AROC Impairment Specific Report

Spinal Cord Injury

INPATIENT – PATHWAY 3

July 2022 – June 2023

Anywhere Hospital

Australasian Faculty of Rehabilitation Medicine

UNIVERSITY OF WOLLONGONG AUSTRALIA

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What's new in this report?

AN-SNAP Changes

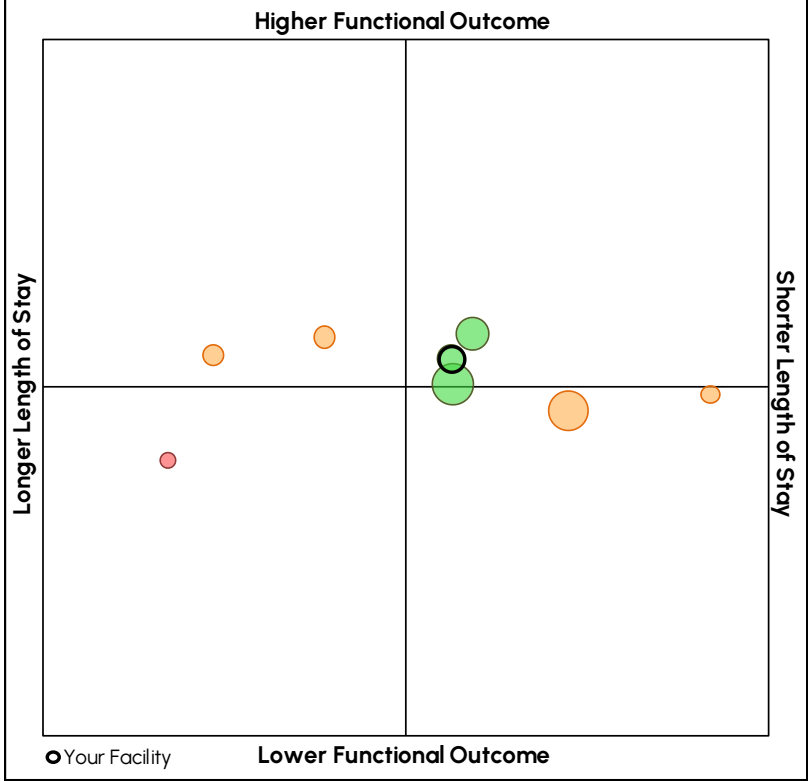
- This is the third AROC report to use the Australian National Sub-Acute and Non-Acute Patient (AN-SNAP) Version 5 Classification, introduced by Independent Health and Aged Care Pricing Authority (IHACPA) in July 2022.
- Like previous AN-SNAP classification versions, Version 5 uses impairment, age, weighted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

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

- **DASHBOARD:** Where you are positioned in the quadrant graph from 2022 onwards is based on V5 casemix-adjusted data, however comparison data from years prior to 2022 uses V4 casemix-adjusted data.
- **OUTCOMES ANALYSIS:** All years' data presented in time-series analysis is casemix-adjusted using AN-SNAP V5 with 2023 as the base year.

Spinal Injury Dashboard

Rehabilitation Outcomes by Facility

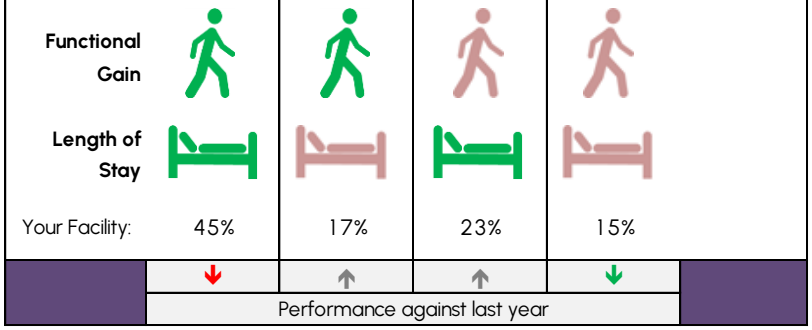


1/9 facilities are outliers and are not shown on graph

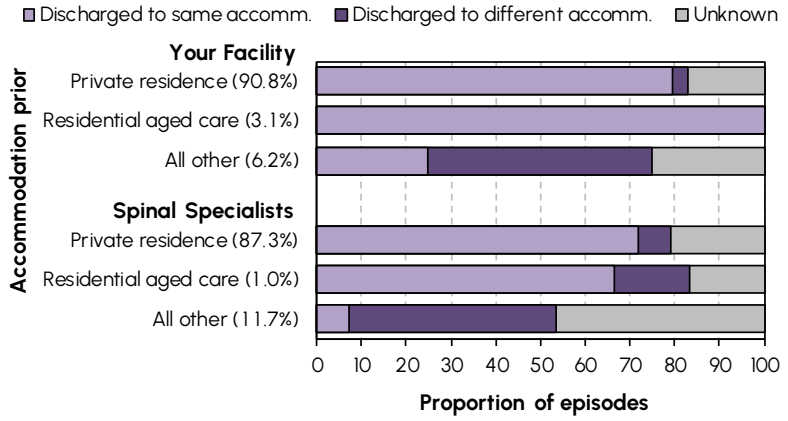
Green
Status

Trend

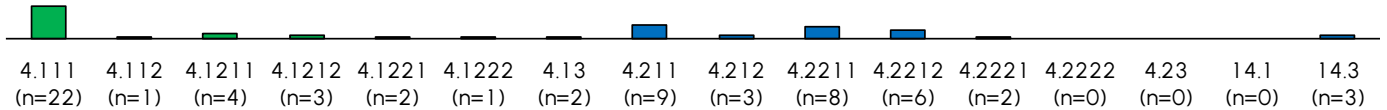
Performance Against Benchmark



Change in Accommodation



Number of Episodes by Impairment



6 Facility Beds (All wards)

66 All Episodes (Total)

Spinal Injury Dashboard

Driving quality and outcome improvements in rehabilitation for 20 YEARS

Key Indicators*

Your Facility		Spinal Specialists	
Average Age:	53.1	Average Age:	55.3
Mortality Rate:	0.0%	Mortality Rate:	0.3%
% with at least one comorbidity:	48%	% with at least one comorbidity:	47%
% with at least one complication:	40%	% with at least one complication:	46%
% episodes with start delays:	22%	% episodes with start delays:	26%
Days between onset and rehab episode:	32.8	Days between onset and rehab episode:	39.6
Days between clinically rehab ready & start date:	2.3	Days between clinically rehab ready & start date:	1.9

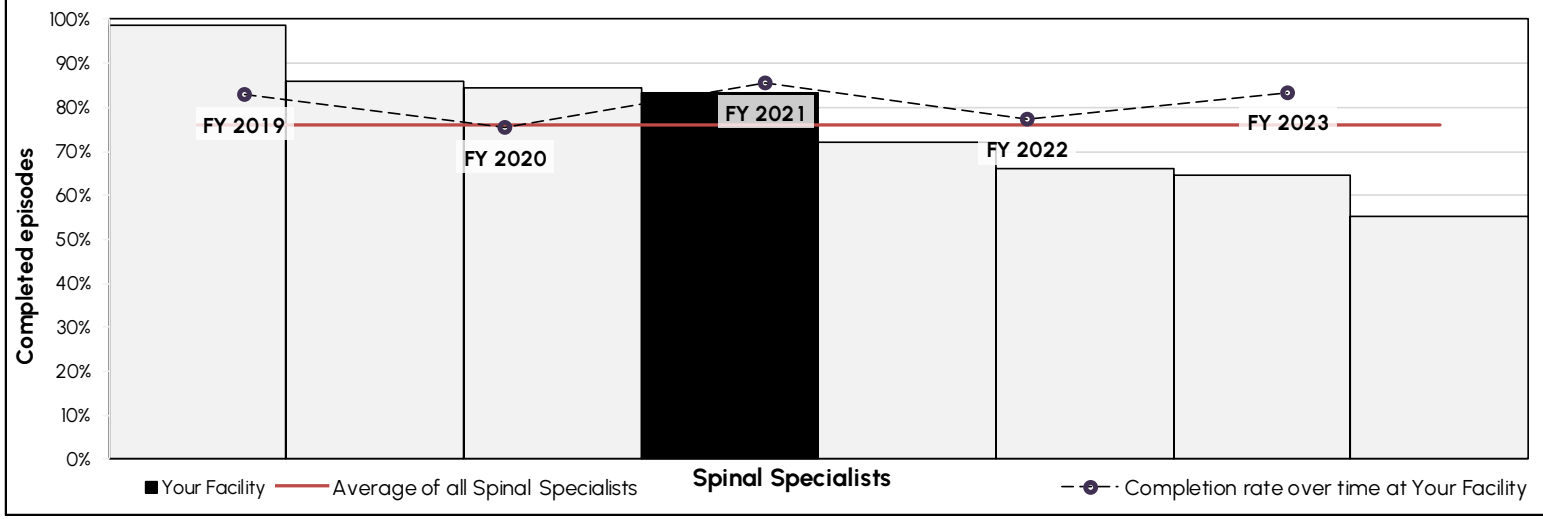
* Mean value provided unless otherwise specified

Facility FIM Training*

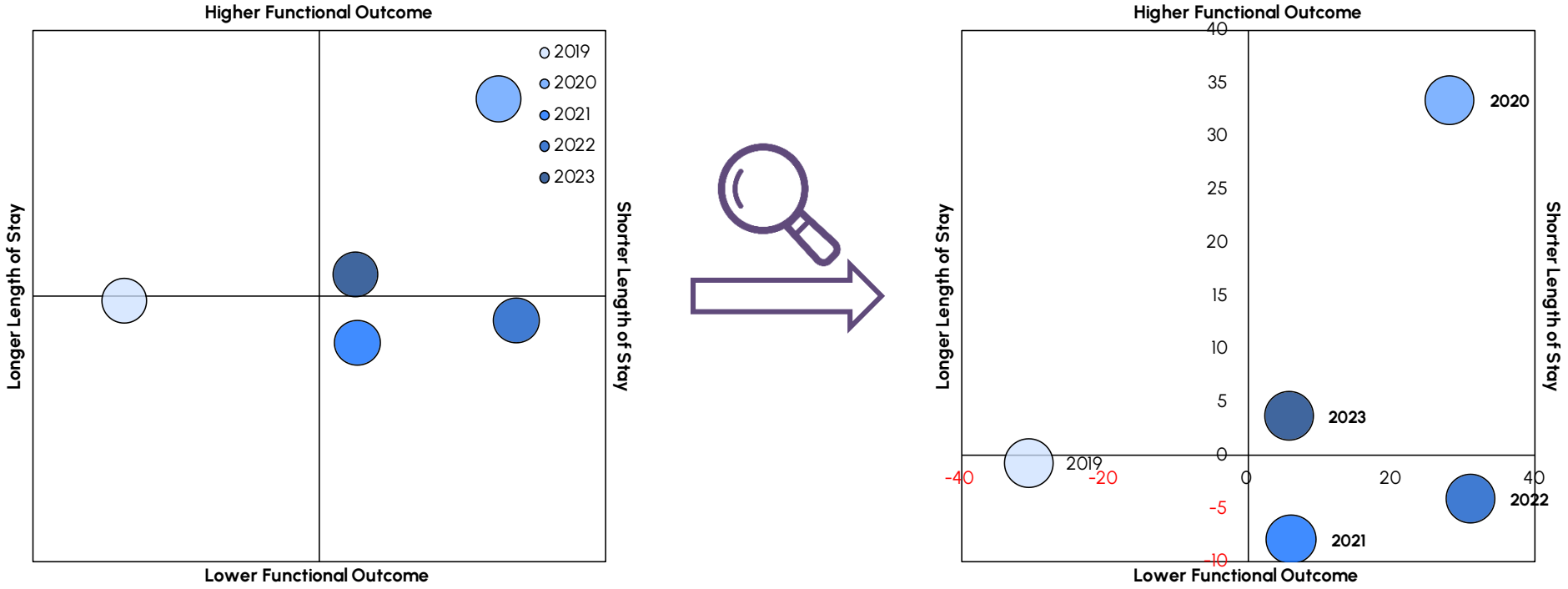
FIM Credentialed Staff per 100 Episodes	FIM Credentialed Facility Trainers
11.7 Your Facility	3 Your Facility
17.4 Spinal Specialists (Mean)	2 AROC Suggested Minimum

* This includes all impairments from all wards

Completed Episodes by Facility



Quadrant Position – last 5 years



Axes are locked to match the dashboard, your facility has 0 data point(s) outside the plot

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

NOTE: For the purpose of this graph, a positive (>0) length of stay represents a stay shorter than the benchmark

Data used in this report

- Spinal cord injury episodes discharged during the reporting period (July 2022 – June 2023) and time series data covering five years.
- Benchmark group is first admission episodes at SPECIALIST spinal cord Injury units in Australia and New Zealand.
- Casemix analysis uses version 5 AN-SNAP classes (Appendix 3). This has been calculated separately for traumatic and non-traumatic episodes since FY2017.
- Data is summarised for your facility, all SPECIALIST and all NON-SPECIALIST services. Where data is provided by specialist facility your facility code is ANYWHERE.
- 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.

The immediate impact of COVID-19 in 2020 on rehabilitation was a 12% decline in the number of rehabilitation episodes following temporary suspension of elective surgeries, ward re-assignments and closures, and fewer traumatic accidents. There is still an ongoing impact of COVID-19 on rehabilitation in the form of reduced inpatient beds, increased patient complexity and staffing issues. See **COVID-19** in Appendix 1 glossary for information about the collection of data for COVID patients.

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

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

Spinal cord injury impairment codes

Spinal cord injury episodes were identified as those with the following AROC impairment codes:

Traumatic (TSCI)

- 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
- 14.1 – Major Multiple Trauma, Brain + Spinal cord injury
- 14.3 – Major Multiple Trauma, Spinal cord injury + multi fracture/amputation

Non-traumatic (NTSCI)

- 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

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

Spinal cord injury AN-SNAP classes

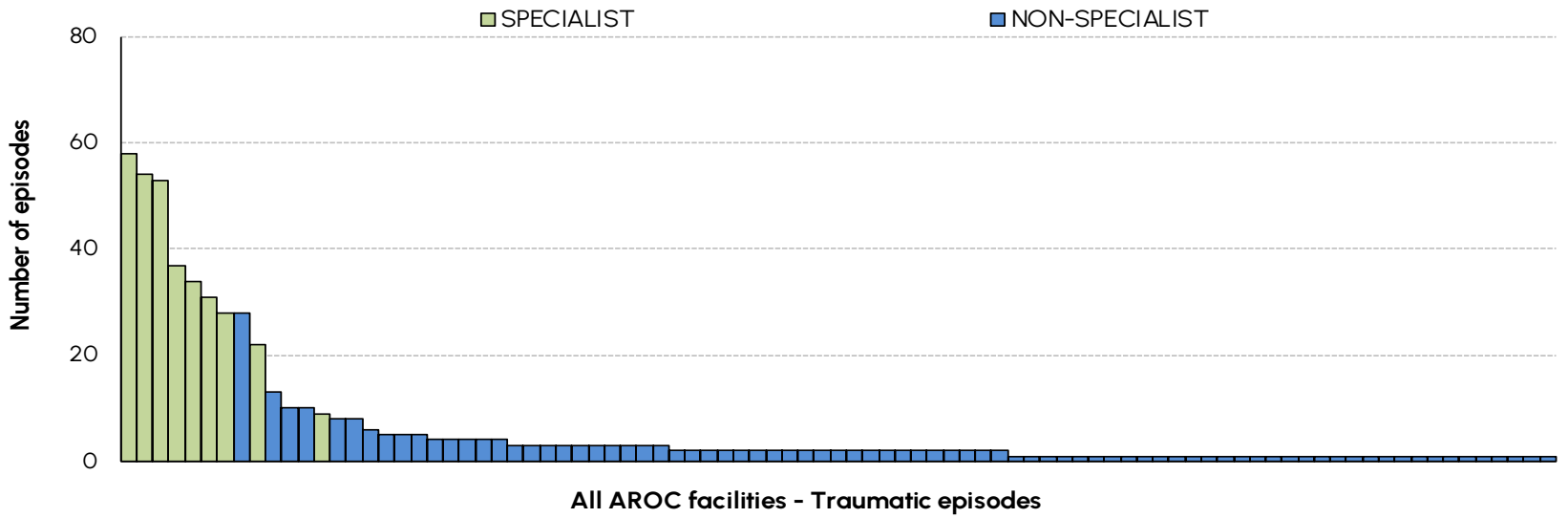
Levels of functioning for spinal cord injury are categorised by the following version 5 AN-SNAP classes:

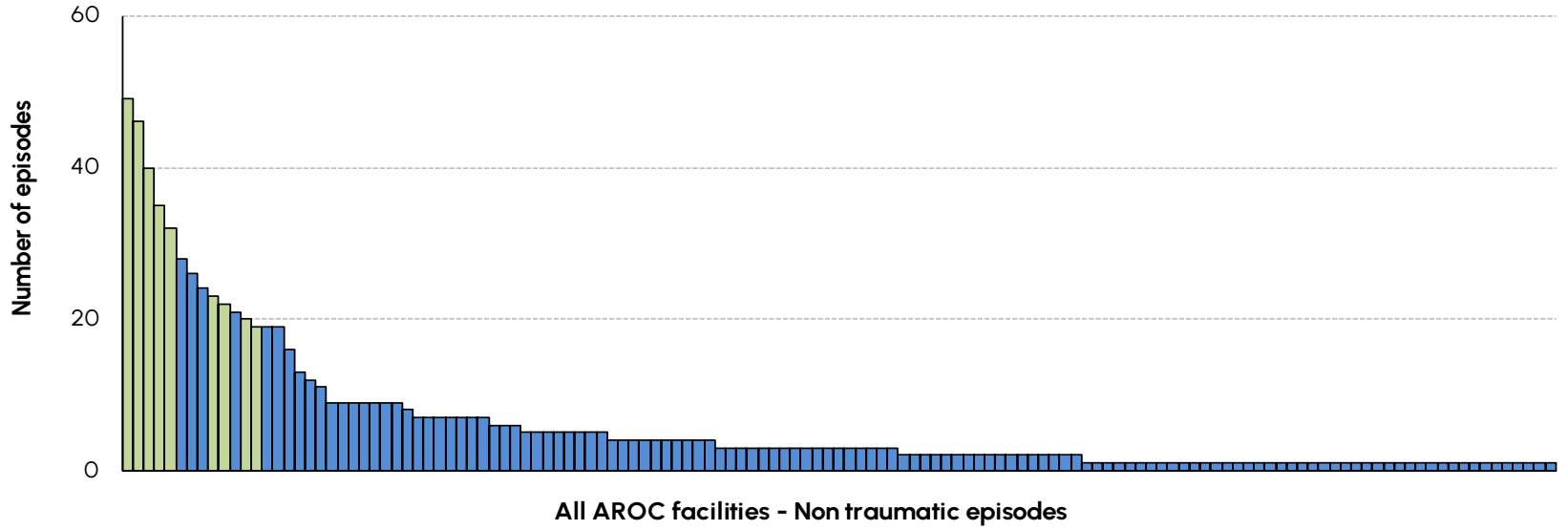
- 5AD1 – Spinal cord dysfunction, weighted FIM motor 55-91
- 5AD2 – Spinal cord dysfunction, weighted FIM motor 37-54
- 5AD3 – Spinal cord dysfunction, weighted FIM motor 19-36
- 5AP1 – Major Multiple Trauma, weighted FIM motor 51-91
- 5AP2 – Major Multiple Trauma, weighted FIM motor 19-50
- 5AZ1 – Spine, Major Multiple Trauma, Weighted FIM motor score 13-18, Age ≥ 59
- 5AZ2 – Spine, Major Multiple Trauma, Weighted FIM motor score 13-18, Age ≤ 58

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

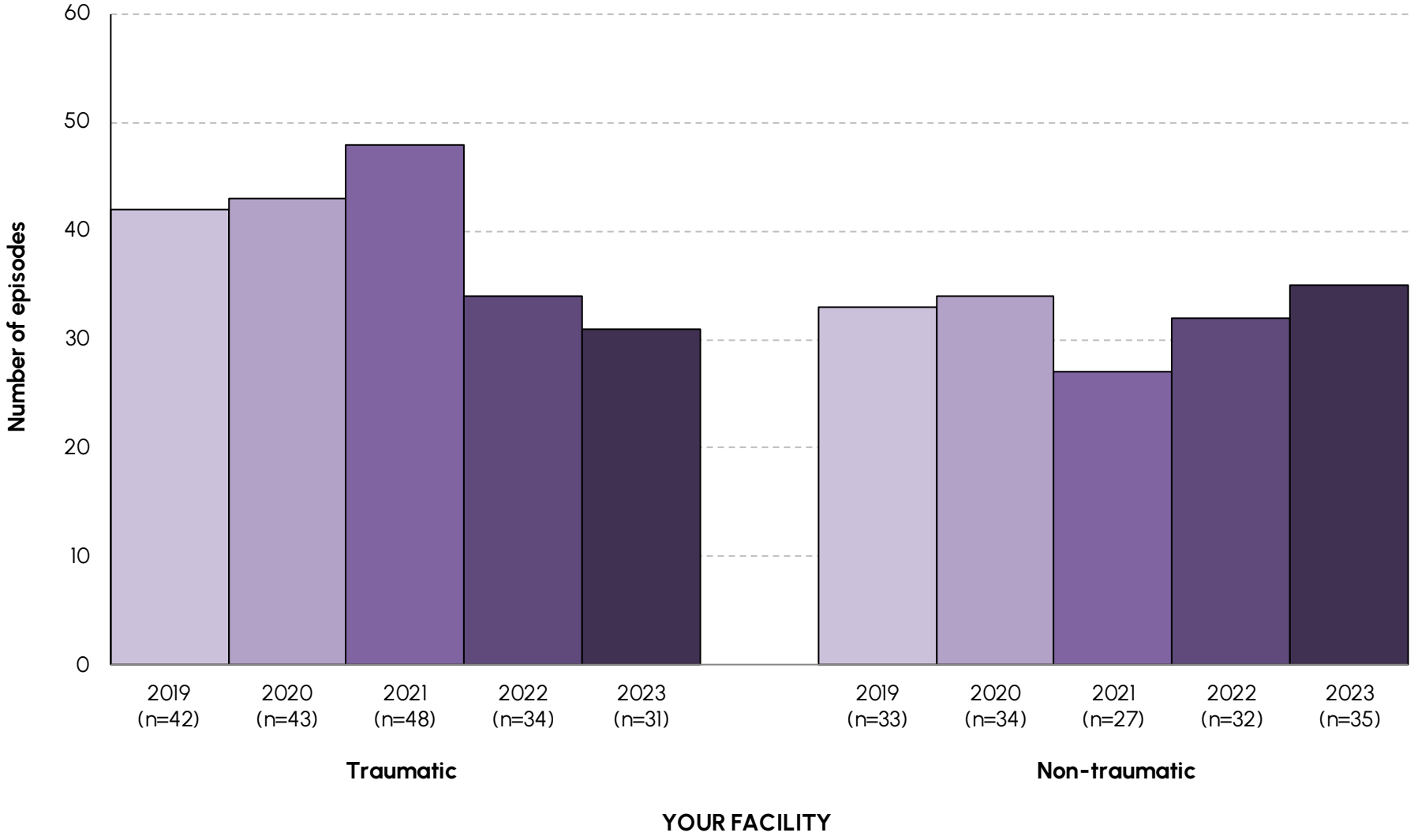
The BIG picture

Volume of episodes by facilities treating spinal cord injury

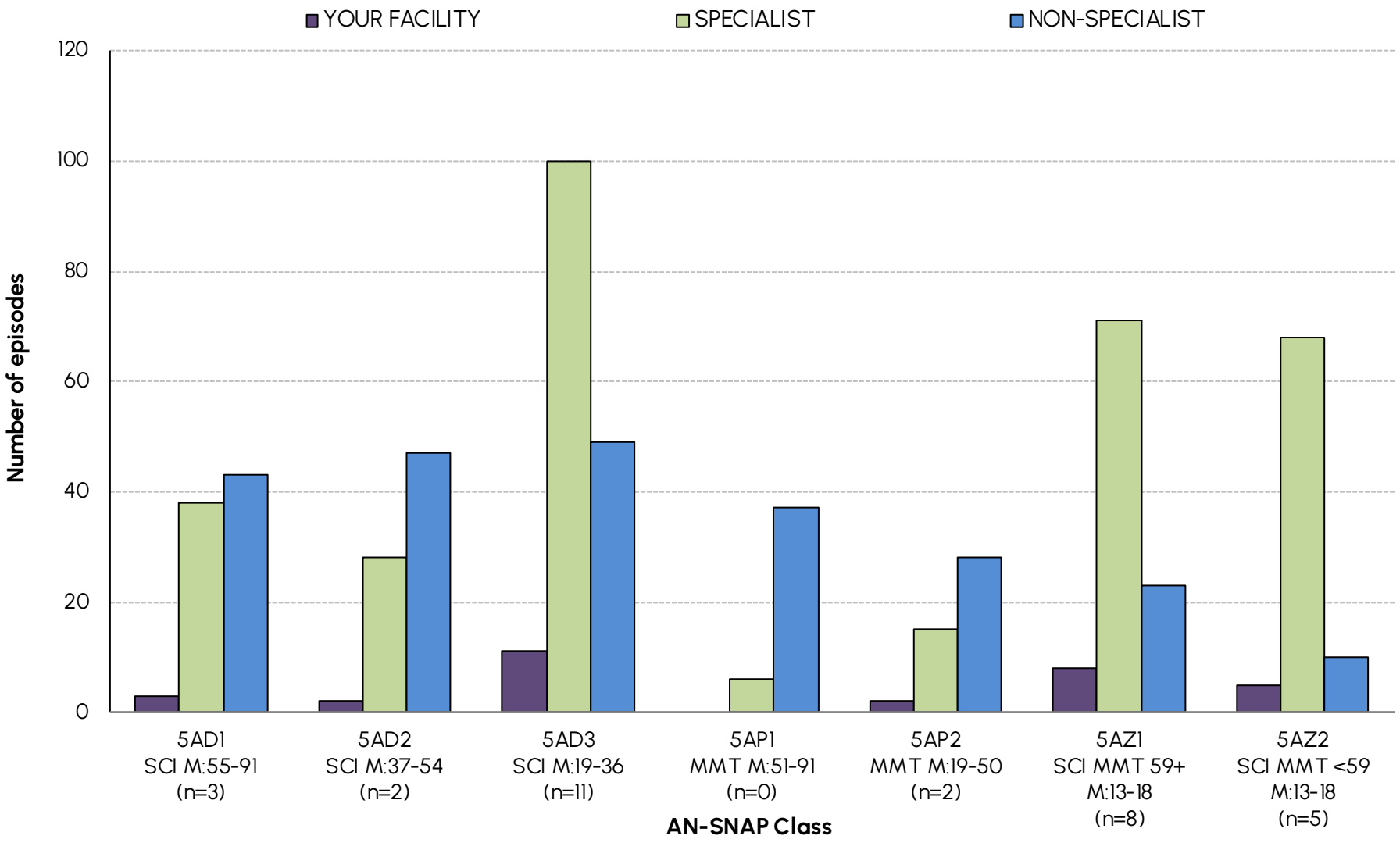




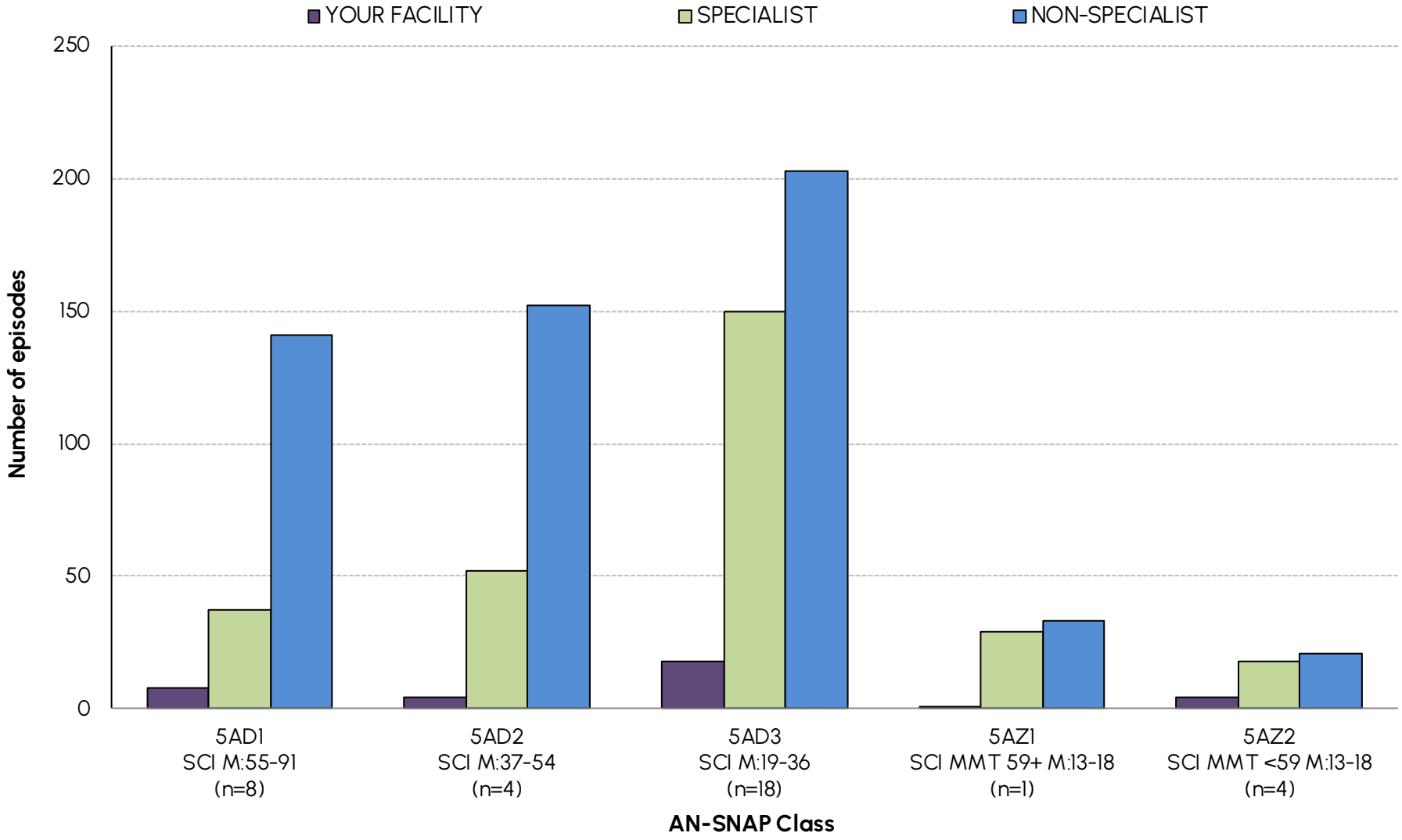
Number of TSCI and NTSCI episodes over time at your facility



Number of TSCI episodes by AN-SNAP class



Number of NTSCI episodes by AN-SNAP class



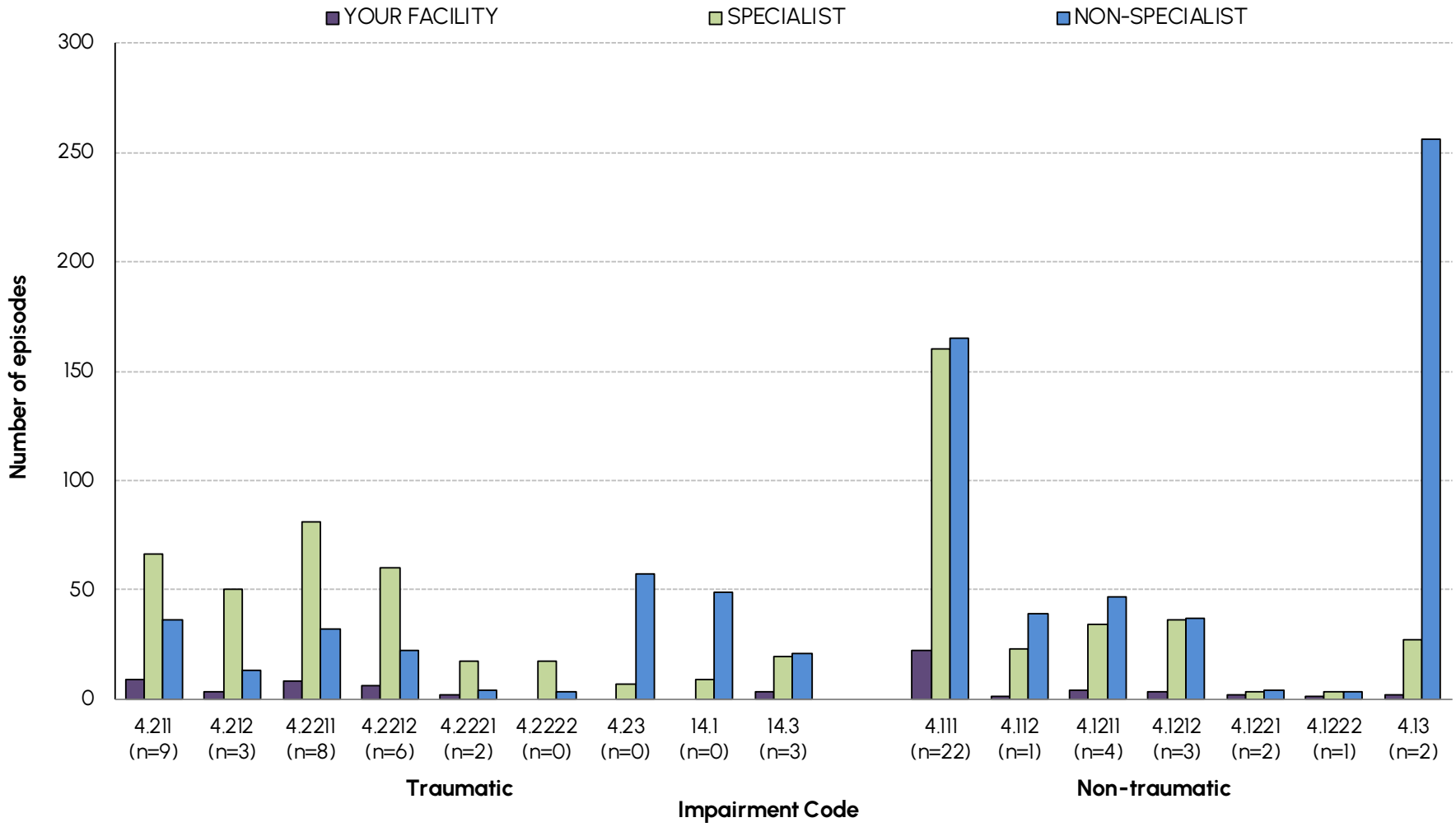
Number of TSCI and NTSCI episodes by AN-SNAP class

	YOUR FACILITY		SPECIALIST		NON-SPECIALIST	
AN-SNAP class	**No.**	**%**	**No.**	**%**	**No.**	**%**
Traumatic episodes						
5AD1 (SCI, Weighted FIM Motor 55 - 91)	3	9.7	38	11.7	43	18.1
5AD2 (SCI, Weighted FIM Motor 37 - 54)	2	6.5	28	8.6	47	19.8
5AD3 (SCI, Weighted FIM Motor 19 - 36)	11	35.5	100	30.7	49	20.7
5AP1 (MMT, Weighted FIM Motor 51 - 91)	0	0.0	6	1.8	37	15.6
5AP2 (MMT, Weighted FIM Motor 19 - 50)	2	6.5	15	4.6	28	11.8
5AZ1 (SCI or MMT, age ≥ 59, weighted FIM motor 13-18)	8	25.8	71	21.8	23	9.7
5AZ2 (SCI or MMT, age ≤ 58, weighted FIM motor 13-18)	5	16.1	68	20.9	10	4.2
All Spinal AN-SNAP classes	**31**	**100.0**	**326**	**100.0**	**237**	**100.0**
Non - traumatic episodes						
5AD1 (SCI, Weighted FIM Motor 55 - 91)	8	25.8	37	11.3	141	59.5
5AD2 (SCI, Weighted FIM Motor 37 - 54)	4	12.9	52	16.0	152	64.1
5AD3 (SCI, Weighted FIM Motor 19 - 36)	18	58.1	150	46.0	203	85.7
5AZ1 (SCI or MMT, age ≥ 59, weighted FIM motor 13-18)	1	3.2	29	8.9	33	13.9
5AZ2 (SCI or MMT, age ≤ 58, weighted FIM motor 13-18)	4	12.9	18	5.5	21	8.9
All Spinal AN-SNAP classes	**35**	**112.9**	**286**	**87.7**	**550**	**232.1**

Note: 0 episode(s) at YOUR FACILITY, 0 episode(s) at SPECIALIST facilities and 0 episode(s) at NON-SPECIALIST facilities had an AN-SNAP class of 599A for traumatic episodes.

Note: 0 episode(s) at YOUR FACILITY, 0 episode(s) at SPECIALIST facilities and 1 episode(s) at NON-SPECIALIST facilities had an AN-SNAP class of 599A for non-traumatic episodes.

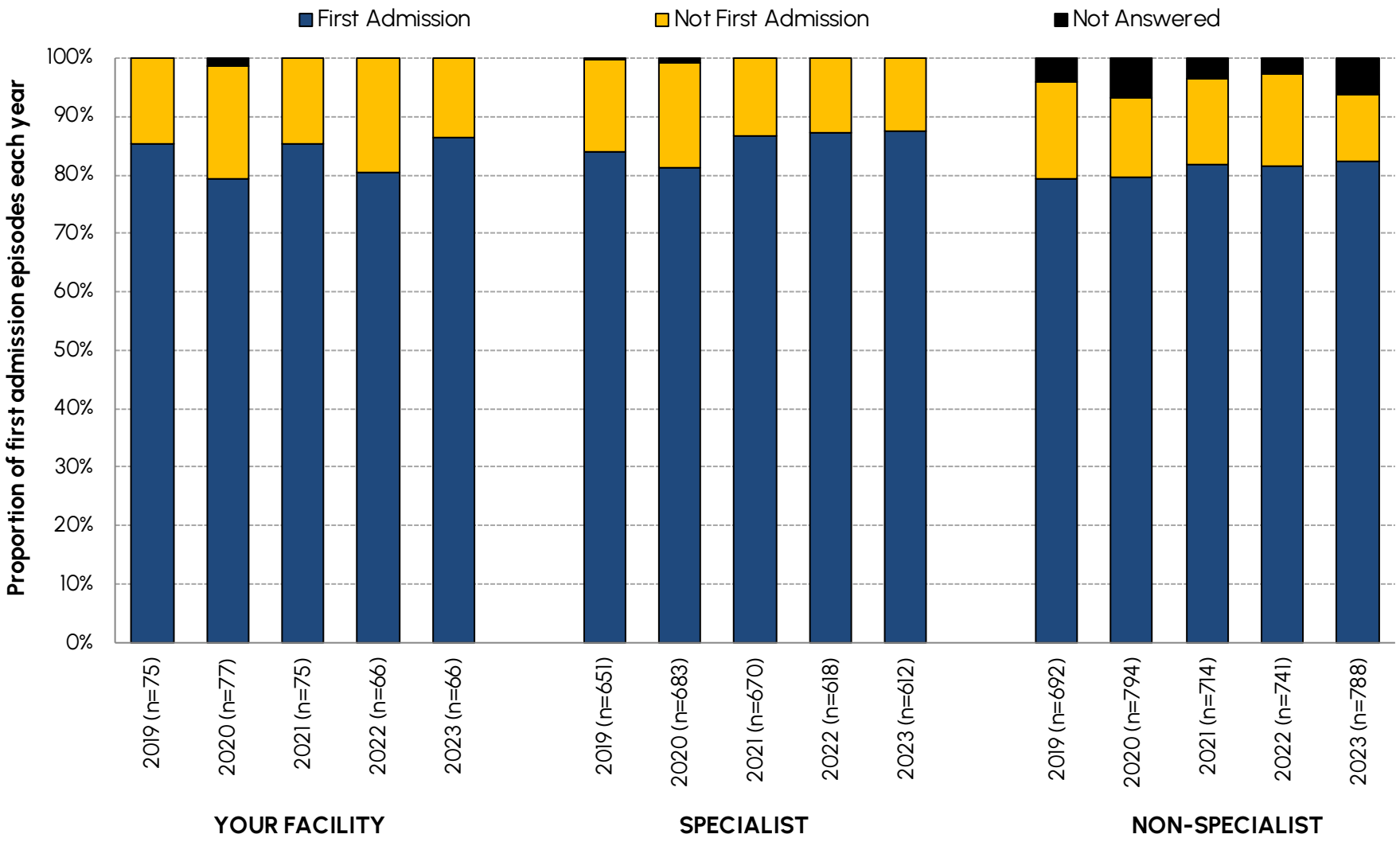
Number of TSCI and NTSCI episodes by impairment



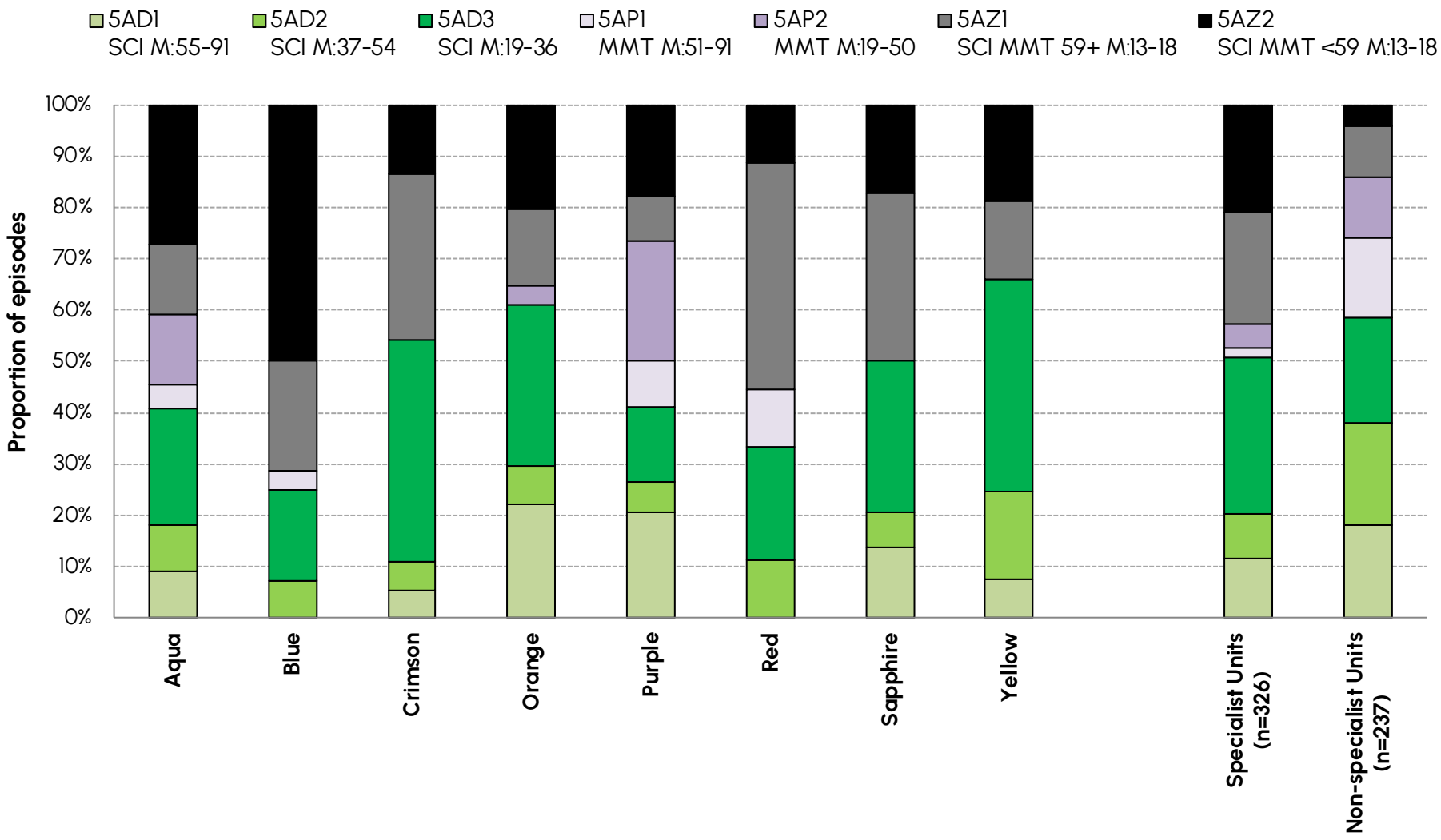
Number of TSCI and NTSCI episodes by impairment

	YOUR FACILITY		SPECIALIST		NON-SPECIALIST	
Impairment	**No.**	**%**	**No.**	**%**	**No.**	**%**
Traumatic impairments						
4.211 Para-Inc	9	29.0	66	20.2	36	15.2
4.212 Para-Comp	3	9.7	50	15.3	13	5.5
4.2211 Quad-Inc C1-4	8	25.8	81	24.8	32	13.5
4.2212 Quad-Inc C5-8	6	19.4	60	18.4	22	9.3
4.2221 Quad-Comp C1-4	2	6.5	17	5.2	4	1.7
4.2222 Quad-Comp C5-8	0	0.0	17	5.2	3	1.3
4.23 Other TSCI	0	0.0	7	2.1	57	24.1
14.1 MMT: brain+spine	0	0.0	9	2.8	49	20.7
14.3 MMT: spine+other	3	9.7	19	5.8	21	8.9
Total TSCI	**31**	**100.0**	**326**	**100.0**	**237**	**100.0**
Non-traumatic impairments						
4.111 Para-Inc	22	62.9	160	55.9	165	29.9
4.112 Para-Comp	1	2.9	23	8.0	39	7.1
4.1211 Quad-Inc C1-4	4	11.4	34	11.9	47	8.5
4.1212 Quad-Inc C5-8	3	8.6	36	12.6	37	6.7
4.1221 Quad-Comp C1-4	2	5.7	3	1.0	4	0.7
4.1222 Quad-Comp C5-8	1	2.9	3	1.0	3	0.5
4.13 Other NTSCI	2	5.7	27	9.4	256	46.5
Total NTSCI	**35**	**100.0**	**286**	**100.0**	**551**	**100.0**
TOTAL SCI	**66**		**612**		**788**	

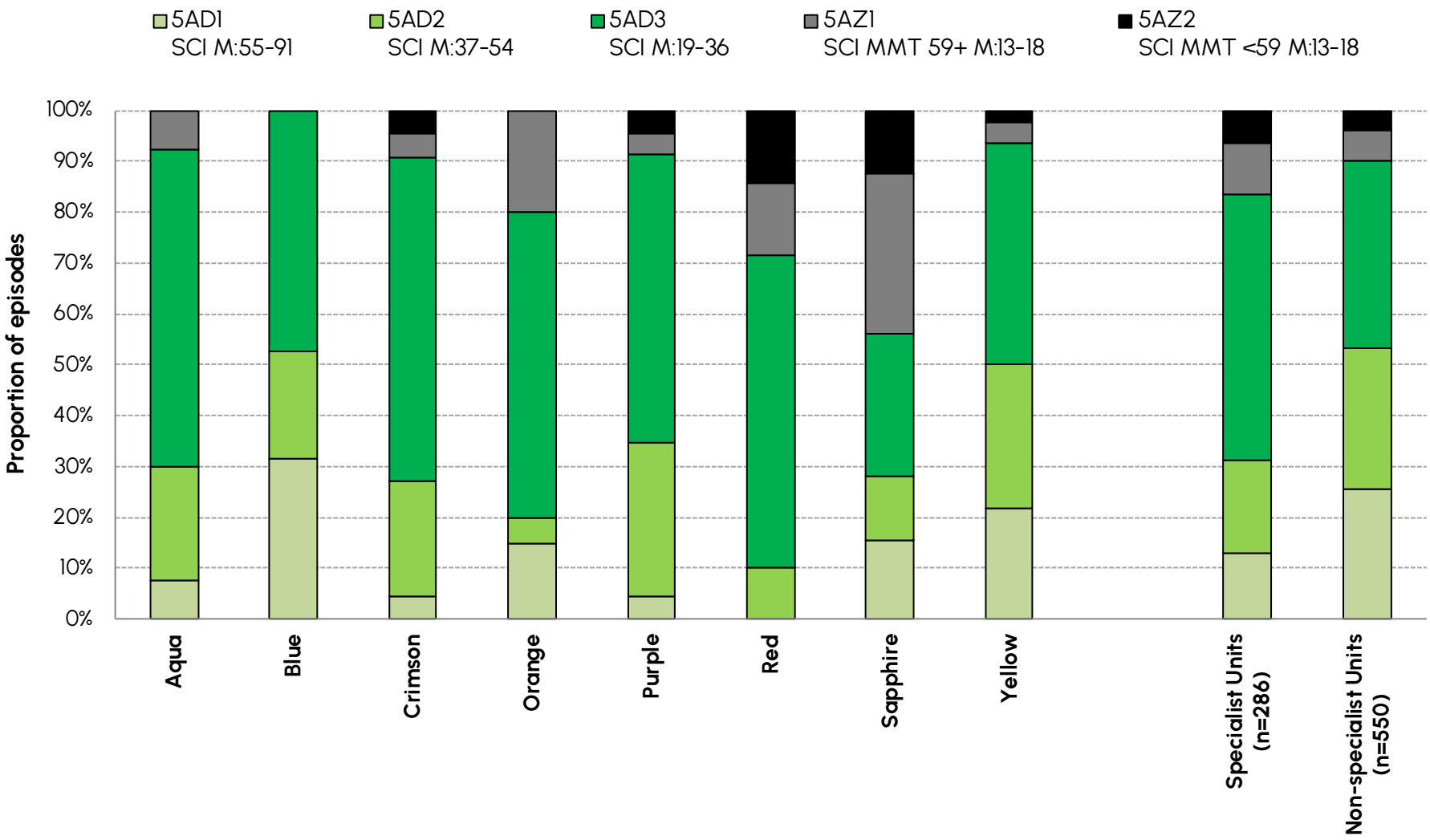
Proportion of first admission episodes over time



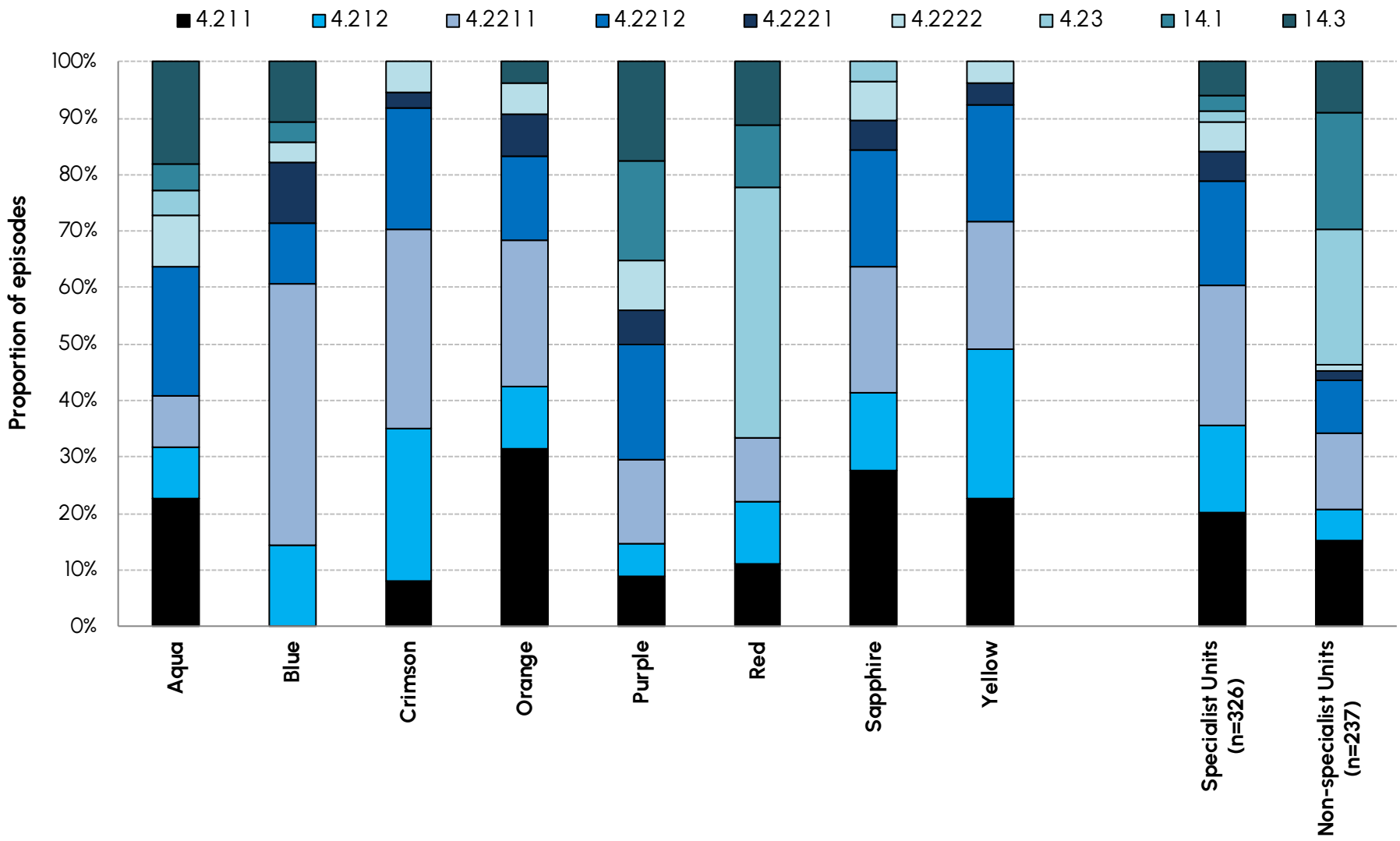
Proportion of TSCI episodes by AN-SNAP class and specialist facility



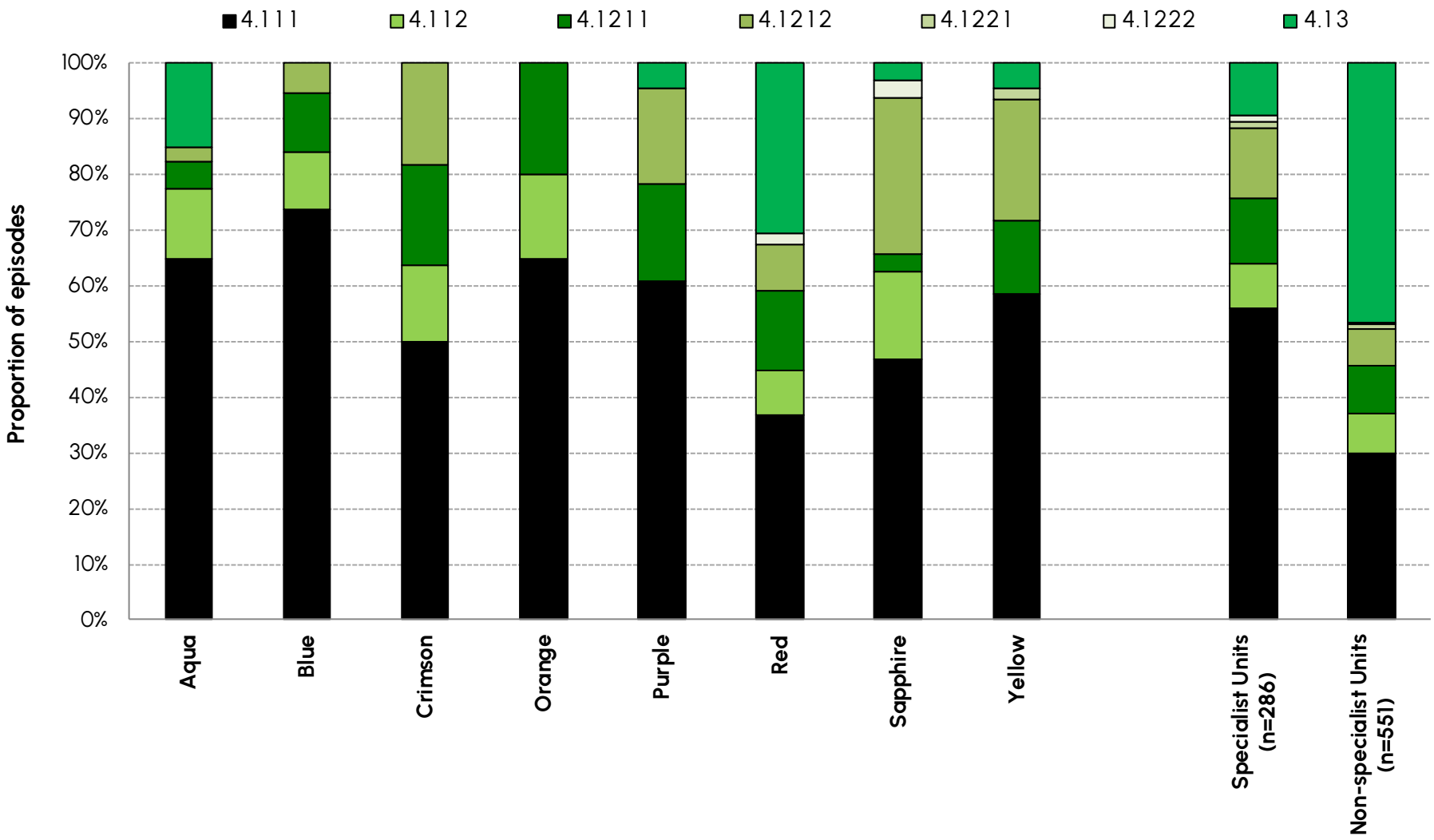
Proportion of NTSCI episodes by AN-SNAP class and specialist facility



Proportion of TSCI episodes by impairment and specialist facility



Proportion of NTSCI episodes by impairment and specialist facility



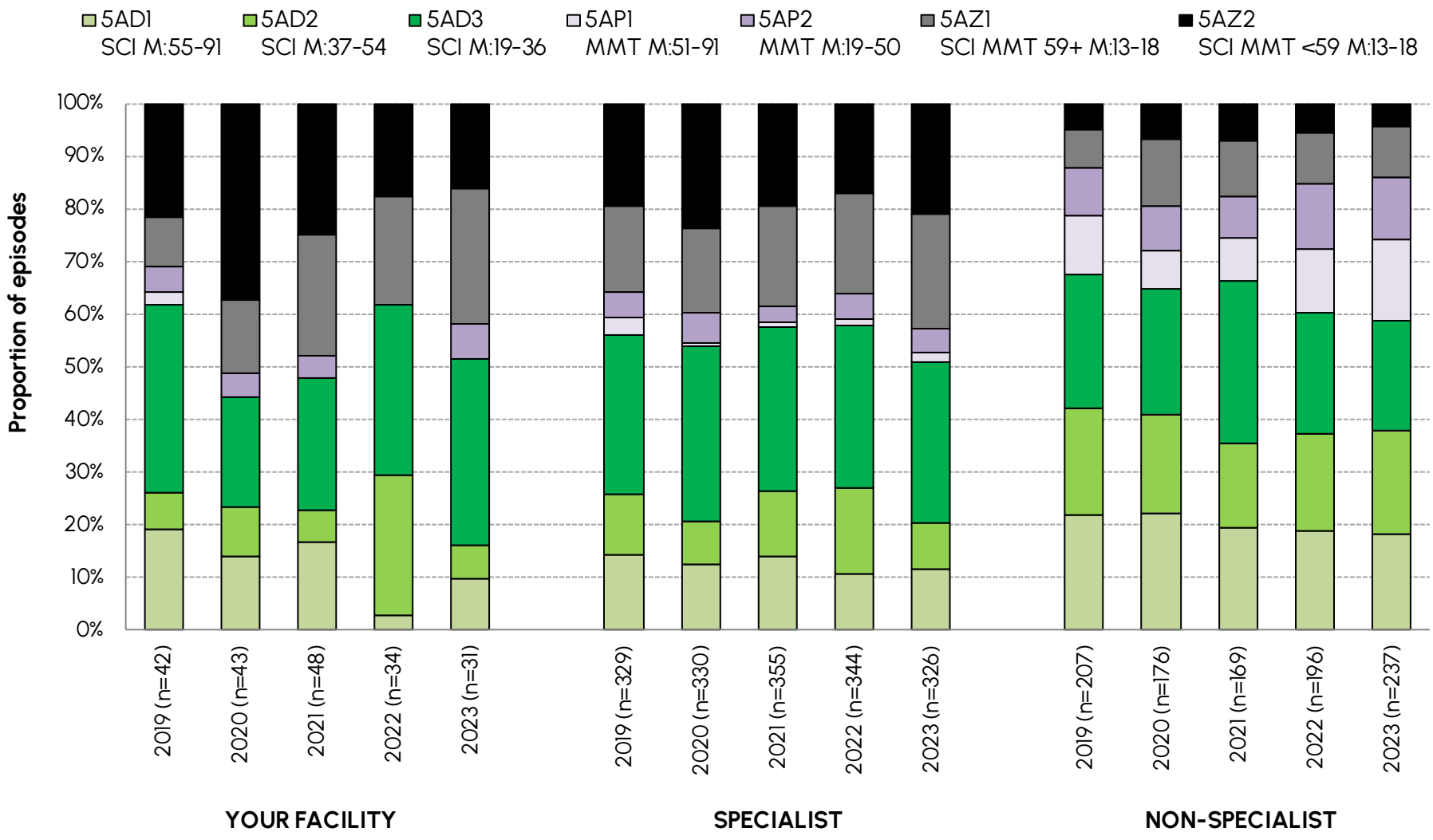
TSCI and NTSCI episodes by impairment and AN-SNAP class

Traumatic	YOUR FACILITY									NON-
Impairment	5AD1	5AD2	5AD3	5AP1	5AP2	5AZ1	5AZ2	TOTAL	SPECIALIST	SPECIALIST
4.211 Para-Inc	1	2	6	0	0	0	0	**9**	**66**	**36**
4.212 Para-Comp	0	0	1	0	0	1	1	**3**	**50**	**13**
4.2211 Quad-Inc C1-4	1	0	1	0	0	4	2	**8**	**81**	**32**
4.2212 Quad-Inc C5-8	1	0	3	0	0	1	1	**6**	**60**	**22**
4.2221 Quad-Comp C1-4	0	0	0	0	0	1	1	**2**	**17**	**4**
4.2222 Quad-Comp C5-8	0	0	0	0	0	0	0	**0**	**17**	**3**
4.23 Other TSCI	0	0	0	0	0	0	0	**0**	**7**	**57**
14.1 MMT: brain+spine	0	0	0	0	0	0	0	**0**	**9**	**49**
14.3 MMT: spine+other	0	0	0	0	2	1	0	**3**	**19**	**21**
Total	**3**	**2**	**11**	**0**	**2**	**8**	**5**	**31**	**326**	**237**
SPECIALIST	**38**	**28**	**100**	**6**	**15**	**71**	**68**	**326**		
NON-SPECIALIST	**43**	**47**	**49**	**37**	**28**	**23**	**10**	**237**		

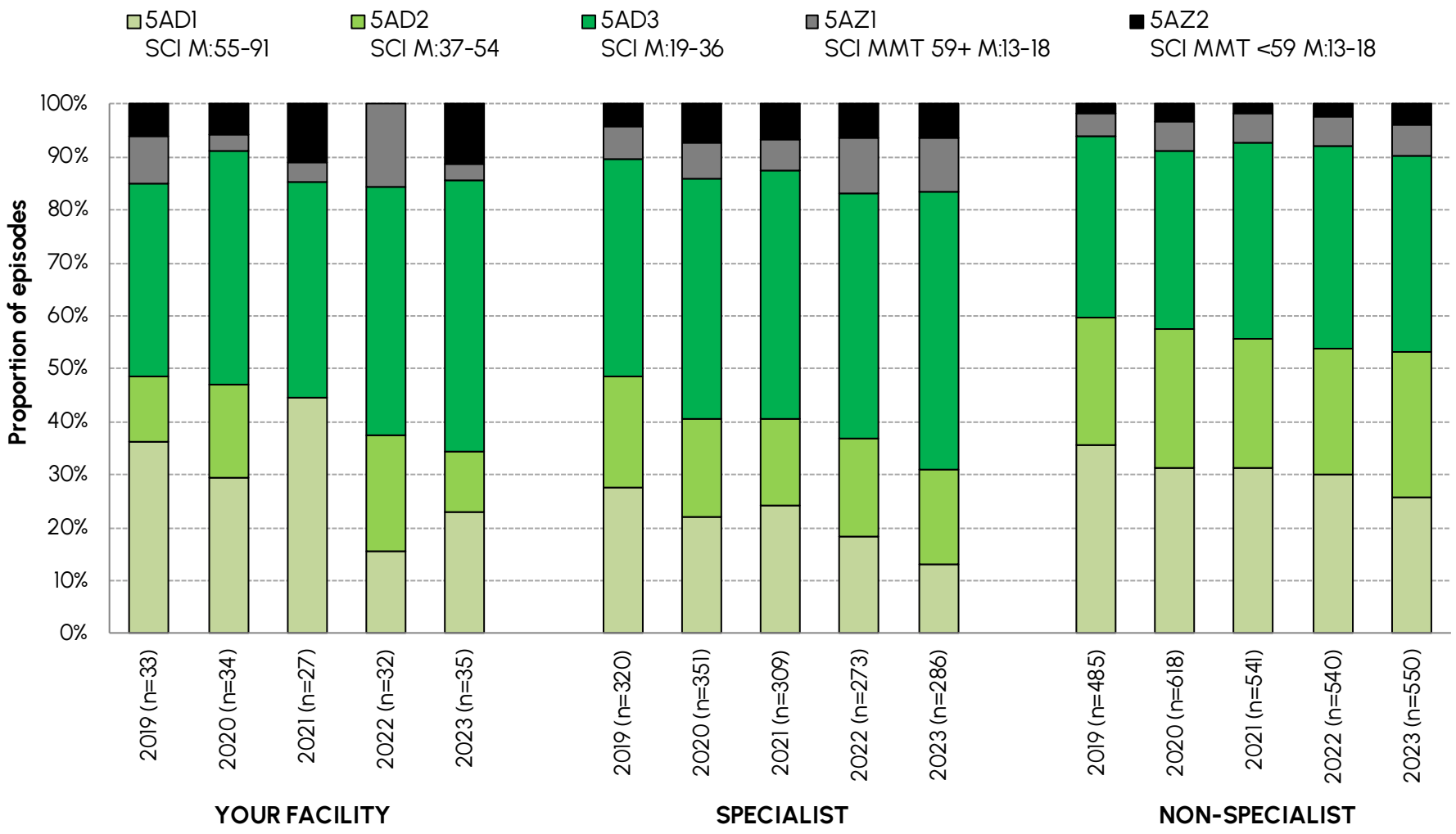
Non-traumatic	YOUR FACILITY							NON-
Impairment	5AD1	5AD2	5AD3	5AZ1	5AZ2	TOTAL	SPECIALIST	SPECIALIST
4.111 Para-Inc	7	2	13	0	0	**22**	**160**	**165**
4.112 Para-Comp	0	0	1	0	0	**1**	**23**	**39**
4.1211 Quad-Inc C1-4	1	0	2	0	1	**4**	**34**	**47**
4.1212 Quad-Inc C5-8	0	1	1	1	0	**3**	**36**	**37**
4.1221 Quad-Comp C1-4	0	0	0	0	2	**2**	**3**	**4**
4.1222 Quad-Comp C5-8	0	0	0	0	1	**1**	**3**	**3**
4.13 Other NTSCI	0	1	1	0	0	**2**	**27**	**255**
Total	**8**	**4**	**18**	**1**	**4**	**35**	**286**	**550**
SPECIALIST	**37**	**52**	**150**	**29**	**18**	**286**		
NON-SPECIALIST	**141**	**152**	**203**	**33**	**21**	**550**		

Note: 0 episode(s) at YOUR FACILITY, 0 episode(s) at SPECIALIST facilities and 0 episode(s) at NON-SPECIALIST facilities had an AN-SNAP class of 599A.

Proportion of TSCI episodes by AN-SNAP class over time



Proportion of NTSCI episodes by AN-SNAP class over time

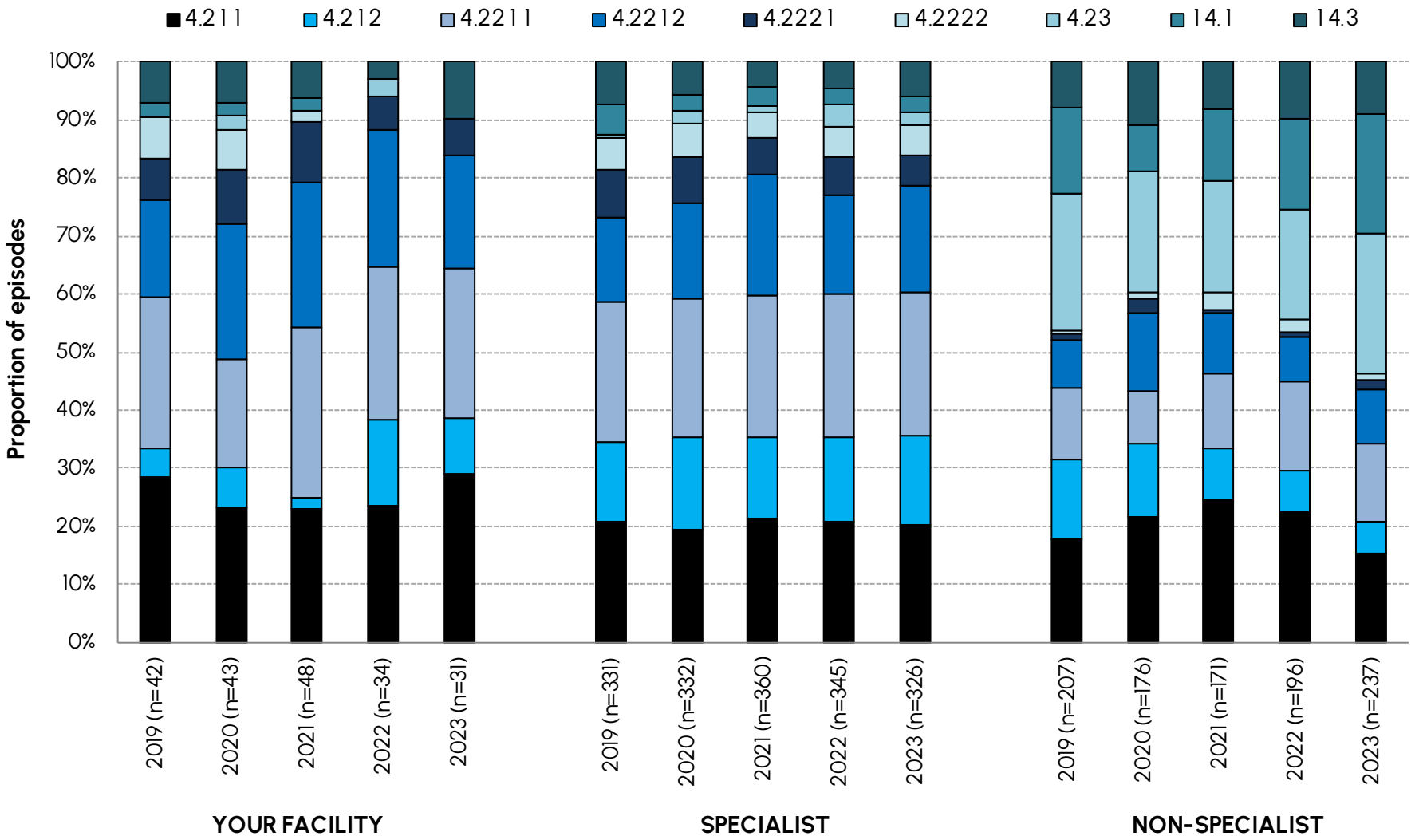


TSCI and NTSCI episodes by AN-SNAP class over time

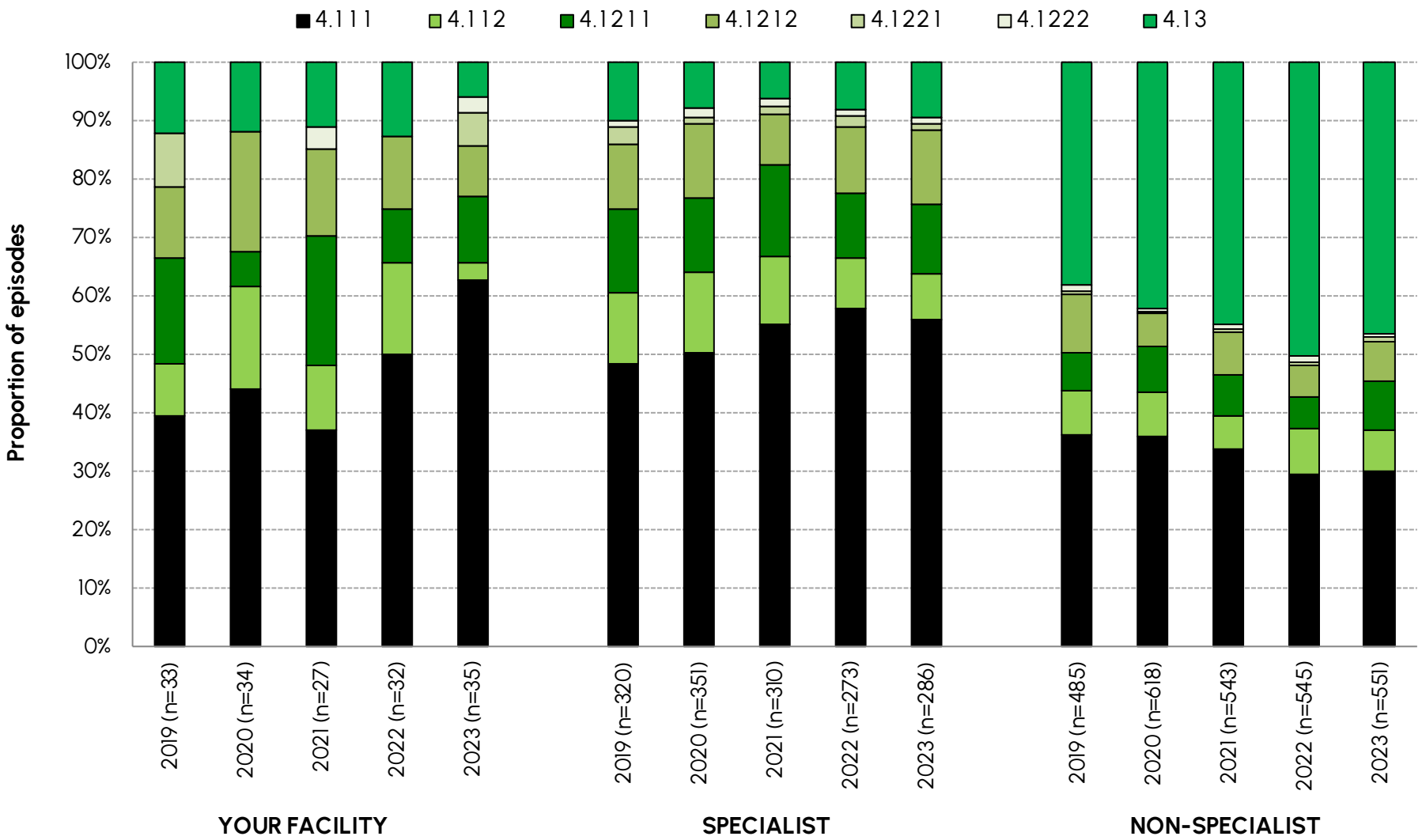
Traumatic	YOUR FACILITY					SPECIALIST					NON-SPECIALIST				
AN-SNAP class	**2019**	**2020**	**2021**	**2022**	**2023**	**2019**	**2020**	**2021**	**2022**	**2023**	**2019**	**2020**	**2021**	**2022**	**2023**
5AD1 (SCI, Weighted FIM Motor 55 - 91)	8	6	8	1	3	47	41	50	37	38	45	39	33	37	43
5AD2 (SCI, Weighted FIM Motor 37 - 54)	3	4	3	9	2	38	27	44	56	28	42	33	27	36	47
5AD3 (SCI, Weighted FIM Motor 19 - 36)	15	9	12	11	11	99	110	110	106	100	53	42	52	45	49
5AP1 (MMT, Weighted FIM Motor 51 - 91)	1	0	0	0	0	11	2	4	4	6	23	13	14	24	37
5AP2 (MMT, Weighted FIM Motor 19 - 50)	2	2	2	0	2	16	19	10	17	15	19	15	13	24	28
5AZ1 (SCI or MMT, age ≥ 59, weighted FIM motor 13-18)	4	6	11	7	8	54	53	68	65	71	15	22	18	19	23
5AZ2 (SCI or MMT, age ≤ 58, weighted FIM motor 13-18)	9	16	12	6	5	64	78	69	59	68	10	12	12	11	10
All Spinal AN-SNAP classes	**42**	**43**	**48**	**34**	**31**	**329**	**330**	**355**	**344**	**326**	**207**	**176**	**169**	**196**	**237**

Non-traumatic	YOUR FACILITY					SPECIALIST					NON-SPECIALIST				
AN-SNAP class	**2019**	**2020**	**2021**	**2022**	**2023**	**2019**	**2020**	**2021**	**2022**	**2023**	**2019**	**2020**	**2021**	**2022**	**2023**
5AD1 (SCI, Weighted FIM Motor 55 - 91)	12	10	12	5	8	88	77	75	50	37	172	193	170	163	141
5AD2 (SCI, Weighted FIM Motor 37 - 54)	4	6	0	7	4	67	65	50	51	52	118	162	131	128	152
5AD3 (SCI, Weighted FIM Motor 19 - 36)	12	15	11	15	18	132	160	145	126	150	166	209	200	206	203
5AZ1 (SCI or MMT, age ≥ 59, weighted FIM motor 13-18)	3	1	1	5	1	20	23	18	29	29	20	33	31	31	33
5AZ2 (SCI or MMT, age ≤ 58, weighted FIM motor 13-18)	2	2	3	0	4	13	26	21	17	18	9	21	9	12	21
All Spinal AN-SNAP classes	**33**	**34**	**27**	**32**	**35**	**320**	**351**	**309**	**273**	**286**	**485**	**618**	**541**	**540**	**550**

Proportion of TSCI episodes by impairment over time



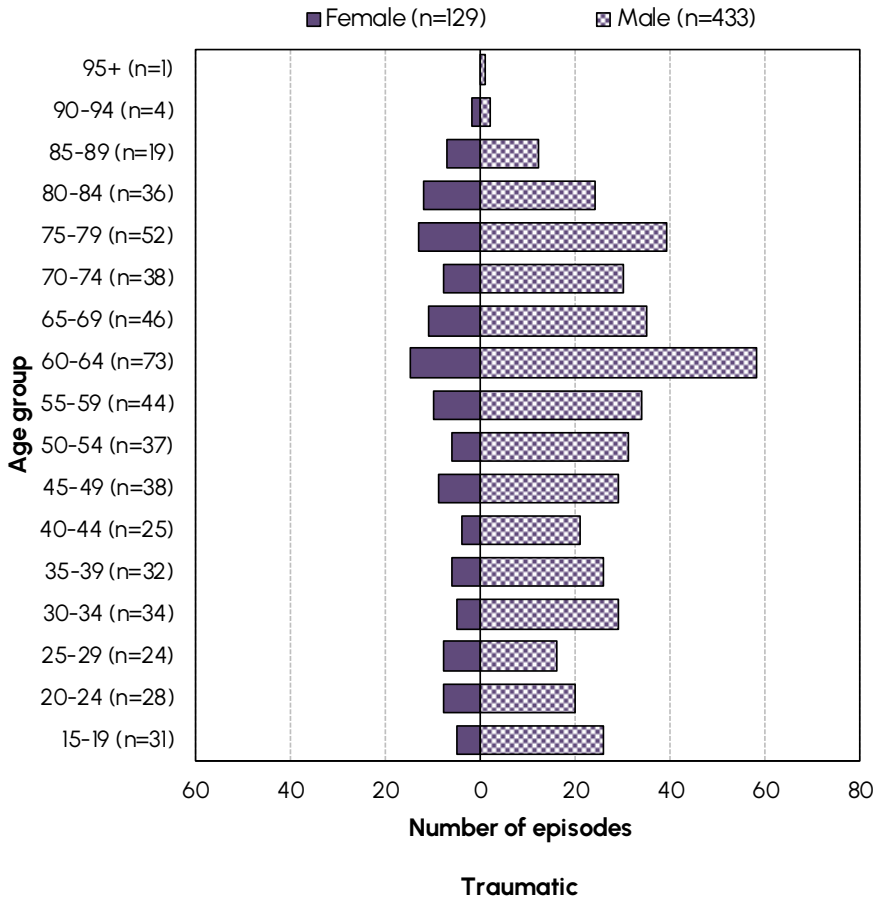
Proportion of NTSCI episodes by impairment over time

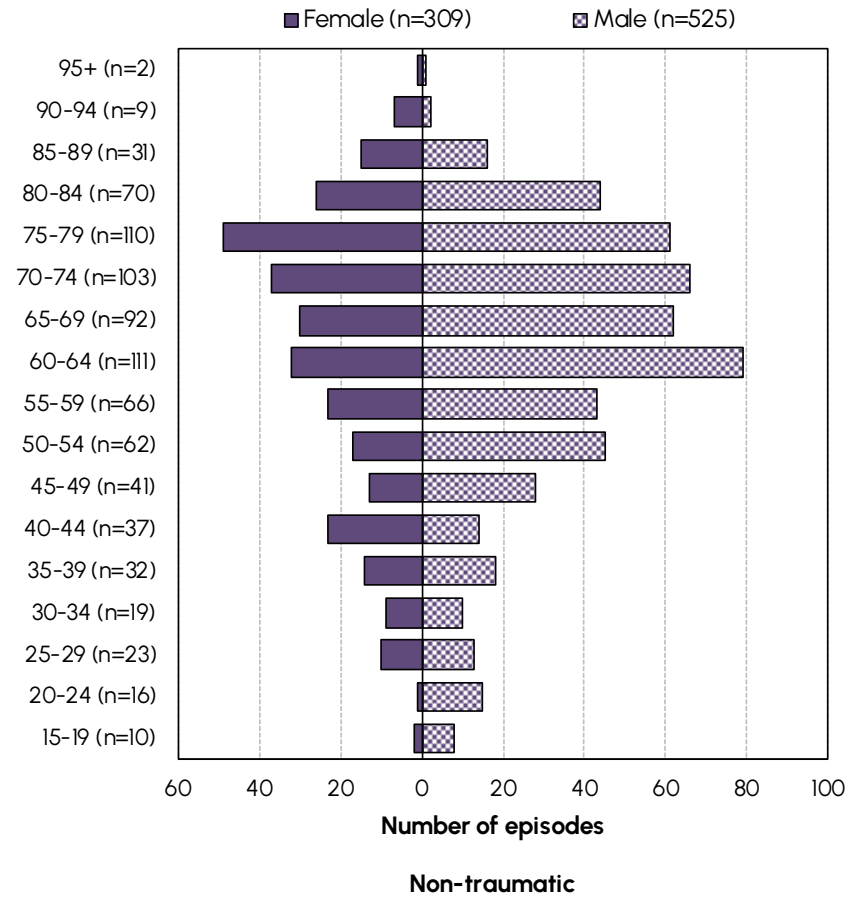


TSCI and NTSCI episodes by impairment over time

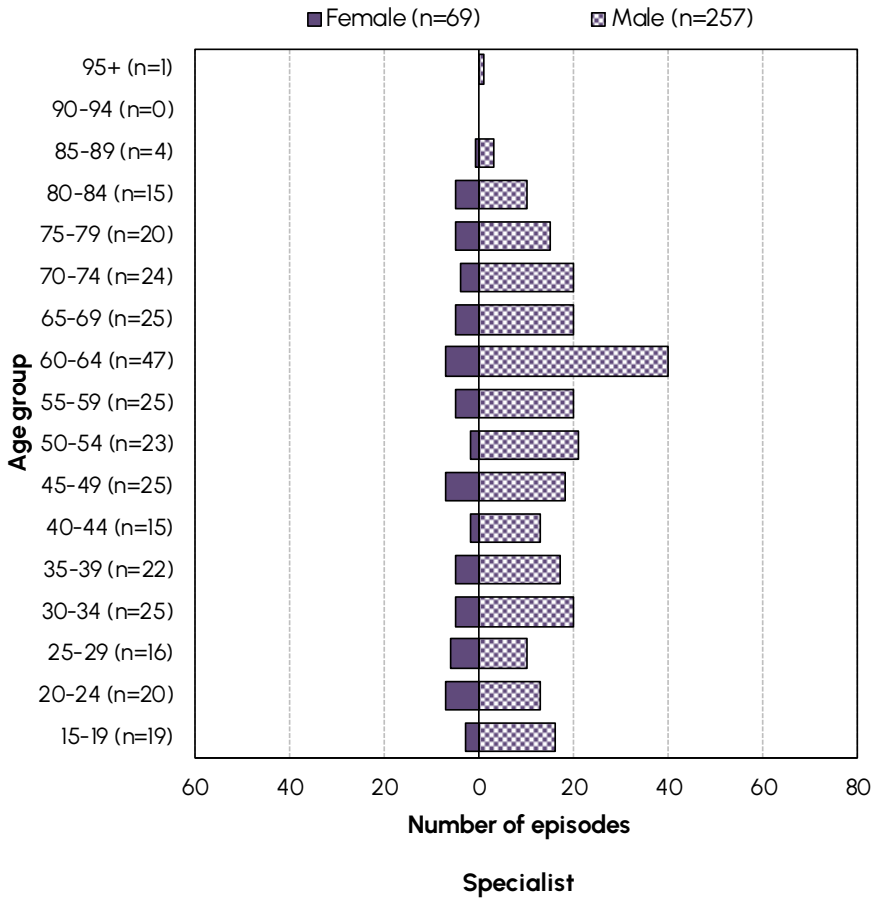
	YOUR FACILITY					SPECIALIST					NON-SPECIALIST				
Impairment	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
Traumatic impairments															
4.211 Para-Inc	12	10	11	8	9	69	64	77	72	66	37	38	42	44	36
4.212 Para-Comp	2	3	1	5	3	45	53	50	50	50	28	22	15	14	13
4.2211 Quad-Inc C1-4	11	8	14	9	8	80	80	88	85	81	26	16	22	30	32
4.2212 Quad-Inc C5-8	7	10	12	8	6	48	54	75	59	60	17	24	18	15	22
4.2221 Quad-Comp C1-4	3	4	5	2	2	28	27	23	23	17	2	4	1	2	4
4.2222 Quad-Comp C5-8	3	3	1	0	0	18	19	16	18	17	1	2	5	4	3
4.23 Other TSCI	0	1	0	1	0	2	7	4	13	7	49	37	33	37	57
14.1 MMT: brain+spine	1	1	1	0	0	17	9	12	9	9	31	14	21	31	49
14.3 MMT: spine+other	3	3	3	1	3	24	19	15	16	19	16	19	14	19	21
Total TSCI	**42**	**43**	**48**	**34**	**31**	**331**	**332**	**360**	**345**	**326**	**207**	**176**	**171**	**196**	**237**
Non-traumatic impairments															
4.111 Para-Inc	13	15	10	16	22	155	177	171	158	160	176	222	184	160	165
4.112 Para-Comp	3	6	3	5	1	39	48	36	24	23	36	47	30	43	39
4.1211 Quad-Inc C1-4	6	2	6	3	4	46	45	49	30	34	32	49	38	30	47
4.1212 Quad-Inc C5-8	4	7	4	4	3	35	44	27	31	36	49	35	41	29	37
4.1221 Quad-Comp C1-4	3	0	0	0	2	10	4	4	5	3	2	1	2	4	4
4.1222 Quad-Comp C5-8	0	0	1	0	1	3	6	4	3	3	6	4	4	5	3
4.13 Other NTSCI	4	4	3	4	2	32	27	19	22	27	184	260	244	274	256
Total NTSCI	**33**	**34**	**27**	**32**	**35**	**320**	**351**	**310**	**273**	**286**	**485**	**618**	**543**	**545**	**551**
TOTAL SCI	**75**	**77**	**75**	**66**	**66**	**651**	**683**	**670**	**618**	**612**	**692**	**794**	**714**	**741**	**788**

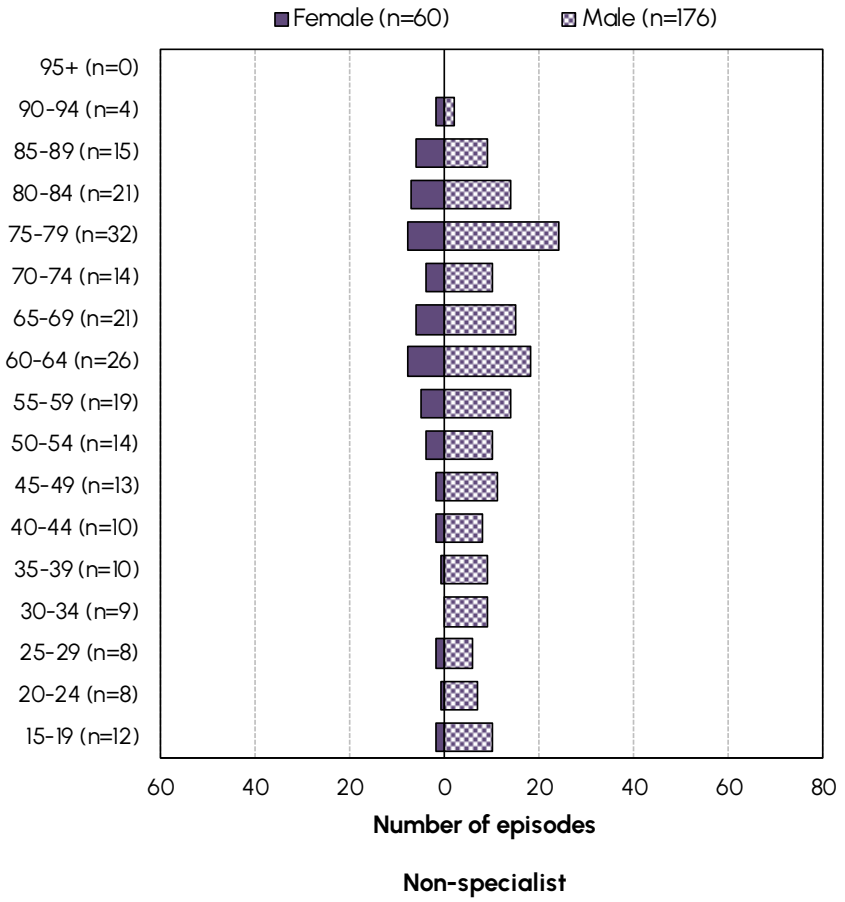
Number of episodes by age group and sex – TSCI and NTSCI



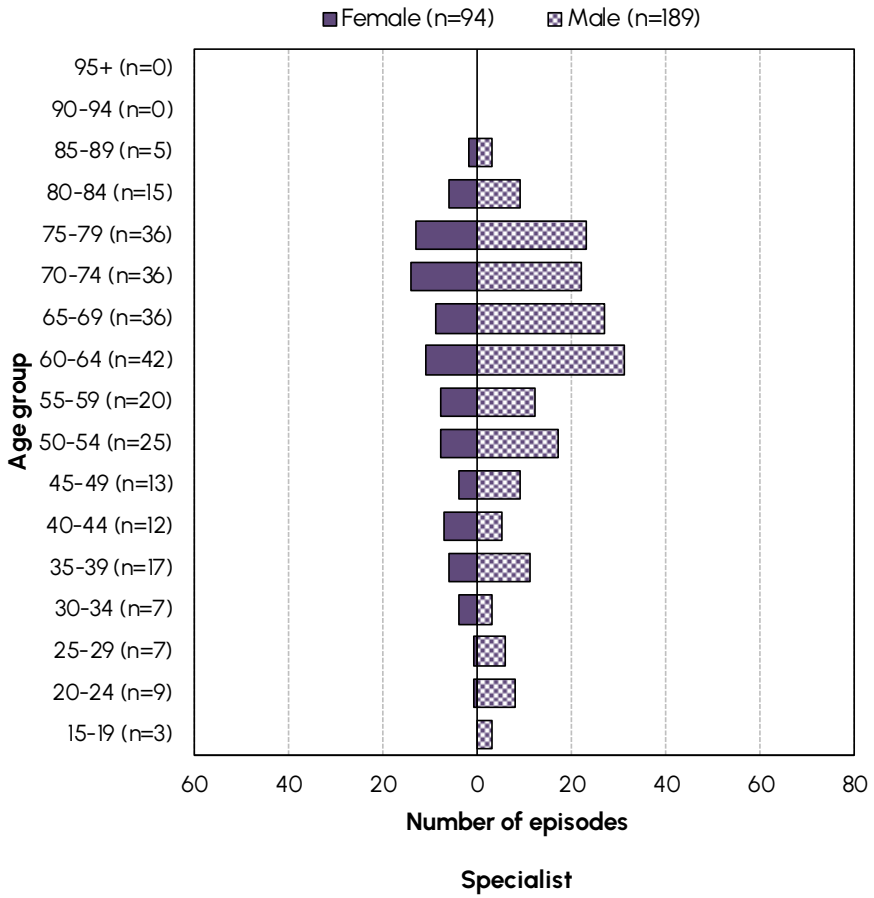


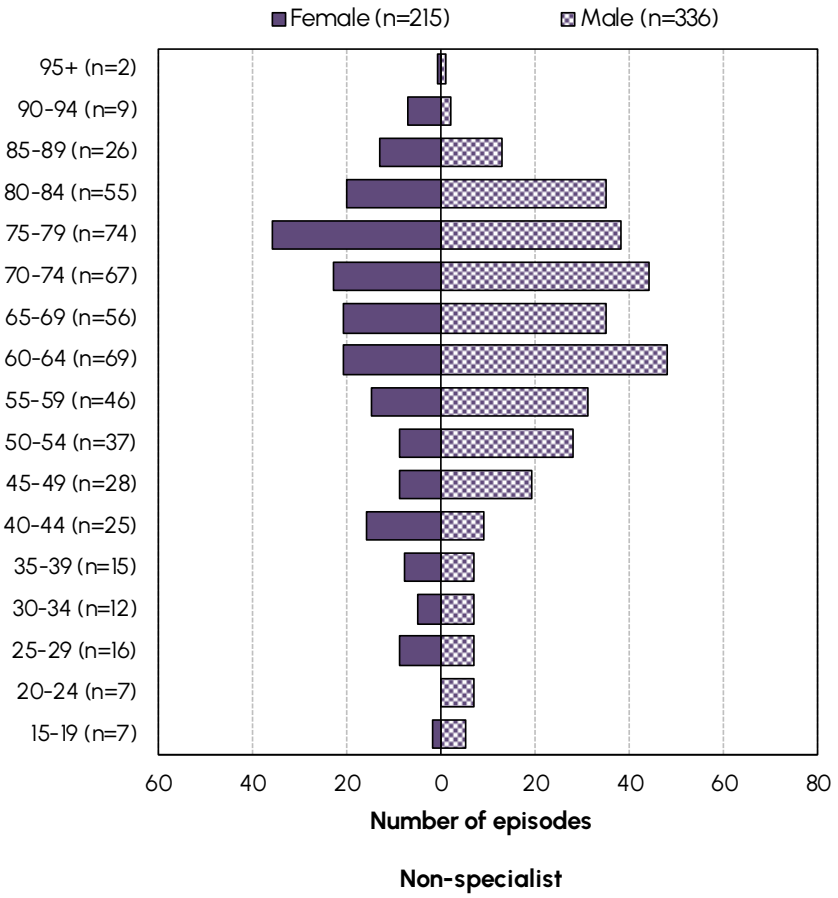
Number of TSCI episodes by age group and sex – specialist and non-specialist



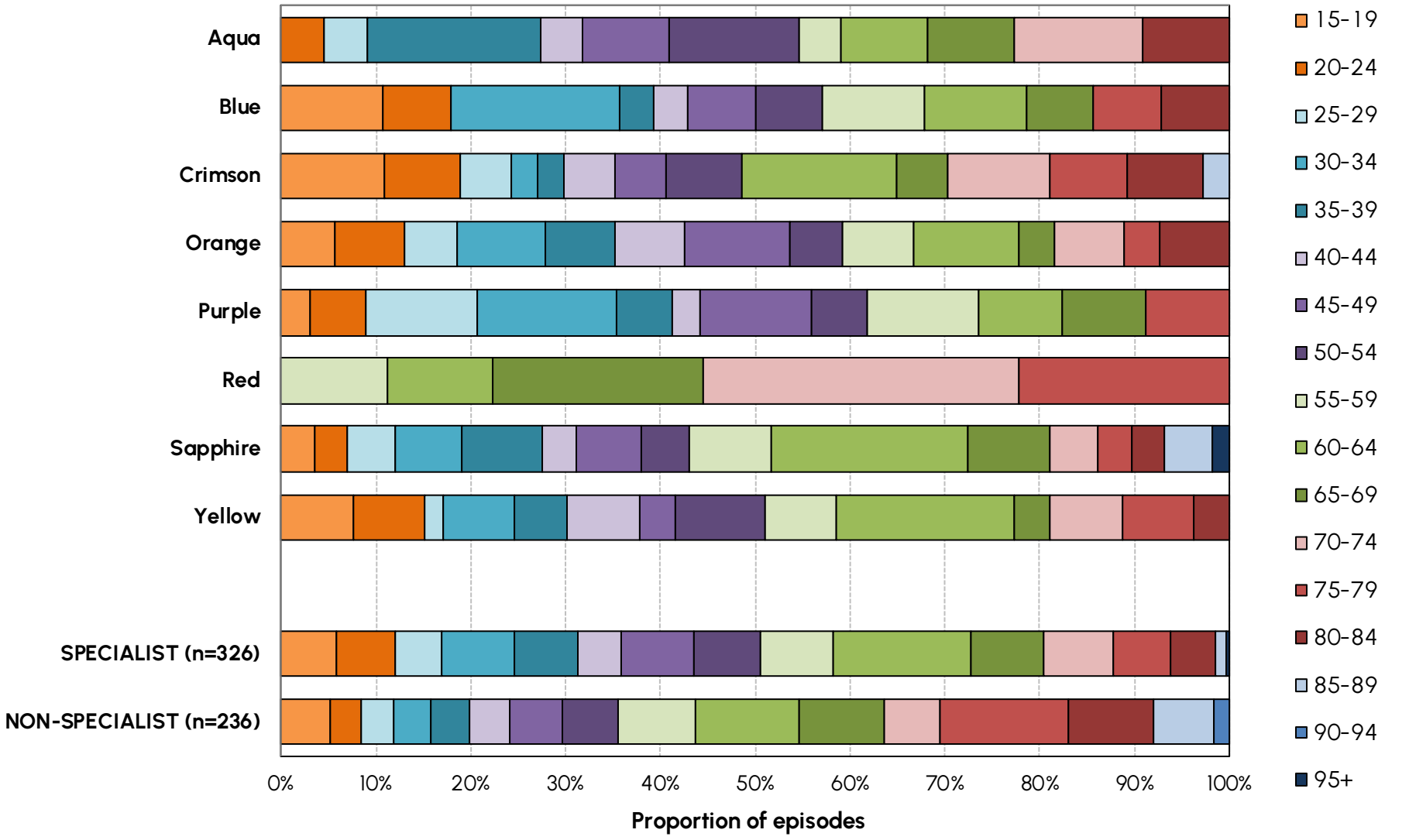


Number of NTSCI episodes by age group and sex – specialist and non-specialist

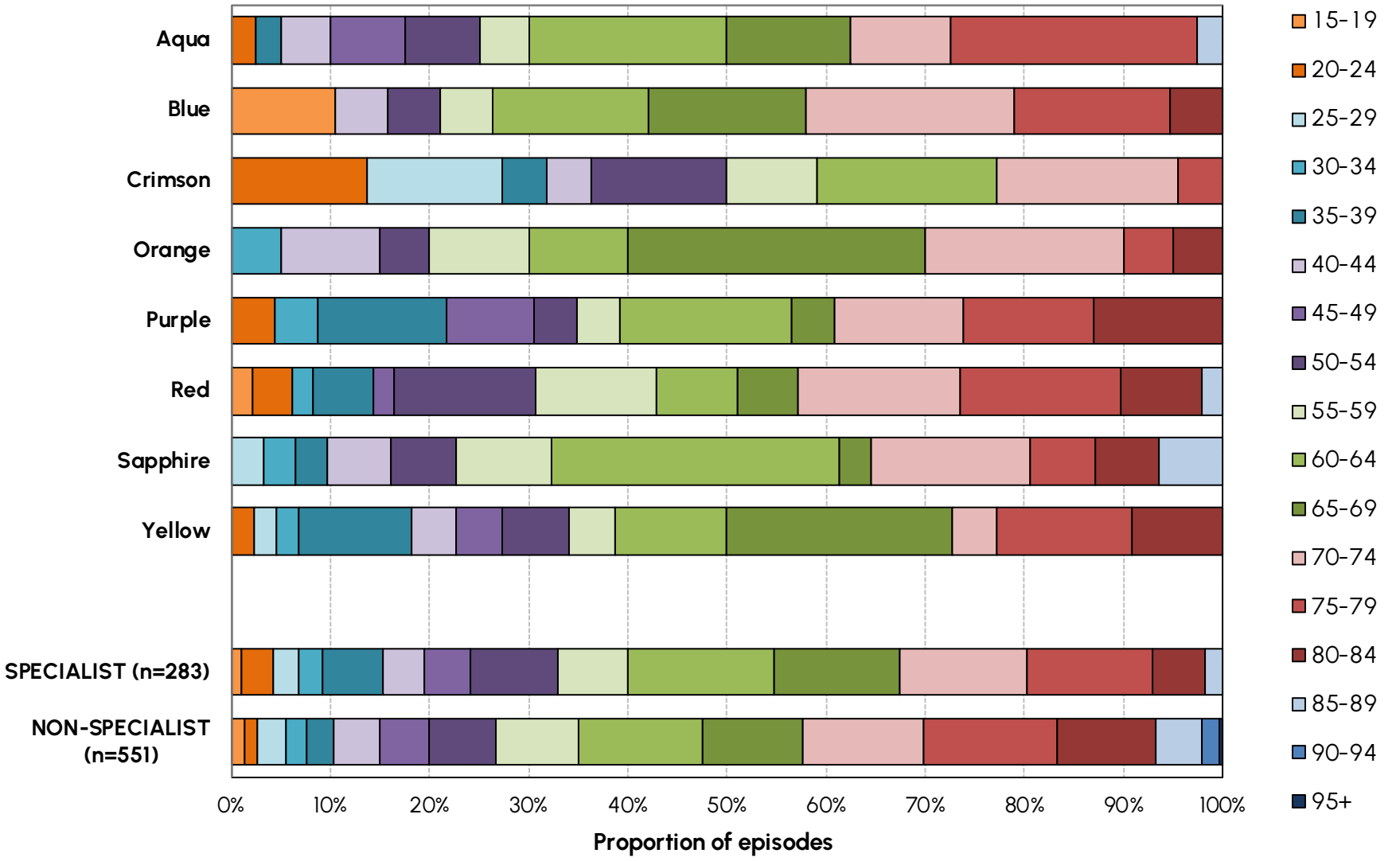




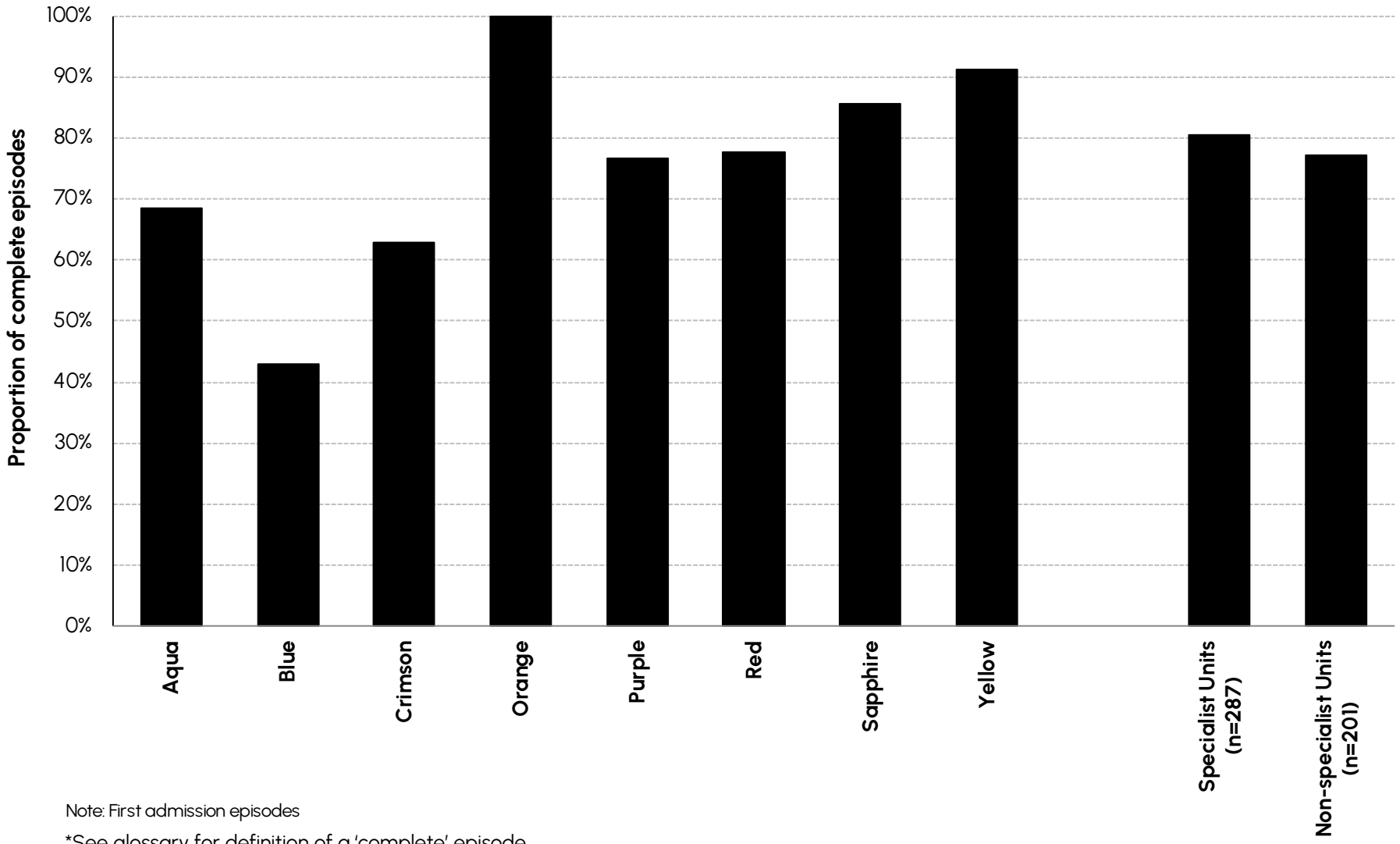
TSCI episodes by age group and specialist facility



NTSCI episodes by age group and specialist facility



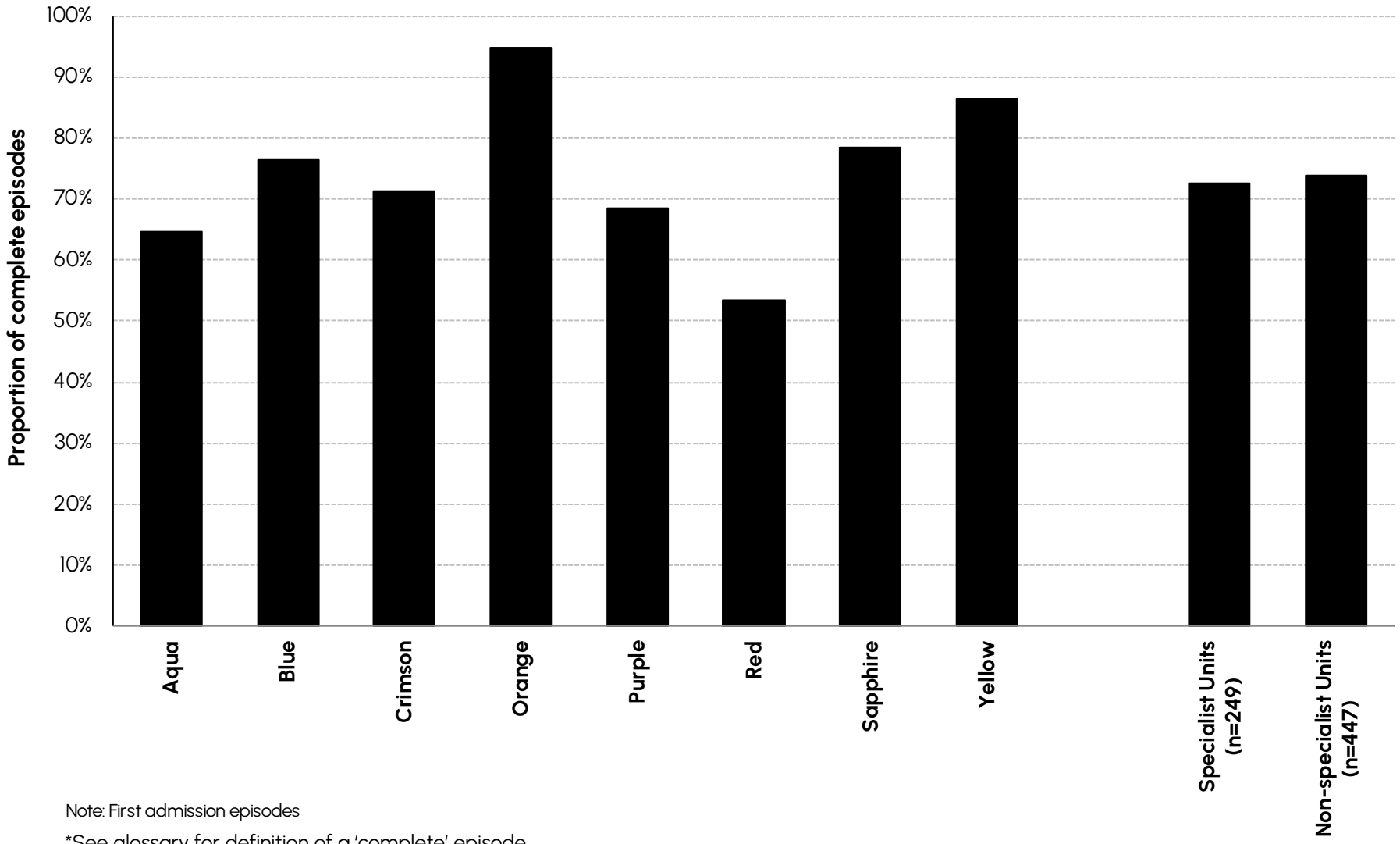
Proportion of complete* first admission TSCI episodes by specialist facility



Note: First admission episodes

*See glossary for definition of a 'complete' episode

Proportion of complete* first admission NTSCI episodes by specialist facility



Note: First admission episodes

*See glossary for definition of a 'complete' episode

Complete first admission TSCI and NTSCI episodes by AN-SNAP class and impairment

	YOUR FACILITY			SPECIALIST			NON-SPECIALIST		
AN-SNAP class	All episodes	Completed episodes	%Complete	All episodes	Completed episodes	%Complete	All episodes	Completed episodes	%Complete
5AD1 (SCI, Weighted FIM Motor 55 - 91)	9	6	66.7	66	62	93.9	151	133	88.1
5AD2 (SCI, Weighted FIM Motor 37 - 54)	5	4	80.0	72	61	84.7	163	136	83.4
5AD3 (SCI, Weighted FIM Motor 19 - 36)	27	22	81.5	222	169	76.1	204	127	62.3
5AP1 (MMT, Weighted FIM Motor 51 - 91)	0	0	—	6	5	83.3	35	34	97.1
5AP2 (MMT, Weighted FIM Motor 19 - 50)	2	2	100.0	13	10	76.9	22	18	81.8
5AZ1 (SCI or MMT, age ≥ 59, weighted FIM motor 13-18)	8	7	87.5	84	56	66.7	48	26	54.2
5AZ2 (SCI or MMT, age ≤ 58, weighted FIM motor 13-18)	6	6	100.0	73	49	67.1	24	11	45.8
All Spinal AN-SNAP classes	**57**	**47**	**82.5**	**536**	**412**	**76.9**	**647**	**485**	**75.0**

Note: First Admission Only (excludes AN-SNAP class 599A)

	YOUR FACILITY			SPECIALIST			NON-SPECIALIST		
Impairment	All episodes	Completed episodes	%Complete	All episodes	Completed episodes	%Complete	All episodes	Completed episodes	%Complete
Traumatic impairments									
4.211 Para-Inc	8	8	100.0	62	59	95.2	31	24	77.4
4.212 Para-Comp	2	2	100.0	41	34	82.9	9	7	77.8
4.2211 Quad-Inc C1-4	7	6	85.7	73	52	71.2	29	19	65.5
4.2212 Quad-Inc C5-8	5	4	80.0	53	42	79.2	18	10	55.6
4.2221 Quad-Comp C1-4	1	1	100.0	14	11	78.6	3	2	66.7
4.2222 Quad-Comp C5-8	0	0	—	12	9	75.0	2	2	100.0
4.23 Other TSCI	0	0	—	7	5	71.4	47	35	74.5
14.1 MMT: brain+spine	0	0	—	7	4	57.1	46	43	93.5
14.3 MMT: spine+other	3	3	100.0	18	15	83.3	16	13	81.3
Total TSCI	**26**	**24**	**92.3**	**287**	**231**	**80.5**	**201**	**155**	**77.1**
Non-traumatic impairments									
4.111 Para-Inc	20	15	75.0	144	111	77.1	133	95	71.4
4.112 Para-Comp	1	1	100.0	21	15	71.4	25	13	52.0
4.1211 Quad-Inc C1-4	3	1	33.3	31	23	74.2	42	26	61.9
4.1212 Quad-Inc C5-8	3	2	66.7	28	18	64.3	27	22	81.5
4.1221 Quad-Comp C1-4	2	2	100.0	2	2	100.0	3	0	0.0
4.1222 Quad-Comp C5-8	0	0	—	1	1	100.0	3	2	66.7
4.13 Other NTSCI	2	2	100.0	22	11	50.0	214	172	80.4
Total NTSCI	**31**	**23**	**74.2**	**249**	**181**	**72.7**	**447**	**330**	**73.8**
TOTAL SCI	**57**	**47**	**82.5**	**536**	**412**	**76.9**	**648**	**485**	**74.8**

*First Admission Only

Summary of incomplete episodes

	YOUR FACILITY		SPECIALIST		NON-SPECIALIST		ALL SPINE	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Total reporting episodes	66		612		788		1,400	
Incomplete episodes	11	(16.7)	146	(23.9)	204	(25.9)	350	(25.0)
Reason for incomplete:								
Discharged home with end FIM=18	0	(0.0)	2	(1.4)	0	(0.0)	2	(0.6)
Discharged home with no end FIM	1	(9.1)	6	(4.1)	0	(0.0)	6	(1.7)
Discharged to another hospital	7	(63.6)	81	(55.5)	124	(60.8)	205	(58.6)
Discharged back to acute same hospital	2	(18.2)	41	(28.1)	60	(29.4)	101	(28.9)
Discharged at own risk	1	(9.1)	3	(2.1)	10	(4.9)	13	(3.7)
Change of care type (LOS<1 week)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Died	0	(0.0)	2	(1.4)	4	(2.0)	6	(1.7)
Other/Unknown Discharge	0	(0.0)	11	(7.5)	6	(2.9)	17	(4.9)

	YOUR FACILITY			
	Incomplete Episodes		Complete episodes	
Impairment Code:				
4.111 Para-Inc	6	(54.5)	16	(29.1)
4.112 Para-Comp	0	(0.0)	1	(1.8)
4.1211 Quad-Inc C1-4	2	(18.2)	2	(3.6)
4.1212 Quad-Inc C5-8	1	(9.1)	2	(3.6)
4.1221 Quad-Comp C1-4	0	(0.0)	2	(3.6)
4.1222 Quad-Comp C5-8	0	(0.0)	1	(1.8)
4.13 Other NTSCI	0	(0.0)	2	(3.6)
4.211 Para-Inc	0	(0.0)	9	(16.4)
4.212 Para-Comp	0	(0.0)	3	(5.5)
4.2211 Quad-Inc C1-4	1	(9.1)	7	(12.7)
4.2212 Quad-Inc C5-8	1	(9.1)	5	(9.1)
4.2221 Quad-Comp C1-4	0	(0.0)	2	(3.6)
4.2222 Quad-Comp C5-8	0	(0.0)	0	(0.0)
4.23 Other TSCI	0	(0.0)	0	(0.0)
14.1 MMT: brain+spine	0	(0.0)	0	(0.0)
14.3 MMT: spine+other	0	(0.0)	3	(5.5)
AN-SNAP Class:				
5AD1 (SCI, Weighted FIM Motor 55 - 91)	3	(27.3)	8	(14.5)
5AD2 (SCI, Weighted FIM Motor 37 - 54)	1	(9.1)	5	(9.1)
5AD3 (SCI, Weighted FIM Motor 19 - 36)	6	(54.5)	23	(41.8)
5AP1 (MMT, Weighted FIM Motor 51 - 91)	0	(0.0)	0	(0.0)
5AP2 (MMT, Weighted FIM Motor 19 - 50)	0	(0.0)	2	(3.6)
5AZ1 (SCI or MMT, age ≥ 59, weighted FIM motor 13-18)	1	(9.1)	8	(14.5)
5AZ2 (SCI or MMT, age ≤ 58, weighted FIM motor 13-18)	0	(0.0)	9	(16.4)

Review of FIM item scoring by AN-SNAP class

Interpreting the comparative FIM item scoring charts

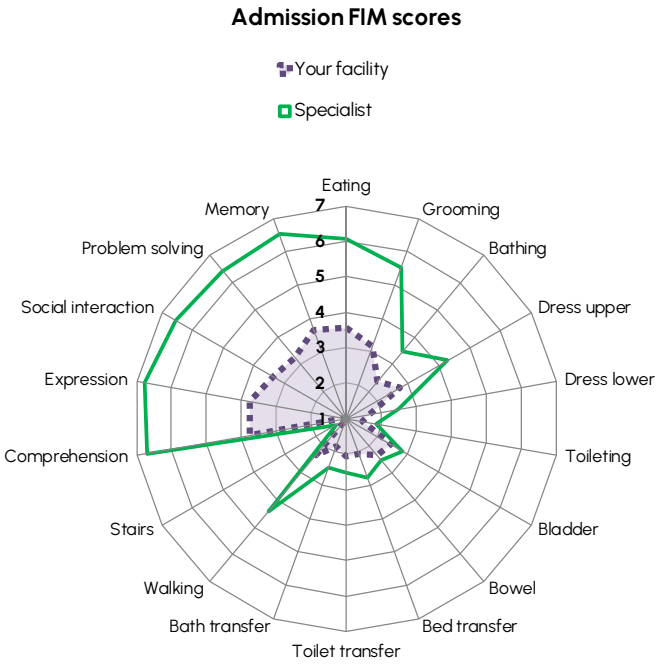


Figure A

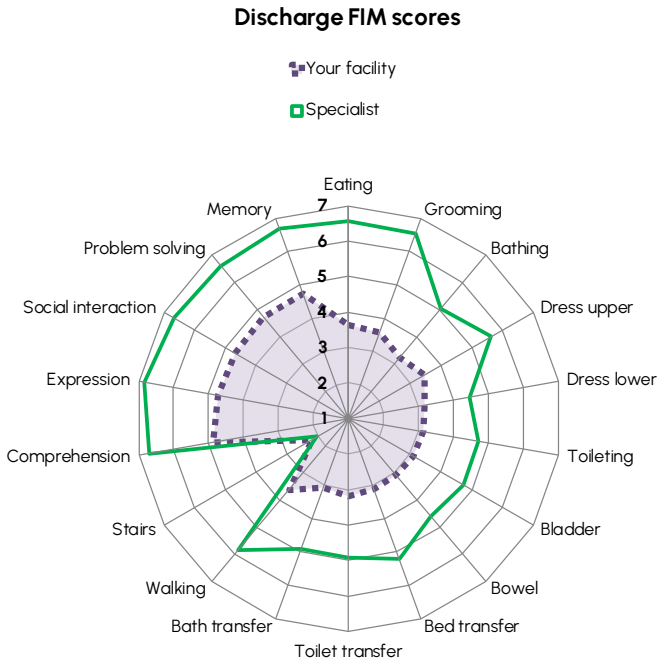
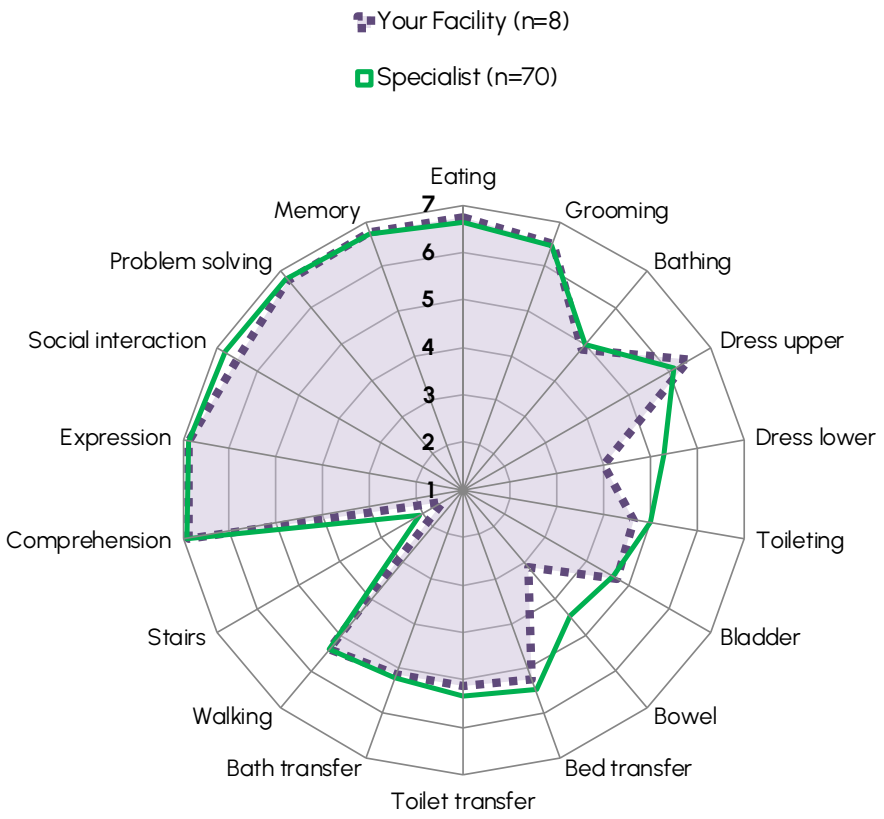


Figure B

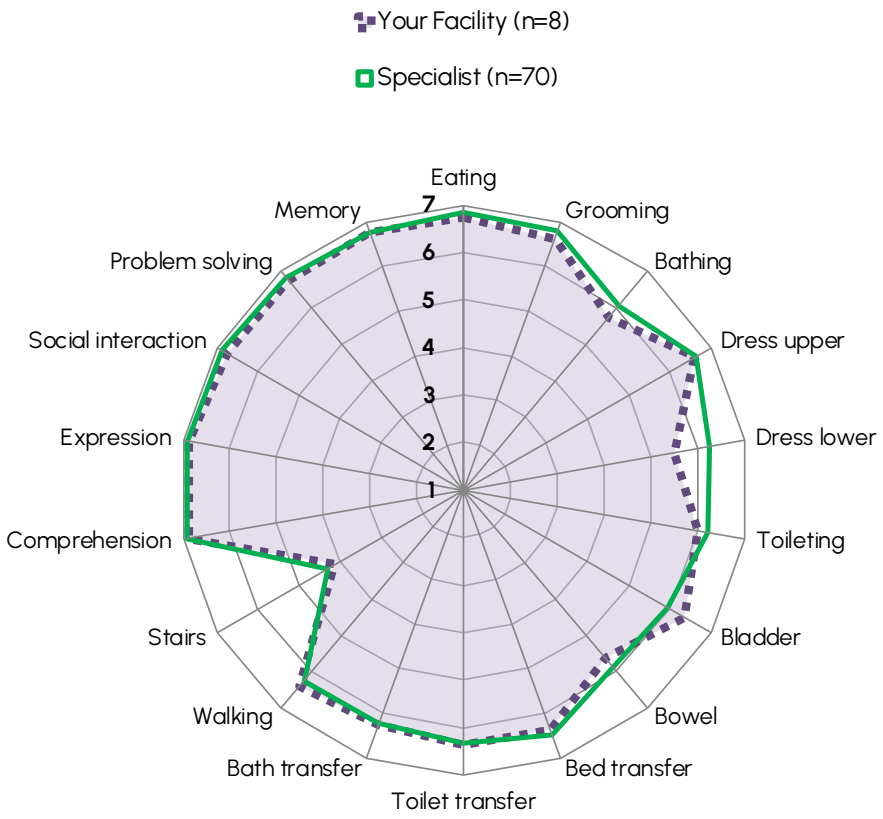
The FIM splat provides a graphic presentation of functional status in a radar chart. The 18 FIM items are arranged in order as 'spokes' of a wheel and the scoring levels from 1 (total dependence) to 7 (total independence) run from the centre outwards. The mean FIM item score for each item is indicated — 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 SPECIALIST 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 5AD1

5AD1 Admission FIM scores



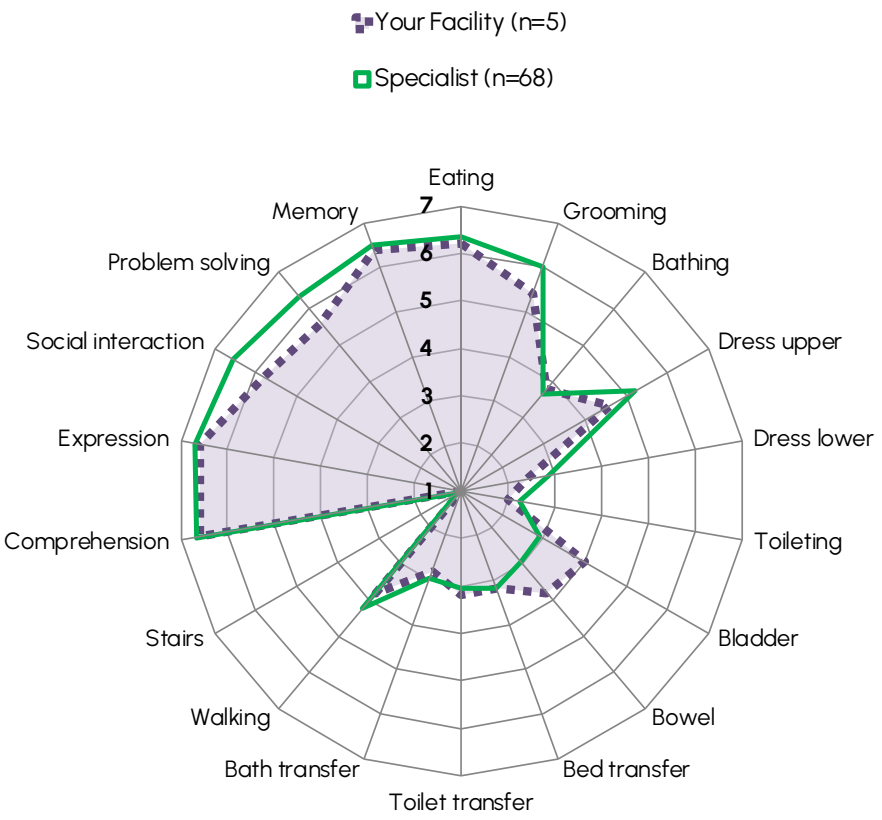
5AD1 Discharge FIM scores



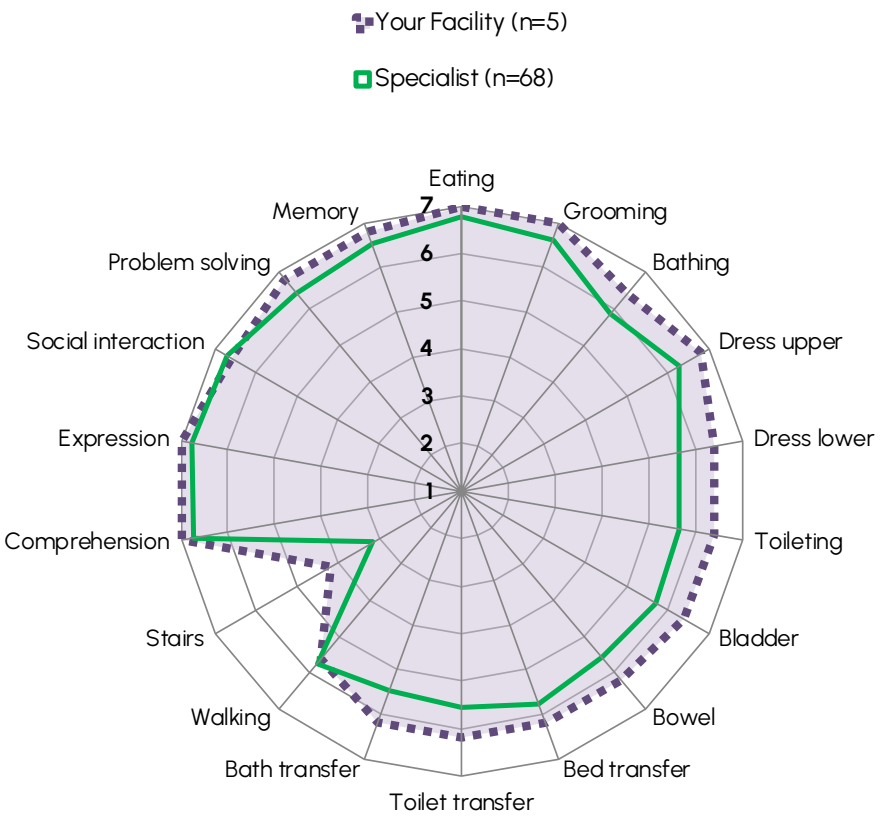
Note: Includes only completed episodes with valid FIM scores

Comparative FIM item scoring AN-SNAP class 5AD2

5AD2 Admission FIM scores

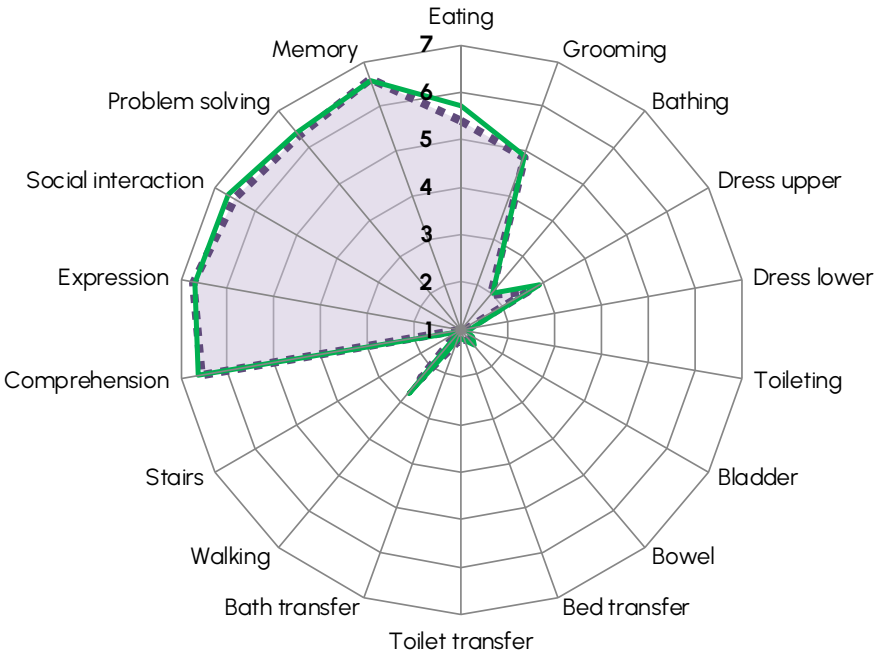


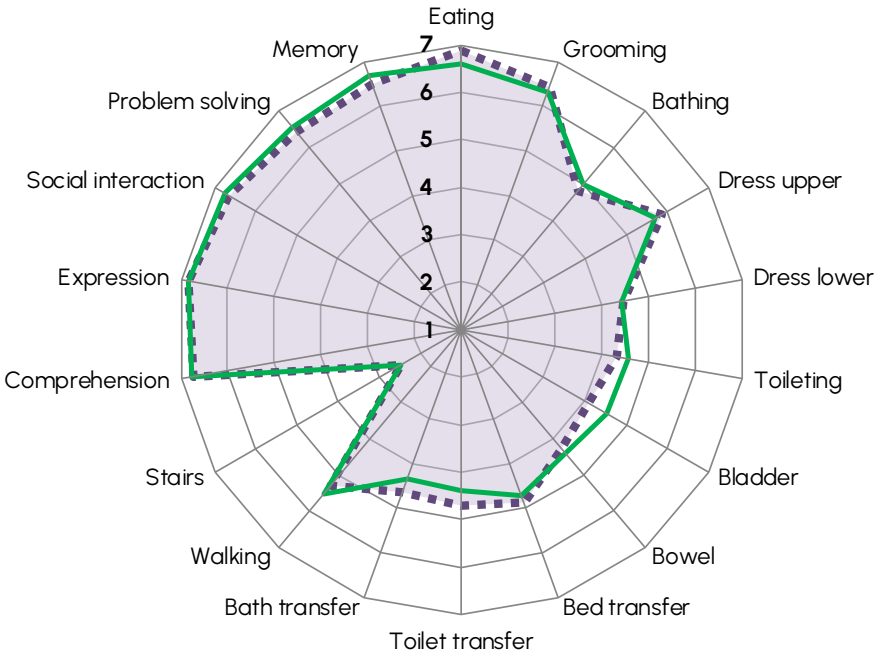
5AD2 Discharge FIM scores



Note: Includes only completed episodes with valid FIM scores

Comparative FIM item scoring AN-SNAP class 5AD3

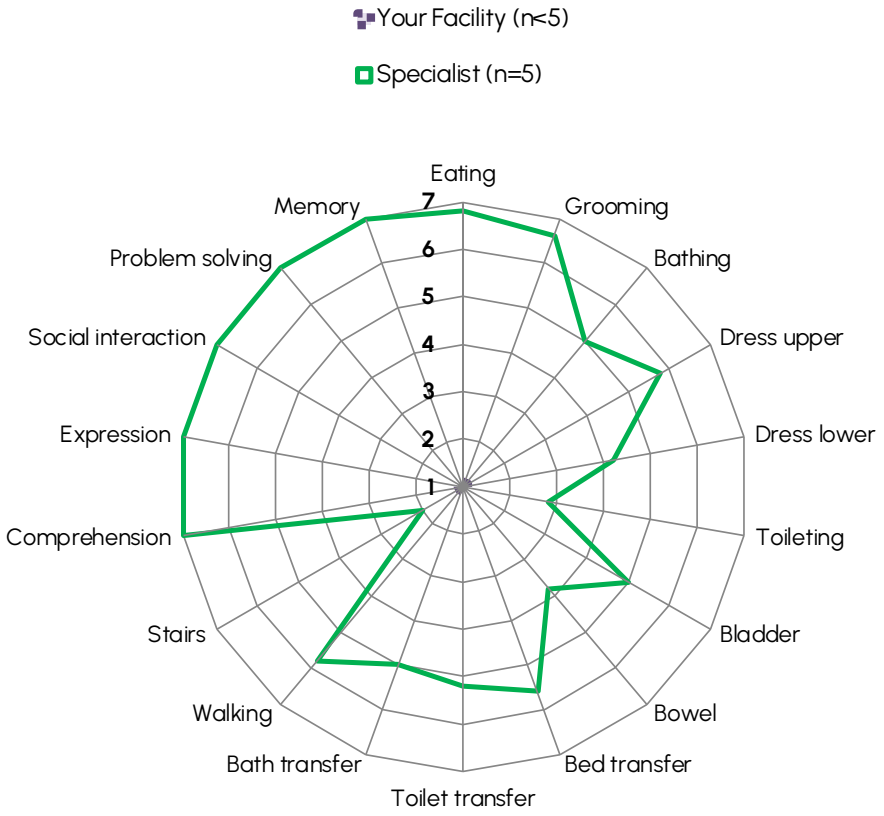




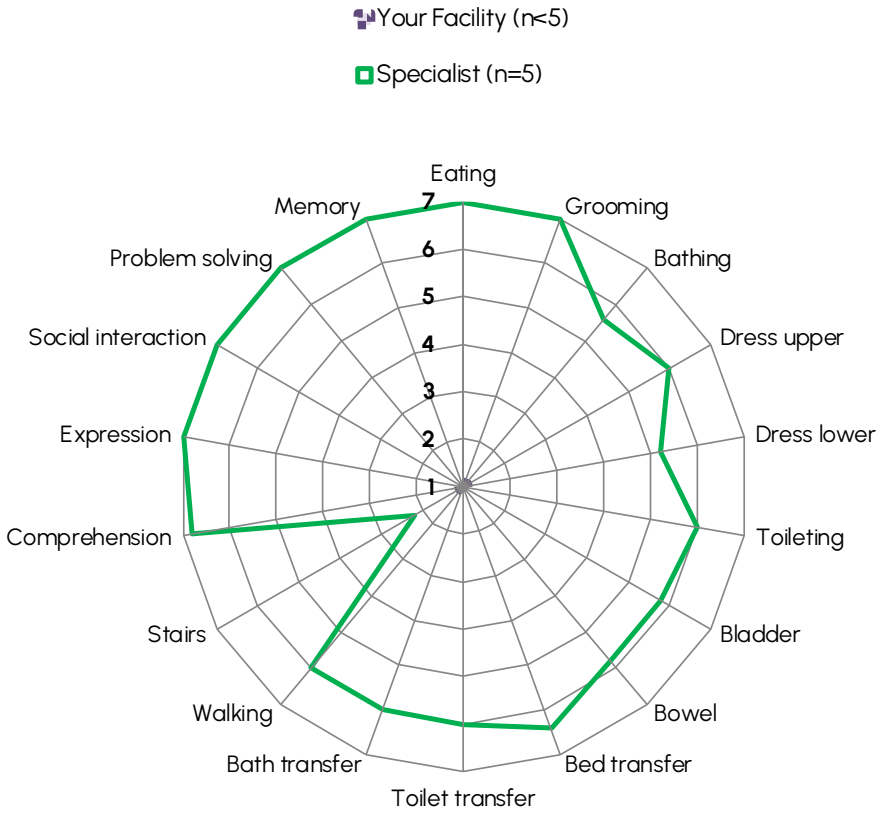
Note: Includes only completed episodes with valid FIM scores

Comparative FIM item scoring AN-SNAP class 5AP1

5AP1 Admission FIM scores



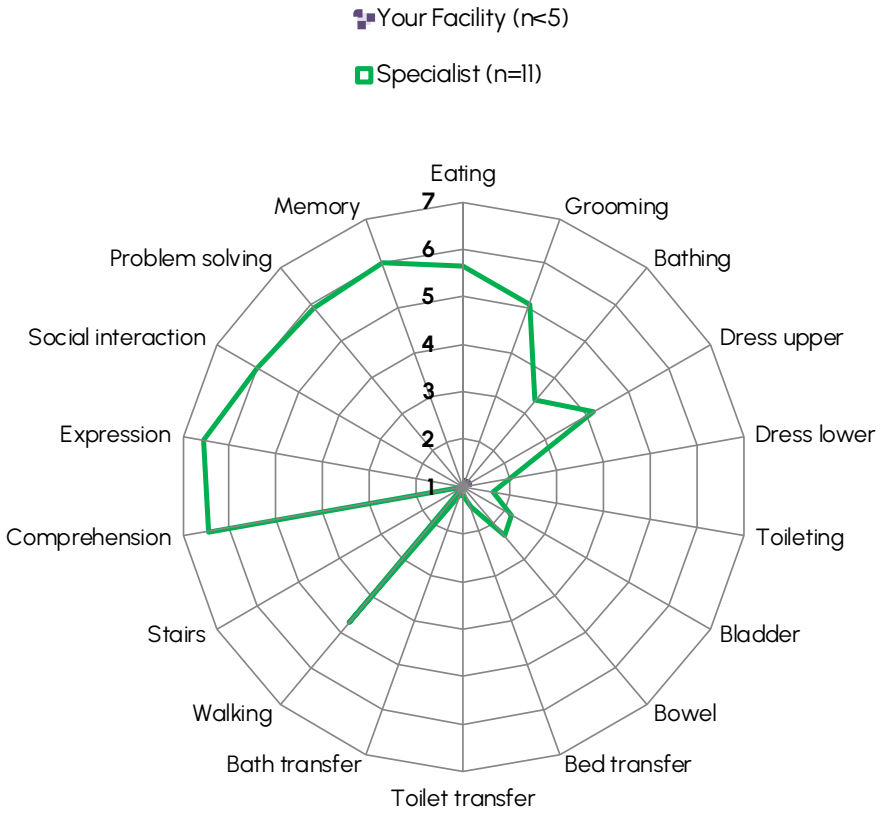
5AP1 Discharge FIM scores



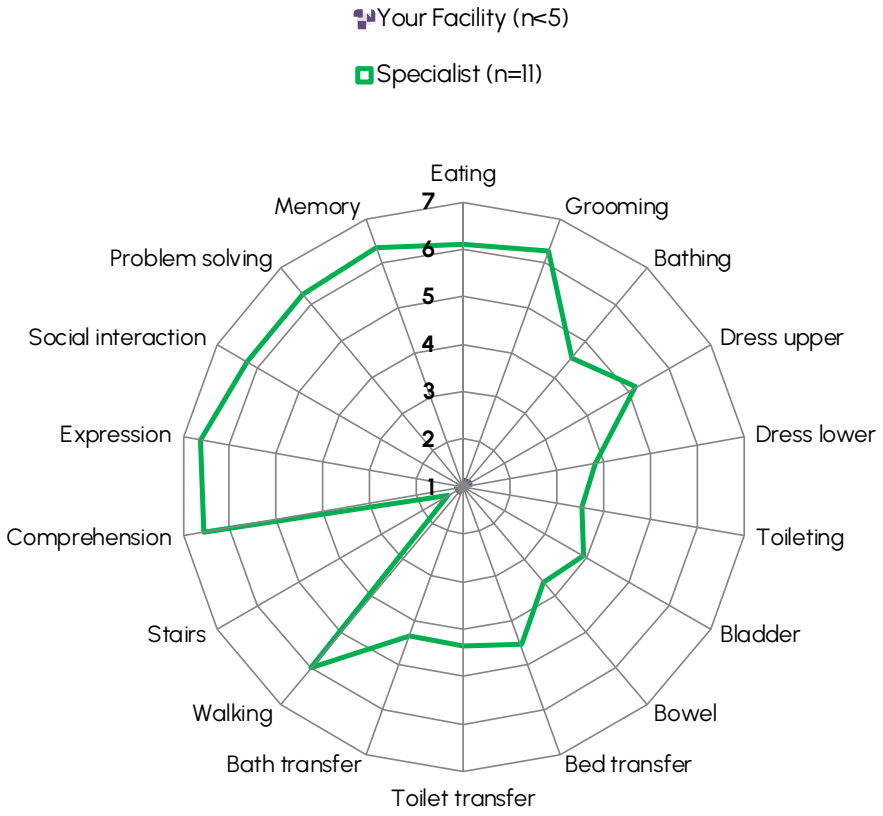
Note: Includes only completed episodes with valid FIM scores

Comparative FIM item scoring AN-SNAP class 5AP2

5AP2 Admission FIM scores



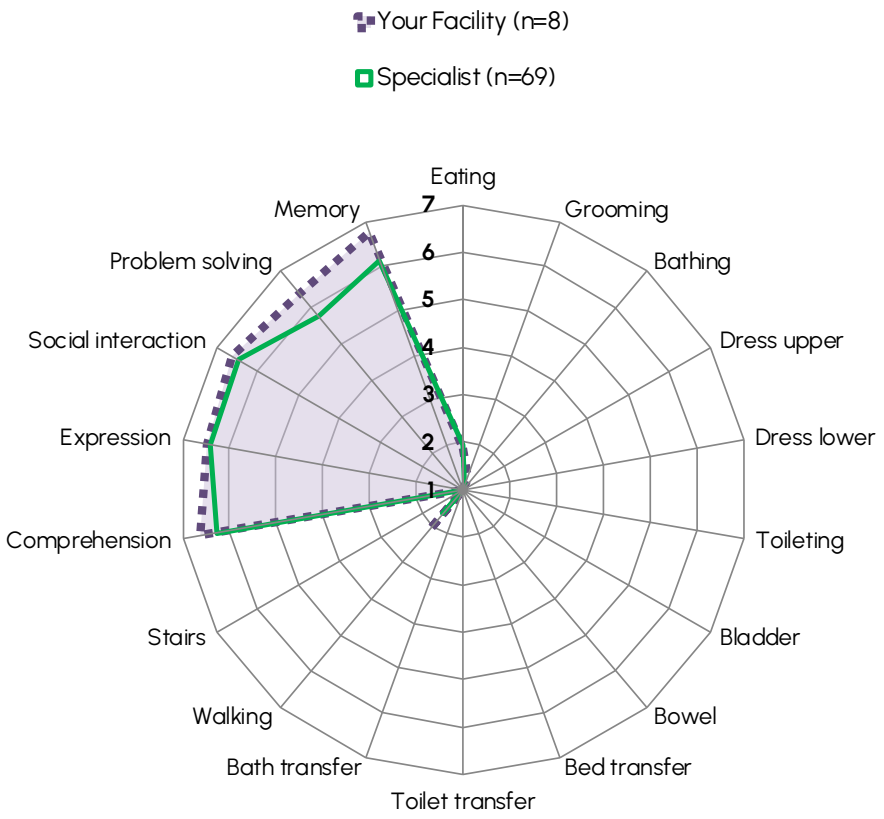
5AP2 Discharge FIM scores



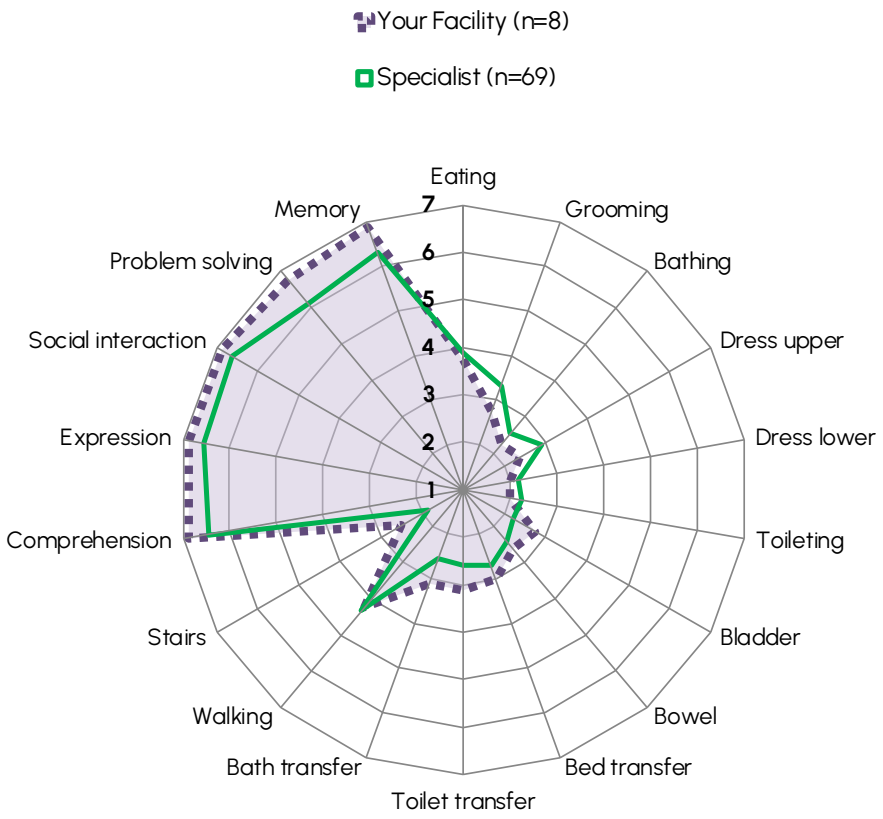
Note: Includes only completed episodes with valid FIM scores

Comparative FIM item scoring AN-SNAP class 5AZ1

5AZ1 Admission FIM scores



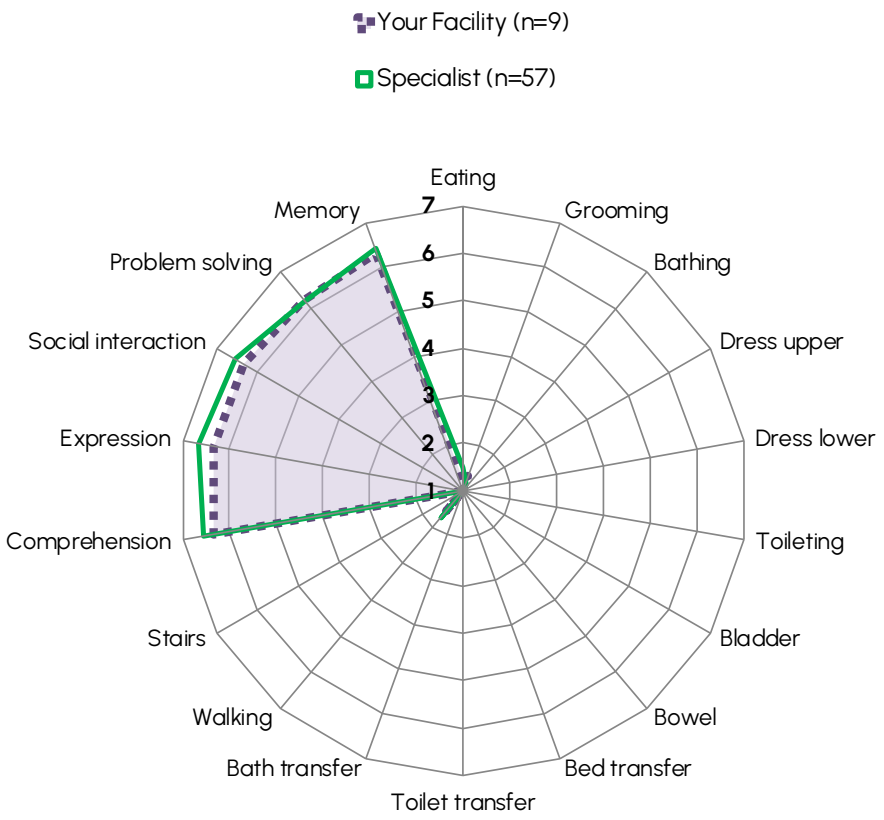
5AZ1 Discharge FIM scores



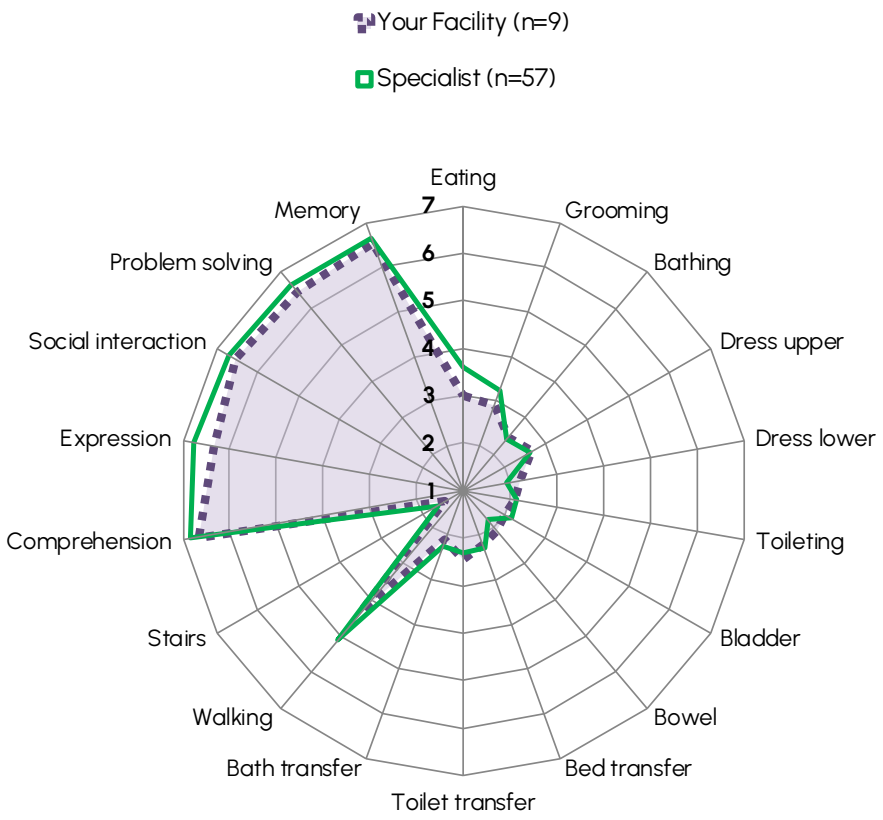
Note: Includes only completed episodes with valid FIM scores

Comparative FIM item scoring AN-SNAP class 5AZ2

5AZ2 Admission FIM scores



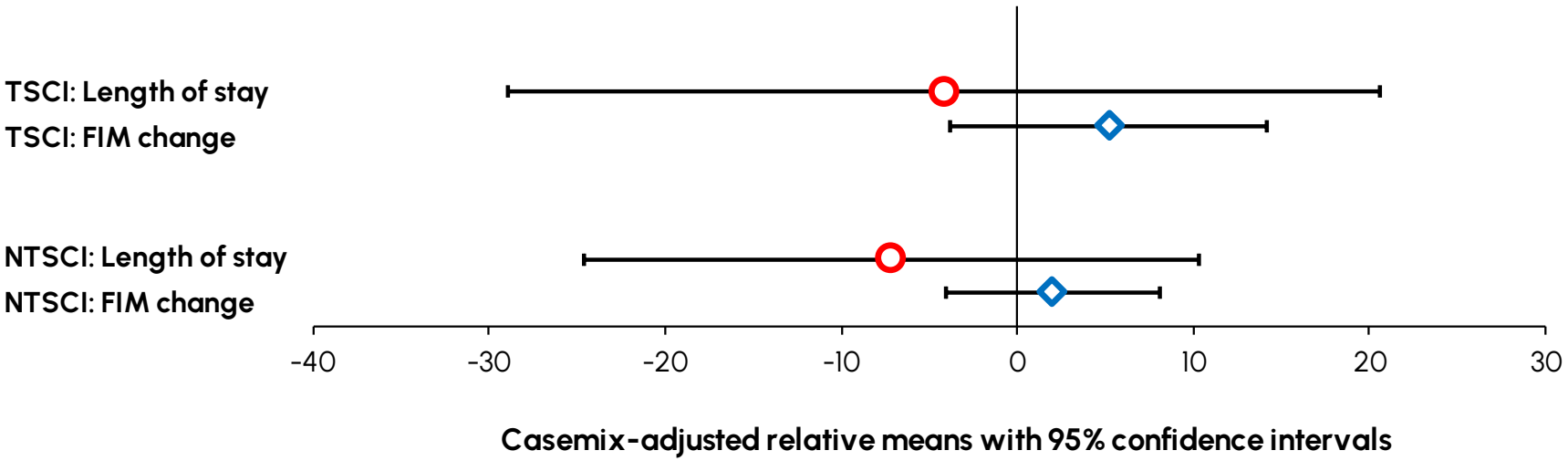
5AZ2 Discharge FIM scores



Note: Includes only completed episodes with valid FIM scores

Outcome analysis

Casemix-adjusted* relative means



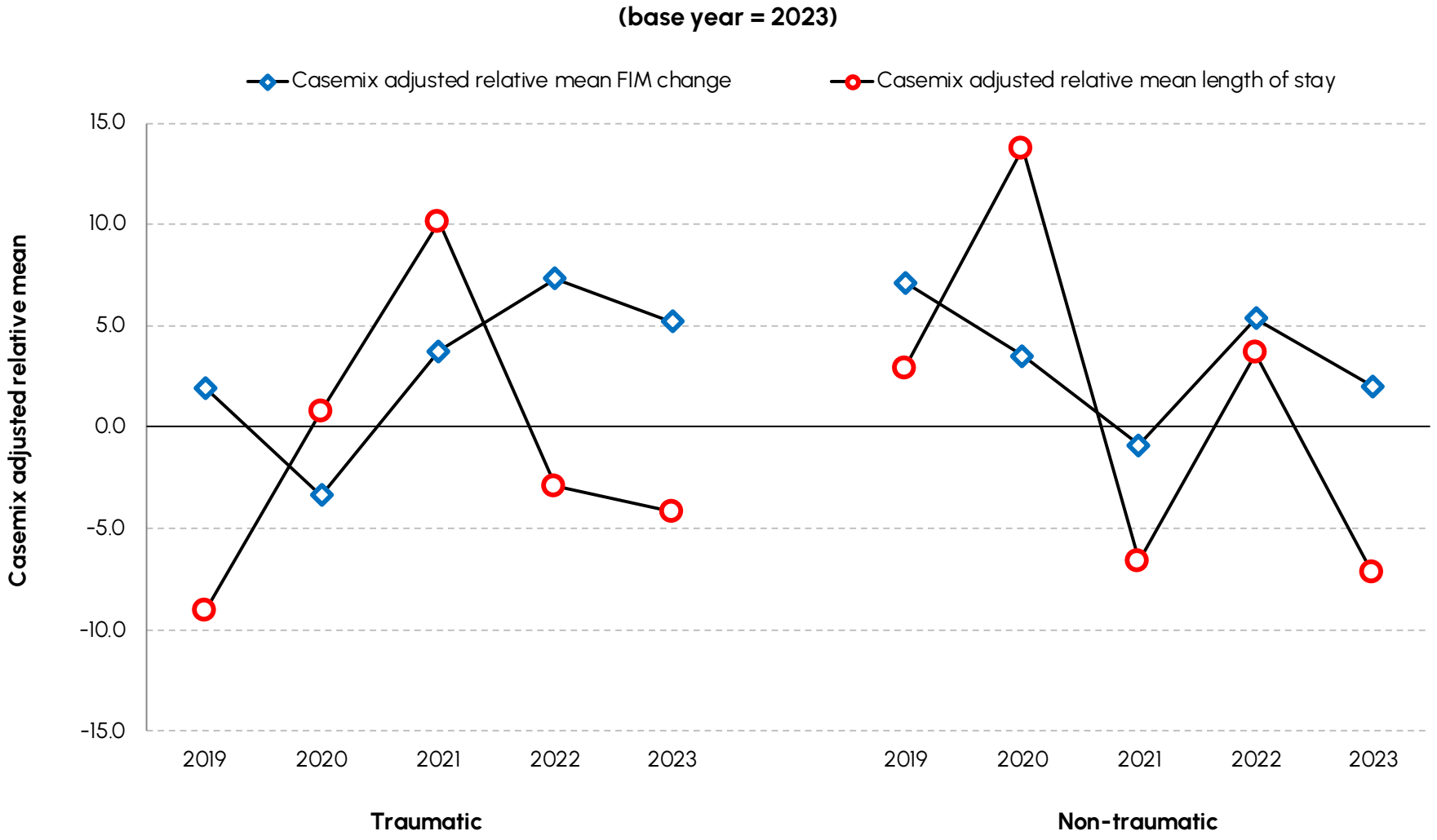
Casemix-adjusted relative means with 95% confidence intervals

	Traumatic	YOUR FACILITY	Non-traumatic	
Outcome measure	Casemix-adjusted* relative mean	95% CI	Casemix-adjusted* relative mean	95% CI
Length of stay	-4.2	-29.0 to 20.6	-7.2	-24.6 to 10.3
FIM change	5.2	-3.8 to 14.2	2.0	-4.1 to 8.1

Note: First admission, completed episodes

*Casemix-adjustment uses specialist unit first admissions calculated separately for TSCI and NTSCI

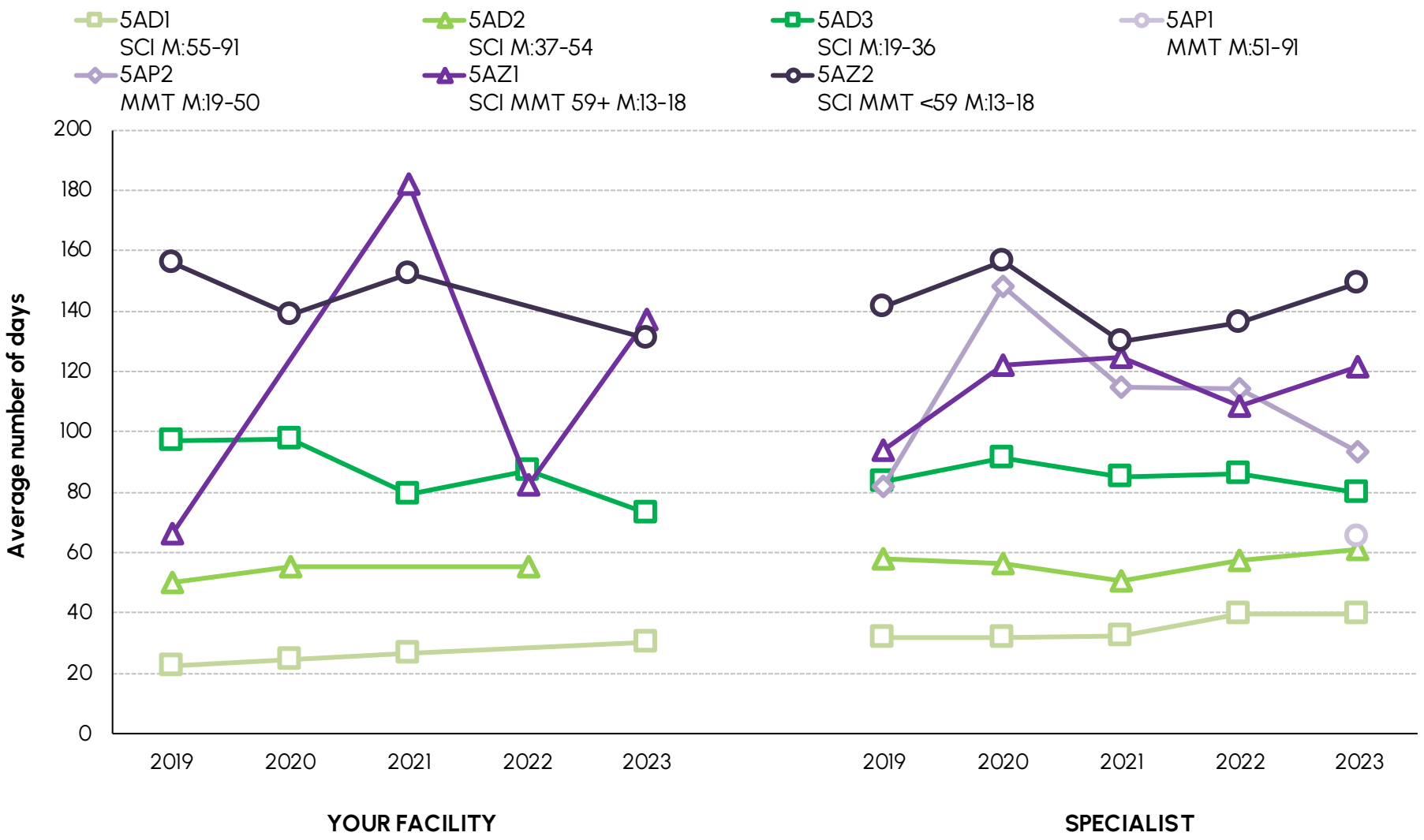
TSCI and NTSCI casemix-adjusted* relative means over time



Note: First admission, completed episodes

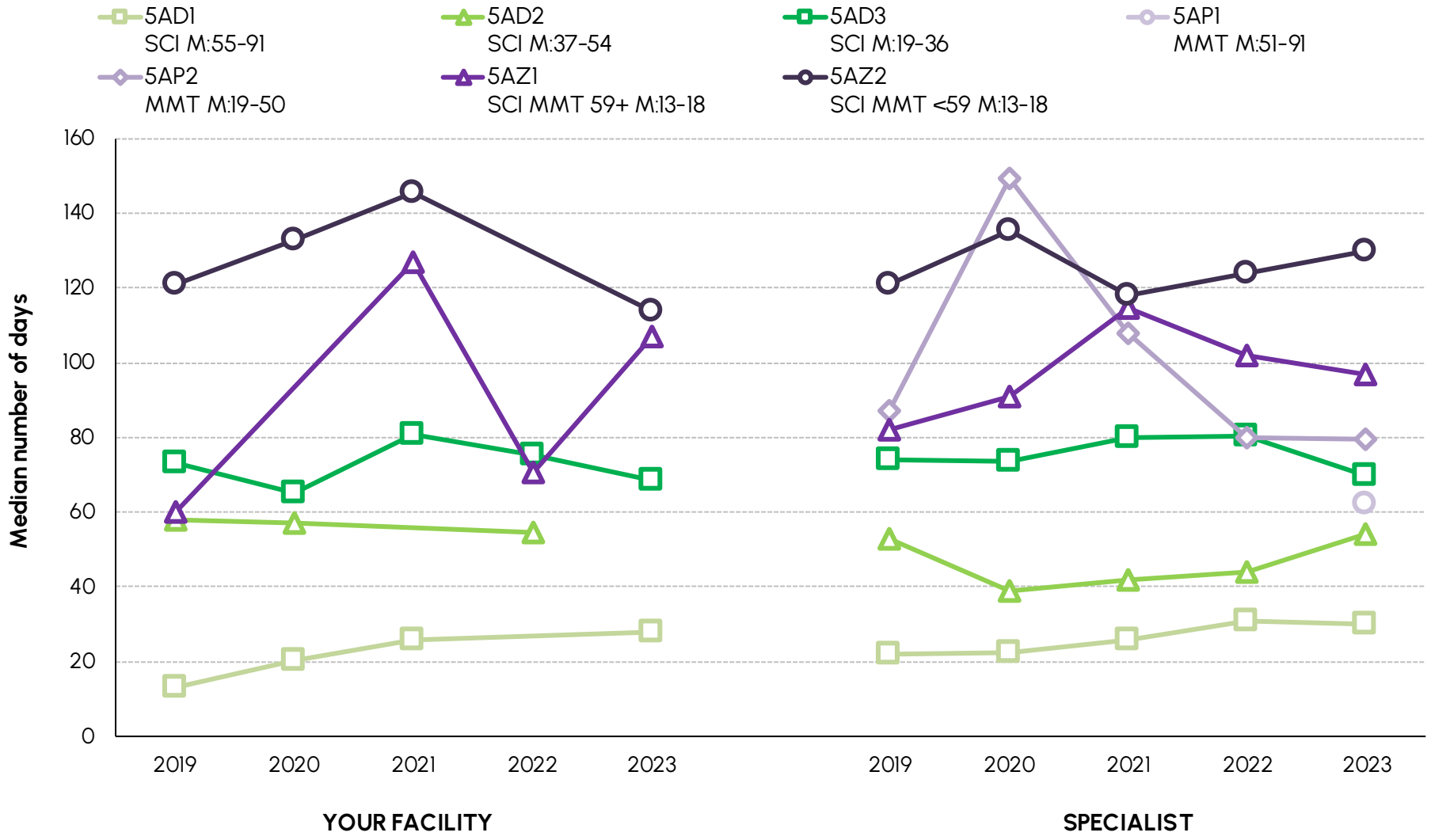
*Casemix-adjustment uses specialist unit first admissions calculated separately for TSCI and NTSCI

Average length of stay by AN-SNAP class over time



Note: First admission, completed episodes

Median length of stay by AN-SNAP class over time



Note: First admission, completed episodes

Average and median length of stay by AN-SNAP class over time

AVERAGE

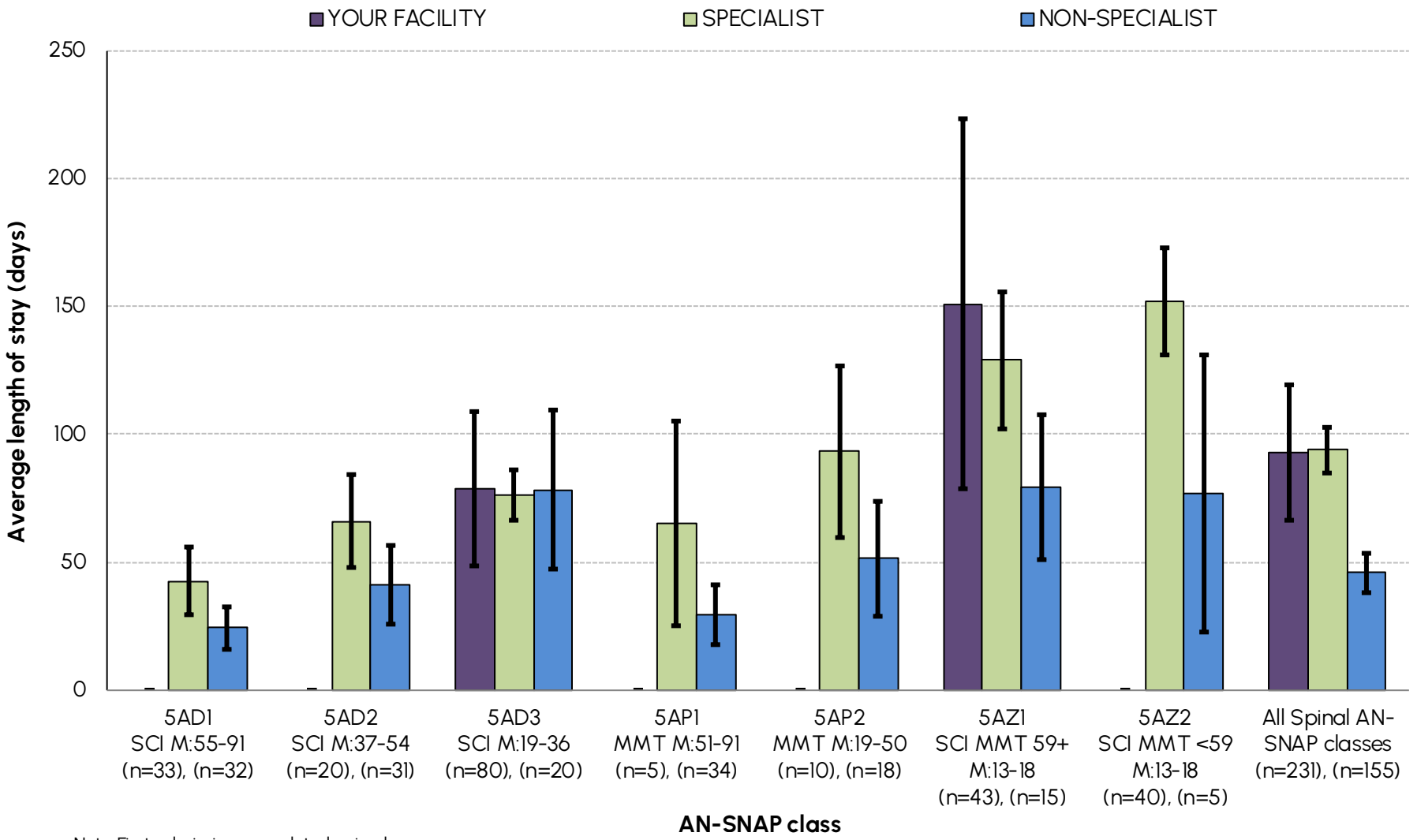
	YOUR FACILITY					SPECIALIST					NON-SPECIALIST				
AN-SNAP class	**2019**	**2020**	**2021**	**2022**	**2023**	**2019**	**2020**	**2021**	**2022**	**2023**	**2019**	**2020**	**2021**	**2022**	**2023**
5AD1 (SCI, Weighted FIM Motor 55 - 91)	22.2	24.3	26.4	—	30.2	32.0	31.7	32.1	39.4	39.4	19.9	20.8	16.7	17.9	20.4
5AD2 (SCI, Weighted FIM Motor 37 - 54)	49.8	55.3	—	55.5	—	57.8	56.2	50.7	57.2	60.9	32.1	28.2	33.9	30.8	31.9
5AD3 (SCI, Weighted FIM Motor 19 - 36)	97.1	97.3	79.3	86.9	73.0	83.6	91.1	85.1	86.1	79.7	45.8	50.1	50.8	51.3	58.3
5AP1 (MMT, Weighted FIM Motor 51 - 91)	—	—	—	—	—	—	—	—	—	65.2	16.9	14.2	15.4	18.9	29.1
5AP2 (MMT, Weighted FIM Motor 19 - 50)	—	—	—	—	—	82.1	147.9	114.8	114.1	93.2	45.0	52.7	32.2	46.1	51.3
5AZ1 (SCI or MMT, age ≥ 59, weighted FIM motor 13-18)	66.0	—	182.0	82.2	137.4	94.1	121.9	124.8	108.4	121.7	60.5	58.4	64.7	46.0	88.1
5AZ2 (SCI or MMT, age ≤ 58, weighted FIM motor 13-18)	156.0	139.0	152.5	—	131.0	141.6	156.6	129.9	136.2	149.4	69.1	65.4	68.2	70.2	83.4
All Spinal AN-SNAP classes	**76.1**	**92.0**	**89.7**	**81.8**	**82.7**	**76.5**	**88.7**	**80.6**	**84.2**	**85.0**	**31.5**	**33.6**	**34.9**	**34.2**	**40.4**

MEDIAN

	YOUR FACILITY					SPECIALIST					NON-SPECIALIST				
AN-SNAP class	**2019**	**2020**	**2021**	**2022**	**2023**	**2019**	**2020**	**2021**	**2022**	**2023**	**2019**	**2020**	**2021**	**2022**	**2023**
5AD1 (SCI, Weighted FIM Motor 55 - 91)	13.0	20.5	26.0	—	28.0	22.0	22.5	26.0	31.0	30.0	18.0	15.0	15.0	14.0	15.0
5AD2 (SCI, Weighted FIM Motor 37 - 54)	58.0	57.0	—	54.5	—	53.0	39.0	42.0	44.0	54.0	26.0	22.0	26.0	27.0	26.0
5AD3 (SCI, Weighted FIM Motor 19 - 36)	73.0	65.0	81.0	75.5	68.5	74.0	73.5	80.0	80.5	70.0	33.0	42.0	38.0	41.0	49.0
5AP1 (MMT, Weighted FIM Motor 51 - 91)	—	—	—	—	—	—	—	—	—	62.0	14.0	13.0	15.0	16.5	19.0
5AP2 (MMT, Weighted FIM Motor 19 - 50)	—	—	—	—	—	87.0	149.5	108.0	80.0	79.5	41.0	41.0	25.0	48.0	32.5
5AZ1 (SCI or MMT, age ≥ 59, weighted FIM motor 13-18)	60.0	—	127.0	70.5	107.0	82.0	91.0	114.5	102.0	97.0	63.0	48.0	55.0	35.0	71.5
5AZ2 (SCI or MMT, age ≤ 58, weighted FIM motor 13-18)	121.0	133.0	145.5	—	114.0	121.0	135.5	118.0	124.0	130.0	48.0	48.0	55.0	75.0	70.0
All Spinal AN-SNAP classes	**60.0**	**63.5**	**70.0**	**75.5**	**68.0**	**65.0**	**69.0**	**70.0**	**73.5**	**71.5**	**23.0**	**23.0**	**23.0**	**24.0**	**28.0**

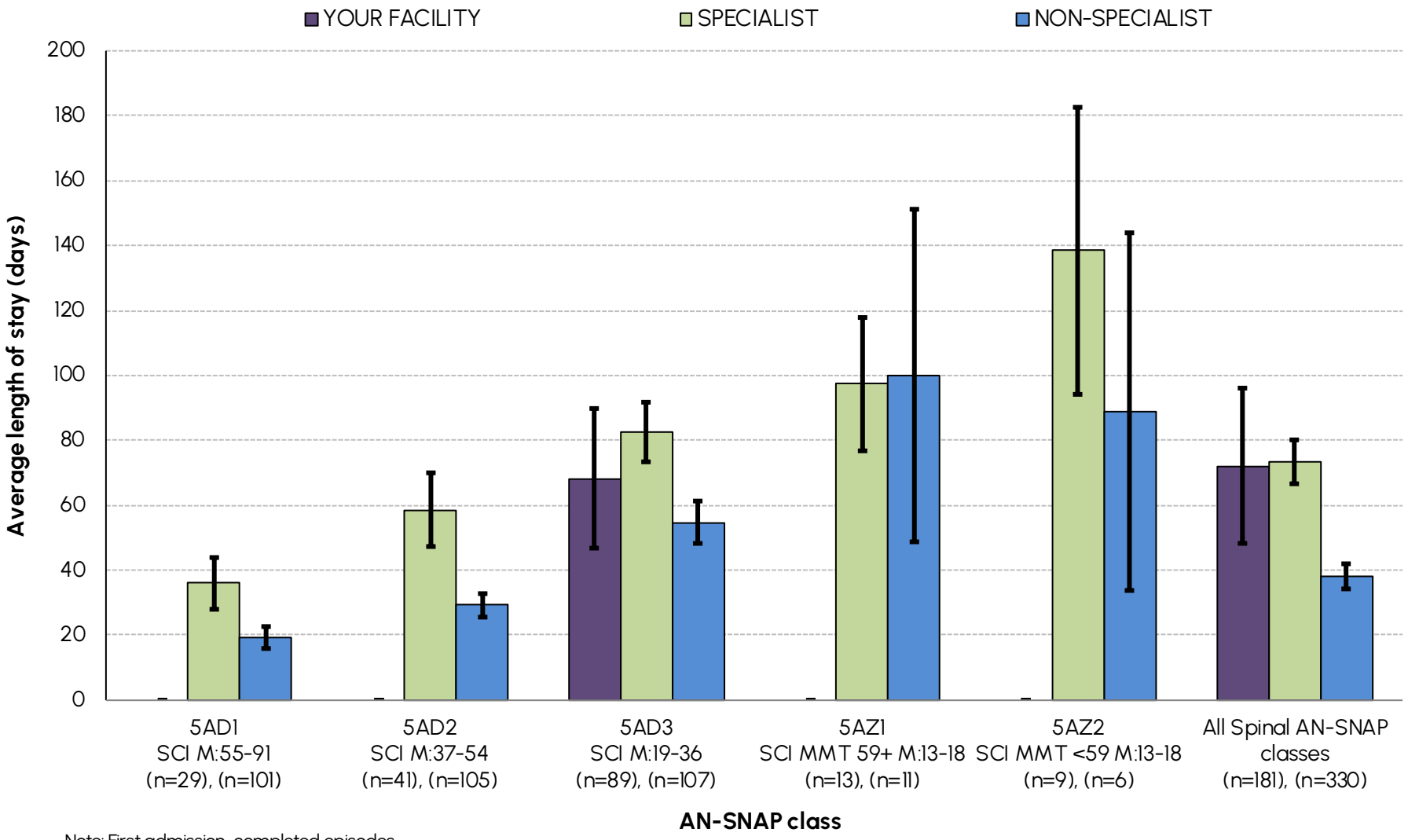
Note: First admission, completed episodes

TSCI average length of stay by AN-SNAP class



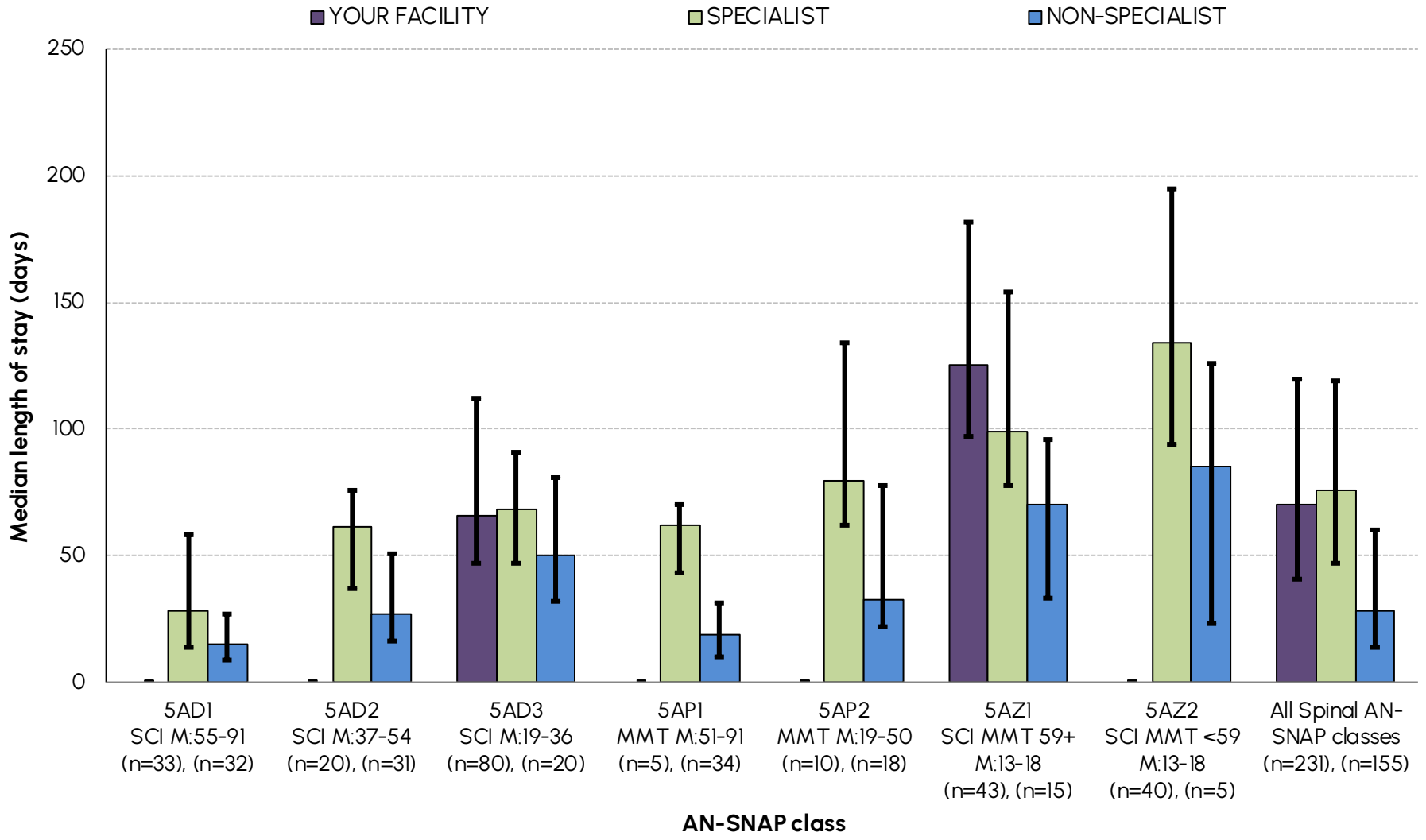
Note: First admission, completed episodes

NTSCI average length of stay by AN-SNAP class



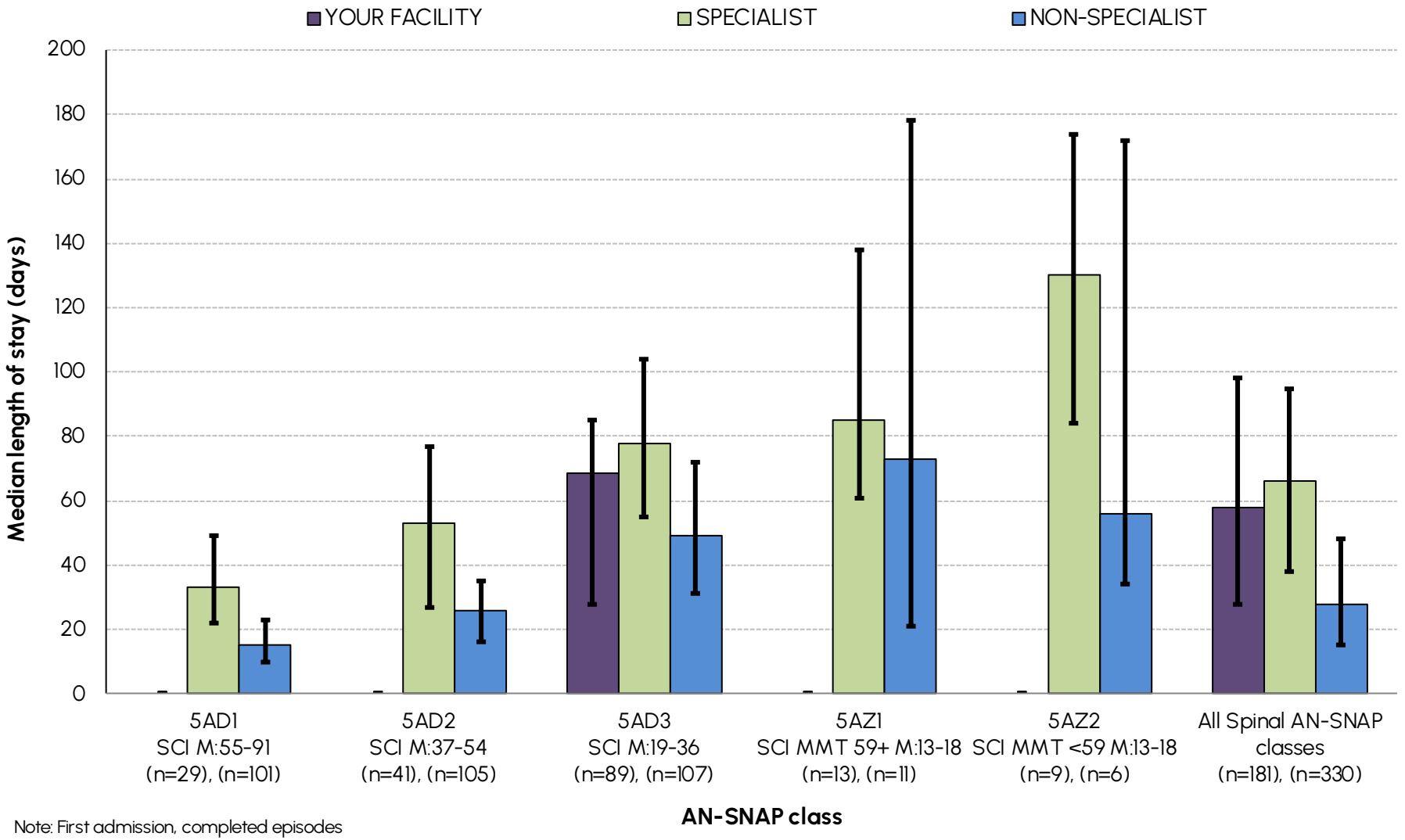
Note: First admission, completed episodes

TSCI median length of stay by AN-SNAP class



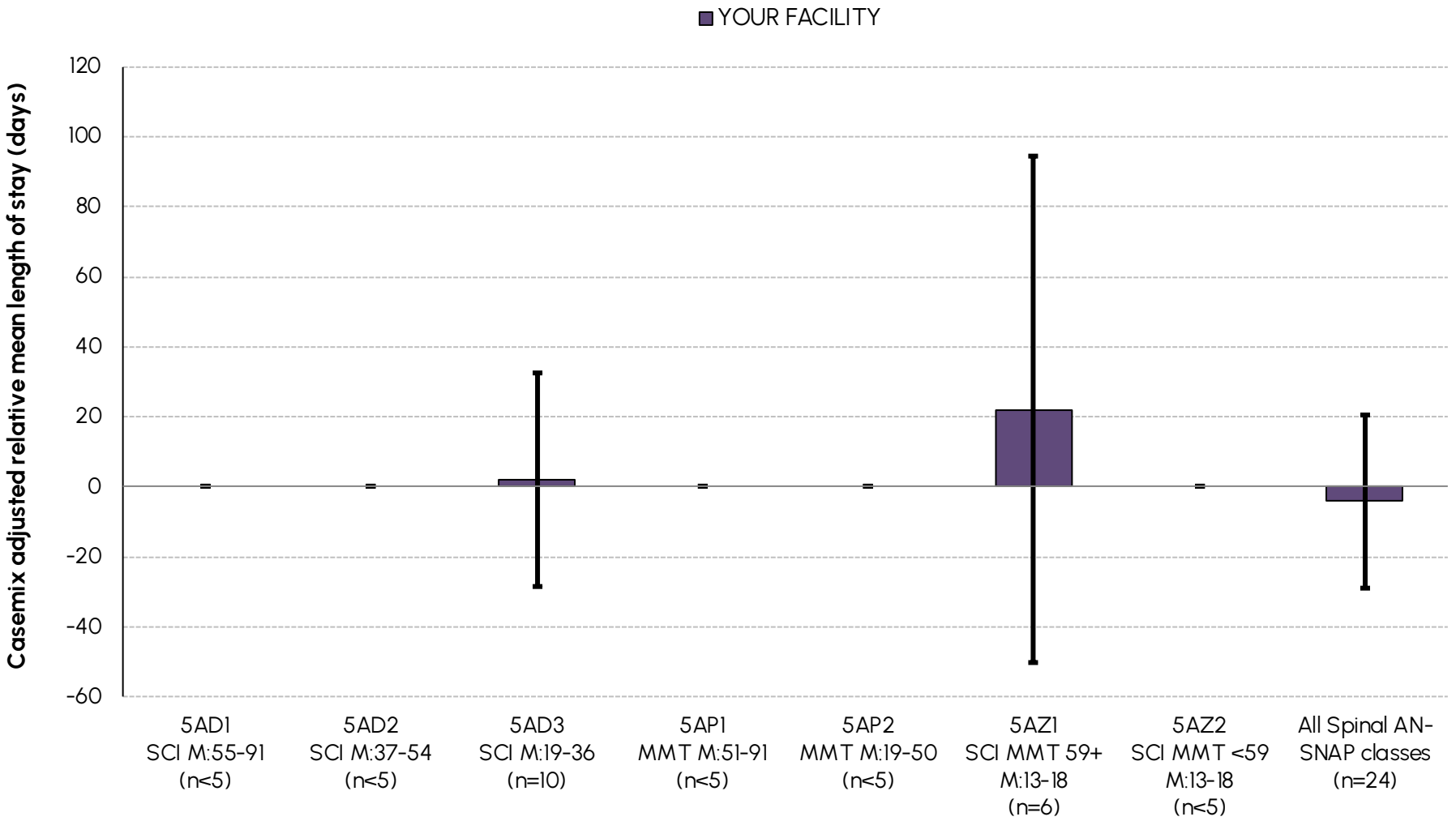
Note: First admission, completed episodes

NTSCI median length of stay by AN-SNAP class



Note: First admission, completed episodes

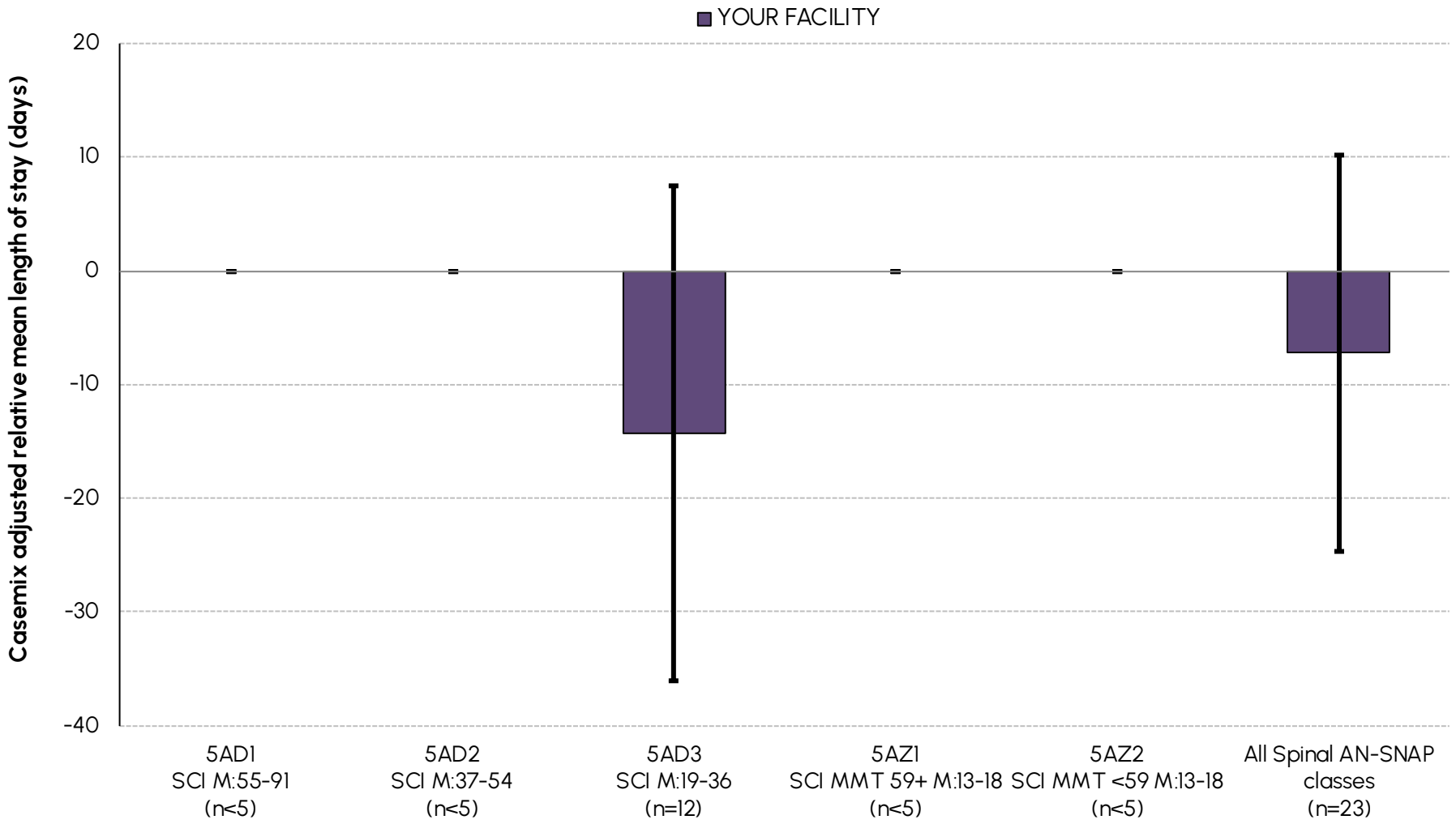
TSCI casemix-adjusted* relative mean length of stay by AN-SNAP class



Note: First admission, completed episodes

*Casemix-adjustment uses specialist unit first admissions calculated separately for TSCI and NTSCI

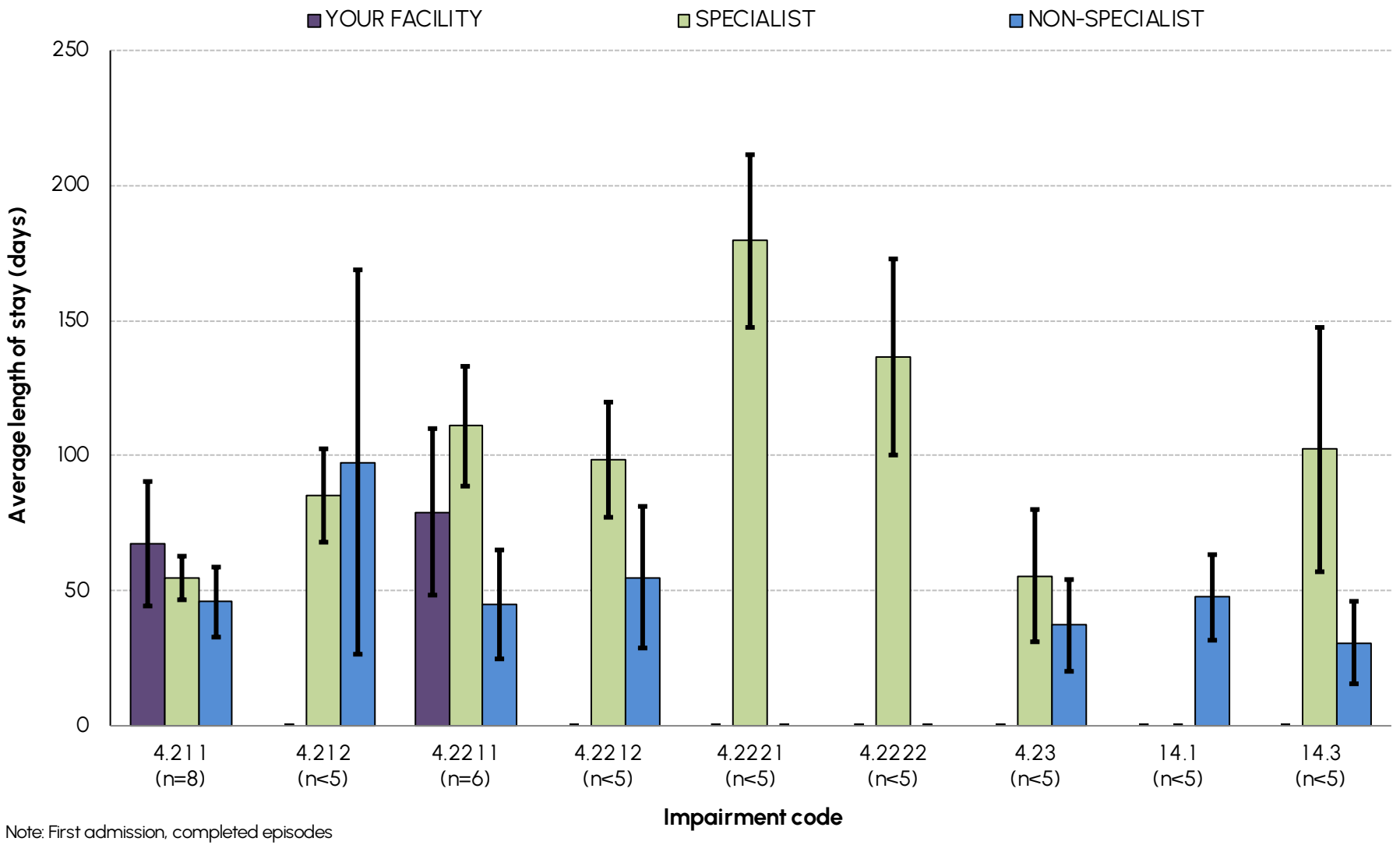
NTSCI casemix-adjusted* relative mean length of stay by AN-SNAP class



Note: First admission, completed episodes

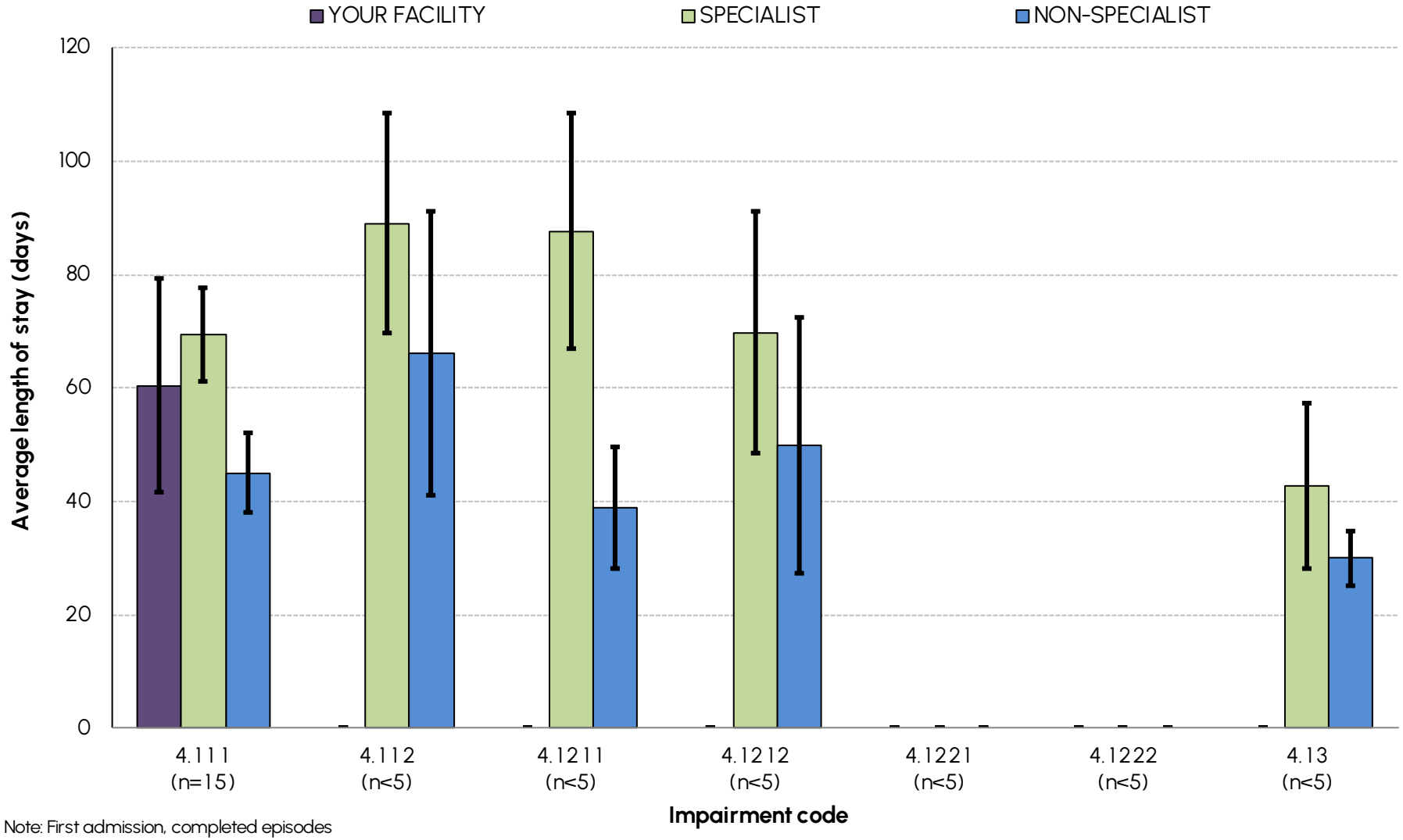
*Casemix-adjustment uses specialist unit first admissions calculated separately for TSCI and NTSCI

TSCI average length of stay by impairment



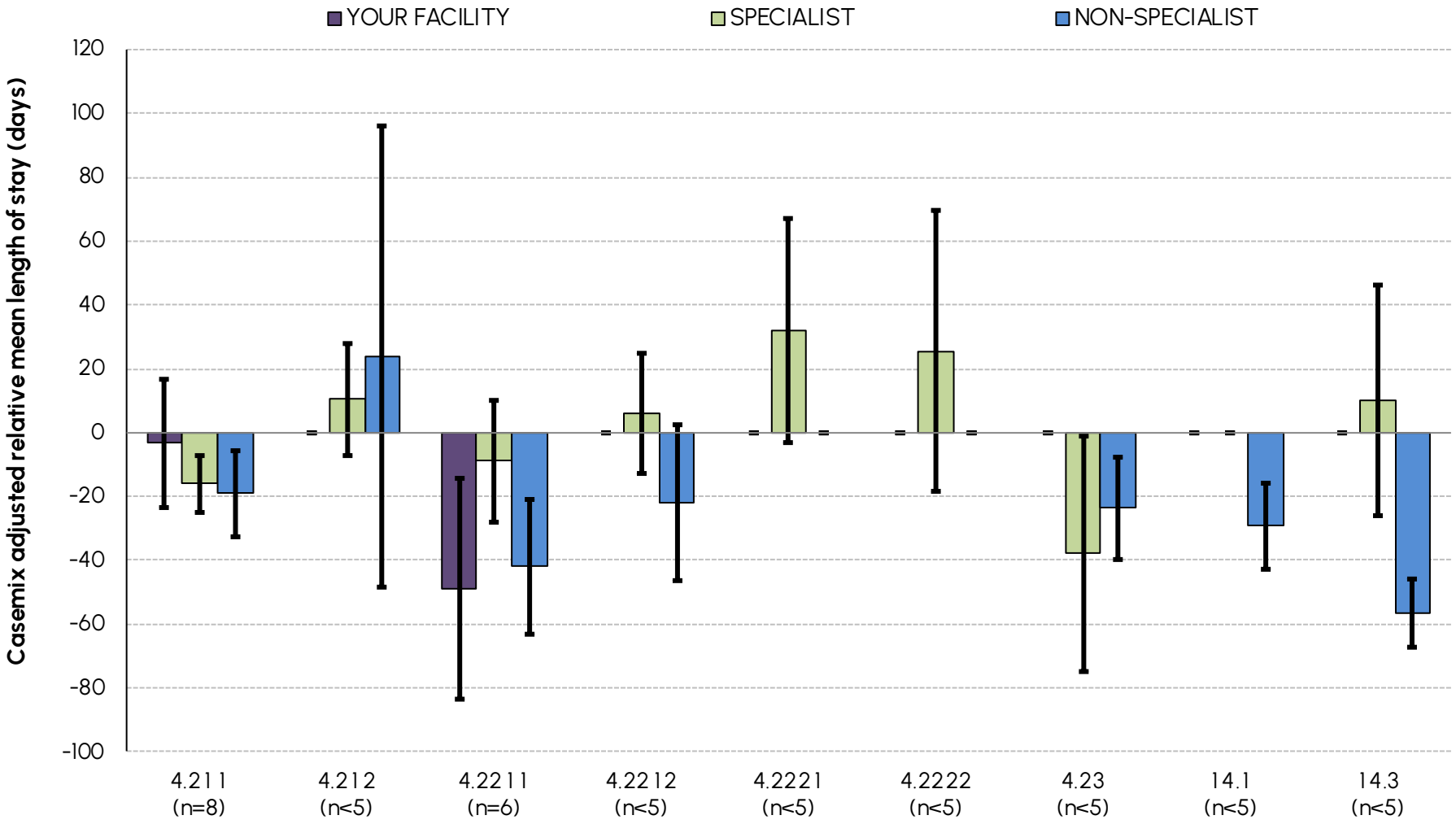
Note: First admission, completed episodes

NTSCI average length of stay by impairment



Note: First admission, completed episodes

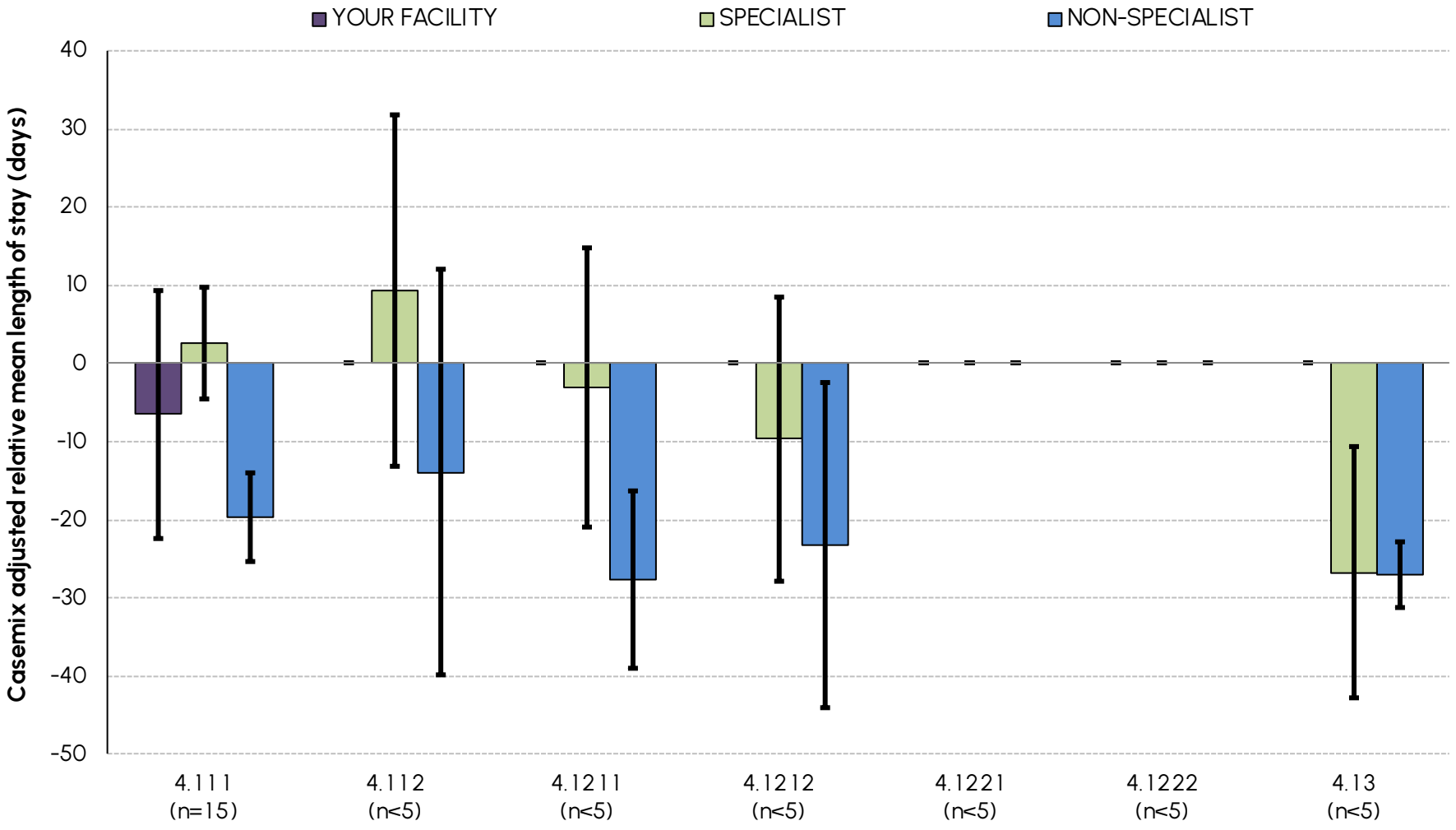
TSCI casemix-adjusted* relative mean length of stay by impairment



Note: First admission, completed episodes

*Casemix-adjustment uses specialist unit first admissions calculated separately for TSCI and NTSCI

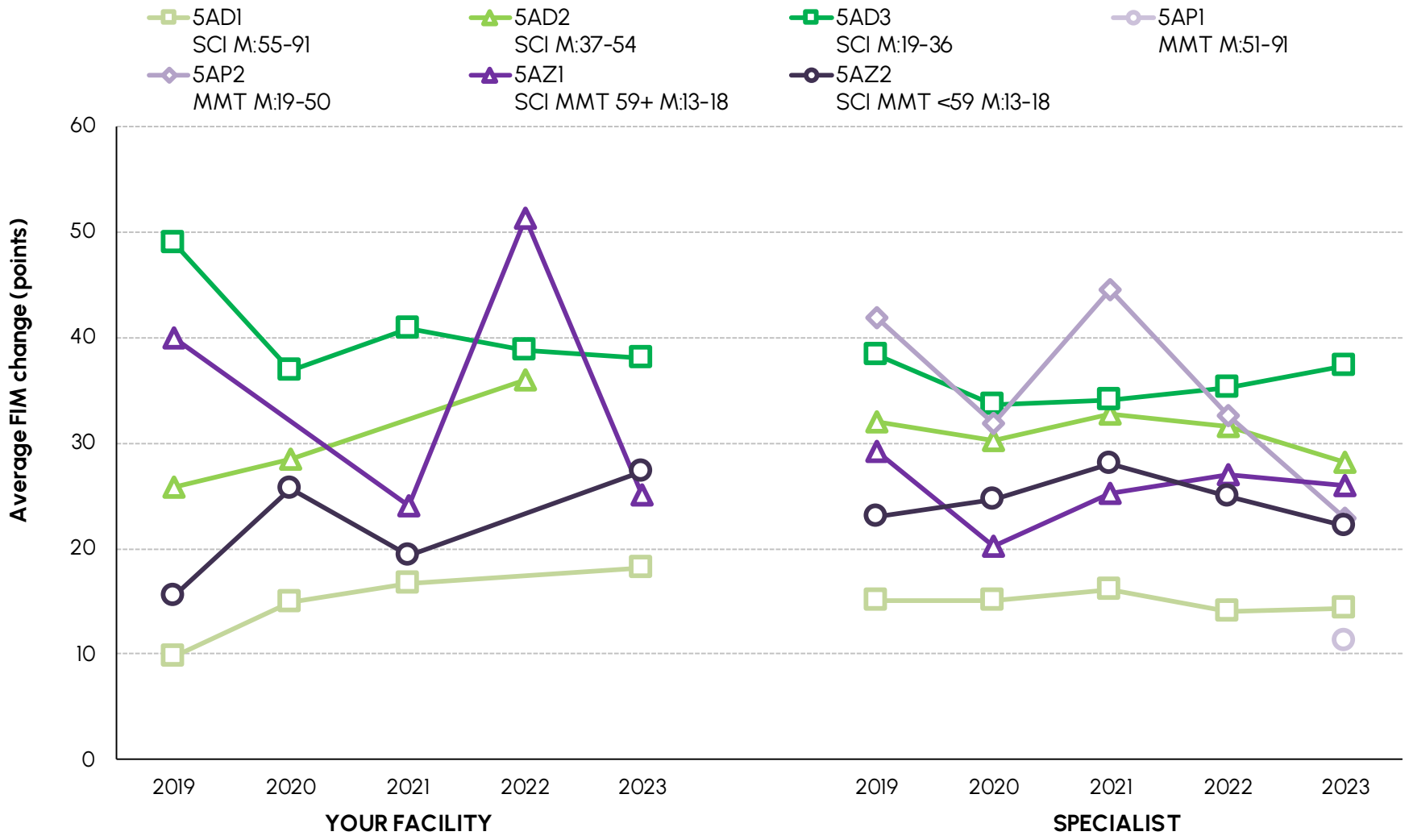
NTSCI casemix-adjusted* relative mean length of stay by impairment



Note: First admission, completed episodes

*Casemix-adjustment uses specialist unit first admissions calculated separately for TSCI and NTSCI

Average FIM change by AN-SNAP class over time



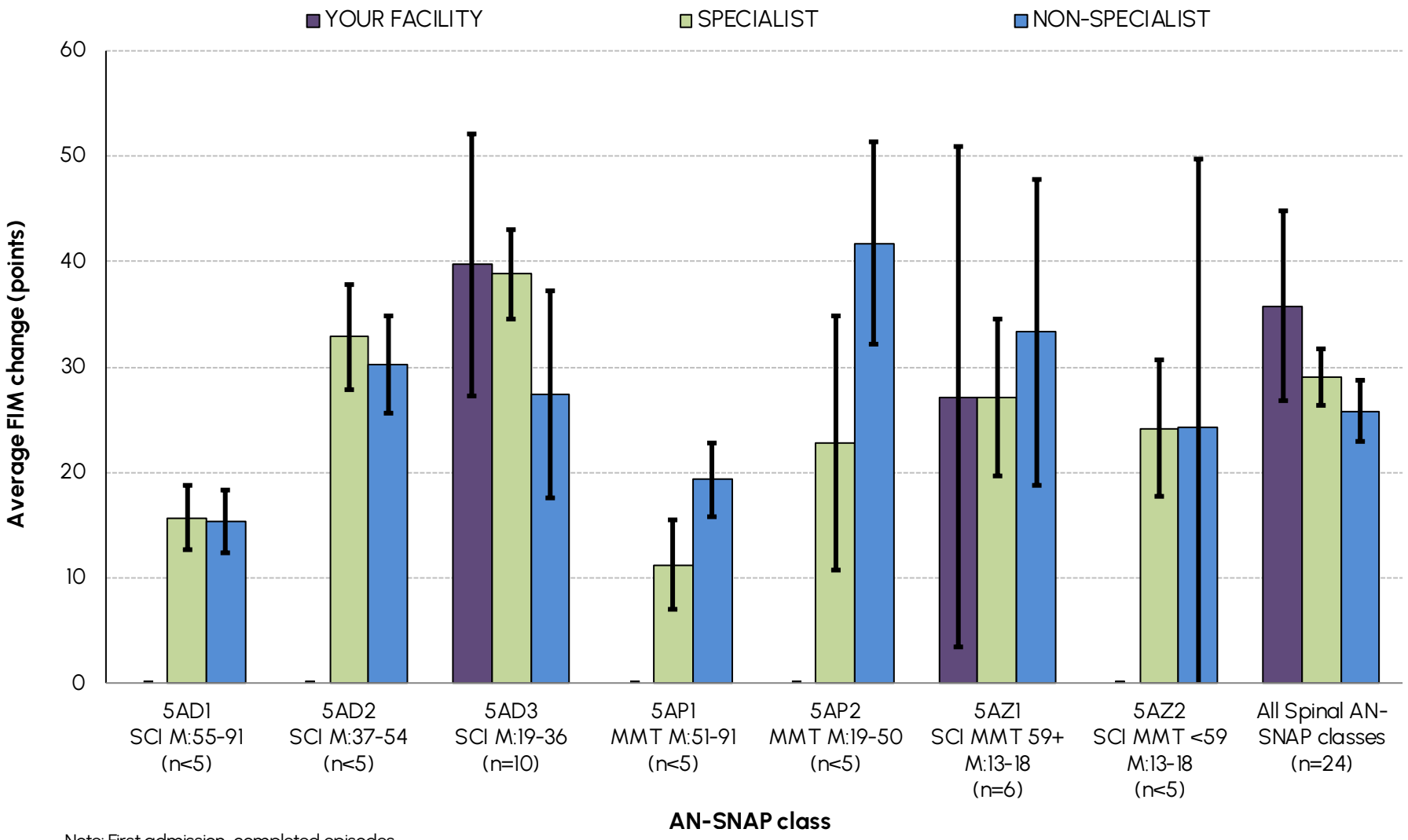
Note: First admission, completed episodes

Average FIM change by AN-SNAP class over time

	YOUR FACILITY					SPECIALIST					NON-SPECIALIST				
AN-SNAP class	**2019**	**2020**	**2021**	**2022**	**2023**	**2019**	**2020**	**2021**	**2022**	**2023**	**2019**	**2020**	**2021**	**2022**	**2023**
5AD1 (SCI, Weighted FIM Motor 55 - 91)	9.8	14.9	16.7	—	18.2	15.1	15.0	16.1	14.0	14.3	15.2	16.0	15.3	14.8	16.0
5AD2 (SCI, Weighted FIM Motor 37 - 54)	25.8	28.5	—	36.0	—	32.0	30.3	32.8	31.6	28.2	27.4	28.9	27.6	27.1	28.6
5AD3 (SCI, Weighted FIM Motor 19 - 36)	49.0	36.9	40.9	38.8	38.1	38.3	33.7	34.1	35.2	37.3	25.8	33.1	28.9	27.8	30.0
5AP1 (MMT, Weighted FIM Motor 51 - 91)	—	—	—	—	—	—	—	—	—	11.2	16.6	12.2	20.7	19.9	19.3
5AP2 (MMT, Weighted FIM Motor 19 - 50)	—	—	—	—	—	41.9	31.9	44.5	32.6	22.8	38.1	42.6	42.3	49.7	41.7
5AZ1 (SCI or MMT, age ≥ 59, weighted FIM motor 13-18)	40.0	—	24.0	51.3	25.1	29.2	20.3	25.2	27.1	25.9	18.8	26.6	28.1	22.3	27.4
5AZ2 (SCI or MMT, age ≤ 58, weighted FIM motor 13-18)	15.6	25.6	19.4	—	27.3	23.1	24.7	28.0	25.0	22.1	29.4	20.0	19.2	22.1	23.4
All Spinal AN-SNAP classes	**30.0**	**25.1**	**27.4**	**38.1**	**32.5**	**29.1**	**26.8**	**28.3**	**28.8**	**28.5**	**21.6**	**24.9**	**23.7**	**23.4**	**25.2**

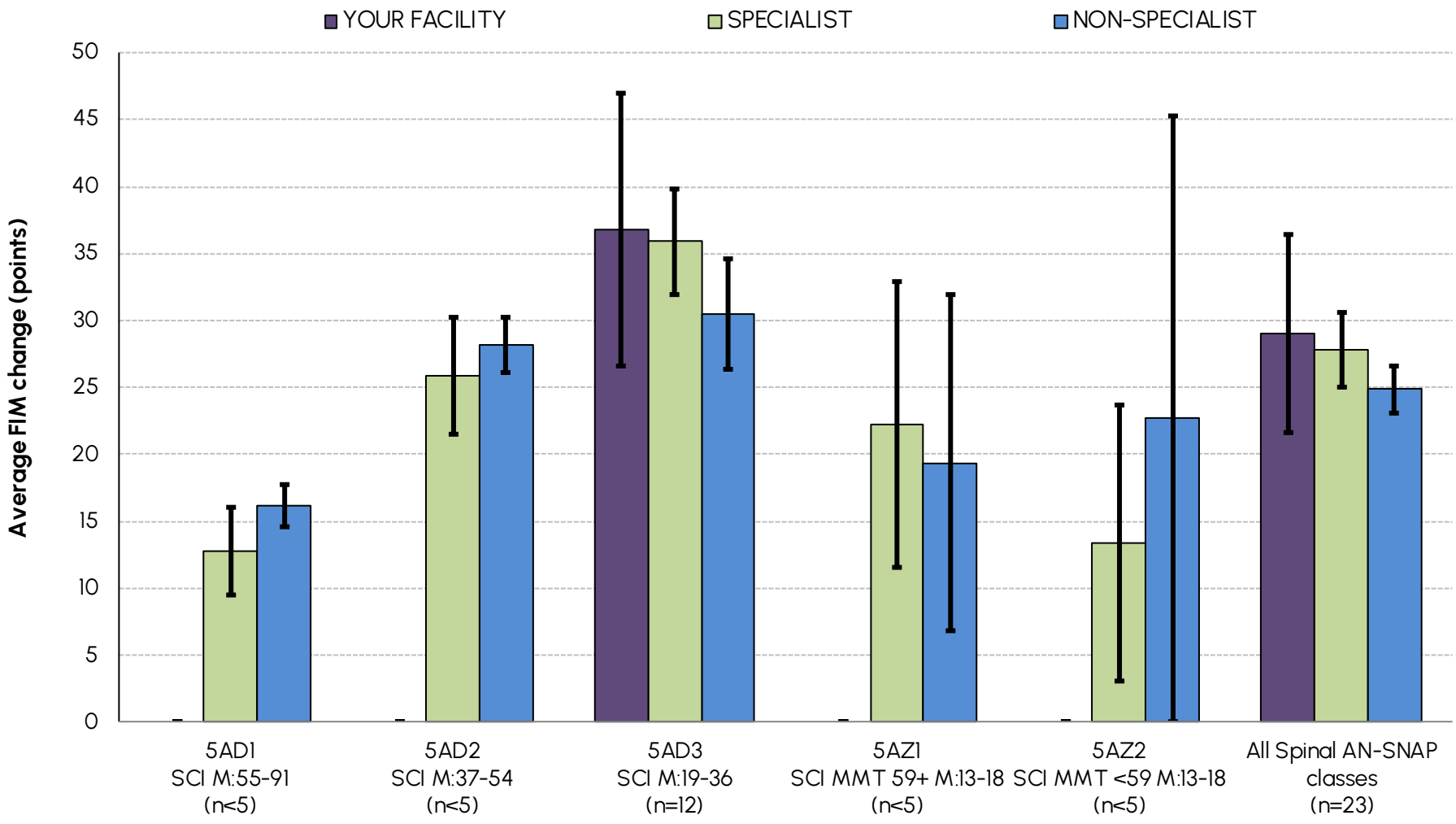
Note: First admission, completed episodes

TSCI average FIM change by AN-SNAP class



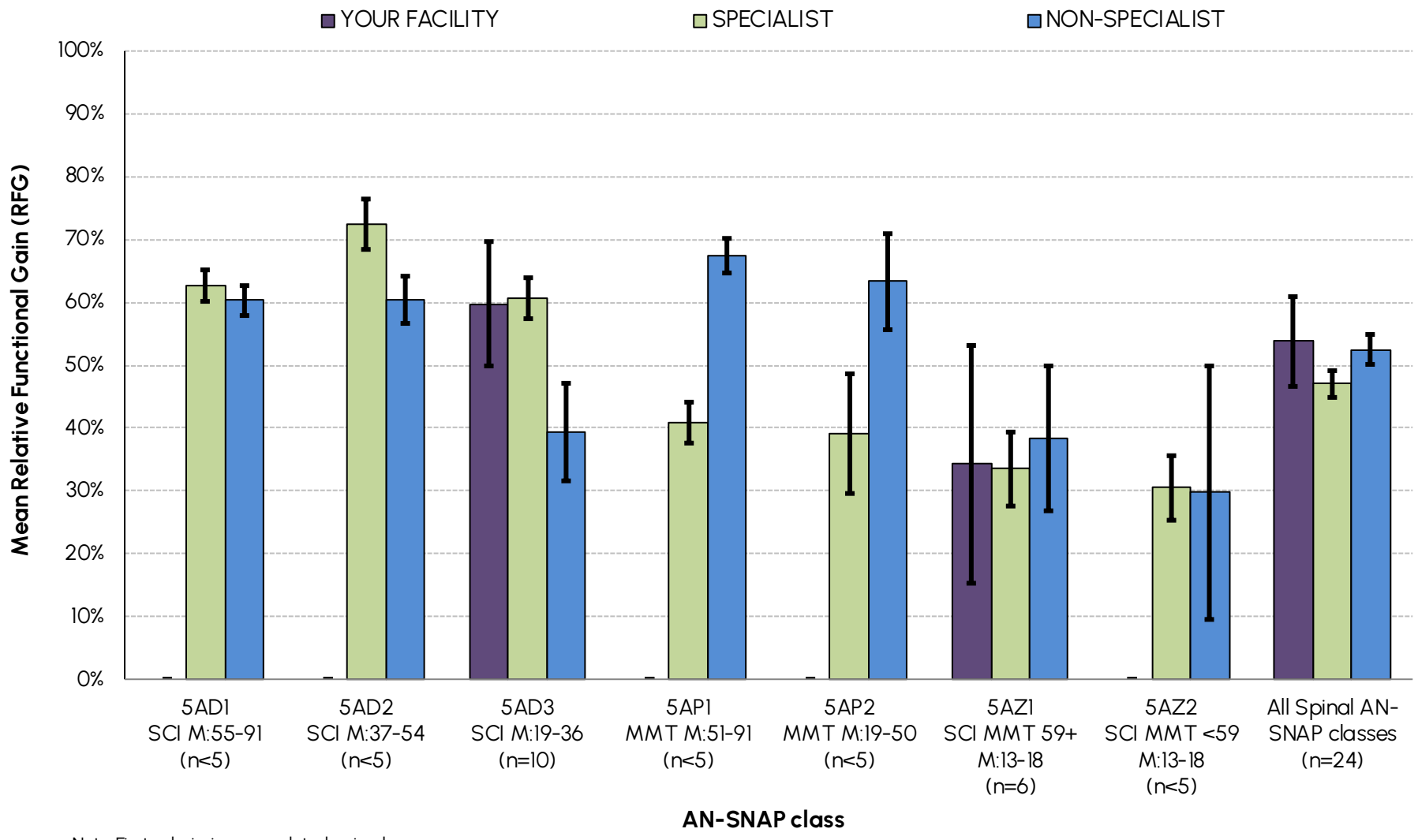
Note: First admission, completed episodes

NTSCI average FIM change by AN-SNAP class



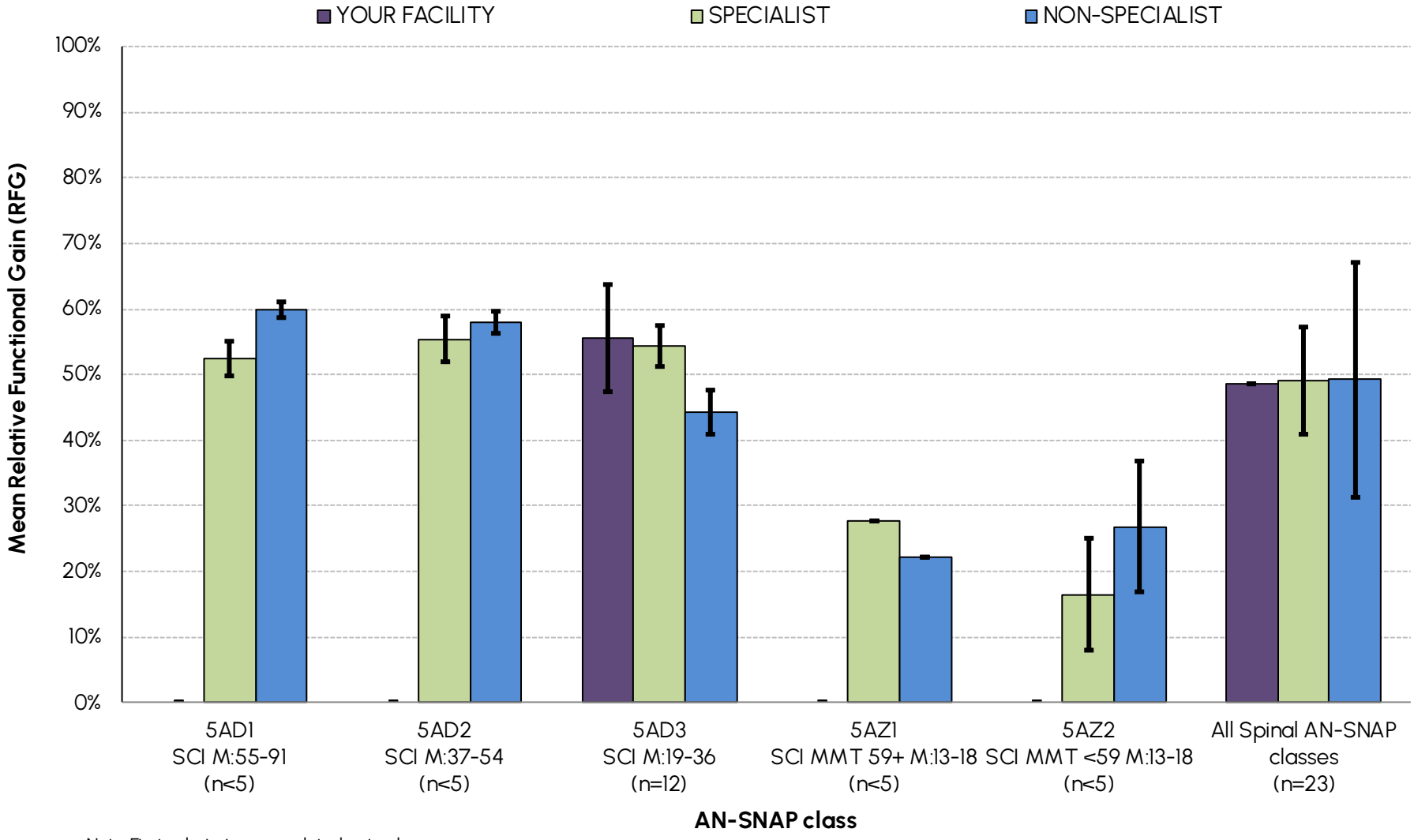
Note: First admission, completed episodes

TSCI average relative functional gain by AN-SNAP class



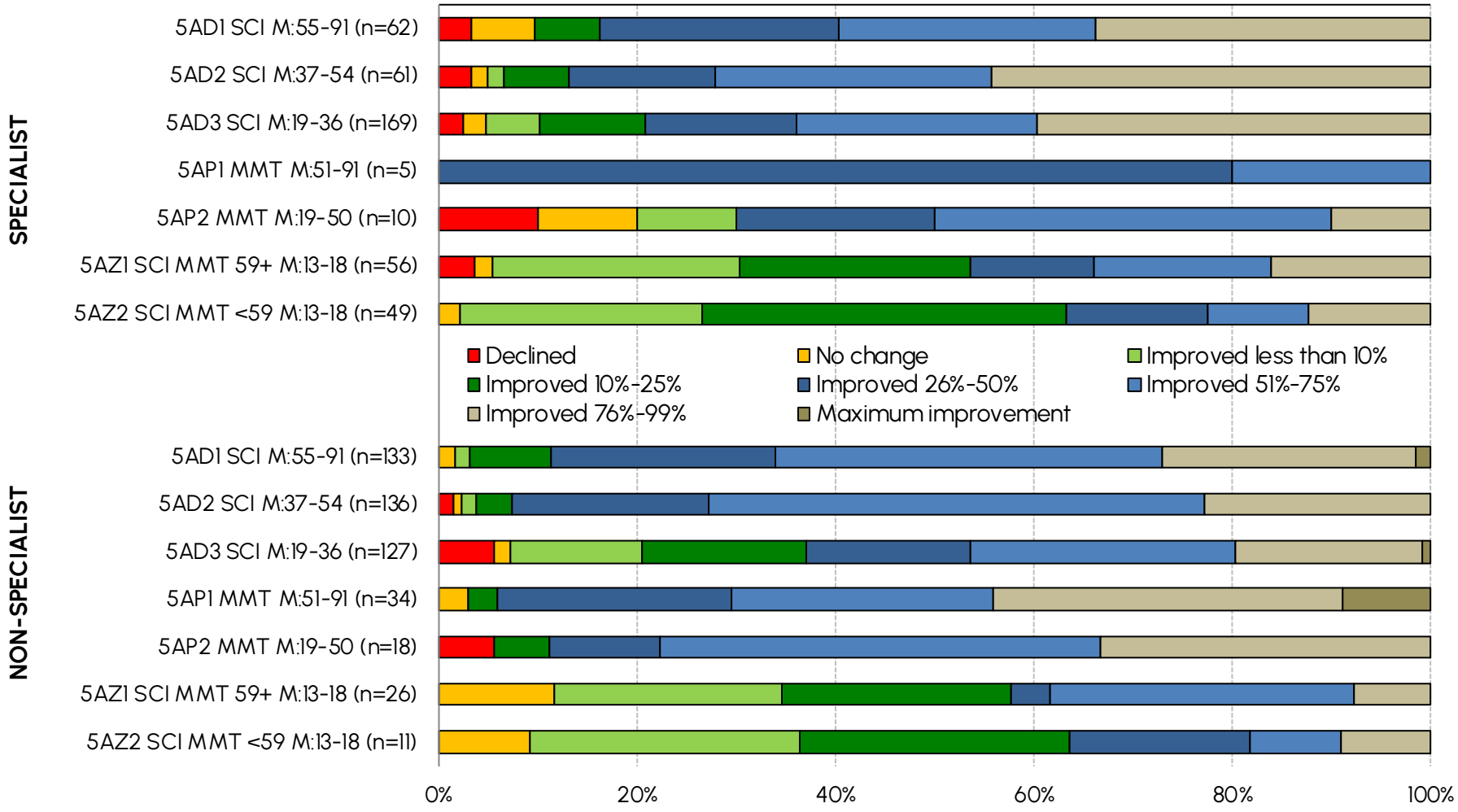
Note: First admission, completed episodes

NTSCI average relative functional gain by AN-SNAP class



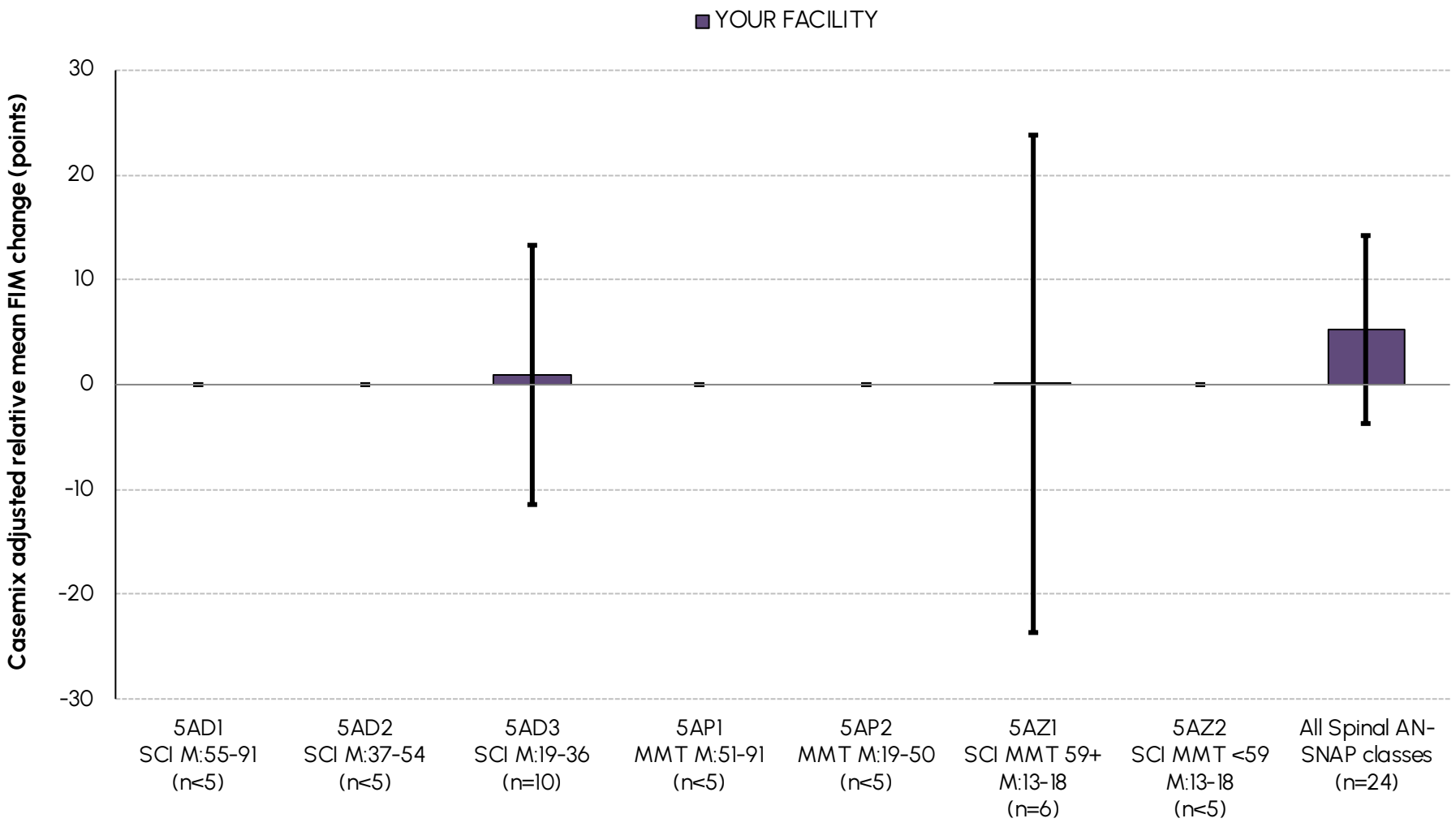
Note: First admission, completed episodes

Relative functional gain by AN-SNAP class



Note: First admission, completed episodes

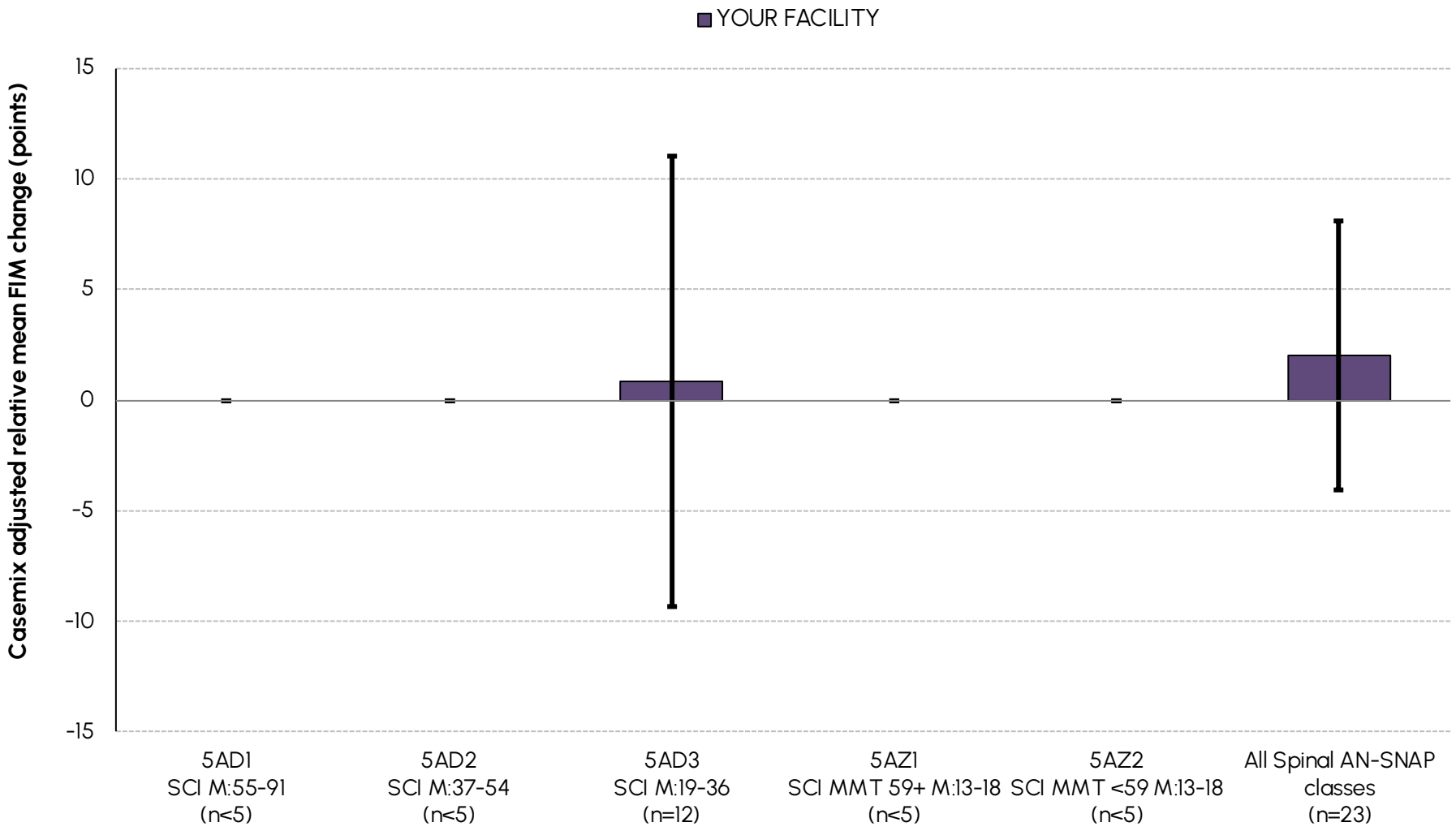
TSCI casemix-adjusted* relative mean FIM change by AN-SNAP class



Note: First admission, completed episodes

*Casemix-adjustment uses specialist unit first admissions calculated separately for TSCI and NTSCI

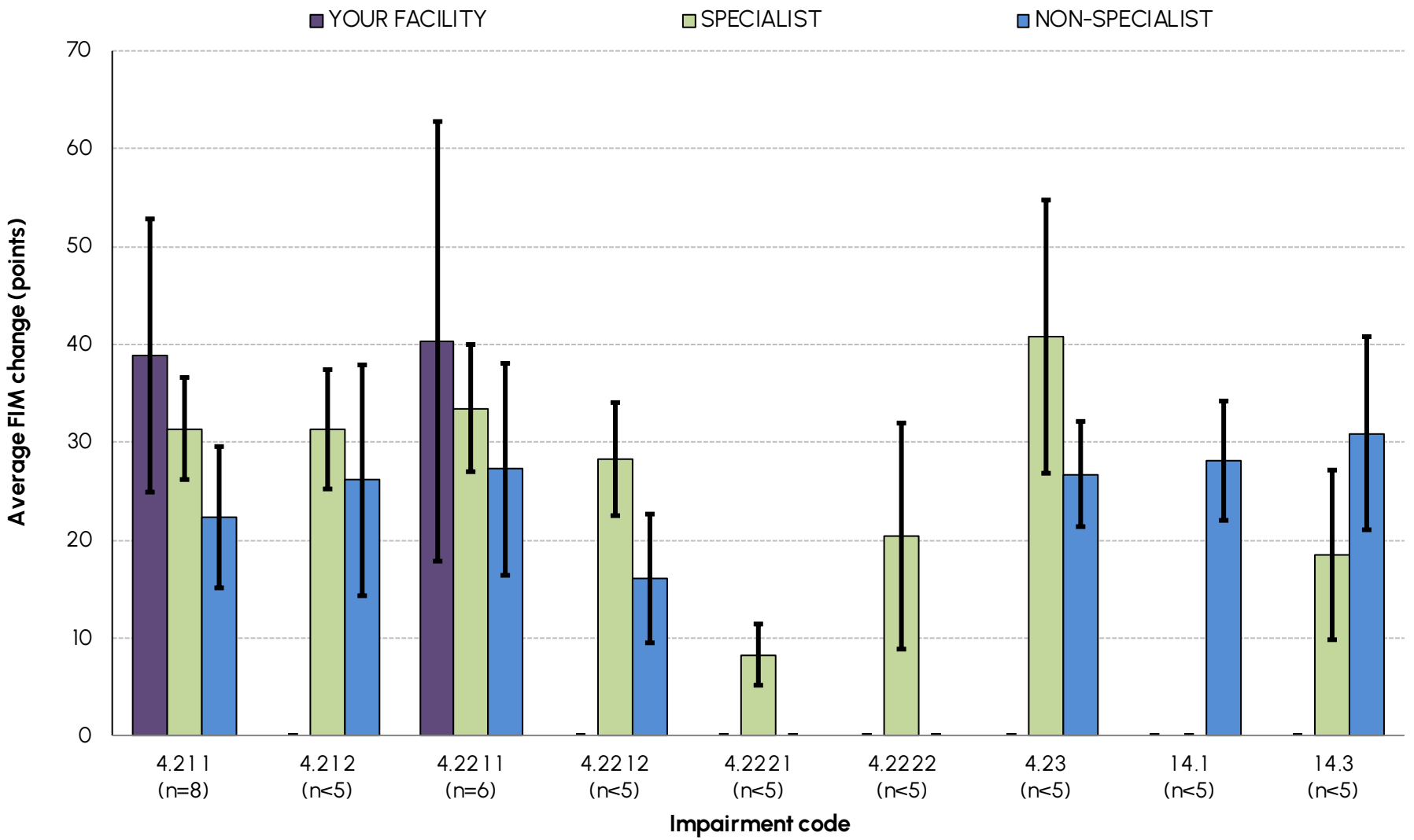
NTSCI casemix-adjusted* relative mean FIM change by AN-SNAP class



Note: First admission, completed episodes

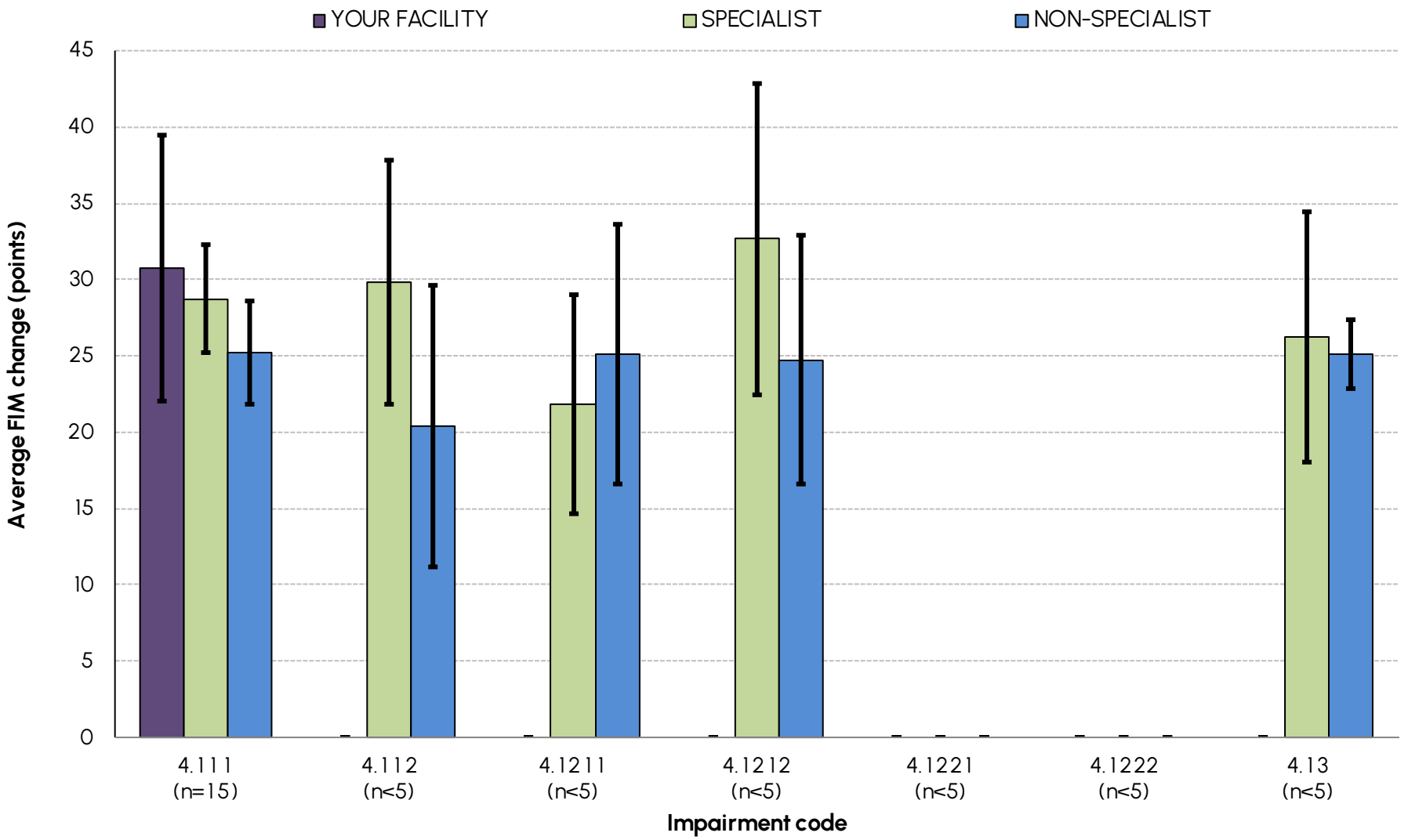
*Casemix-adjustment uses specialist unit first admissions calculated separately for TSCI and NTSCI

TSCI average FIM change by impairment



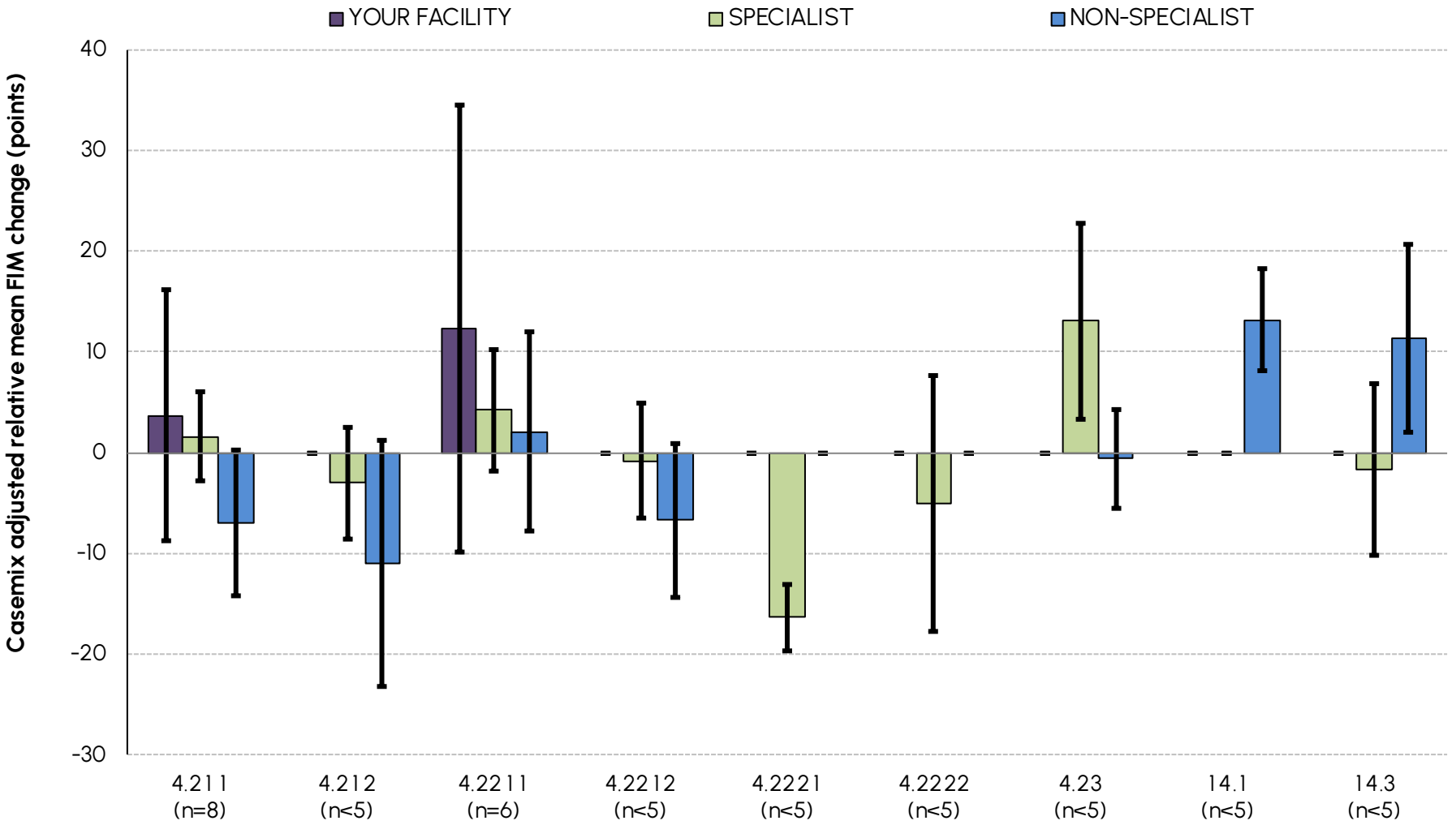
Note: First admission, completed episodes

NTSCI average FIM change by impairment



Note: First admission, completed episodes

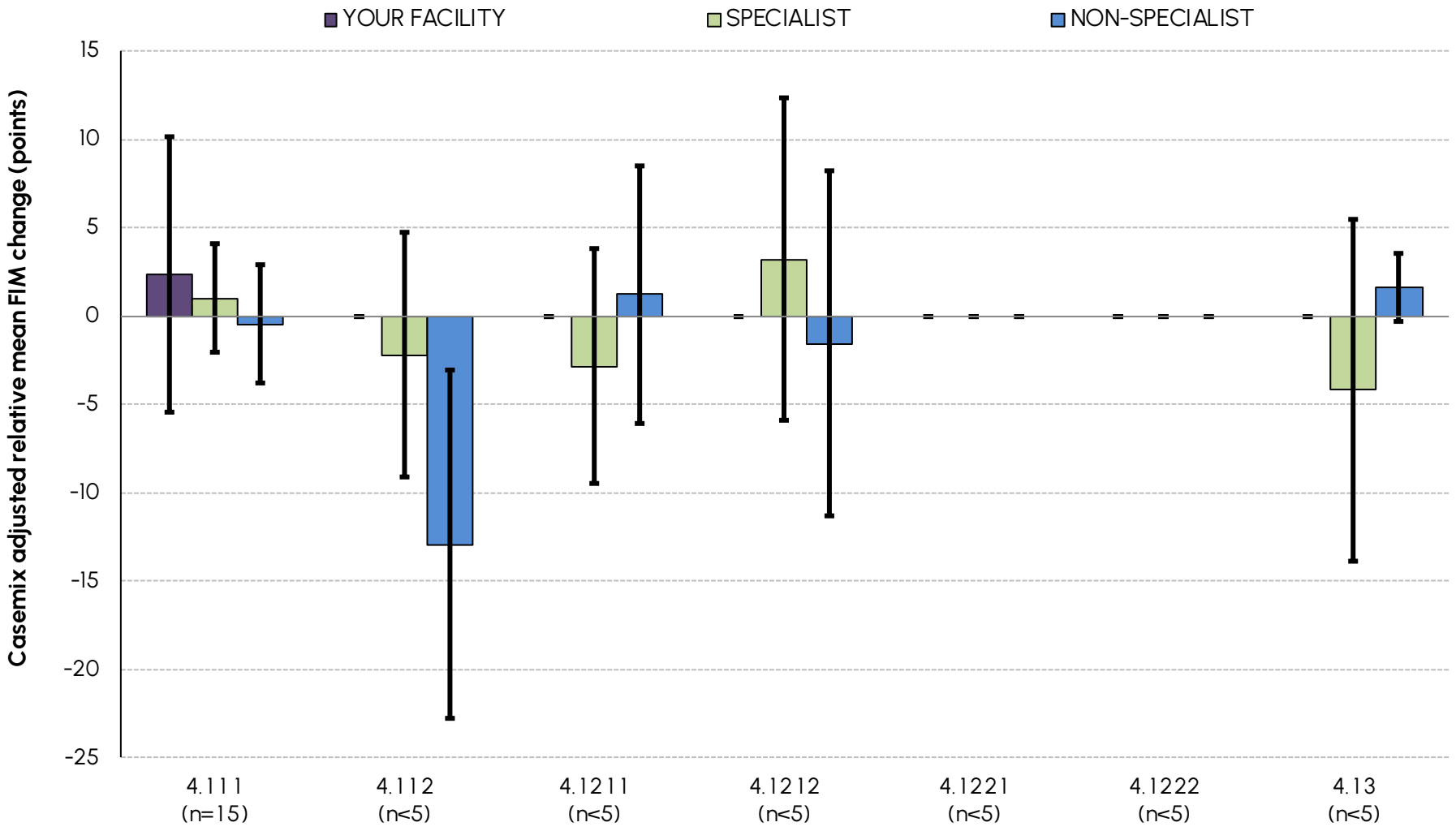
TSCI casemix-adjusted* relative mean FIM change by impairment



Note: First admission, completed episodes

*Casemix-adjustment uses specialist unit first admissions calculated separately for TSCI and NTSCI

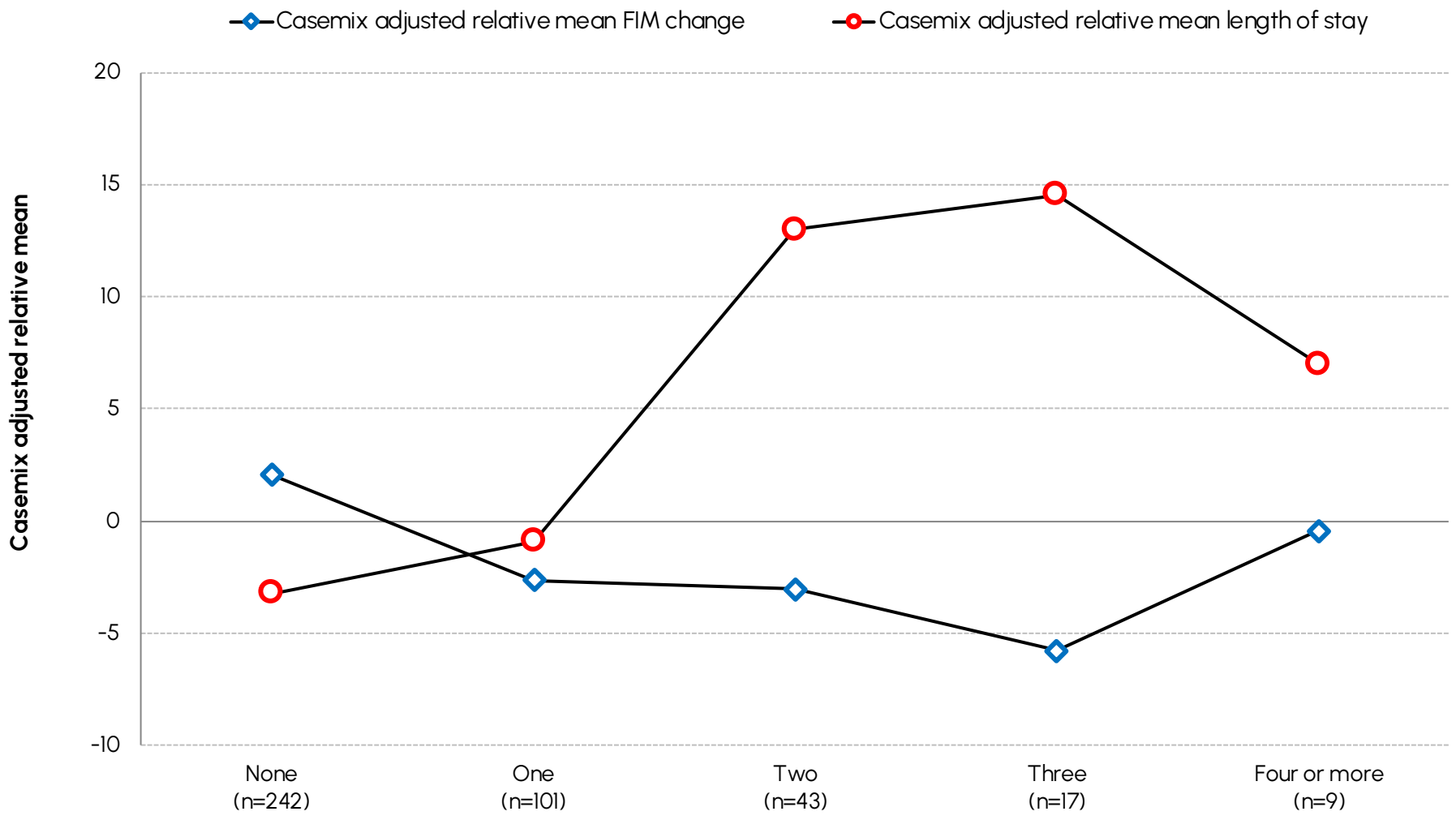
NTSCI casemix-adjusted* relative mean FIM change by impairment



Note: First admission, completed episodes

*Casemix-adjustment uses specialist unit first admissions calculated separately for TSCI and NTSCI

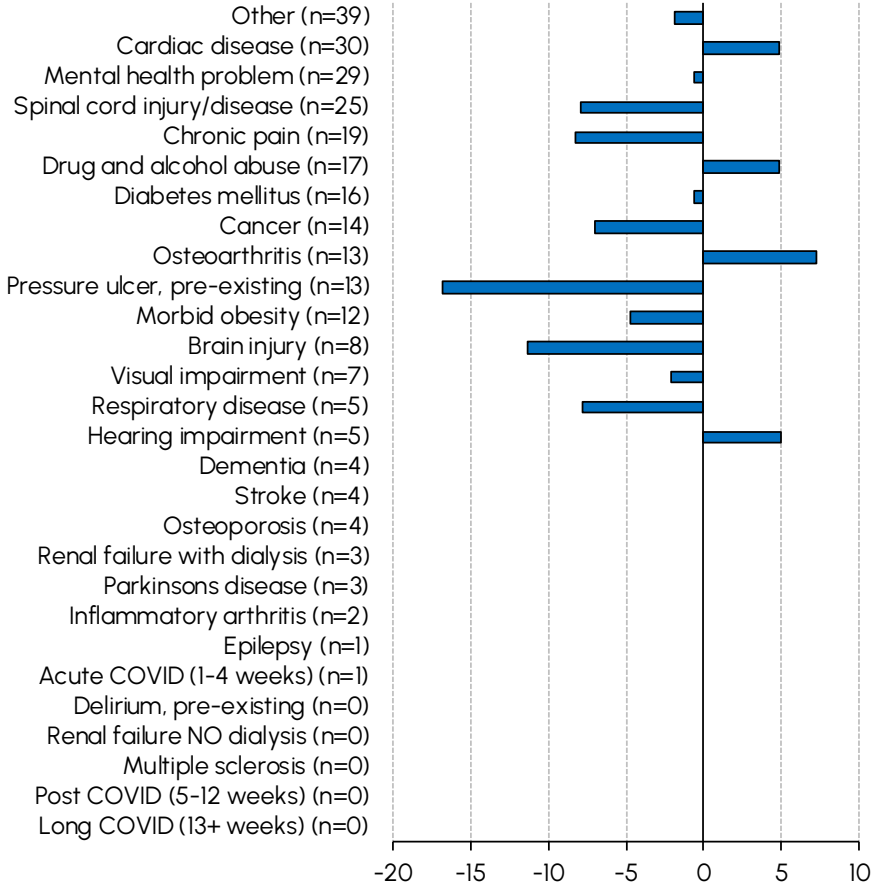
Casemix-adjusted* relative mean length of stay and FIM change by number of comorbidities



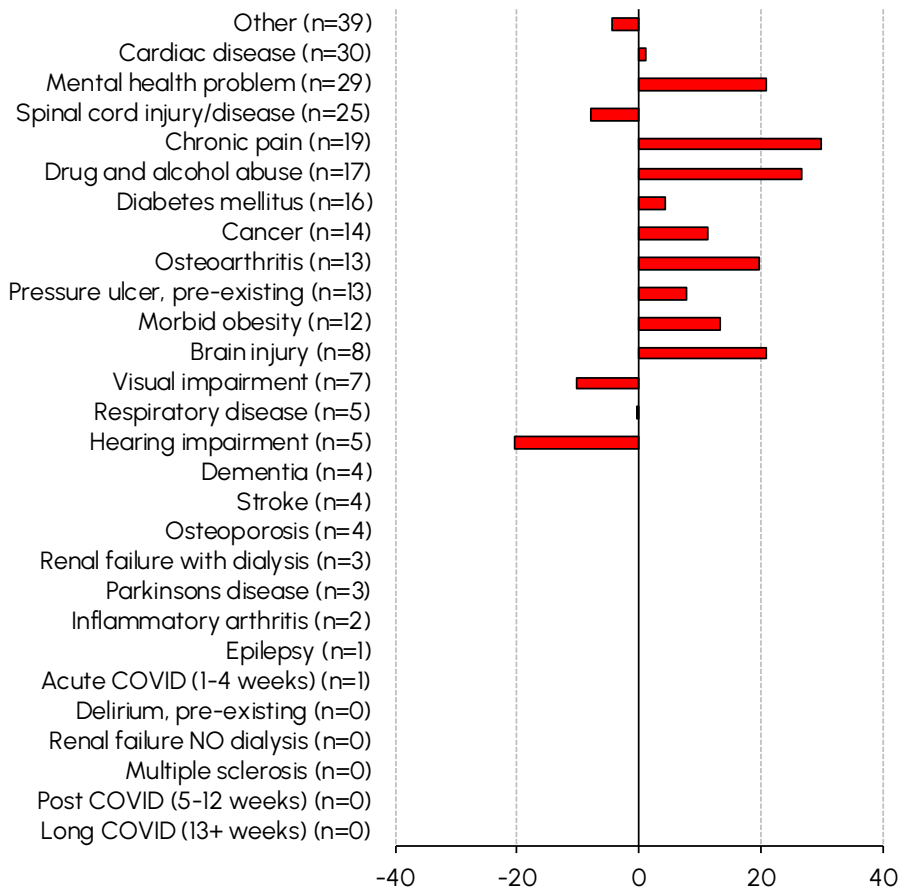
Note: First admission, completed episodes

*Casemix-adjustment uses specialist unit first admissions calculated separately for TSCI and NTSCI

Casemix-adjusted* relative mean length of stay and FIM change by type of comorbidity



Casemix adjusted relative mean FIM change — SPECIALIST

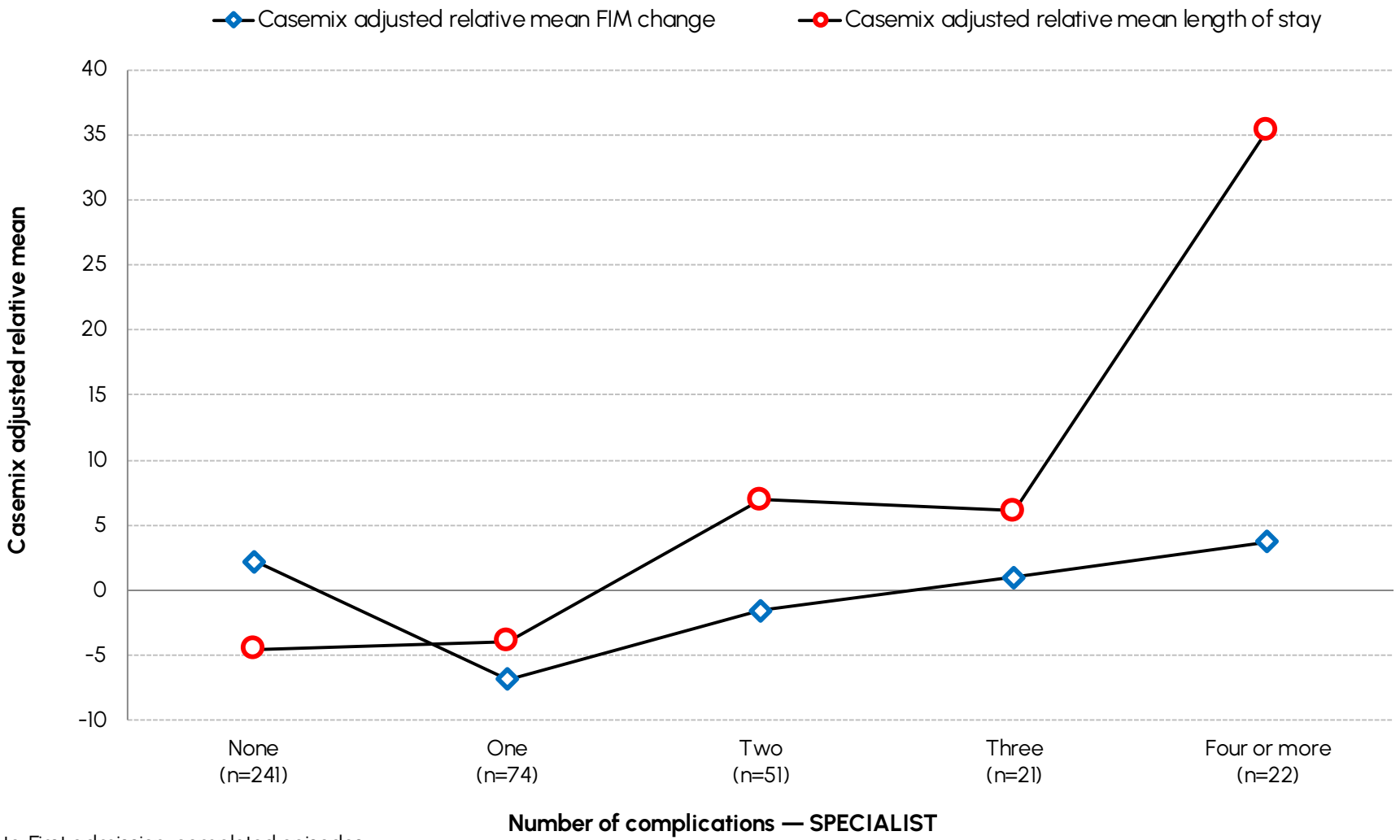


Casemix adjusted relative mean LOS — SPECIALIST

Note: First admission, completed episodes

*Casemix-adjustment uses specialist unit first admissions calculated separately for TSCI and NTSCI

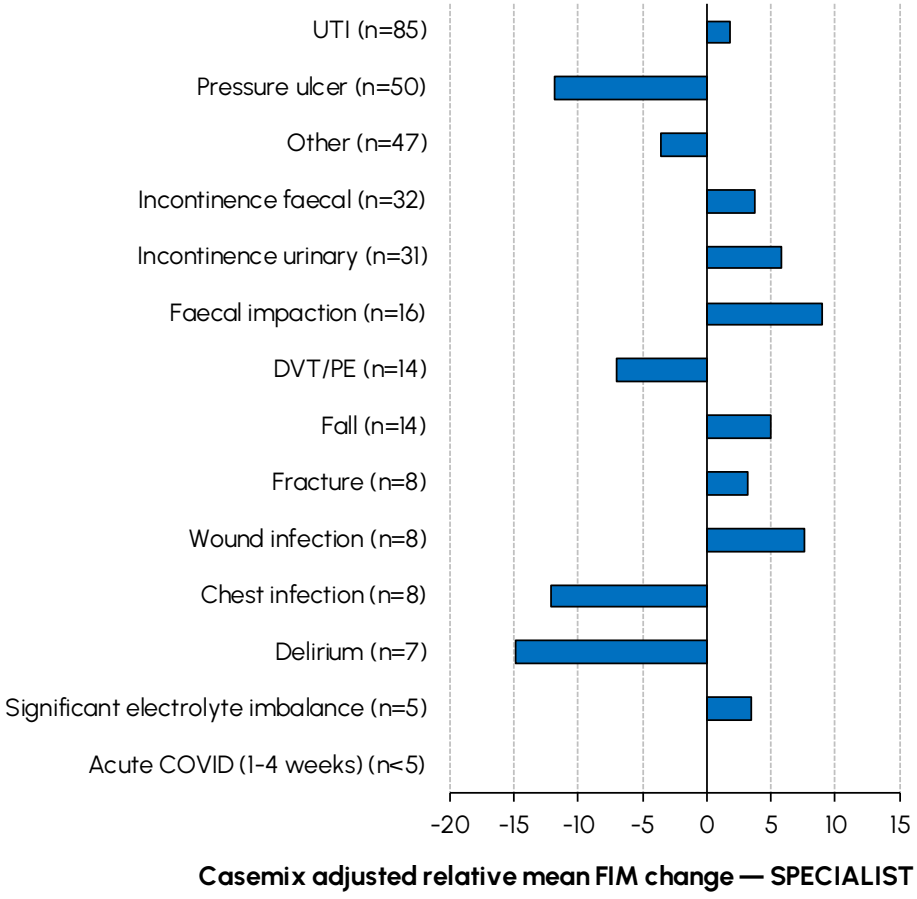
Casemix-adjusted* relative mean length of stay and FIM change by number of complications



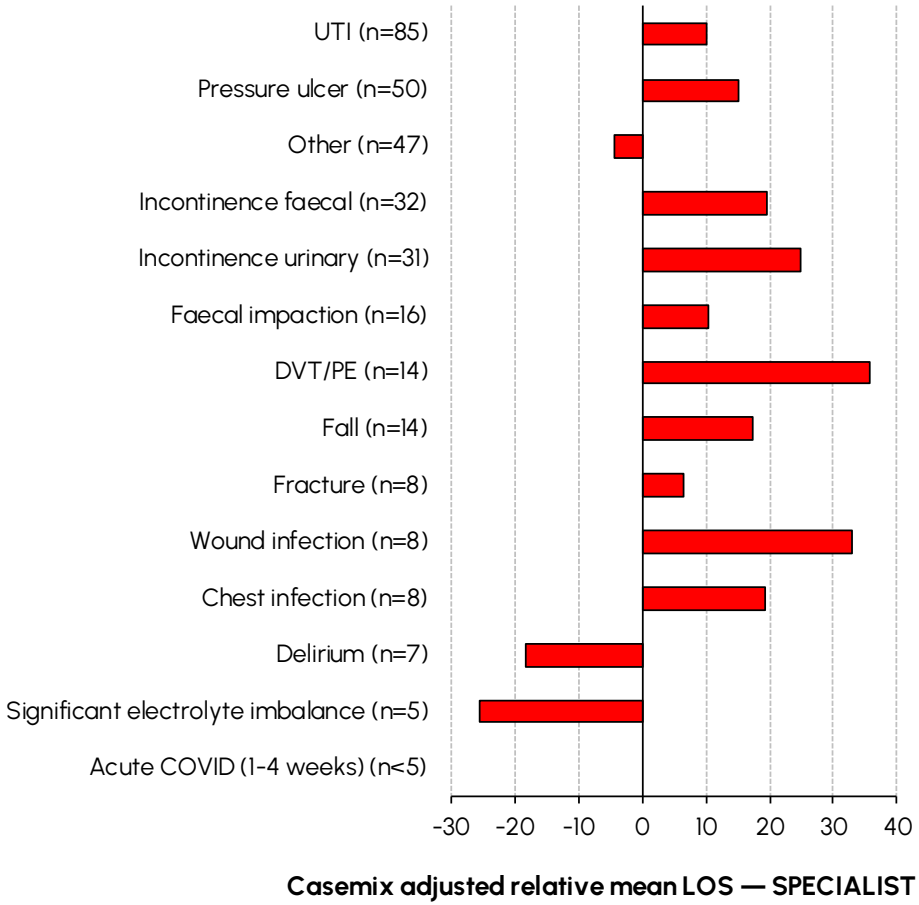
Note: First admission, completed episodes

*Casemix-adjustment uses specialist unit first admissions calculated separately for TSCI and NTSCI

Casemix-adjusted* relative mean length of stay and FIM change by type of complication



Casemix adjusted relative mean FIM change — SPECIALIST



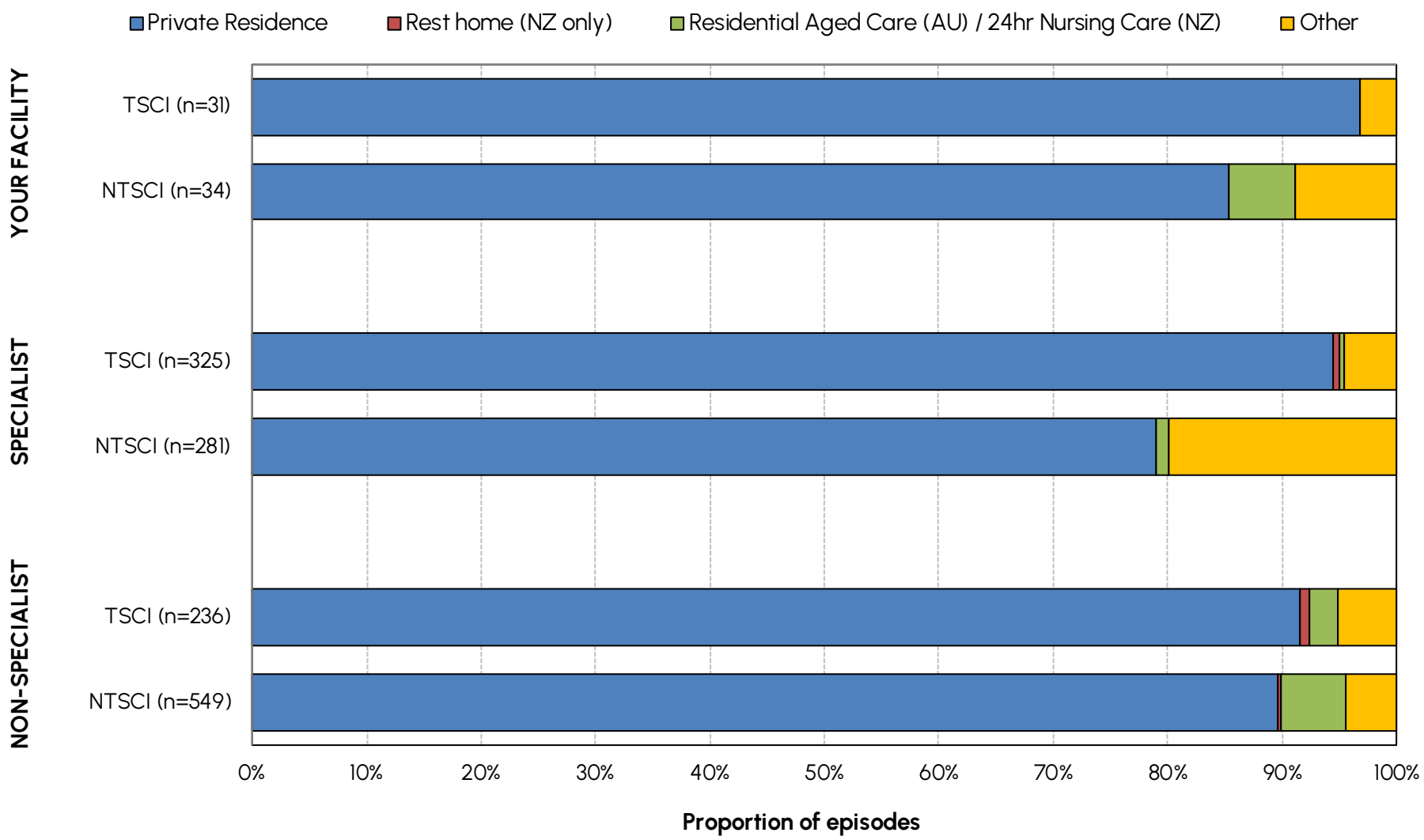
Casemix adjusted relative mean LOS — SPECIALIST

Note: First admission, completed episodes

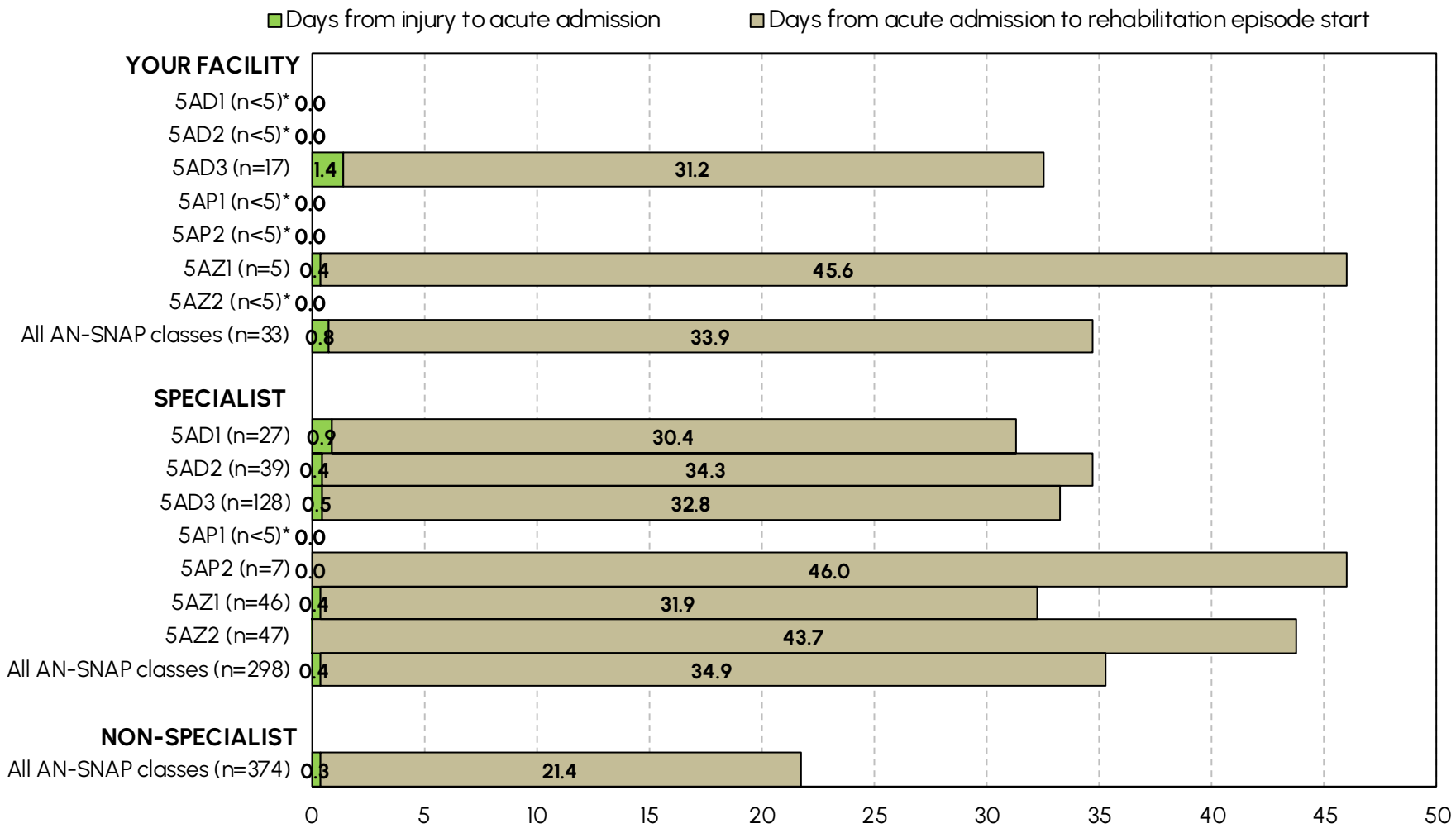
*Casemix-adjustment uses specialist unit first admissions calculated separately for TSCI and NTSCI

Explanatory data

Type of accommodation prior to impairment



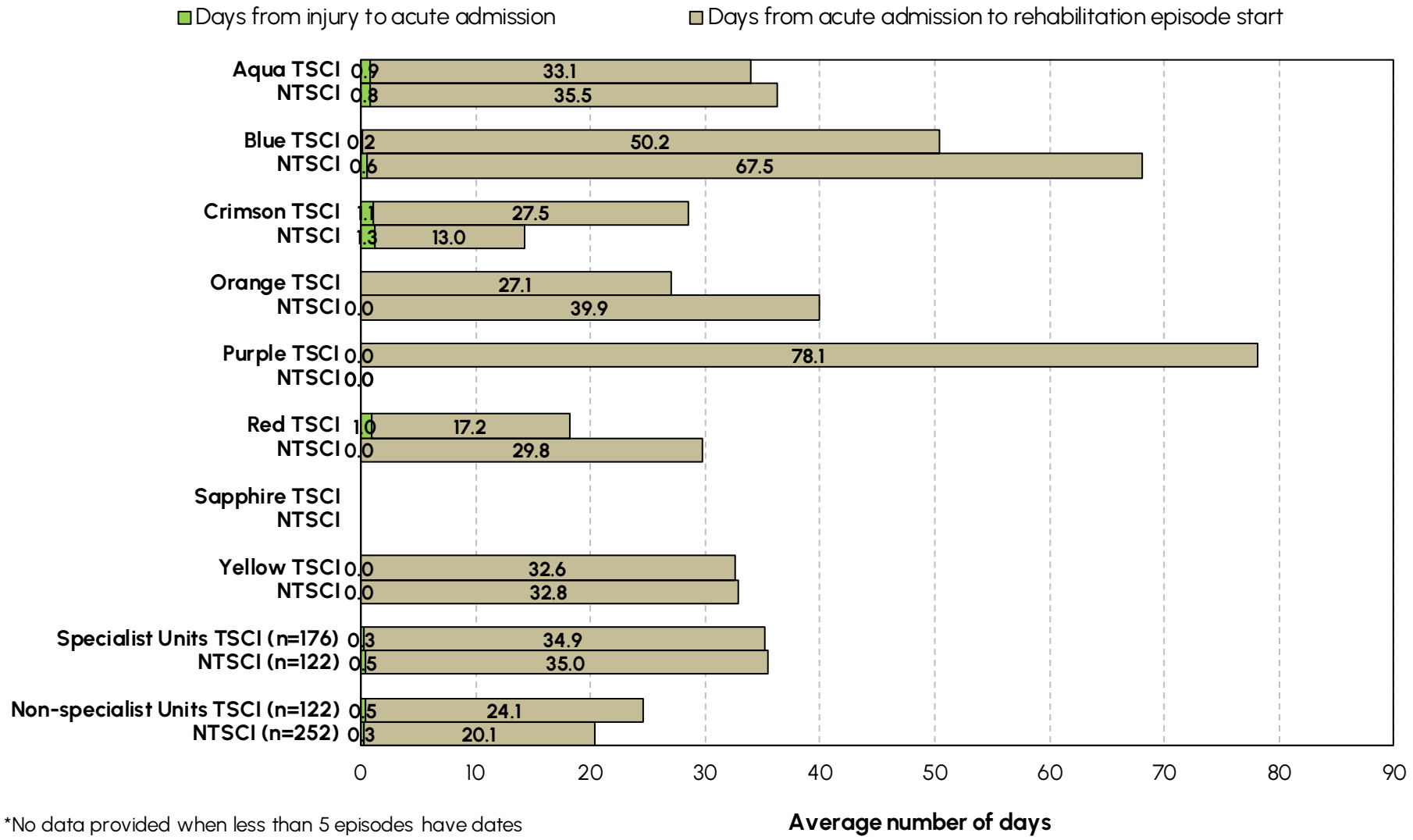
Days from injury to episode start with an acute admission by AN-SNAP class



*No data provided when less than 5 episodes have dates

Note: First admission episodes

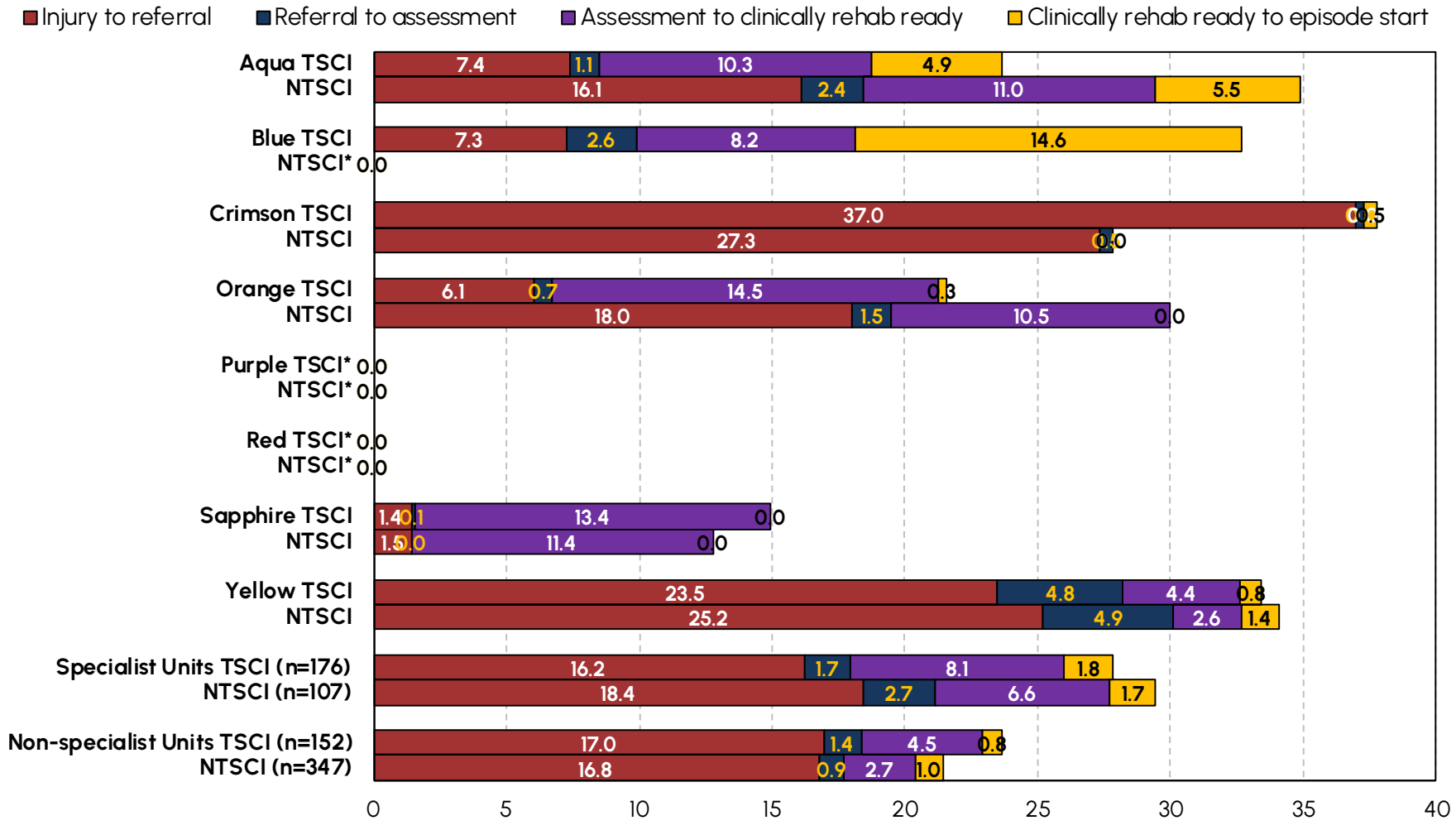
Days from injury to episode start with an acute admission by specialist facility



*No data provided when less than 5 episodes have dates

Note: First admission episodes

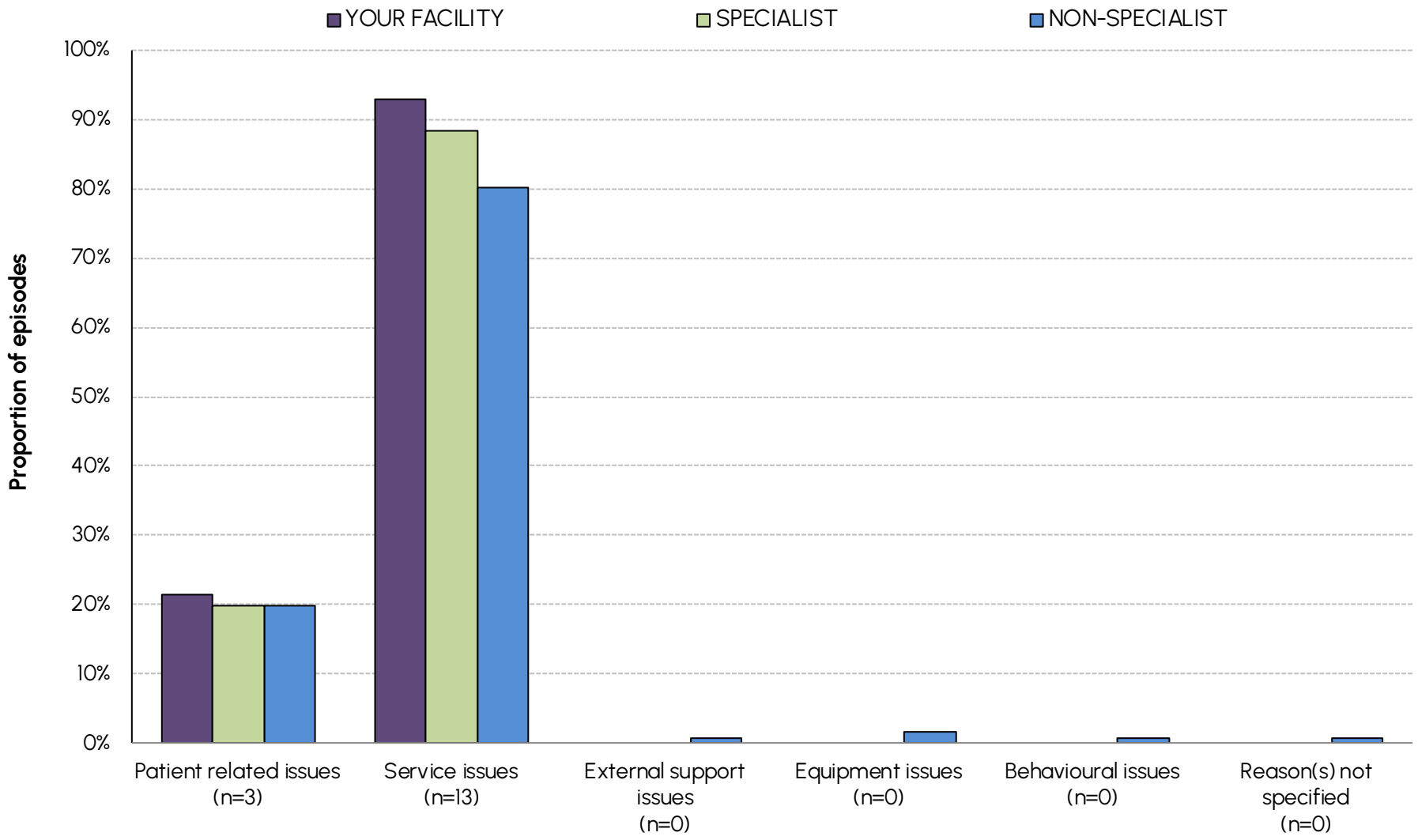
Days from injury to episode start by specialist facility



*No data provided when less than 5 episodes have dates

Note: First admission episodes, where each date supplied is valid

Reason for delay in episode start

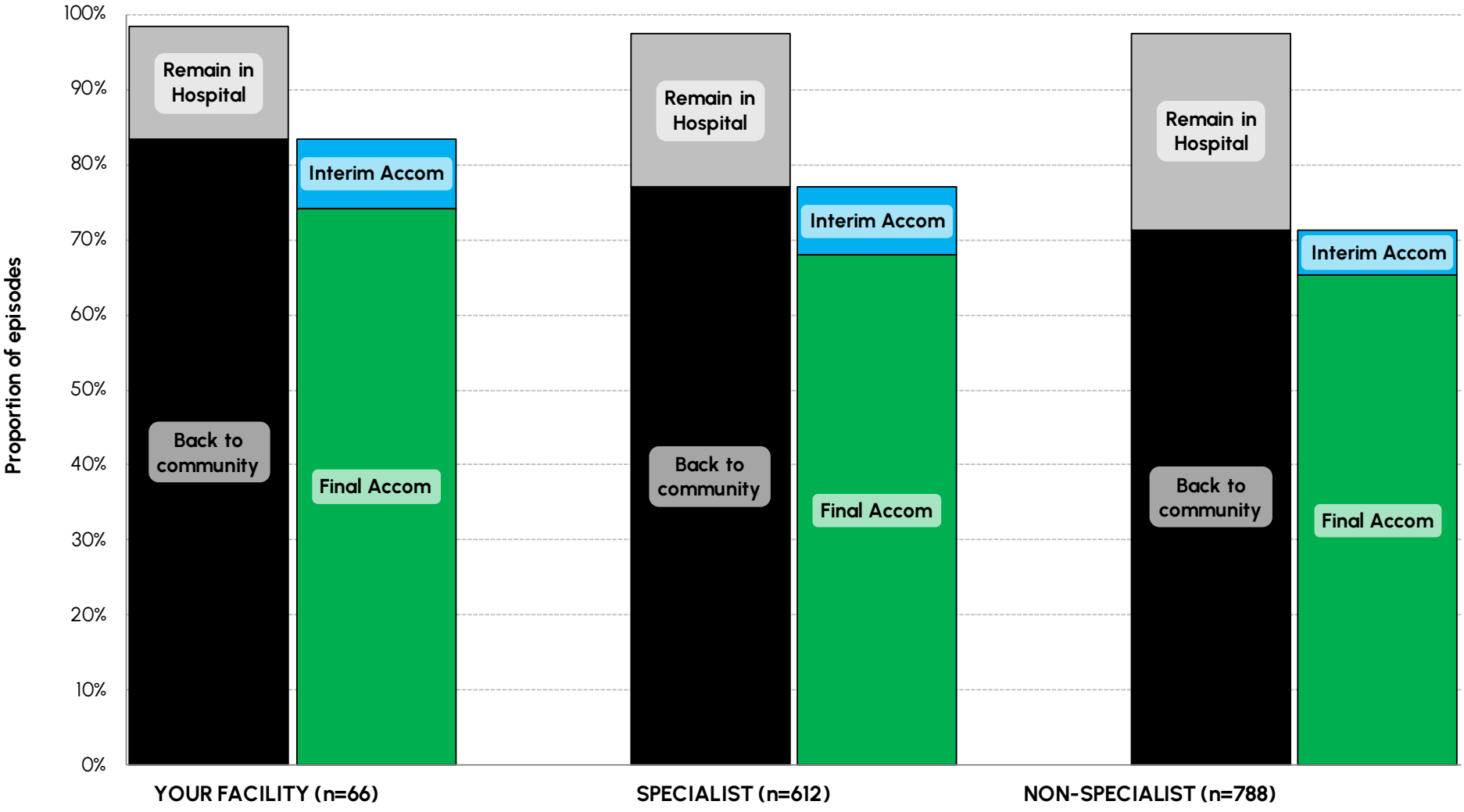


Delays in episode start

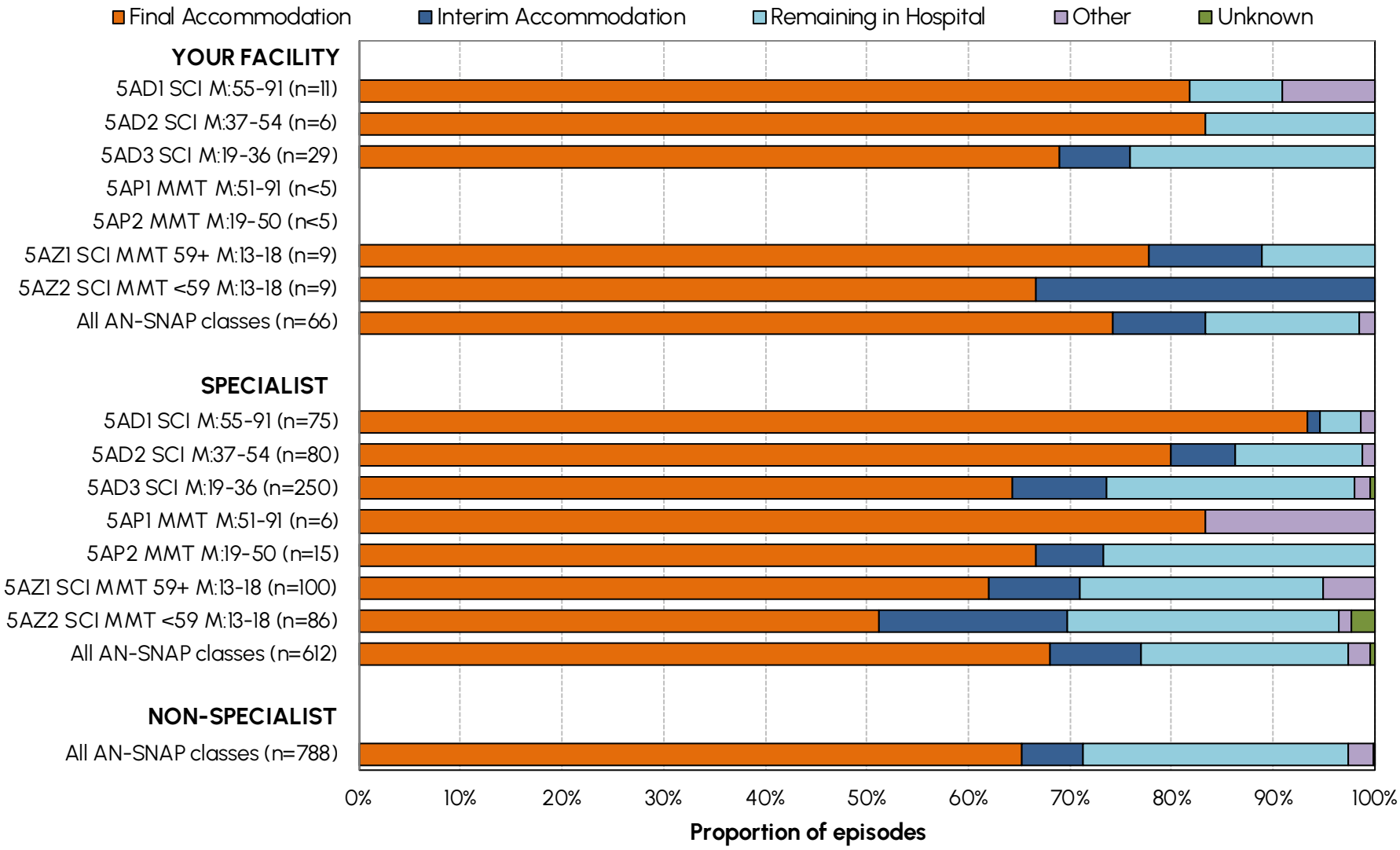
	YOUR FACILITY		SPECIALIST		NON-SPECIALIST	
Delay in episode start	**No.**	**%**	**No.**	**%**	**No.**	**%**
No delay	50	78.1	406	73.6	601	82.1
Delay in episode start	14	21.9	146	26.4	131	17.9
Missing	2		60		56	
All episodes	**66**	**100.0**	**612**	**100.0**	**788**	**100.0**

	YOUR FACILITY		SPECIALIST		NON-SPECIALIST	
Delay in episode start	**No.**	**%**	**No.**	**%**	**No.**	**%**
Patient related issues	3	21.4	29	19.9	26	19.8
Service issues	13	92.9	129	88.4	105	80.2
External support issues	0	0.0	0	0.0	1	0.8
Equipment issues	0	0.0	0	0.0	2	1.5
Behavioural issues	0	0.0	0	0.0	1	0.8
Reason(s) not specified	0	0.0	0	0.0	1	0.8

Discharge destination



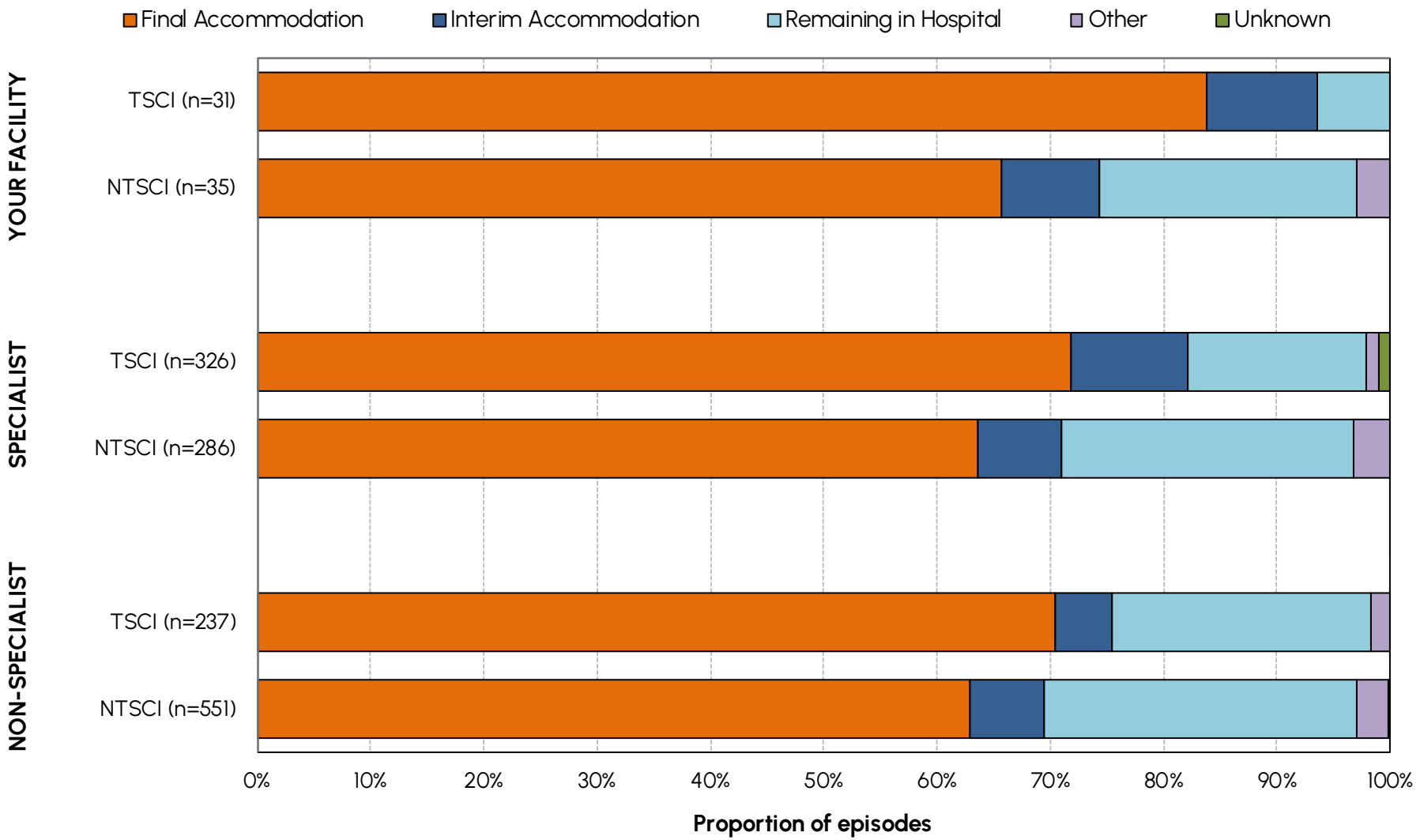
Discharge destination by AN-SNAP class



Discharge destination by AN-SNAP class

		Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown
AN-SNAP class				**No.**					**%**		
Your Facility	5AD1 SCI M:55-91	9	0	1	1	0	81.8	0.0	9.1	9.1	0.0
	5AD2 SCI M:37-54	5	0	1	0	0	83.3	0.0	16.7	0.0	0.0
	5AD3 SCI M:19-36	20	2	7	0	0	69.0	6.9	24.1	0.0	0.0
	5AP1 MMT M:51-91	0	0	0	0	0	—	—	—	—	—
	5AP2 MMT M:19-50	2	0	0	0	0	100.0	0.0	0.0	0.0	0.0
	5AZ1 SCI MMT 59+ M:13-18	7	1	1	0	0	77.8	11.1	11.1	0.0	0.0
	5AZ2 SCI MMT <59 M:13-18	6	3	0	0	0	66.7	33.3	0.0	0.0	0.0
All AN-SNAP classes		**49**	**6**	**10**	**1**	**0**	**74.2**	**9.1**	**15.2**	**1.5**	**0.0**
SPECIALIST Units		**416**	**55**	**125**	**13**	**3**	**68.0**	**9.0**	**20.4**	**2.1**	**0.5**
NON-SPECIALIST Units		**514**	**48**	**206**	**19**	**1**	**65.2**	**6.1**	**26.1**	**2.4**	**0.1**

Discharge destination by TSCI and NTSCI

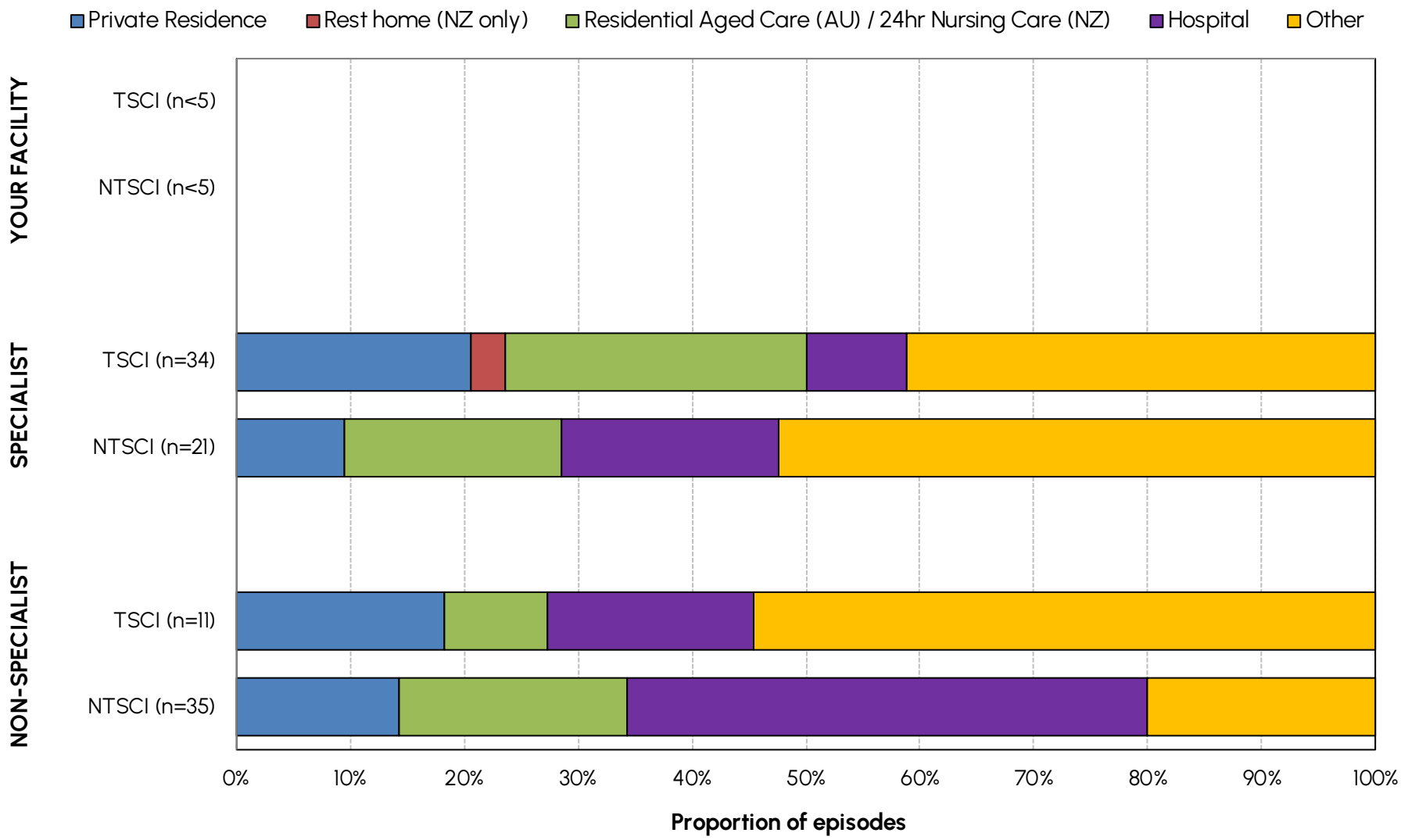


Employment status prior and post spinal cord injury

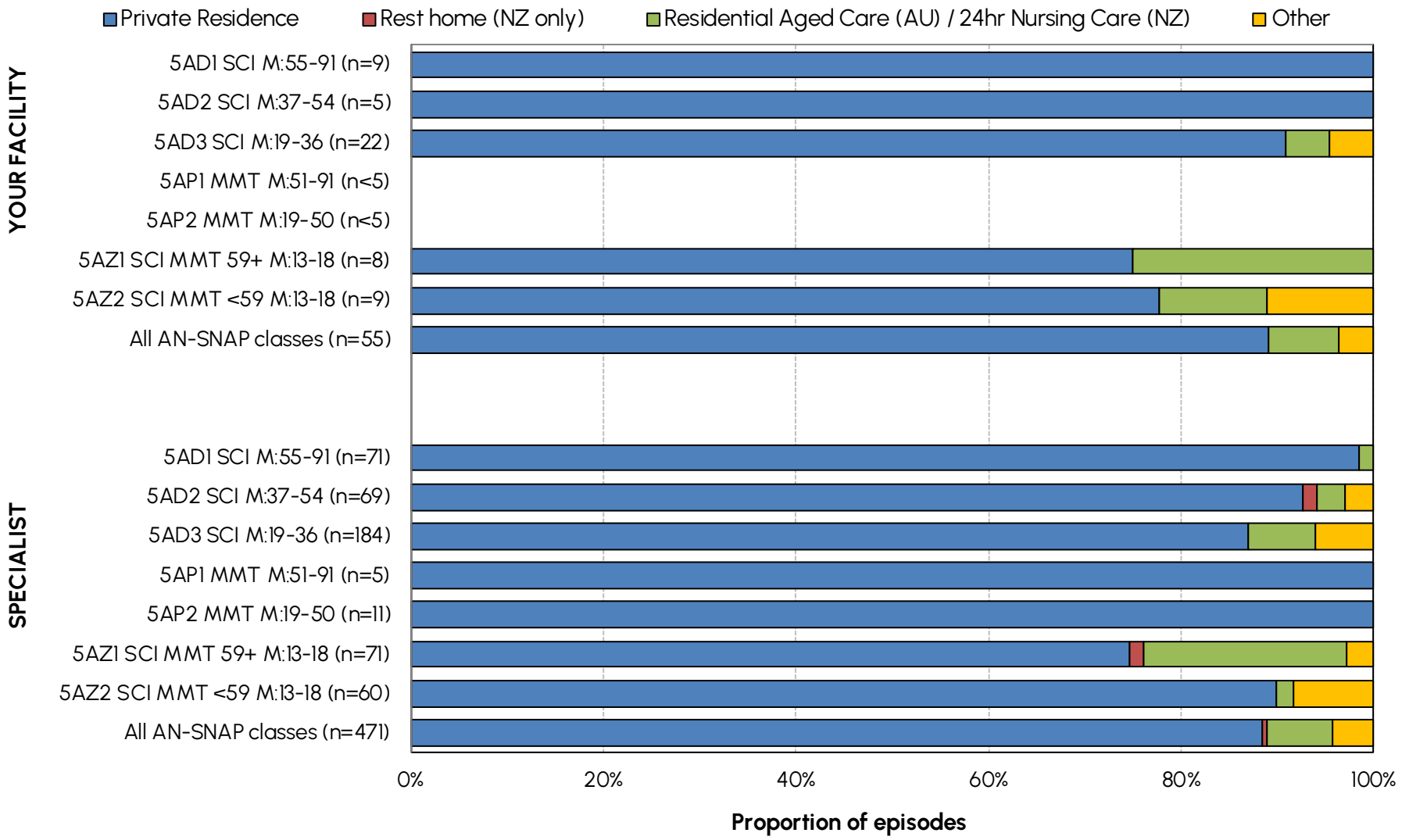
Employment status prior and post spinal cord injury

	YOUR FACILITY		SPECIALIST		NON-SPECIALIST	
Employment status	**No.**	**%**	**No.**	**%**	**No.**	**%**
Prior to this spinal cord injury:						
Employed	25	38.5	237	39.2	193	25.7
Unemployed	8	12.3	82	13.6	57	7.6
Student/child	2	3.1	24	4.0	13	1.7
Not in the labour force	13	20.0	129	21.3	94	12.5
Retired for age	14	21.5	123	20.3	327	43.5
Retired for disability	3	4.6	10	1.7	67	8.9
Not answered	1		7		37	
Total	**66**	**100.0**	**612**	**100.0**	**788**	**100.0**
After discharge (if previously employed):						
Same or similar job, same or similar hours	2	8.3	21	9.3	15	9.3
Same or similar job, reduced hours	3	12.5	20	8.9	21	13.0
Different job by choice	0	0.0	1	0.4	1	0.6
Different job due to reduced function	2	8.3	7	3.1	2	1.2
Not able to work	4	16.7	26	11.6	21	13.0
Chosen to retire	0	0.0	6	2.7	5	3.1
Too early to determine	13	54.2	144	64.0	97	59.9
Not answered	1		12		31	
Total employed prior	**25**	**100.0**	**237**	**100.0**	**193**	**100.0**

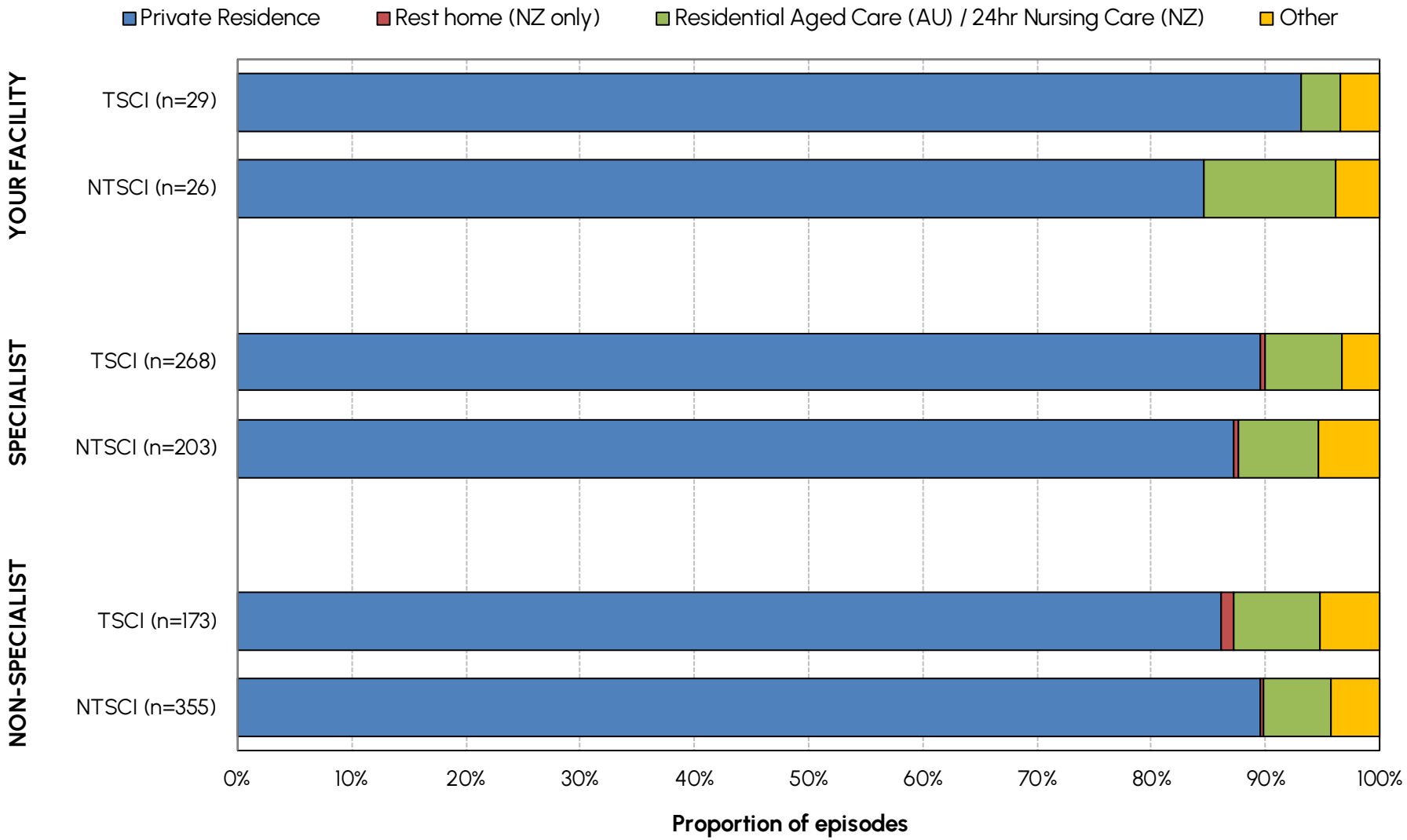
Interim accommodation post discharge by TSCI and NTSCI



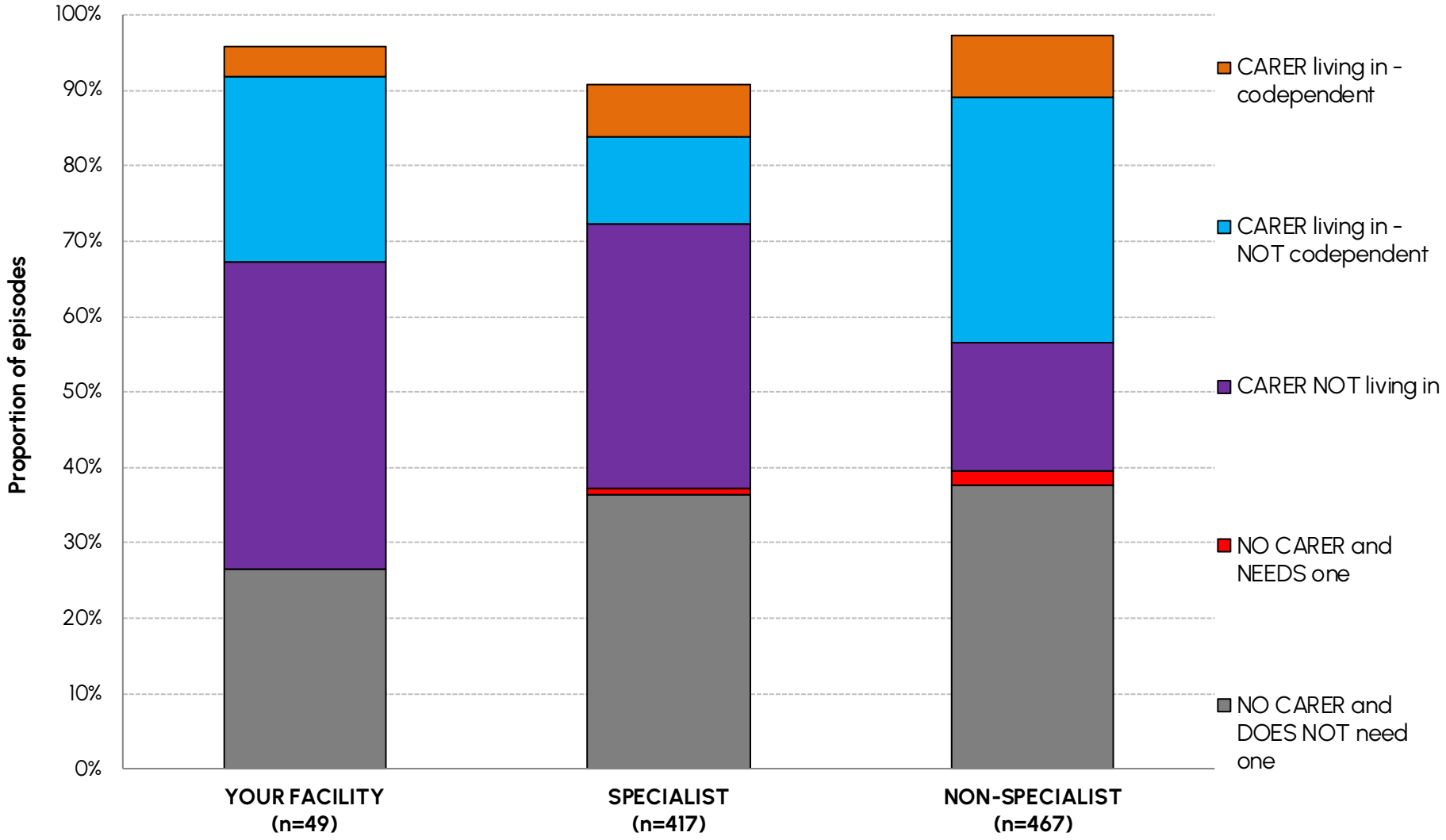
Final accommodation post discharge by AN-SNAP class



Final accommodation post discharge by TSCI and NTSCI

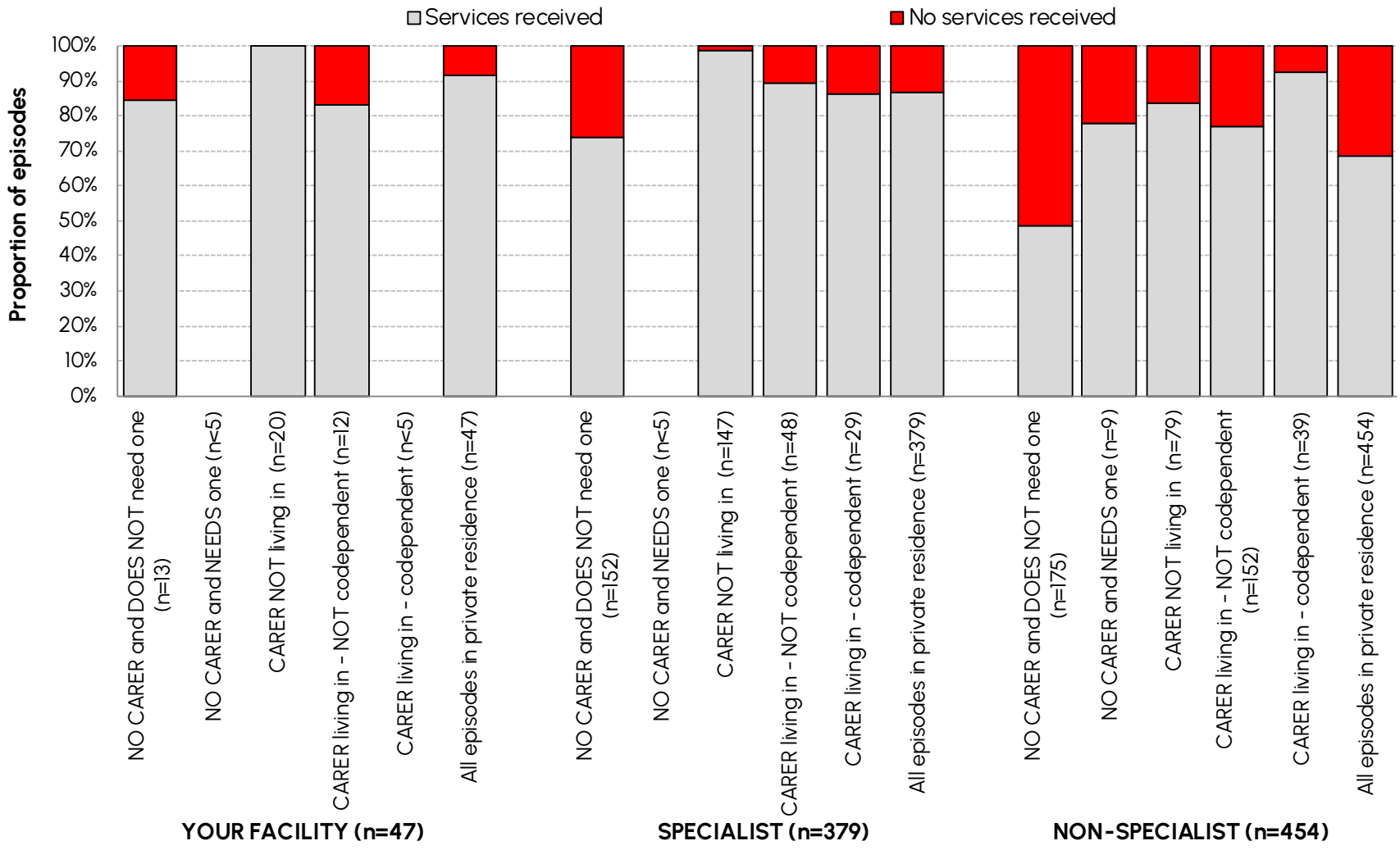


Carer status post discharge



Note: Final accommodation is private residence.

Any services received post discharge by carer status



Note: Final accommodation is private residence.

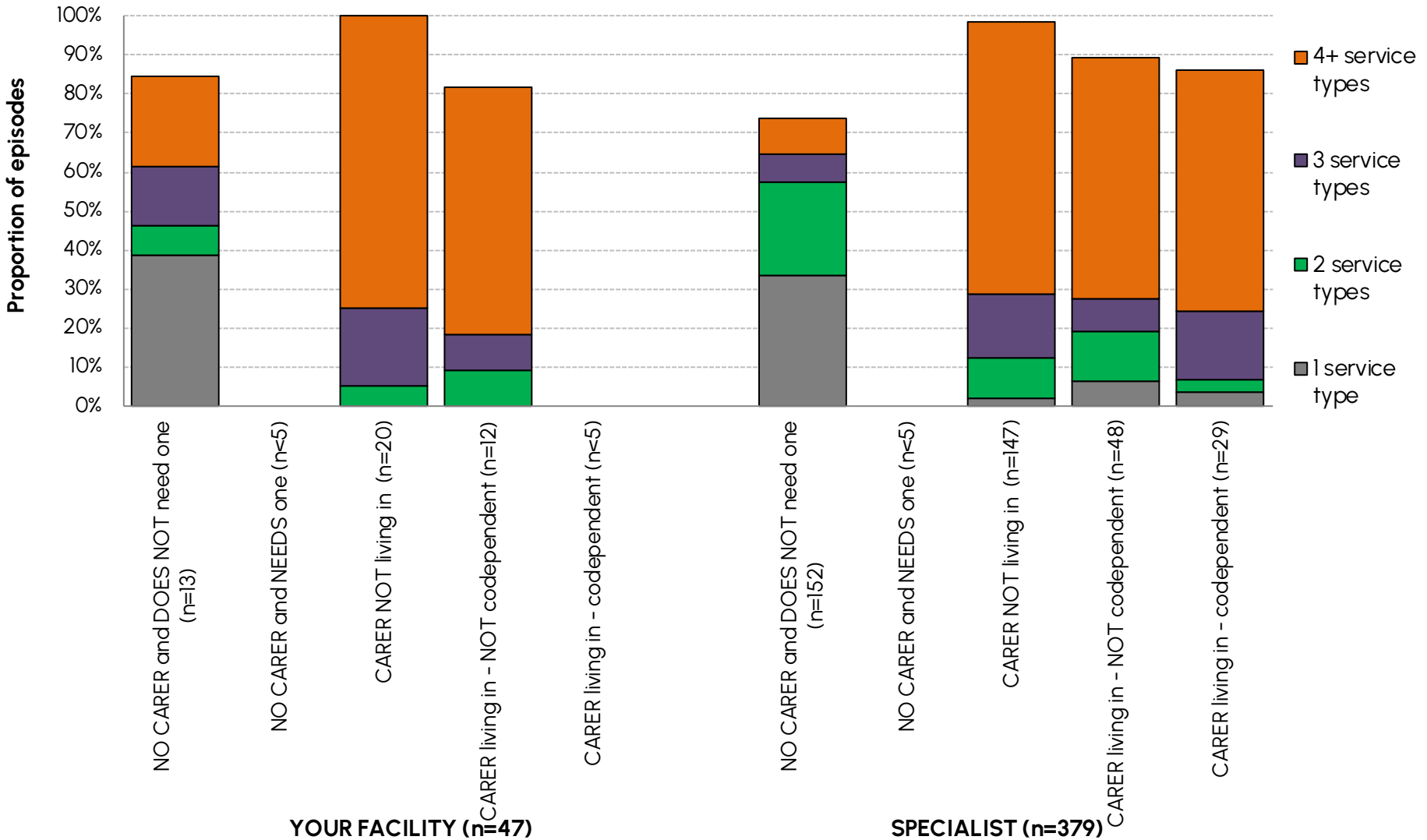
Carer status and any services received post discharge

	YOUR FACILITY		SPECIALIST		NON-SPECIALIST	
Carer status post discharge	**No.**	**%**	**No.**	**%**	**No.**	**%**
NO CARER and DOES NOT need one	13	27.7	152	40.1	176	38.7
NO CARER and NEEDS one	0	0.0	3	0.8	9	2.0
CARER NOT living in	20	42.6	147	38.8	79	17.4
CARER living in - NOT codependent	12	25.5	48	12.7	152	33.4
CARER living in - codependent	2	4.3	29	7.7	39	8.6
Missing	2		38		12	
All episodes in private residence	**49**	**100.0**	**417**	**100.0**	**467**	**100.0**

	Any services received post discharge?					
	YOUR FACILITY		SPECIALIST		NON-SPECIALIST	
Carer status post discharge	**Yes (%)**	**No (%)**	**Yes (%)**	**No (%)**	**Yes (%)**	**No (%)**
NO CARER and DOES NOT need one	84.6	15.4	73.7	26.3	48.3	51.1
NO CARER and NEEDS one	—	—	100.0	0.0	77.8	22.2
CARER NOT living in	100.0	0.0	98.6	1.4	83.5	16.5
CARER living in - NOT codependent	83.3	16.7	89.6	10.4	77.0	23.0
CARER living in - codependent	100.0	0.0	86.2	13.8	92.3	7.7
All episodes in private residence	**91.5**	**8.5**	**86.5**	**13.5**	**68.4**	**31.4**

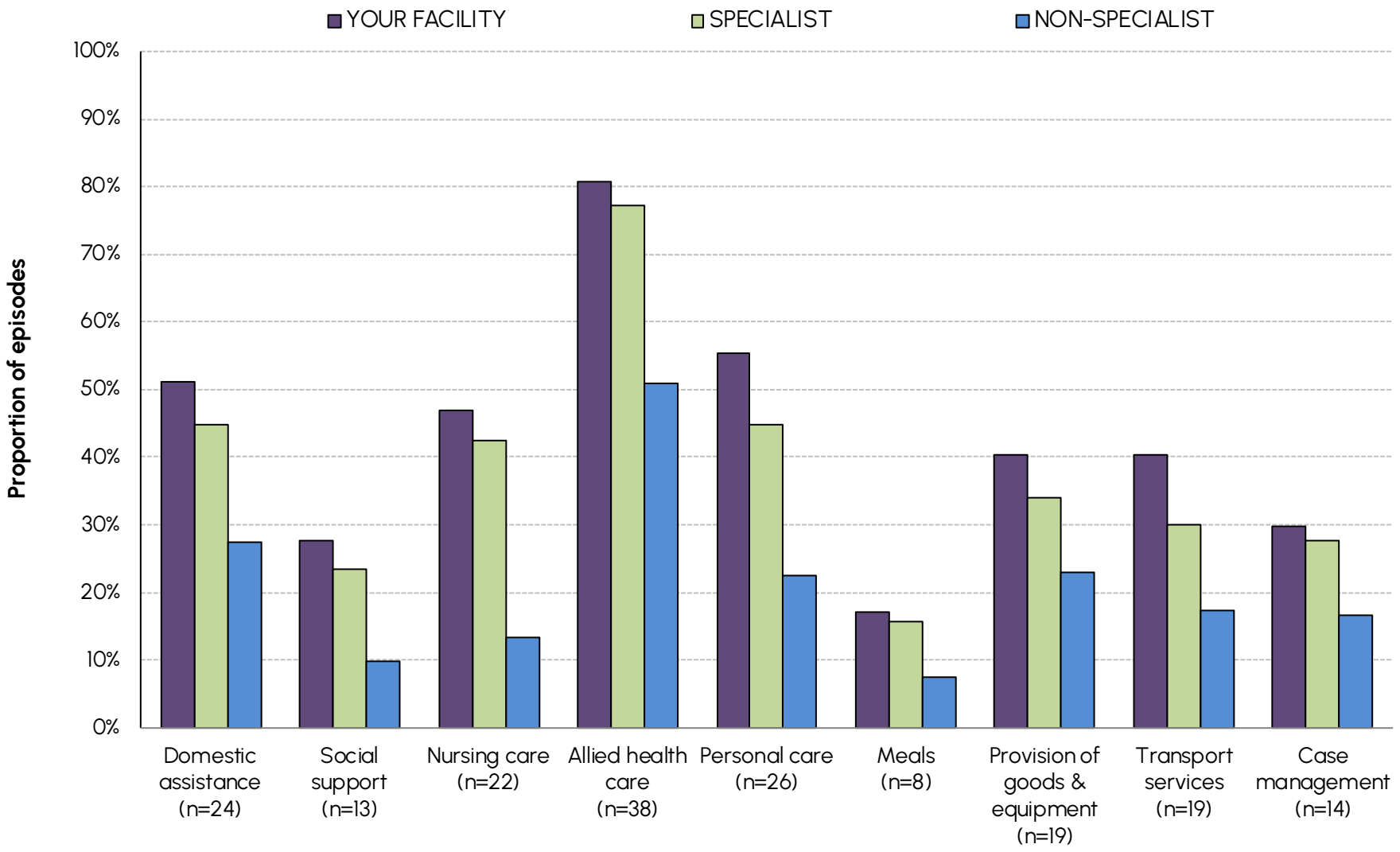
Note: Final accommodation is private residence.

Number of services received post discharge by carer status



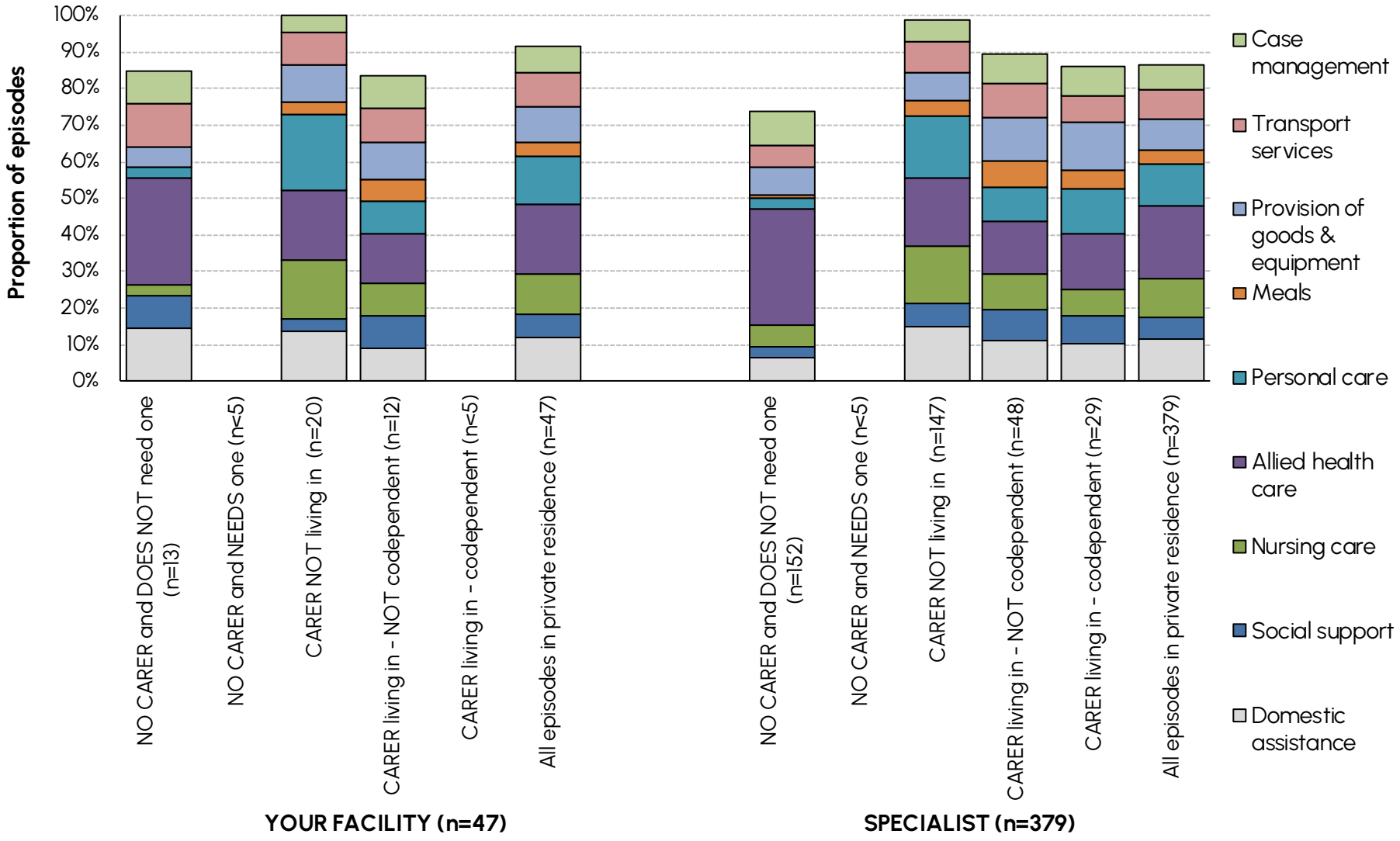
Note: Final accommodation is private residence.

Type of services received post discharge



Note: Final accommodation is private residence.

Type of services received post discharge by carer status



Note: Final accommodation is private residence.

Number and type of services received post discharge by carer status

	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	13	0	20	12	2	
Percent of episodes receiving:						
No services	15.4	—	0.0	16.7	0.0	**8.5**
1 service type	38.5	—	0.0	0.0	50.0	**12.8**
2 service types	7.7	—	5.0	8.3	0.0	**6.4**
3 service types	15.4	—	20.0	8.3	0.0	**14.9**
4 or more service types	23.1	—	75.0	58.3	50.0	**55.3**
Service Type received						
Domestic assistance	38.5	—	60.0	50.0	50.0	**51.1**
Social support	23.1	—	15.0	50.0	50.0	**27.7**
Nursing care	7.7	—	70.0	50.0	50.0	**46.8**
Allied health care	76.9	—	85.0	75.0	100.0	**80.9**
Personal care	7.7	—	90.0	50.0	50.0	**55.3**
Meals	0.0	—	15.0	33.3	50.0	**17.0**
Provision of goods & equipment	15.4	—	45.0	58.3	50.0	**40.4**
Transport services	30.8	—	40.0	50.0	50.0	**40.4**
Case management	23.1	—	20.0	50.0	50.0	**29.8**

Note: Final accommodation is private residence.

Number and type of services received post discharge by carer status

	Carer status post discharge - SPECIALIST					
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	152	3	147	48	29	
Percent of episodes receiving:						
No services	26.3	0.0	1.4	10.4	13.8	**13.5**
1 service type	33.6	0.0	2.0	6.3	3.4	**15.3**
2 service types	23.7	0.0	10.2	12.5	3.4	**15.3**
3 service types	7.2	0.0	16.3	8.3	17.2	**11.6**
4 or more service types	9.2	100.0	70.1	60.4	62.1	**44.1**
Service Type received						
Domestic assistance	13.8	66.7	69.4	58.3	58.6	**44.9**
Social support	5.9	66.7	29.3	45.8	44.8	**23.5**
Nursing care	12.5	33.3	70.7	52.1	41.4	**42.5**
Allied health care	67.1	100.0	86.4	75.0	86.2	**77.3**
Personal care	5.9	33.3	78.2	50.0	72.4	**44.9**
Meals	2.0	0.0	20.4	37.5	27.6	**15.6**
Provision of goods & equipment	15.8	100.0	34.0	62.5	75.9	**34.0**
Transport services	12.5	33.3	39.5	50.0	41.4	**30.1**
Case management	19.7	0.0	27.2	43.8	48.3	**27.7**

Note: Final accommodation is private residence.

Number and type of services received post discharge by carer status

	Carer status post discharge - NON-SPECIALIST					
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	176	9	79	152	39	
Percent of episodes receiving:						
No services	51.1	22.2	16.5	23.0	7.7	**31.4**
1 service type	21.6	55.6	17.7	30.9	28.2	**25.3**
2 service types	15.3	0.0	13.9	15.8	20.5	**15.4**
3 service types	4.0	11.1	15.2	8.6	10.3	**8.1**
4 or more service types	7.4	11.1	36.7	21.7	33.3	**19.6**
Service Type received						
Domestic assistance	13.6	33.3	54.4	27.0	35.9	**27.5**
Social support	4.0	0.0	22.8	7.9	20.5	**9.9**
Nursing care	5.1	0.0	22.8	15.1	25.6	**13.2**
Allied health care	40.9	55.6	49.4	59.2	66.7	**51.0**
Personal care	5.1	11.1	45.6	27.6	35.9	**22.4**
Meals	0.6	0.0	20.3	8.6	10.3	**7.5**
Provision of goods & equipment	13.6	11.1	32.9	27.0	30.8	**22.9**
Transport services	9.7	0.0	38.0	17.1	15.4	**17.4**
Case management	6.8	22.2	32.9	15.1	30.8	**16.5**

Note: Final accommodation is private residence.

Spinal cord injury specific data

TSCI AIS grade at admission and discharge at specialist facilities

	Primary admission		Subsequent admission		All admissions	
Begin AIS grade	Episodes	%	Episodes	%	Episodes	%
A	78	28.6	20	51.3	98	31.4
B	35	12.8	6	15.4	41	13.1
C	48	17.6	6	15.4	54	17.3
D	112	41.0	7	17.9	119	38.1
E	0	0.0	0	0.0	0	0.0

	Primary admission		Subsequent admission		All admissions	
End AIS grade	Episodes	%	Episodes	%	Episodes	%
A	72	27.3	19	48.7	91	30.0
B	32	12.1	5	12.8	37	12.2
C	24	9.1	6	15.4	30	9.9
D	136	51.5	9	23.1	145	47.9
E	0	0.0	0	0.0	0	0.0

Note 1: 0 episode(s) did not record admission status.

Note 2: 23 episode(s) did not record AIS scores.

TSCI AIS grade at admission and discharge at non-specialist facilities

	Primary admission		Subsequent admission		All admissions	
Begin AIS grade	Episodes	%	Episodes	%	Episodes	%
A	17	14.3	3	13.0	20	14.1
B	10	8.4	3	13.0	13	9.2
C	27	22.7	2	8.7	29	20.4
D	59	49.6	15	65.2	74	52.1
E	6	5.0	0	0.0	6	4.2

	Primary admission		Subsequent admission		All admissions	
End AIS grade	Episodes	%	Episodes	%	Episodes	%
A	12	10.3	3	13.0	15	10.7
B	12	10.3	2	8.7	14	10.0
C	19	16.2	1	4.3	20	14.3
D	65	55.6	17	73.9	82	58.6
E	9	7.7	0	0.0	9	6.4

Note 1: 6 episode(s) did not record admission status.

Note 2: 93 episode(s) did not record AIS scores.

TSCI change in AIS grade from admission to discharge

	Discharge AIS grade - SPECIALIST					Discharge AIS grade - NON-SPECIALIST				
Admission AIS grade	**A**	**B**	**C**	**D**	**E**	**A**	**B**	**C**	**D**	**E**
A	89	4	2	2	0	14	3	0	1	0
B	0	31	3	5	0	1	10	1	1	0
C	2	1	25	23	0	0	1	18	10	0
D	0	1	0	114	0	0	0	1	71	3
E	0	0	0	0	0	0	0	0	0	6

Note: 23 SPECIALIST and 93 NON-SPECIALIST episode(s) did not record AIS scores.

Change in level of TSCI from admission to discharge at specialist facilities

aroc
Driving quality and outcome improvements in rehabilitation for 20 YEARS

Level of injury	Discharge																												
Admission	C1	C2	C3	C4	C5	C6	C7	C8	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	L1	L2	L3	L4	L5	S1	S2	S3	S4	S5
C1	0	2	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C2	0	5	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
C3	0	3	13	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C4	1	2	4	38	4	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C5	0	1	0	5	22	2	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
C6	0	0	0	0	1	10	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C7	0	0	0	0	0	0	7	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C8	0	0	0	0	0	1	1	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T3	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T4	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T5	0	0	0	0	1	0	0	0	0	0	0	0	6	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
T6	0	0	0	0	0	0	1	0	0	0	0	0	1	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
T7	0	0	0	0	0	0	0	0	0	0	0	0	1	1	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0
T10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	12	0	1	0	0	1	0	0	0	0	0	0	0
T11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	2	1	0	0	0	0	0	0	0	0	0
T12	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	15	0	1	0	0	0	0	0	0	0	0
L1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	6	1	0	1	0	0	0	0	0	0
L2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	1	0	0	0	0	0	0
L3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0
L4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
S1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
S3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Change in level of NTSCI from admission to discharge at specialist facilities

aroc
Driving quality and outcome improvements in rehabilitation for
20 YEARS

Level of injury	Discharge																												
Admission	C1	C2	C3	C4	C5	C6	C7	C8	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	L1	L2	L3	L4	L5	S1	S2	S3	S4	S5
C1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C2	0	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C3	0	1	12	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C4	0	0	0	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C5	0	0	0	1	12	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C6	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C7	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C8	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T2	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T3	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T5	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T6	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T9	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
T10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
T11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
T12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
L1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0
L2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
L3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
L4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	0	0	0	0	0
L5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
S1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
S2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
S3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TSCI ventilator dependence

Completed ventilator data item - SPECIALIST	**264**	**81.0%**
No. ventilator dependent	**2**	

Completed ventilator data item - NON-SPECIALIST	**120**	**50.6%**
No. ventilator dependent	**3**	

Low FIM score summary report

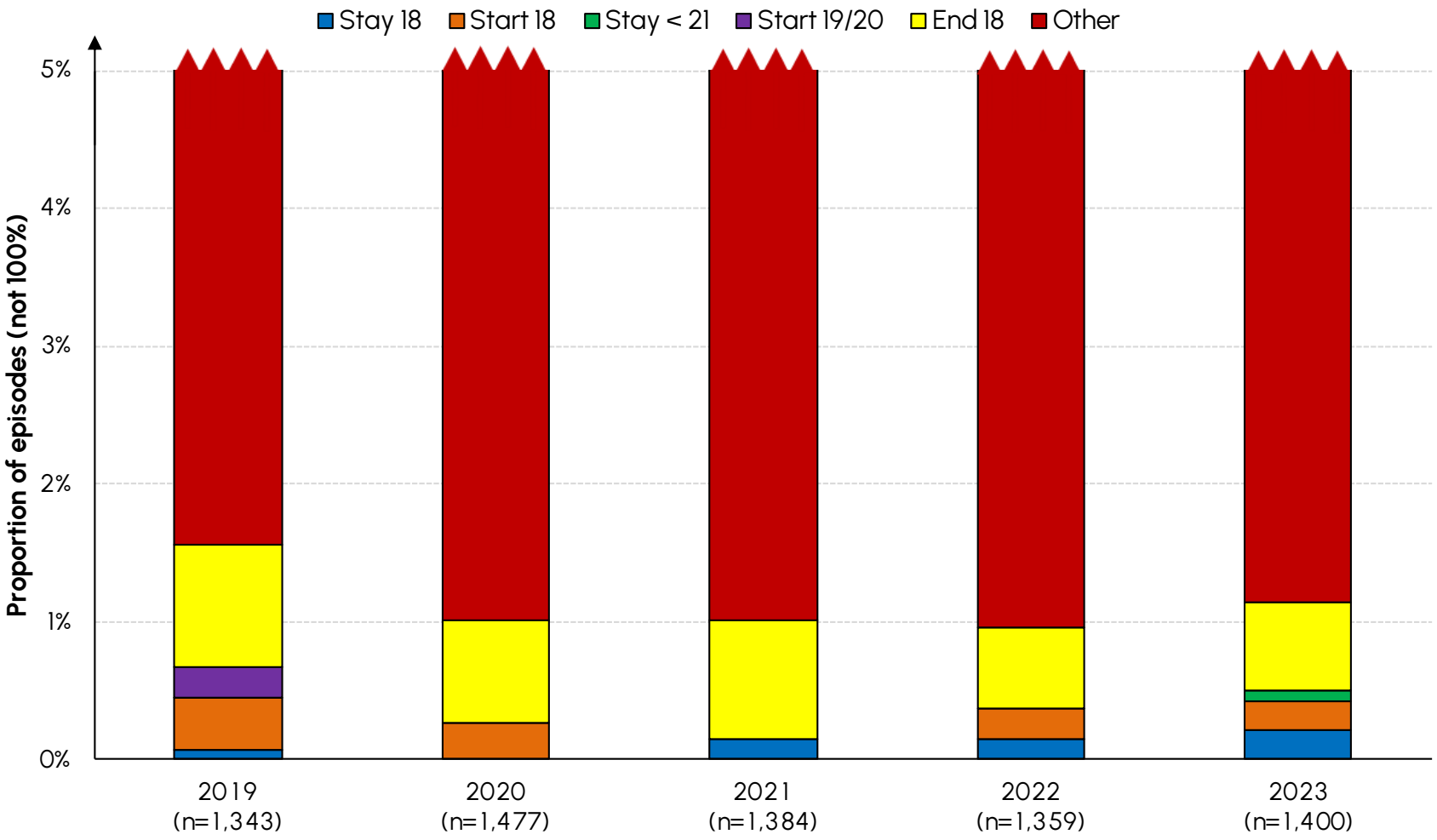
Low FIM score Category Definitions

The FIM18 categories are divided as follows:

- **Stay 18** – FIM score of 18 on admission AND discharge.
- **Start 18** – FIM score of 18 on admission, FIM score >18 on discharge
- **Stay <21** – FIM score of 19 or 20 on admission, score of ≤20 on discharge
- **Start 19/20** – FIM score of 19 or 20 on admission, score of >20 on discharge
- **End 18** – FIM score of >20 on admission, score of 18 on discharge
- **Other**

All information displayed in this section includes all Spine (TSCI and NTSCI) episodes, unless otherwise stated.

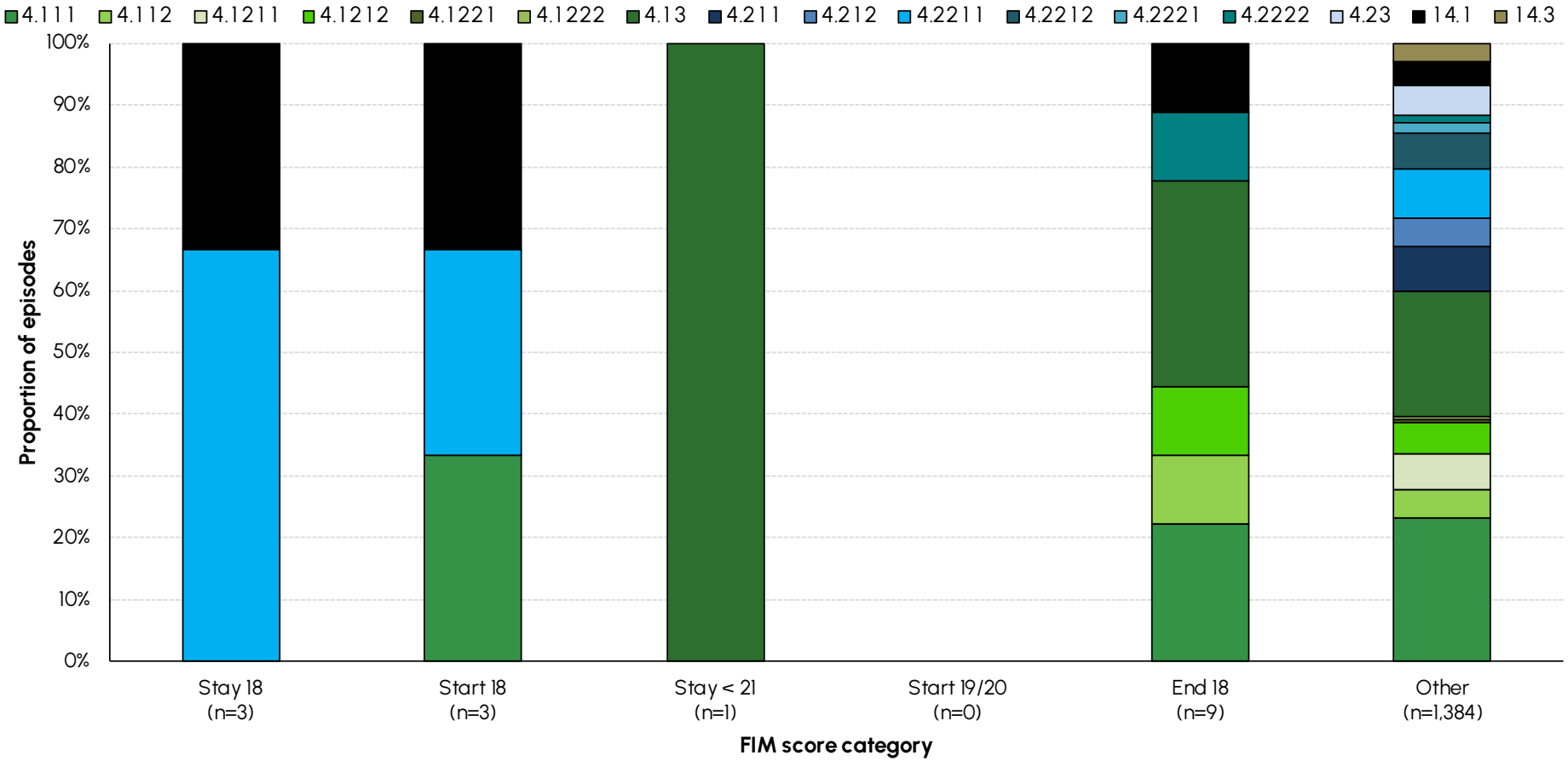
Low FIM score episodes over time



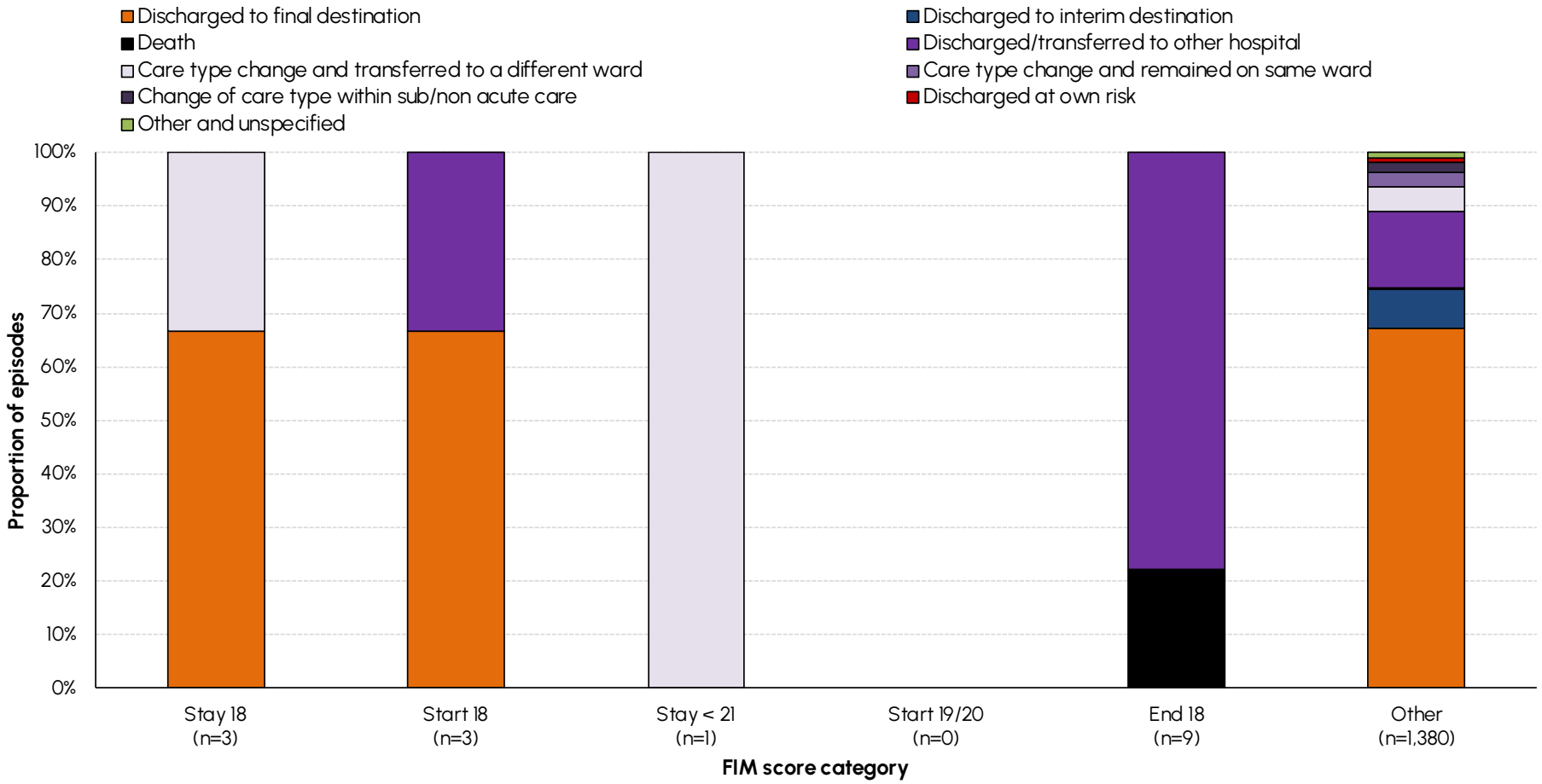
Low FIM score episodes over time

Year	Stay 18	Start 18	Stay < 21	Start 19/20	End 18	Other
YOUR FACILITY						
2019	0	0	0	2	0	73
2020	0	0	0	0	0	77
2021	1	0	0	0	0	74
2022	1	0	0	0	0	65
2023	0	0	0	0	0	66
SPECIALISTS						
2019	0	3	0	3	2	643
2020	0	3	0	0	2	678
2021	1	0	0	0	4	665
2022	1	1	0	0	0	616
2023	2	1	1	0	2	606
NON-SPECIALISTS						
2019	1	2	0	0	10	679
2020	0	1	0	0	9	784
2021	1	0	0	0	8	705
2022	1	2	0	0	8	730
2023	1	2	0	0	7	778

Low FIM score impairment distribution



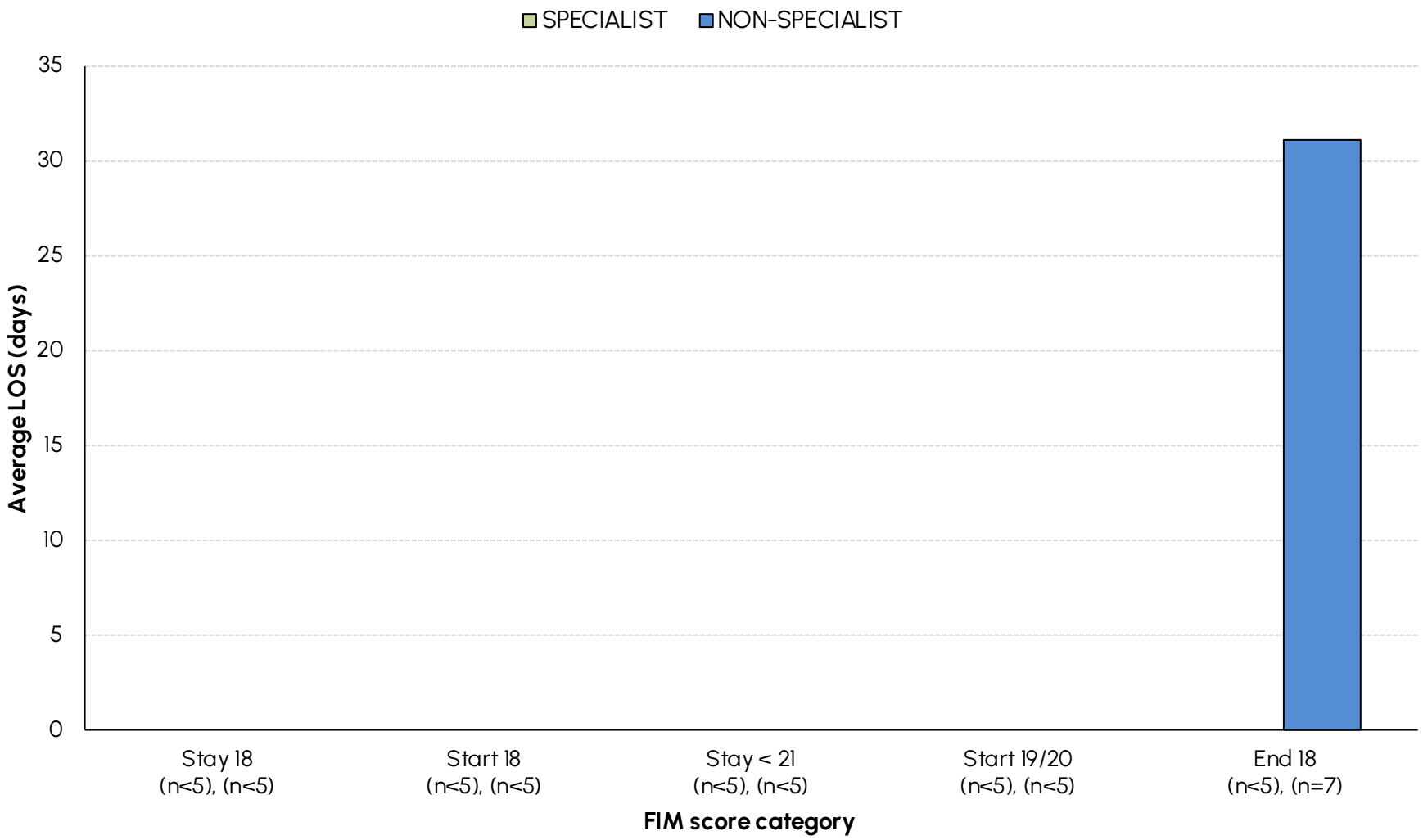
Low FIM score Discharge Destination



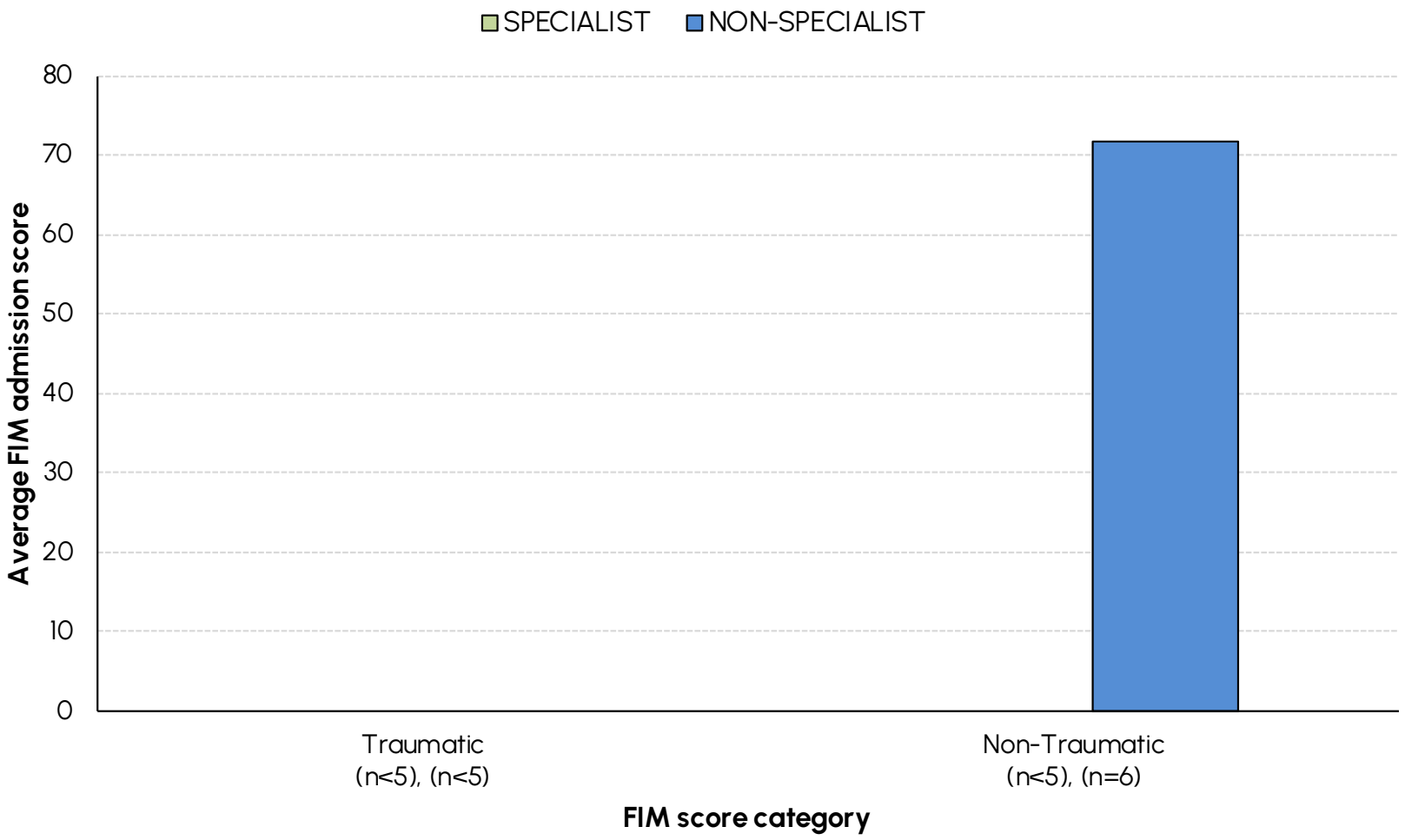
Low FIM score Discharge Destination

Discharge Destination	Stay 18	Start 18	Stay < 21	Start 19/20	End 18	Other
YOUR FACILITY						
Discharged to final destination	0	0	0	0	0	49
Discharged to interim destination	0	0	0	0	0	6
Death	0	0	0	0	0	0
Discharged/transferred to other hospital	0	0	0	0	0	7
Care type change and transferred to a different ward	0	0	0	0	0	0
Care type change and remained on same ward	0	0	0	0	0	2
Change of care type within sub/non acute care	0	0	0	0	0	1
Discharged at own risk	0	0	0	0	0	1
Other and unspecified	0	0	0	0	0	0
Total	0	0	0	0	0	66
SPECIALIST (ALL FACILITIES)						
Discharged to final destination	2	1	0	0	0	413
Discharged to interim destination	0	0	0	0	0	55
Death	0	0	0	0	0	2
Discharged/transferred to other hospital	0	0	0	0	2	79
Care type change and transferred to a different ward	0	0	1	0	0	21
Care type change and remained on same ward	0	0	0	0	0	19
Change of care type within sub/non acute care	0	0	0	0	0	3
Discharged at own risk	0	0	0	0	0	3
Other and unspecified	0	0	0	0	0	8
Total	2	1	1	0	2	603
NON-SPECIALIST (ALL FACILITIES)						
Discharged to final destination	0	1	0	0	0	513
Discharged to interim destination	0	0	0	0	0	48
Death	0	0	0	0	2	2
Discharged/transferred to other hospital	0	1	0	0	5	118
Care type change and transferred to a different ward	1	0	0	0	0	39
Care type change and remained on same ward	0	0	0	0	0	20
Change of care type within sub/non acute care	0	0	0	0	0	22
Discharged at own risk	0	0	0	0	0	10
Other and unspecified	0	0	0	0	0	5
Total	1	2	0	0	7	777

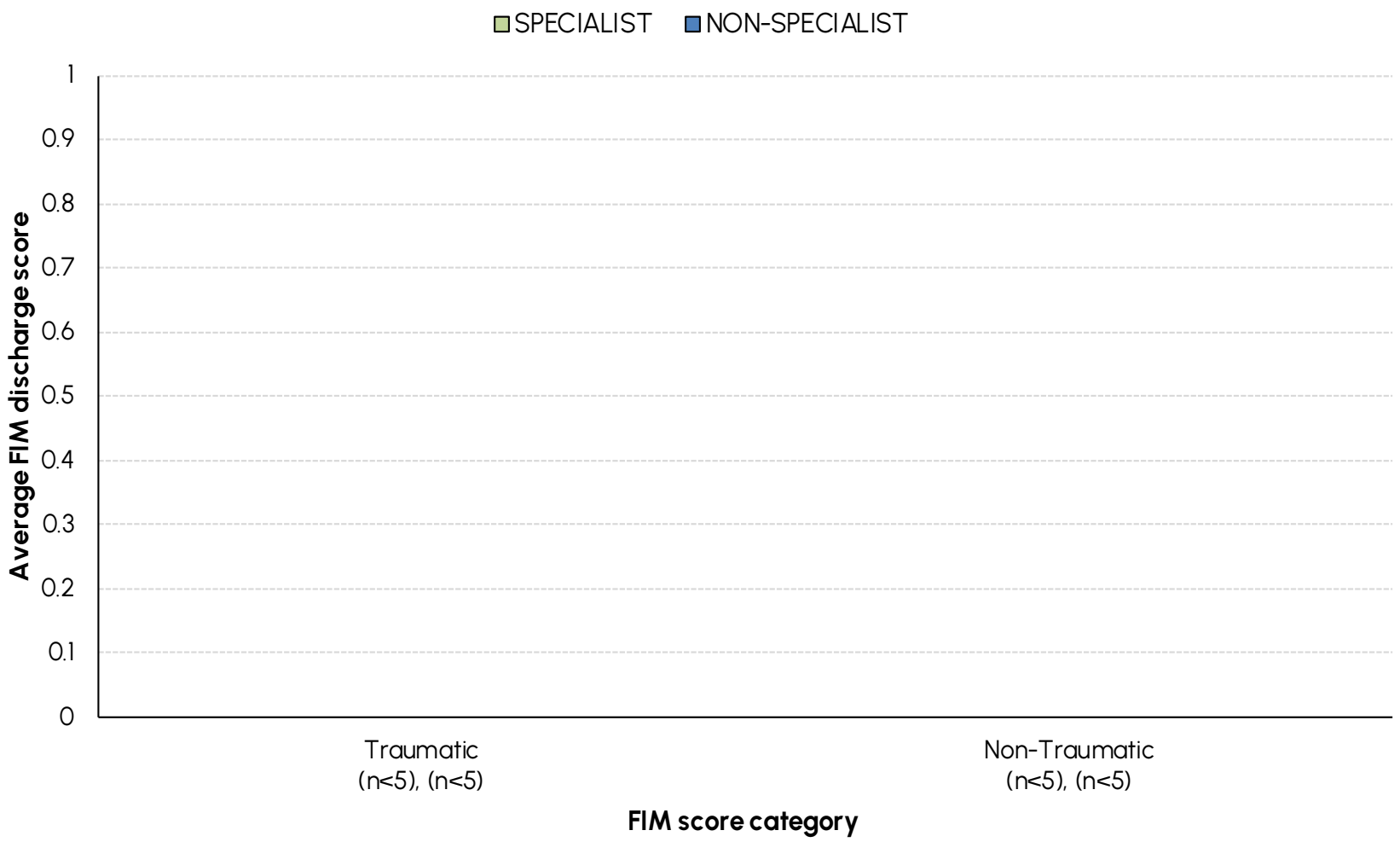
Low FIM score average LOS



Low FIM score average FIM admission — episodes with end FIM=18



Low FIM score average FIM discharge — episodes with start FIM ≤ 20



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 5, introduced in July 2022 and used in these reports, uses the episode's impairment, age, weighted FIM motor admission score and FIM cognition score to determine which of 48 inpatient (admitted overnight adult) rehabilitation classes the episode should be assigned to.

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

AROC

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

Benchmark group

In Calendar Year 2015 new benchmark groups were introduced. With the exception of brain injury and spinal cord injury 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 injury (or major multi trauma involving brain injury and/or spinal cord injury) 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.

COVID-19

The immediate impact of COVID-19 in 2020 on rehabilitation was a 12% decline in the number of rehabilitation episodes following temporary suspension of elective surgeries, ward re-assignments and closures, and fewer traumatic accidents. There is still an ongoing impact of COVID-19 on rehabilitation in the form of reduced inpatient beds, increased patient complexity and staffing issues.

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

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

Appendix 1: Glossary

COVID-19 (cont.)

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

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

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

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

Appendix 1: Glossary

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).

Appendix 1: Glossary

Impairment-specific weighted FIM motor scores

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

Interquartile range (IQR)

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

Length of stay (LOS)

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

Mean

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

Appendix 1: Glossary

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.

Appendix 1: Glossary

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. The Valid FIM flag is used in analysis which measures FIM scores as an outcome.

Valid LOS

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

Version 4 data set

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

Appendix 2: AROC Impairment Codes

STROKE

Haemorrhagic

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

Ischaemic

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

BRAIN DYSFUNCTION

Non-traumatic

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

Traumatic

2.21 Open injury
2.22 Closed injury

NEUROLOGICAL CONDITIONS

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

SPINAL CORD DYSFUNCTION

Non traumatic spinal cord dysfunction

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

Traumatic spinal cord dysfunction

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

AMPUTATION OF LIMB

Not resulting from trauma

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

AMPUTATION OF LIMB

Resulting from trauma

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

ARTHRITIS

6.1 Rheumatoid arthritis
6.2 Osteoarthritis
6.9 Other arthritis

PAIN SYNDROMES

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

Appendix 2: AROC Impairment Codes

ORTHOPAEDIC CONDITIONS

Fractures (includes dislocation)

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

Post Orthopaedic Surgery

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

Soft tissue injury

8.3 Soft tissue injury

CARDIAC

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

PULMONARY

10.1 Chronic obstructive pulmonary disease
10.2 Lung transplant
10.9 Other pulmonary

BURNS

11 Burns

CONGENITAL DEFORMITIES

12.1 Spina bifida
12.9 Other congenital deformity

OTHER DISABLING IMPAIRMENTS

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

MAJOR MULTIPLE TRAUMA

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

DEVELOPMENTAL DISABILITIES

15.1 Developmental disabilities (excludes cerebral palsy)

RE-CONDITIONING/RESTORATIVE

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

COVID-19 CONDITIONS

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

Appendix 3: AN-SNAP V5 Overnight Rehabilitation Classes (Pathway 3)

Class	Description of AN-SNAP class
5AA1	Stroke, Weighted FIM Motor 63 - 91, FIM Cognition 30 - 35
5AA2	Stroke, Weighted FIM Motor 63 - 91, FIM Cognition 21 - 29
5AA3	Stroke, Weighted FIM Motor 63 - 91, FIM Cognition 5 - 20
5AA4	Stroke, Weighted FIM Motor 44 - 62, FIM Cognition 18 - 35
5AA5	Stroke, Weighted FIM Motor 44 - 62, FIM Cognition 5 - 17
5AA6	Stroke, Weighted FIM Motor 19 - 43, Age >= 80
5AA7	Stroke, Weighted FIM Motor 19 - 43, Age 67 - 79
5AA8	Stroke, Weighted FIM Motor 19 - 43 Age 18 - 66
5AB1	Brain dysfunction, FIM Cognition 27 - 35 Weighted FIM Motor 59 - 91
5AB2	Brain dysfunction, FIM Cognition 27 - 35 Weighted FIM Motor 19 - 58
5AB3	Brain dysfunction, FIM Cognition 19 - 26 Weighted FIM Motor 50 - 91
5AB4	Brain dysfunction, FIM Cognition 19 - 26 Weighted FIM Motor 19 - 49
5AB5	Brain dysfunction, FIM Cognition 5 - 18 Weighted FIM Motor 39 - 91
5AB6	Brain dysfunction, FIM Cognition 5 - 18 Weighted FIM Motor 19 - 38
5AC1	Neurological conditions, Weighted FIM Motor 70 - 91
5AC2	Neurological conditions, Weighted FIM Motor 50 - 69
5AC3	Neurological conditions, Weighted FIM Motor 19 - 49
5AD1	Spinal cord dysfunction, Weighted FIM Motor 55 - 91
5AD2	Spinal cord dysfunction, Weighted FIM Motor 37 - 54
5AD3	Spinal cord dysfunction, Weighted FIM Motor 19 - 36
5AE1	Amputation of limb, Weighted FIM Motor 19-91
5AH1	Orthopaedic conditions, fractures, Weighted FIM Motor 48 - 91, FIM Cognition 33 - 35
5AH2	Orthopaedic conditions, fractures, Weighted FIM Motor 48 - 91, FIM Cognition 21 - 32
5AH3	Orthopaedic conditions, fractures, Weighted FIM Motor 48 - 91, FIM Cognition 5 - 20
5AH4	Orthopaedic conditions, fractures, Weighted FIM Motor 19 - 47
5A41	Orthopaedic conditions, replacement (knee, hip, shoulder), Weighted FIM Motor 61 - 91
5A42	Orthopaedic conditions, replacement (knee, hip, shoulder), Weighted FIM Motor 45 - 60
5A43	Orthopaedic conditions, replacement (knee, hip, shoulder), Weighted FIM Motor 19 - 44
5A21	Orthopaedic conditions, all other, Weighted FIM Motor 57 - 91
5A22	Orthopaedic conditions, all other, Weighted FIM Motor 41 - 56
5A23	Orthopaedic conditions, all other, Weighted FIM Motor 19 - 40
5A31	Cardiac, Pain syndromes, and Pulmonary, Weighted FIM Motor 66 - 91
5A32	Cardiac, Pain syndromes, and Pulmonary, Weighted FIM Motor 38 - 65
5A33	Cardiac, Pain syndromes, and Pulmonary, Weighted FIM Motor 19 - 37
5AP1	Major Multiple Trauma, Weighted FIM Motor 51 - 91
5AP2	Major Multiple Trauma, Weighted FIM Motor 19 - 50
5AR1	Reconditioning, Weighted FIM Motor 64 - 91, FIM Cognition 29 - 35
5AR2	Reconditioning, Weighted FIM Motor 64 - 91, FIM Cognition 5 - 28
5AR3	Reconditioning, Weighted FIM Motor 48 - 63, FIM Cognition 19 - 35
5AR4	Reconditioning, Weighted FIM Motor 48 - 63, FIM Cognition 5 - 18
5AR5	Reconditioning, Weighted FIM Motor 19 - 47
5A91	All other impairments, Weighted FIM Motor 61 - 91
5A92	All other impairments, Weighted FIM Motor 42 - 60
5A93	All other impairments, Weighted FIM Motor 19 - 41
5AZ1	Weighted FIM Motor score 13-18, Brain, Spine, MMT, Burns, Age >= 59
5AZ2	Weighted FIM Motor score 13-18, Brain, Spine, MMT, Burns, Age 18 - 58
5AZ3	Weighted FIM Motor score 13-18, All other impairments, Age >= 79
5AZ4	Weighted FIM Motor score 13-18, All other impairments, Age 18 - 78

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- **Disclaimer**

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

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- **Suggested acknowledgement**

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