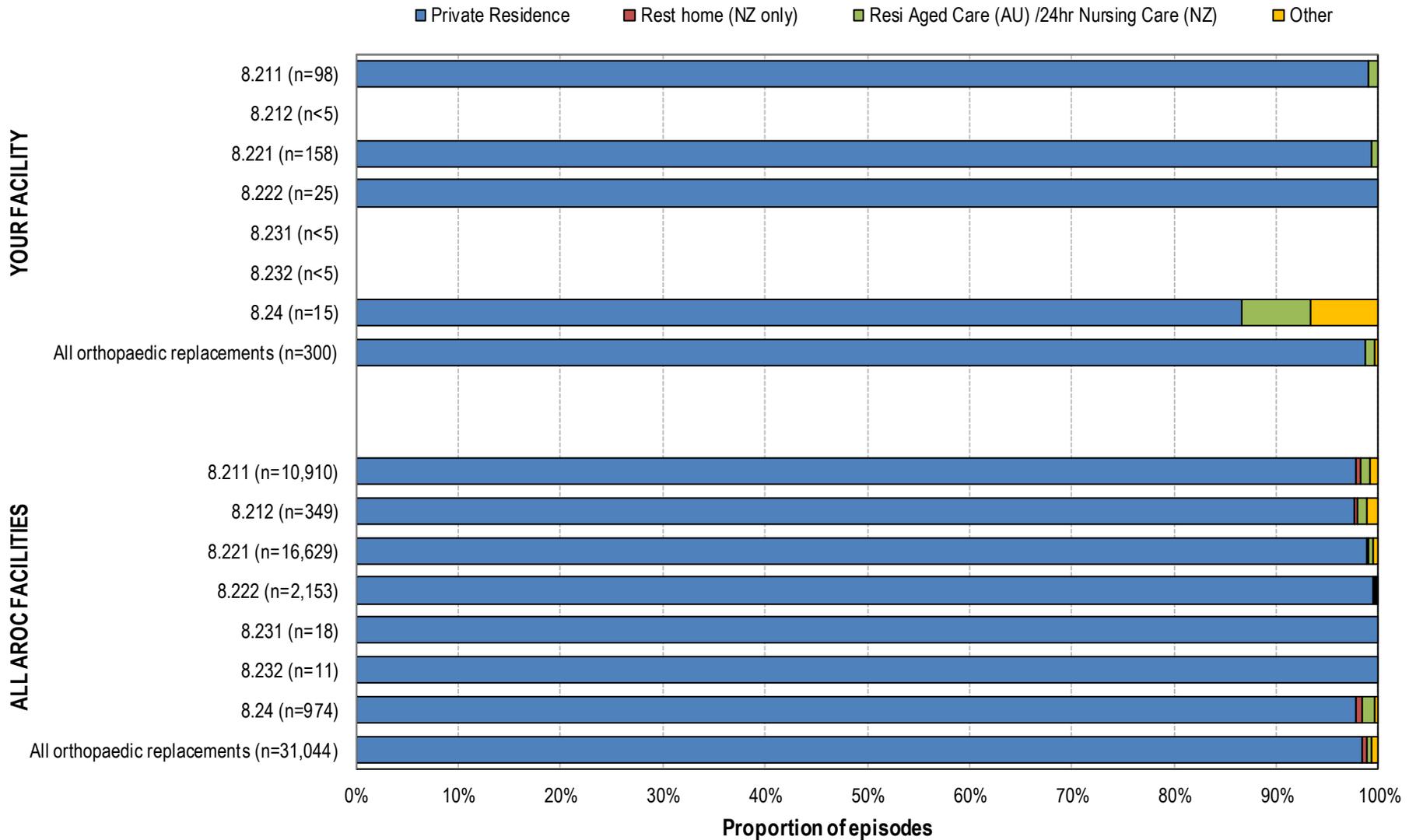
# Casemix-adjusted relative mean FIM change by type of complication



\* No data included where number of episodes <5

NOTE: Includes only completed episodes with valid FIM scores

# Type of accommodation prior to impairment



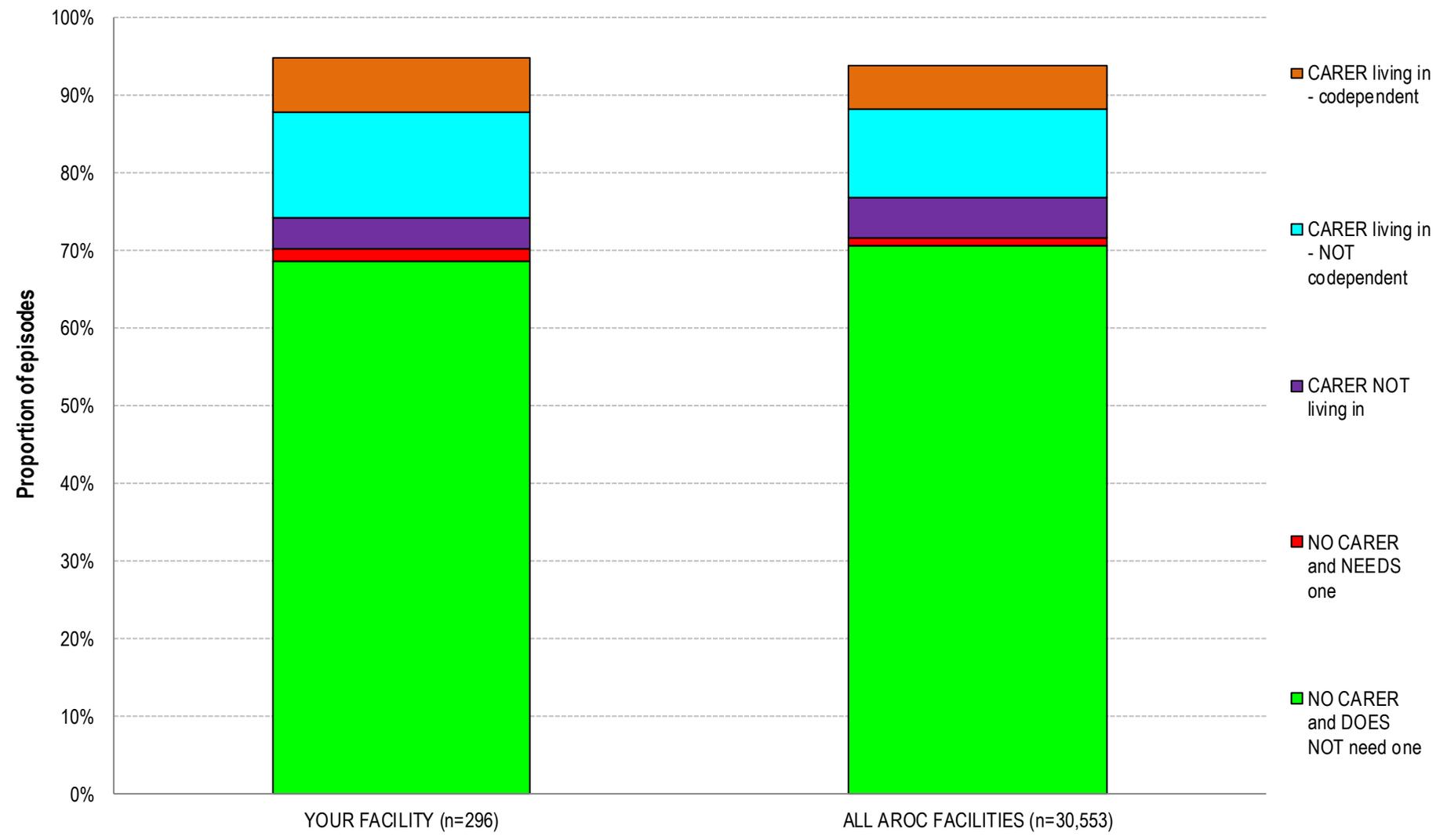
# Type of accommodation prior to impairment



Impairment	YOUR FACILITY — N (%)					All episodes
	Private residence	Rest Home	24hr nursing care	Other	Unknown	
8.211 Unilateral hip replacement	97 (99.0%)	0 (0.0%)	1 (1.0%)	0 (0.0%)	0	98 (100.0%)
8.212 Bilateral hip replacement	4 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0	4 (100.0%)
8.221 Unilateral knee replacement	157 (99.4%)	0 (0.0%)	1 (0.6%)	0 (0.0%)	0	158 (100.0%)
8.222 Bilateral knee replacement	25 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0	25 (100.0%)
8.231 Knee and hip replacement, same side	0 —	0 —	0 —	0 —	0	0 —
8.232 Knee and hip replacement, diff sides	0 —	0 —	0 —	0 —	0	0 —
8.24 Shoulder replacement	13 (86.7%)	0 (0.0%)	1 (6.7%)	1 (6.7%)	0	15 (100.0%)
<b>All Orthopaedic Replacements</b>	<b>296 (98.7%)</b>	<b>0 (0.0%)</b>	<b>3 (1.0%)</b>	<b>1 (0.3%)</b>	<b>0</b>	<b>300 (100.0%)</b>

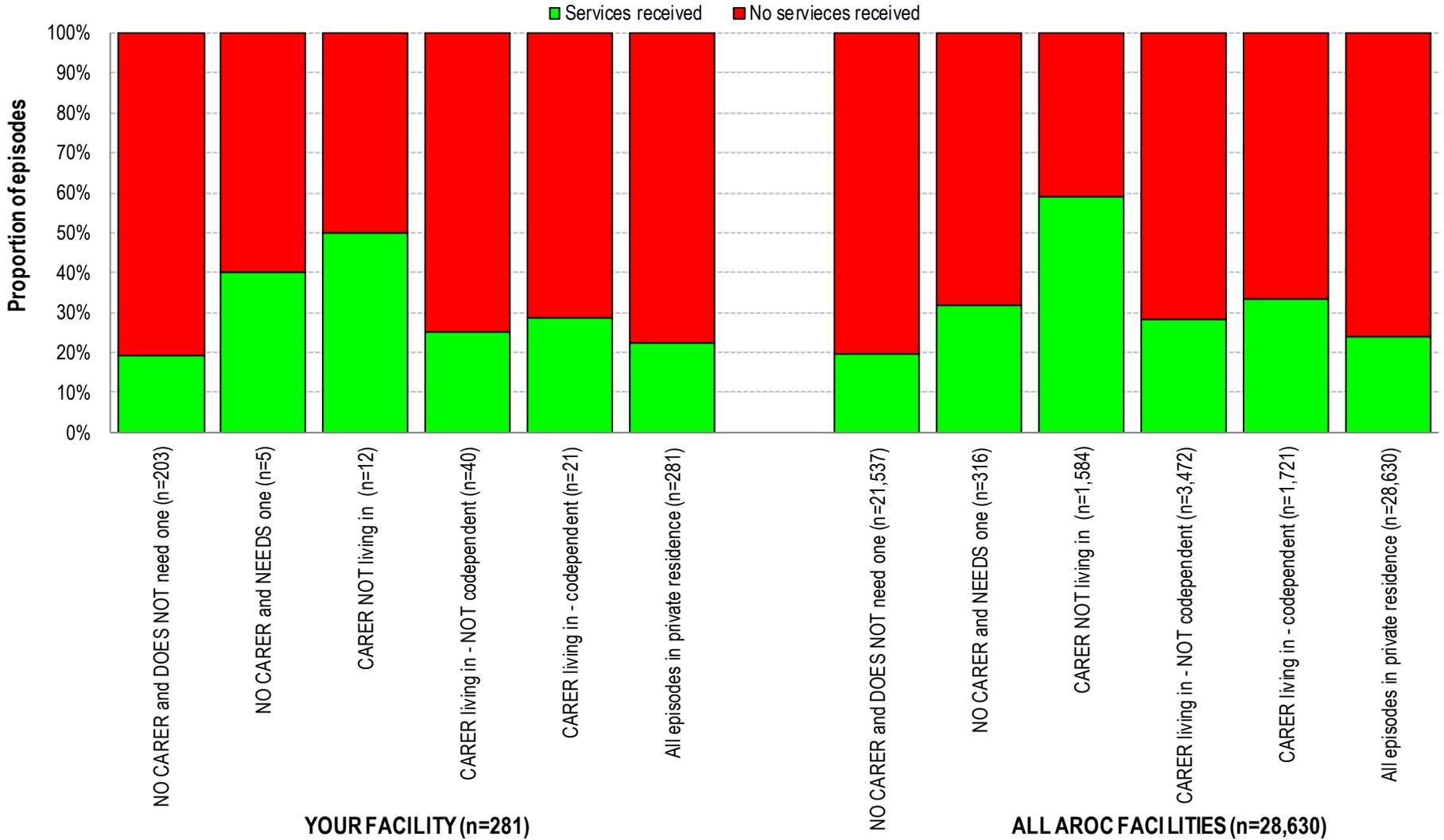
Impairment	ALL AROC FACILITIES — N (%)					All episodes
	Private residence	Rest Home (NZ only)	Resi Aged Care (AU) / 24hr nursing care (NZ)	Other	Unknown	
8.211 Unilateral hip replacement	10,661 (97.6%)	63 (0.6%)	94 (0.9%)	92 (0.8%)	10	10,920 (100.0%)
8.212 Bilateral hip replacement	341 (97.7%)	1 (0.3%)	3 (0.9%)	4 (1.1%)	0	349 (100.0%)
8.221 Unilateral knee replacement	16,428 (98.7%)	42 (0.3%)	74 (0.4%)	85 (0.5%)	11	16,640 (100.0%)
8.222 Bilateral knee replacement	2,141 (99.4%)	4 (0.2%)	2 (0.1%)	6 (0.3%)	0	2,153 (100.0%)
8.231 Knee and hip replacement, same side	18 (94.7%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1	19 (100.0%)
8.232 Knee and hip replacement, diff sides	11 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0	11 (100.0%)
8.24 Shoulder replacement	953 (97.7%)	6 (0.6%)	11 (1.1%)	4 (0.4%)	1	975 (100.0%)
<b>All Orthopaedic Replacements</b>	<b>30,553 (98.3%)</b>	<b>116 (0.4%)</b>	<b>184 (0.6%)</b>	<b>191 (0.6%)</b>	<b>23</b>	<b>31,067 (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

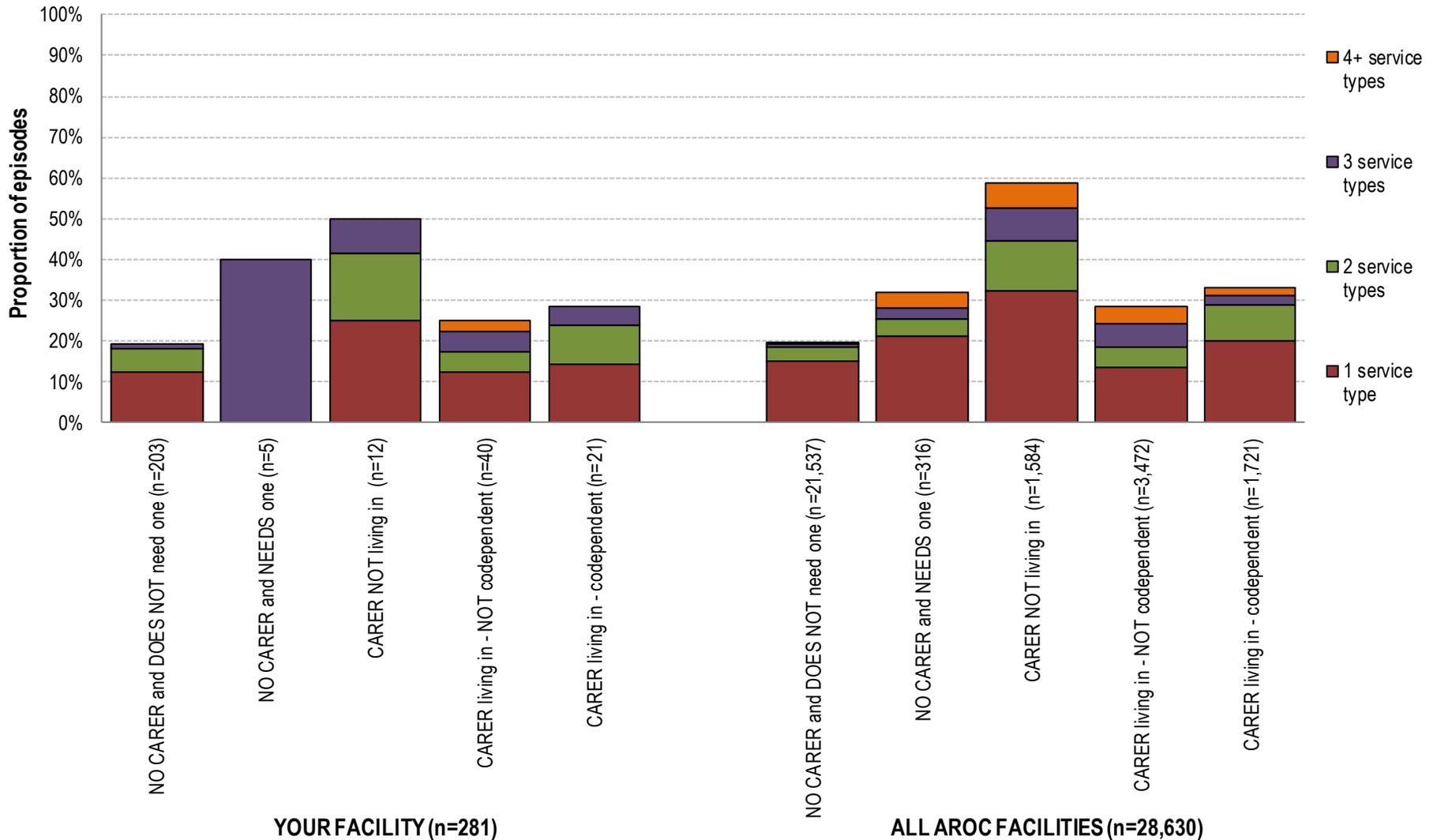


Carer status prior to this impairment	YOUR FACILITY		ALL AROC FACILITIES	
	No.	%	No.	%
NO CARER and DOES NOT need one	203	72.2	21,563	75.2
NO CARER and NEEDS one	5	1.8	316	1.1
CARER NOT living in	12	4.3	1,587	5.5
CARER living in - NOT codependent	40	14.2	3,482	12.1
CARER living in - codependent	21	7.5	1,724	6.0
Missing	15		1,881	
<b>All episodes in private residence</b>	<b>296</b>	<b>100.0</b>	<b>30,553</b>	<b>100.0</b>

Carer status prior to this impairment	Any services received prior to this impairment?			
	YOUR FACILITY		ALL AROC FACILITIES	
	Yes (%)	No (%)	Yes (%)	No (%)
NO CARER and DOES NOT need one	19.2	80.8	19.6	80.4
NO CARER and NEEDS one	40.0	60.0	32.0	68.0
CARER NOT living in	50.0	50.0	58.9	41.1
CARER living in - NOT codependent	25.0	75.0	28.4	71.6
CARER living in - codependent	28.6	71.4	33.2	66.8
<b>All episodes in private residence</b>	<b>22.4</b>	<b>77.6</b>	<b>23.8</b>	<b>76.2</b>

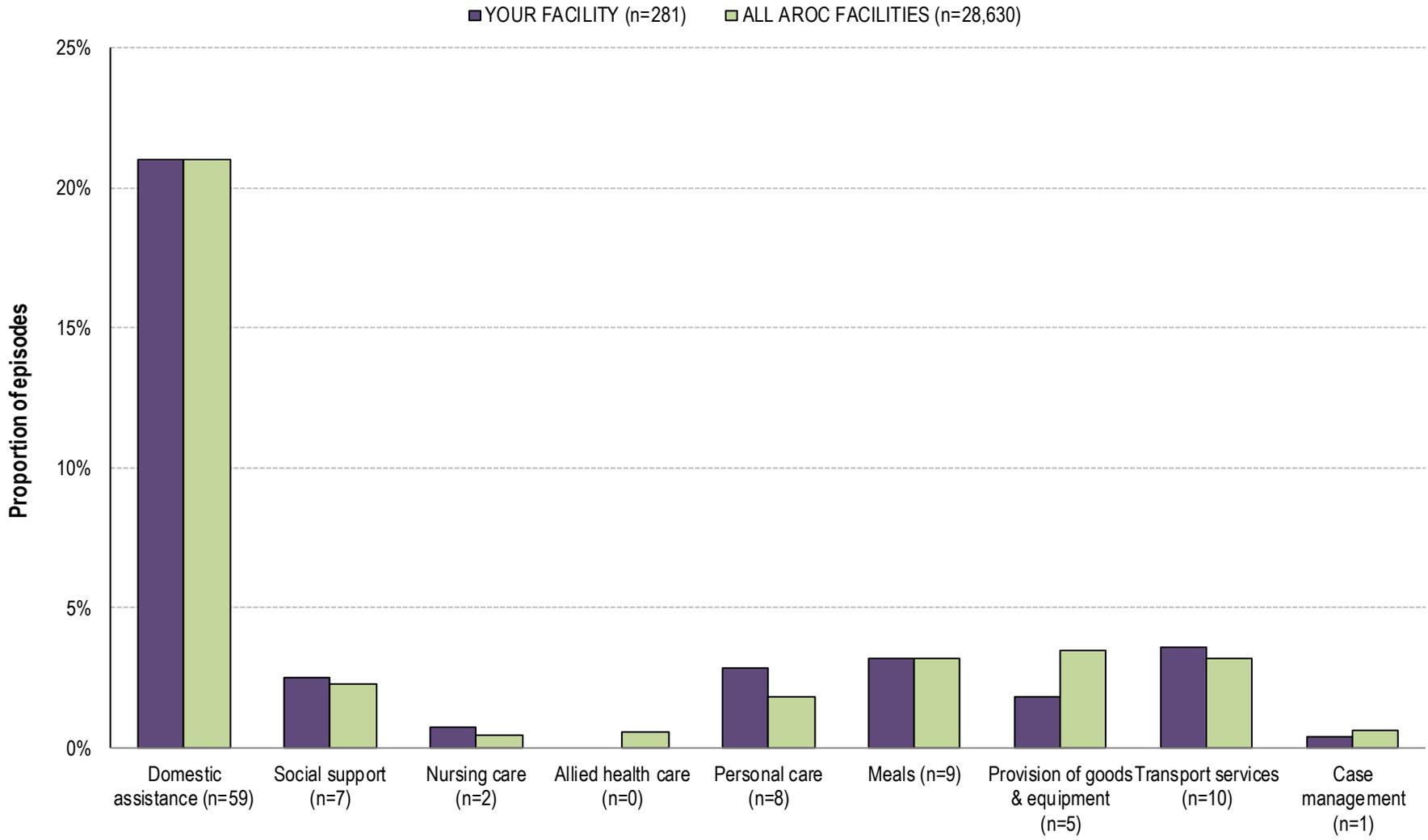
NOTE: Includes only those episodes coming from private residence and with known carer status

# Number of services received prior to impairment by carer status



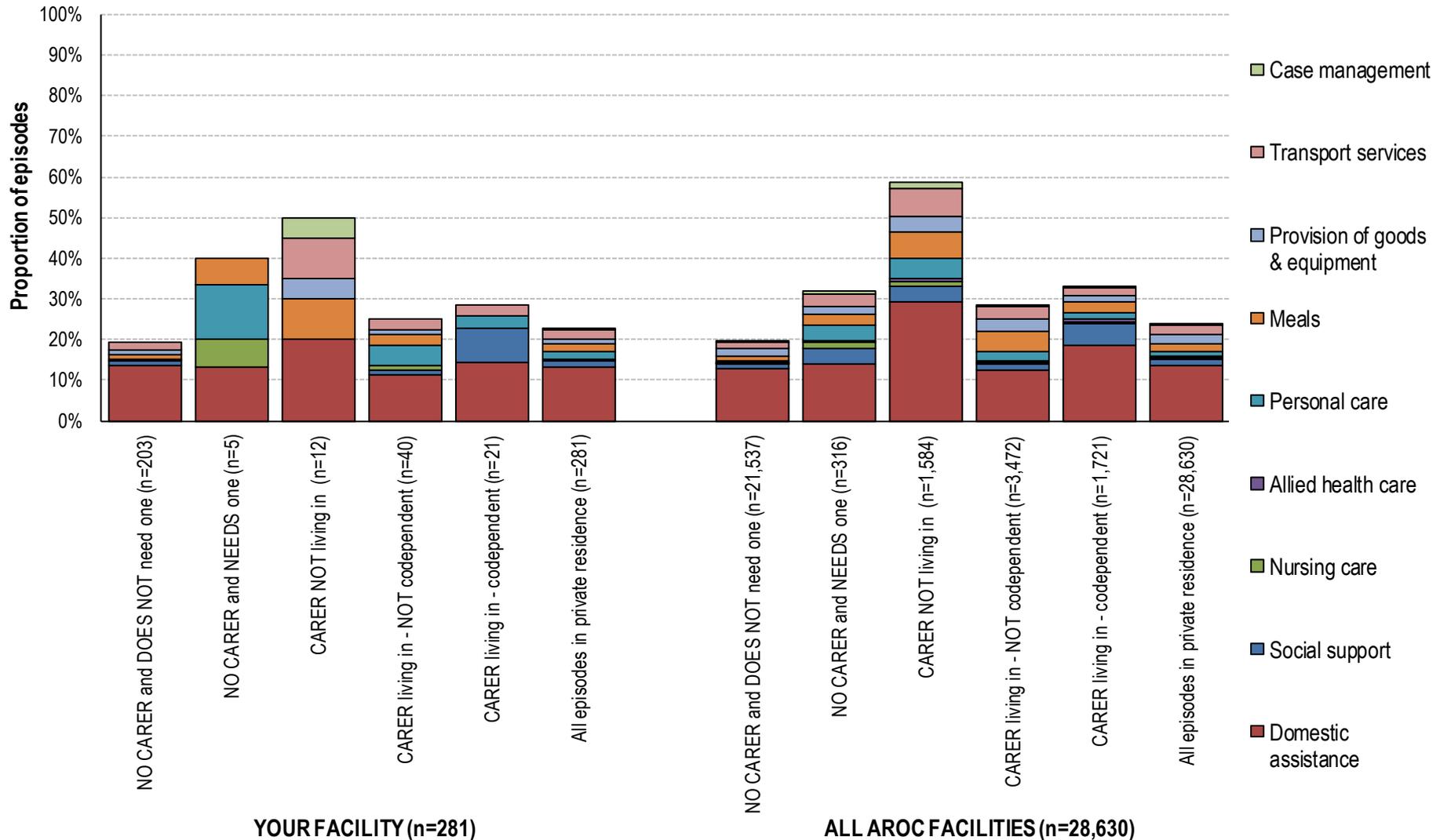
NOTE: Includes only those episodes coming from private residence and with known carer status and known services status

# 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



Services received prior to this impairment (NOTE: Accommodation prior is private residence)	Carer status prior to discharge - YOUR FACILITY						All episodes in private residence
	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	203	5	12	40	21	<b>281</b>	
<b>Percent of episodes receiving:</b>							
No services	80.8	60.0	50.0	75.0	71.4	<b>77.6</b>	
1 service type	12.3	0.0	25.0	12.5	14.3	<b>12.8</b>	
2 service types	5.9	0.0	16.7	5.0	9.5	<b>6.4</b>	
3 service types	1.0	40.0	8.3	5.0	4.8	<b>2.8</b>	
4 or more service types	0.0	0.0	0.0	2.5	0.0	<b>0.4</b>	
<b>Service Type received</b>							
Domestic assistance	19.2	40.0	33.3	22.5	23.8	<b>21.0</b>	
Social support	1.5	0.0	0.0	2.5	14.3	<b>2.5</b>	
Nursing care	0.0	20.0	0.0	2.5	0.0	<b>0.7</b>	
Allied health care	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>	
Personal care	0.5	40.0	0.0	10.0	4.8	<b>2.8</b>	
Meals	2.0	20.0	16.7	5.0	0.0	<b>3.2</b>	
Provision of goods & equipment	1.5	0.0	8.3	2.5	0.0	<b>1.8</b>	
Transport services	2.5	0.0	16.7	5.0	4.8	<b>3.6</b>	
Case management	0.0	0.0	8.3	0.0	0.0	<b>0.4</b>	

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

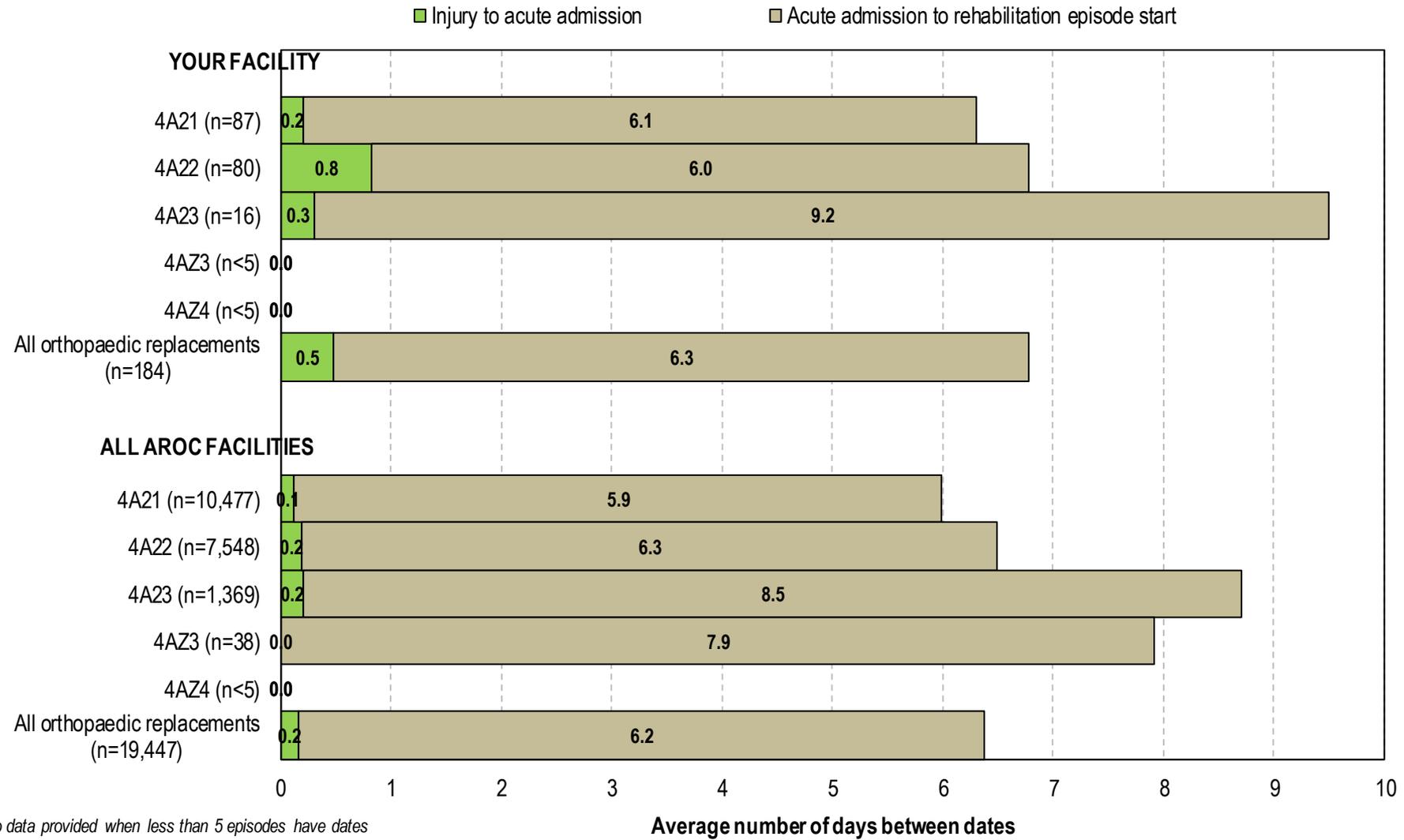
# Number and type of services received prior to impairment by carer status



Services received prior to this impairment (NOTE: Accommodation prior is private residence)	Carer status prior to discharge - ALL AROC FACILITIES					
	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	21,537	316	1,584	3,472	1,721	<b>28,630</b>
<b>Percent of episodes receiving:</b>						
No services	80.4	68.0	41.1	71.6	66.8	<b>76.2</b>
1 service type	15.2	21.2	32.3	13.4	20.0	<b>16.3</b>
2 service types	3.2	4.4	12.4	5.1	8.8	<b>4.3</b>
3 service types	0.9	2.5	7.8	5.6	2.6	<b>2.0</b>
4 or more service types	0.3	3.8	6.4	4.2	1.9	<b>1.2</b>
<b>Service Type received</b>						
Domestic assistance	16.9	25.3	54.4	26.0	30.2	<b>21.0</b>
Social support	1.1	7.0	7.4	3.5	8.7	<b>2.3</b>
Nursing care	0.2	2.5	1.8	0.7	0.7	<b>0.4</b>
Allied health care	0.4	0.6	1.5	0.7	0.8	<b>0.5</b>
Personal care	0.6	7.3	9.6	4.5	2.7	<b>1.8</b>
Meals	1.2	4.7	11.8	10.8	4.3	<b>3.2</b>
Provision of goods & equipment	2.8	3.2	7.5	6.3	2.3	<b>3.4</b>
Transport services	1.9	5.7	12.6	6.3	3.4	<b>3.2</b>
Case management	0.4	1.3	3.2	0.7	0.7	<b>0.6</b>

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



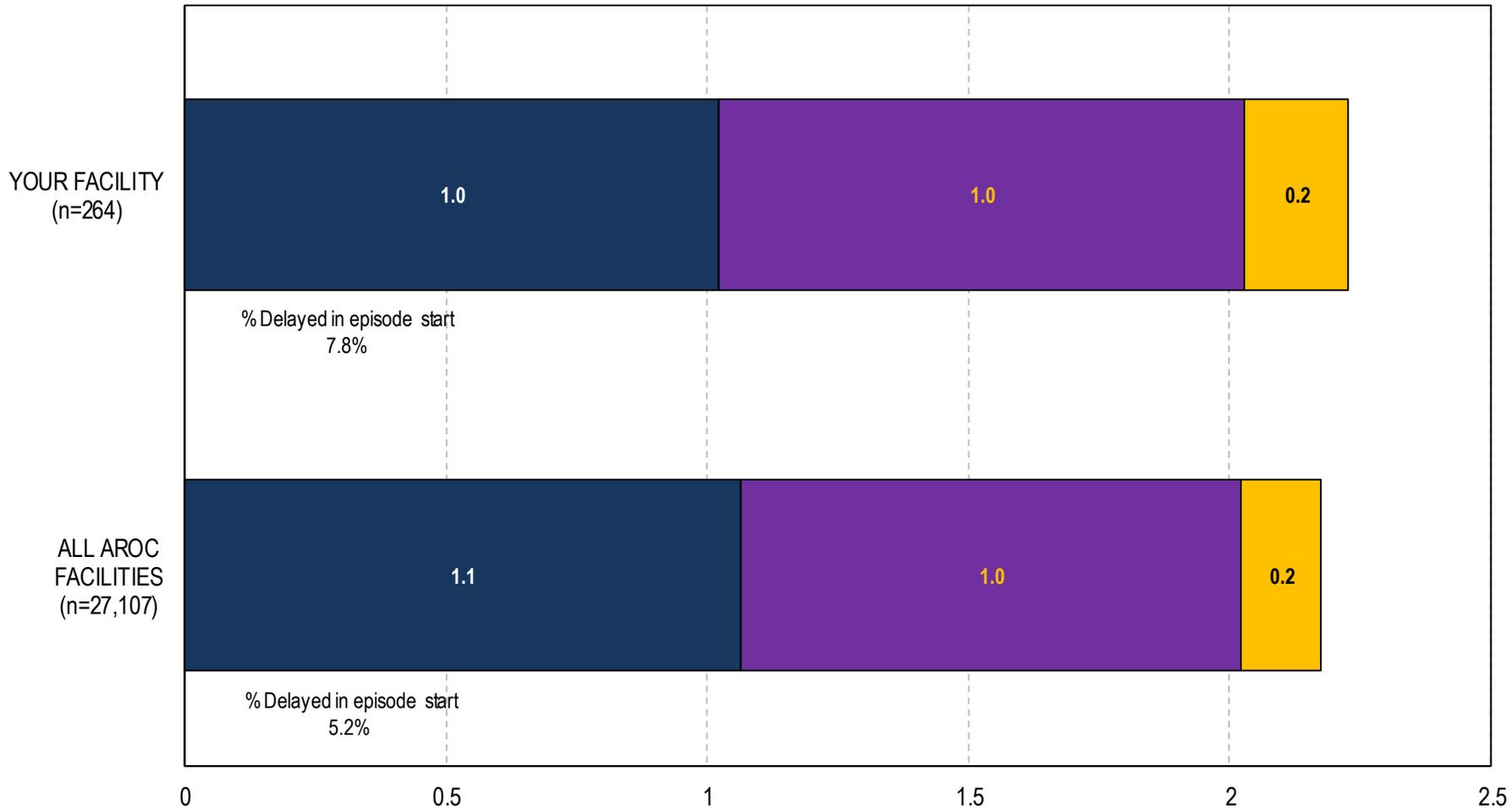
\*No data provided when less than 5 episodes have dates

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

# Days from referral to rehabilitation episode start



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

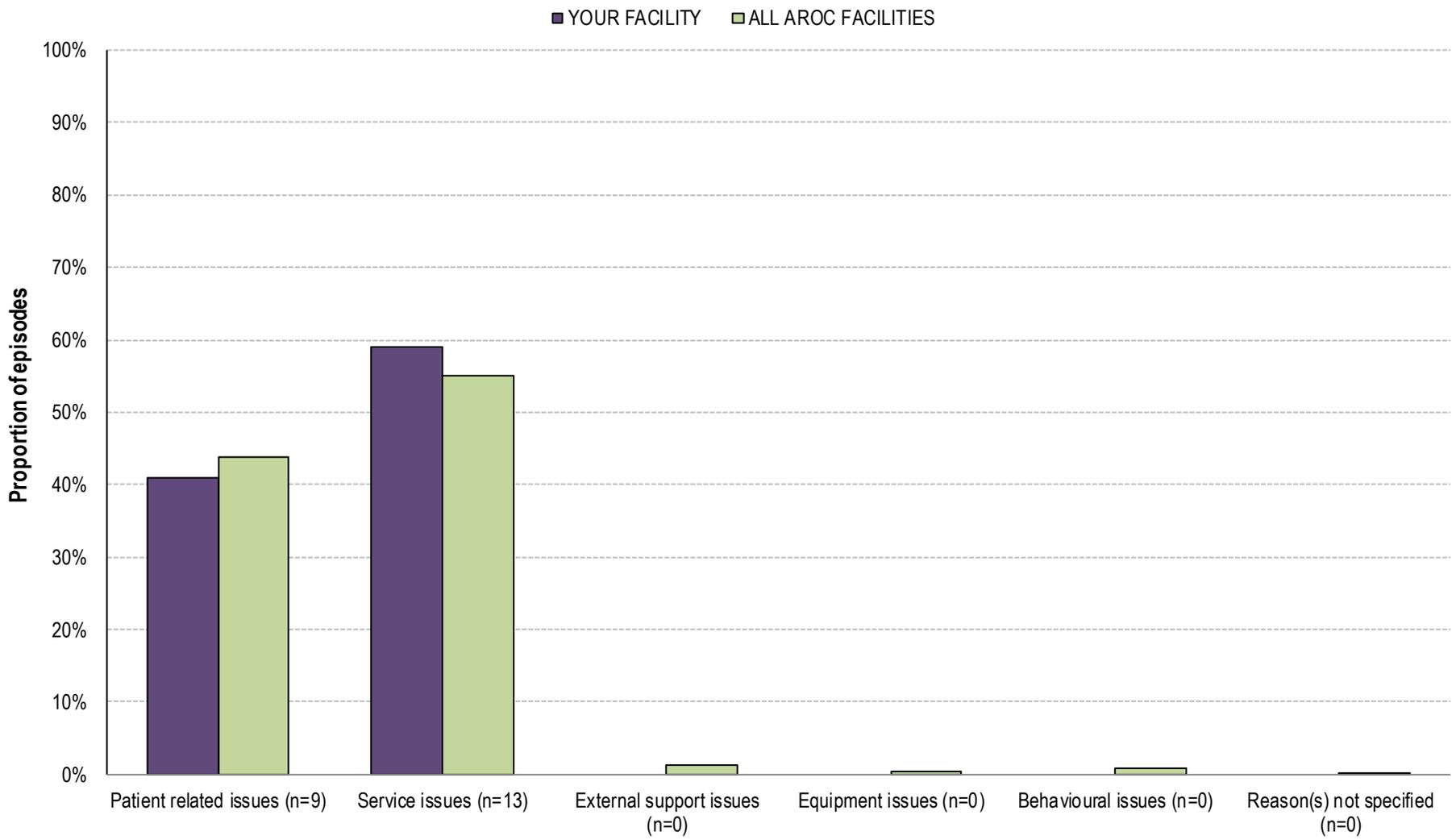


\*No data provided when less than 5 episodes have dates

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

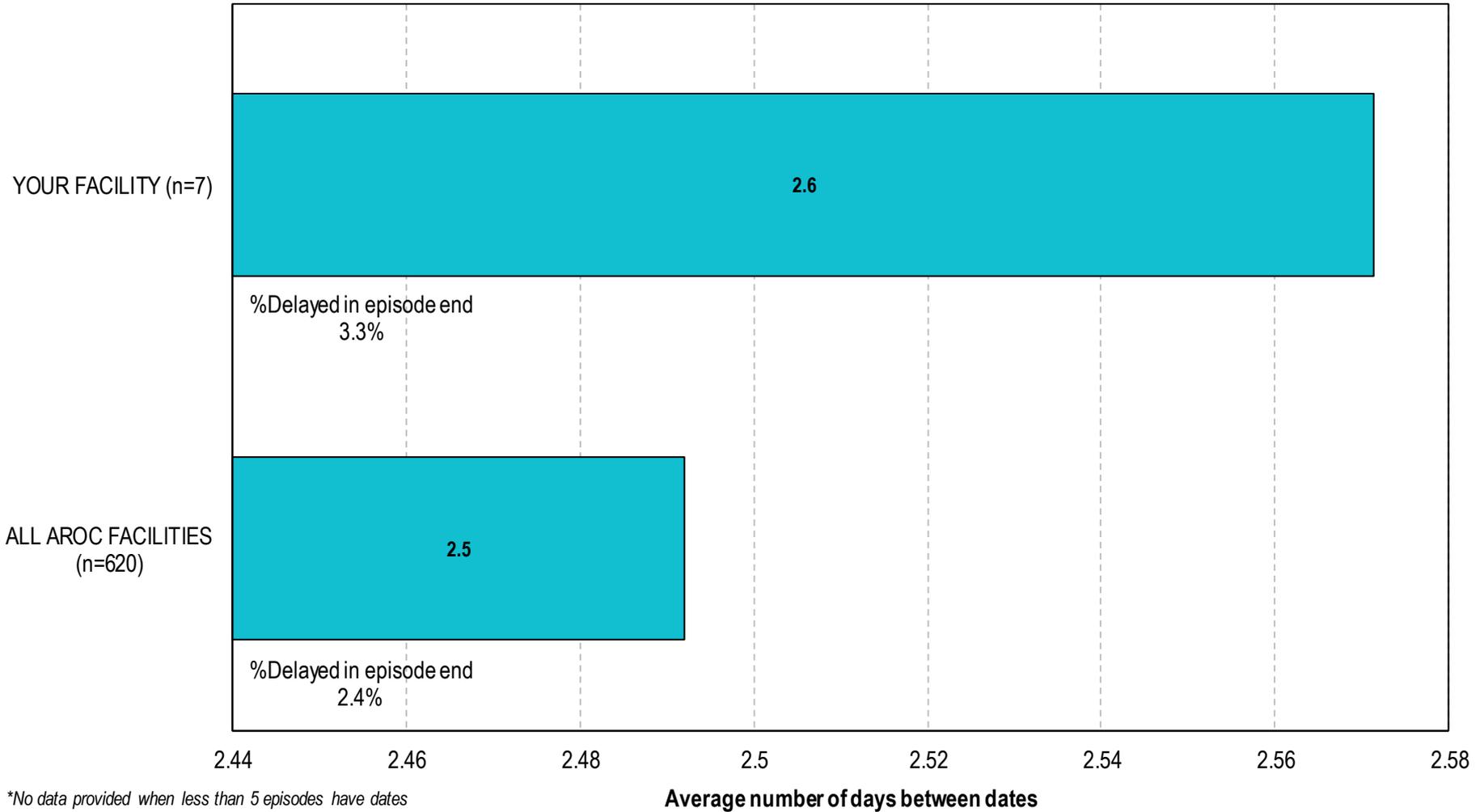
Delay in episode start	YOUR FACILITY		ALL AROC FACILITIES	
	No.	%	No.	%
No delay	261	92.2	27,542	94.8
Delay in episode start	22	7.8	1,505	5.2
Missing	17		2,020	
<b>All episodes</b>	<b>300</b>	<b>100.0</b>	<b>31,067</b>	<b>100.0</b>

Reasons for delay in episode start	YOUR FACILITY		ALL AROC FACILITIES	
	No.	%	No.	%
Patient related issues	9	40.9	659	43.8
Service issues	13	59.1	830	55.1
External support issues	0	0.0	20	1.3
Equipment issues	0	0.0	4	0.3
Behavioural issues	0	0.0	12	0.8
Reason(s) not specified	0	0.0	1	0.1

# Days from clinically ready to discharge



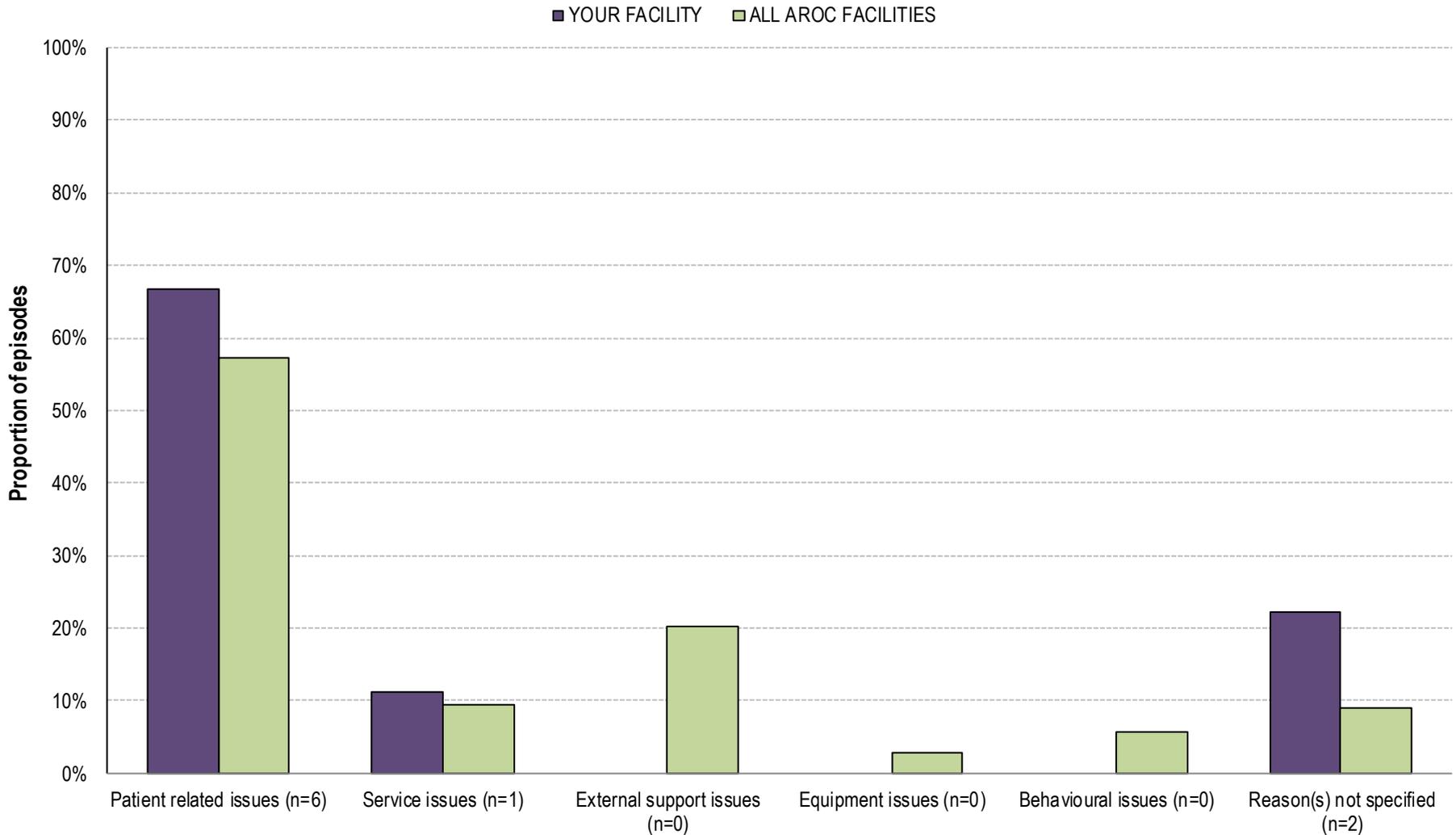
■ Clinically ready for discharge to episode end (where a delay was reported)



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

NOTE: Includes completed episodes with a delay in discharge

# Type of delay in episode end



NOTE: Includes completed episodes only

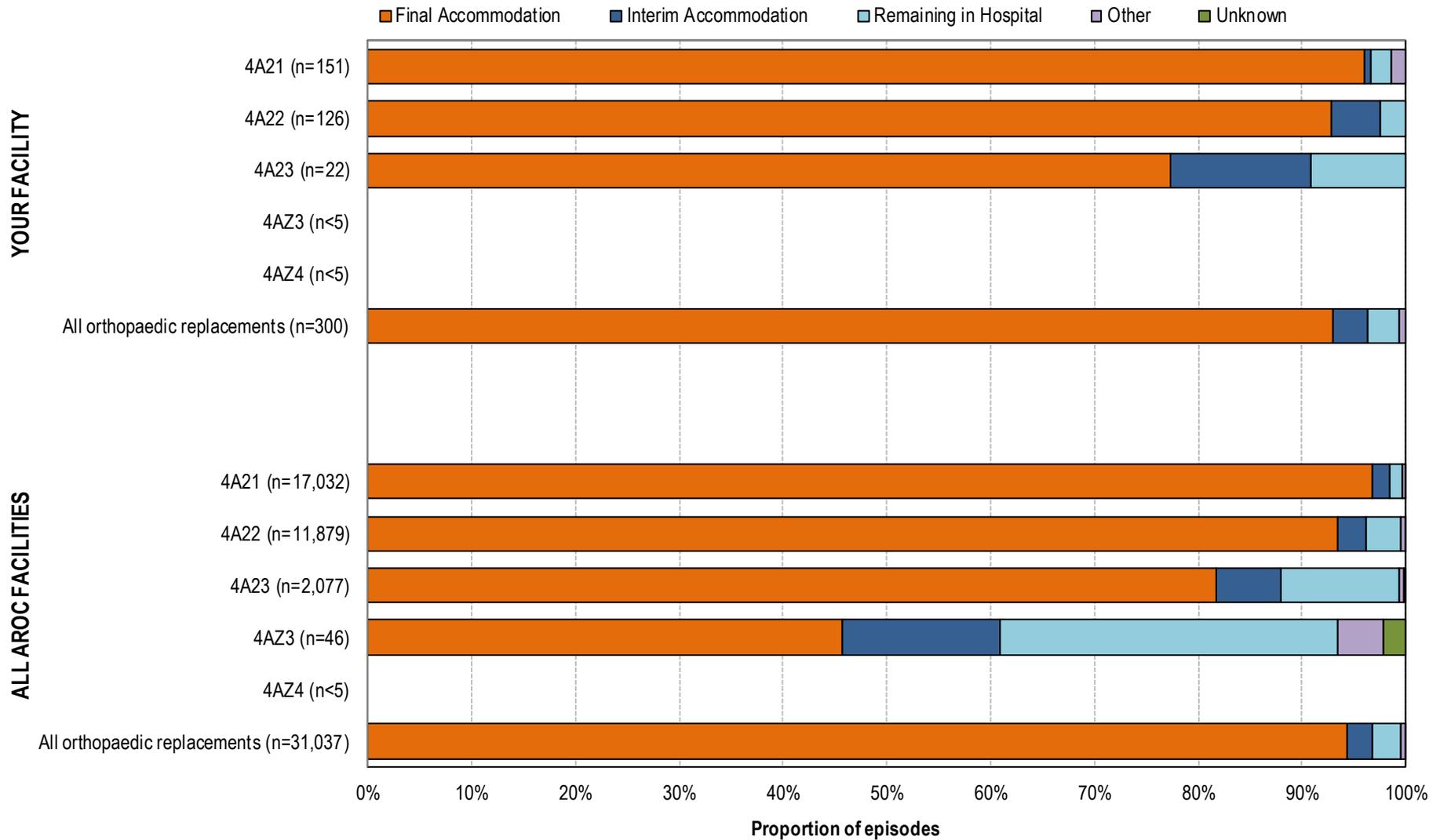
# Delays in episode end

Delay in episode end	YOUR FACILITY		ALL AROC FACILITIES	
	No.	%	No.	%
No delay	267	96.7	27,542	97.6
Delay in episode end	9	3.3	667	2.4
Missing	15		1,877	
<b>All episodes</b>	<b>291</b>	<b>100.0</b>	<b>30,086</b>	<b>100.0</b>

Reasons for delay in episode end	YOUR FACILITY		ALL AROC FACILITIES	
	No.	%	No.	%
Patient related issues	6	66.7	382	57.3
Service issues	1	11.1	62	9.3
External support issues	0	0.0	135	20.2
Equipment issues	0	0.0	18	2.7
Behavioural issues	0	0.0	38	5.7
Reason(s) not specified	2	22.2	59	8.8

NOTE: Includes completed episodes only

# Mode of episode end by AN-SNAP class

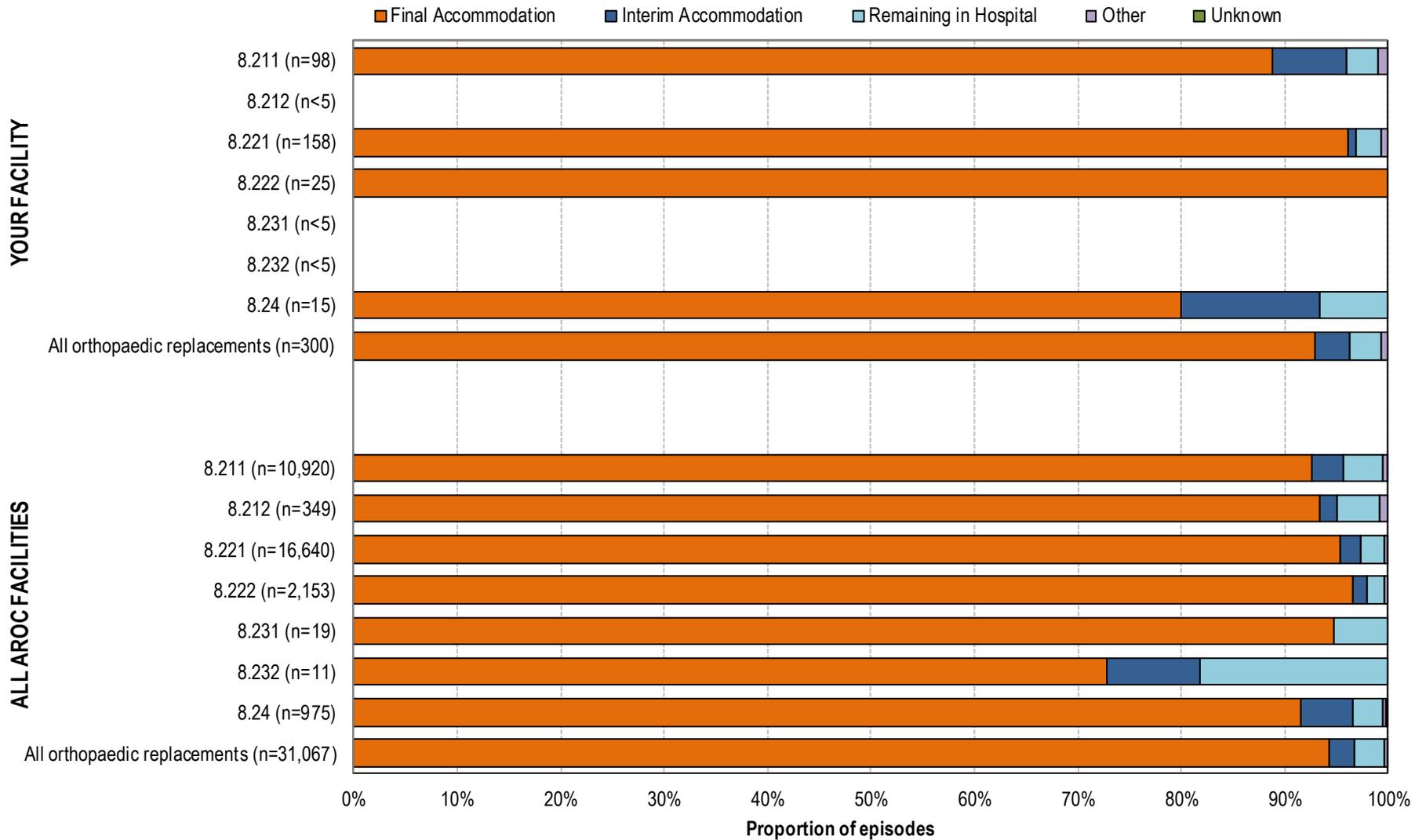


# Mode of episode end by AN-SNAP class

AN-SNAP class V4	YOUR FACILITY — N					ALL AROC FACILITIES — N				
	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown
4A21 (weighted motor 68-91)	145	1	3	2	0	16,477	285	218	50	2
4A22 (weighted motor 50-67)	117	6	3	0	0	11,096	336	397	44	6
4A23 (weighted motor 19-49)	17	3	2	0	0	1,698	128	237	12	2
4AZ3 (weighted motor 13-18, Age ≥ 65)	0	0	1	0	0	21	7	15	2	1
4AZ4 (weighted motor 13-18, Age ≤ 64)	0	0	0	0	0	1	0	1	1	0
<b>All Replacement AN-SNAP classes</b>	<b>279</b>	<b>10</b>	<b>9</b>	<b>2</b>	<b>0</b>	<b>29,293</b>	<b>756</b>	<b>868</b>	<b>109</b>	<b>11</b>

AN-SNAP class V4	YOUR FACILITY — %					ALL AROC FACILITIES — %				
	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown
4A21 (weighted motor 68-91)	96.0	0.7	2.0	1.3	0.0	96.7	1.7	1.3	0.3	0.0
4A22 (weighted motor 50-67)	92.9	4.8	2.4	0.0	0.0	93.4	2.8	3.3	0.4	0.1
4A23 (weighted motor 19-49)	77.3	13.6	9.1	0.0	0.0	81.8	6.2	11.4	0.6	0.1
4AZ3 (weighted motor 13-18, Age ≥ 65)	0.0	0.0	100.0	0.0	0.0	45.7	15.2	32.6	4.3	2.2
4AZ4 (weighted motor 13-18, Age ≤ 64)	—	—	—	—	—	33.3	0.0	33.3	33.3	0.0
<b>All Replacement AN-SNAP classes</b>	<b>93.0</b>	<b>3.3</b>	<b>3.0</b>	<b>0.7</b>	<b>0.0</b>	<b>94.4</b>	<b>2.4</b>	<b>2.8</b>	<b>0.4</b>	<b>0.0</b>

# Mode of episode end by impairment code

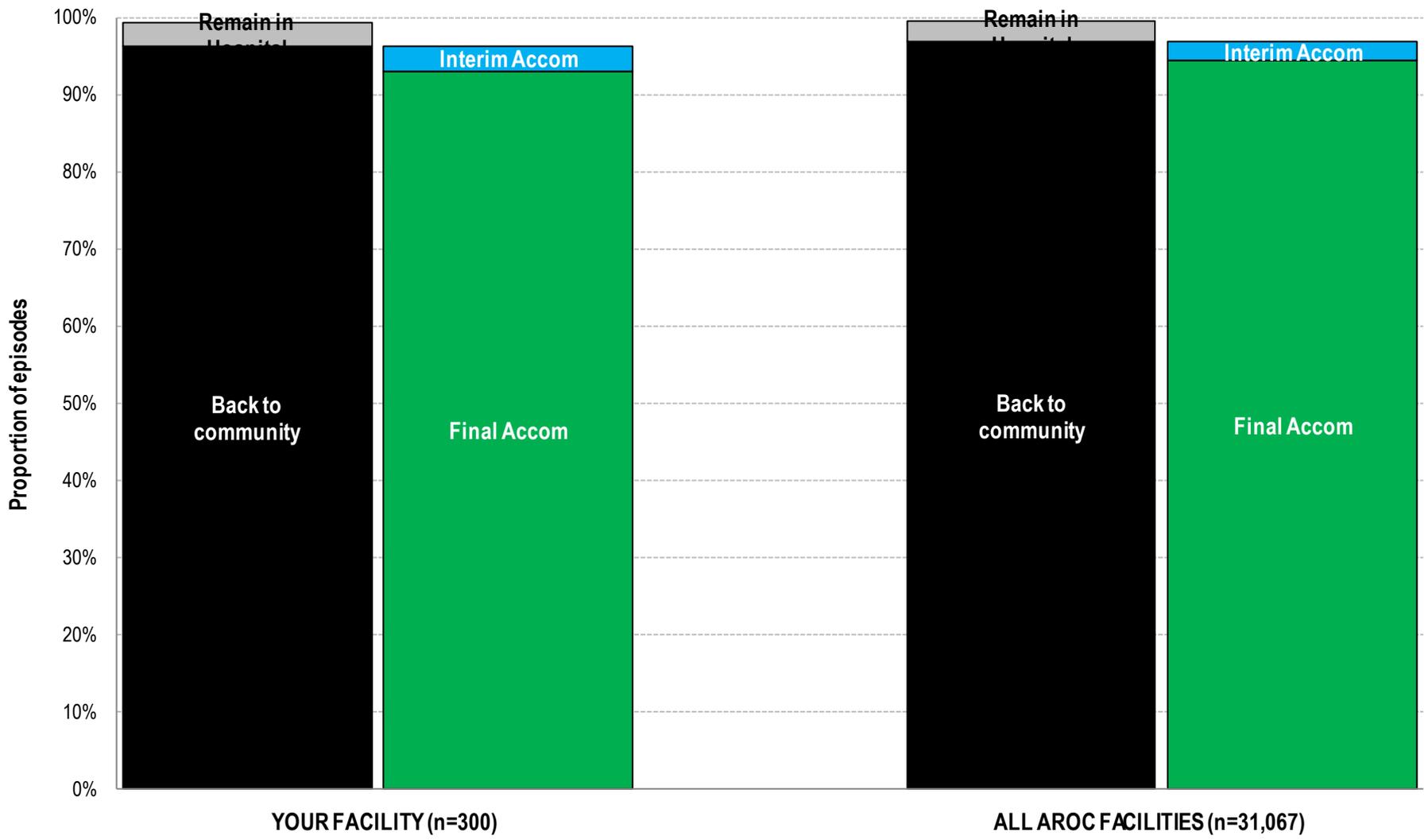


# Mode of episode end by impairment code

Impairment	YOUR FACILITY — N					ALL AROC FACILITIES — N				
	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown
8.211 Unilateral hip replacement	87	7	3	1	0	10,109	338	415	48	10
8.212 Bilateral hip replacement	3	0	1	0	0	326	6	14	3	0
8.221 Unilateral knee replacement	152	1	4	1	0	15,879	332	372	47	10
8.222 Bilateral knee replacement	25	0	0	0	0	2,078	31	36	8	0
8.231 Knee and hip replacement, same side	0	0	0	0	0	18	0	1	0	0
8.232 Knee and hip replacement, diff sides	0	0	0	0	0	8	1	2	0	0
8.24 Shoulder replacement	12	2	1	0	0	893	48	29	3	2
<b>All Orthopaedic Replacements</b>	<b>279</b>	<b>10</b>	<b>9</b>	<b>2</b>	<b>0</b>	<b>29,311</b>	<b>756</b>	<b>869</b>	<b>109</b>	<b>22</b>

Impairment	YOUR FACILITY — %					ALL AROC FACILITIES — %				
	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown
8.211 Unilateral hip replacement	88.8	7.1	3.1	1.0	0.0	92.6	3.1	3.8	0.4	0.1
8.212 Bilateral hip replacement	75.0	0.0	25.0	0.0	0.0	93.4	1.7	4.0	0.9	0.0
8.221 Unilateral knee replacement	96.2	0.6	2.5	0.6	0.0	95.4	2.0	2.2	0.3	0.1
8.222 Bilateral knee replacement	100.0	0.0	0.0	0.0	0.0	96.5	1.4	1.7	0.4	0.0
8.231 Knee and hip replacement, same side	—	—	—	—	—	94.7	0.0	5.3	0.0	0.0
8.232 Knee and hip replacement, diff sides	—	—	—	—	—	72.7	9.1	18.2	0.0	0.0
8.24 Shoulder replacement	80.0	13.3	6.7	0.0	0.0	91.6	4.9	3.0	0.3	0.2
<b>All Orthopaedic Replacements</b>	<b>93.0</b>	<b>3.3</b>	<b>3.0</b>	<b>0.7</b>	<b>0.0</b>	<b>94.3</b>	<b>2.4</b>	<b>2.8</b>	<b>0.4</b>	<b>0.1</b>

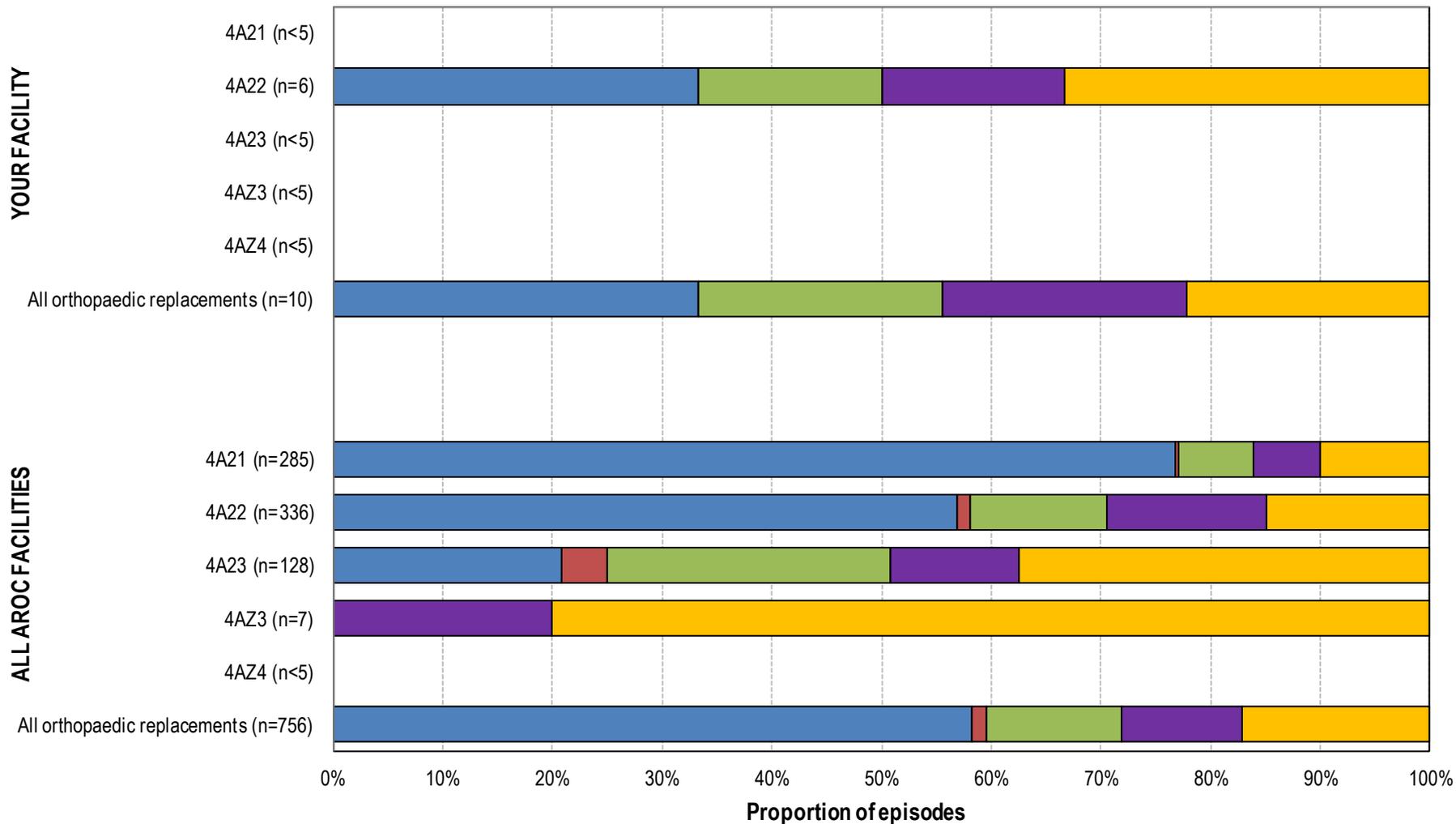
# Mode of episode end



# Interim accommodation post discharge by AN-SNAP class



■ Private Residence  
 ■ Rest home (NZ only)  
 ■ Residential Aged Care (AU) / 24hr Nursing Care (NZ)  
 ■ Hospital  
 ■ Other



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

# Interim accommodation post discharge by AN-SNAP class



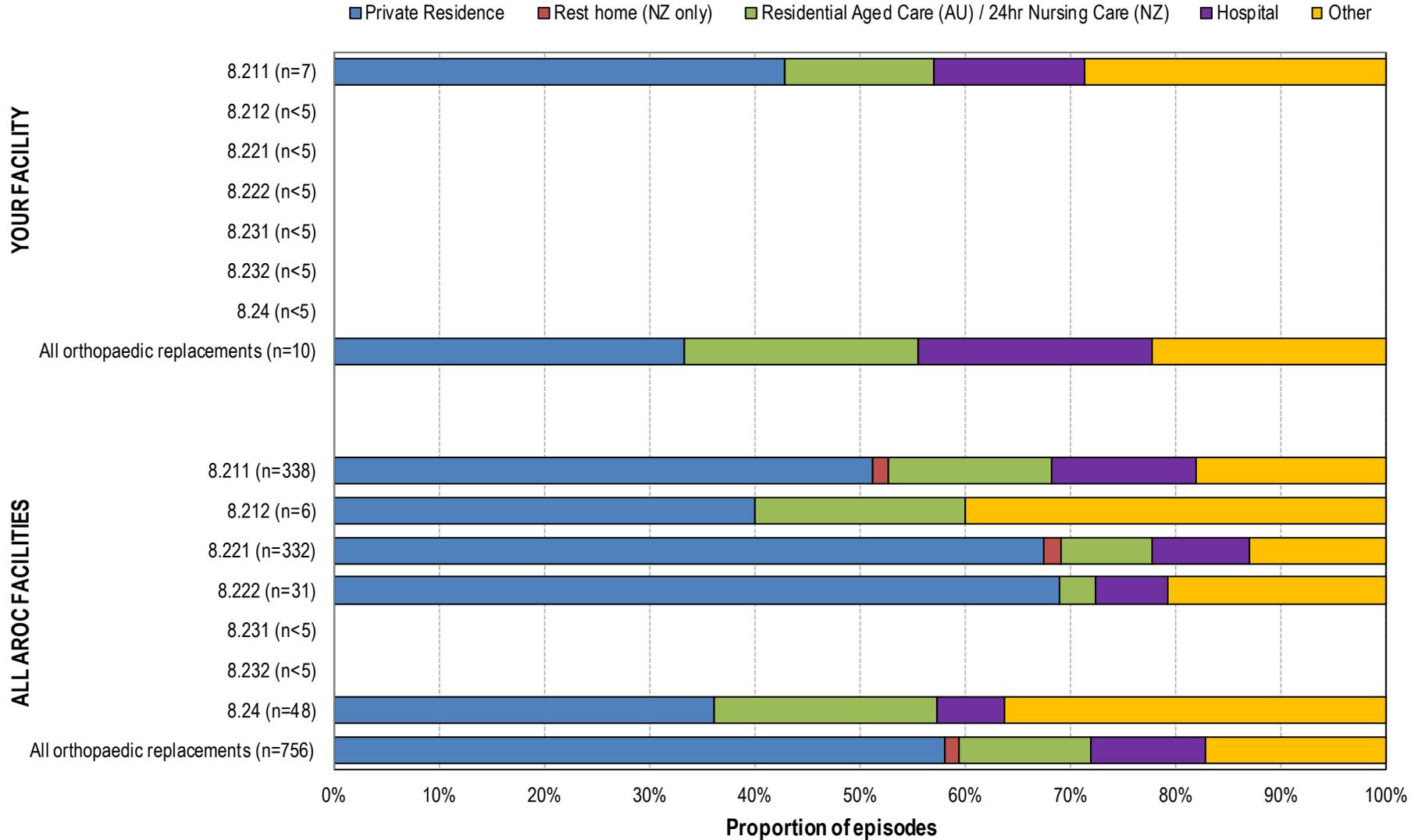
AN-SNAP class V4	YOUR FACILITY					All episodes**
	Private residence	Rest Home	24hr nursing care	Hospital	Other	
4A21 (weighted motor 68-91)	1 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (100.0%)
4A22 (weighted motor 50-67)	2 (33.3%)	0 (0.0%)	1 (16.7%)	1 (16.7%)	2 (33.3%)	6 (100.0%)
4A23 (weighted motor 19-49)	0 (0.0%)	0 (0.0%)	1 (33.3%)	1 (33.3%)	0 (0.0%)	3 (100.0%)
4AZ3 (weighted motor 13-18, Age ≥ 65)	0 —	0 —	0 —	0 —	0 —	0 —
4AZ4 (weighted motor 13-18, Age ≤ 64)	0 —	0 —	0 —	0 —	0 —	0 —
<b>All Replacement AN-SNAP classes</b>	<b>3 (30.0%)</b>	<b>0 (0.0%)</b>	<b>2 (20.0%)</b>	<b>2 (20.0%)</b>	<b>2 (20.0%)</b>	<b>10 (100.0%)</b>

AN-SNAP class V4	ALL AROC FACILITIES					All episodes**
	Private residence	Rest Home (NZ only)	Resi Aged Care (AU) / 24hr Nursing Care (NZ)	Hospital	Other	
4A21 (weighted motor 68-91)	215 (75.4%)	1 (0.4%)	19 (6.7%)	17 (6.0%)	28 (9.8%)	285 (100.0%)
4A22 (weighted motor 50-67)	187 (55.7%)	4 (1.2%)	41 (12.2%)	48 (14.3%)	49 (14.6%)	336 (100.0%)
4A23 (weighted motor 19-49)	25 (19.5%)	5 (3.9%)	31 (24.2%)	14 (10.9%)	45 (35.2%)	128 (100.0%)
4AZ3 (weighted motor 13-18, Age ≥ 65)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (14.3%)	4 (57.1%)	7 (100.0%)
4AZ4 (weighted motor 13-18, Age ≤ 64)	0 —	0 —	0 —	0 —	0 —	0 —
<b>All Replacement AN-SNAP classes</b>	<b>427 (56.5%)</b>	<b>10 (1.3%)</b>	<b>91 (12.0%)</b>	<b>80 (10.6%)</b>	<b>126 (16.7%)</b>	<b>756 (100.0%)</b>

\*\* There was 1 episode(s) in YOUR FACILITY and 22 episodes in ALL AROC FACILITIES 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					All episodes**
	Private residence	Rest Home	24hr nursing care	Hospital	Other	
8.211 Unilateral hip replacement	3 (42.9%)	0 (0.0%)	1 (14.3%)	1 (14.3%)	2 (28.6%)	7 (100.0%)
8.212 Bilateral hip replacement	0 —	0 —	0 —	0 —	0 —	0 —
8.221 Unilateral knee replacement	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (100.0%)	0 (0.0%)	1 (100.0%)
8.222 Bilateral knee replacement	0 —	0 —	0 —	0 —	0 —	0 —
8.231 Knee and hip replacement, same side	0 —	0 —	0 —	0 —	0 —	0 —
8.232 Knee and hip replacement, diff sides	0 —	0 —	0 —	0 —	0 —	0 —
8.24 Shoulder replacement	0 (0.0%)	0 (0.0%)	1 (50.0%)	0 (0.0%)	0 (0.0%)	2 (100.0%)
<b>All Orthopaedic Replacements</b>	<b>3 (30.0%)</b>	<b>0 (0.0%)</b>	<b>2 (20.0%)</b>	<b>2 (20.0%)</b>	<b>2 (20.0%)</b>	<b>10 (100.0%)</b>

Impairment	ALL AROC FACILITIES					All episodes**
	Private residence	Rest Home (NZ only)	Resi Aged Care (AU) / 24hr Nursing Care (NZ)	Hospital	Other	
8.211 Unilateral hip replacement	168 (49.7%)	5 (1.5%)	51 (15.1%)	45 (13.3%)	59 (17.5%)	338 (100.0%)
8.212 Bilateral hip replacement	2 (33.3%)	0 (0.0%)	1 (16.7%)	0 (0.0%)	2 (33.3%)	6 (100.0%)
8.221 Unilateral knee replacement	219 (66.0%)	5 (1.5%)	28 (8.4%)	30 (9.0%)	42 (12.7%)	332 (100.0%)
8.222 Bilateral knee replacement	20 (64.5%)	0 (0.0%)	1 (3.2%)	2 (6.5%)	6 (19.4%)	31 (100.0%)
8.231 Knee and hip replacement, same side	0 —	0 —	0 —	0 —	0 —	0 —
8.232 Knee and hip replacement, diff sides	1 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (100.0%)
8.24 Shoulder replacement	17 (35.4%)	0 (0.0%)	10 (20.8%)	3 (6.3%)	17 (35.4%)	48 (100.0%)
<b>All Orthopaedic Replacements</b>	<b>427 (56.5%)</b>	<b>10 (1.3%)</b>	<b>91 (12.0%)</b>	<b>80 (10.6%)</b>	<b>126 (16.7%)</b>	<b>756 (100.0%)</b>

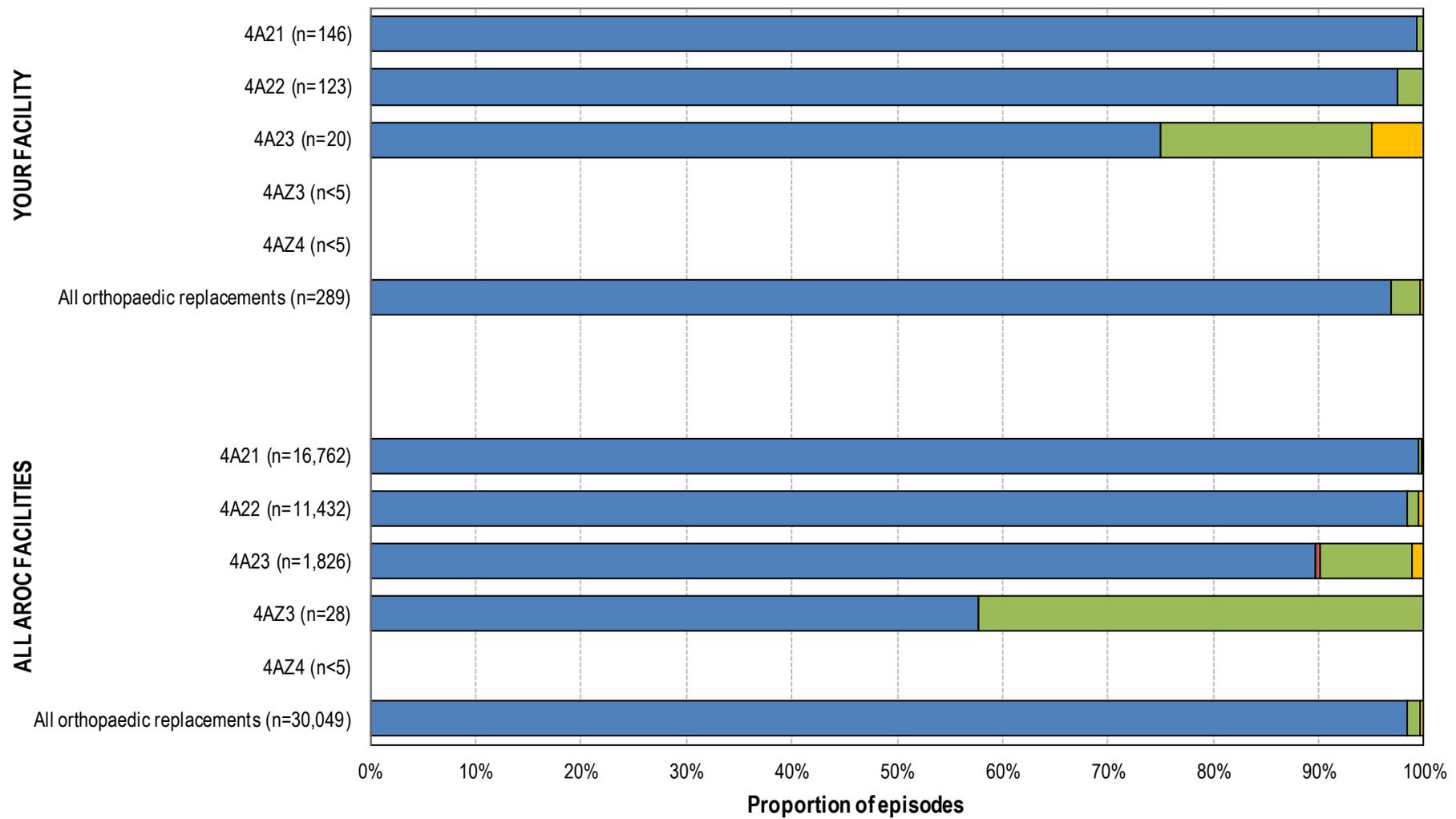
\*\* There was 1 episode(s) in YOUR FACILITY and 22 episodes in ALL AROC FACILITIES with unknown interim accommodation

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

# Final accommodation post discharge by AN-SNAP class



■ Private Residence    
 ■ Rest home (NZ only)    
 ■ Residential Aged Care (AU) / 24hr Nursing Care (NZ)    
 ■ Other



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

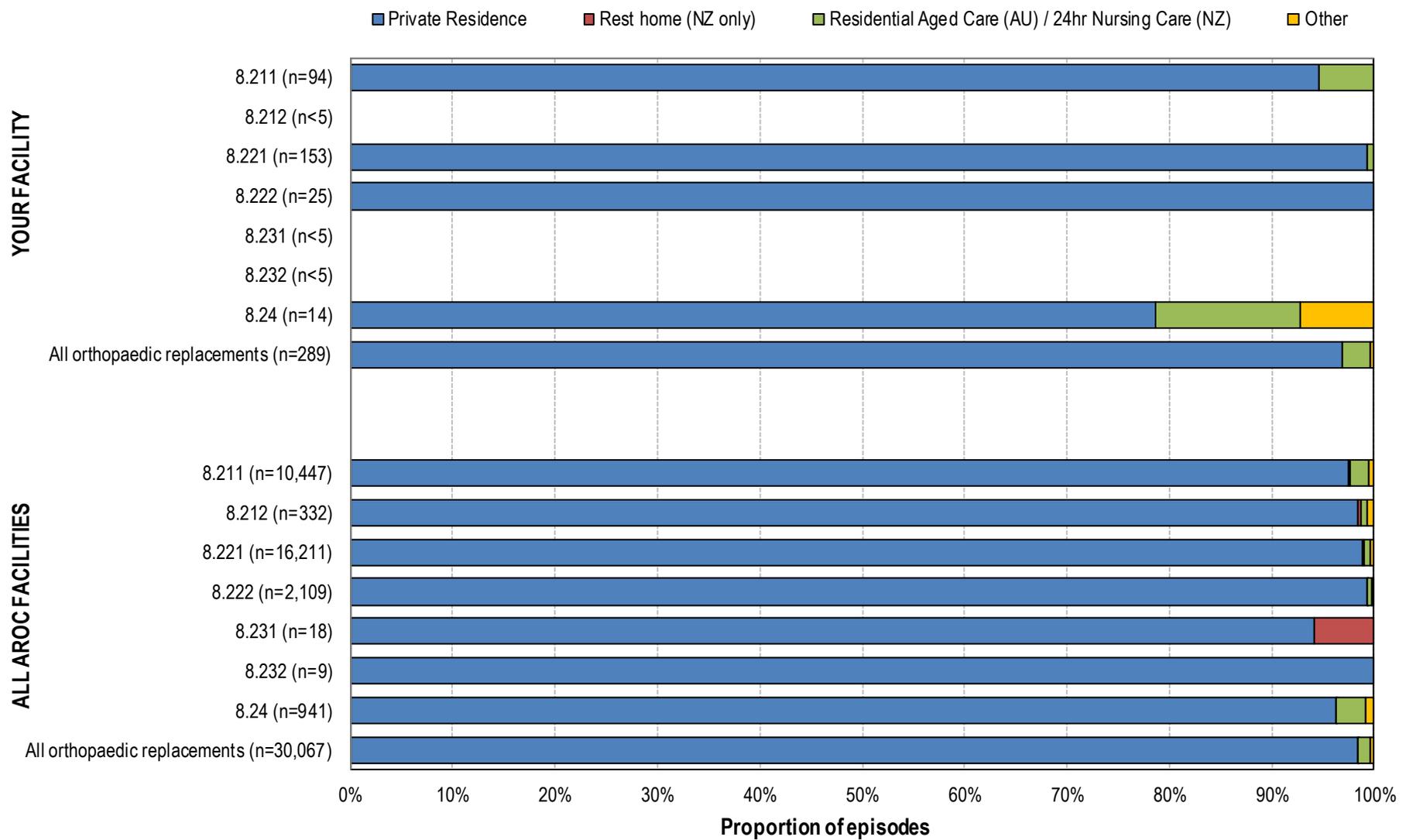


AN-SNAP class V4	YOUR FACILITY					All episodes
	Private residence	Rest Home	24hr nursing care	Other	Missing	
4A21 (weighted motor 68-91)	144 (99.3%)	0 (0.0%)	1 (0.7%)	0 (0.0%)	1	145 (100.0%)
4A22 (weighted motor 50-67)	119 (97.5%)	0 (0.0%)	3 (2.5%)	0 (0.0%)	1	122 (100.0%)
4A23 (weighted motor 19-49)	15 (75.0%)	0 (0.0%)	4 (20.0%)	1 (5.0%)	0	20 (100.0%)
4AZ3 (weighted motor 13-18, Age ≥ 65)	0 —	0 —	0 —	0 —	0	0 —
4AZ4 (weighted motor 13-18, Age ≤ 64)	0 —	0 —	0 —	0 —	0	0 —
<b>All Replacement AN-SNAP classes</b>	<b>278 (96.9%)</b>	<b>0 (0.0%)</b>	<b>8 (2.8%)</b>	<b>1 (0.3%)</b>	<b>2</b>	<b>287 (100.0%)</b>

AN-SNAP class V4	ALL AROC FACILITIES					All episodes
	Private residence	Rest Home (NZ only)	Resi Aged Care (AU) / 24hr Nursing Care (NZ)	Other	Missing	
4A21 (weighted motor 68-91)	16,596 (99.0%)	1 (0.0%)	58 (0.3%)	62 (0.4%)	45	16,762 (100.0%)
4A22 (weighted motor 50-67)	11,106 (97.1%)	6 (0.1%)	120 (1.0%)	107 (0.9%)	93	11,432 (100.0%)
4A23 (weighted motor 19-49)	1,552 (85.0%)	9 (0.5%)	150 (8.2%)	57 (3.1%)	58	1,826 (100.0%)
4AZ3 (weighted motor 13-18, Age ≥ 65)	15 (53.6%)	0 (0.0%)	11 (39.3%)	1 (3.6%)	1	28 (100.0%)
4AZ4 (weighted motor 13-18, Age ≤ 64)	1 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0	1 (100.0%)
<b>All Replacement AN-SNAP classes</b>	<b>29,270 (97.4%)</b>	<b>16 (0.1%)</b>	<b>339 (1.1%)</b>	<b>227 (0.8%)</b>	<b>197</b>	<b>30,049 (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



## YOUR FACILITY

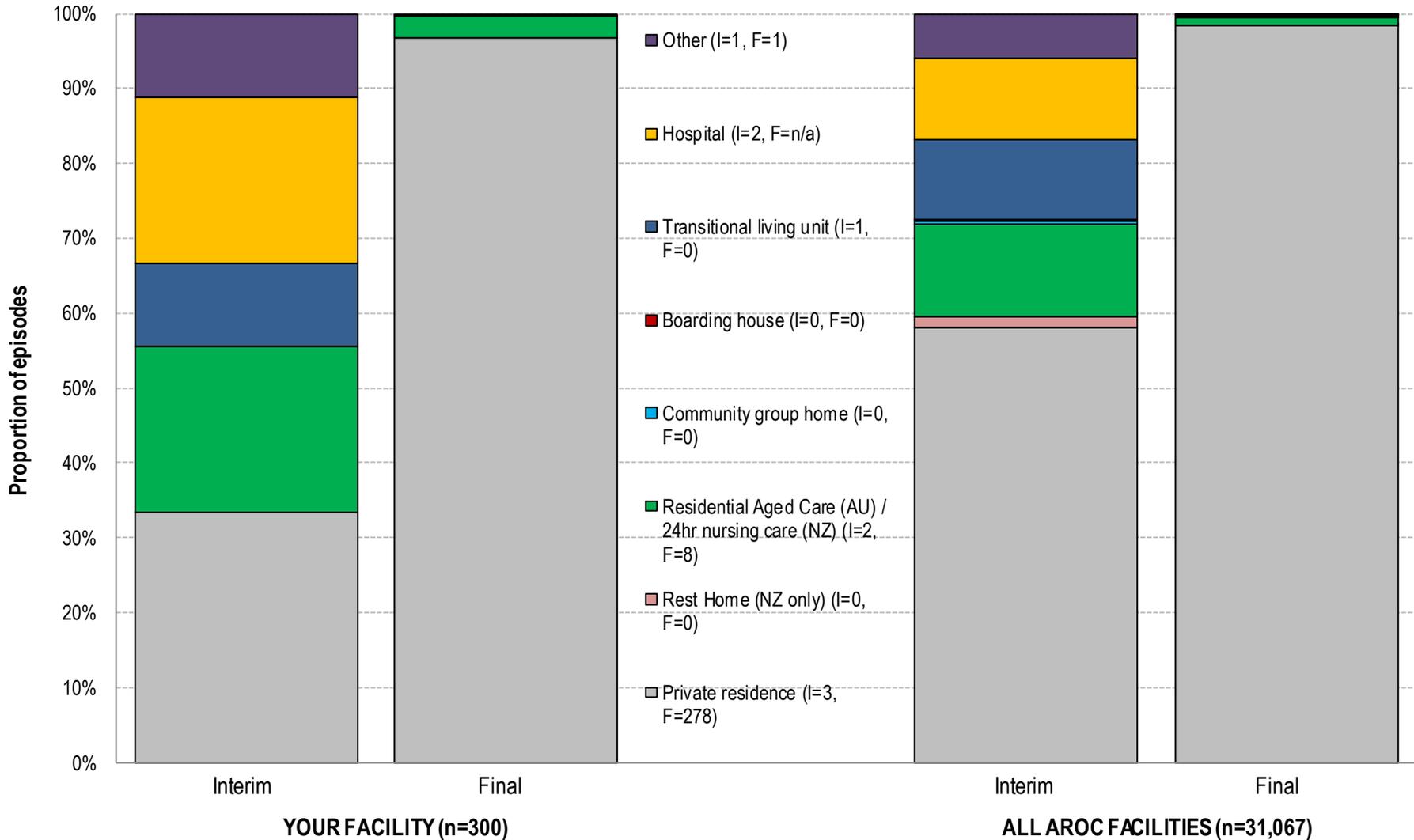
Impairment	Private residence	Rest Home	24hr nursing care	Other	Missing	All episodes
8.211 Unilateral hip replacement	88 (94.6%)	0 (0.0%)	5 (5.4%)	0 (0.0%)	1	93 (100.0%)
8.212 Bilateral hip replacement	3 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0	3 (100.0%)
8.221 Unilateral knee replacement	151 (99.3%)	0 (0.0%)	1 (0.7%)	0 (0.0%)	1	152 (100.0%)
8.222 Bilateral knee replacement	25 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0	25 (100.0%)
8.231 Knee and hip replacement, same side	0 —	0 —	0 —	0 —	0	0 —
8.232 Knee and hip replacement, diff sides	0 —	0 —	0 —	0 —	0	0 —
8.24 Shoulder replacement	11 (78.6%)	0 (0.0%)	2 (14.3%)	1 (7.1%)	0	14 (100.0%)
<b>All Orthopaedic Replacements</b>	<b>278 (96.9%)</b>	<b>0 (0.0%)</b>	<b>8 (2.8%)</b>	<b>1 (0.3%)</b>	<b>2</b>	<b>287 (100.0%)</b>

## ALL AROC FACILITIES

Impairment	Private residence	Rest Home (NZ only)	Resi Aged Care (AU) / 24hr Nursing Care (NZ)	Other	Missing	All episodes
8.211 Unilateral hip replacement	10,042 (96.1%)	9 (0.1%)	184 (1.8%)	109 (1.0%)	103	10,447 (100.0%)
8.212 Bilateral hip replacement	323 (97.3%)	1 (0.3%)	2 (0.6%)	6 (1.8%)	0	332 (100.0%)
8.221 Unilateral knee replacement	15,925 (98.2%)	3 (0.0%)	117 (0.7%)	85 (0.5%)	81	16,211 (100.0%)
8.222 Bilateral knee replacement	2,085 (98.9%)	1 (0.0%)	10 (0.5%)	9 (0.4%)	4	2,109 (100.0%)
8.231 Knee and hip replacement, same side	16 (88.9%)	1 (5.6%)	0 (0.0%)	0 (0.0%)	1	18 (100.0%)
8.232 Knee and hip replacement, diff sides	9 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0	9 (100.0%)
8.24 Shoulder replacement	888 (94.4%)	1 (0.1%)	26 (2.8%)	18 (1.9%)	8	941 (100.0%)
<b>All Orthopaedic Replacements</b>	<b>29,288 (97.4%)</b>	<b>16 (0.1%)</b>	<b>339 (1.1%)</b>	<b>227 (0.8%)</b>	<b>197</b>	<b>30,067 (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



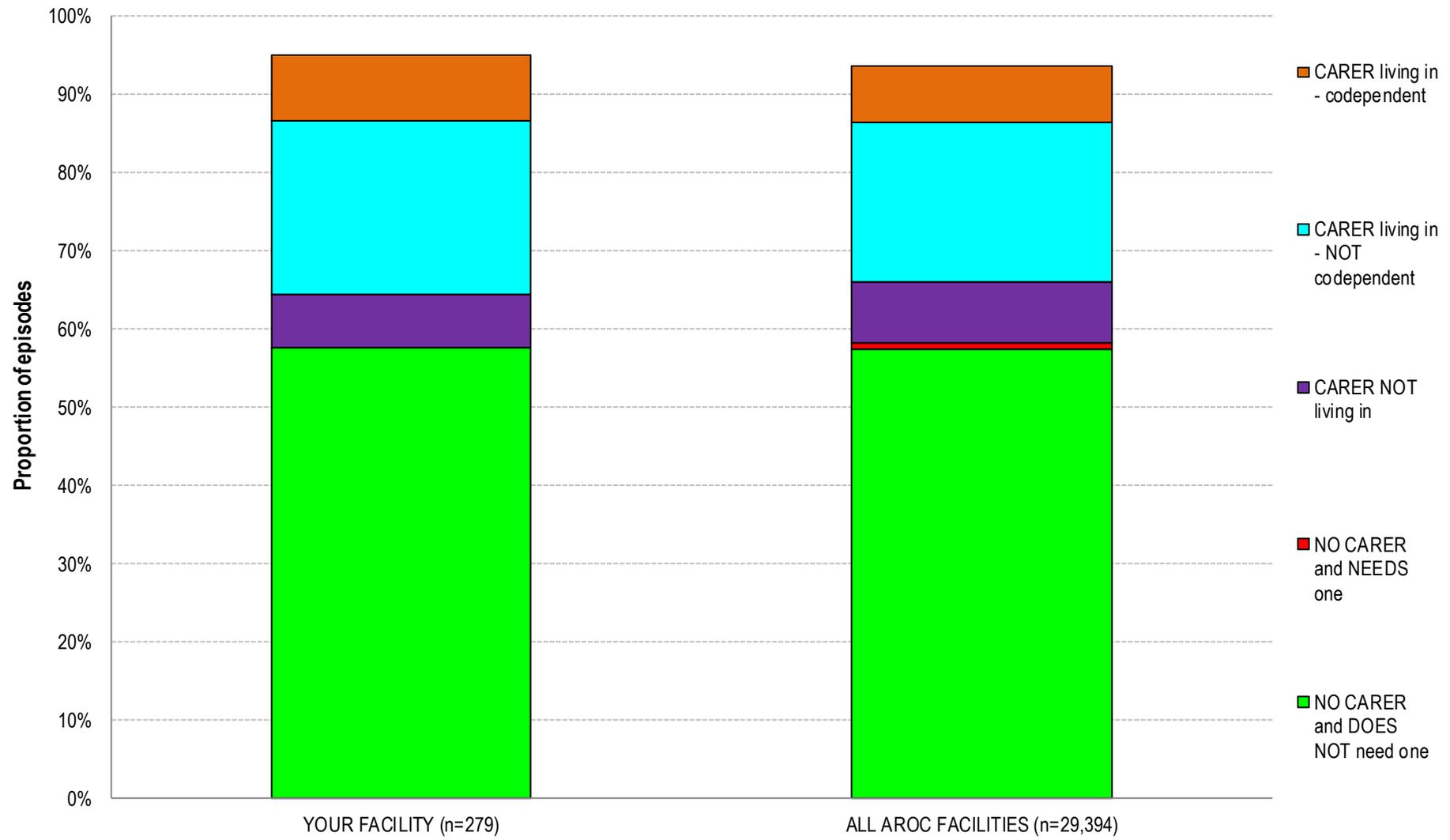
NOTE: Includes only those episodes with mode of episode end equal to either final or interim accommodation

# Interim and final accommodation post discharge

Accommodation	YOUR FACILITY		ALL AROC FACILITIES	
	Interim (%)	Final (%)	Interim (%)	Final (%)
Private residence	3 (33.3%)	278 (96.9%)	427 (58.2%)	29,270 (98.4%)
Rest Home (NZ only)	0 (0.0%)	0 (0.0%)	10 (1.4%)	16 (0.1%)
Resi Aged Care (AU) / 24hr Nursing Care (NZ)	2 (22.2%)	8 (2.8%)	91 (12.4%)	339 (1.1%)
Community group home	0 (0.0%)	0 (0.0%)	2 (0.3%)	27 (0.1%)
Boarding house	0 (0.0%)	0 (0.0%)	3 (0.4%)	7 (0.0%)
Transitional living unit	1 (11.1%)	0 (0.0%)	78 (10.6%)	25 (0.1%)
Hospital	2 (22.2%)	n/a	80 (10.9%)	n/a
Other	1 (11.1%)	1 (0.3%)	43 (5.9%)	63 (0.2%)
Missing/Unknown	1	2	22	302
<b>All episodes</b>	<b>10 (100.0%)</b>	<b>289 (100.0%)</b>	<b>756 (100.0%)</b>	<b>30,049 (100.0%)</b>

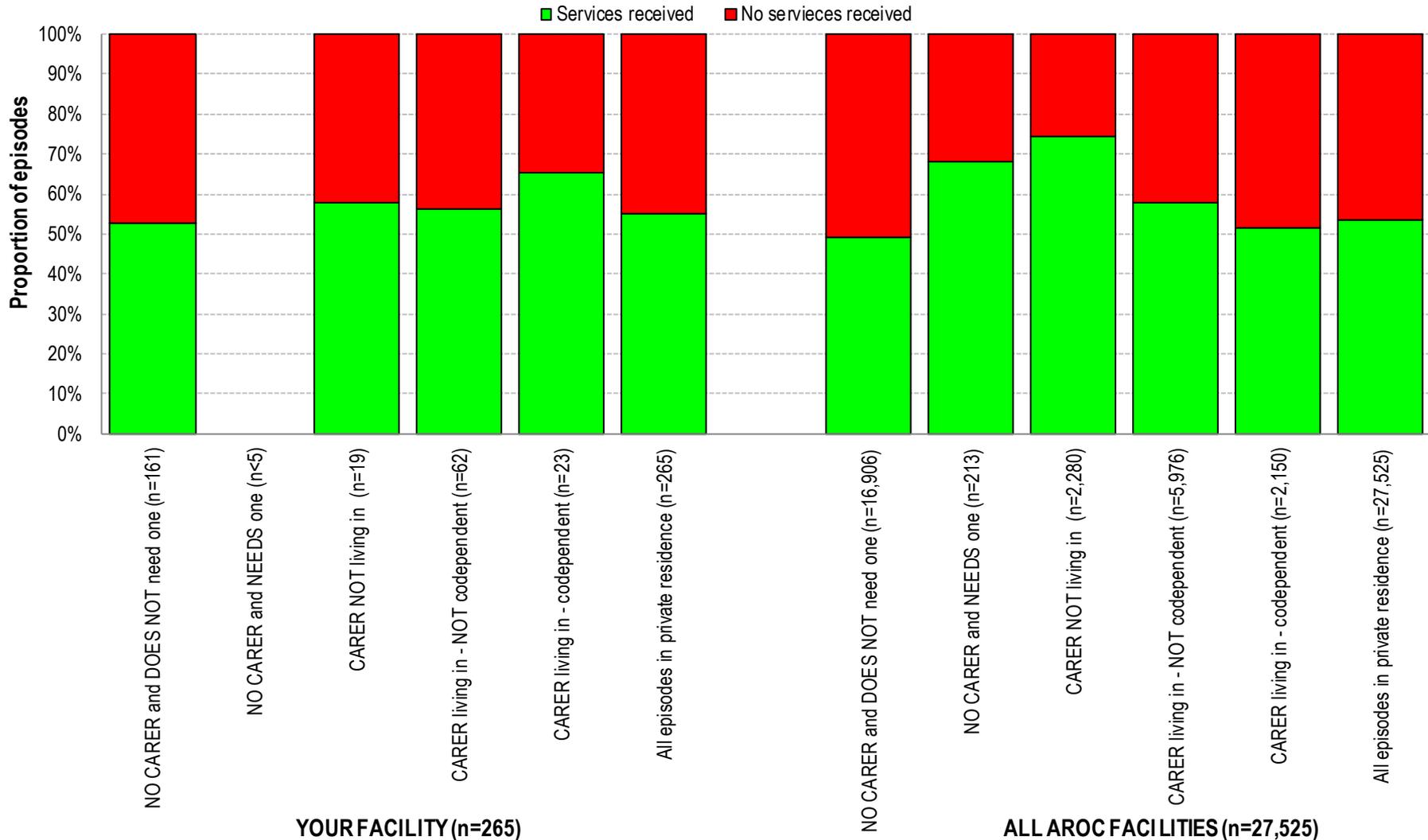
NOTE: Includes only those episodes with mode of episode end equal to either final or interim accommodation

# 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

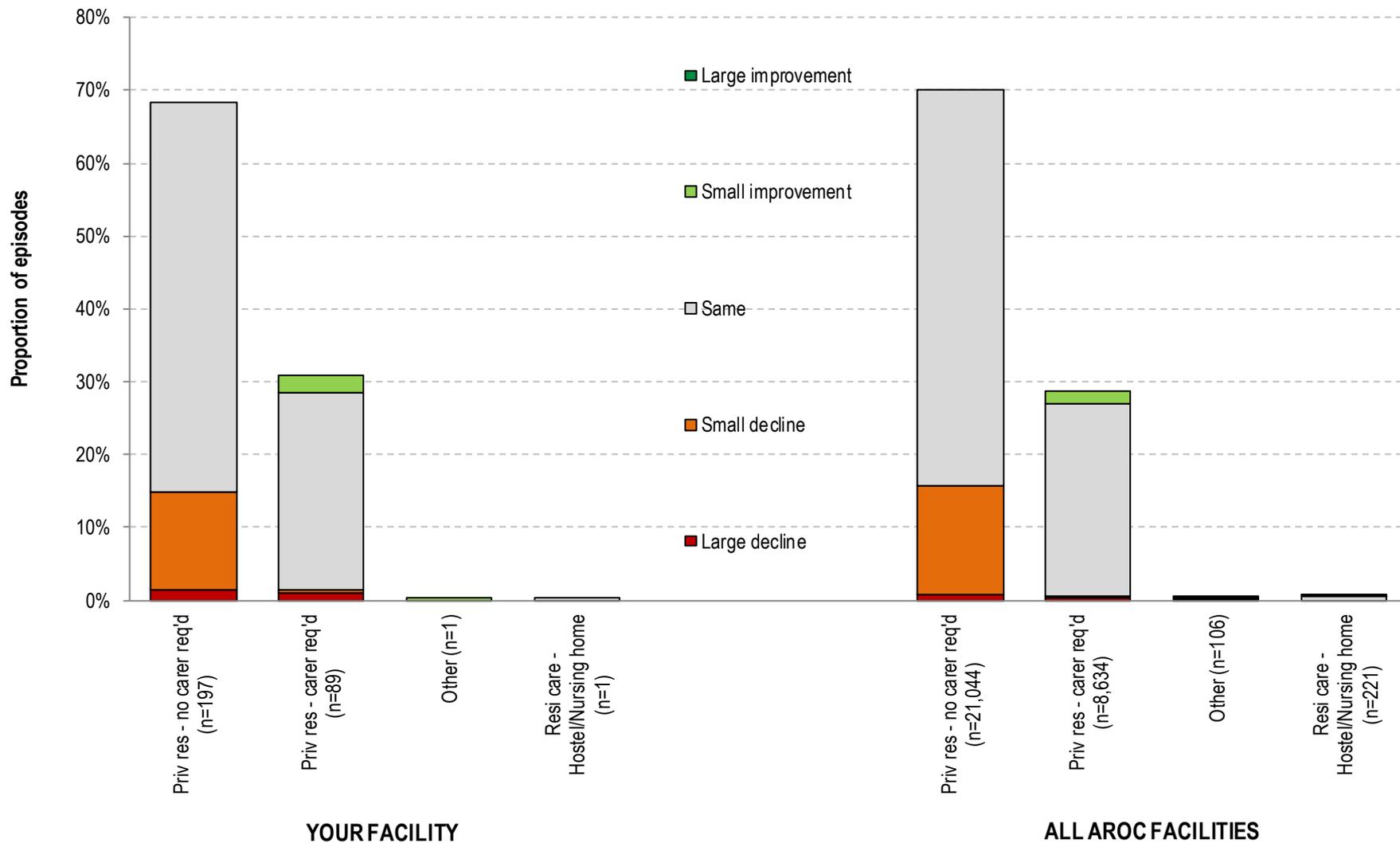


Carer status after this impairment	YOUR FACILITY		ALL AROC FACILITIES	
	No.	%	No.	%
NO CARER and DOES NOT need one	161	60.8	16,909	61.4
NO CARER and NEEDS one	0	0.0	213	0.8
CARER NOT living in	19	7.2	2,282	8.3
CARER living in - NOT codependent	62	23.4	5,980	21.7
CARER living in - codependent	23	8.7	2,151	7.8
Missing	14		1,859	
<b>All episodes in private residence</b>	<b>279</b>	<b>100.0</b>	<b>29,394</b>	<b>100.0</b>

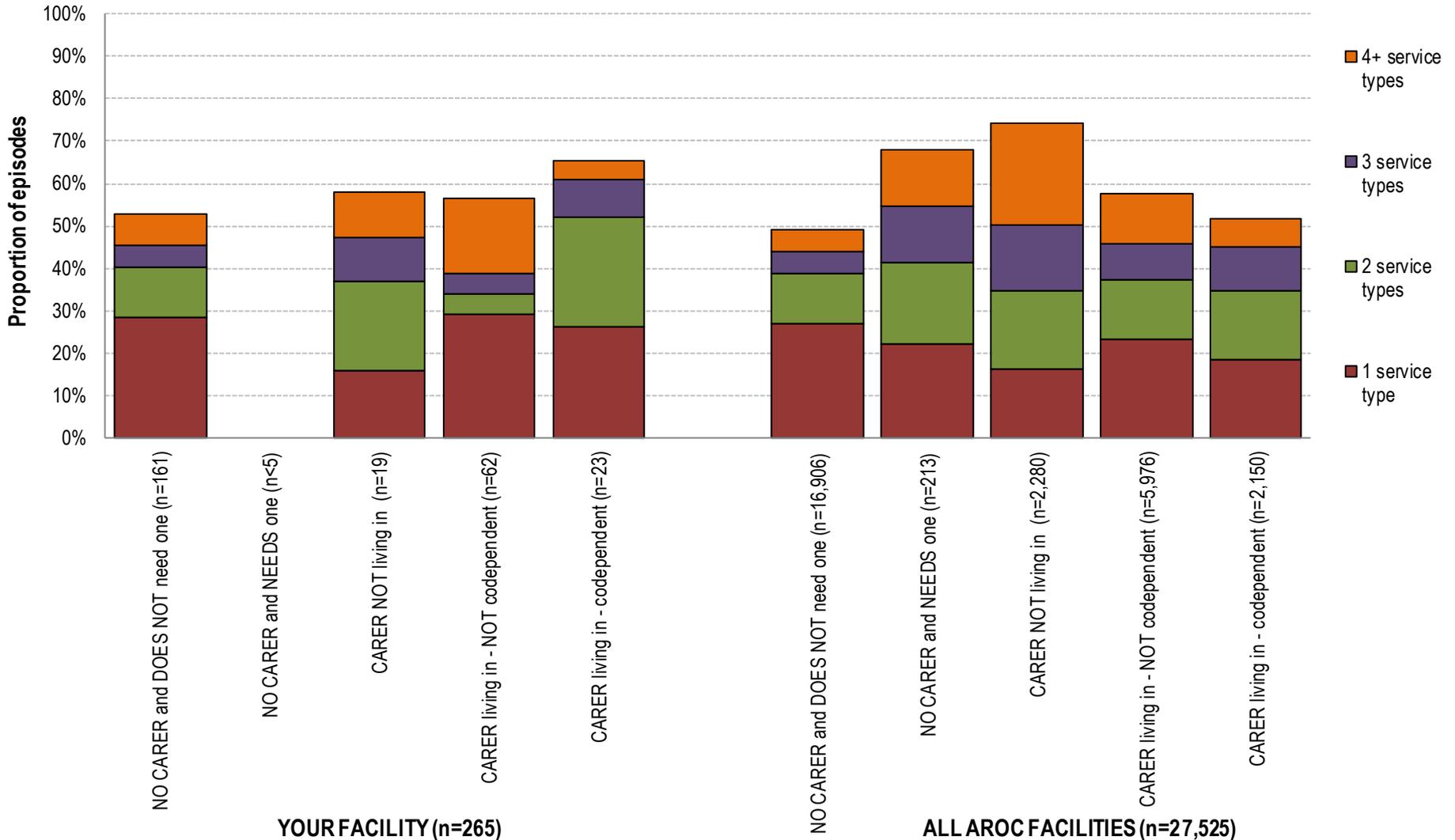
Carer status after this impairment	Any services received after this impairment?			
	YOUR FACILITY		ALL AROC FACILITIES	
	Yes (%)	No (%)	Yes (%)	No (%)
NO CARER and DOES NOT need one	52.8	47.2	49.1	50.9
NO CARER and NEEDS one	—	—	68.1	31.9
CARER NOT living in	57.9	42.1	74.3	25.7
CARER living in - NOT codependent	56.5	43.5	57.7	42.3
CARER living in - codependent	65.2	34.8	51.6	48.4
<b>All episodes in private residence</b>	<b>55.1</b>	<b>44.9</b>	<b>53.4</b>	<b>46.6</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

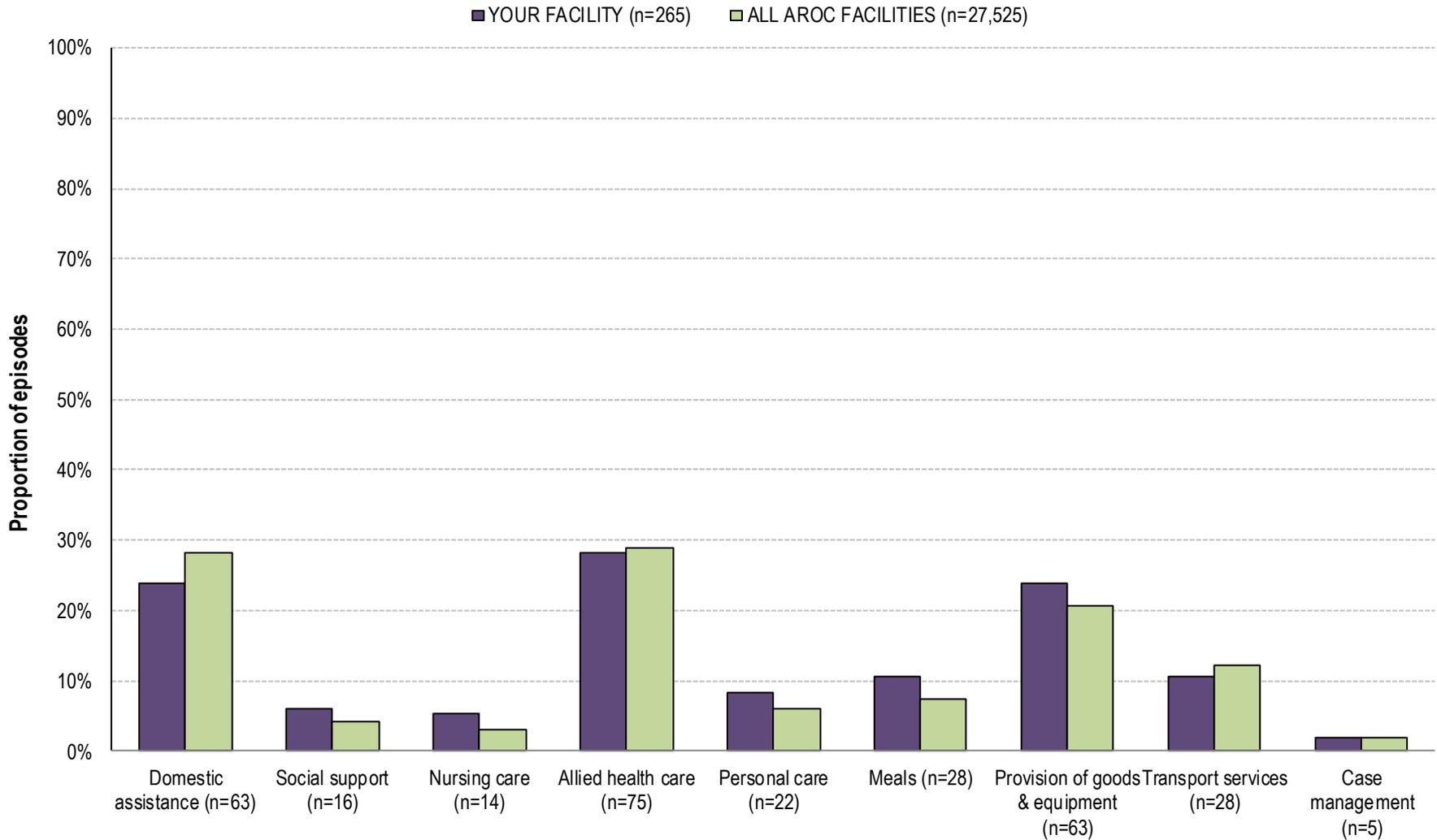


# Number of services received post discharge by carer status



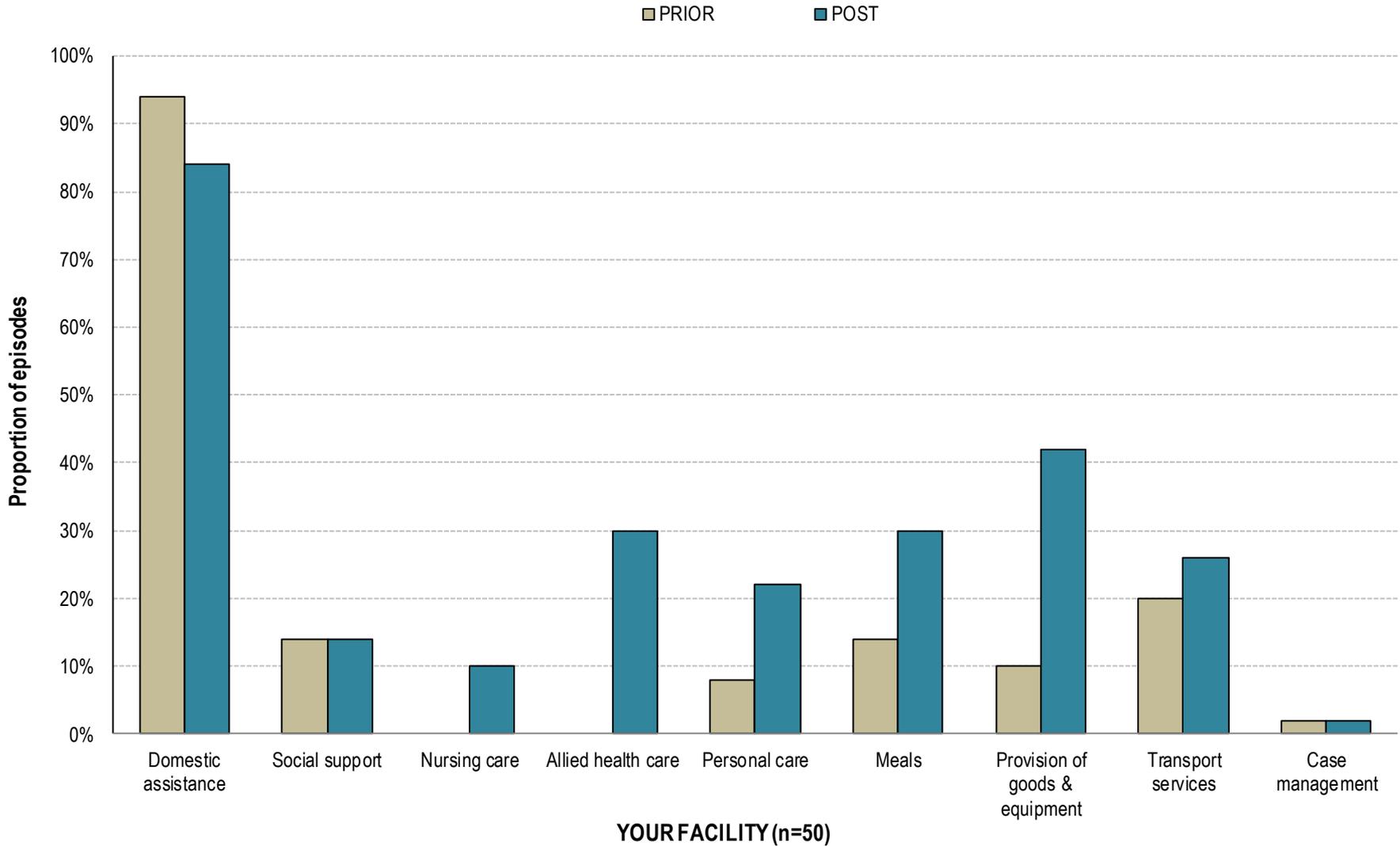
NOTE: Includes only those episodes whose final accommodation is private residence and with known carer status and known services status

# Type of services received post discharge



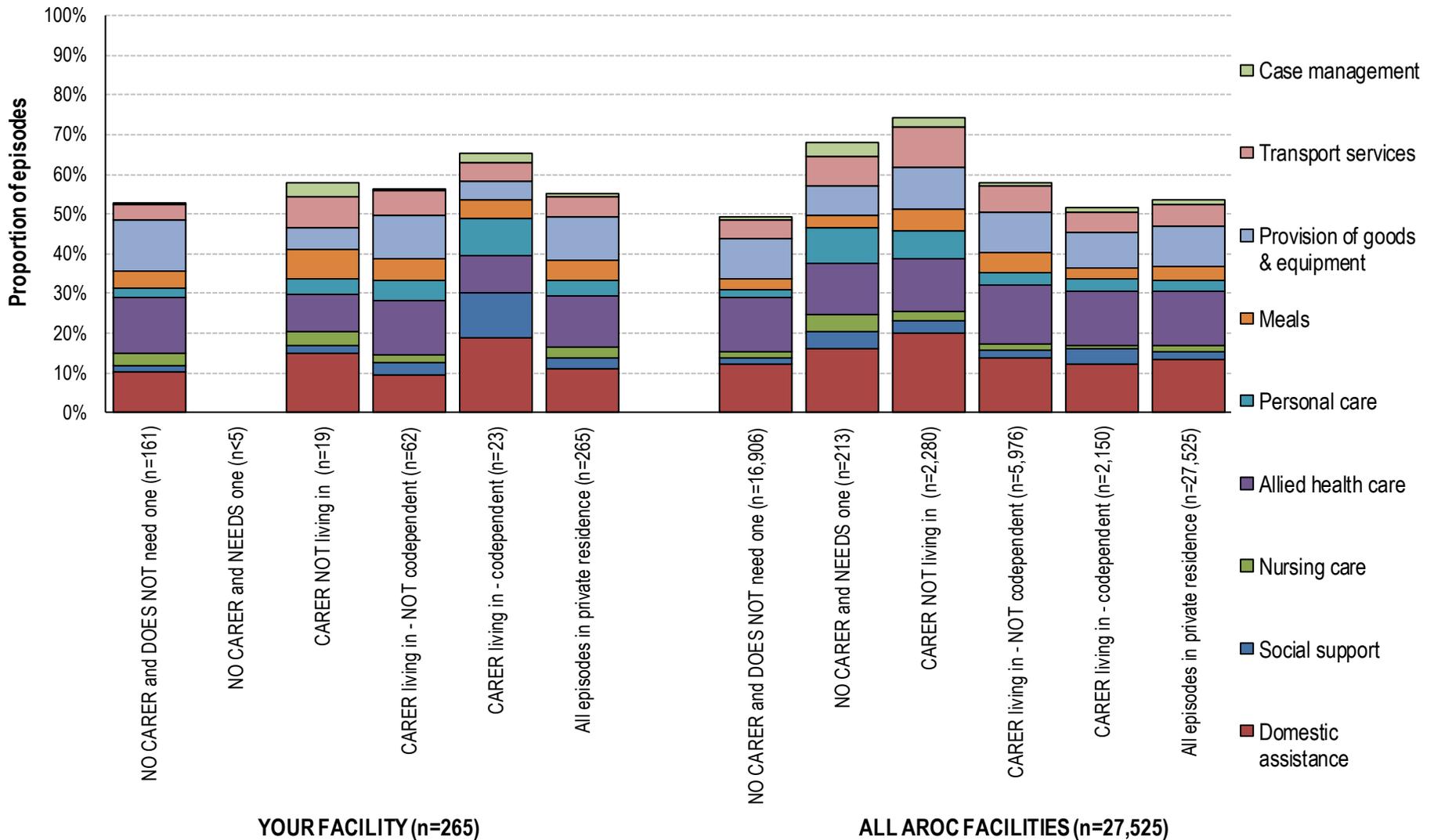
NOTE: Includes only those episodes whose final accommodation is private residence and with known carer status and known services status

# Type of services received pre and post rehab



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

Services received after this impairment  (NOTE: Accommodation post is private residence)	Carer status post discharge - YOUR FACILITY						All episodes in private residence
	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	161	0	19	62	23		<b>265</b>
<b>Percent of episodes receiving:</b>							
No services	47.2	—	42.1	43.5	34.8		<b>44.9</b>
1 service type	28.6	—	15.8	29.0	26.1		<b>27.5</b>
2 service types	11.8	—	21.1	4.8	26.1		<b>12.1</b>
3 service types	5.0	—	10.5	4.8	8.7		<b>5.7</b>
4 or more service types	7.5	—	10.5	17.7	4.3		<b>9.8</b>
<b>Service Type received</b>							
Domestic assistance	19.9	—	42.1	24.2	34.8		<b>23.8</b>
Social support	3.1	—	5.3	8.1	21.7		<b>6.0</b>
Nursing care	5.6	—	10.5	4.8	0.0		<b>5.3</b>
Allied health care	27.3	—	26.3	35.5	17.4		<b>28.3</b>
Personal care	5.0	—	10.5	12.9	17.4		<b>8.3</b>
Meals	8.1	—	21.1	14.5	8.7		<b>10.6</b>
Provision of goods & equipment	25.5	—	15.8	27.4	8.7		<b>23.8</b>
Transport services	7.5	—	21.1	16.1	8.7		<b>10.6</b>
Case management	0.6	—	10.5	1.6	4.3		<b>1.9</b>

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

Services received after this impairment  (NOTE: Accommodation post is private residence)	Carer status post discharge - ALL AROC FACILITIES					
	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	16,906	213	2,280	5,976	2,150	<b>27,525</b>
<b>Percent of episodes receiving:</b>						
No services	50.9	31.9	25.7	42.3	48.4	<b>46.6</b>
1 service type	26.9	22.1	16.1	23.2	18.3	<b>24.5</b>
2 service types	11.8	19.2	18.6	14.0	16.4	<b>13.3</b>
3 service types	5.3	13.1	15.6	8.5	10.2	<b>7.3</b>
4 or more service types	5.0	13.6	23.9	12.0	6.7	<b>8.3</b>
<b>Service Type received</b>						
Domestic assistance	22.7	40.8	58.1	32.5	26.2	<b>28.1</b>
Social support	2.9	9.9	9.0	4.5	8.4	<b>4.2</b>
Nursing care	2.5	11.3	6.6	3.0	2.4	<b>3.0</b>
Allied health care	25.3	32.4	38.7	35.0	29.6	<b>28.9</b>
Personal care	3.4	22.1	19.9	6.9	6.7	<b>6.0</b>
Meals	4.8	8.5	16.1	12.1	6.1	<b>7.5</b>
Provision of goods & equipment	18.6	18.3	30.7	23.5	19.3	<b>20.7</b>
Transport services	8.8	18.3	29.3	15.4	11.2	<b>12.2</b>
Case management	1.1	9.4	6.8	1.7	2.3	<b>1.9</b>

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.

## ***Casemix-adjusted relative mean***

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

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

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

**For each episode calculate:**

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

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

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

## ***Complete/incomplete episode***

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

## ***Confidence interval for a mean***

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

## ***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 = recommended rehabilitation episode following suspension**

## ***Data quality score***

The data quality 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.

## ***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)

# AROC impairment codes...continued



## **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

# Acknowledgements

- **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.
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Anywhere Hospital AROC Impairment Specific Report on Orthopaedic Replacements (Inpatient - pathway 3), July 2016 – June 2017. Australasian Rehabilitation Outcomes Centre (2017).

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