AROC Impairment Specific Report

Spinal Cord Injury

INPATIENT – PATHWAY 3

January 2019 – December 2019

Anywhere Hospital

Australasian Faculty of Rehabilitation Medicine

australian health services research institute

UNIVERSITY OF WOLLONGONG AUSTRALIA

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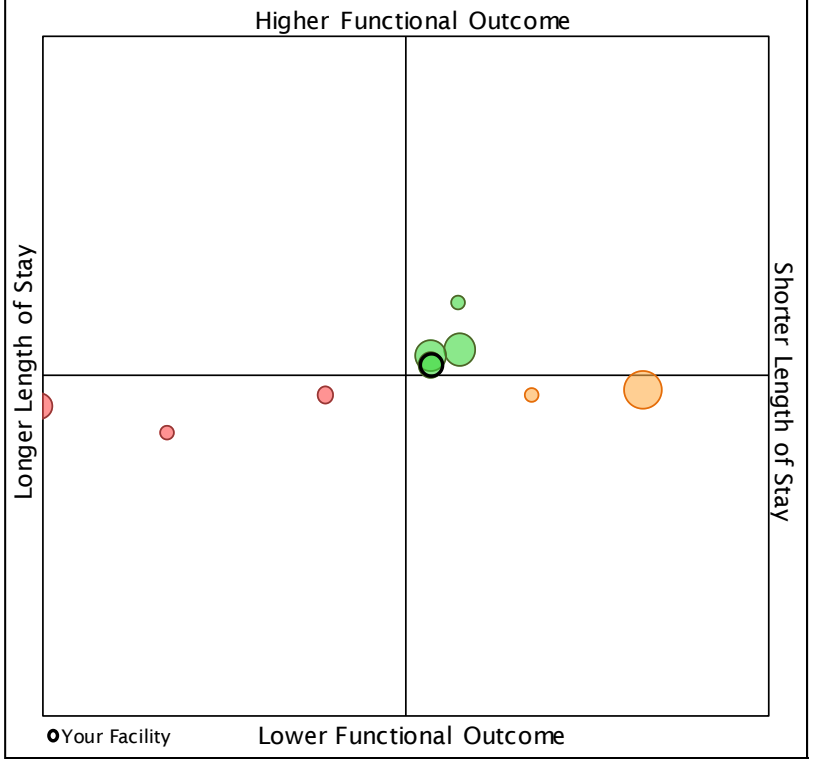
Spinal Injury Dashboard

Rehabilitation Outcomes by Facility

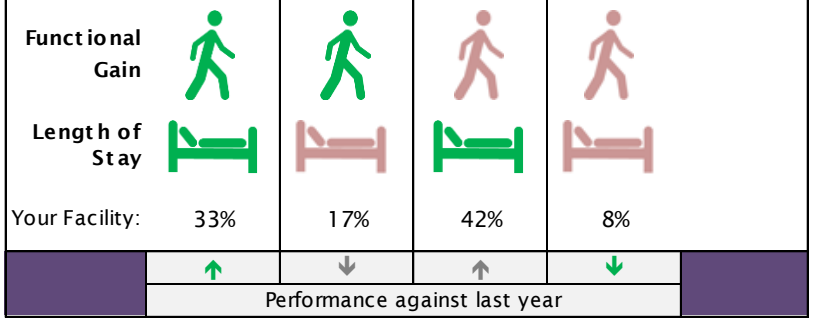


1/9 facilities are outliers and are not shown on graph

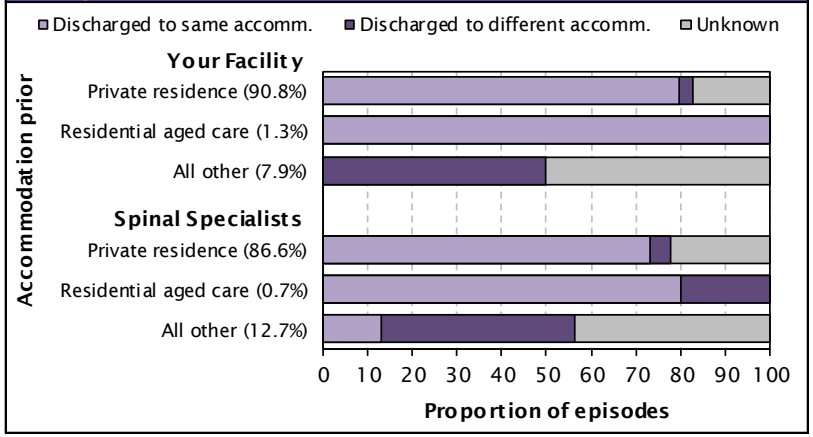
Green
Status

Trend

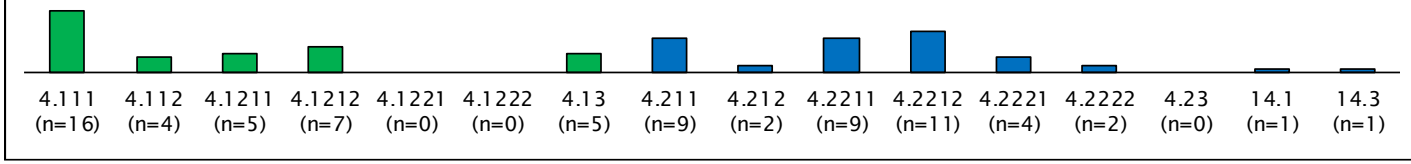
Performance Against Benchmark



Change in Accommodation



Number of Episodes by Impairment



7 Facility Beds (All wards)

76 All Episodes

Spinal Injury Dashboard

Key Indicators*

Your Facility		Spinal Specialists	
Average Age:	51.7	Average Age:	53.5
Mortality Rate:	0.0%	Mortality Rate:	0.2%
% with at least one comorbidity:	53%	% with at least one comorbidity:	45%
% with at least one complication:	38%	% with at least one complication:	36%
% episodes with start delays:	21%	% episodes with start delays:	21%
Days between onset and rehab episode:	31.9	Days between onset and rehab episode:	34.1
Days between clinically rehab ready & start date:	1.8	Days between clinically rehab ready & start date:	2.2

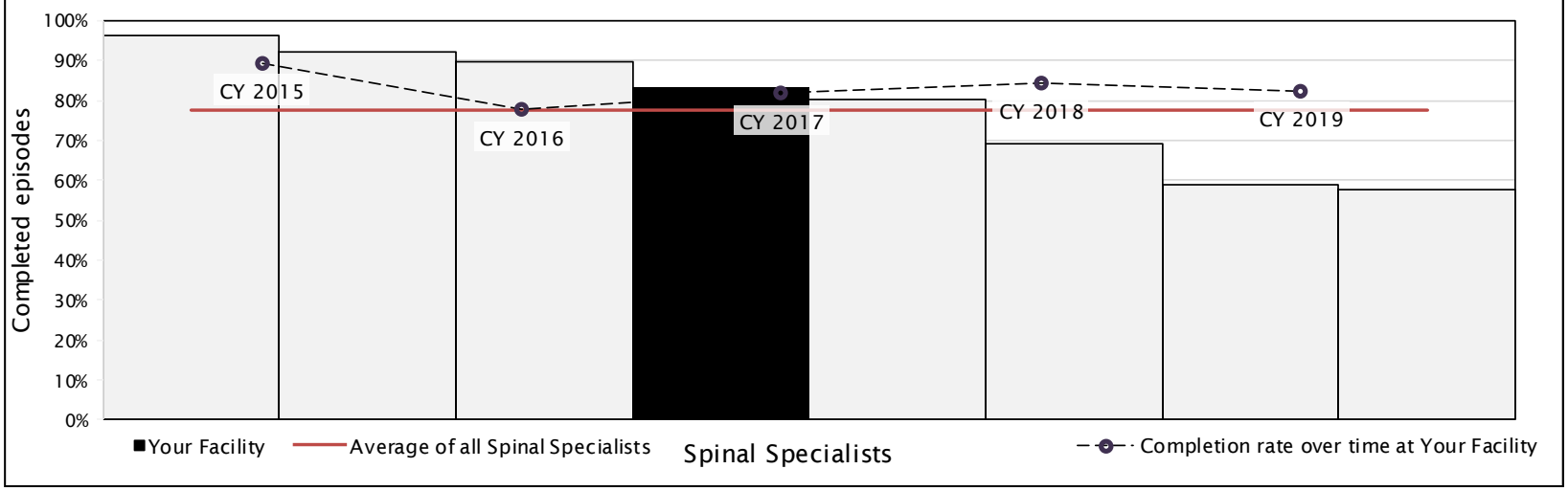
* Mean value provided unless otherwise specified

Facility FIM Training*

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

* This includes all impairments from all wards

Completed Episodes by Facility



Data used in this report

- Spinal cord injury episodes discharged during the reporting period (January 2019 – December 2019) 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 4 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 HOSPITAL.
- 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.

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

- 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

- 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

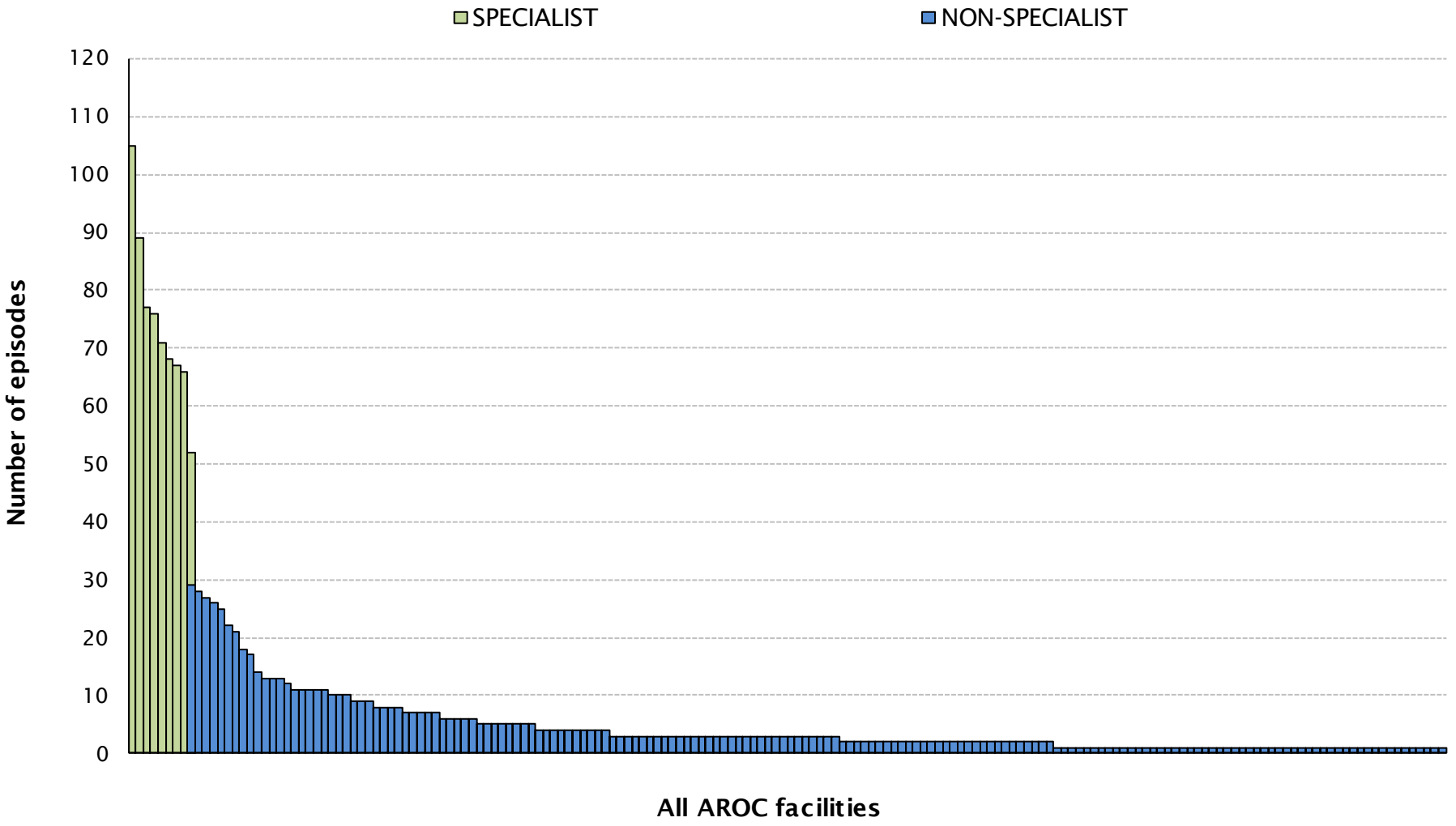
Levels of functioning for spinal cord injury are categorised by the following version 4 AN-SNAP classes:

- 4AD1 Spinal cord dysfunction, Age ≥ 50, weighted FIM motor 42-91
- 4AD2 Spinal cord dysfunction, Age ≥ 50, weighted FIM motor 19-41
- 4AD3 Spinal cord dysfunction, Age ≤ 49, weighted FIM motor 34-91
- 4AD4 Spinal cord dysfunction, Age ≤ 49, weighted FIM motor 19-33
- 4AP1 Major Multiple Trauma, weighted FIM motor 19-91
- 4AZ1 Weighted FIM motor score 13-18, Spine, MMT, Age ≥ 49
- 4AZ2 Weighted FIM motor score 13-18, Spine, MMT, Age ≤ 48

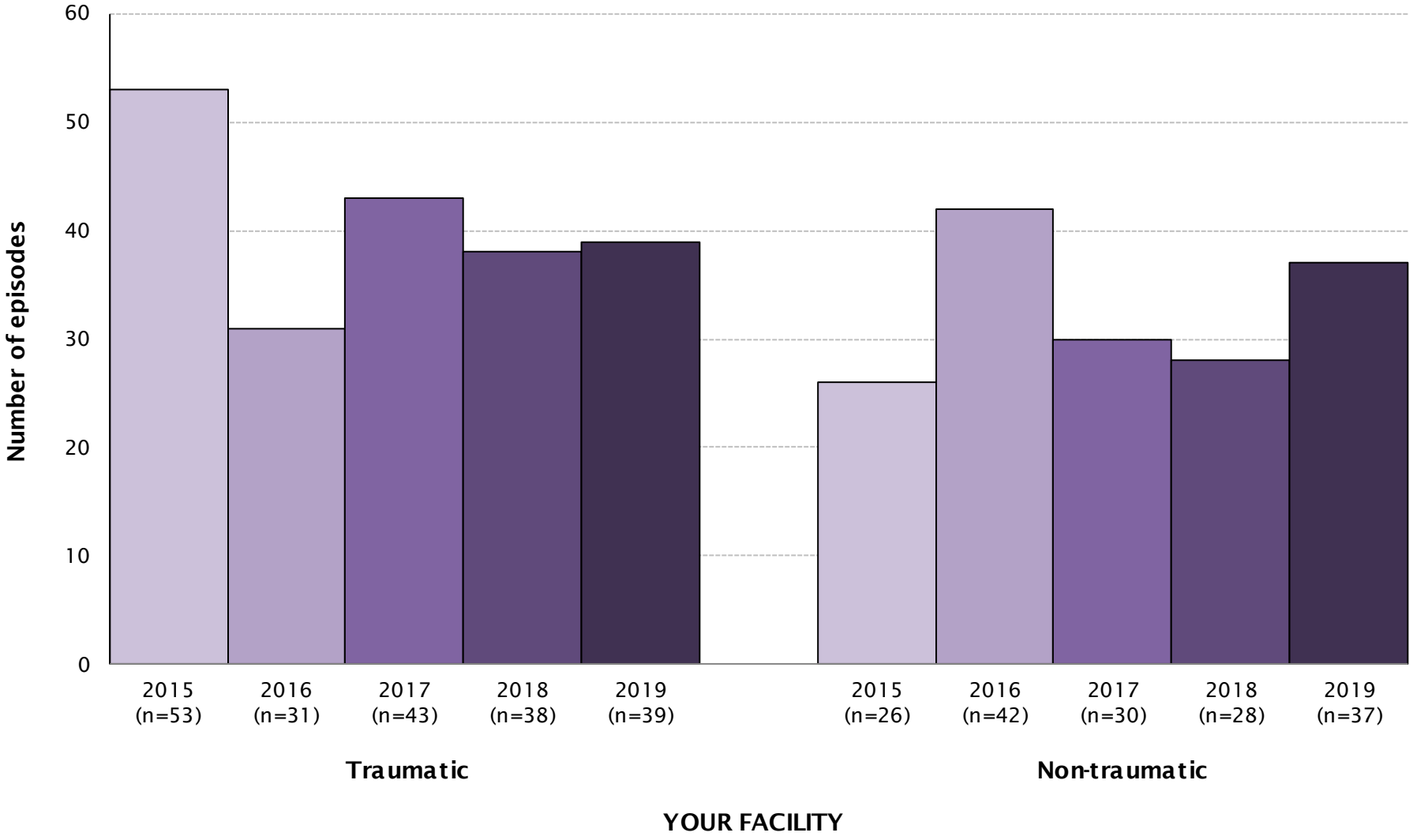
NOTE: A list of all AN-SNAP classes can be found in Appendix 3

The BIG picture

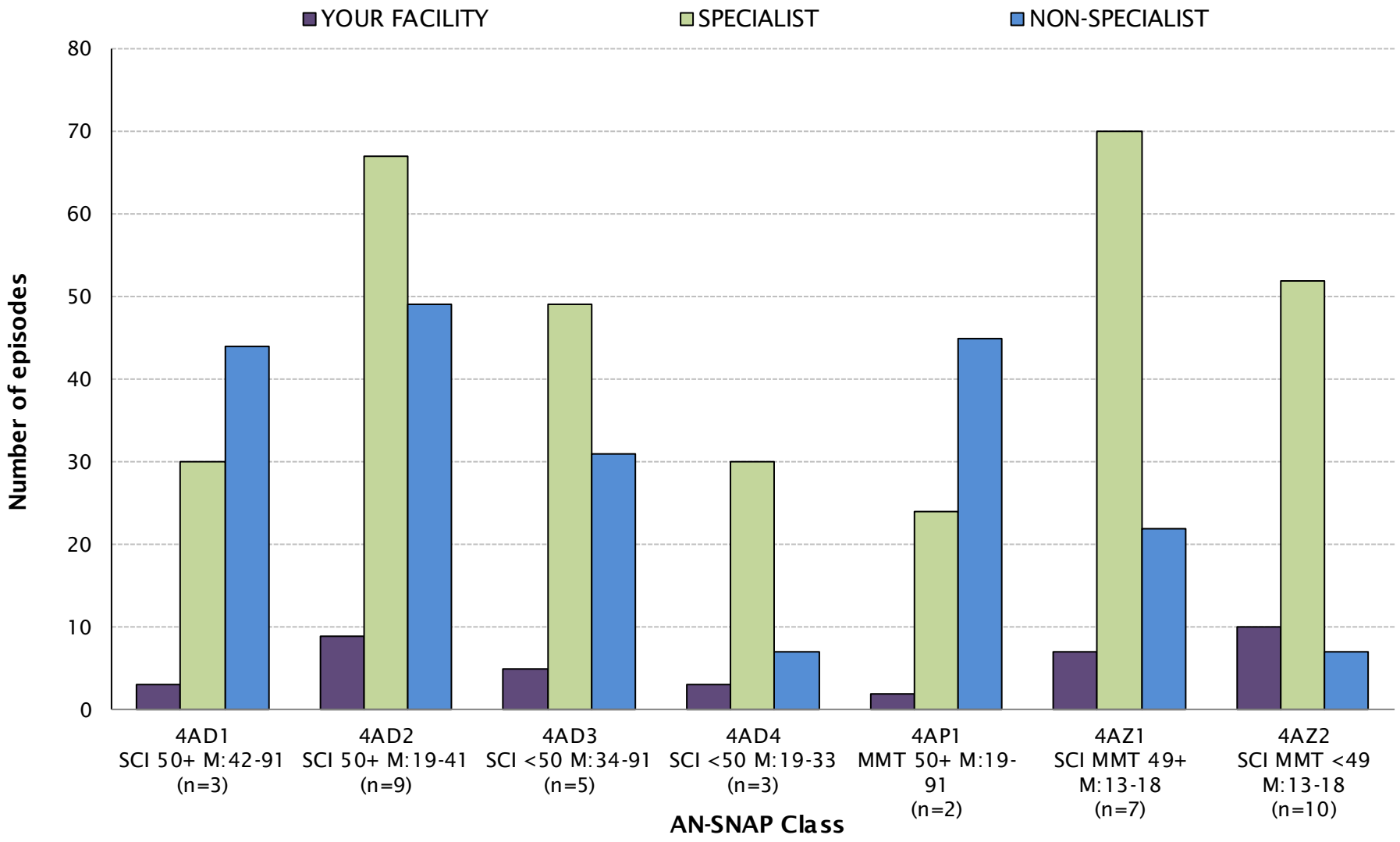
Volume of episodes by facilities treating spinal cord injury



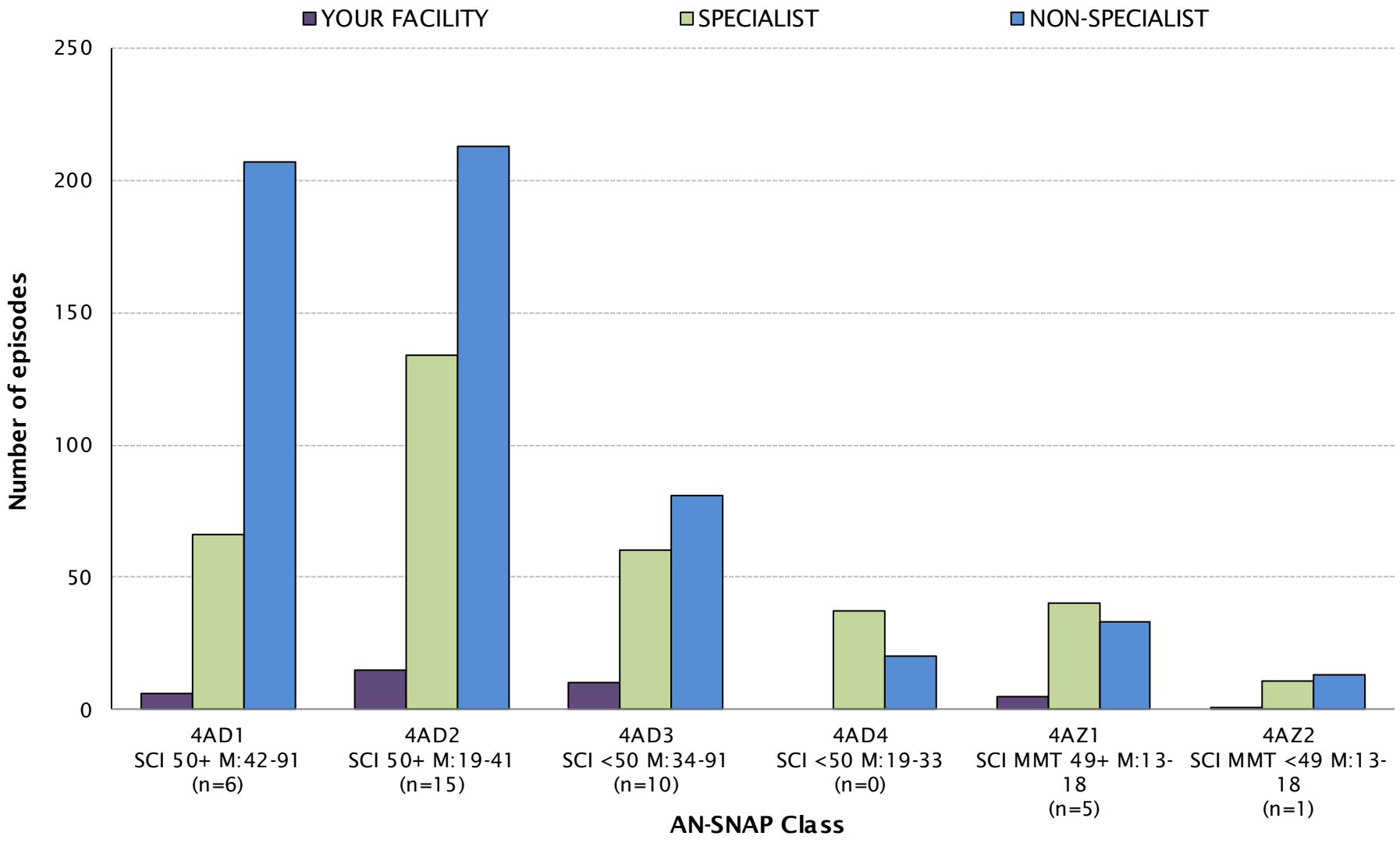
Number of traumatic and non-traumatic episodes over time at your facility



Number of traumatic episodes by AN-SNAP class



Number of non-traumatic episodes by AN-SNAP class



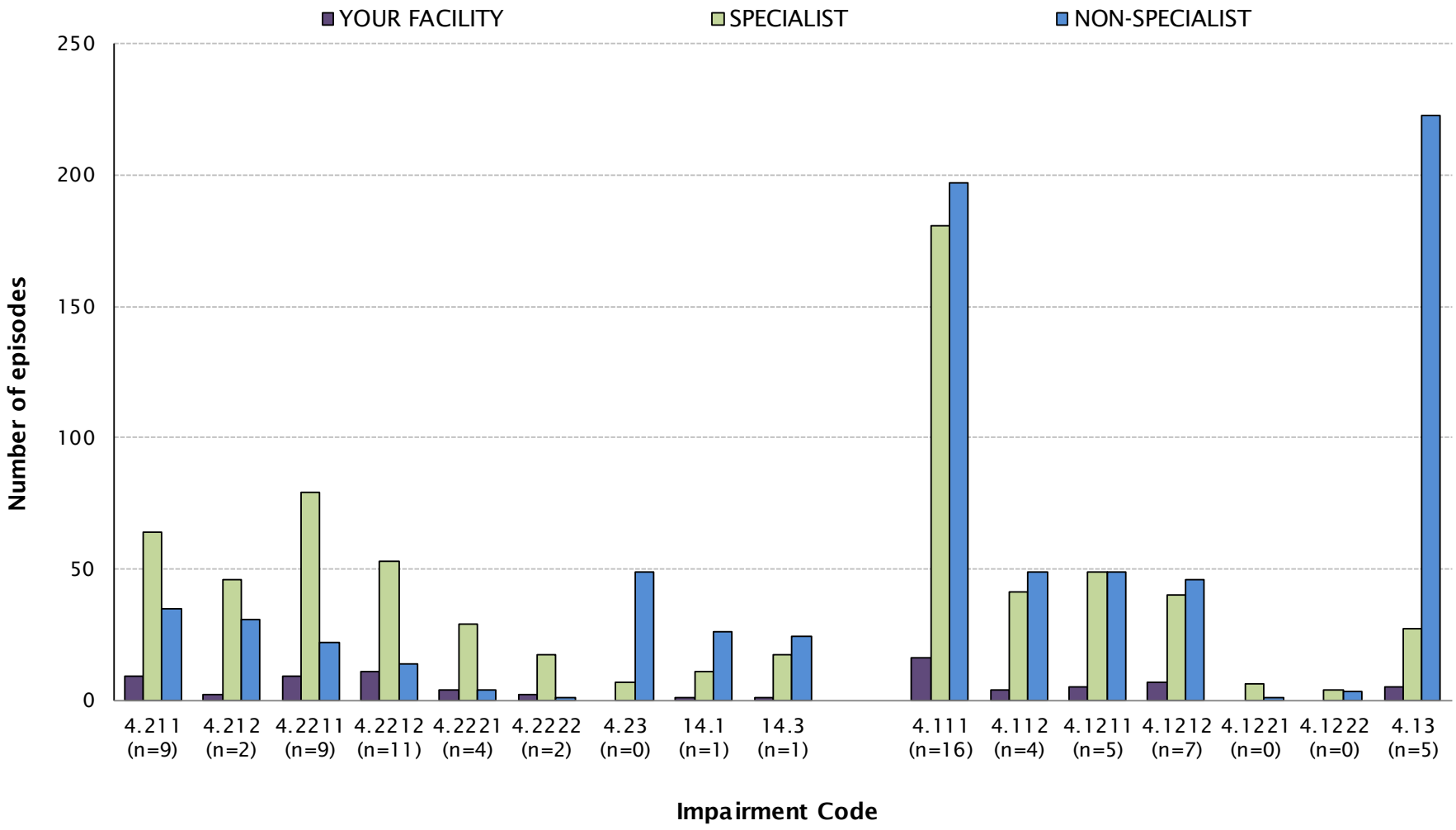
Number of traumatic and non-traumatic episodes by AN-SNAP class

	YOUR FACILITY		SPECIALIST		NON-SPECIALIST	
AN-SNAP class	No.	%	No.	%	No.	%
Traumatic episodes						
4AD1 (SCI, age ≥ 50, weighted FIM motor 42-91)	3	7.7	30	9.3	44	21.5
4AD2 (SCI, age ≥ 50, weighted FIM motor 19-41)	9	23.1	67	20.8	49	23.9
4AD3 (SCI, age ≤ 49, weighted FIM motor 34-91)	5	12.8	49	15.2	31	15.1
4AD4 (SCI, age ≤ 49, weighted FIM motor 19-33)	3	7.7	30	9.3	7	3.4
4AP1 (MMT, weighted FIM motor 19-91)	2	5.1	24	7.5	45	22.0
4AZ1 (SCI or MMT, age ≥ 49, weighted FIM motor 13-18)	7	17.9	70	21.7	22	10.7
4AZ2 (SCI or MMT, age ≤ 48, weighted FIM motor 13-18)	10	25.6	52	16.1	7	3.4
All Spinal AN-SNAP classes	**39**	**100.0**	**322**	**100.0**	**205**	**100.0**
Non - traumatic episodes						
4AD1 (SCI, age ≥ 50, weighted FIM motor 42-91)	6	15.4	66	20.5	207	101.0
4AD2 (SCI, age ≥ 50, weighted FIM motor 19-41)	15	38.5	134	41.6	213	103.9
4AD3 (SCI, age ≤ 49, weighted FIM motor 34-91)	10	25.6	60	18.6	81	39.5
4AD4 (SCI, age ≤ 49, weighted FIM motor 19-33)	0	0.0	37	11.5	20	9.8
4AZ1 (SCI or MMT, age ≥ 49, weighted FIM motor 13-18)	5	12.8	40	12.4	33	16.1
4AZ2 (SCI or MMT, age ≤ 48, weighted FIM motor 13-18)	1	2.6	11	3.4	13	6.3
All Spinal AN-SNAP classes	**37**	**94.9**	**348**	**108.1**	**567**	**276.6**

Note: 0 episode(s) at YOUR FACILITY, 1 episode(s) at SPECIALIST facilities and 1 episode(s) at NON-SPECIALIST facilities had an AN-SNAP class of 499A 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 499A for non-traumatic episodes.

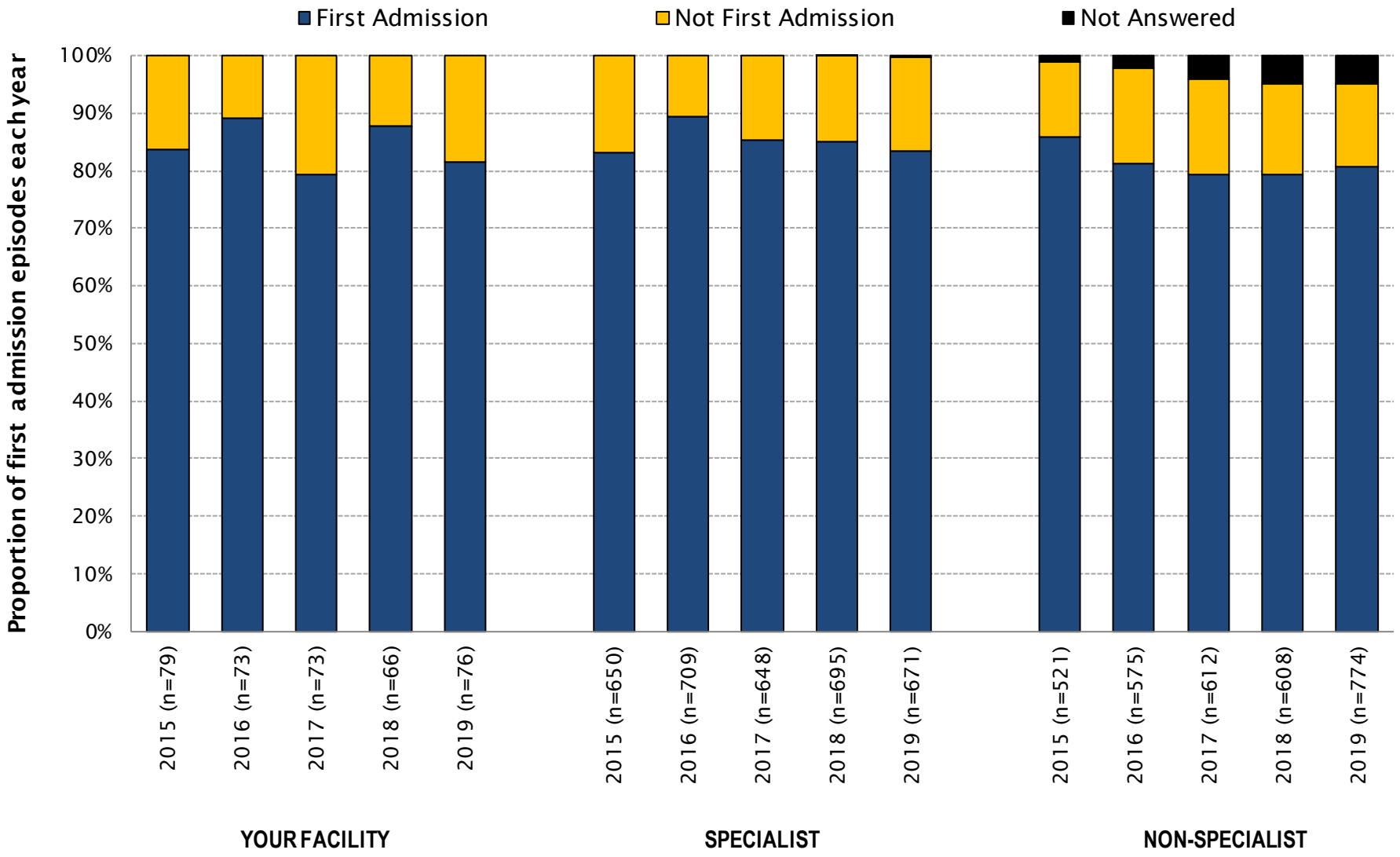
Number of traumatic and non-traumatic episodes by impairment



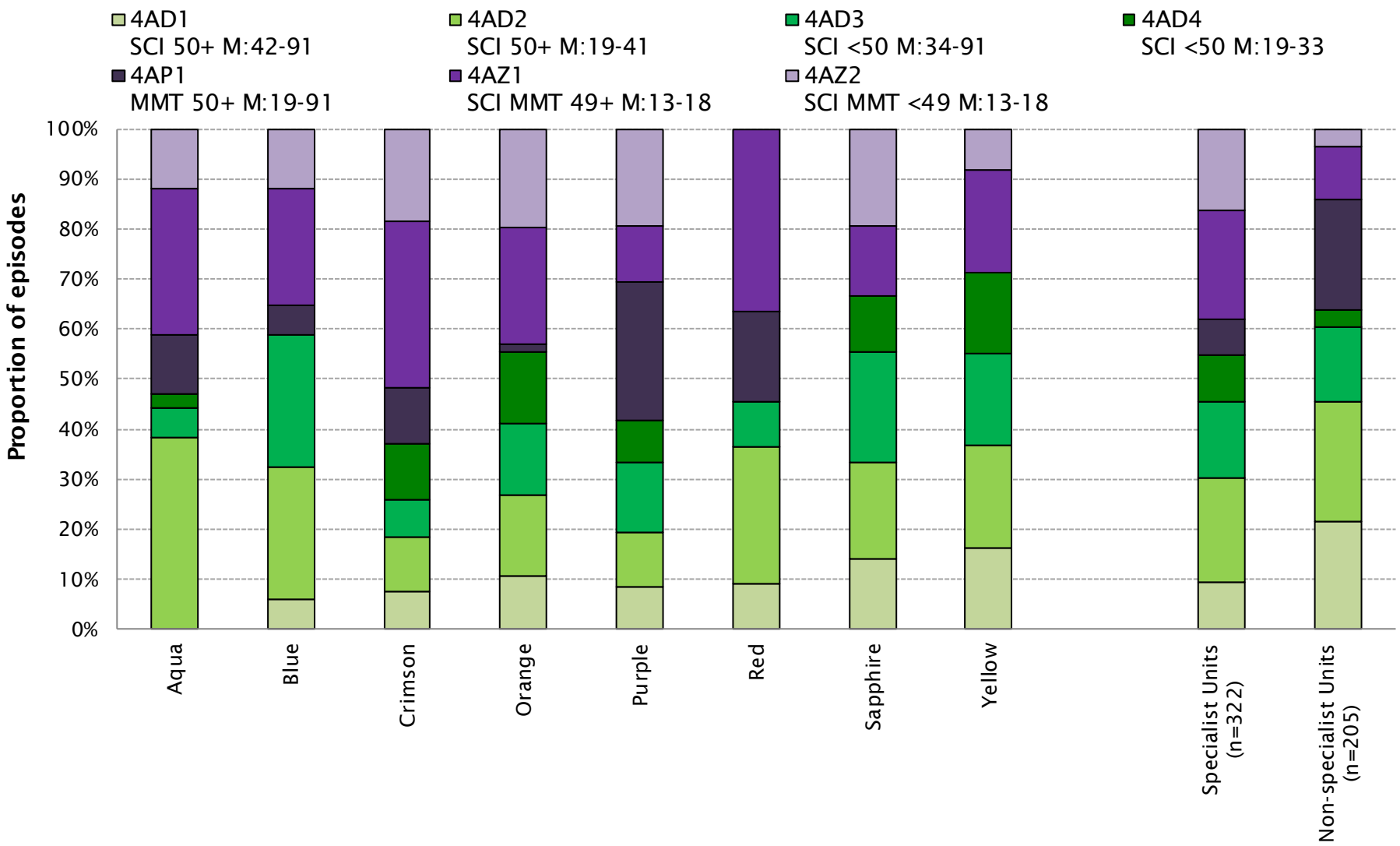
Number of traumatic and non-traumatic episodes by impairment

	YOUR FACILITY		SPECIALIST		NON-SPECIALIST	
Impairment	**No.**	**%**	**No.**	**%**	**No.**	**%**
Traumatic impairments						
4.211 Para-Inc	9	23.1	64	19.8	35	17.0
4.212 Para-Comp	2	5.1	46	14.2	31	15.0
4.2211 Quad-Inc C1-4	9	23.1	79	24.5	22	10.7
4.2212 Quad-Inc C5-8	11	28.2	53	16.4	14	6.8
4.2221 Quad-Comp C1-4	4	10.3	29	9.0	4	1.9
4.2222 Quad-Comp C5-8	2	5.1	17	5.3	1	0.5
4.23 Other TSCI	0	0.0	7	2.2	49	23.8
14.1 MMT: brain+spine	1	2.6	11	3.4	26	12.6
14.3 MMT: spine+other	1	2.6	17	5.3	24	11.7
Total TSCI	**39**	**100.0**	**323**	**100.0**	**206**	**100.0**
Non-traumatic impairments						
4.111 Para-Inc	16	43.2	181	52.0	197	34.7
4.112 Para-Comp	4	10.8	41	11.8	49	8.6
4.1211 Quad-Inc C1-4	5	13.5	49	14.1	49	8.6
4.1212 Quad-Inc C5-8	7	18.9	40	11.5	46	8.1
4.1221 Quad-Comp C1-4	0	0.0	6	1.7	1	0.2
4.1222 Quad-Comp C5-8	0	0.0	4	1.1	3	0.5
4.13 Other NTSCI	5	13.5	27	7.8	223	39.3
Total NTSCI	**37**	**100.0**	**348**	**100.0**	**568**	**100.0**
TOTAL SCI	**76**		**671**		**774**	

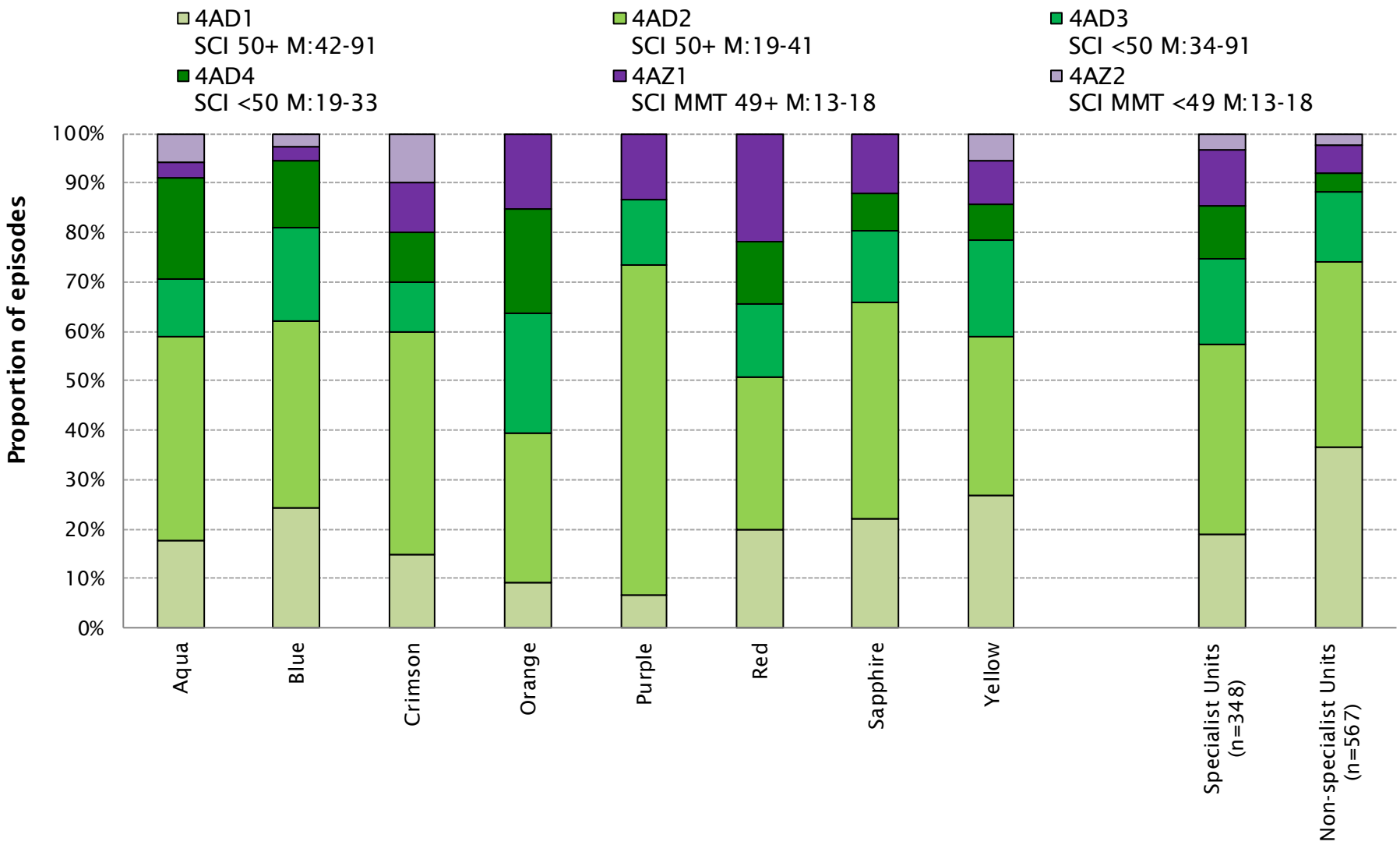
Proportion of first admission episodes over time



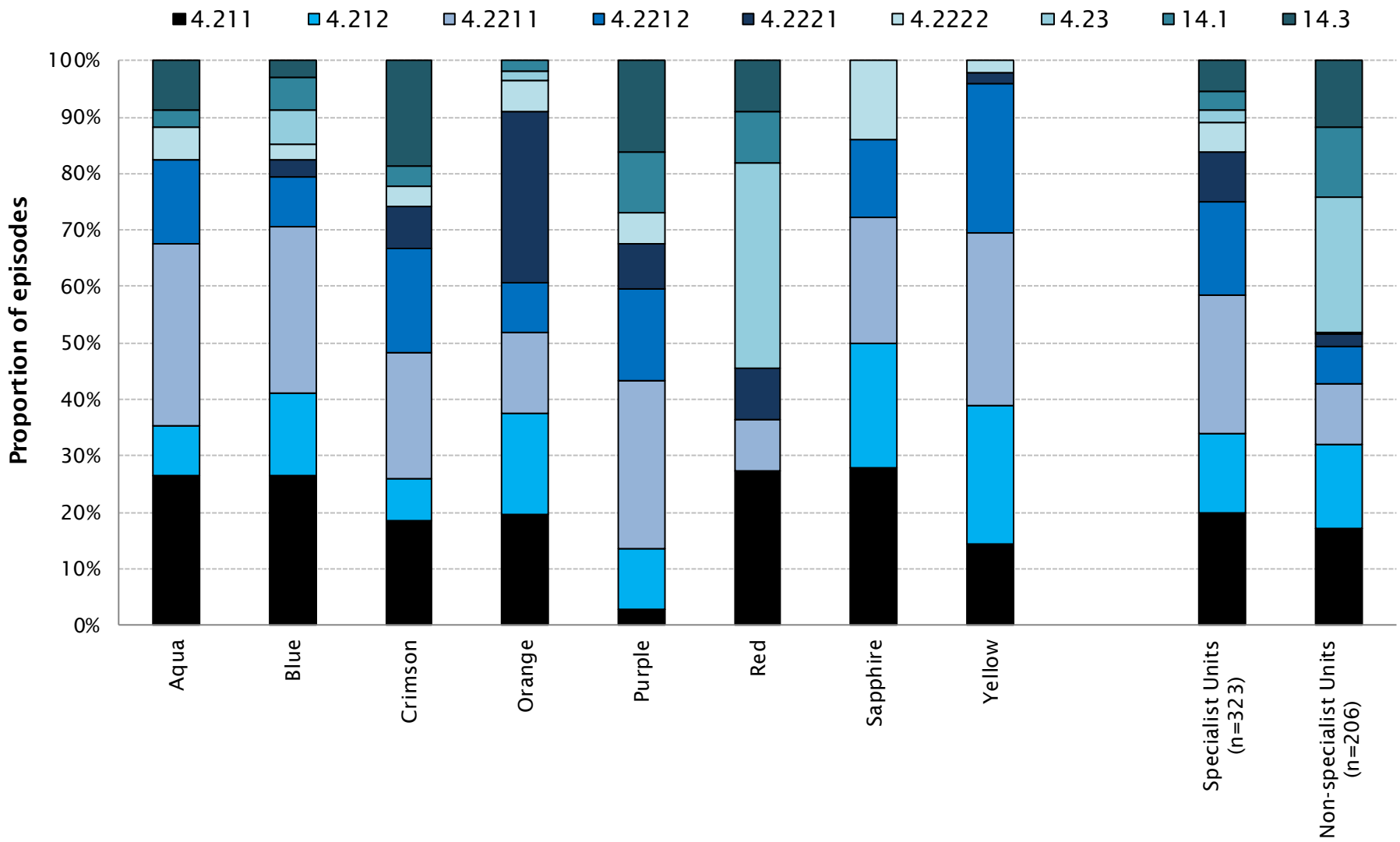
Proportion of traumatic episodes by AN-SNAP class and specialist facility



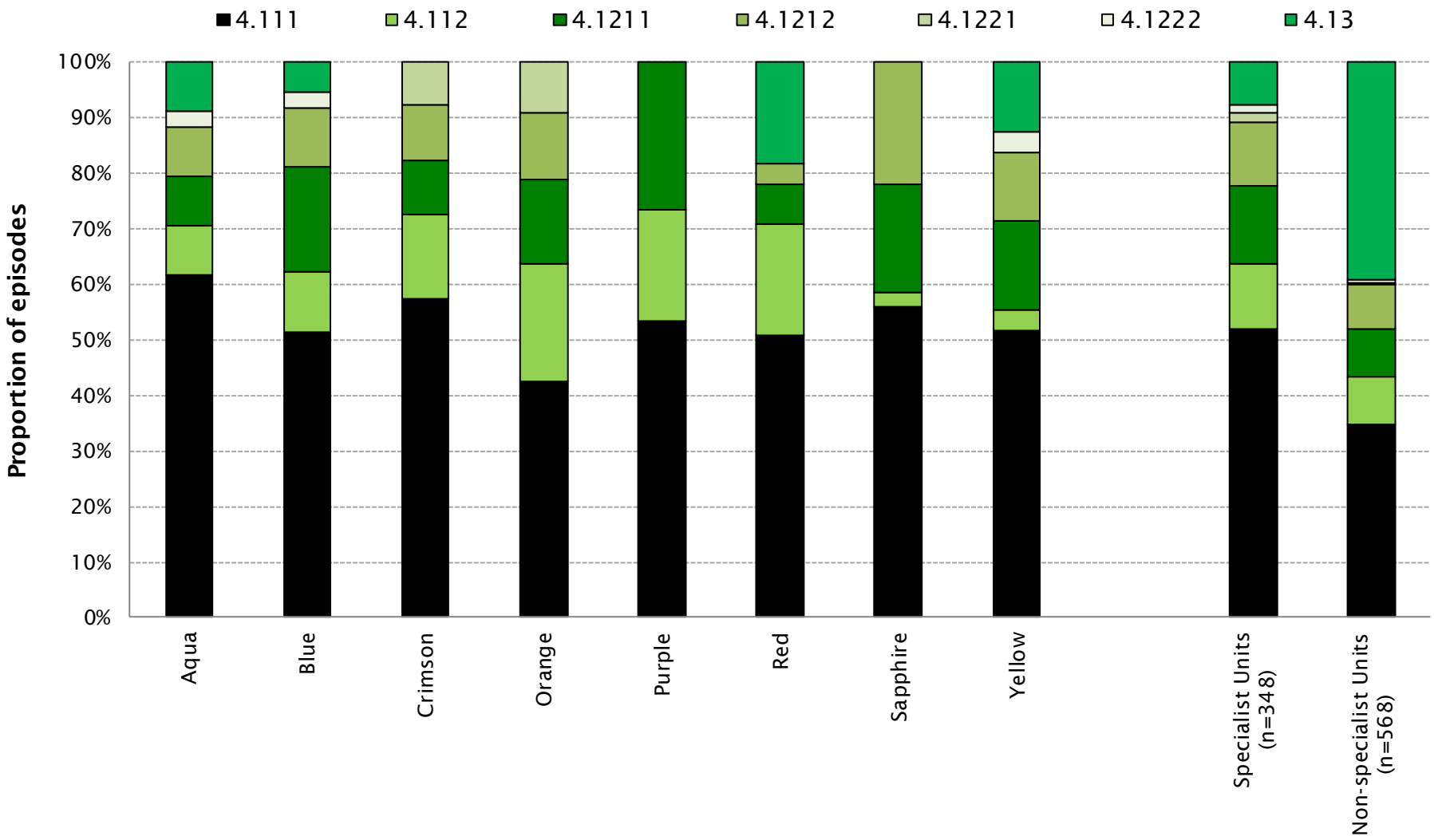
Proportion of non-traumatic episodes by AN-SNAP class and specialist facility



Proportion of traumatic episodes by impairment and specialist facility



Proportion of non-traumatic episodes by impairment and specialist facility



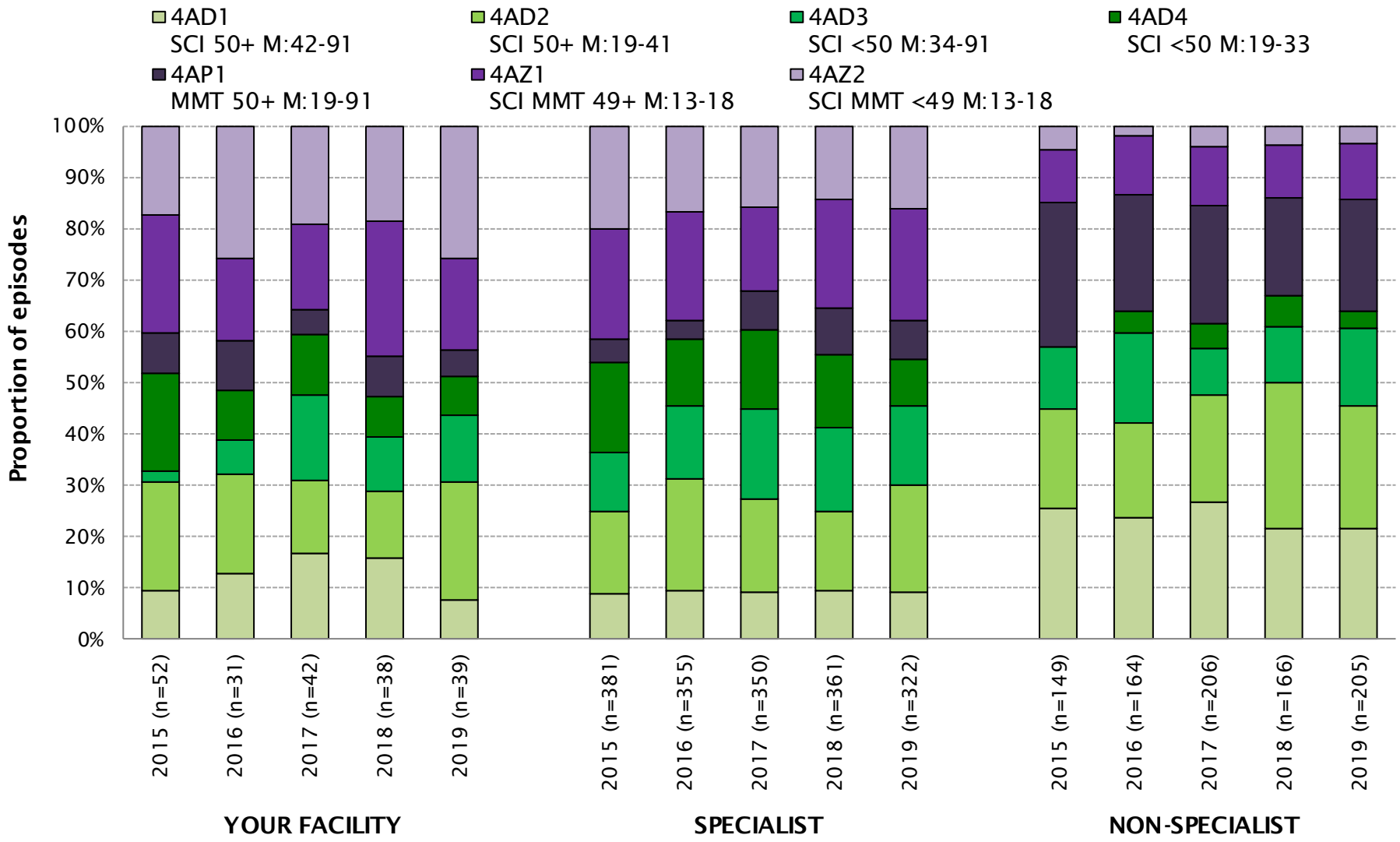
Traumatic and non-traumatic episodes by impairment and AN-SNAP class

Traumatic	YOUR FACILITY									
Impairment	4AD1	4AD2	4AD3	4AD4	4AP1	4AZ1	4AZ2	TOTAL	SPECIALIST	NON-SPECIALIST
4.211 Para-Inc	2	4	2	1	0	0	0	**9**	**64**	**34**
4.212 Para-Comp	0	1	0	1	0	0	0	**2**	**46**	**31**
4.2211 Quad-Inc C1-4	1	2	2	0	0	2	2	**9**	**79**	**22**
4.2212 Quad-Inc C5-8	0	2	0	1	0	4	4	**11**	**53**	**14**
4.2221 Quad-Comp C1-4	0	0	1	0	0	1	2	**4**	**29**	**4**
4.2222 Quad-Comp C5-8	0	0	0	0	0	0	2	**2**	**16**	**1**
4.23 Other TSCI	0	0	0	0	0	0	0	**0**	**7**	**49**
14.1 MMT: brain+spine	0	0	0	0	1	0	0	**1**	**11**	**26**
14.3 MMT: spine+other	0	0	0	0	1	0	0	**1**	**17**	**24**
Total	**3**	**9**	**5**	**3**	**2**	**7**	**10**	**39**	**322**	**205**
SPECIALIST	**30**	**67**	**49**	**30**	**24**	**70**	**52**	**322**		
NON-SPECIALIST	**44**	**49**	**31**	**7**	**45**	**22**	**7**	**205**		

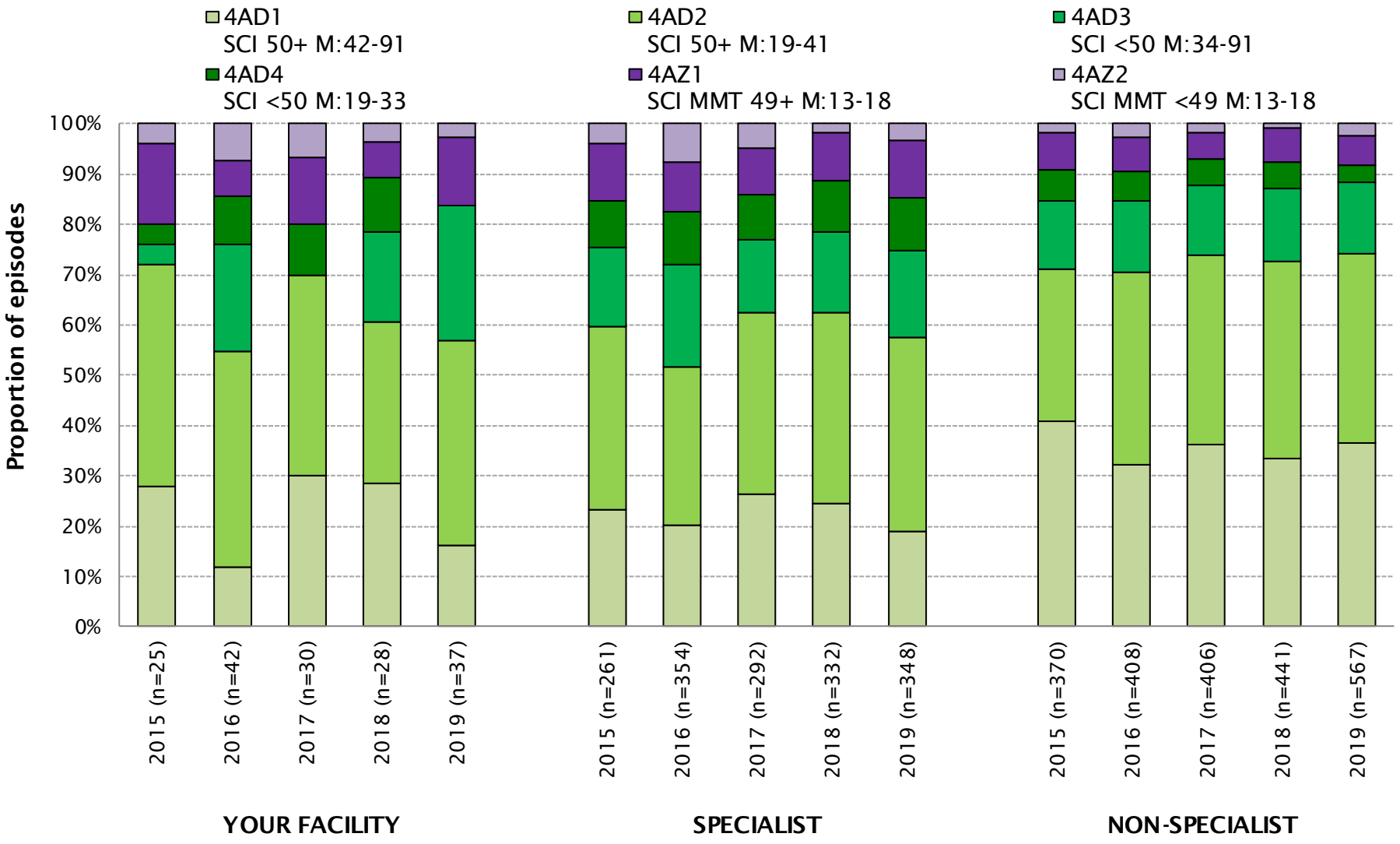
Non-traumatic	YOUR FACILITY								
Impairment	4AD1	4AD2	4AD3	4AD4	4AZ1	4AZ2	TOTAL	SPECIALIST	NON-SPECIALIST
4.111 Para-Inc	1	7	6	0	2	0	**16**	**181**	**197**
4.112 Para-Comp	0	3	1	0	0	0	**4**	**41**	**49**
4.1211 Quad-Inc C1-4	1	1	3	0	0	0	**5**	**49**	**49**
4.1212 Quad-Inc C5-8	2	4	0	0	1	0	**7**	**40**	**46**
4.1221 Quad-Comp C1-4	0	0	0	0	0	0	**0**	**6**	**1**
4.1222 Quad-Comp C5-8	0	0	0	0	0	0	**0**	**4**	**3**
4.13 Other NTSCI	2	0	0	0	2	1	**5**	**27**	**222**
Total	**6**	**15**	**10**	**0**	**5**	**1**	**37**	**348**	**567**
SPECIALIST	**66**	**134**	**60**	**37**	**40**	**11**	**348**		
NON-SPECIALIST	**207**	**213**	**81**	**20**	**33**	**13**	**567**		

Note: 0 episode(s) at YOUR FACILITY, 1 episode(s) at SPECIALIST facilities and 1 episode(s) at NON-SPECIALIST facilities had an AN-SNAP class of 499A.

Proportion of traumatic episodes by AN-SNAP class over time



Proportion of non-traumatic episodes by AN-SNAP class over time

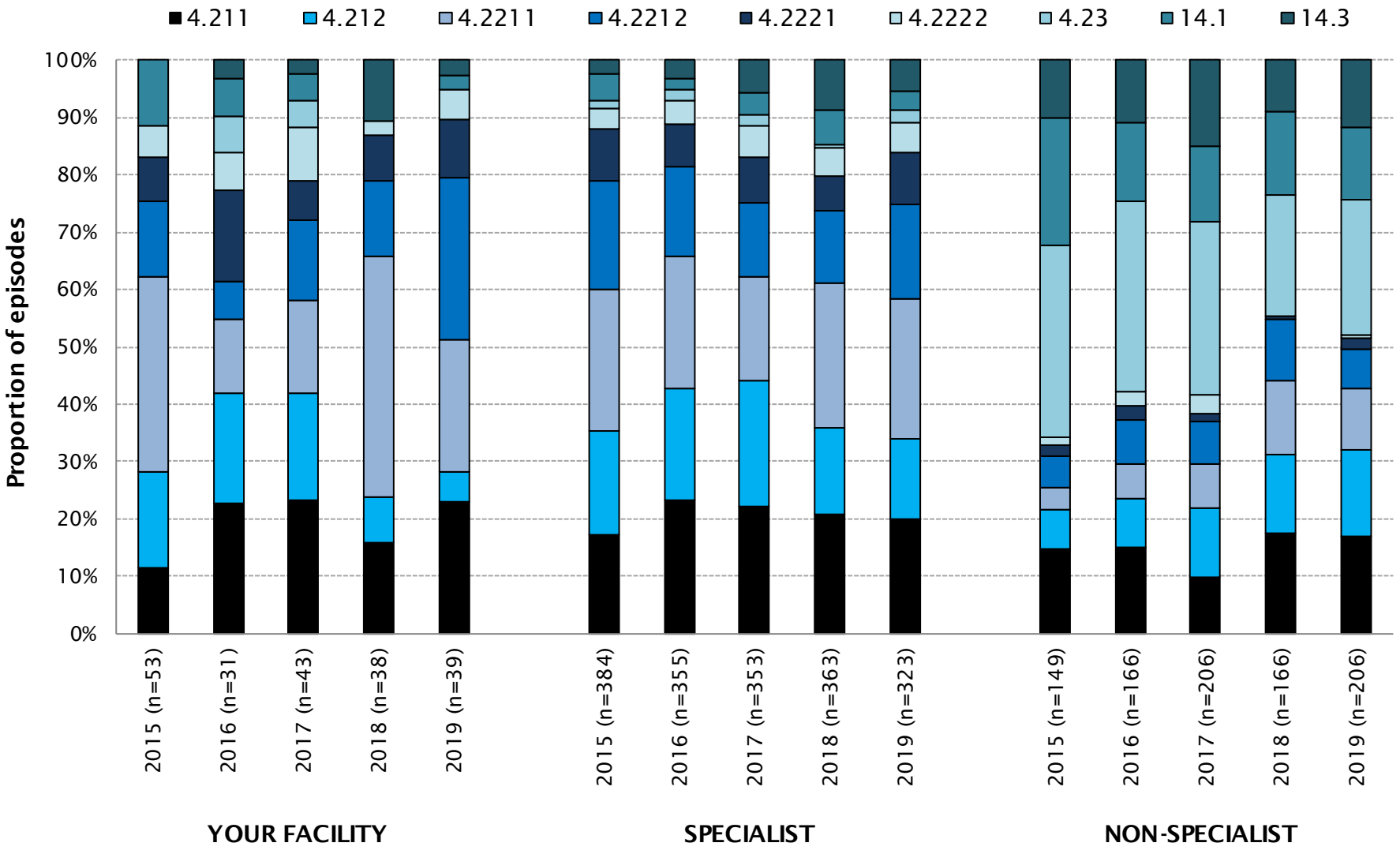


Traumatic and non-traumatic episodes by AN-SNAP class over time

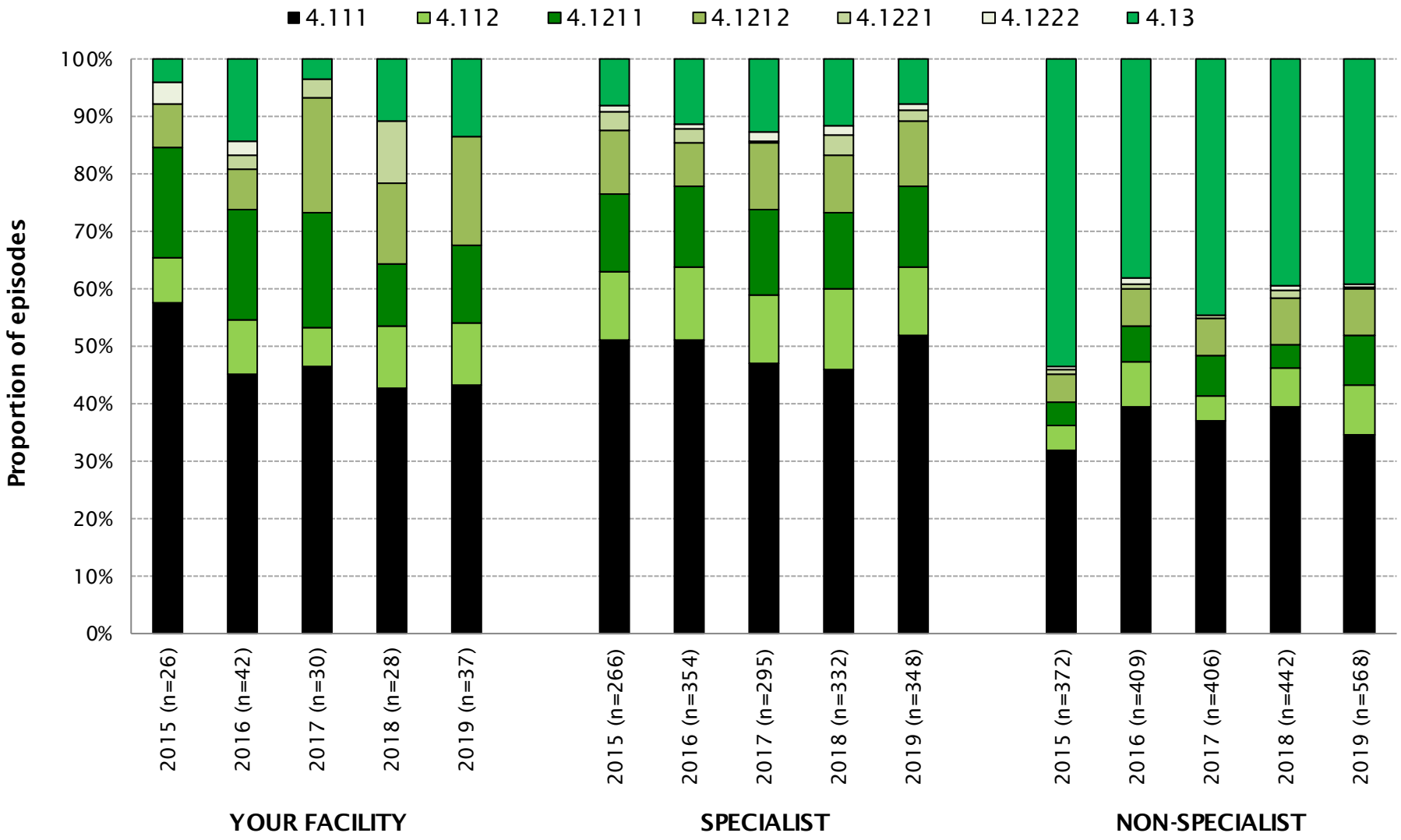
Traumatic	YOUR FACILITY					SPECIALIST					NON-SPECIALIST				
AN-SNAP class	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
4AD1 (SCI, age ≥ 50, weighted FIM motor 42-91)	5	4	7	6	3	34	34	32	34	30	38	39	55	36	44
4AD2 (SCI, age ≥ 50, weighted FIM motor 19-41)	11	6	6	5	9	61	77	64	56	67	29	30	43	47	49
4AD3 (SCI, age ≤ 49, weighted FIM motor 34-91)	1	2	7	4	5	44	50	61	59	49	18	29	19	18	31
4AD4 (SCI, age ≤ 49, weighted FIM motor 19-33)	10	3	5	3	3	66	47	54	51	30	0	7	10	10	7
4AP1 (MMT, weighted FIM motor 19-91)	4	3	2	3	2	18	12	26	33	24	42	37	47	32	45
4AZ1 (SCI or MMT, age ≥ 49, weighted FIM motor 13-18)	12	5	7	10	7	82	76	58	76	70	15	19	24	17	22
4AZ2 (SCI or MMT, age ≤ 48, weighted FIM motor 13-18)	9	8	8	7	10	76	59	55	52	52	7	3	8	6	7
All Spinal AN-SNAP classes	**52**	**31**	**42**	**38**	**39**	**381**	**355**	**350**	**361**	**322**	**149**	**164**	**206**	**166**	**205**

Non-traumatic	YOUR FACILITY					SPECIALIST					NON-SPECIALIST				
AN-SNAP class	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
4AD1 (SCI, age ≥ 50, weighted FIM motor 42-91)	7	5	9	8	6	61	71	77	81	66	151	131	147	147	207
4AD2 (SCI, age ≥ 50, weighted FIM motor 19-41)	11	18	12	9	15	95	112	105	126	134	112	157	153	174	213
4AD3 (SCI, age ≤ 49, weighted FIM motor 34-91)	1	9	0	5	10	41	72	43	54	60	50	58	56	63	81
4AD4 (SCI, age ≤ 49, weighted FIM motor 19-33)	1	4	3	3	0	24	37	26	33	37	23	23	22	24	20
4AZ1 (SCI or MMT, age ≥ 49, weighted FIM motor 13-18)	4	3	4	2	5	30	35	27	32	40	28	28	21	29	33
4AZ2 (SCI or MMT, age ≤ 48, weighted FIM motor 13-18)	1	3	2	1	1	10	27	14	6	11	6	11	7	4	13
All Spinal AN-SNAP classes	**25**	**42**	**30**	**28**	**37**	**261**	**354**	**292**	**332**	**348**	**370**	**408**	**406**	**441**	**567**

Proportion of traumatic episodes by impairment over time



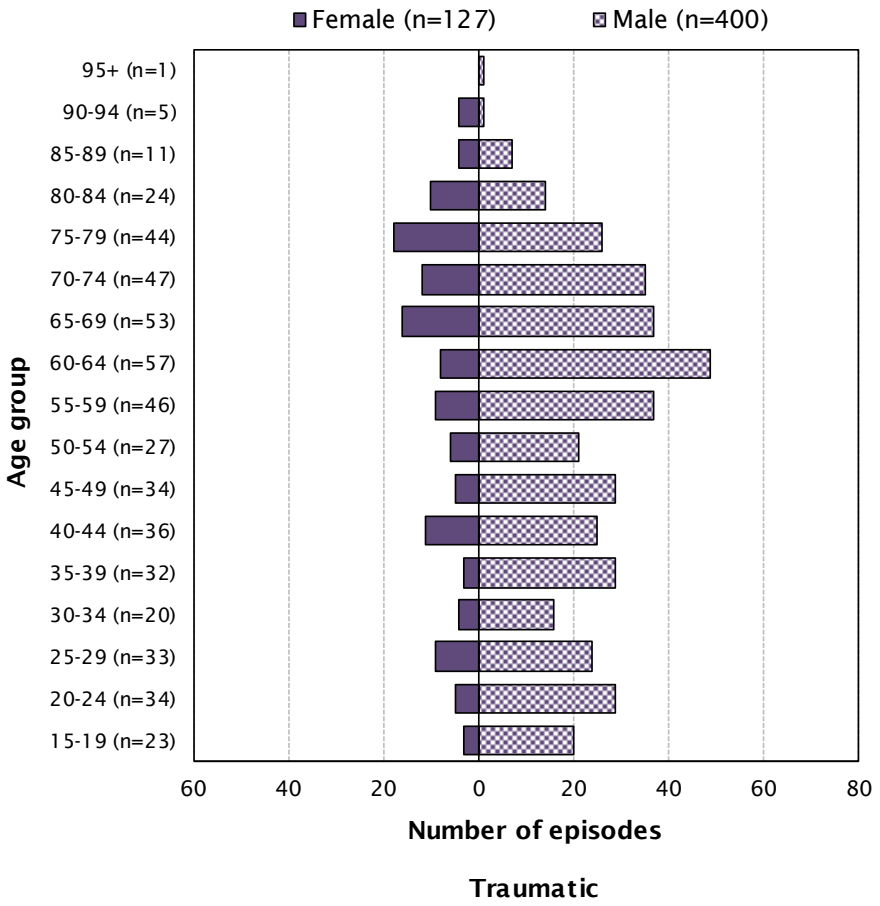
Proportion of non-traumatic episodes by impairment over time

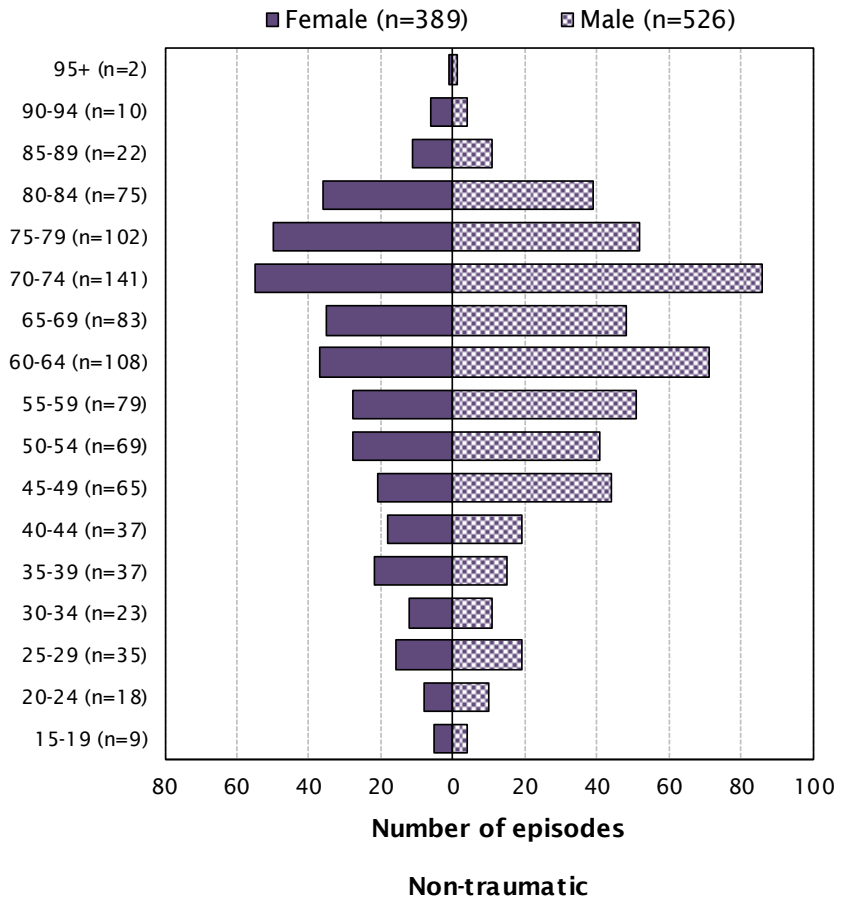


Traumatic and non-traumatic episodes by impairment over time

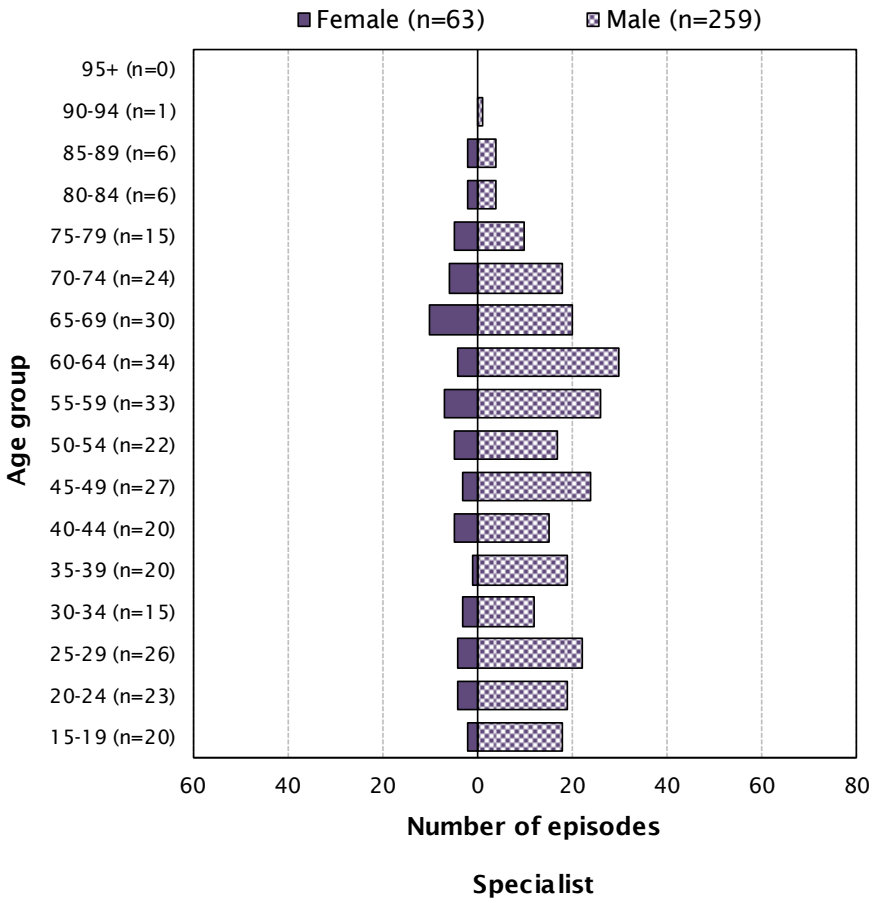
	YOUR FACILITY					SPECIALIST					NON-SPECIALIST				
Impairment	**2015**	**2016**	**2017**	**2018**	**2019**	**2015**	**2016**	**2017**	**2018**	**2019**	**2015**	**2016**	**2017**	**2018**	**2019**
Traumatic impairments															
4.211 Para-Inc	6	7	10	6	9	66	82	78	75	64	22	25	20	29	35
4.212 Para-Comp	9	6	8	3	2	70	70	78	55	46	10	14	25	23	31
4.2211 Quad-Inc C1-4	18	4	7	16	9	94	82	64	92	79	6	10	16	21	22
4.2212 Quad-Inc C5-8	7	2	6	5	11	73	55	45	46	53	8	13	15	18	14
4.2221 Quad-Comp C1-4	4	5	3	3	4	35	26	28	22	29	3	4	3	1	4
4.2222 Quad-Comp C5-8	3	2	4	1	2	14	15	20	18	17	2	4	7	0	1
4.23 Other TSCI	0	2	2	0	0	5	7	6	2	7	50	55	62	35	49
14.1 MMT: brain+spine	6	2	2	0	1	18	7	14	22	11	33	23	27	24	26
14.3 MMT: spine+other	0	1	1	4	1	9	11	20	31	17	15	18	31	15	24
Total TSCI	**53**	**31**	**43**	**38**	**39**	**384**	**355**	**353**	**363**	**323**	**149**	**166**	**206**	**166**	**206**
Non-traumatic impairments															
4.111 Para-Inc	15	19	14	12	16	136	181	139	153	181	119	162	150	175	197
4.112 Para-Comp	2	4	2	3	4	32	45	35	46	41	16	32	18	29	49
4.1211 Quad-Inc C1-4	5	8	6	3	5	36	50	44	44	49	15	25	29	19	49
4.1212 Quad-Inc C5-8	2	3	6	4	7	29	27	34	34	40	18	27	26	35	46
4.1221 Quad-Comp C1-4	0	1	1	3	0	9	8	1	11	6	3	3	2	6	1
4.1222 Quad-Comp C5-8	1	1	0	0	0	3	3	5	6	4	2	4	0	4	3
4.13 Other NTSCI	1	6	1	3	5	21	40	37	38	27	199	156	181	174	223
Total NTSCI	**26**	**42**	**30**	**28**	**37**	**266**	**354**	**295**	**332**	**348**	**372**	**409**	**406**	**442**	**568**
TOTAL SCI	**79**	**73**	**73**	**66**	**76**	**650**	**709**	**648**	**695**	**671**	**521**	**575**	**612**	**608**	**774**

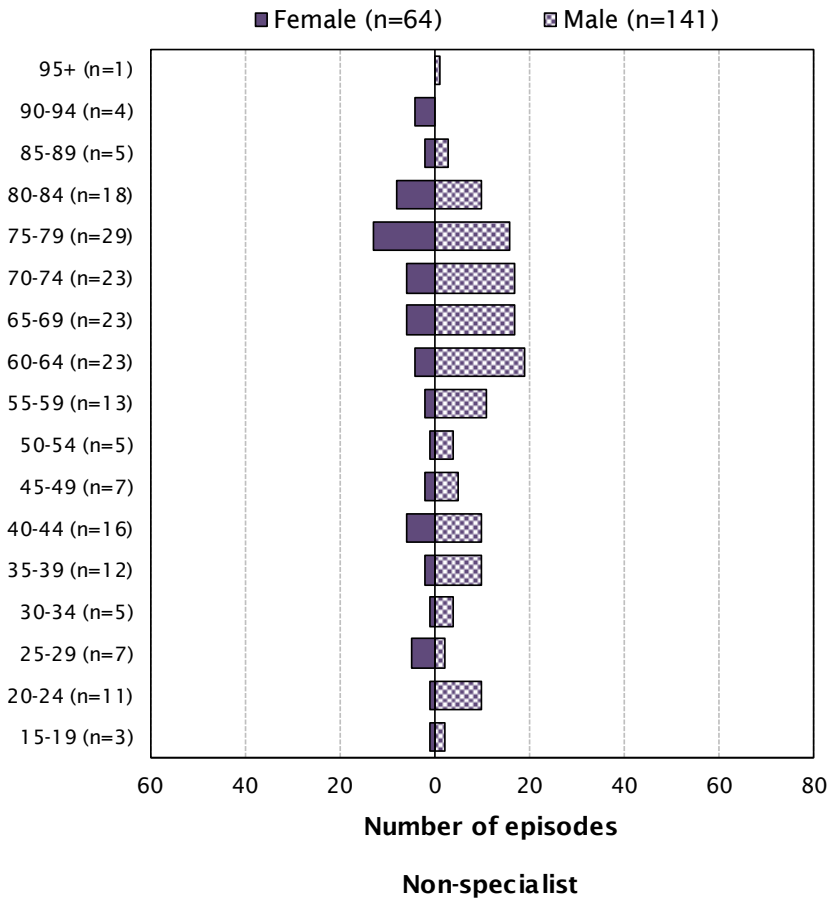
Number of episodes by age group and sex – TSCI and NTSCI



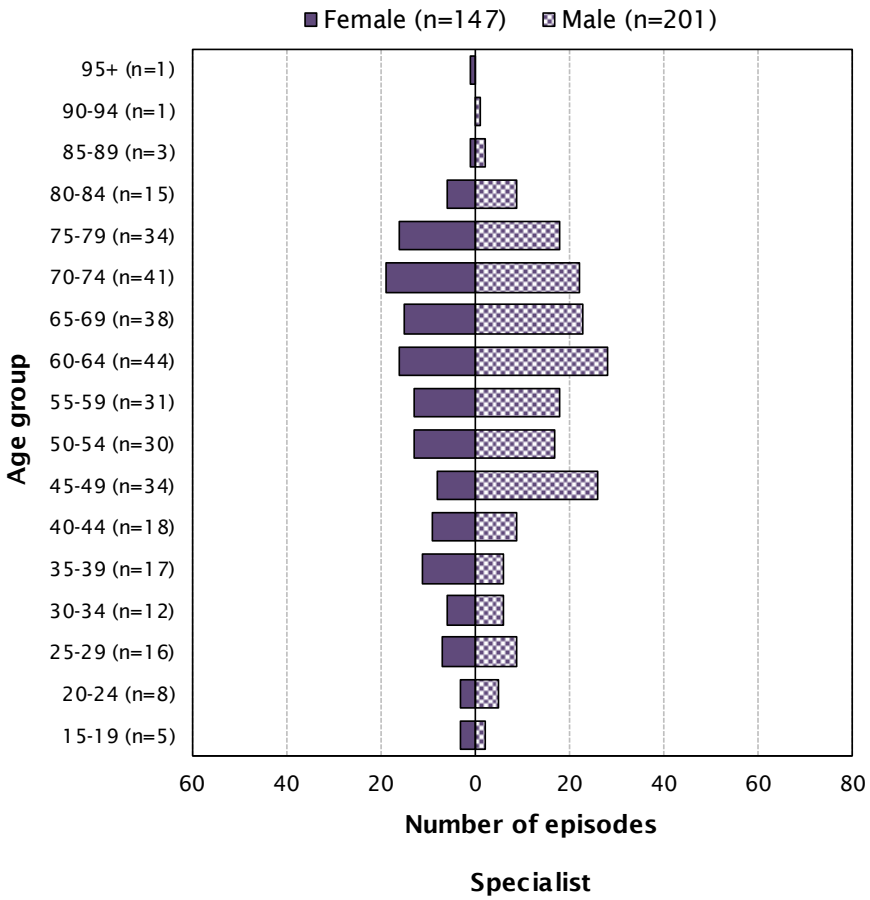


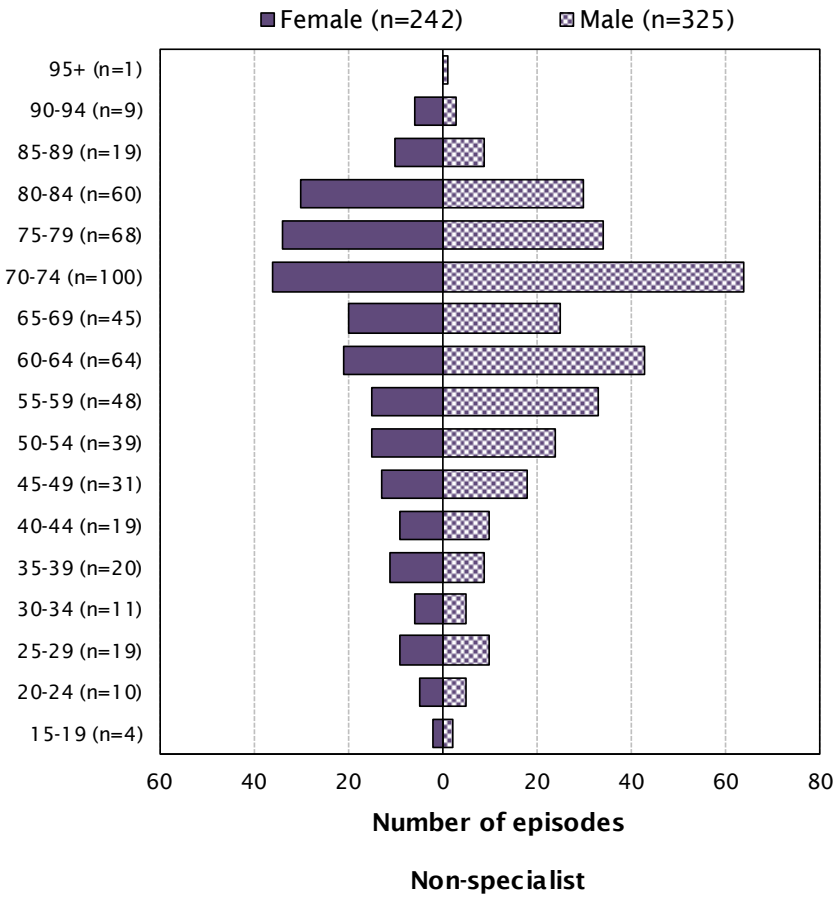
Number of TSCI episodes by age group and sex – specialist and non-specialist



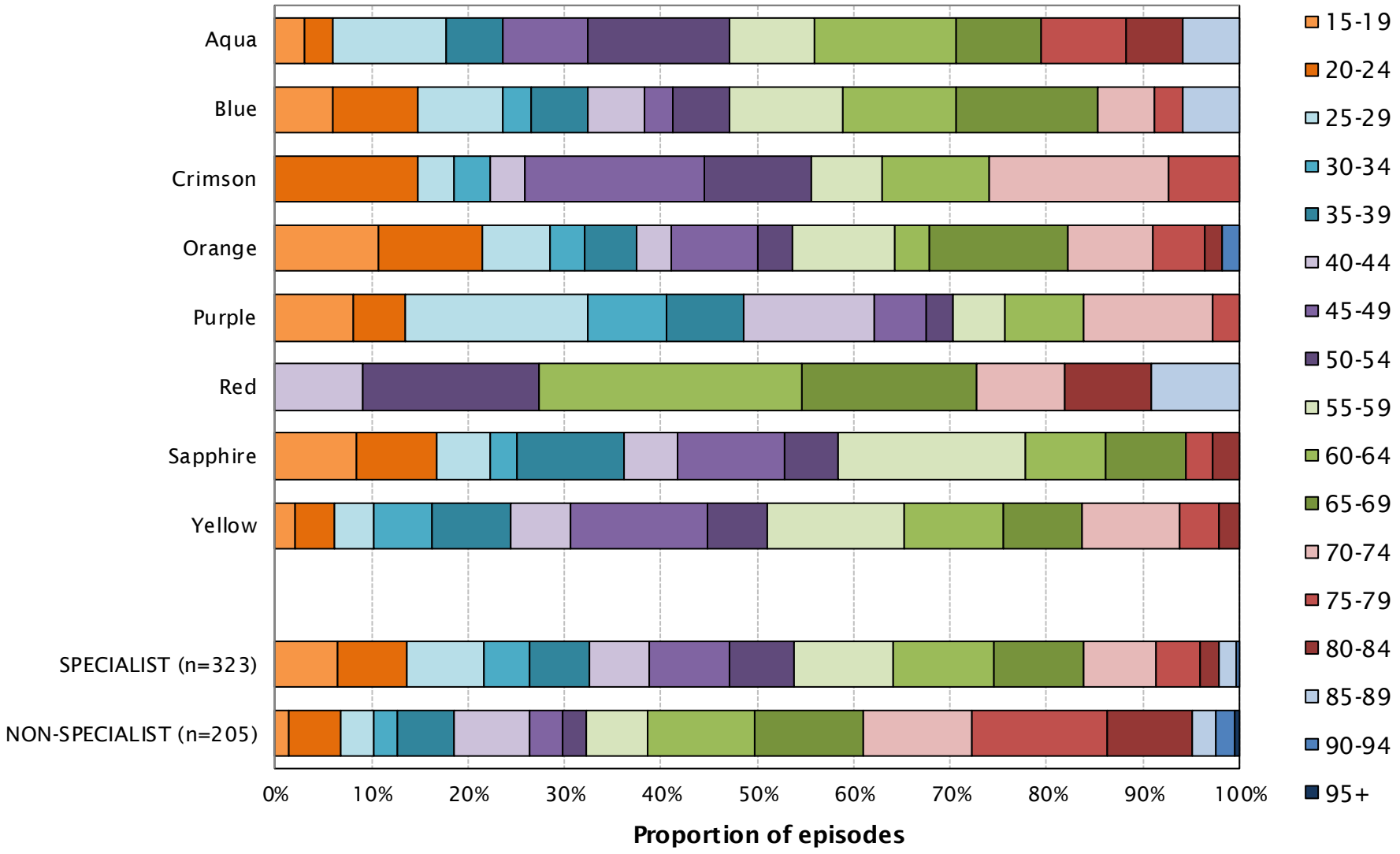


Number of NTSCI episodes by age group and sex – specialist and non-specialist

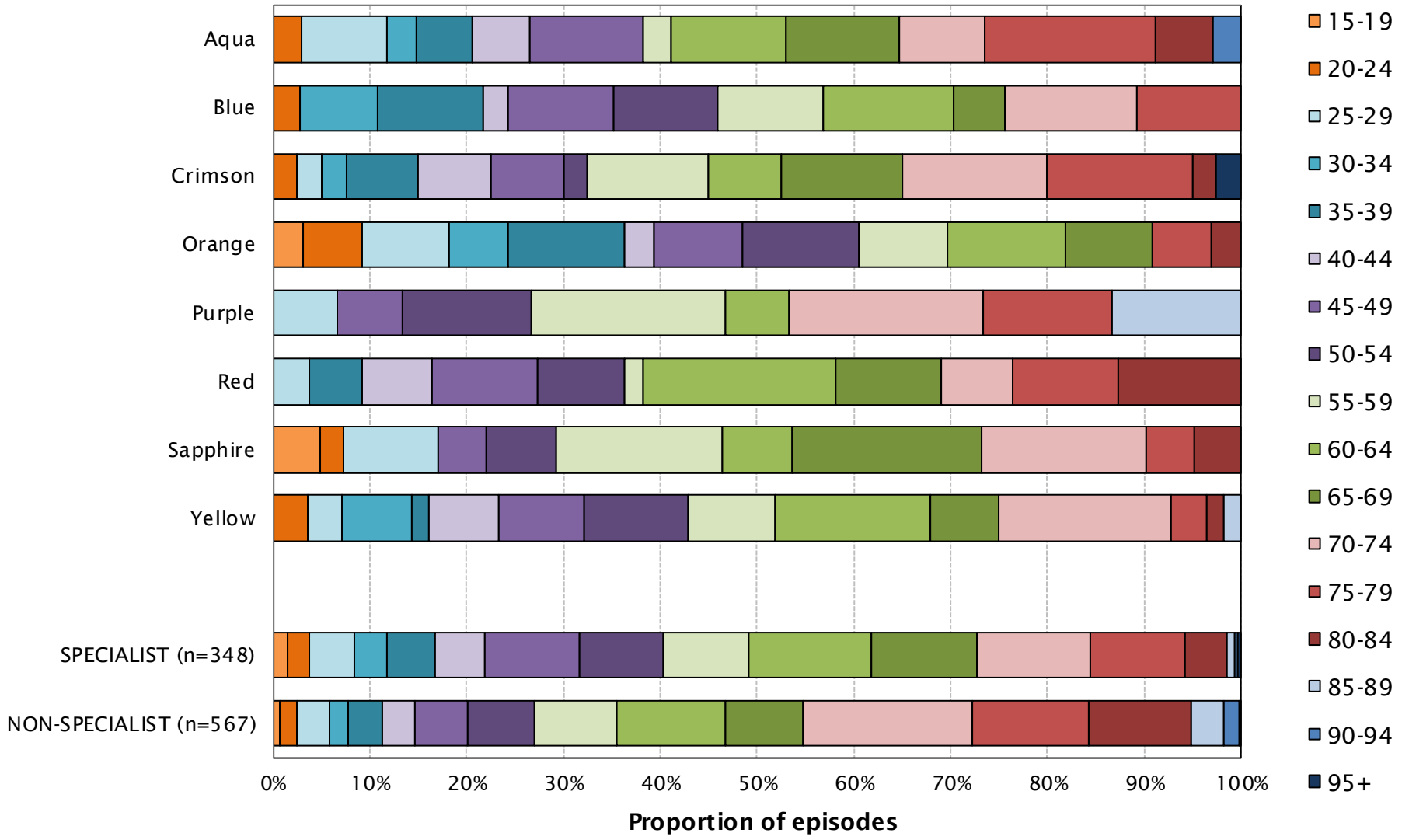




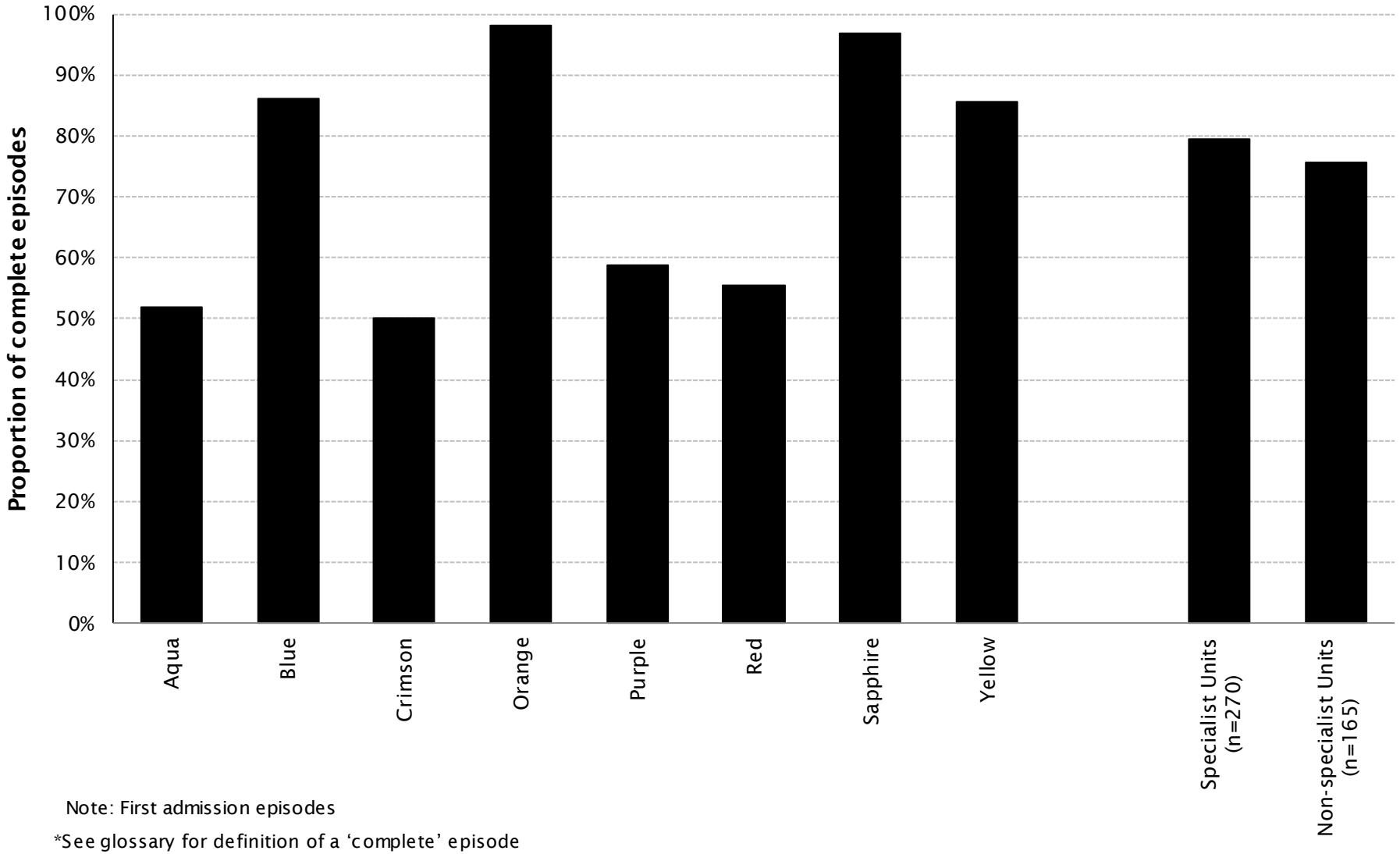
Traumatic episodes by age group and specialist facility



Non-traumatic episodes by age group and specialist facility



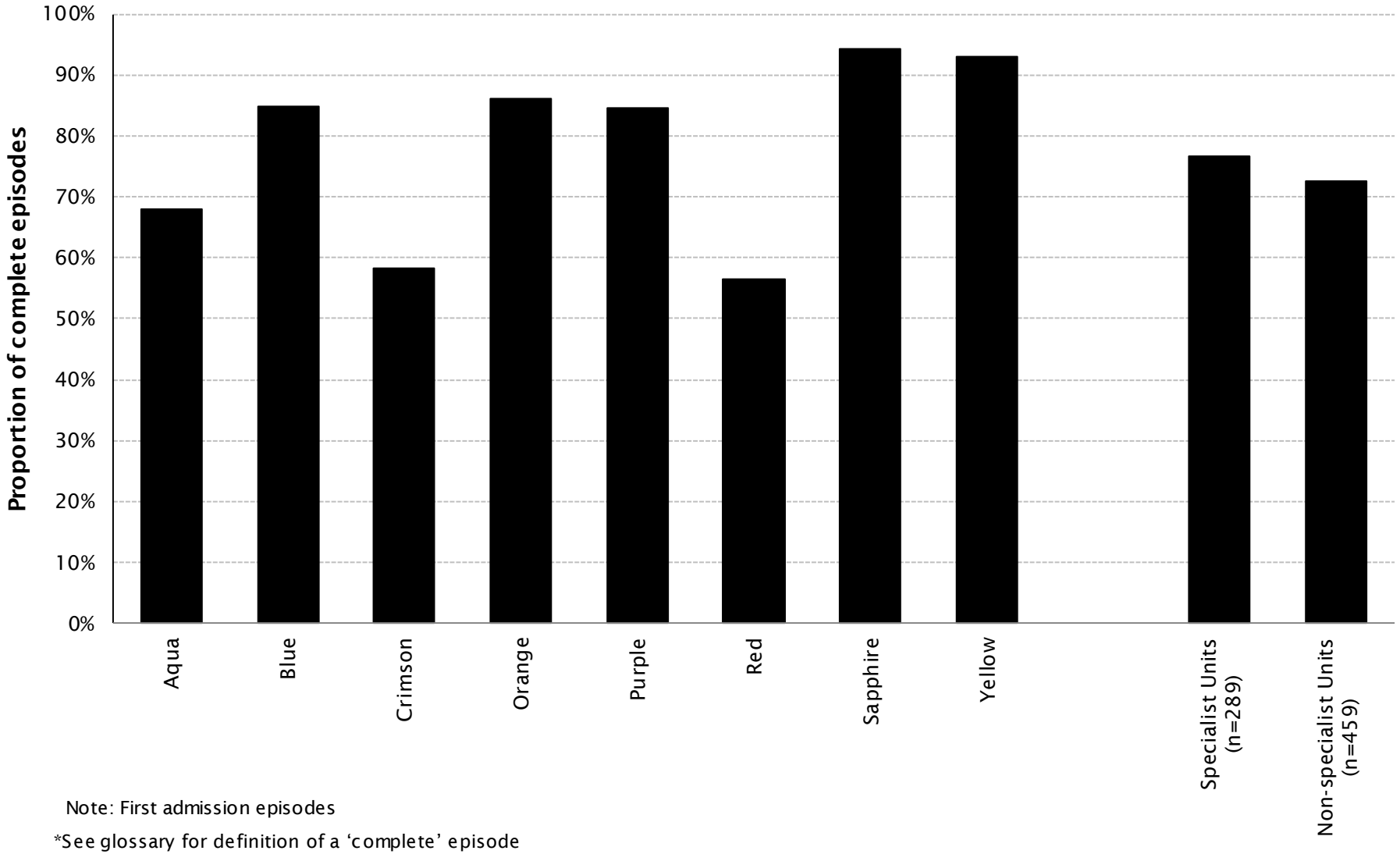
Proportion of complete* first admission traumatic episodes by specialist facility



Note: First admission episodes

*See glossary for definition of a 'complete' episode

Proportion of complete* first admission non-traumatic 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
4AD1 (SCI, age ≥ 50, weighted FIM motor 42-91)	8	6	75.0	77	68	88.3	212	179	84.4
4AD2 (SCI, age ≥ 50, weighted FIM motor 19-41)	21	15	71.4	165	122	73.9	205	129	62.9
4AD3 (SCI, age ≤ 49, weighted FIM motor 34-91)	11	11	100.0	91	79	86.8	92	78	84.8
4AD4 (SCI, age ≤ 49, weighted FIM motor 19-33)	3	3	100.0	57	44	77.2	20	8	40.0
4AP1 (MMT, weighted FIM motor 19-91)	2	2	100.0	22	14	63.6	38	32	84.2
4AZ1 (SCI or MMT, age ≥ 49, weighted FIM motor 13-18)	8	6	75.0	90	68	75.6	41	23	56.1
4AZ2 (SCI or MMT, age ≤ 48, weighted FIM motor 13-18)	9	9	100.0	56	42	75.0	14	7	50.0
All Spinal AN-SNAP classes	**62**	**52**	**83.9**	**558**	**437**	**78.3**	**622**	**456**	**73.3**

Note: First Admission Only (excludes AN-SNAP class 499A)

	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	7	6	85.7	52	46	88.5	31	22	71.0
4.212 Para-Comp	2	2	100.0	38	33	86.8	18	10	55.6
4.2211 Quad-Inc C1-4	8	8	100.0	63	49	77.8	17	14	82.4
4.2212 Quad-Inc C5-8	9	9	100.0	44	37	84.1	10	10	100.0
4.2221 Quad-Comp C1-4	4	3	75.0	27	20	74.1	4	2	50.0
4.2222 Quad-Comp C5-8	1	1	100.0	13	9	69.2	1	1	100.0
4.23 Other TSCI	0	0	—	7	6	85.7	41	30	73.2
14.1 MMT: brain+spine	1	1	100.0	10	9	90.0	21	17	81.0
14.3 MMT: spine+other	1	1	100.0	16	6	37.5	22	19	86.4
Total TSCI	**33**	**31**	**93.9**	**270**	**215**	**79.6**	**165**	**125**	**75.8**
Non-traumatic impairments									
4.111 Para-Inc	11	8	72.7	150	113	75.3	163	117	71.8
4.112 Para-Comp	2	2	100.0	35	26	74.3	38	16	42.1
4.1211 Quad-Inc C1-4	5	5	100.0	39	35	89.7	36	28	77.8
4.1212 Quad-Inc C5-8	6	3	50.0	35	28	80.0	34	23	67.6
4.1221 Quad-Comp C1-4	0	0	—	5	2	40.0	1	0	0.0
4.1222 Quad-Comp C5-8	0	0	—	3	3	100.0	3	2	66.7
4.13 Other NTSCI	5	3	60.0	22	15	68.2	184	147	79.9
Total NTSCI	**29**	**21**	**72.4**	**289**	**222**	**76.8**	**459**	**333**	**72.5**
TOTAL SCI	**62**	**52**	**83.9**	**559**	**437**	**78.2**	**624**	**458**	**73.4**

*First Admission Only

Summary of incomplete episodes

	YOUR FACILITY		SPECIALIST		NON-SPECIALIST		ALL SPINE	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Total reporting episodes	76		671		774		1,445	
Incomplete episodes	13	(17.1)	151	(22.5)	214	(27.6)	365	(25.3)
Reason for incomplete:								
Discharged home with end FIM=18	0	(0.0)	0	(0.0)	1	(0.5)	1	(0.3)
Discharged home with no end FIM	0	(0.0)	1	(0.7)	2	(0.9)	3	(0.8)
Discharged to another hospital	6	(46.2)	77	(51.0)	118	(55.1)	195	(53.4)
Care type change - same hospital	7	(53.8)	52	(34.4)	72	(33.6)	124	(34.0)
Discharged at own risk	0	(0.0)	5	(3.3)	11	(5.1)	16	(4.4)
Change of care type (LOS<1 week)	0	(0.0)	0	(0.0)	2	(0.9)	2	(0.5)
Died	0	(0.0)	1	(0.7)	1	(0.5)	2	(0.5)
Other/Unknown Discharge	0	(0.0)	15	(9.9)	7	(3.3)	22	(6.0)

	YOUR FACILITY			
	Incomplete Episodes		Complete episodes	
Impairment Code:				
4.111 Para-Inc	6	(46.2)	10	(15.9)
4.112 Para-Comp	0	(0.0)	4	(6.3)
4.1211 Quad-Inc C1-4	0	(0.0)	5	(7.9)
4.1212 Quad-Inc C5-8	3	(23.1)	4	(6.3)
4.1221 Quad-Comp C1-4	0	(0.0)	0	(0.0)
4.1222 Quad-Comp C5-8	0	(0.0)	0	(0.0)
4.13 Other NTSCI	2	(15.4)	3	(4.8)
4.211 Para-Inc	1	(7.7)	8	(12.7)
4.212 Para-Comp	0	(0.0)	2	(3.2)
4.2211 Quad-Inc C1-4	0	(0.0)	9	(14.3)
4.2212 Quad-Inc C5-8	0	(0.0)	11	(17.5)
4.2221 Quad-Comp C1-4	1	(7.7)	3	(4.8)
4.2222 Quad-Comp C5-8	0	(0.0)	2	(3.2)
4.23 Other TSCI	0	(0.0)	0	(0.0)
14.1 MMT: brain+spine	0	(0.0)	1	(1.6)
14.3 MMT: spine+other	0	(0.0)	1	(1.6)
AN-SNAP Class:				
4AD1 (SCI, age ≥ 50, weighted FIM motor 42-91)	2	(15.4)	7	(11.1)
4AD2 (SCI, age ≥ 50, weighted FIM motor 19-41)	6	(46.2)	18	(28.6)
4AD3 (SCI, age ≤ 49, weighted FIM motor 34-91)	2	(15.4)	13	(20.6)
4AD4 (SCI, age ≤ 49, weighted FIM motor 19-33)	0	(0.0)	3	(4.8)
4AP1 (MMT, weighted FIM motor 19-91)	0	(0.0)	2	(3.2)
4AZ1 (SCI or MMT, age ≥ 49, weighted FIM motor 13-18)	3	(23.1)	9	(14.3)
4AZ2 (SCI or MMT, age ≤ 48, weighted FIM motor 13-18)	0	(0.0)	11	(17.5)

Review of FIM item scoring

by AN-SNAP class

Interpreting the comparative FIM item scoring charts

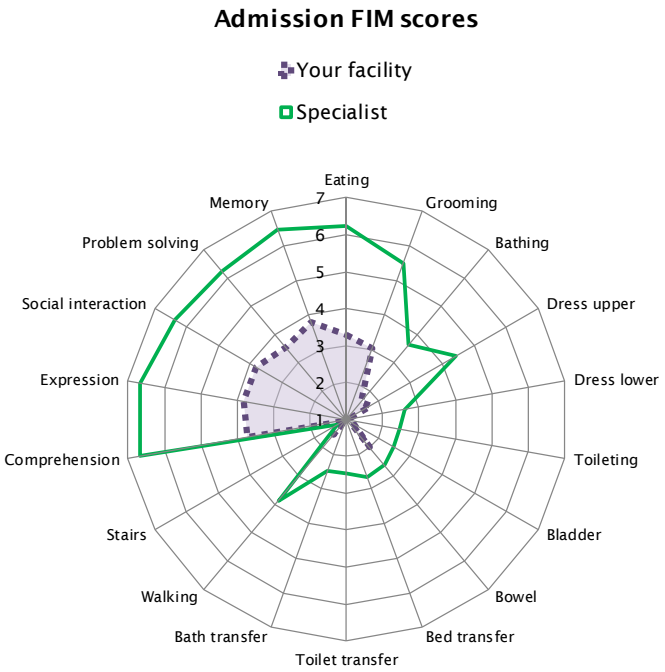


Figure A

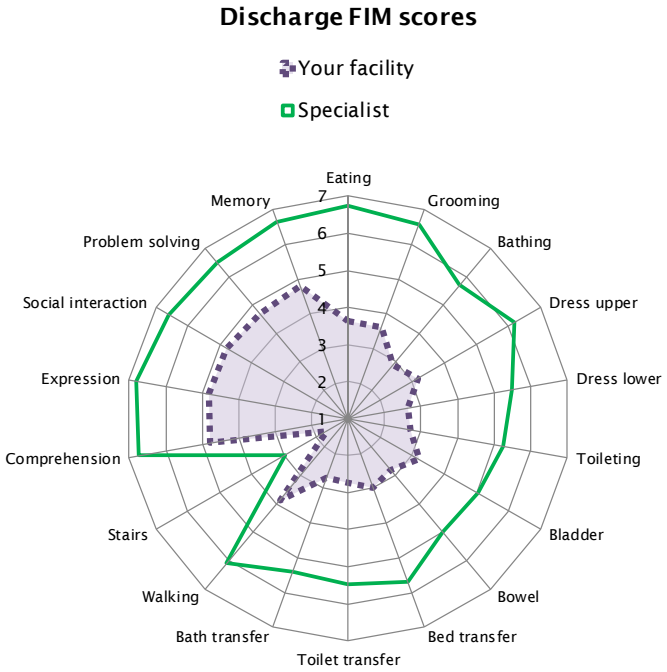
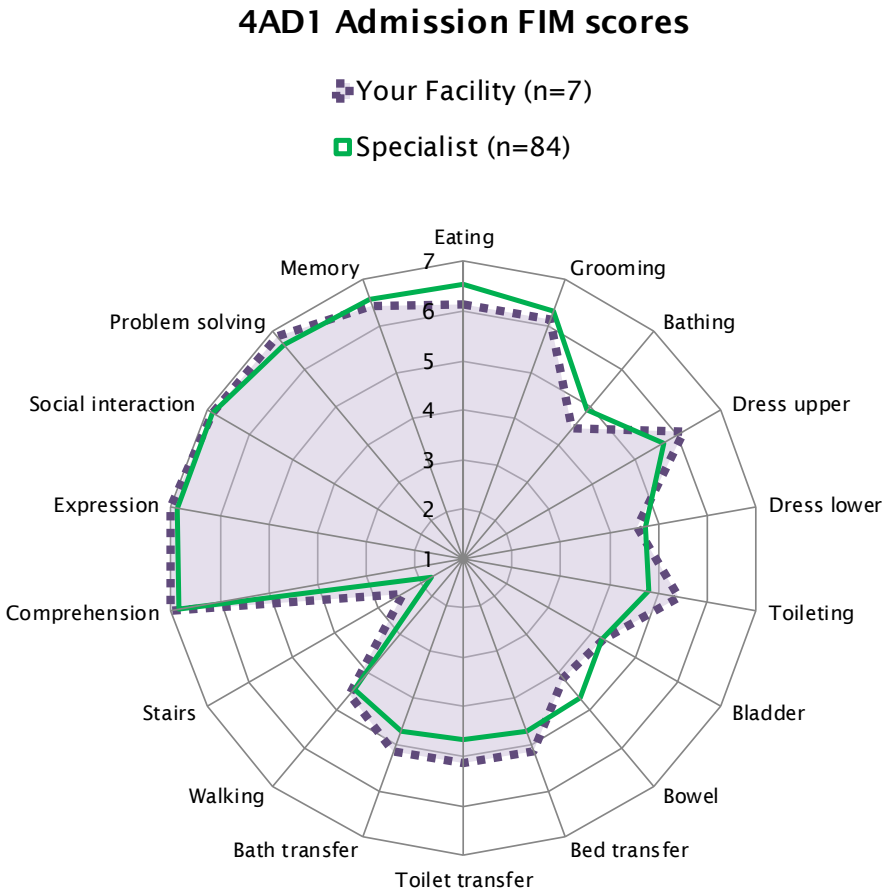


Figure B

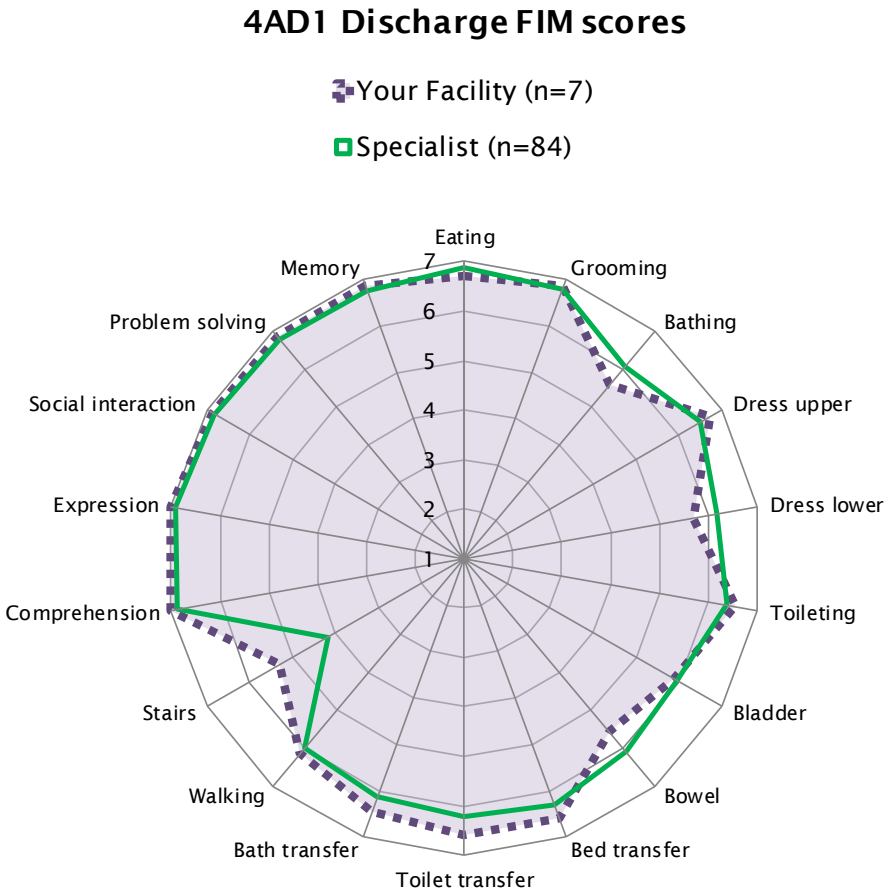
The FIM splat provides a graphic presentation of functional status in a radar chart. The 18 FIM items are arranged in order as 'spokes' of a wheel and the scoring levels from 1 (total dependence) to 7 (total independence) run from the centre outwards. The mean FIM item score for each item is indicated — 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 4AD1

4AD1 Admission FIM scores



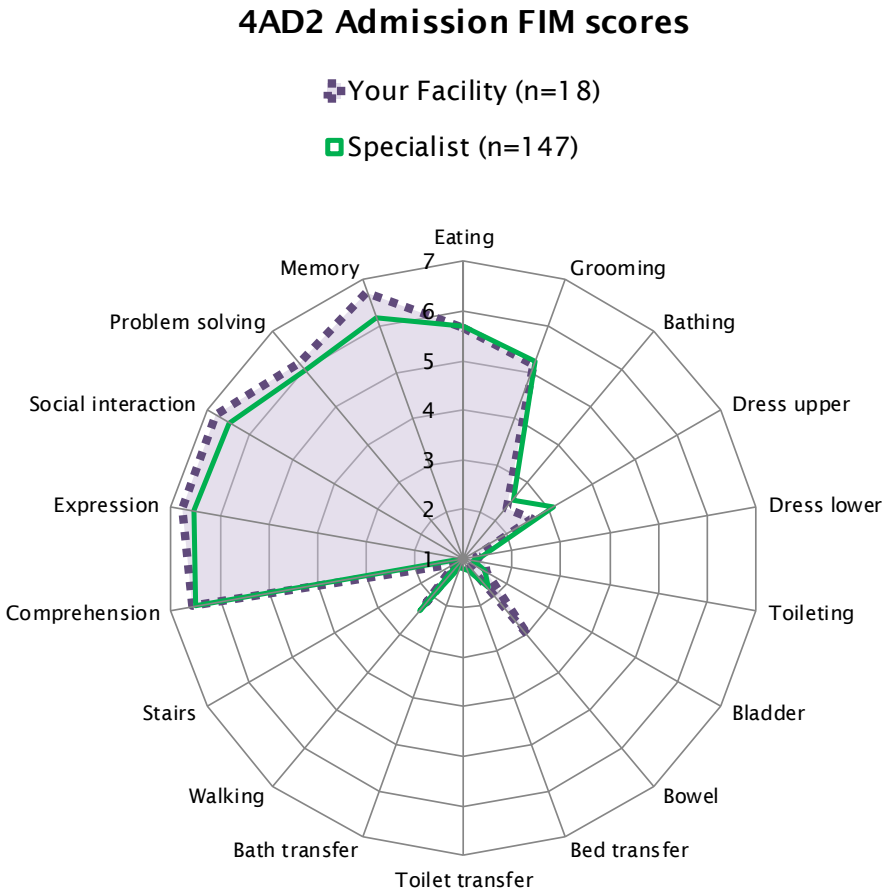
4AD1 Discharge FIM scores



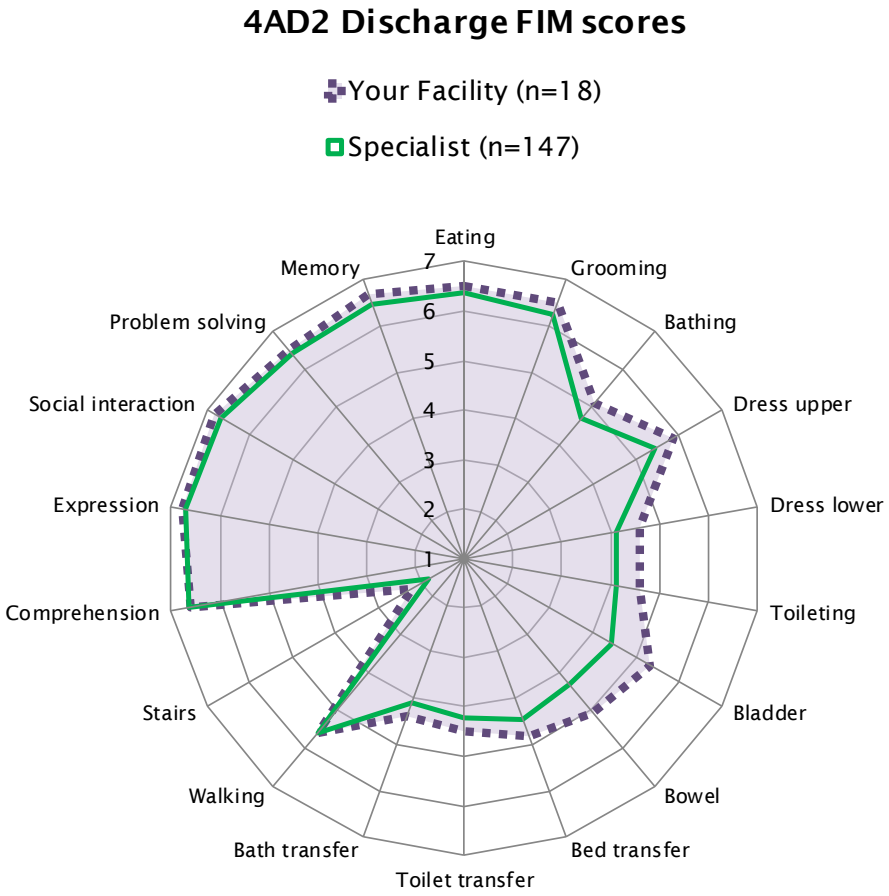
Note: Includes only completed episodes with valid FIM scores

Comparative FIM item scoring
AN-SNAP class 4AD2

4AD2 Admission FIM scores



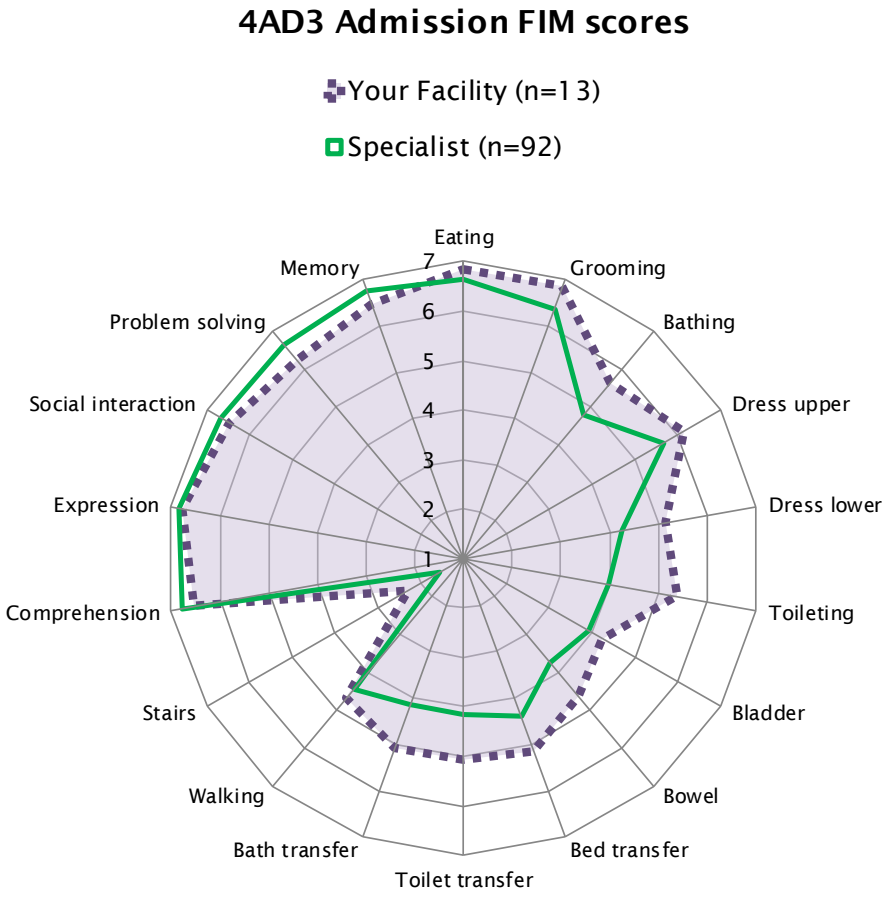
4AD2 Discharge FIM scores



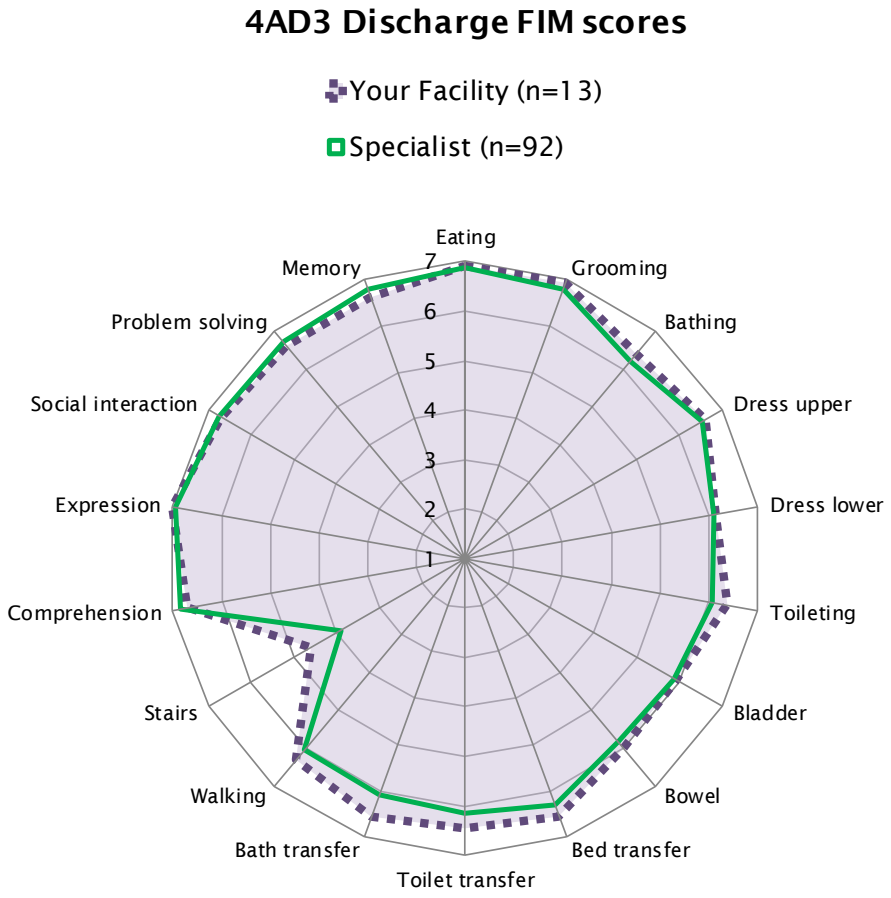
Note: Includes only completed episodes with valid FIM scores

Comparative FIM item scoring
AN-SNAP class 4AD3

4AD3 Admission FIM scores



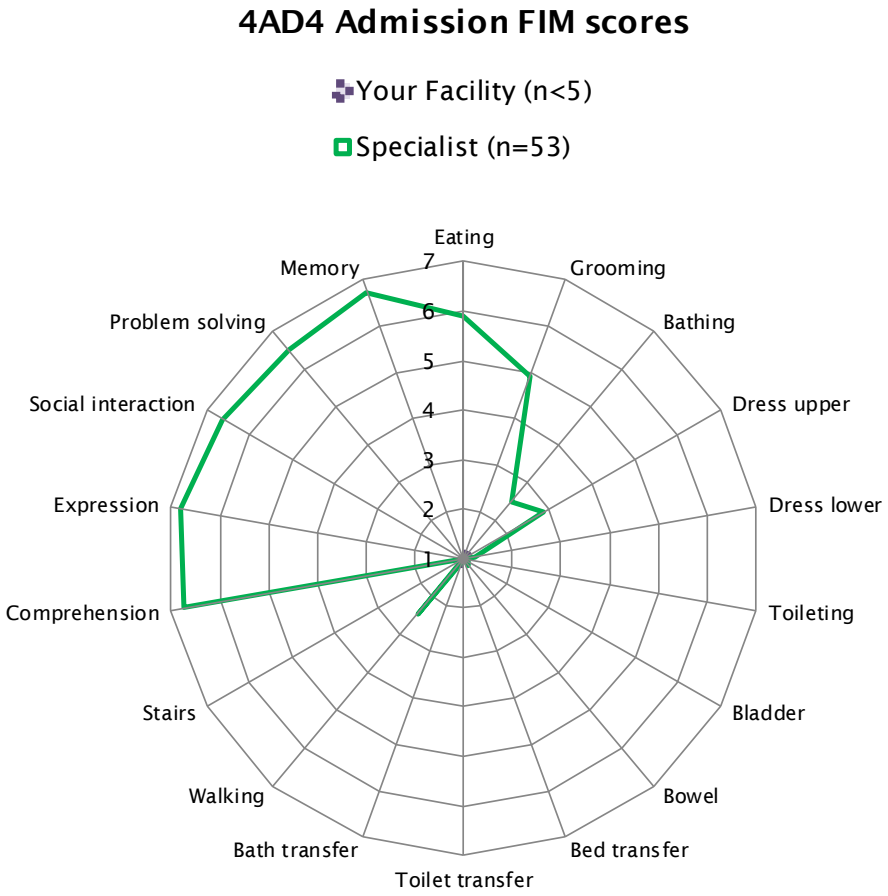
4AD3 Discharge FIM scores



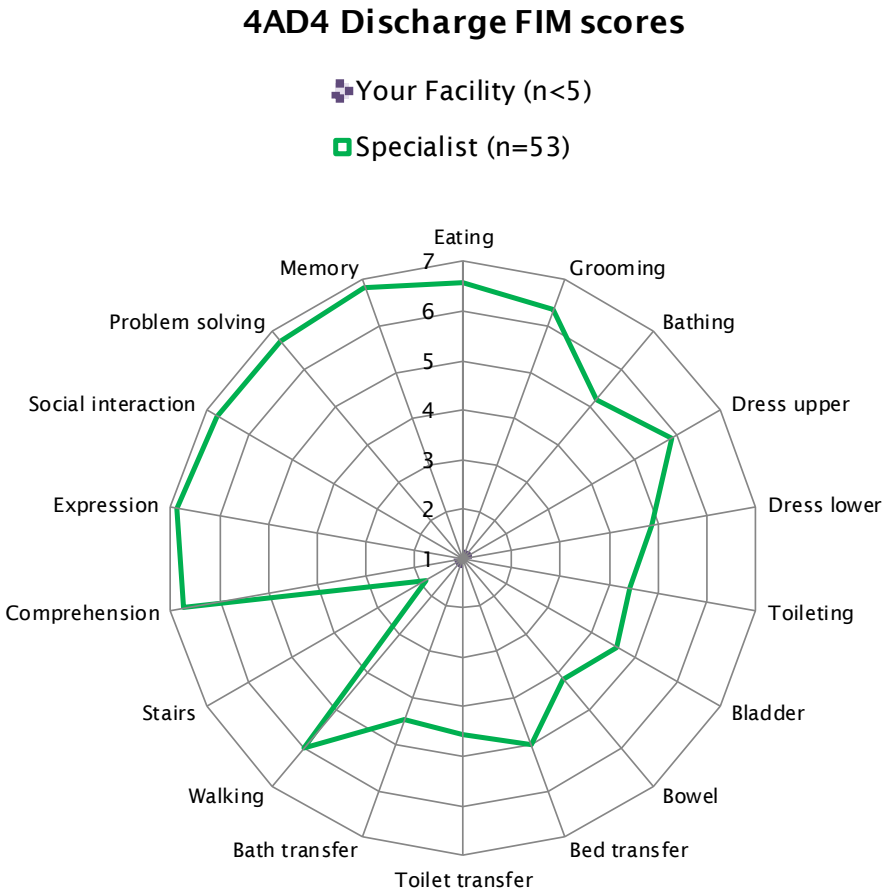
Note: Includes only completed episodes with valid FIM scores

Comparative FIM item scoring
AN-SNAP class 4AD4

4AD4 Admission FIM scores

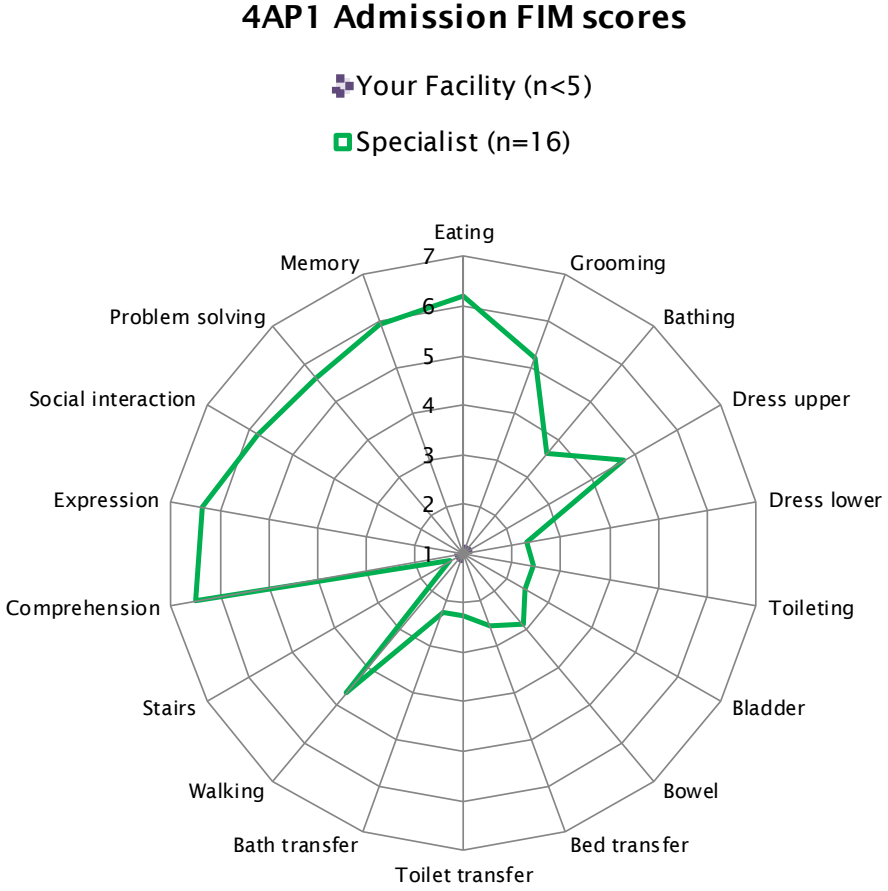


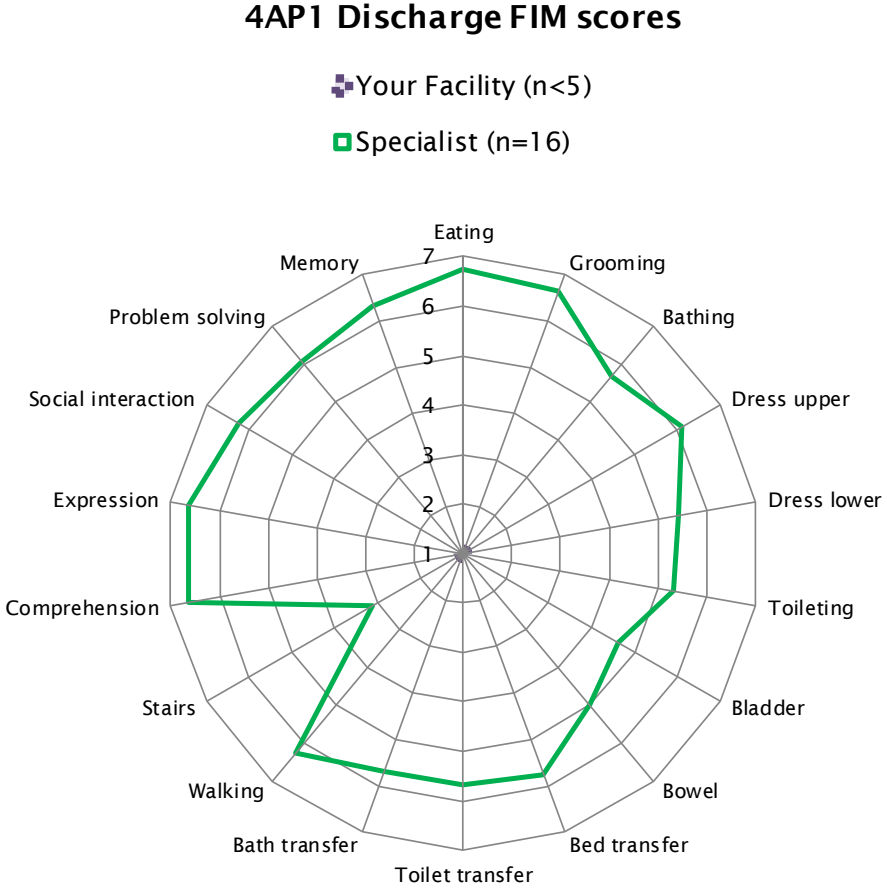
4AD4 Discharge FIM scores



Note: Includes only completed episodes with valid FIM scores

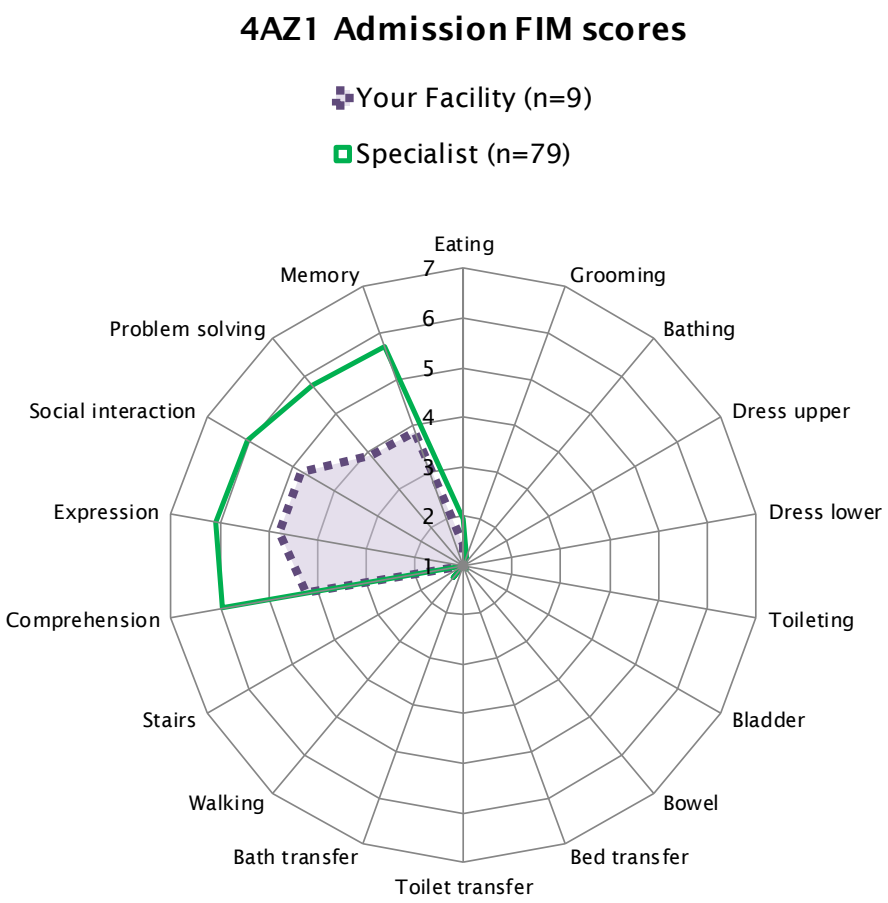
Comparative FIM item scoring
AN-SNAP class 4AP1

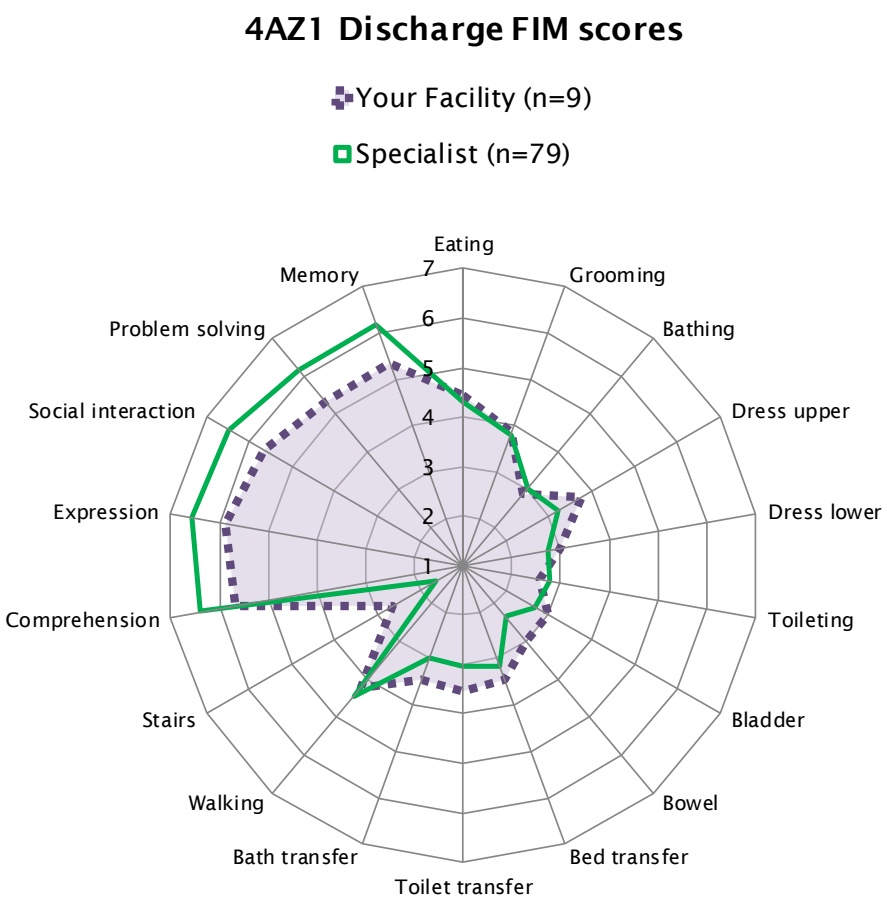




Note: Includes only completed episodes with valid FIM scores

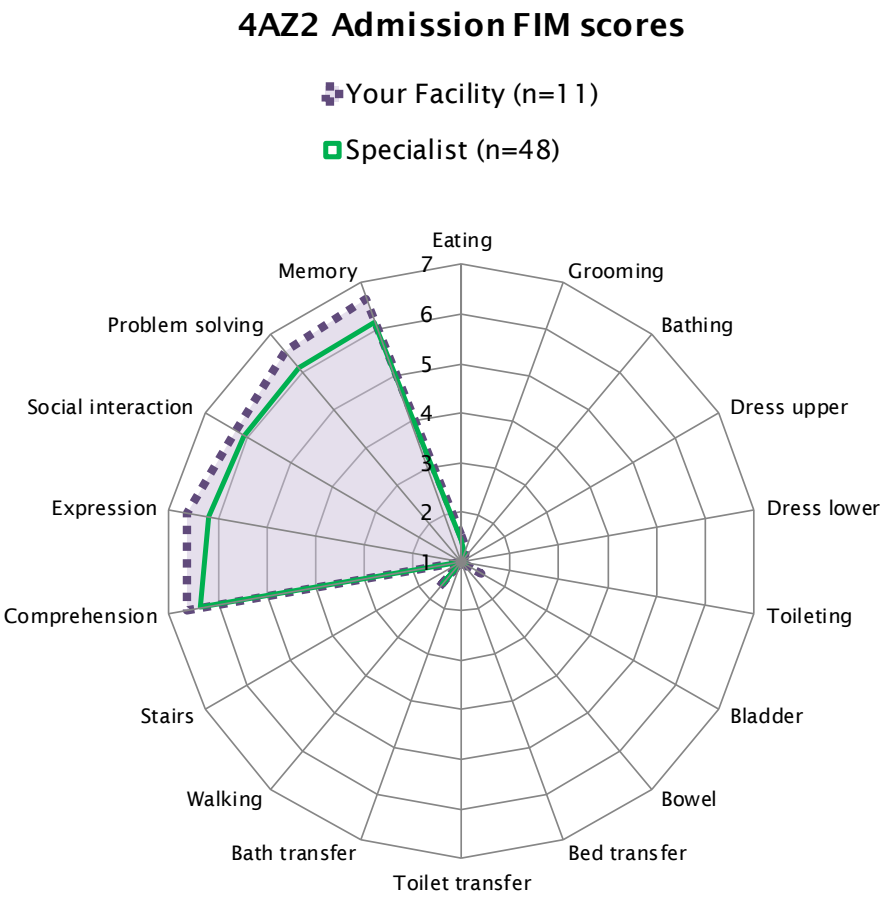
Comparative FIM item scoring
AN-SNAP class 4AZ1

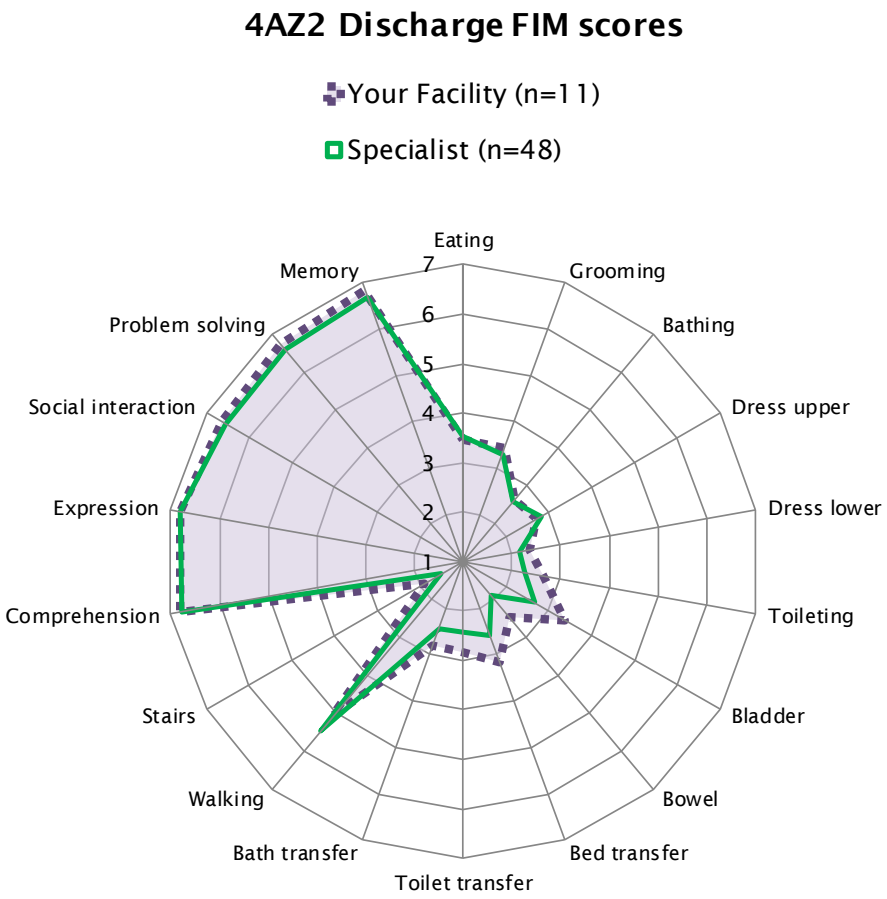




Note: Includes only completed episodes with valid FIM scores

Comparative FIM item scoring
AN-SNAP class 4AZ2

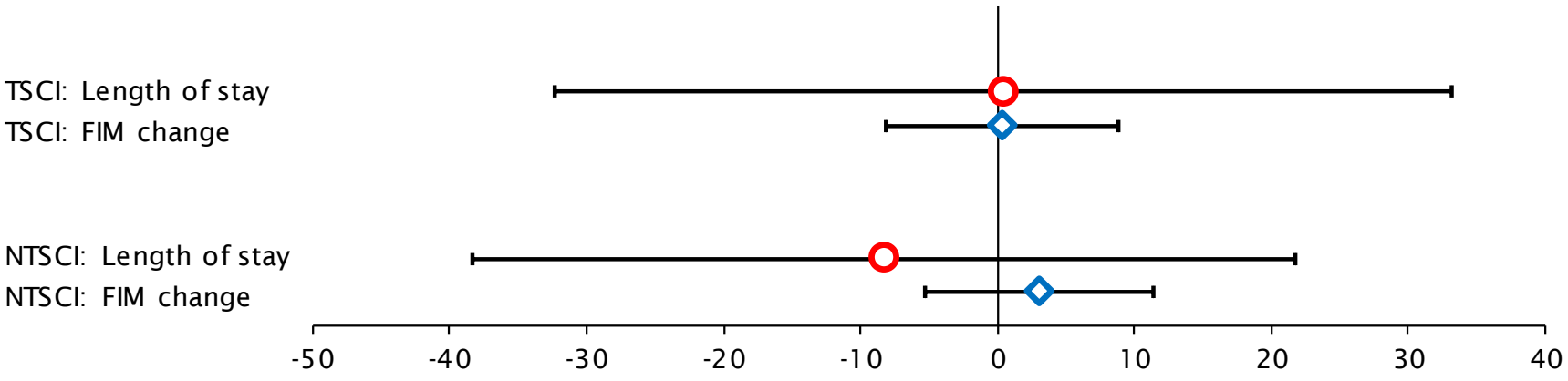




Note: Includes only completed episodes with valid FIM scores

Outcome analysis

Casemix-adjusted* relative means



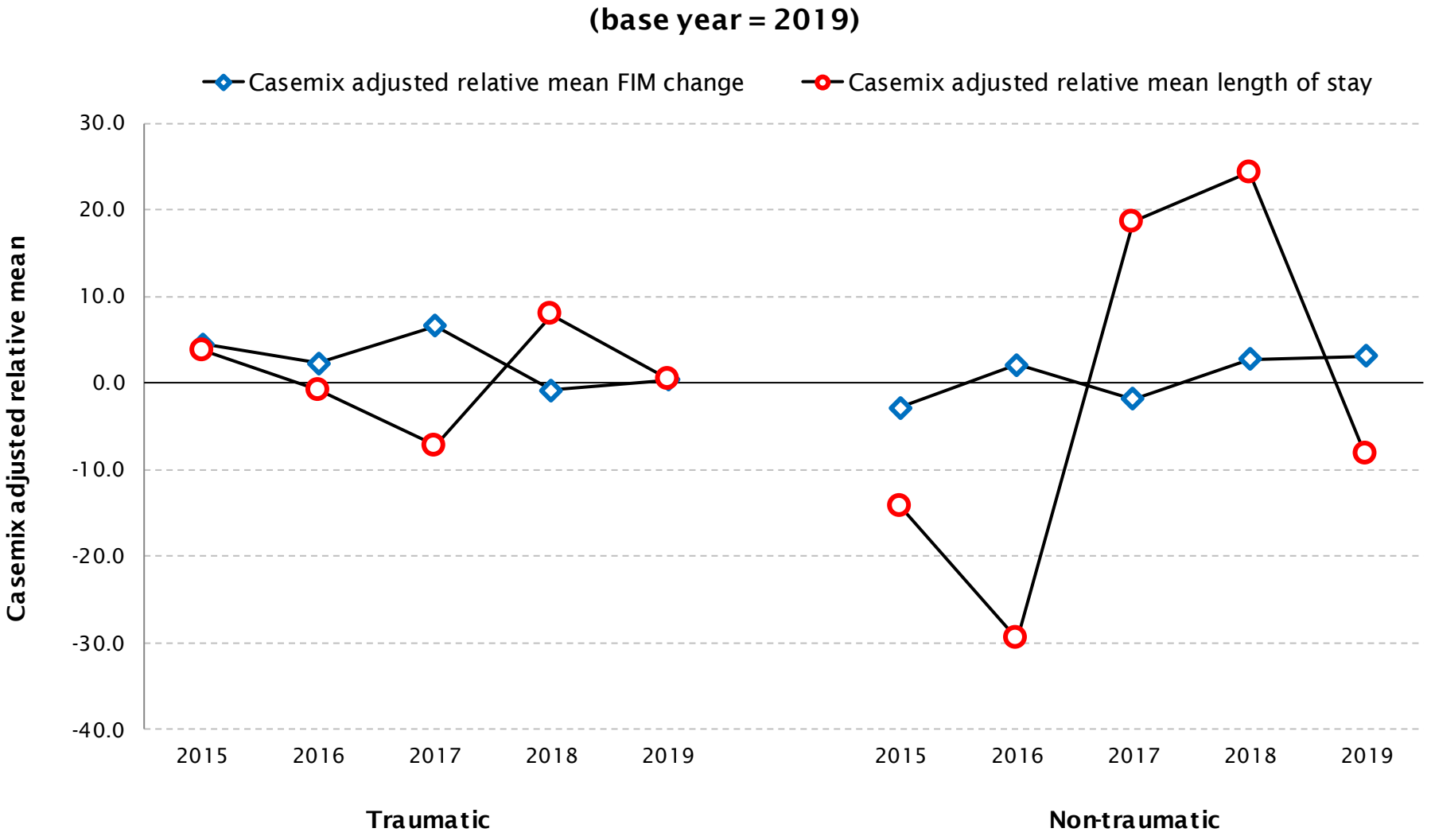
Casemix-adjusted relative means with 95% confidence intervals

	Traumatic		YOUR FACILITY Non-traumatic	
Outcome measure	Casemix-adjusted* relative mean	95% CI	Casemix-adjusted* relative mean	95% CI
Length of stay	0.5	-32.3 to 33.2	-8.3	-38.3 to 21.8
FIM change	0.4	-8.1 to 8.8	3.1	-5.3 to 11.4

Note: First admission, completed episodes

*Casemix-adjustment uses CY2019 specialist unit first admissions calculated separately for TSCI and NTSCI

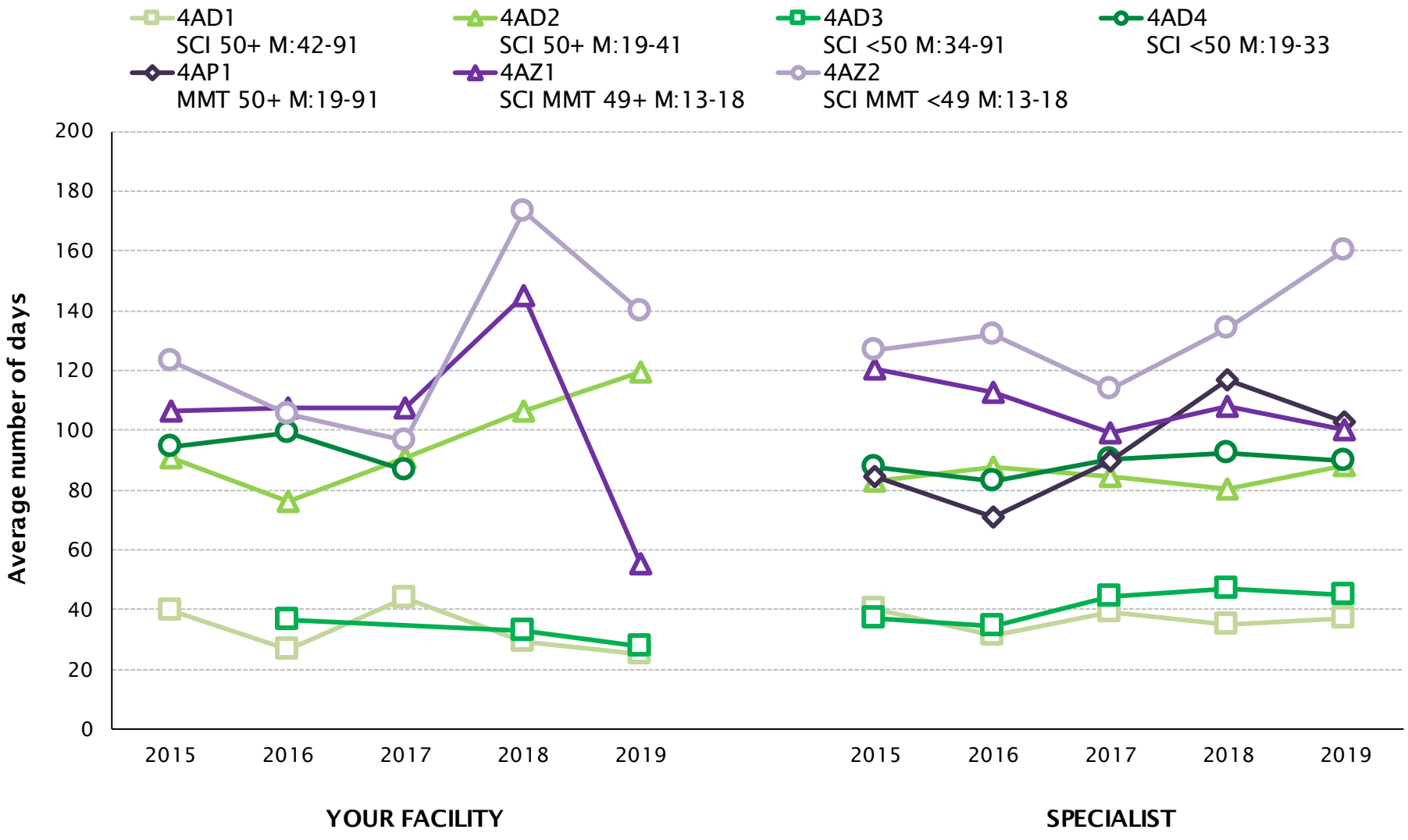
Traumatic and non-traumatic spinal cord injury casemix-adjusted* relative means over time



Note: First admission, completed episodes

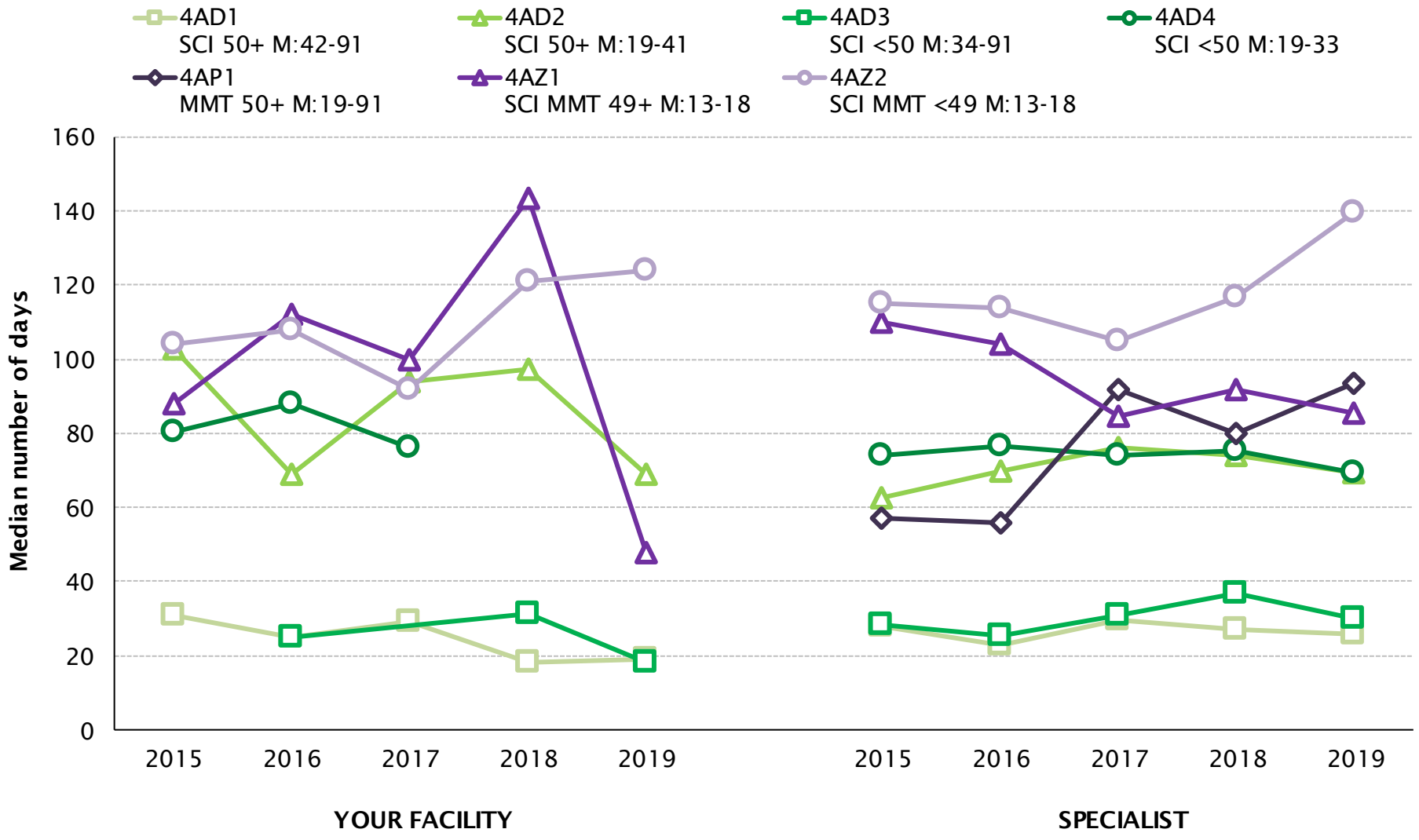
*Casemix-adjustment uses CY2019 specialist unit first admissions calculated separately for TSCI and NTSCI

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

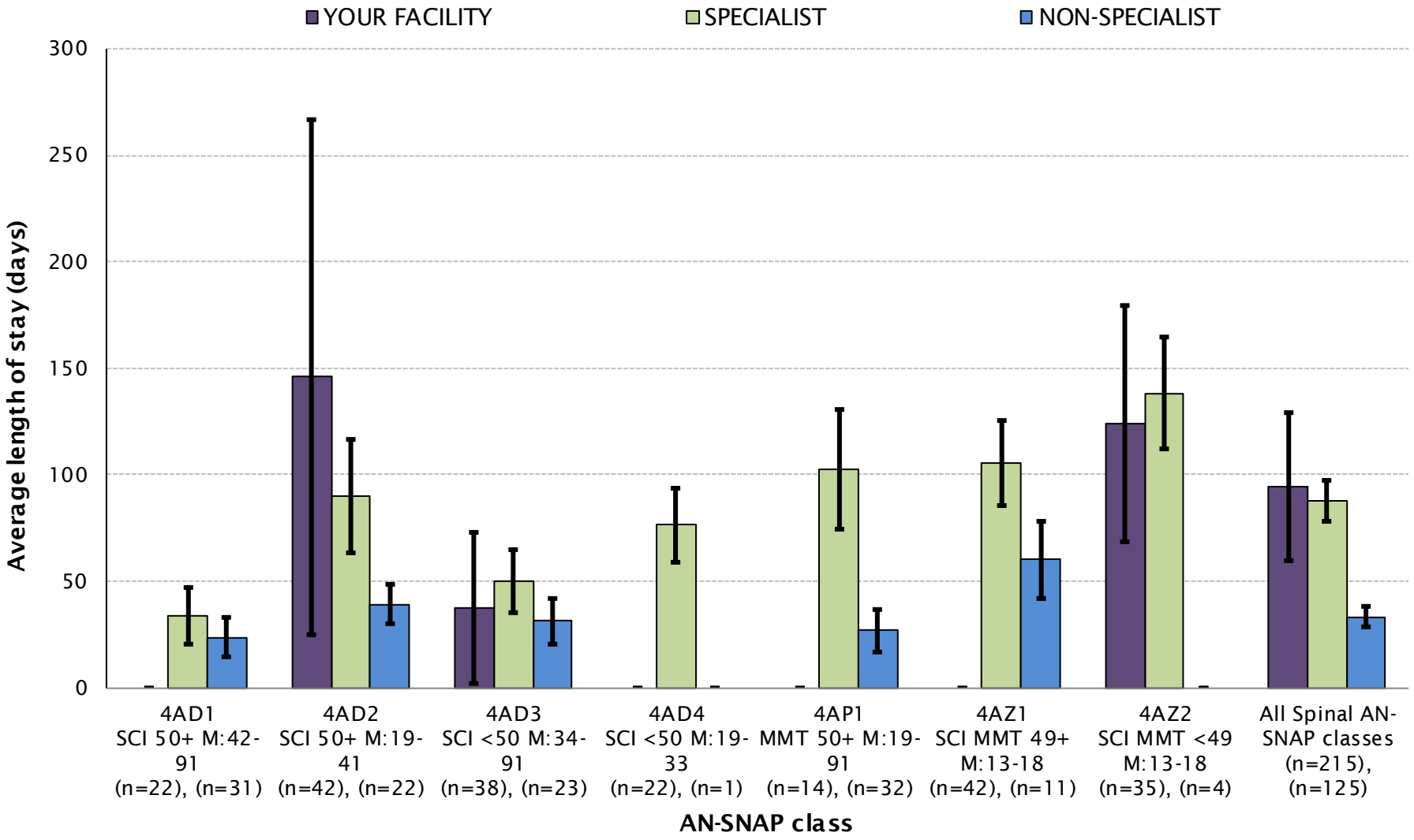
	YOUR FACILITY					SPECIALIST					NON-SPECIALIST				
AN-SNAP class	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
4AD1 (SCI, age ≥ 50, weighted FIM motor 42-91)	39.6	26.5	43.6	29.2	24.8	40.2	31.5	39.1	35.0	37.0	18.6	19.4	20.7	21.7	20.9
4AD2 (SCI, age ≥ 50, weighted FIM motor 19-41)	90.5	76.1	90.8	106.6	119.3	82.7	87.7	84.3	80.1	88.3	46.5	49.2	45.3	45.7	46.3
4AD3 (SCI, age ≤ 49, weighted FIM motor 34-91)	—	36.3	—	32.7	27.5	36.9	34.5	44.2	47.1	45.0	25.2	25.4	24.9	22.2	24.3
4AD4 (SCI, age ≤ 49, weighted FIM motor 19-33)	94.6	99.0	86.8	—	—	87.5	83.1	90.0	92.4	89.5	70.7	49.5	55.8	100.6	37.4
4AP1 (MMT, weighted FIM motor 19-91)	—	—	—	—	—	84.3	70.9	89.9	116.9	102.5	37.1	32.1	38.1	39.9	26.7
4AZ1 (SCI or MMT, age ≥ 49, weighted FIM motor 13-18)	106.4	107.2	107.6	145.0	55.5	120.3	112.5	98.9	108.0	100.1	61.5	69.0	58.1	51.4	61.7
4AZ2 (SCI or MMT, age ≤ 48, weighted FIM motor 13-18)	123.2	105.3	96.6	173.2	139.7	127.0	131.8	113.6	134.0	159.9	43.1	—	76.3	—	41.9
All Spinal AN-SNAP classes	**87.1**	**71.1**	**81.3**	**93.7**	**82.7**	**82.6**	**77.0**	**74.4**	**79.7**	**81.8**	**33.4**	**34.1**	**34.7**	**35.5**	**31.8**

MEDIAN

	YOUR FACILITY					SPECIALIST					NON-SPECIALIST				
AN-SNAP class	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
4AD1 (SCI, age ≥ 50, weighted FIM motor 42-91)	31.0	25.0	29.0	18.0	19.0	28.0	23.0	29.5	27.0	26.0	15.0	15.0	16.0	19.0	19.0
4AD2 (SCI, age ≥ 50, weighted FIM motor 19-41)	103.0	69.0	94.0	97.5	69.0	62.5	70.0	76.0	74.0	69.5	39.0	42.5	40.0	36.0	37.0
4AD3 (SCI, age ≤ 49, weighted FIM motor 34-91)	—	25.0	—	31.5	18.0	28.5	25.5	31.0	37.0	30.0	21.0	18.0	16.0	16.0	19.5
4AD4 (SCI, age ≤ 49, weighted FIM motor 19-33)	80.5	88.0	76.0	—	—	74.0	76.5	74.0	75.5	69.5	46.0	38.0	49.5	81.0	36.0
4AP1 (MMT, weighted FIM motor 19-91)	—	—	—	—	—	57.0	56.0	92.0	80.0	93.5	26.0	24.0	23.5	26.0	17.0
4AZ1 (SCI or MMT, age ≥ 49, weighted FIM motor 13-18)	88.0	112.0	100.0	143.5	48.0	110.0	104.0	84.5	92.0	85.5	50.5	59.5	54.0	44.0	60.0
4AZ2 (SCI or MMT, age ≤ 48, weighted FIM motor 13-18)	104.0	108.0	92.0	121.0	124.0	115.0	114.0	105.0	117.0	139.5	40.0	—	43.0	—	35.0
All Spinal AN-SNAP classes	**70.0**	**60.0**	**75.0**	**72.0**	**55.0**	**64.0**	**63.0**	**61.0**	**66.0**	**64.0**	**23.0**	**24.0**	**23.0**	**26.0**	**23.0**

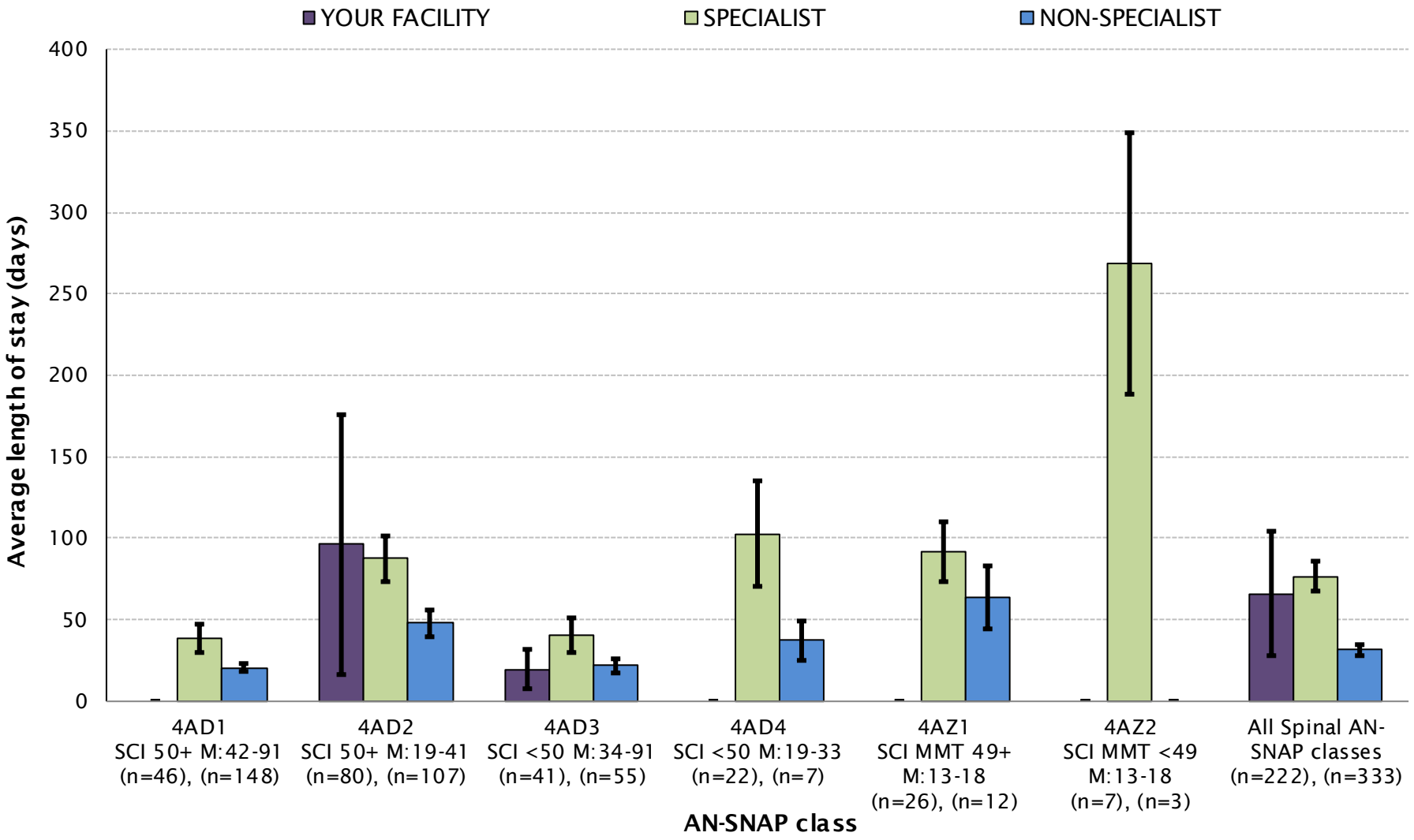
Note: First admission, completed episodes

Traumatic SCI average length of stay by AN-SNAP class



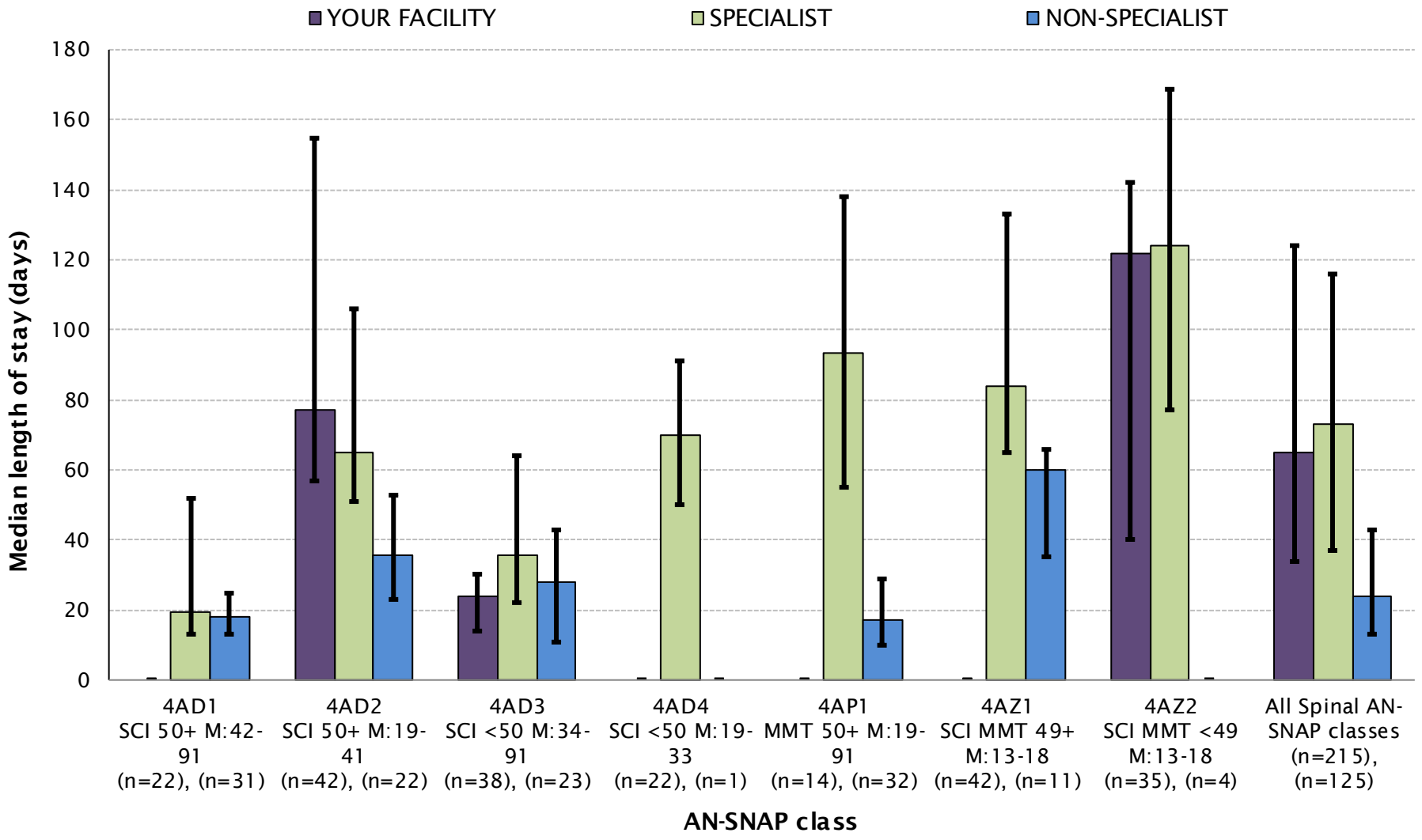
Note: First admission, completed episodes

Non-traumatic SCI average length of stay by AN-SNAP class



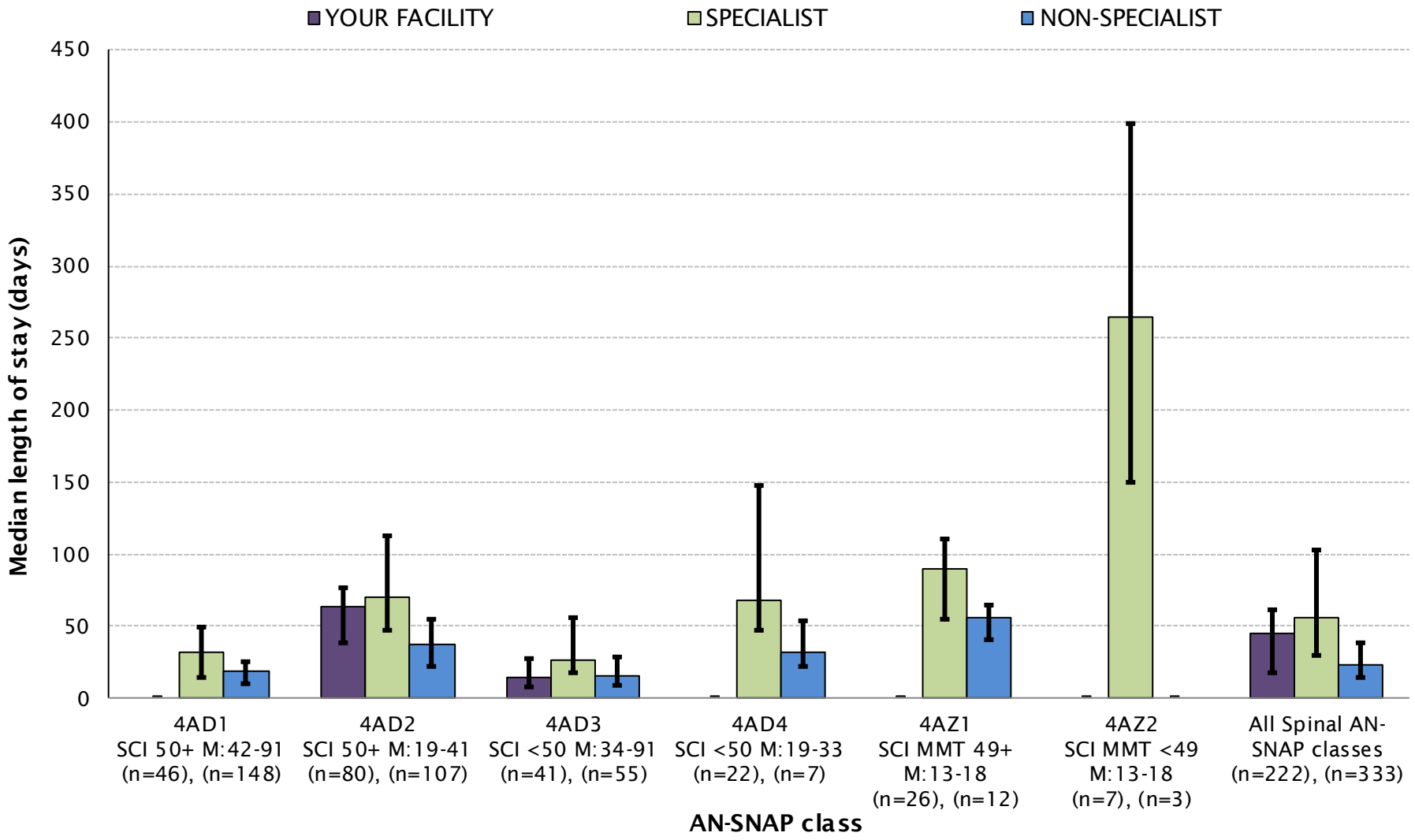
Note: First admission, completed episodes

Traumatic SCI median length of stay by AN-SNAP class



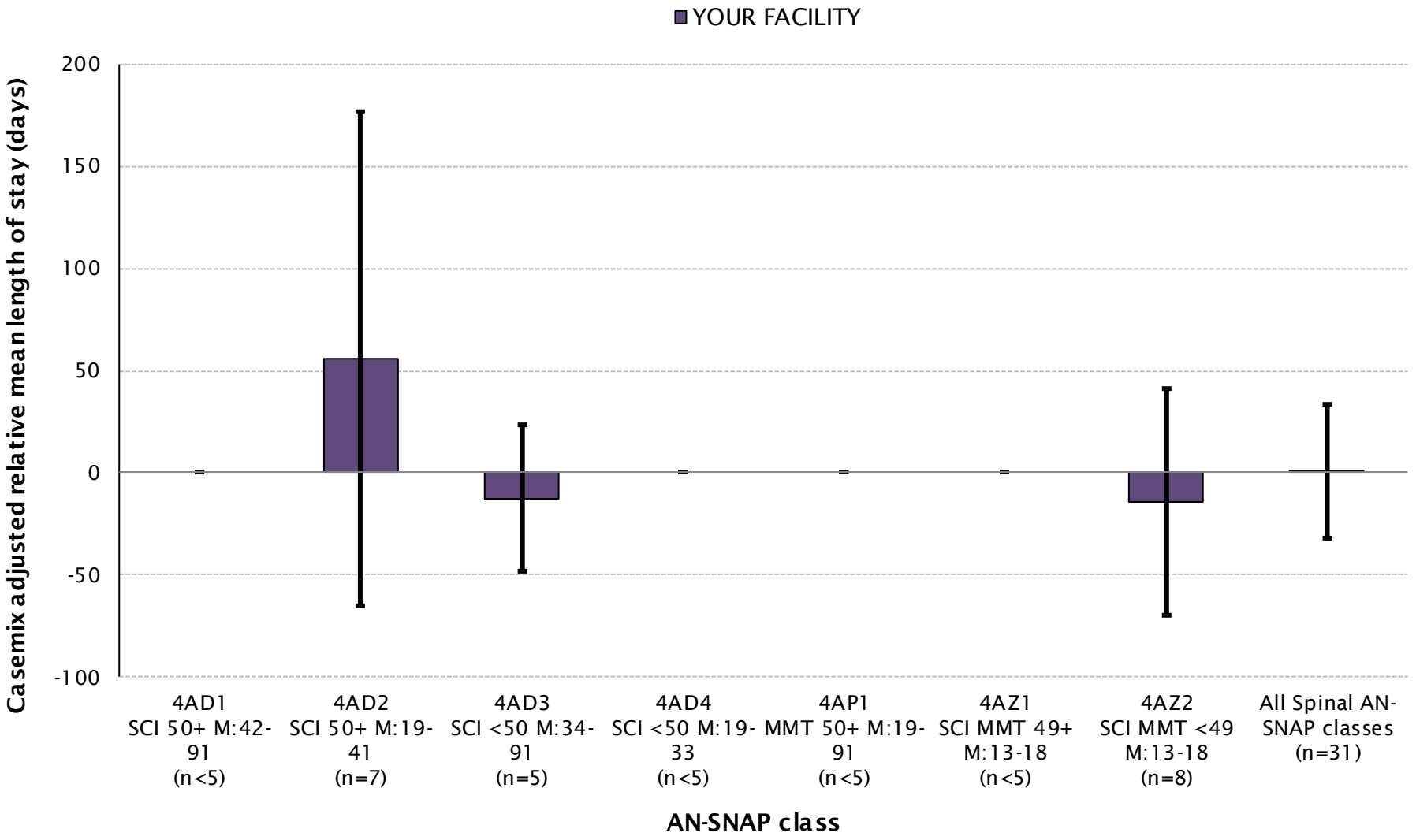
Note: First admission, completed episodes

Non-traumatic SCI median length of stay by AN-SNAP class



Note: First admission, completed episodes

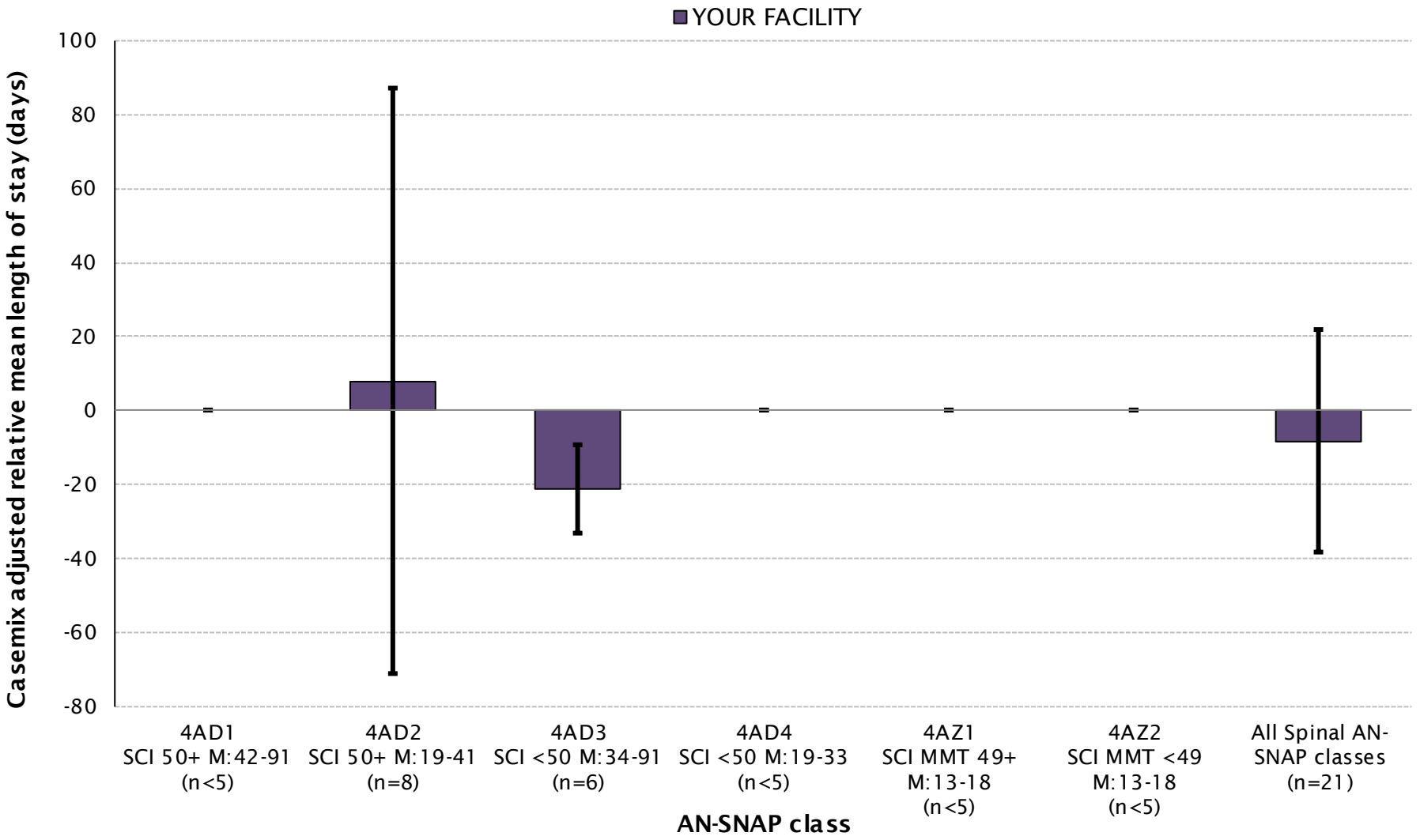
TSCI casemix-adjusted* relative mean length of stay by AN-SNAP class



Note: First admission, completed episodes

*Casemix-adjustment uses CY2019 specialist unit first admissions calculated separately for TSCI and NTSCI

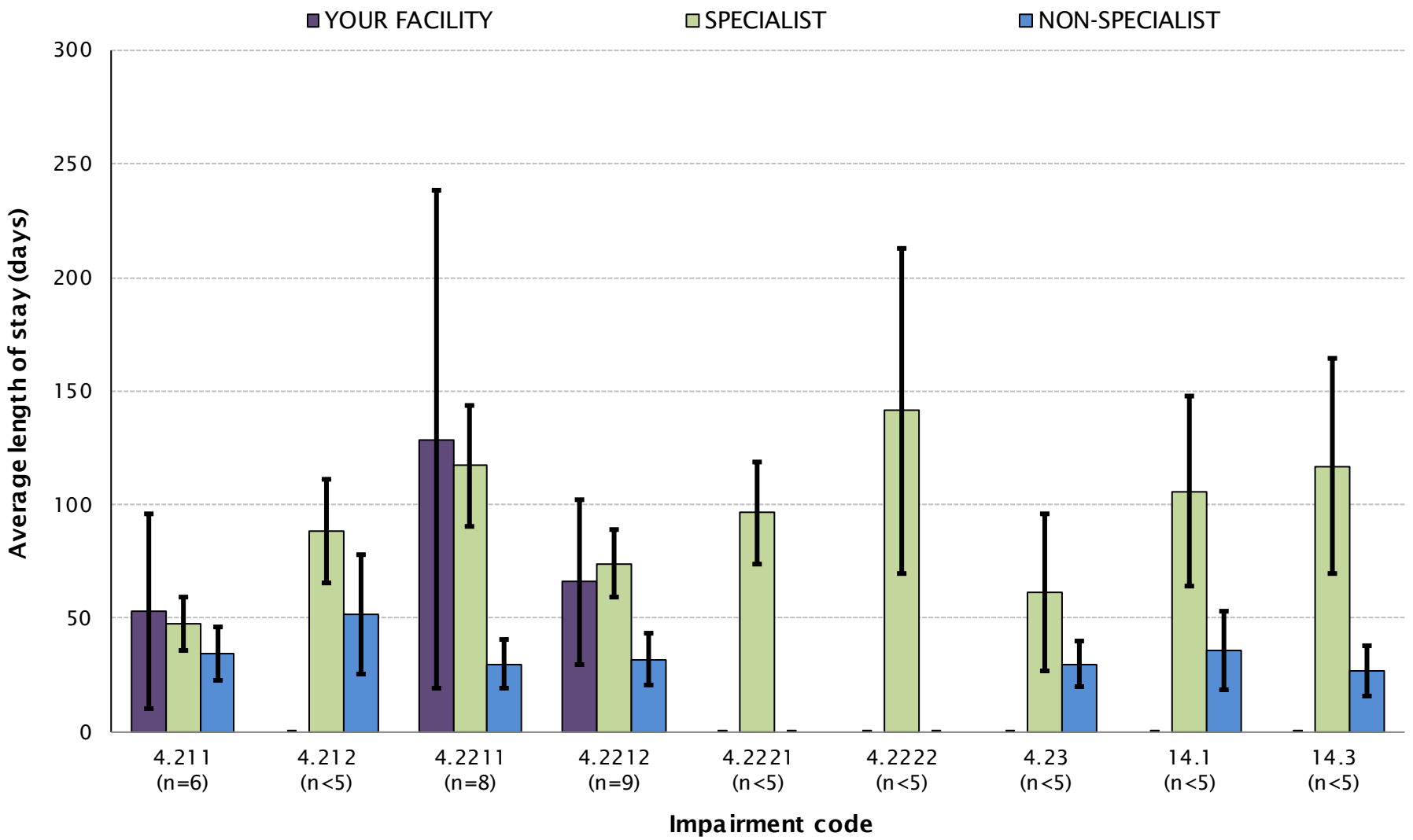
NTSCI casemix-adjusted* relative mean length of stay by AN-SNAP class



Note: First admission, completed episodes

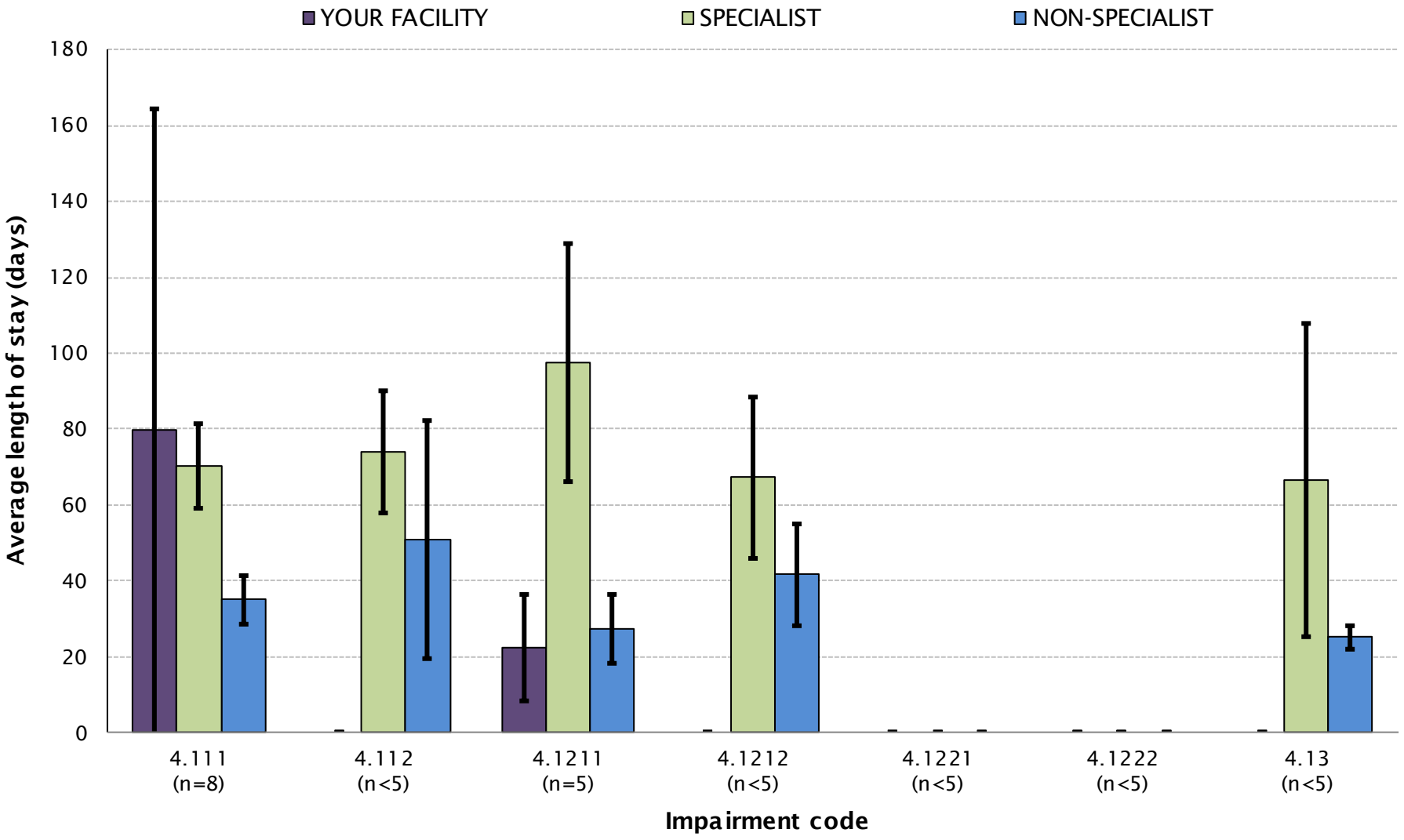
*Casemix-adjustment uses CY2019 specialist unit first admissions calculated separately for TSCI and NTSCI

TSCI average length of stay by impairment



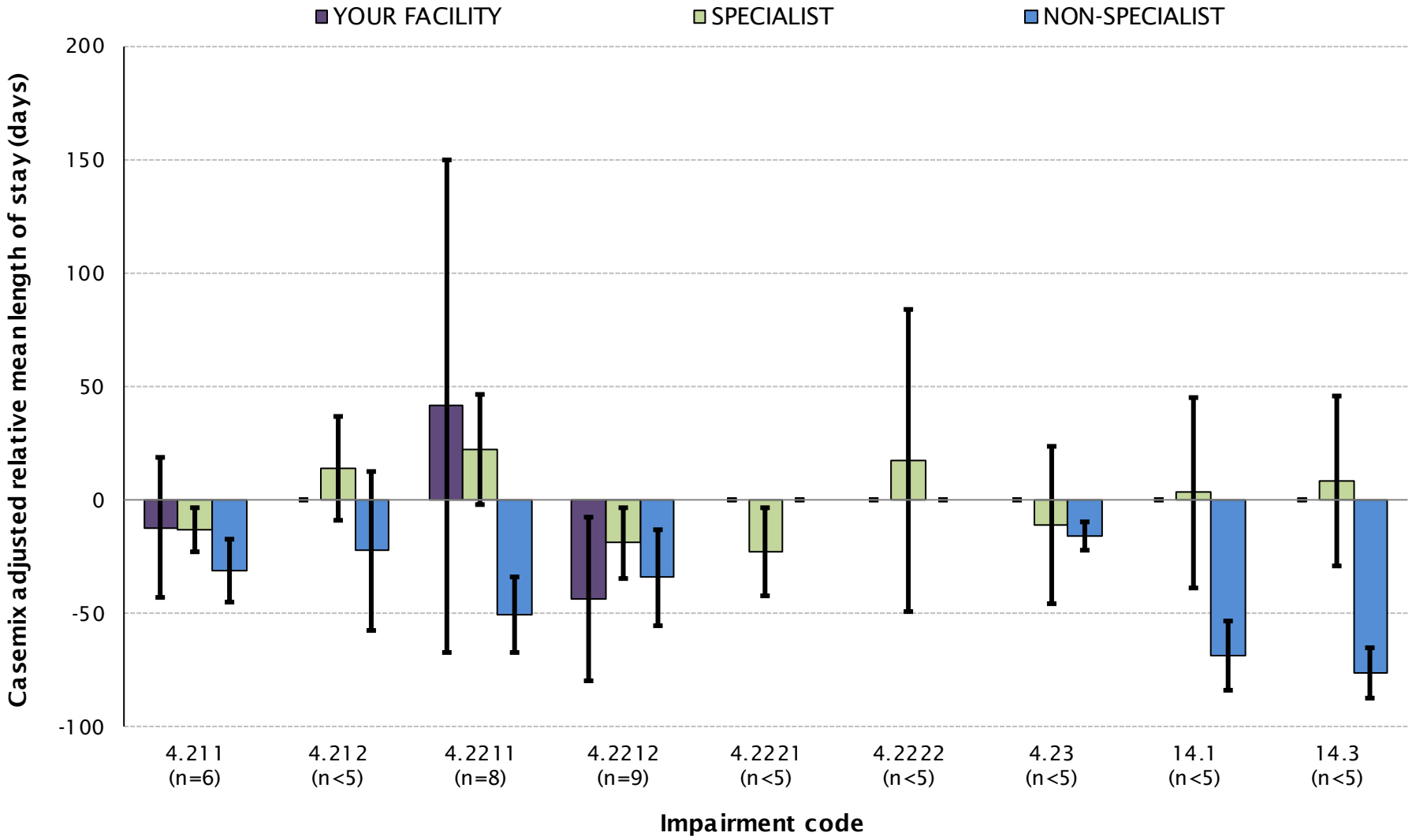
Note: First admission, completed episodes

NTSCI average length of stay by impairment



Note: First admission, completed episodes

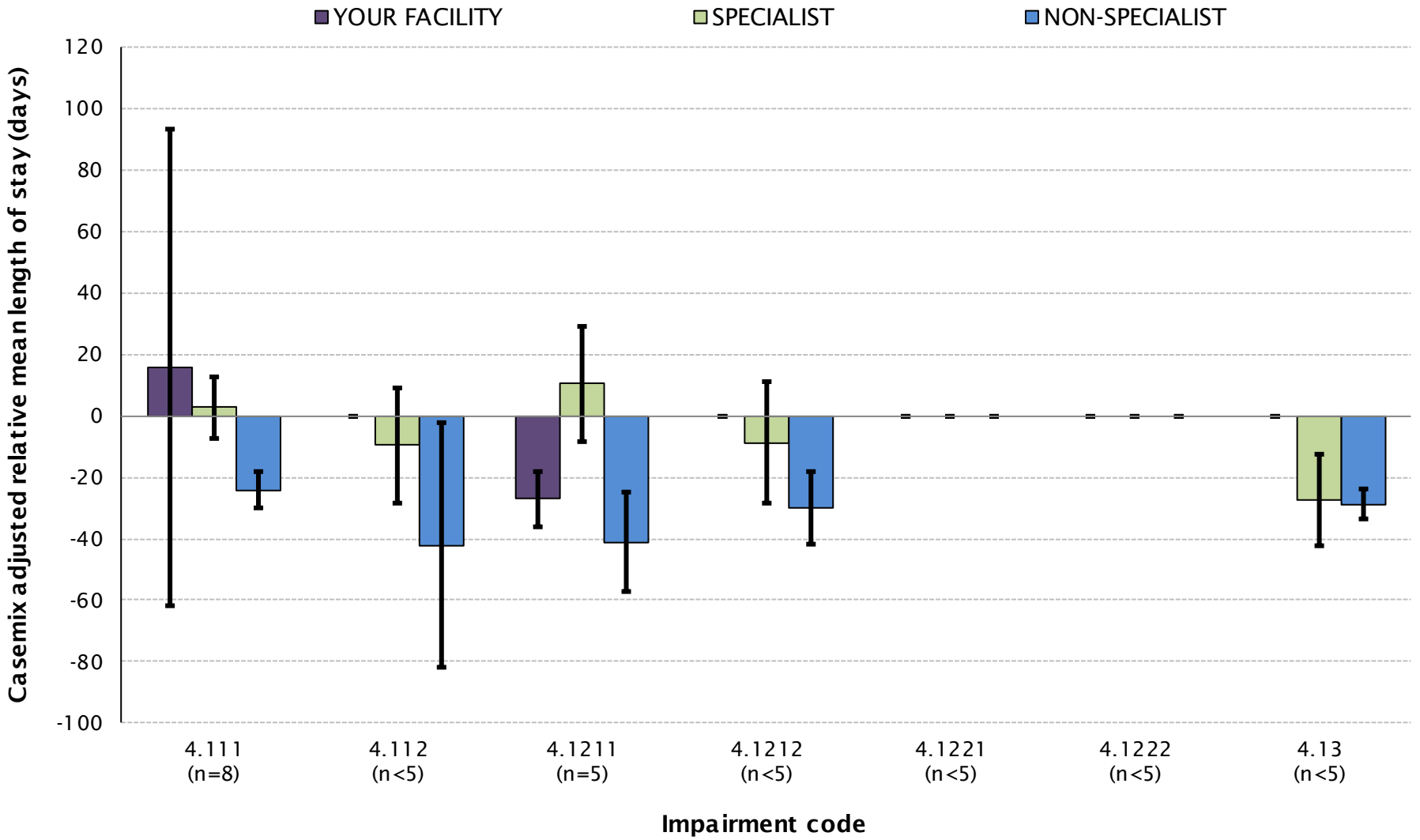
TSCI casemix-adjusted* relative mean length of stay by impairment



Note: First admission, completed episodes

*Casemix-adjustment uses CY2019 specialist unit first admissions calculated separately for TSCI and NTSCI

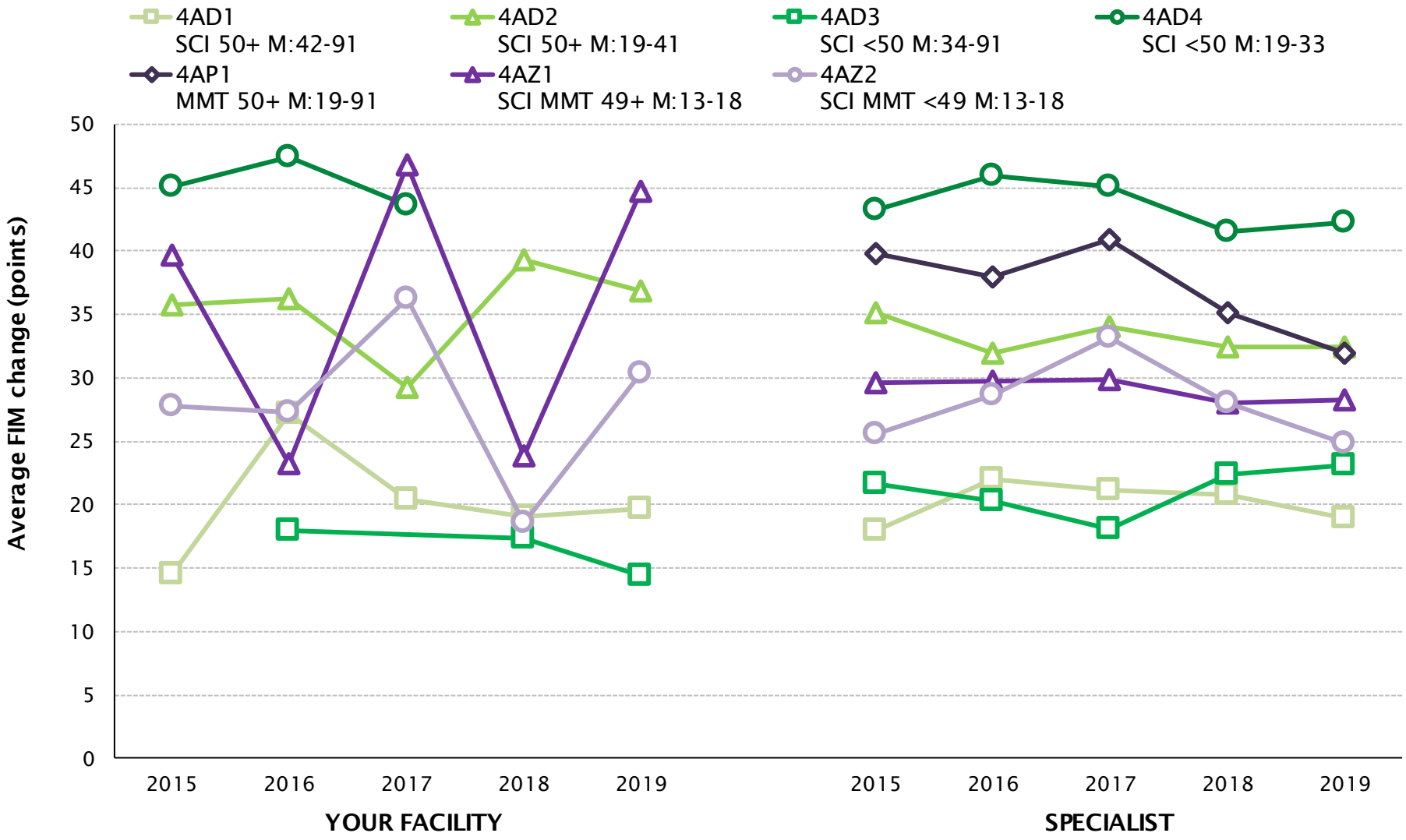
NTSCI casemix-adjusted* relative mean length of stay by impairment



Note: First admission, completed episodes

*Casemix-adjustment uses CY2019 specialist unit first admissions calculated separately for TSCI and NTSCI

Average FIM change by AN-SNAP class over time



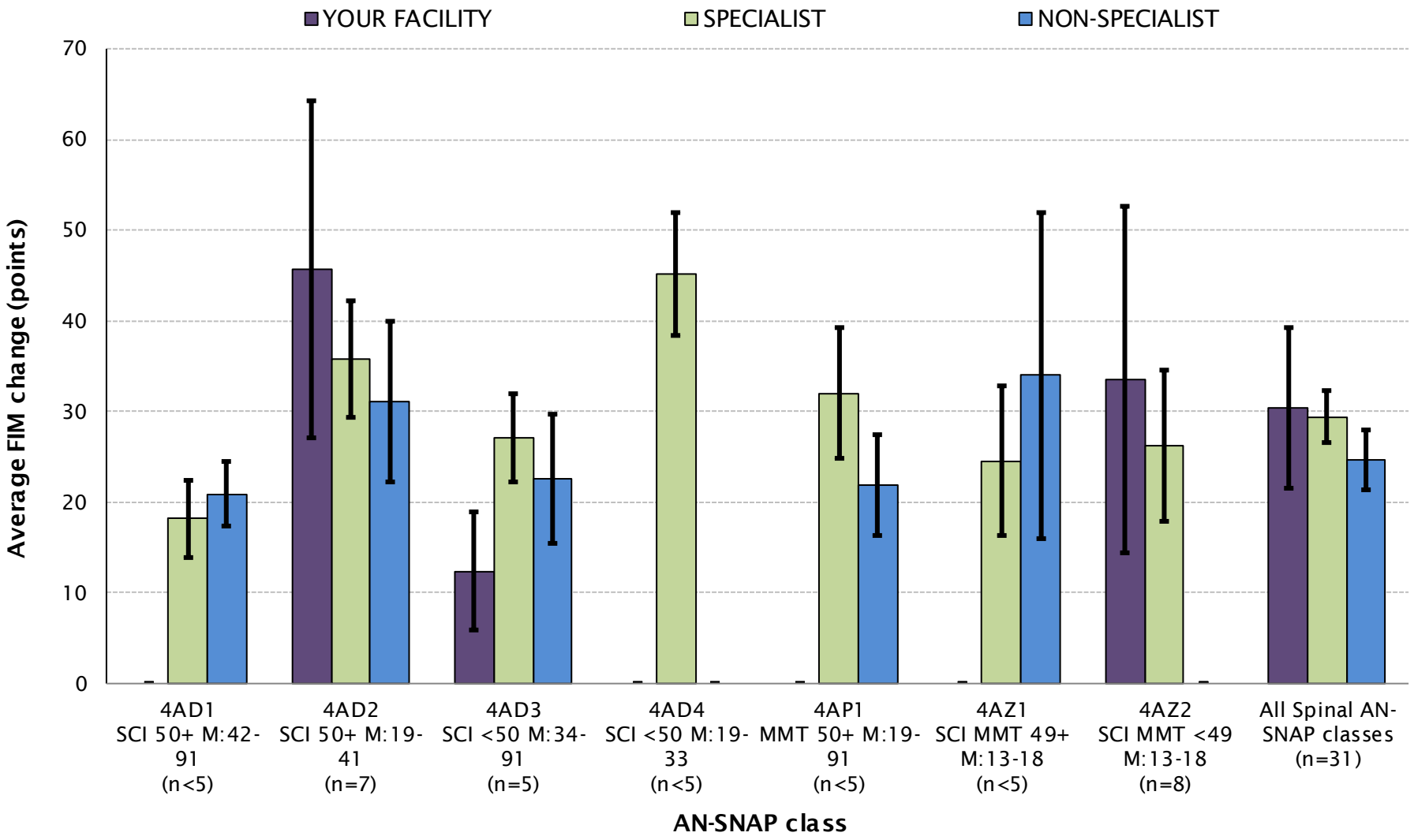
Note: First admission, completed episodes

Average FIM change by AN-SNAP class over time

	YOUR FACILITY					SPECIALIST					NON-SPECIALIST				
AN-SNAP class	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
4AD1 (SCI, age ≥ 50, weighted FIM motor 42-91)	14.5	27.2	20.5	19.1	19.7	18.0	22.0	21.1	20.7	18.9	16.2	18.5	18.5	19.5	19.6
4AD2 (SCI, age ≥ 50, weighted FIM motor 19-41)	35.7	36.3	29.2	39.3	36.9	35.2	31.9	34.1	32.4	32.4	24.1	28.0	25.0	26.2	29.8
4AD3 (SCI, age ≤ 49, weighted FIM motor 34-91)	—	18.0	—	17.3	14.5	21.7	20.3	18.1	22.3	23.1	17.6	20.2	17.4	16.8	19.3
4AD4 (SCI, age ≤ 49, weighted FIM motor 19-33)	45.1	47.4	43.6	—	—	43.3	45.9	45.1	41.5	42.3	29.5	28.0	30.4	35.5	24.4
4AP1 (MMT, weighted FIM motor 19-91)	—	—	—	—	—	39.8	38.0	40.9	35.1	32.0	28.7	28.8	27.9	28.5	21.8
4AZ1 (SCI or MMT, age ≥ 49, weighted FIM motor 13-18)	39.6	23.2	46.8	23.9	44.7	29.6	29.8	29.8	28.0	28.3	21.4	27.7	18.3	17.9	30.4
4AZ2 (SCI or MMT, age ≤ 48, weighted FIM motor 13-18)	27.8	27.3	36.3	18.6	30.3	25.5	28.7	33.2	28.0	24.8	27.8	—	35.8	—	14.6
All Spinal AN-SNAP classes	**32.3**	**30.0**	**30.7**	**27.3**	**29.4**	**30.0**	**29.4**	**29.8**	**28.9**	**28.2**	**20.6**	**23.3**	**21.8**	**22.4**	**23.2**

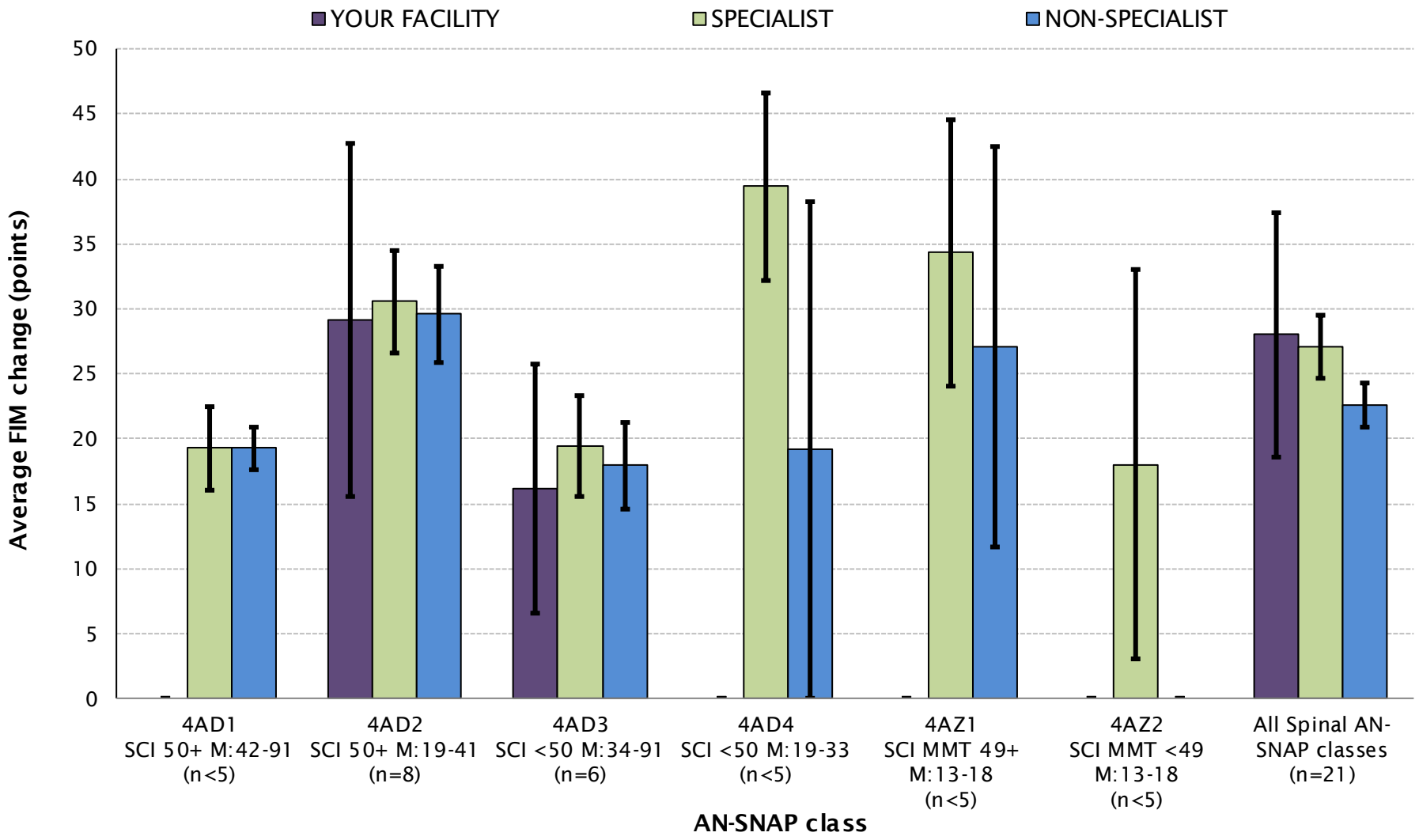
Note: First admission, completed episodes

Traumatic SCI average FIM change by AN-SNAP class



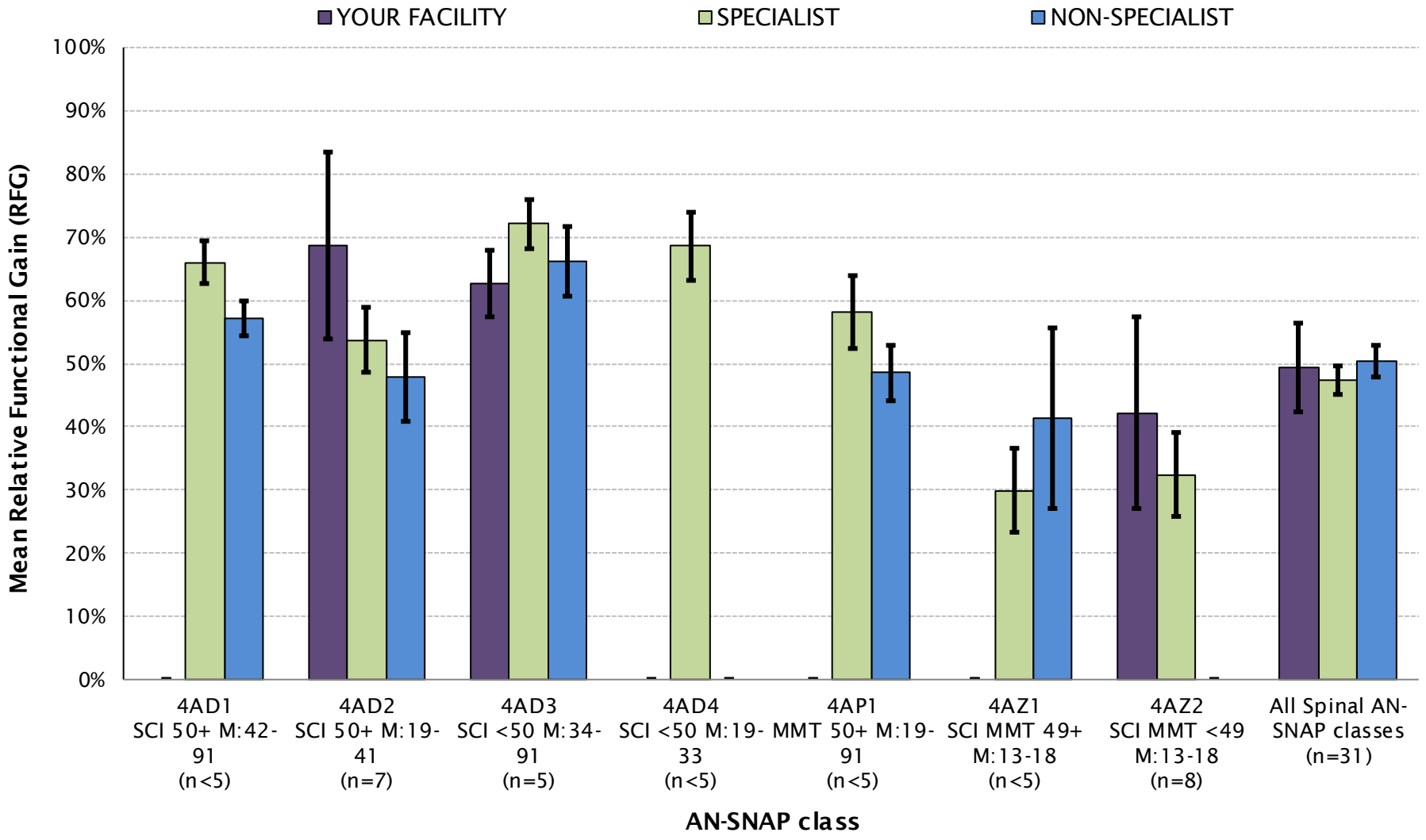
Note: First admission, completed episodes

Non-traumatic SCI average FIM change by AN-SNAP class



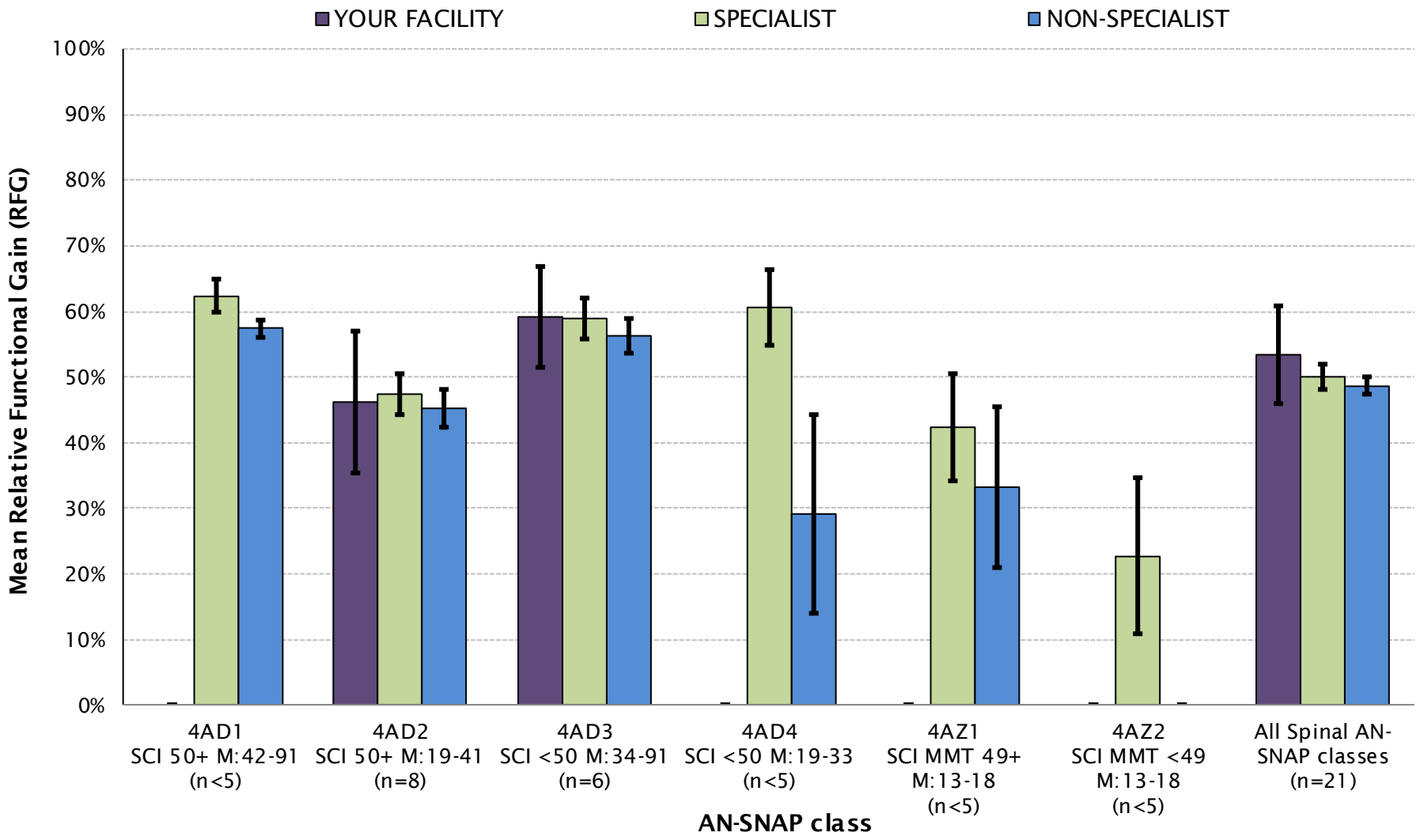
Note: First admission, completed episodes

Traumatic SCI average relative functional gain by AN-SNAP class



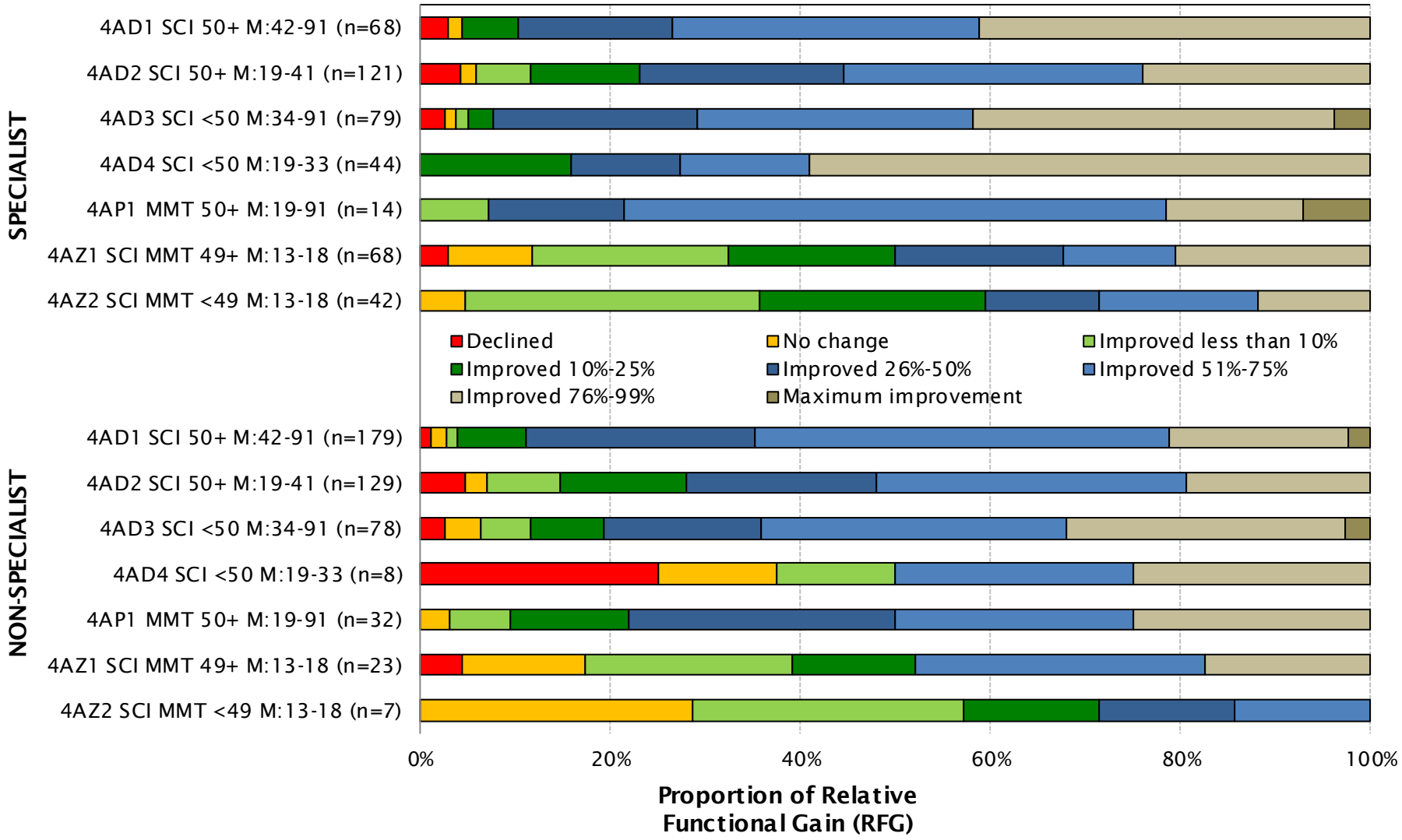
Note: First admission, completed episodes

Non-traumatic SCI average relative functional gain by AN-SNAP class



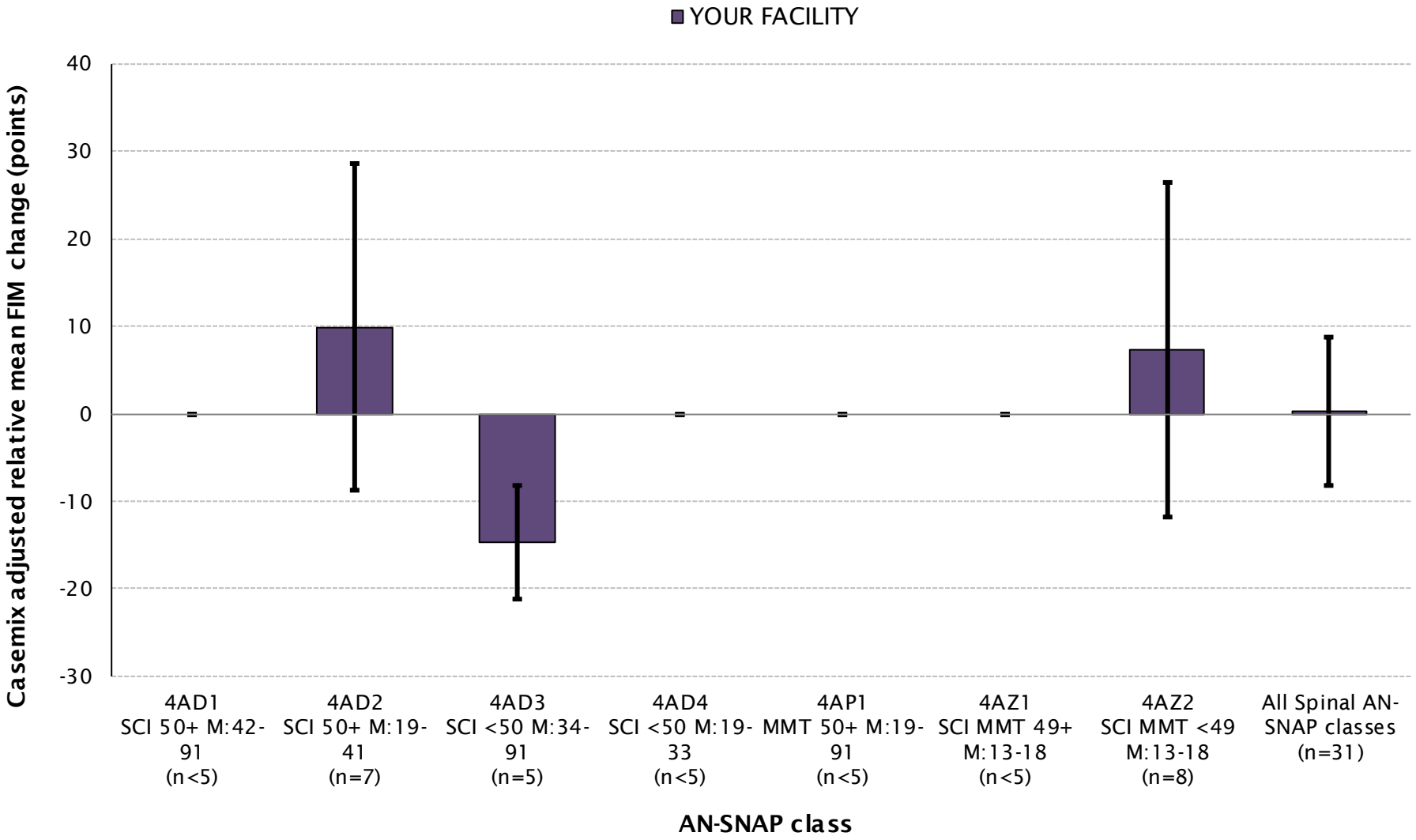
Note: First admission, completed episodes

Relative functional gain by AN-SNAP class



Note: First admission, completed episodes

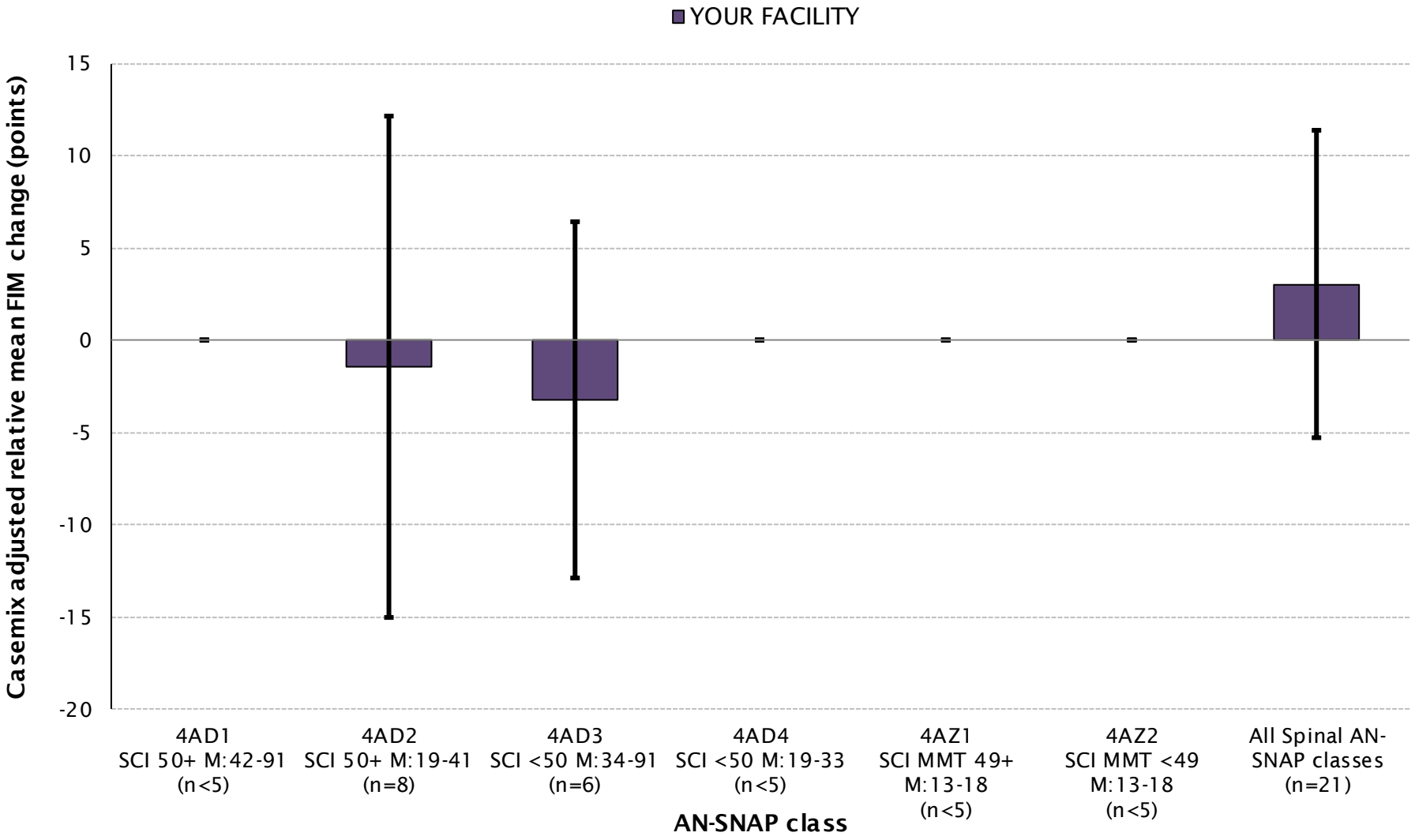
TSCI casemix-adjusted* relative mean FIM change by AN-SNAP class



Note: First admission, completed episodes

*Casemix-adjustment uses CY2019 specialist unit first admissions calculated separately for TSCI and NTSCI

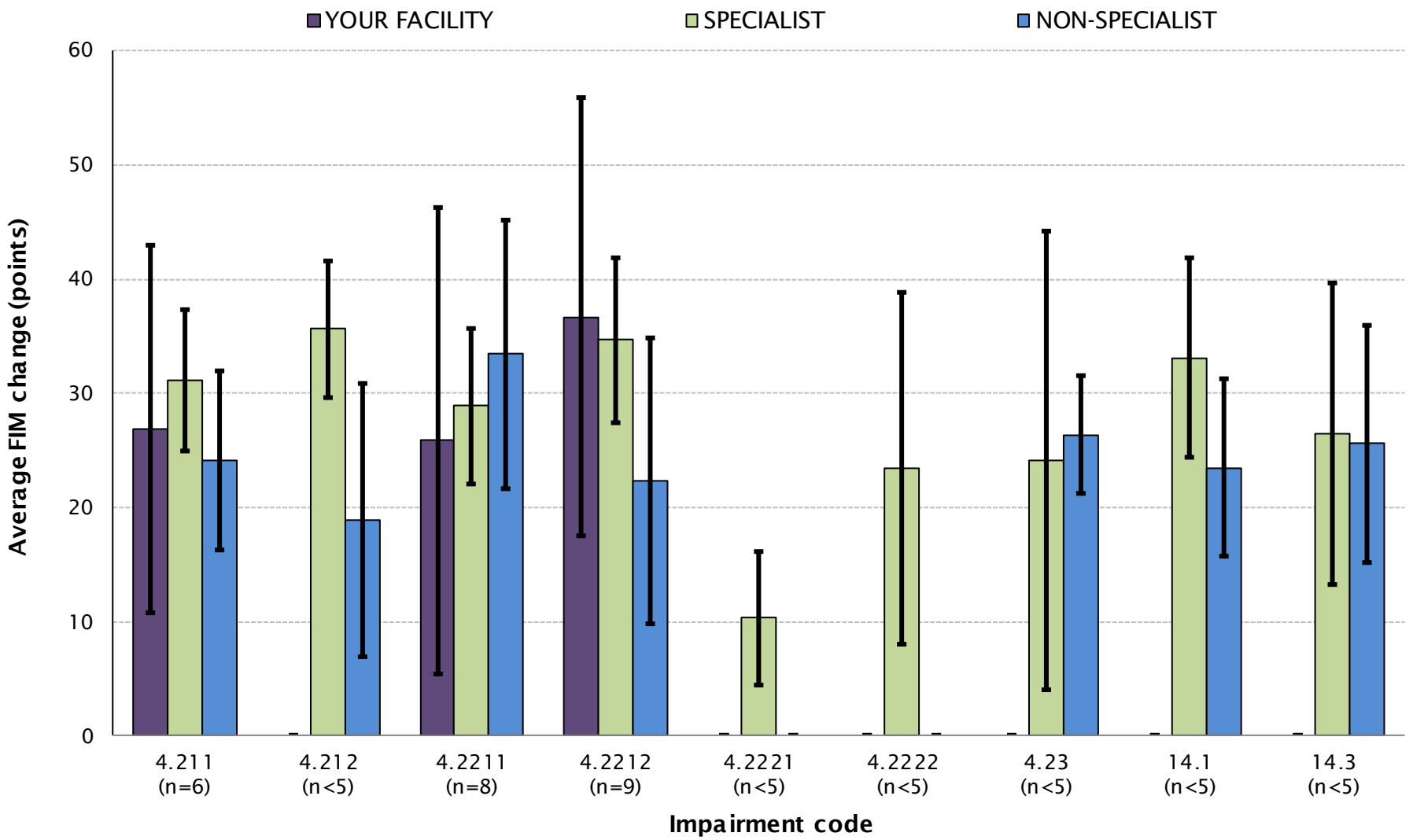
NTSCI casemix-adjusted* relative mean FIM change by AN-SNAP class



Note: First admission, completed episodes

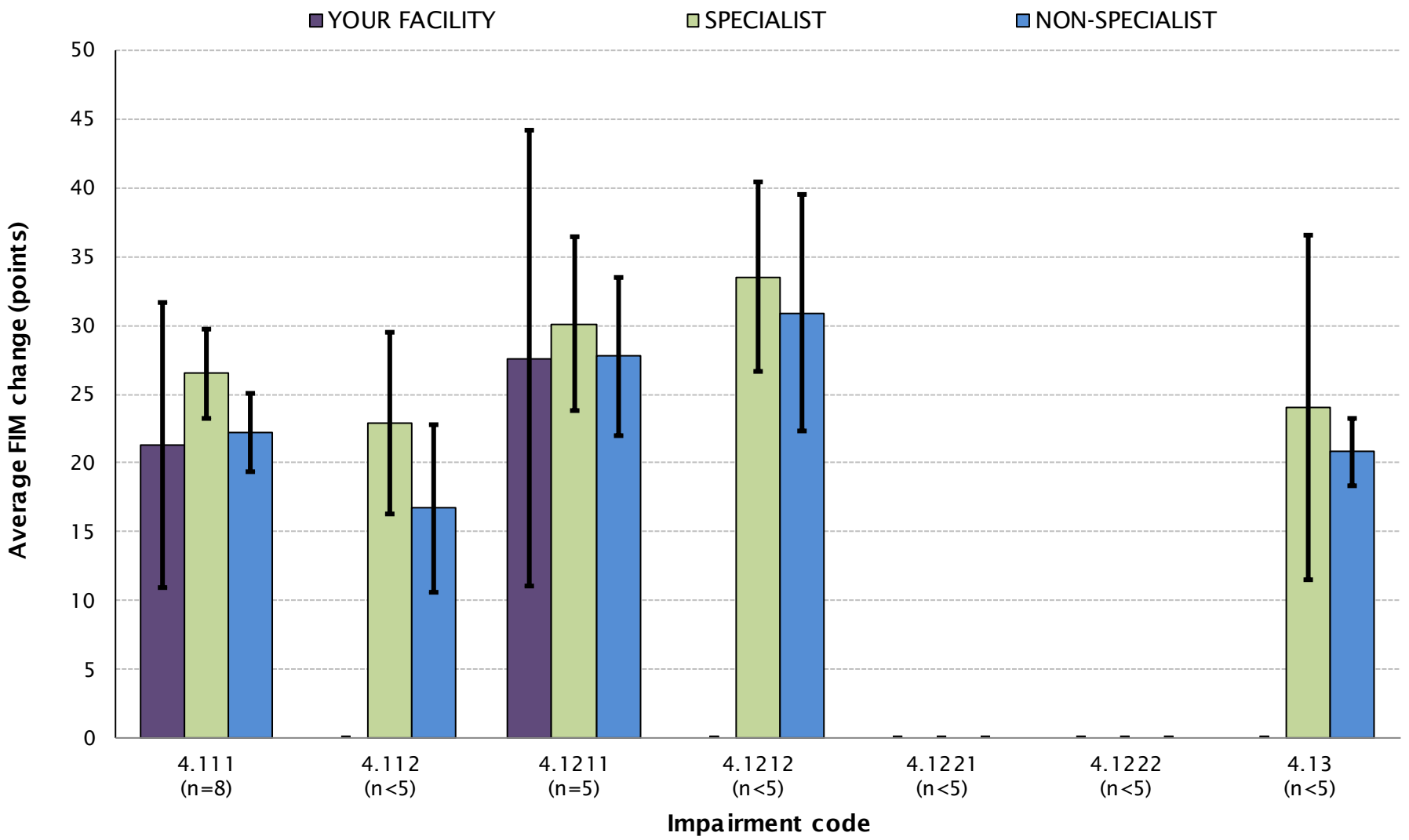
*Casemix-adjustment uses CY2019 specialist unit first admissions calculated separately for TSCI and NTSCI

Traumatic SCI average FIM change by impairment



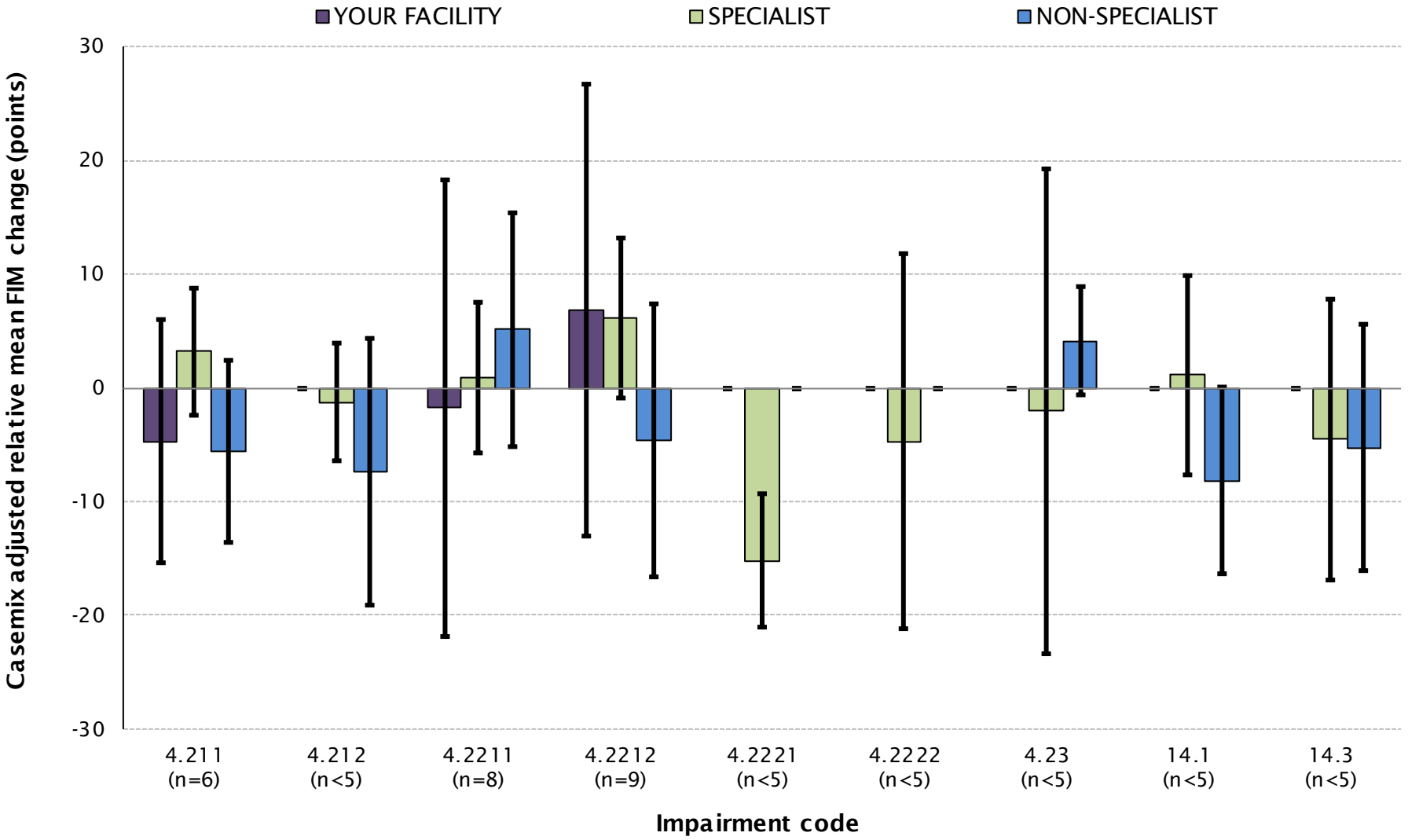
Note: First admission, completed episodes

Non-traumatic SCI average FIM change by impairment



Note: First admission, completed episodes

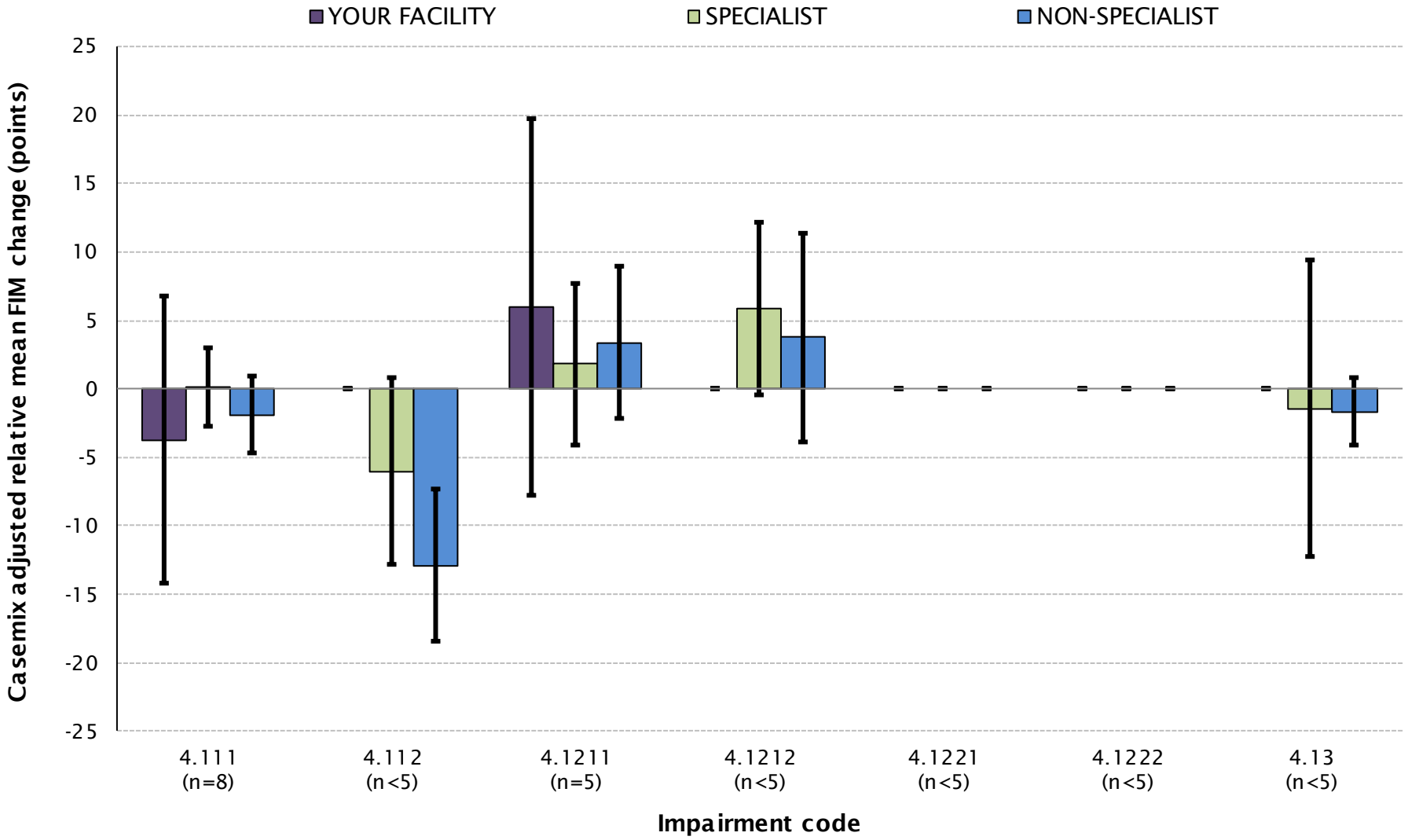
TSCI casemix-adjusted* relative mean FIM change by impairment



Note: First admission, completed episodes

*Casemix-adjustment uses CY2019 specialist unit first admissions calculated separately for TSCI and NTSCI

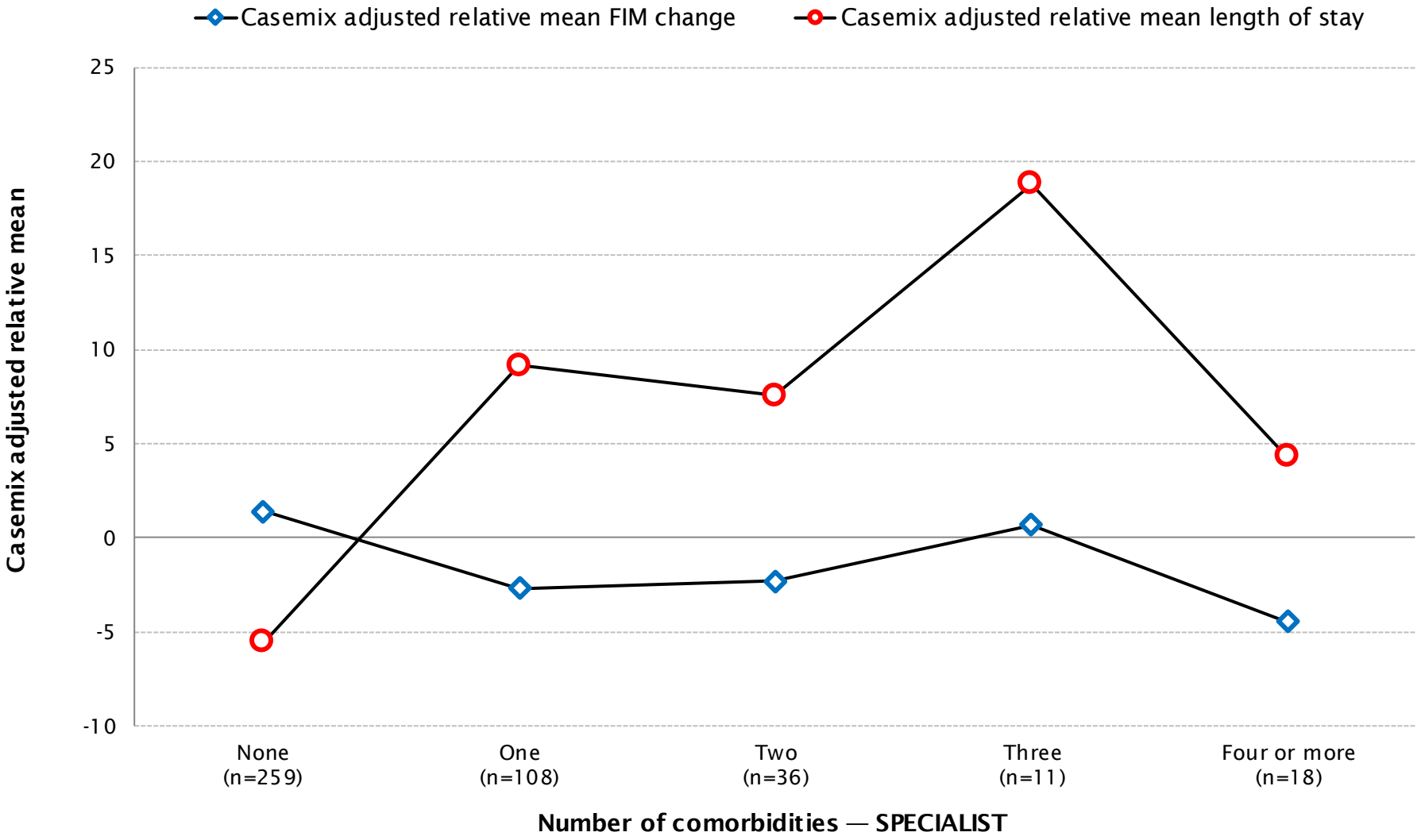
NTSCI casemix-adjusted* relative mean FIM change by impairment



Note: First admission, completed episodes

*Casemix-adjustment uses CY2019 specialist unit first admissions calculated separately for TSCI and NTSCI

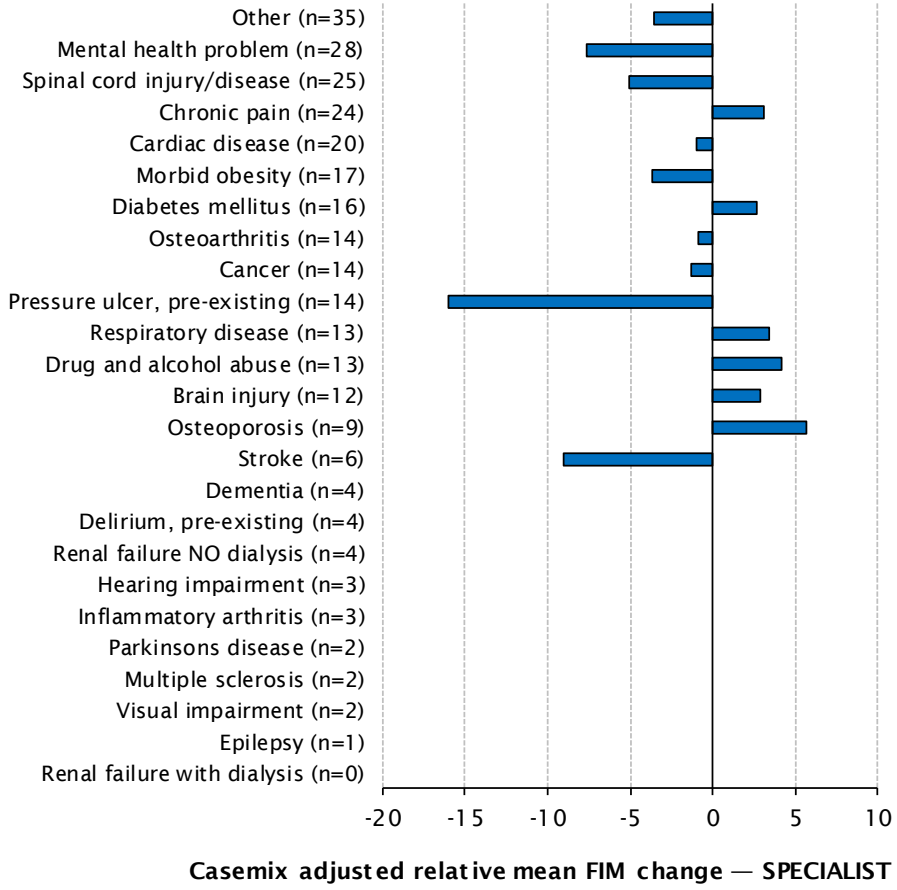
Casemix-adjusted* relative mean length of stay and FIM change by number of comorbidities



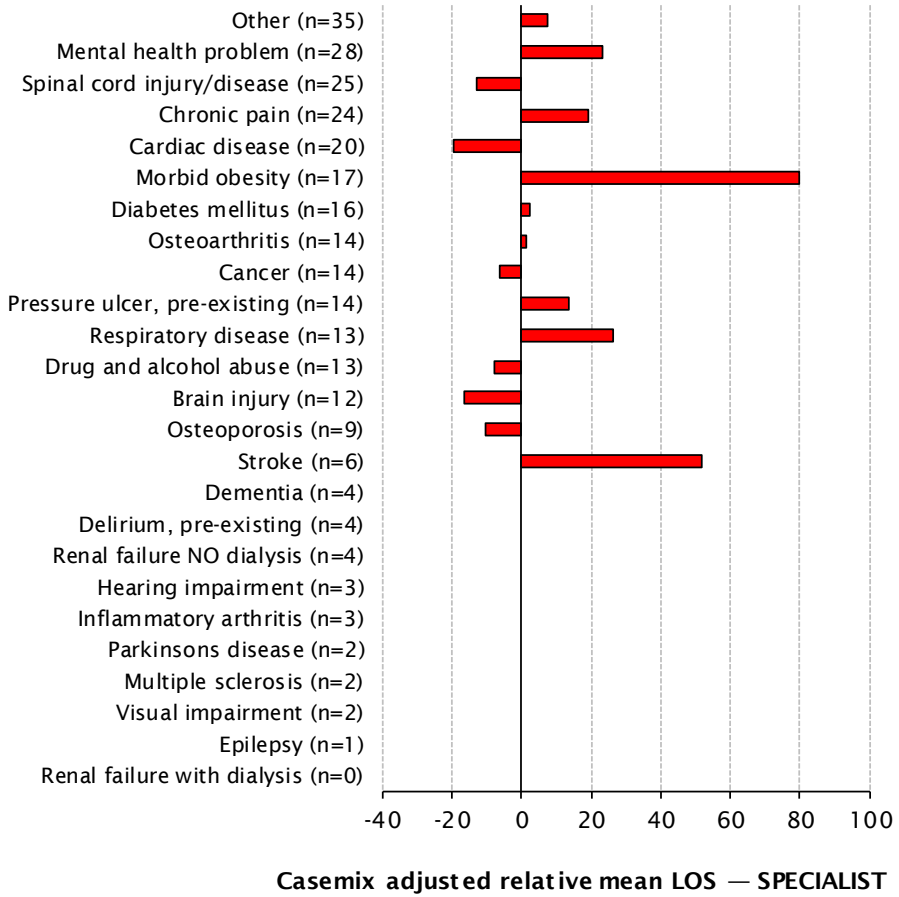
Note: First admission, completed episodes

*Casemix-adjustment uses CY2019 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

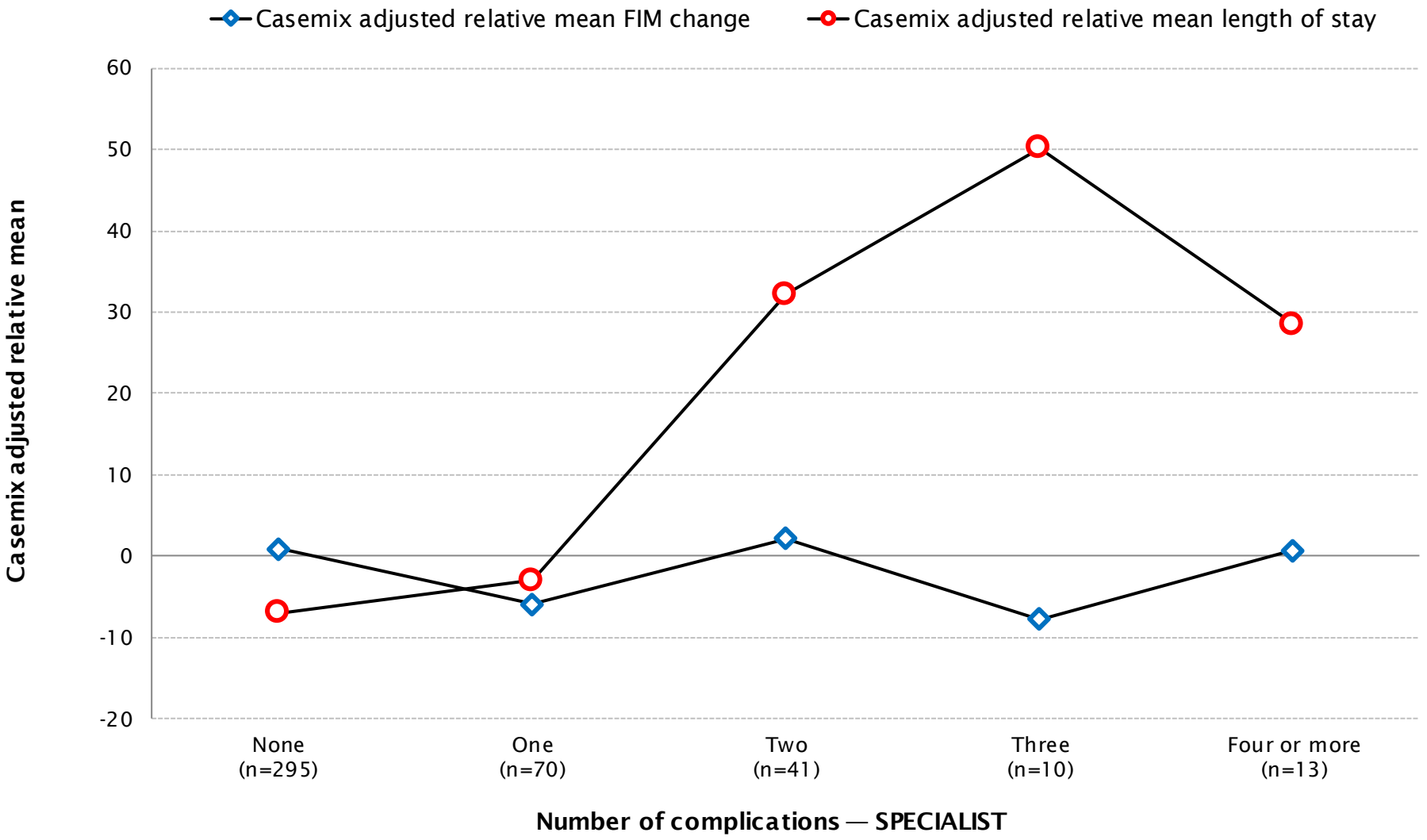


Casemix adjusted relative mean LOS — SPECIALIST

Note: First admission, completed episodes

*Casemix-adjustment uses CY2019 specialist unit first admissions calculated separately for TSCI and NTSCI

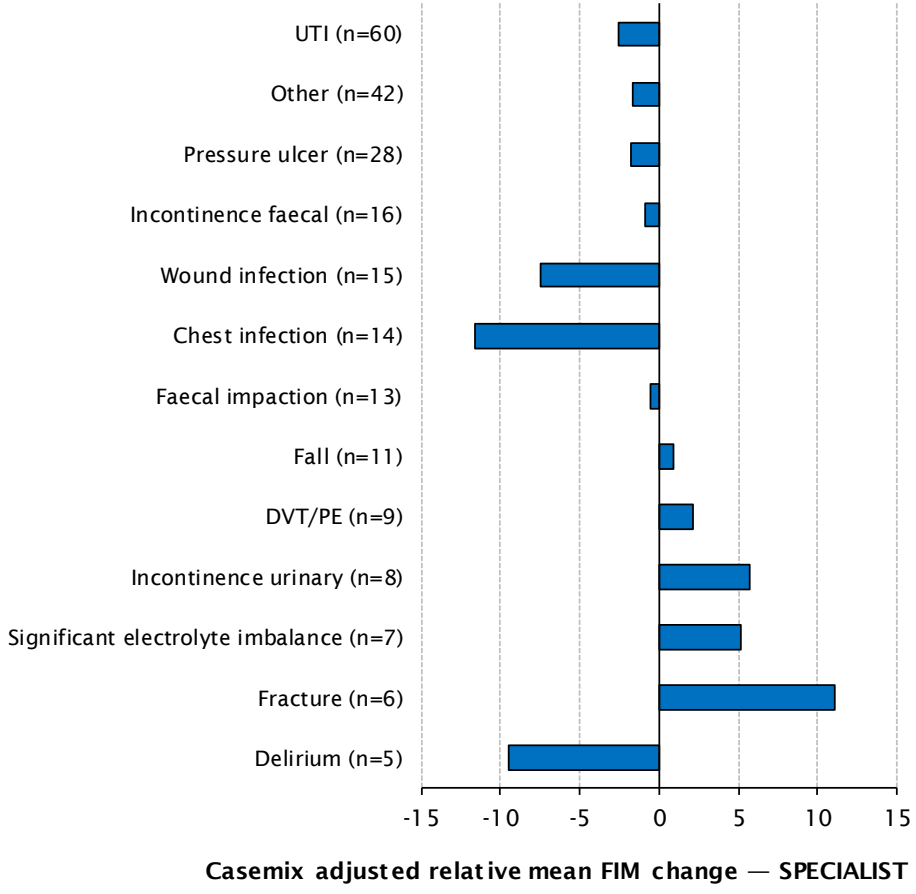
Casemix-adjusted* relative mean length of stay and FIM change by number of complications

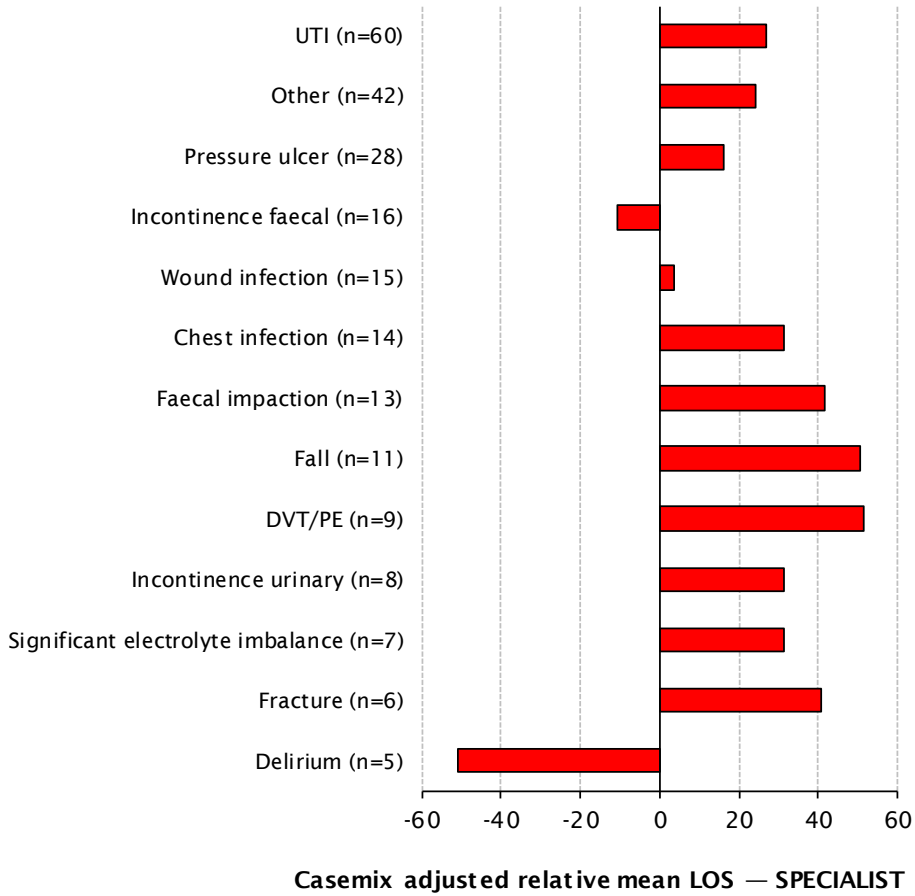


Note: First admission, completed episodes

*Casemix-adjustment uses CY2019 specialist unit first admissions calculated separately for TSCI and NTSCI

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



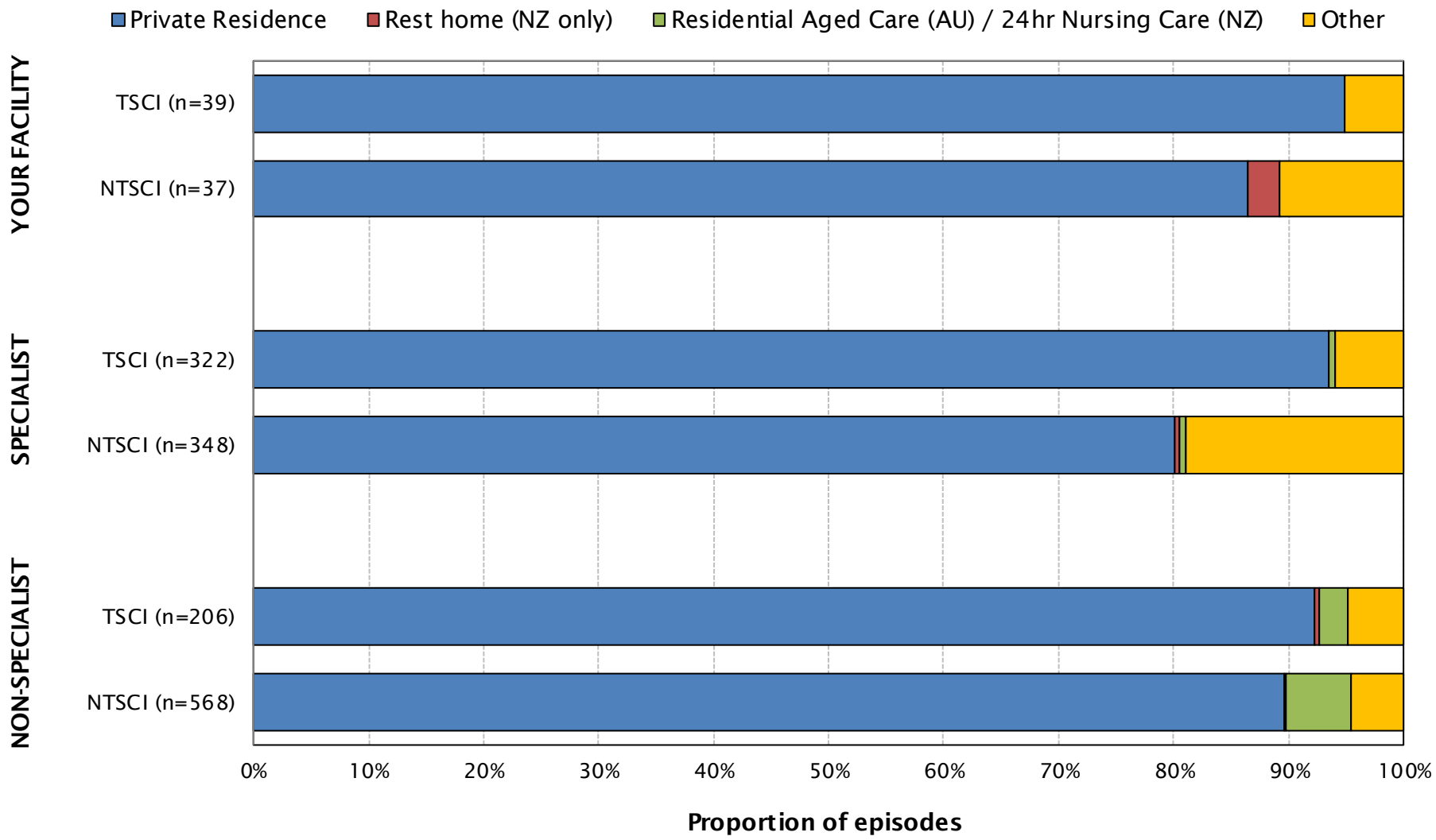


Note: First admission, completed episodes

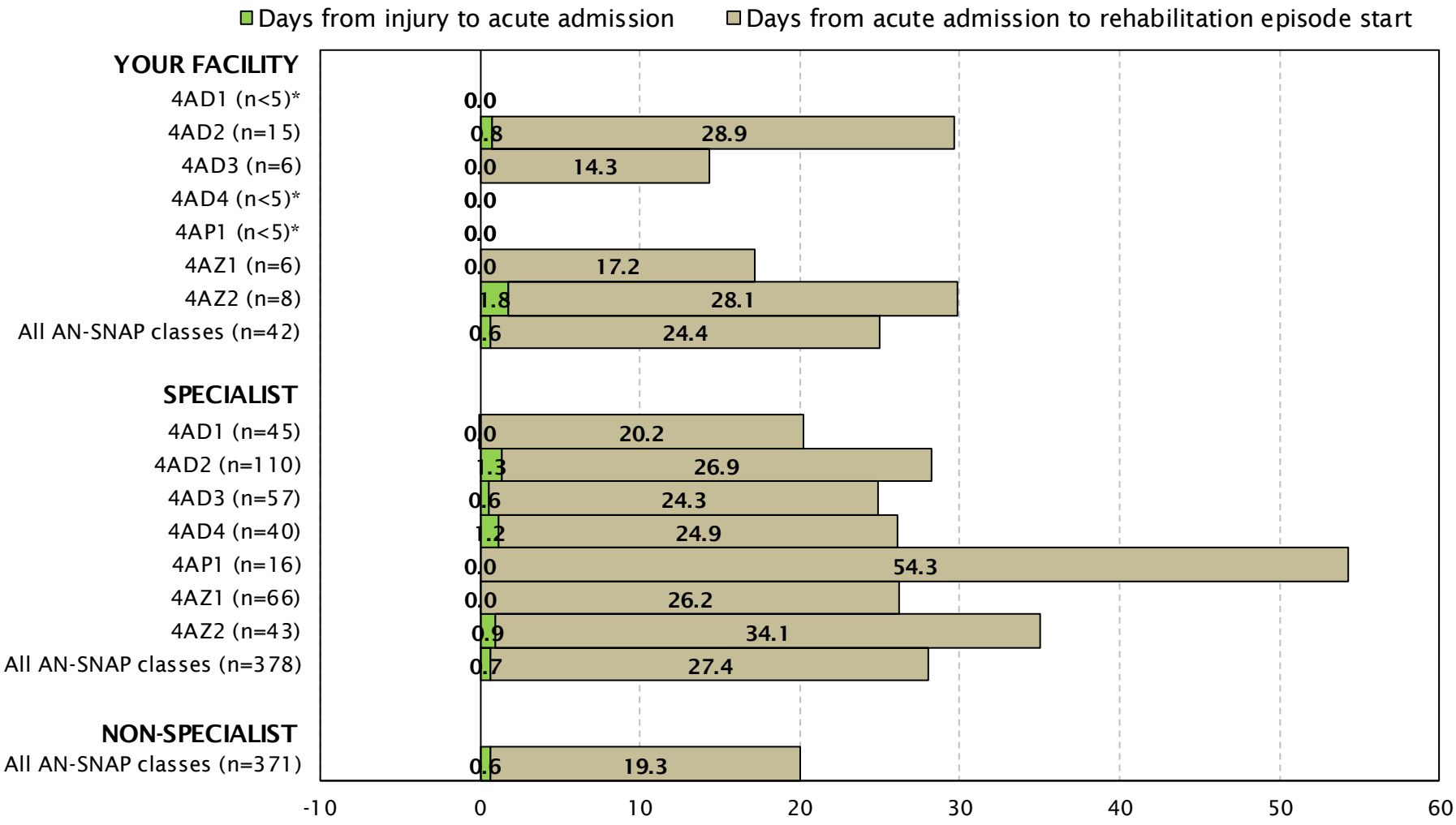
*Casemix-adjustment uses CY2019 specialist unit first admissions calculated separately for TSCI and NTSCI

Explanatory data

Type of accommodation prior to impairment



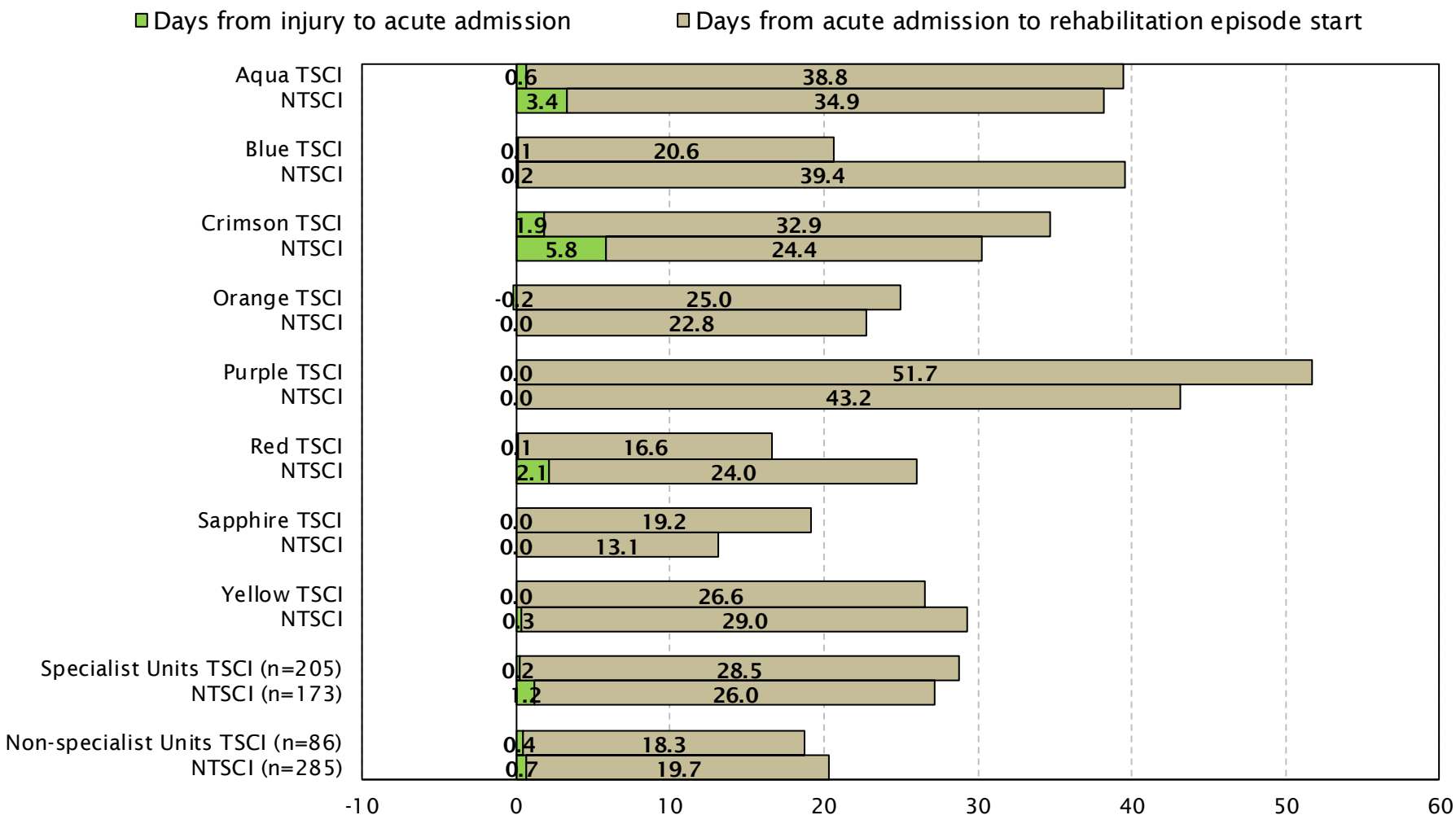
Days from injury to episode start with an acute admission by AN-SNAP class



*No data provided when less than 5 episodes have dates

Note: First admission episodes

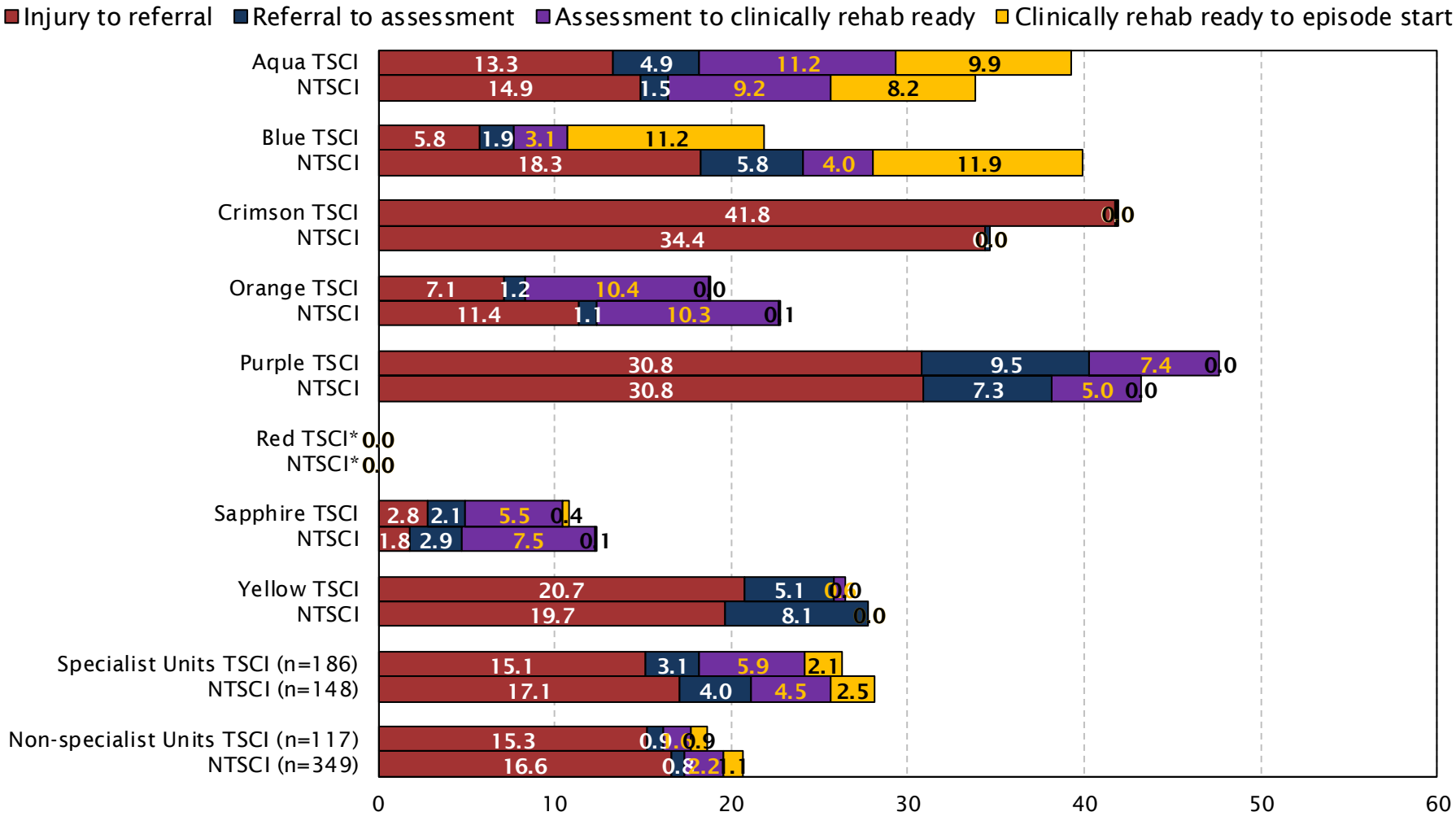
Days from injury to episode start with an acute admission by specialist facility



*No data provided when less than 5 episodes have dates

Note: First admission episodes

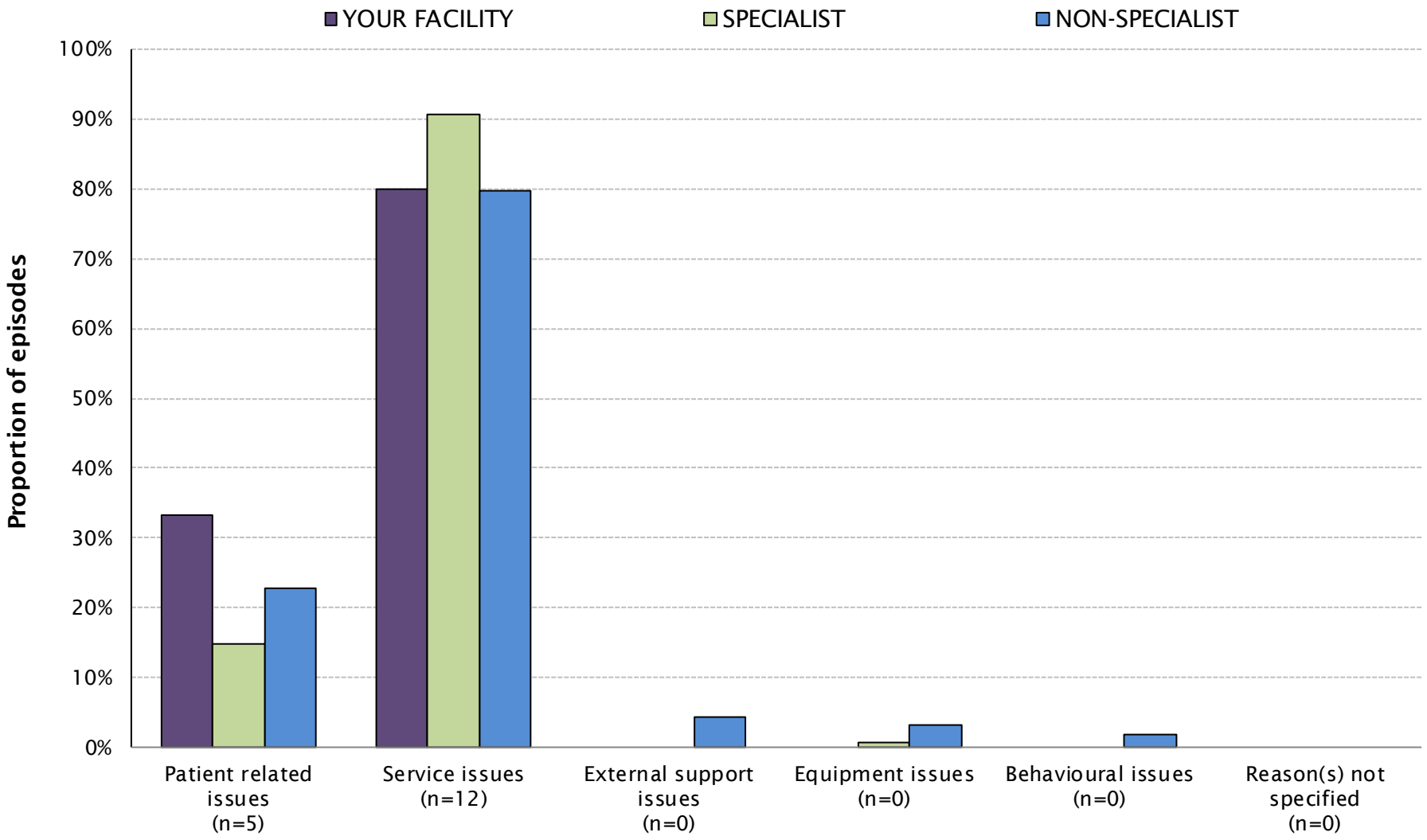
Days from injury to episode start by specialist facility



*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

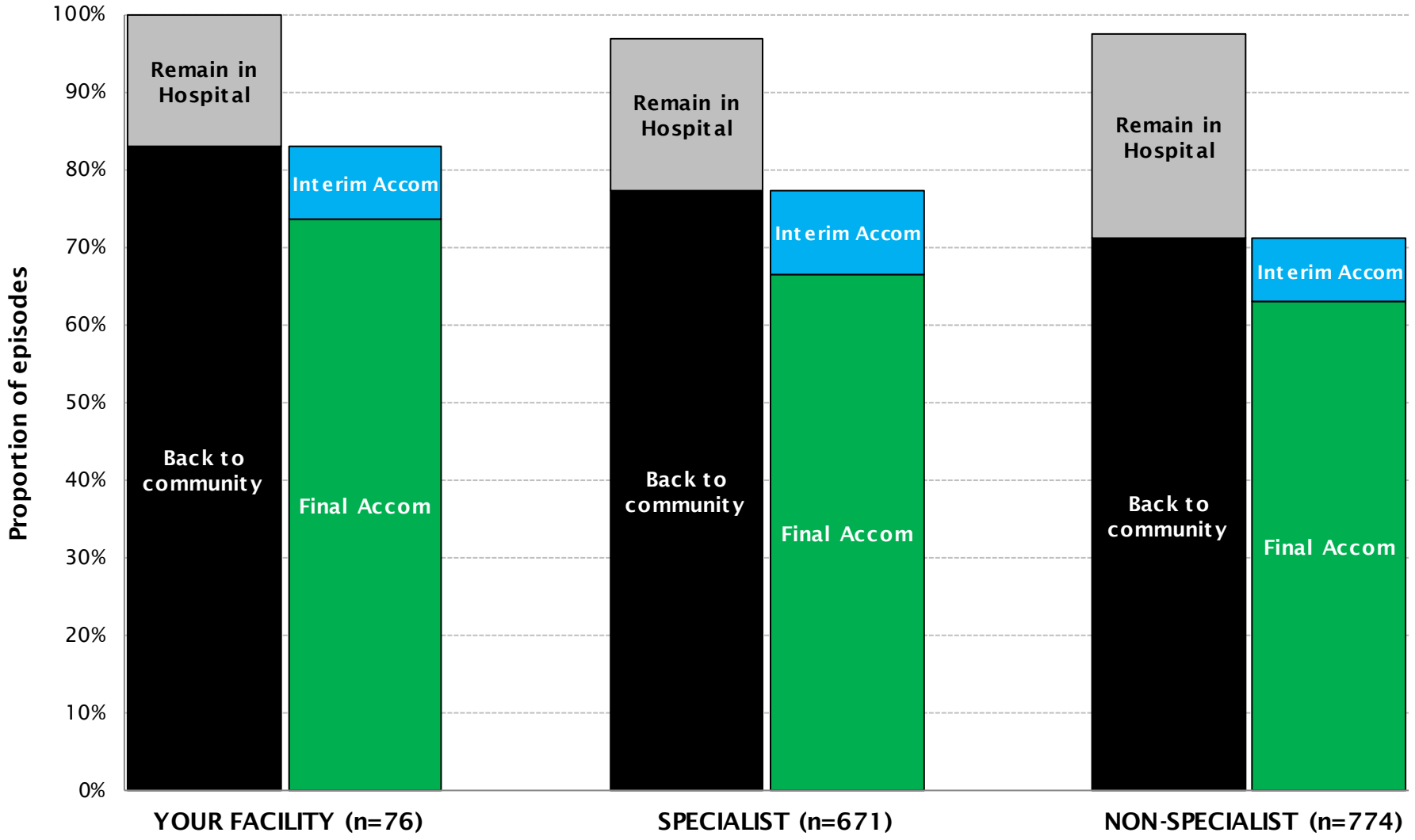


Delays in episode start

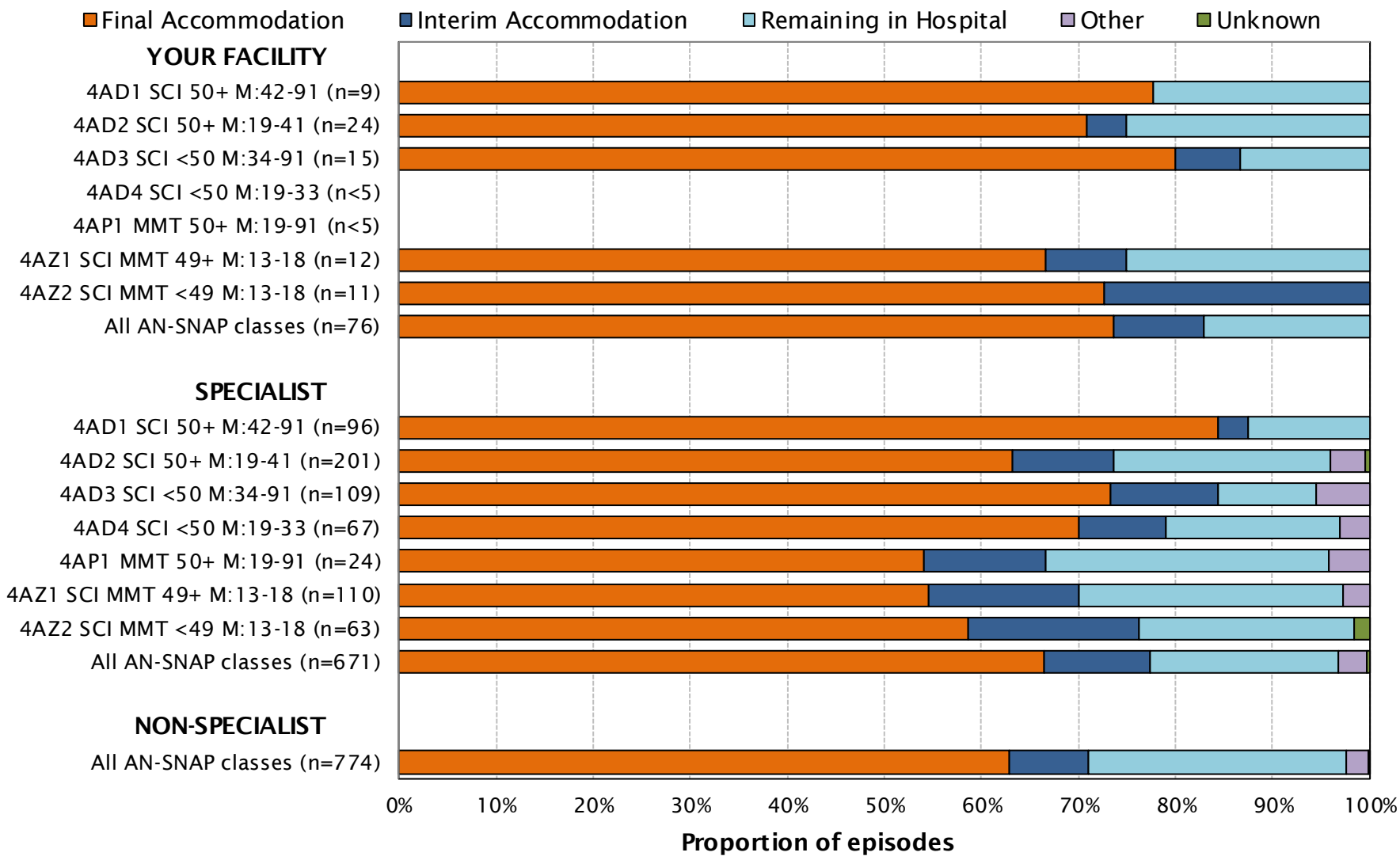
	YOUR FACILITY		SPECIALIST		NON-SPECIALIST	
Delay in episode start	**No.**	**%**	**No.**	**%**	**No.**	**%**
No delay	56	78.9	469	78.6	566	77.6
Delay in episode start	15	21.1	128	21.4	163	22.4
Missing	5		74		45	
All episodes	**76**	**100.0**	**671**	**100.0**	**774**	**100.0**

	YOUR FACILITY		SPECIALIST		NON-SPECIALIST	
Delay in episode start	**No.**	**%**	**No.**	**%**	**No.**	**%**
Patient related issues	5	33.3	19	14.8	37	22.7
Service issues	12	80.0	116	90.6	130	79.8
External support issues	0	0.0	0	0.0	7	4.3
Equipment issues	0	0.0	1	0.8	5	3.1
Behavioural issues	0	0.0	0	0.0	3	1.8
Reason(s) not specified	0	0.0	0	0.0	0	0.0

Discharge destination



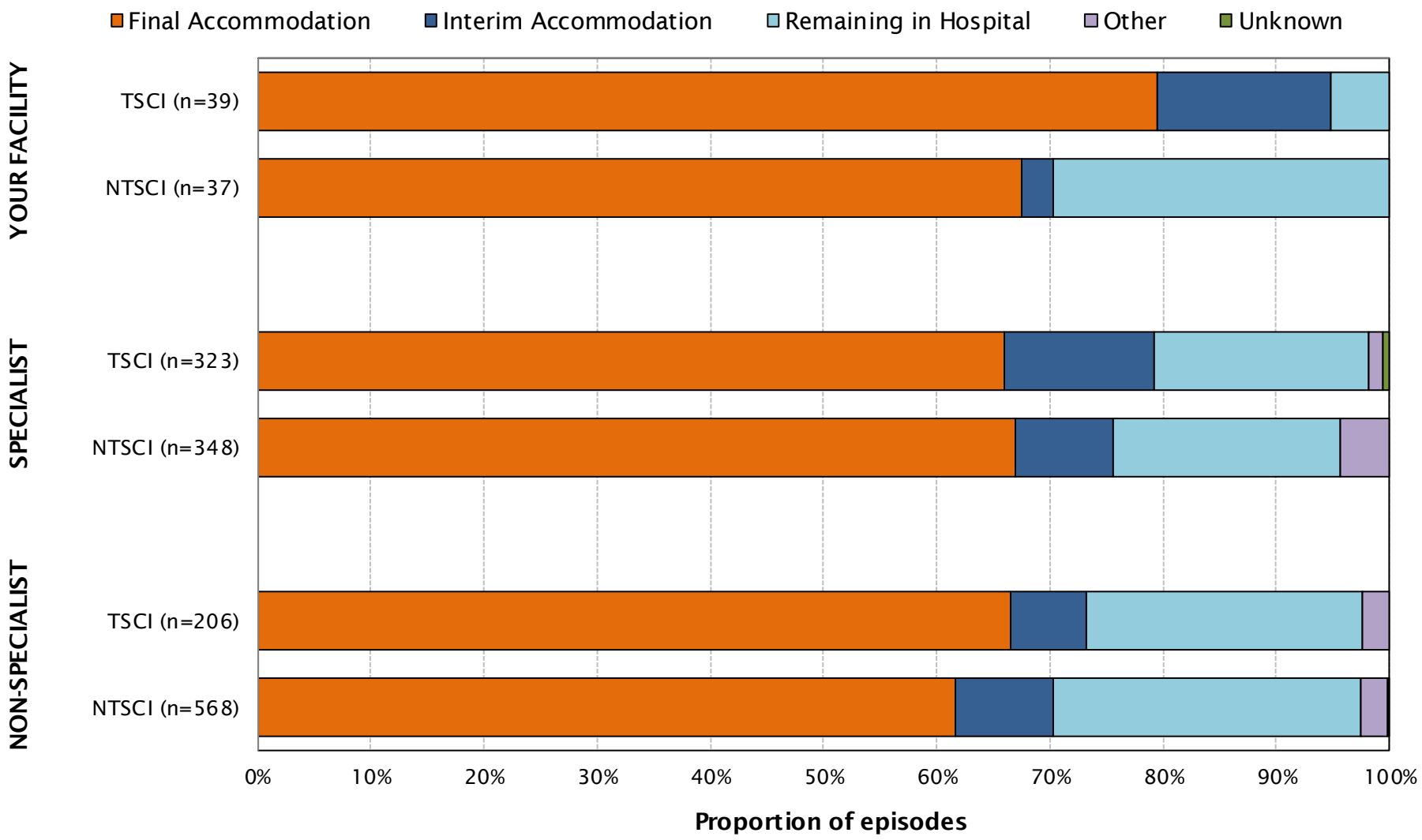
Discharge destination end by AN-SNAP class



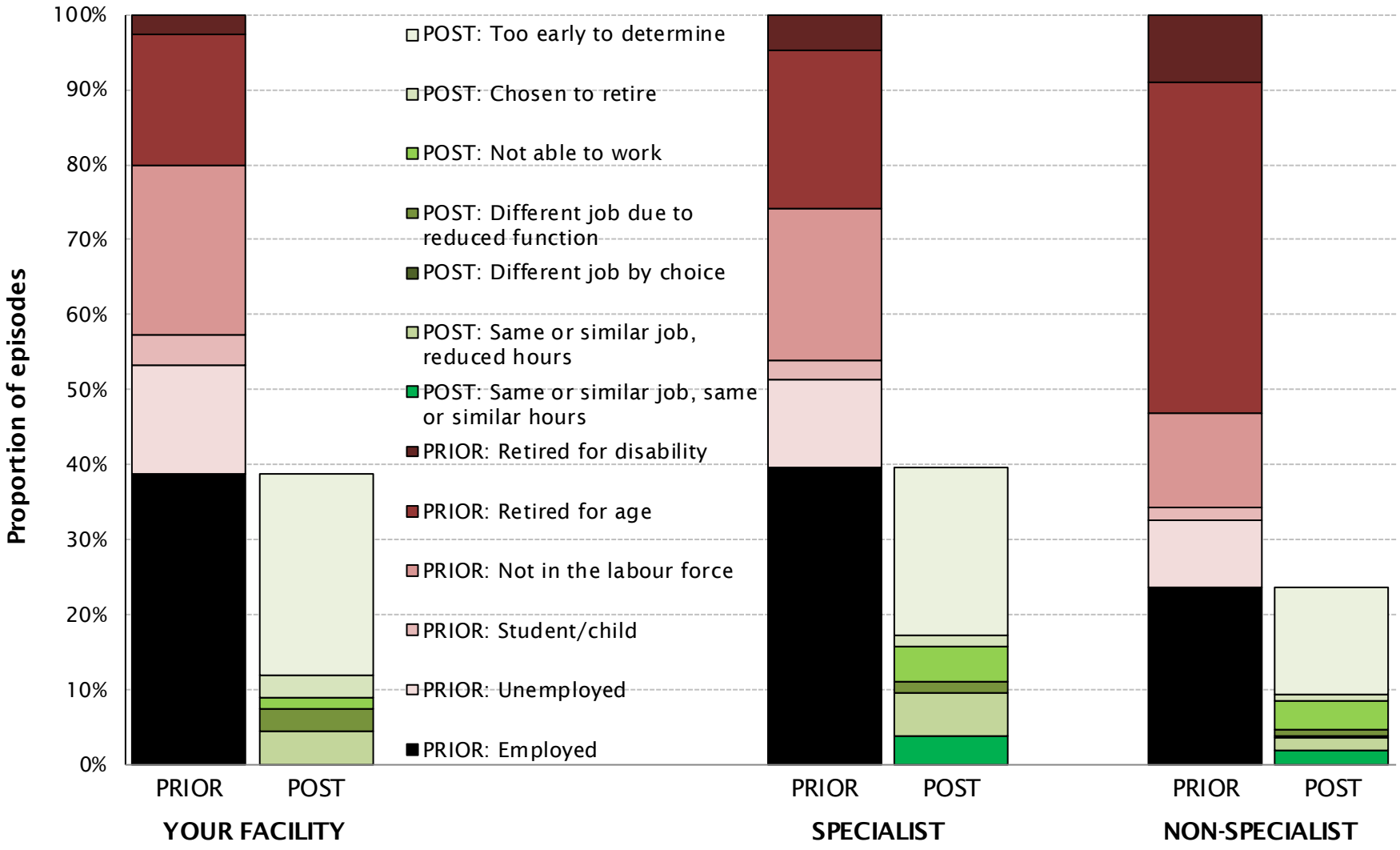
Discharge destination end by AN-SNAP class

		Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown
AN-SNAP class		No.					%				
Your Facility	4AD1 SCI 50+ M:42-91	7	0	2	0	0	77.8	0.0	22.2	0.0	0.0
	4AD2 SCI 50+ M:19-41	17	1	6	0	0	70.8	4.2	25.0	0.0	0.0
	4AD3 SCI <50 M:34-91	12	1	2	0	0	80.0	6.7	13.3	0.0	0.0
	4AD4 SCI <50 M:19-33	3	0	0	0	0	100.0	0.0	0.0	0.0	0.0
	4AP1 MMT 50+ M:19-91	1	1	0	0	0	50.0	50.0	0.0	0.0	0.0
	4AZ1 SCI MMT 49+ M:13-18	8	1	3	0	0	66.7	8.3	25.0	0.0	0.0
	4AZ2 SCI MMT <49 M:13-18	8	3	0	0	0	72.7	27.3	0.0	0.0	0.0
All AN-SNAP classes		**56**	**7**	**13**	**0**	**0**	**73.7**	**9.2**	**17.1**	**0.0**	**0.0**
SPECIALIST Units		**446**	**73**	**131**	**19**	**2**	**66.5**	**10.9**	**19.5**	**2.8**	**0.3**
NON-SPECIALIST Units		**487**	**63**	**205**	**18**	**1**	**62.9**	**8.1**	**26.5**	**2.3**	**0.1**

Discharge destination by TSCI and NTSCI



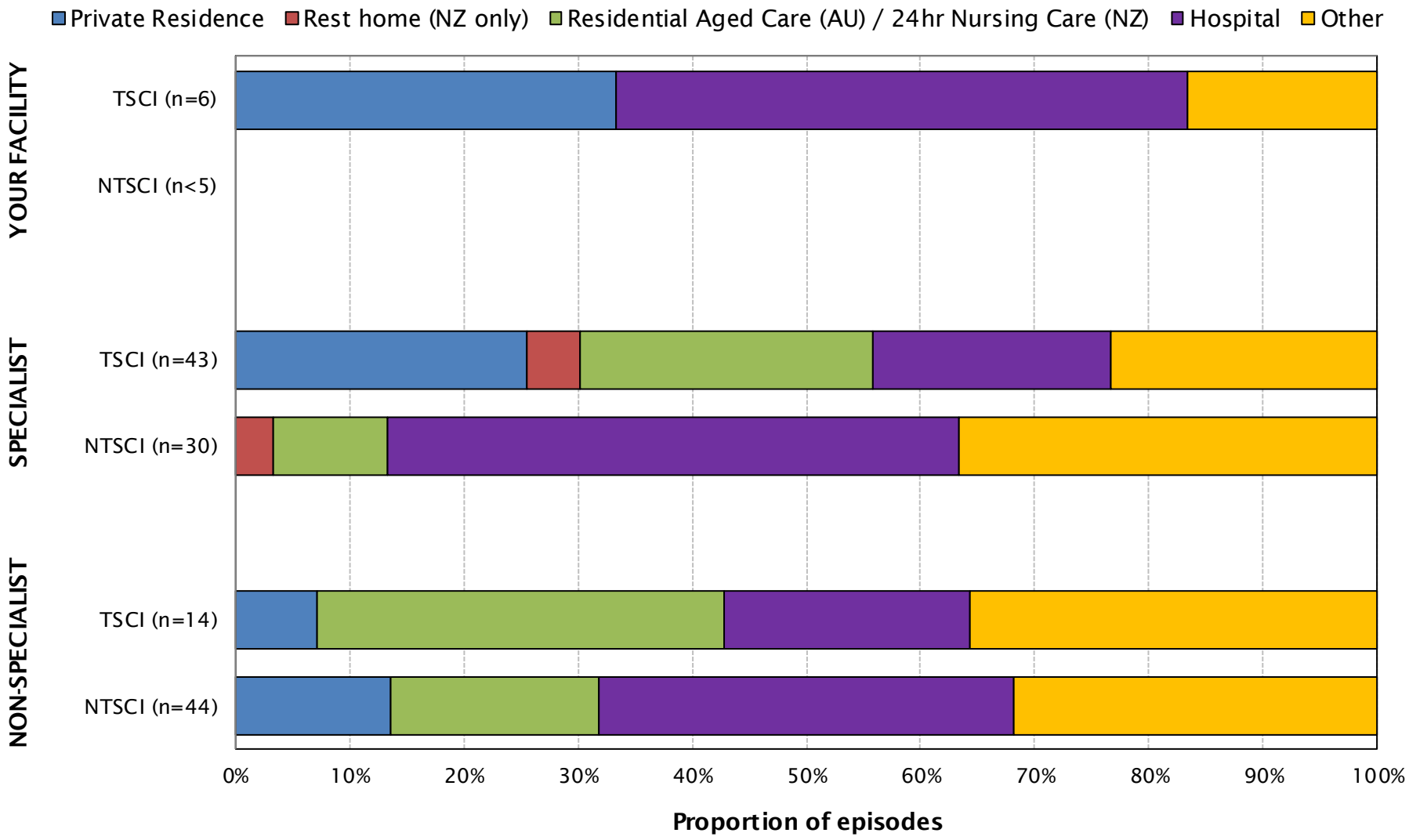
Employment status prior and post spinal cord injury



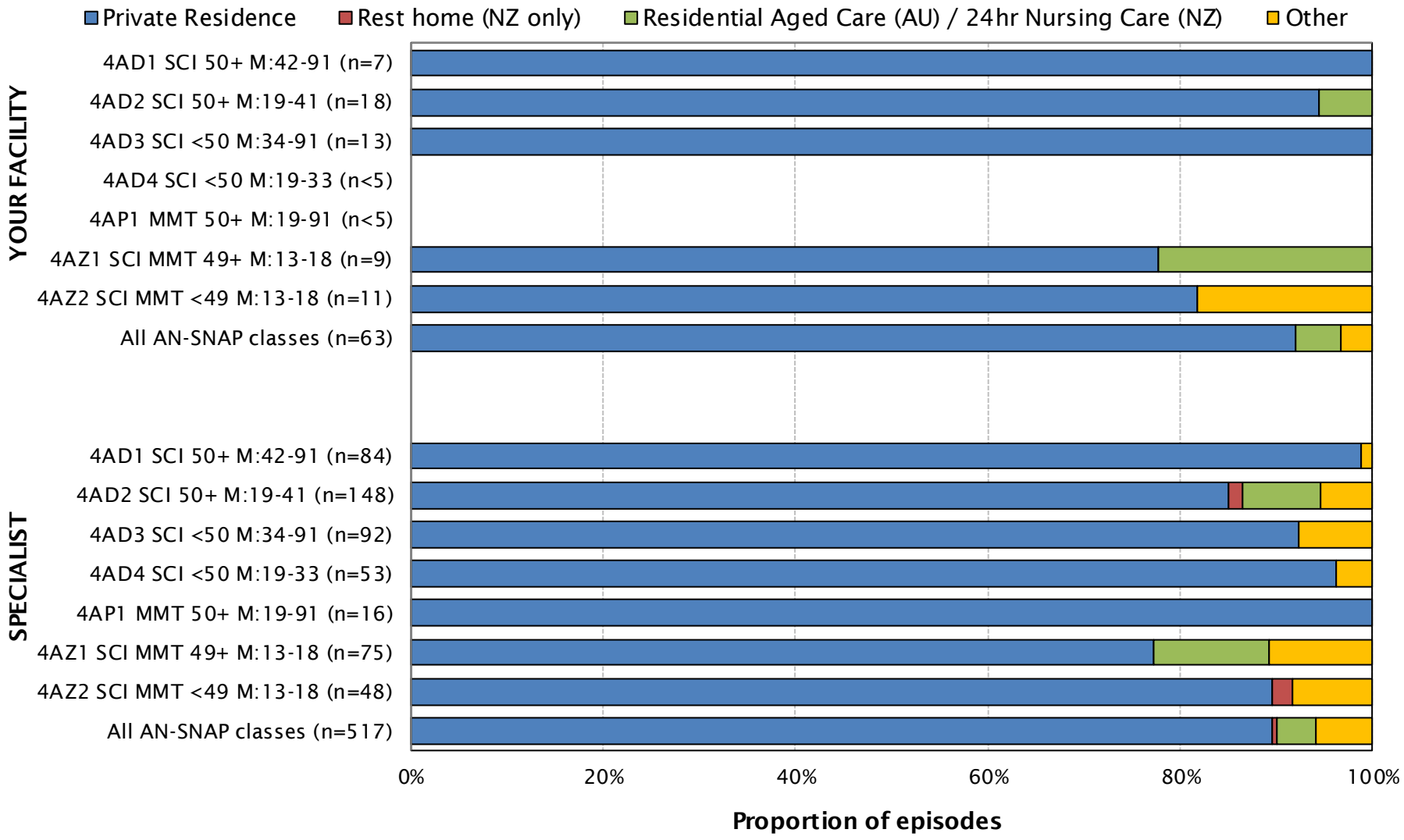
Employment status prior and post spinal cord injury

	YOUR FACILITY		SPECIALIST		NON-SPECIALIST	
Employment status	**No.**	**%**	**No.**	**%**	**No.**	**%**
Prior to this spinal cord injury:						
Employed	29	38.7	264	39.6	174	23.5
Unemployed	11	14.7	79	11.8	67	9.1
Student/child	3	4.0	17	2.5	12	1.6
Not in the labour force	17	22.7	135	20.2	94	12.7
Retired for age	13	17.3	141	21.1	326	44.1
Retired for disability	2	2.7	31	4.6	67	9.1
Not answered	1		4		34	
Total	**76**	**100.0**	**671**	**100.0**	**774**	**100.0**
After discharge (if previously employed):						
Same or similar job, same or similar hours	0	0.0	24	9.5	12	8.0
Same or similar job, reduced hours	3	11.5	37	14.6	11	7.3
Different job by choice	0	0.0	0	0.0	1	0.7
Different job due to reduced function	2	7.7	9	3.6	5	3.3
Not able to work	1	3.8	30	11.9	25	16.7
Chosen to retire	2	7.7	10	4.0	5	3.3
Too early to determine	18	69.2	143	56.5	91	60.7
Not answered	3		11		24	
Total employed prior	**29**	**100.0**	**264**	**100.0**	**174**	**100.0**

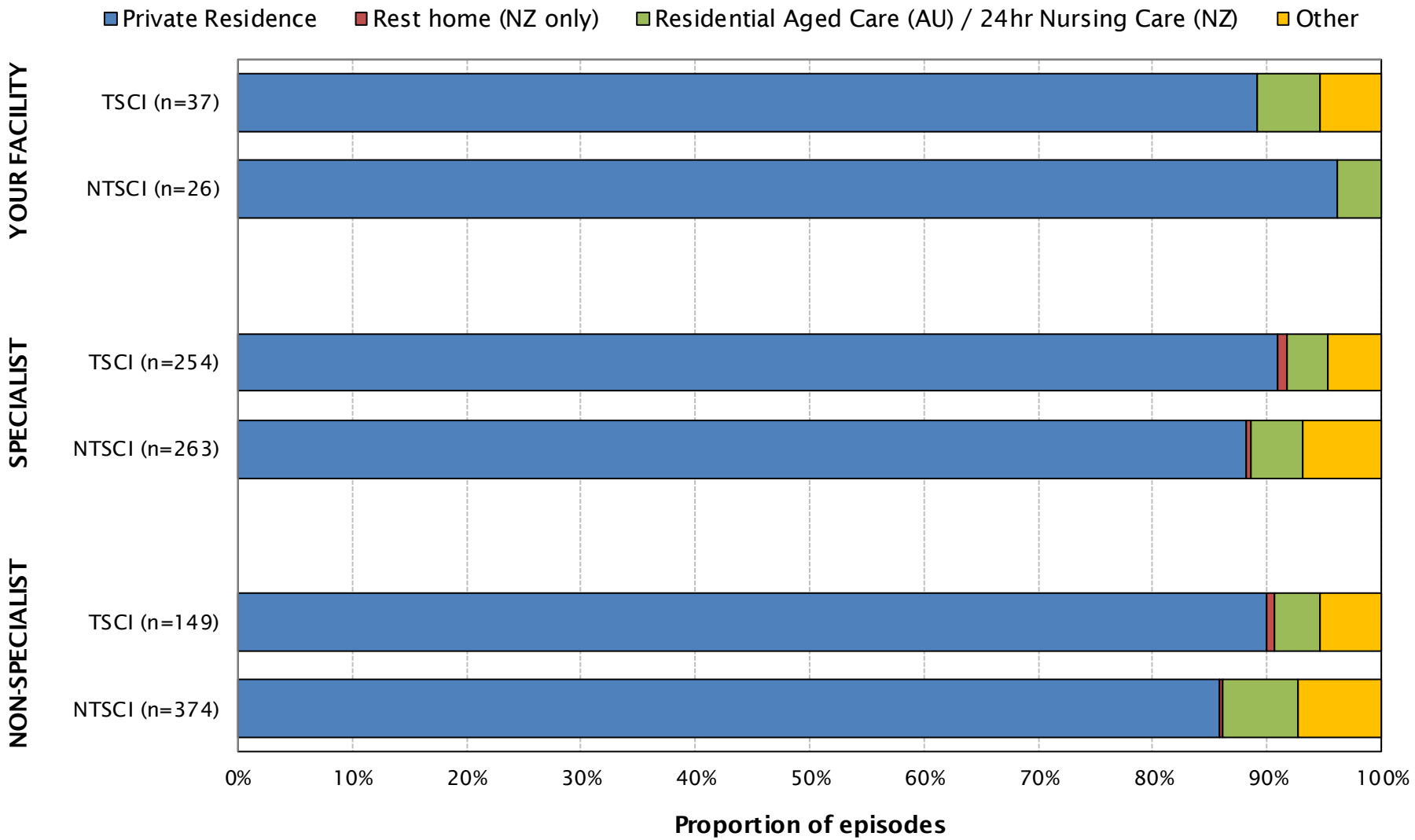
Interim accommodation post discharge by TSCI and NTSCI



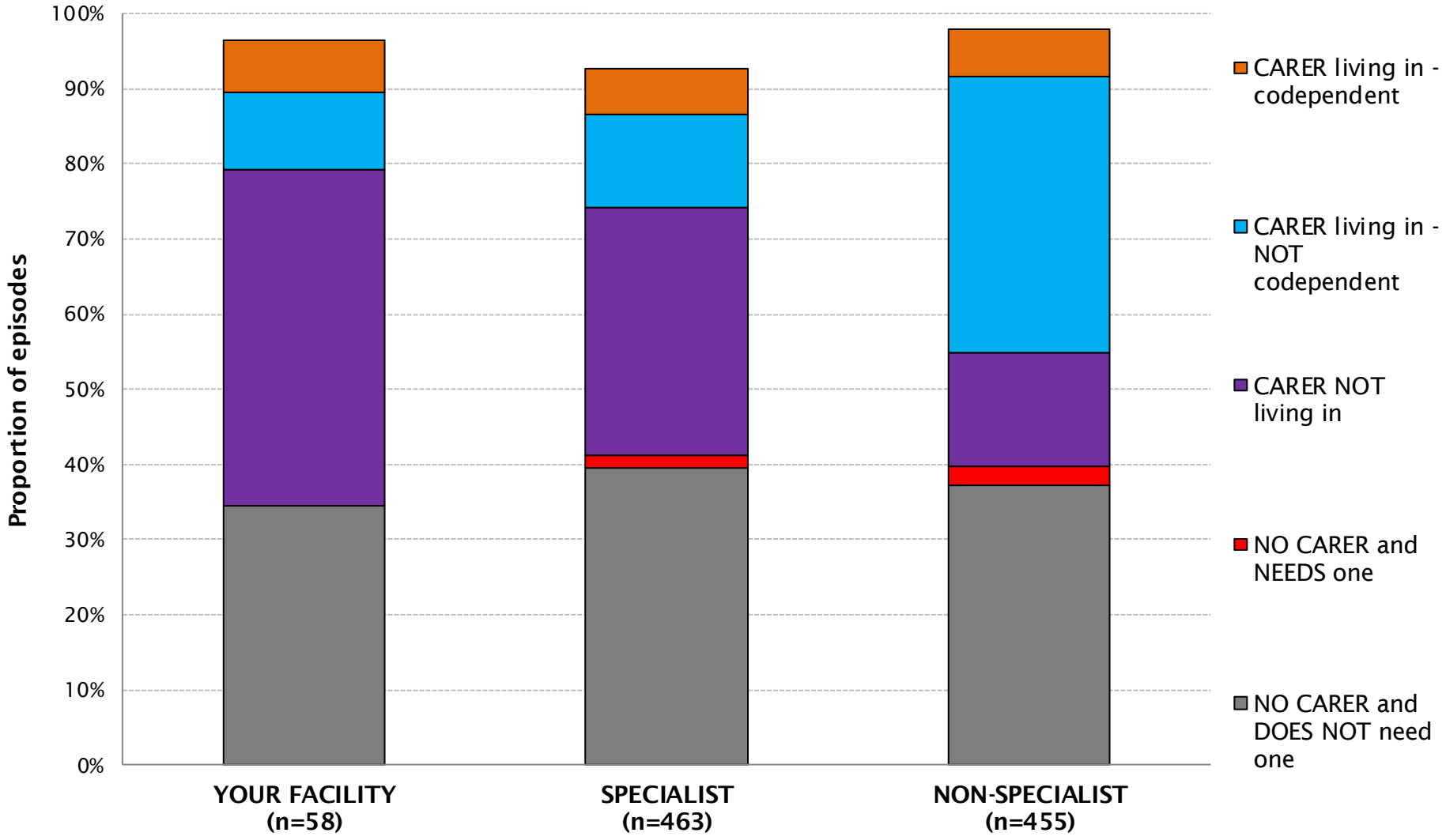
Final accommodation post discharge by AN-SNAP class



Final accommodation post discharge by TSCI and NTSCI

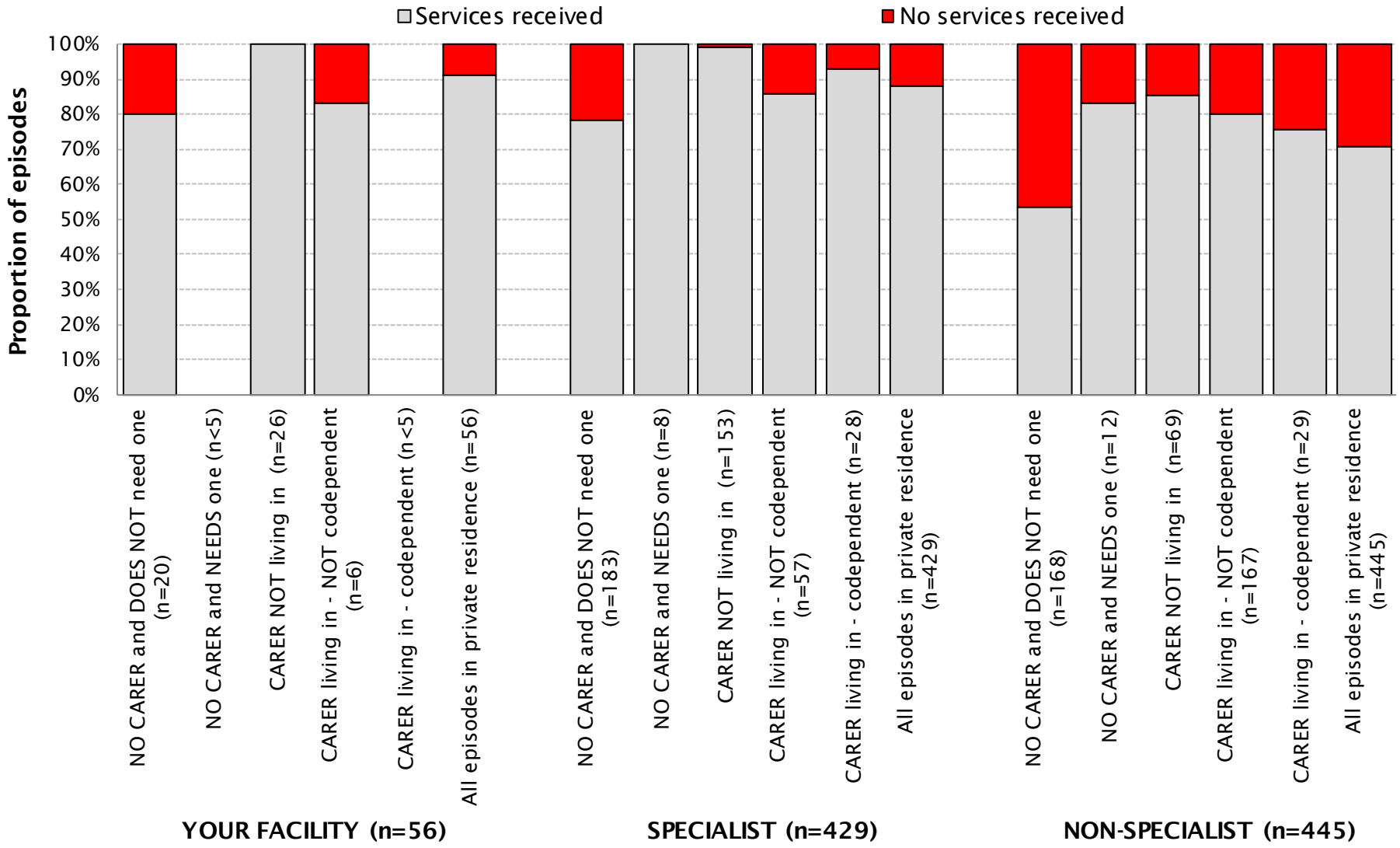


Carer status post discharge



Note: Final accommodation is private residence.

Any services received post discharge by carer status



Note: Final accommodation is private residence.

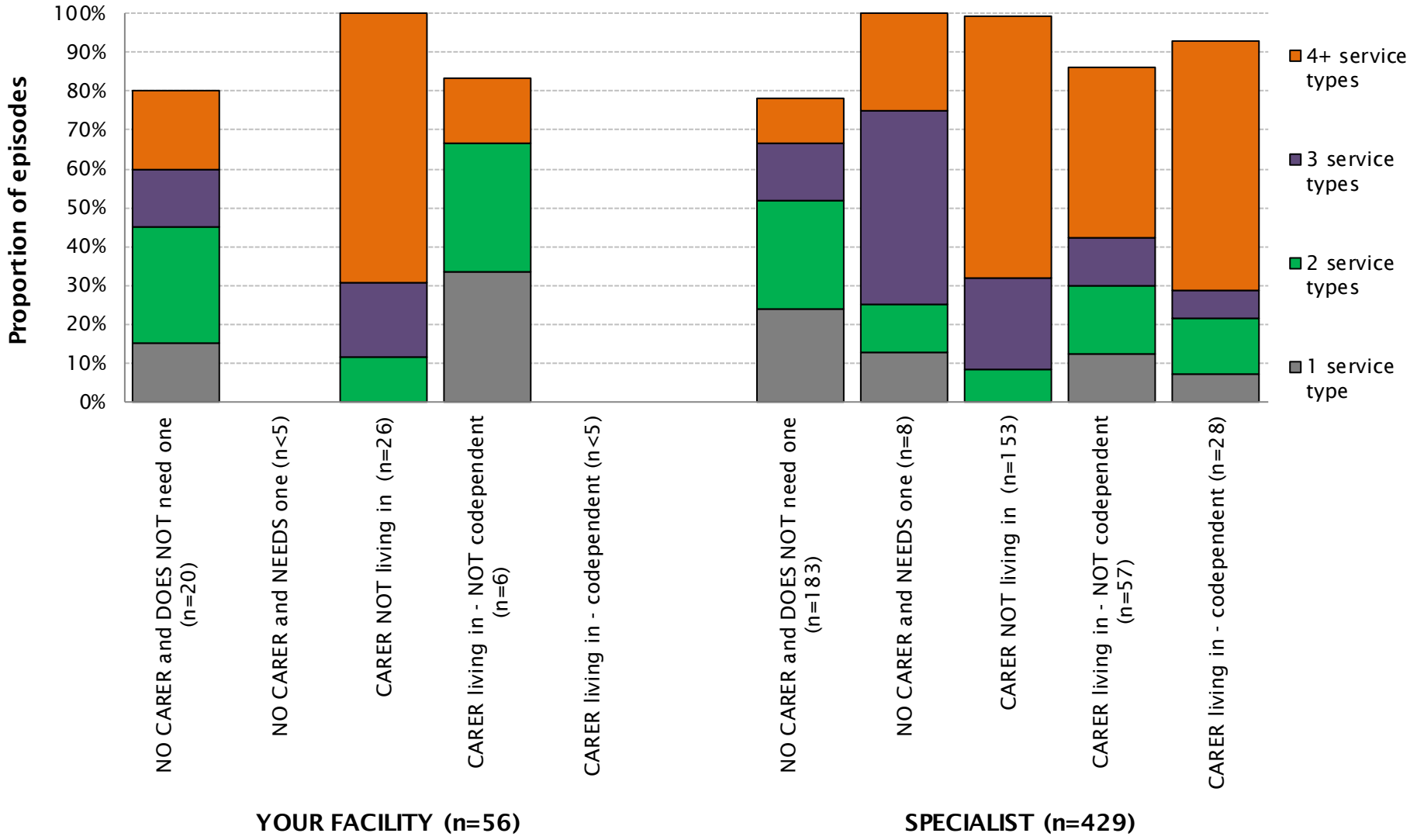
Carer status and any services received post discharge

	YOUR FACILITY		SPECIALIST		NON-SPECIALIST	
Carer status post discharge	No.	%	No.	%	No.	%
NO CARER and DOES NOT need one	20	35.7	183	42.7	169	37.9
NO CARER and NEEDS one	0	0.0	8	1.9	12	2.7
CARER NOT living in	26	46.4	153	35.7	69	15.5
CARER living in - NOT codependent	6	10.7	57	13.3	167	37.4
CARER living in - codependent	4	7.1	28	6.5	29	6.5
Missing	2		34		9	
All episodes in private residence	**58**	**100.0**	**463**	**100.0**	**455**	**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	80.0	20.0	78.1	21.9	53.3	46.2
NO CARER and NEEDS one	—	—	100.0	0.0	83.3	16.7
CARER NOT living in	100.0	0.0	99.3	0.7	85.5	14.5
CARER living in - NOT codependent	83.3	16.7	86.0	14.0	80.2	19.8
CARER living in - codependent	100.0	0.0	92.9	7.1	75.9	24.1
All episodes in private residence	**91.1**	**8.9**	**88.1**	**11.9**	**70.6**	**29.1**

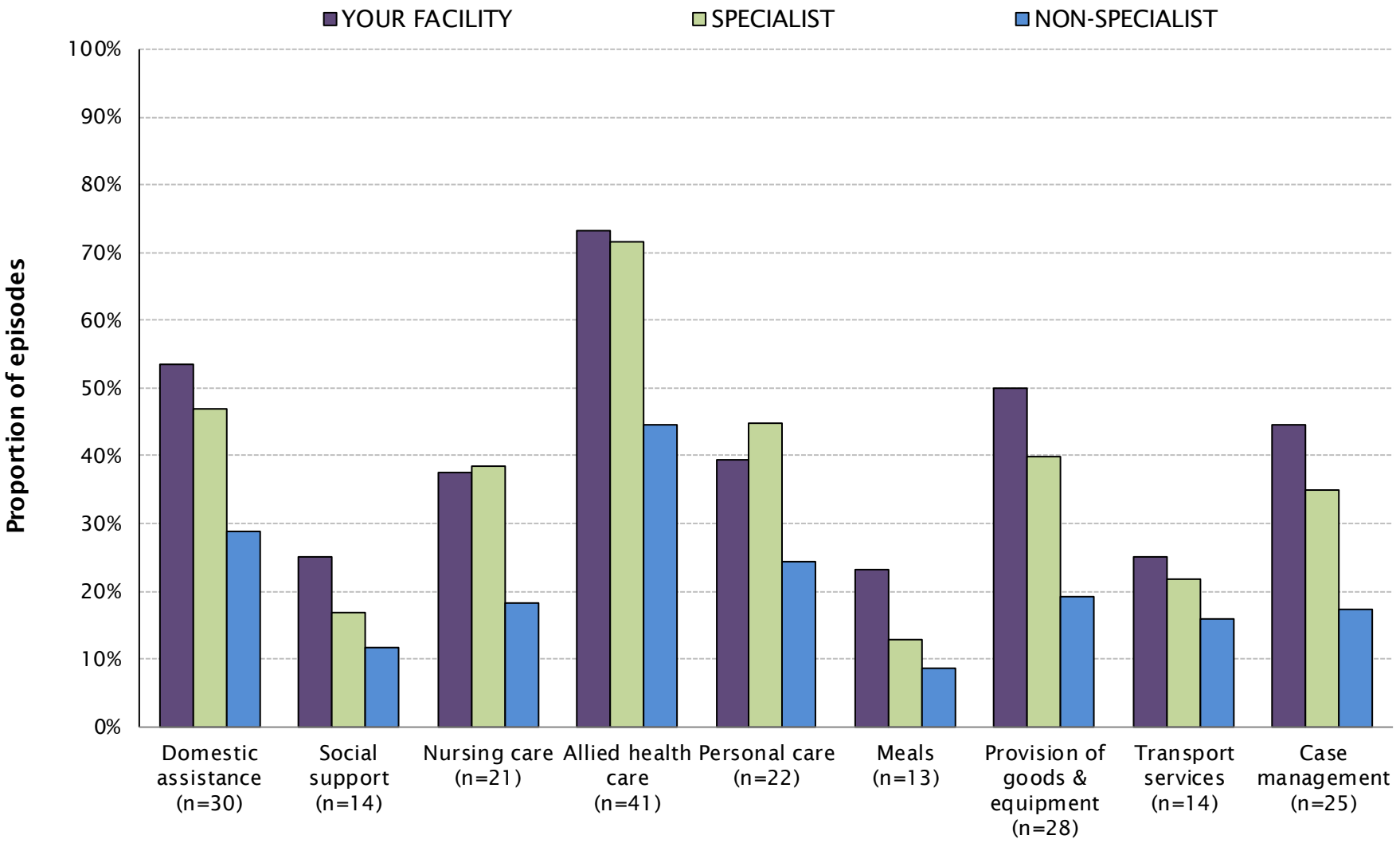
Note: Final accommodation is private residence.

Number of services received post discharge by carer status



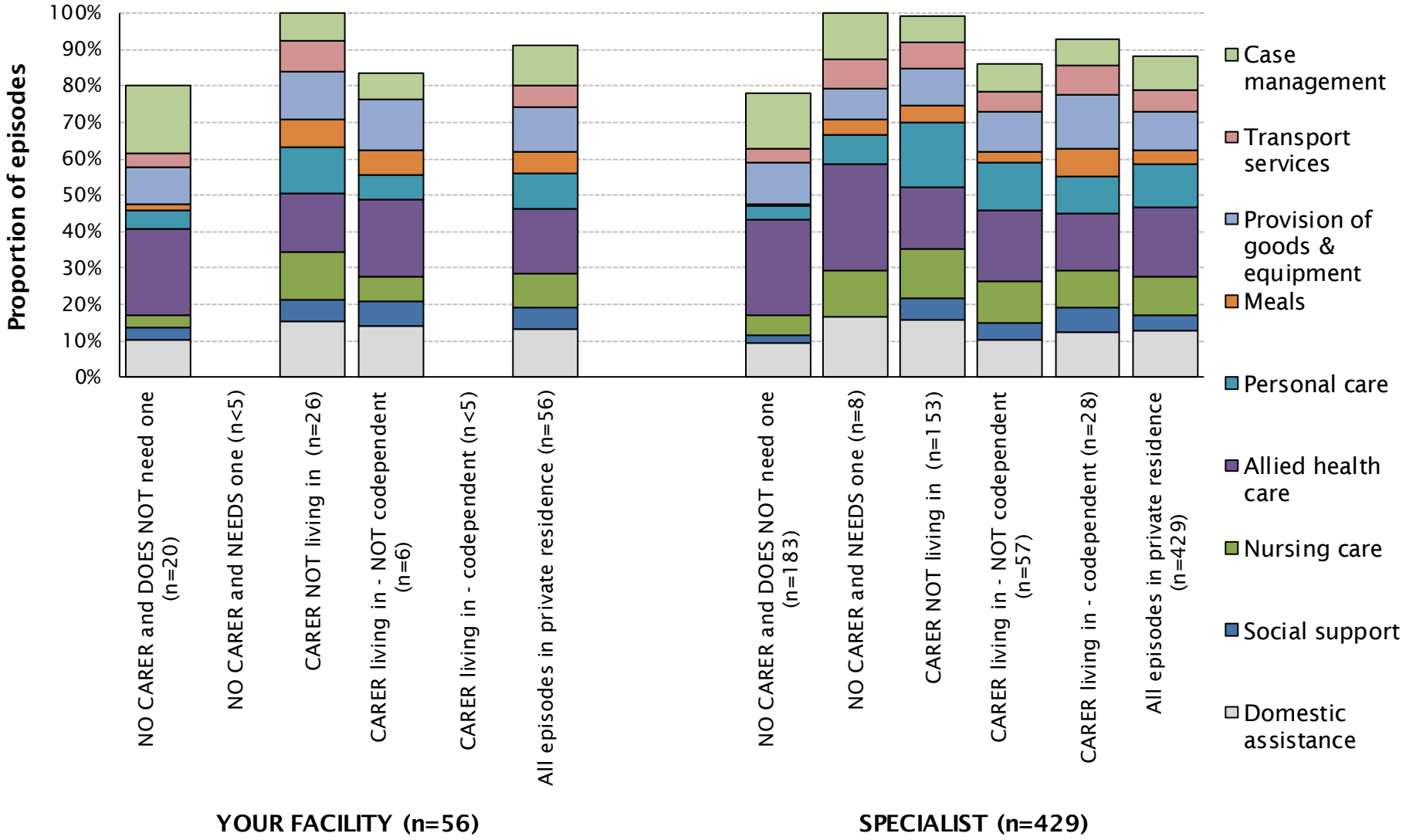
Note: Final accommodation is private residence.

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	20	0	26	6	4	
Percent of episodes receiving:						
No services	20.0	—	0.0	16.7	0.0	**8.9**
1 service type	15.0	—	0.0	33.3	0.0	**8.9**
2 service types	30.0	—	11.5	33.3	25.0	**21.4**
3 service types	15.0	—	19.2	0.0	25.0	**16.1**
4 or more service types	20.0	—	69.2	16.7	50.0	**44.6**
Service Type received						
Domestic assistance	30.0	—	76.9	33.3	50.0	**53.6**
Social support	10.0	—	30.8	16.7	75.0	**25.0**
Nursing care	10.0	—	65.4	16.7	25.0	**37.5**
Allied health care	70.0	—	80.8	50.0	75.0	**73.2**
Personal care	15.0	—	65.4	16.7	25.0	**39.3**
Meals	5.0	—	38.5	16.7	25.0	**23.2**
Provision of goods & equipment	30.0	—	65.4	33.3	75.0	**50.0**
Transport services	10.0	—	42.3	0.0	25.0	**25.0**
Case management	55.0	—	38.5	16.7	75.0	**44.6**

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	183	8	153	57	28	
Percent of episodes receiving:						
No services	21.9	0.0	0.7	14.0	7.1	**11.9**
1 service type	24.0	12.5	0.0	12.3	7.1	**12.6**
2 service types	27.9	12.5	8.5	17.5	14.3	**18.4**
3 service types	14.8	50.0	23.5	12.3	7.1	**17.7**
4 or more service types	11.5	25.0	67.3	43.9	64.3	**39.4**
Service Type received						
Domestic assistance	21.9	50.0	76.5	40.4	60.7	**46.9**
Social support	4.9	0.0	28.1	19.3	32.1	**16.8**
Nursing care	13.1	37.5	64.7	43.9	50.0	**38.5**
Allied health care	60.7	87.5	81.0	77.2	75.0	**71.6**
Personal care	8.7	25.0	85.0	52.6	50.0	**44.8**
Meals	0.5	12.5	23.5	12.3	35.7	**12.8**
Provision of goods & equipment	26.8	25.0	49.0	43.9	71.4	**39.9**
Transport services	9.3	25.0	33.3	21.1	39.3	**21.7**
Case management	35.5	37.5	35.9	29.8	35.7	**35.0**

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	169	12	69	167	29	
Percent of episodes receiving:						
No services	46.2	16.7	14.5	19.8	24.1	**29.1**
1 service type	33.7	16.7	15.9	29.9	34.5	**29.1**
2 service types	12.4	16.7	10.1	17.4	20.7	**14.6**
3 service types	3.0	16.7	15.9	7.2	3.4	**7.0**
4 or more service types	4.1	33.3	43.5	25.1	17.2	**19.7**
Service Type received						
Domestic assistance	17.2	41.7	49.3	32.9	20.7	**28.9**
Social support	3.6	25.0	24.6	13.8	10.3	**11.7**
Nursing care	5.3	41.7	39.1	21.6	13.8	**18.2**
Allied health care	35.5	41.7	42.0	54.5	48.3	**44.6**
Personal care	4.7	33.3	60.9	29.3	20.7	**24.4**
Meals	2.4	25.0	18.8	9.6	6.9	**8.5**
Provision of goods & equipment	9.5	16.7	30.4	24.6	20.7	**19.3**
Transport services	7.1	33.3	26.1	21.0	6.9	**15.9**
Case management	5.3	25.0	29.0	22.8	24.1	**17.3**

Note: Final accommodation is private residence.

Spinal cord injury

specific data

Traumatic SCI AIS grade at admission and discharge at specialist facilities

	Primary admission		Subsequent admission		All admissions	
Begin AIS grade	Episodes	%	Episodes	%	Episodes	%
A	80	32.4	16	34.0	96	32.7
B	27	10.9	7	14.9	34	11.6
C	55	22.3	13	27.7	68	23.1
D	85	34.4	11	23.4	96	32.7
E	0	0.0	0	0.0	0	0.0

	Primary admission		Subsequent admission		All admissions	
End AIS grade	Episodes	%	Episodes	%	Episodes	%
A	70	28.3	16	34.8	86	29.4
B	25	10.1	9	19.6	34	11.6
C	44	17.8	8	17.4	52	17.7
D	108	43.7	13	28.3	121	41.3
E	0	0.0	0	0.0	0	0.0

Note 1: 2 episode(s) did not record admission status.

Note 2: 28 episode(s) did not record AIS scores.

Traumatic SCI AIS grade at admission and discharge at non-specialist facilities

	Primary admission		Subsequent admission		All admissions	
Begin AIS grade	Episodes	%	Episodes	%	Episodes	%
A	19	18.8	6	21.4	25	19.4
B	13	12.9	6	21.4	19	14.7
C	19	18.8	3	10.7	22	17.1
D	43	42.6	11	39.3	54	41.9
E	7	6.9	2	7.1	9	7.0

	Primary admission		Subsequent admission		All admissions	
End AIS grade	Episodes	%	Episodes	%	Episodes	%
A	18	18.2	6	22.2	24	19.0
B	11	11.1	6	22.2	17	13.5
C	19	19.2	3	11.1	22	17.5
D	44	44.4	8	29.6	52	41.3
E	7	7.1	4	14.8	11	8.7

Note 1: 5 episode(s) did not record admission status.

Note 2: 78 episode(s) did not record AIS scores.

Traumatic SCI 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	86	5	4	1	0	24	0	0	0	0
B	0	23	7	3	0	0	17	2	0	0
C	0	5	39	24	0	0	0	20	2	0
D	0	0	1	95	0	0	0	0	50	2
E	0	0	0	0	0	0	0	0	0	9

Note: 28 SPECIALIST and 78 NON-SPECIALIST episode(s) did not record AIS scores.

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

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	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	0
C2	1	12	1	1	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	0
C3	0	0	20	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	0	0
C4	1	1	2	42	5	5	1	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	1	0	1	19	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
C6	0	0	0	0	2	17	1	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	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	0	0	3	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	3	0	0	0	0	0	0	0	1	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	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	5	1	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	1	0	5	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	9	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
T7	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	0
T8	0	0	0	0	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
T9	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	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	0	1	9	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	1	4	1	0	0	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	1	0	12	1	1	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	2	2	2	2	0	0	0	0	0	0	0
L2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	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	1	0	4	0	1	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	4	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	0	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

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	4	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	3	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
C3	0	0	8	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
C4	0	0	0	15	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	0	9	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
C6	0	0	0	0	0	4	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	0	3	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	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
T1	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1	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	1	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	3	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	1	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	0	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	4	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	0	0	0	0	2	0	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	0	0	7	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	2	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	1	5	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	1	0	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	2	0	0	0	0	0	0	0
L4	0	0	0	1	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
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	0	0	0	0	1
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	0	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

Traumatic SCI ventilator dependence

Completed ventilator data item - SPECIALIST	243	75.2%
No. ventilator dependent	1	

Completed ventilator data item - NON-SPECIALIST	106	51.5%
No. ventilator dependent	0	

Low FIM score summary report

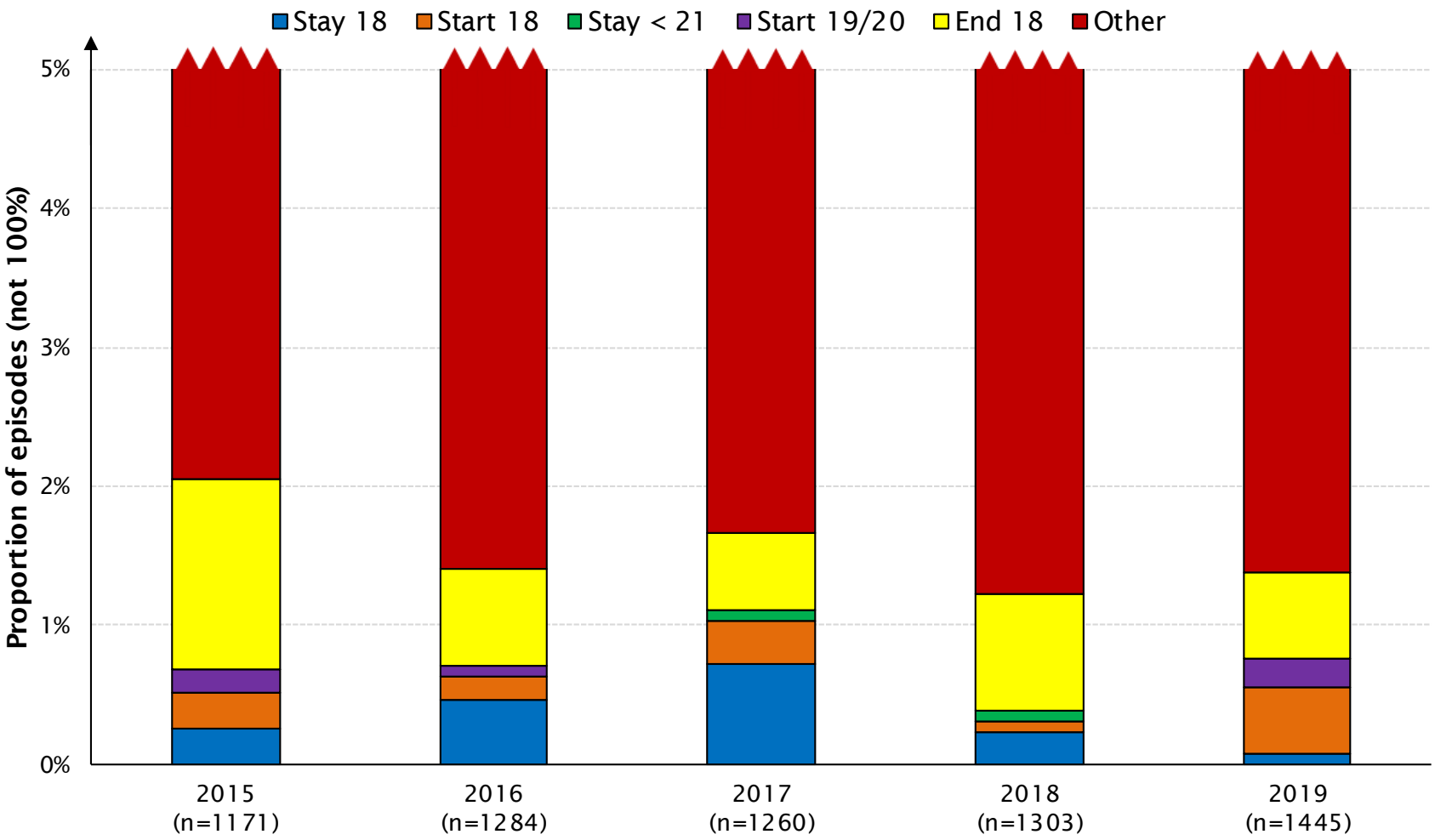
Low FIM score Category Definitions

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.

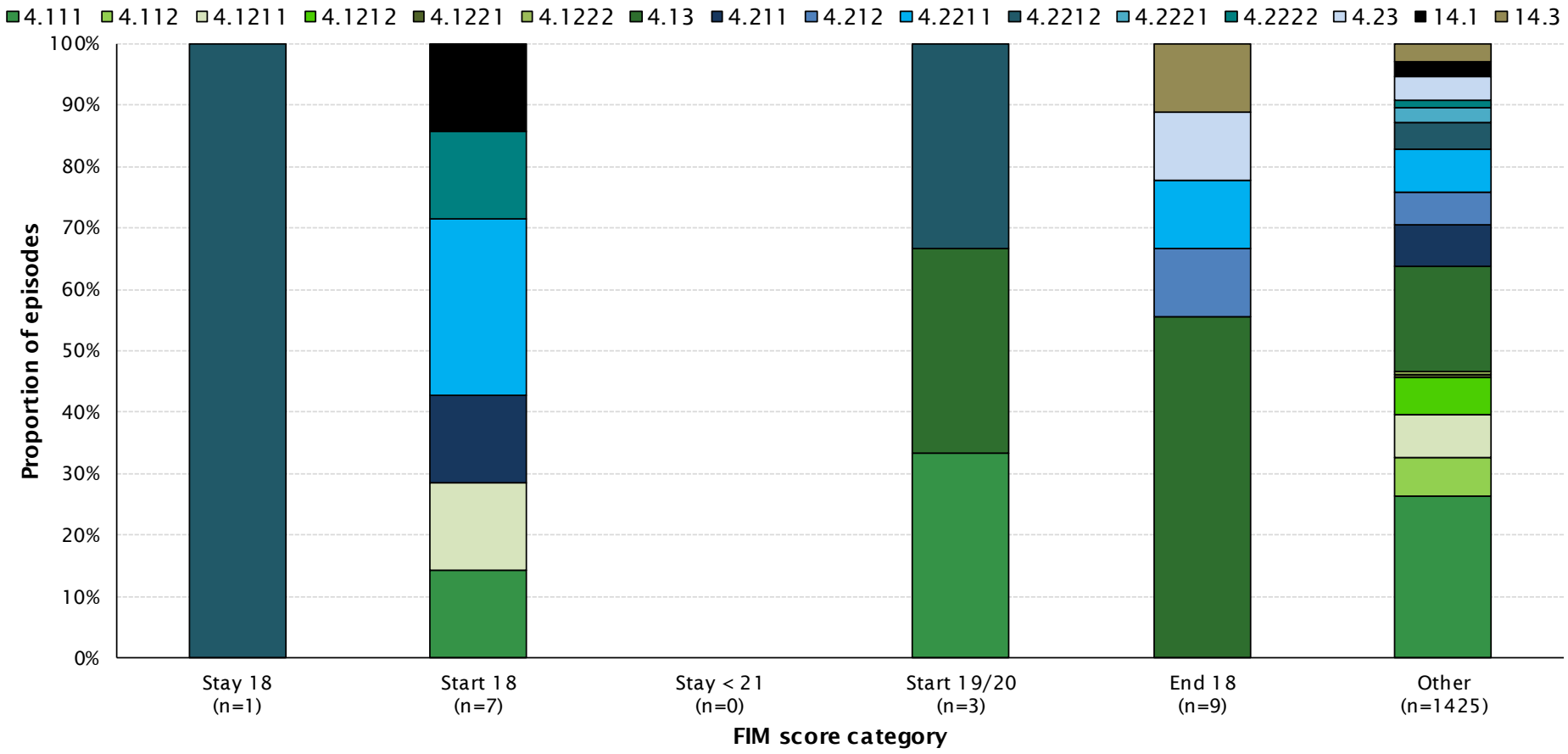
Low FIM score episodes over time



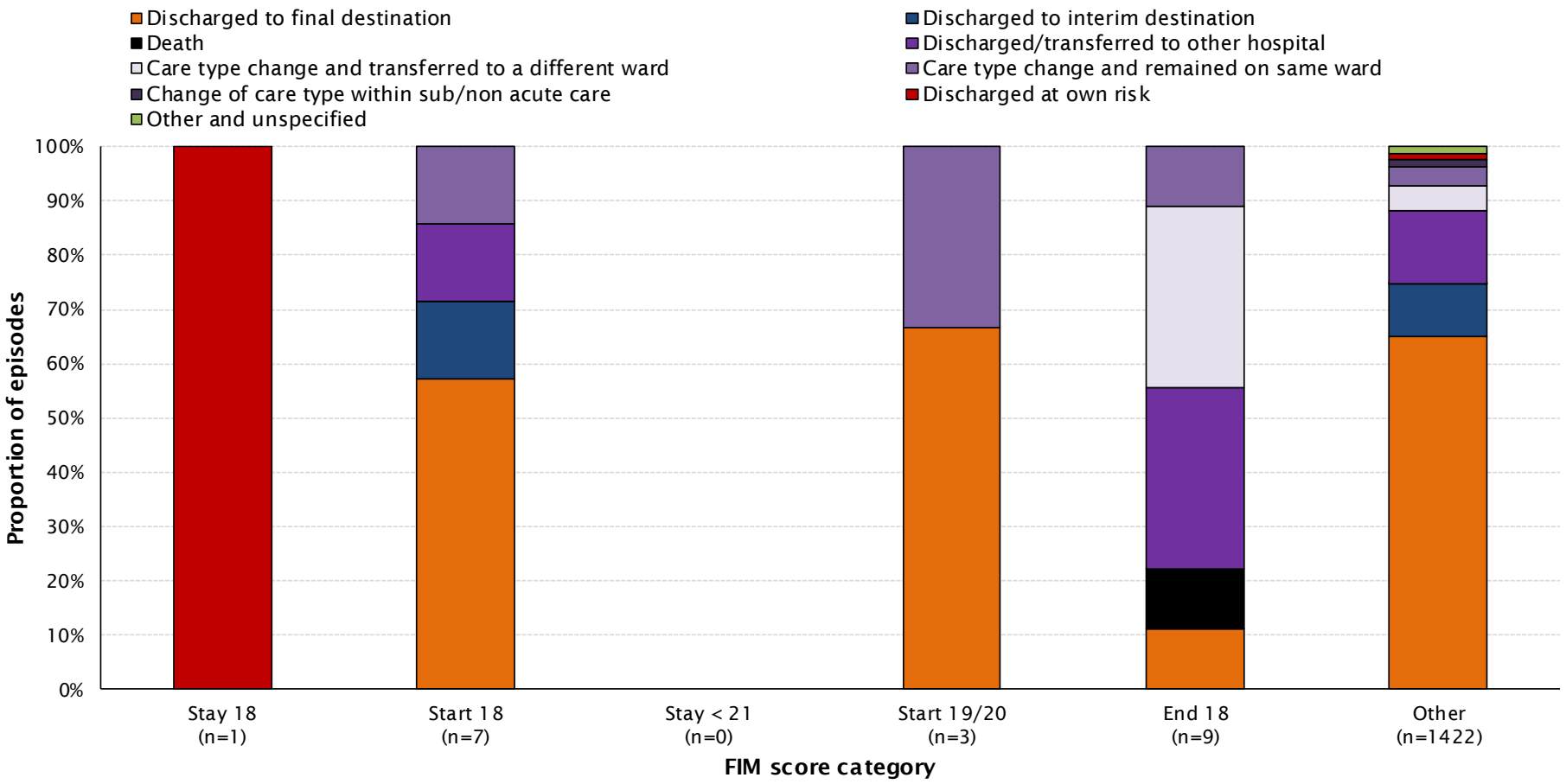
Low FIM score episodes over time

Year	Stay 18	Start 18	Stay < 21	Start 19/20	End 18	Other
YOUR FACILITY						
2015	0	0	0	0	0	79
2016	0	0	0	0	0	73
2017	0	0	0	0	0	73
2018	0	0	0	0	0	66
2019	0	0	0	3	0	73
SPECIALISTS						
2015	2	2	0	0	3	643
2016	4	1	0	0	0	704
2017	2	2	0	0	3	641
2018	0	0	1	0	2	692
2019	0	6	0	3	2	660
NON-SPECIALISTS						
2015	1	1	0	2	13	504
2016	2	1	0	1	9	562
2017	7	2	1	0	4	598
2018	3	1	0	0	9	595
2019	1	1	0	0	7	765

Low FIM score impairment distribution



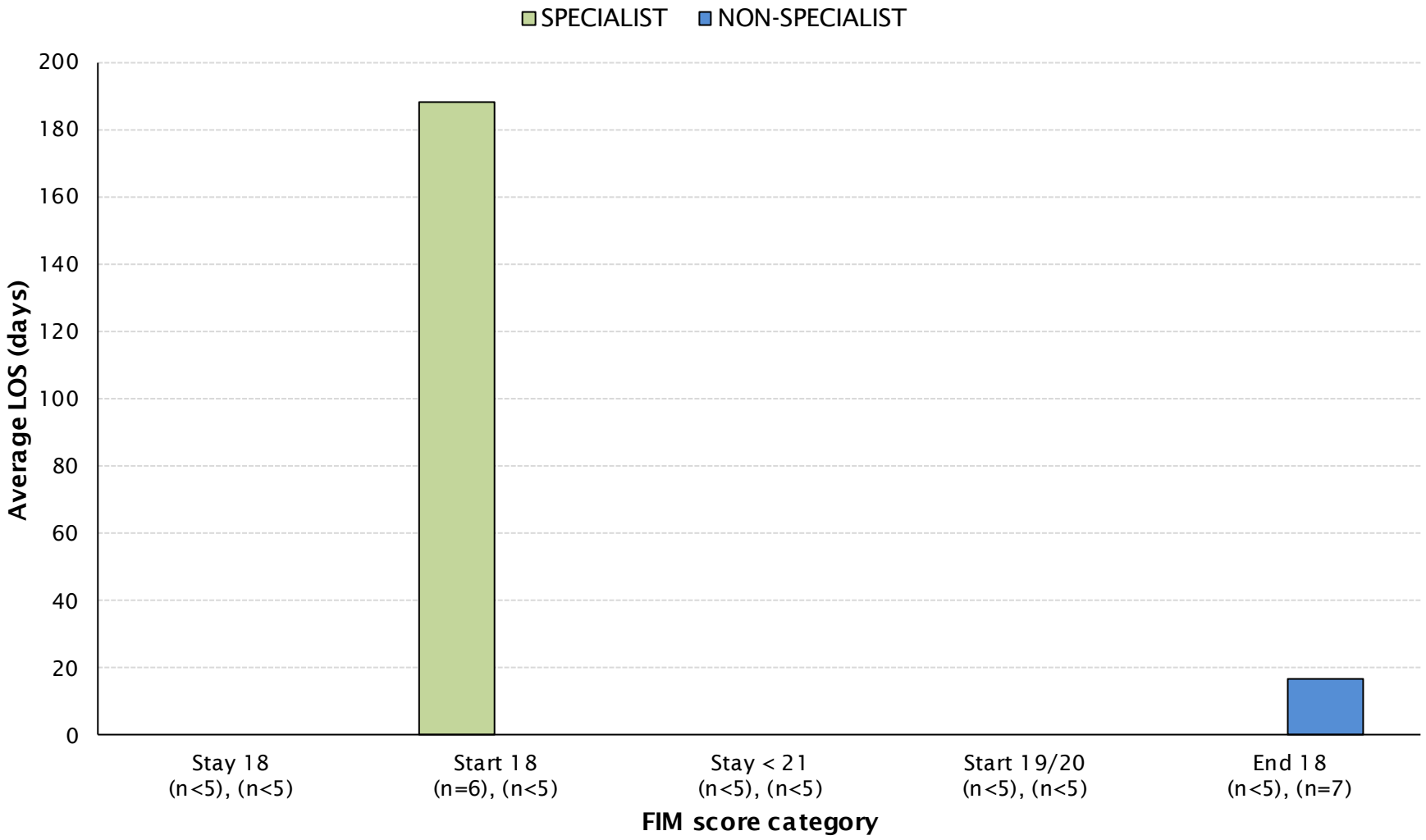
Low FIM score Discharge Destinations



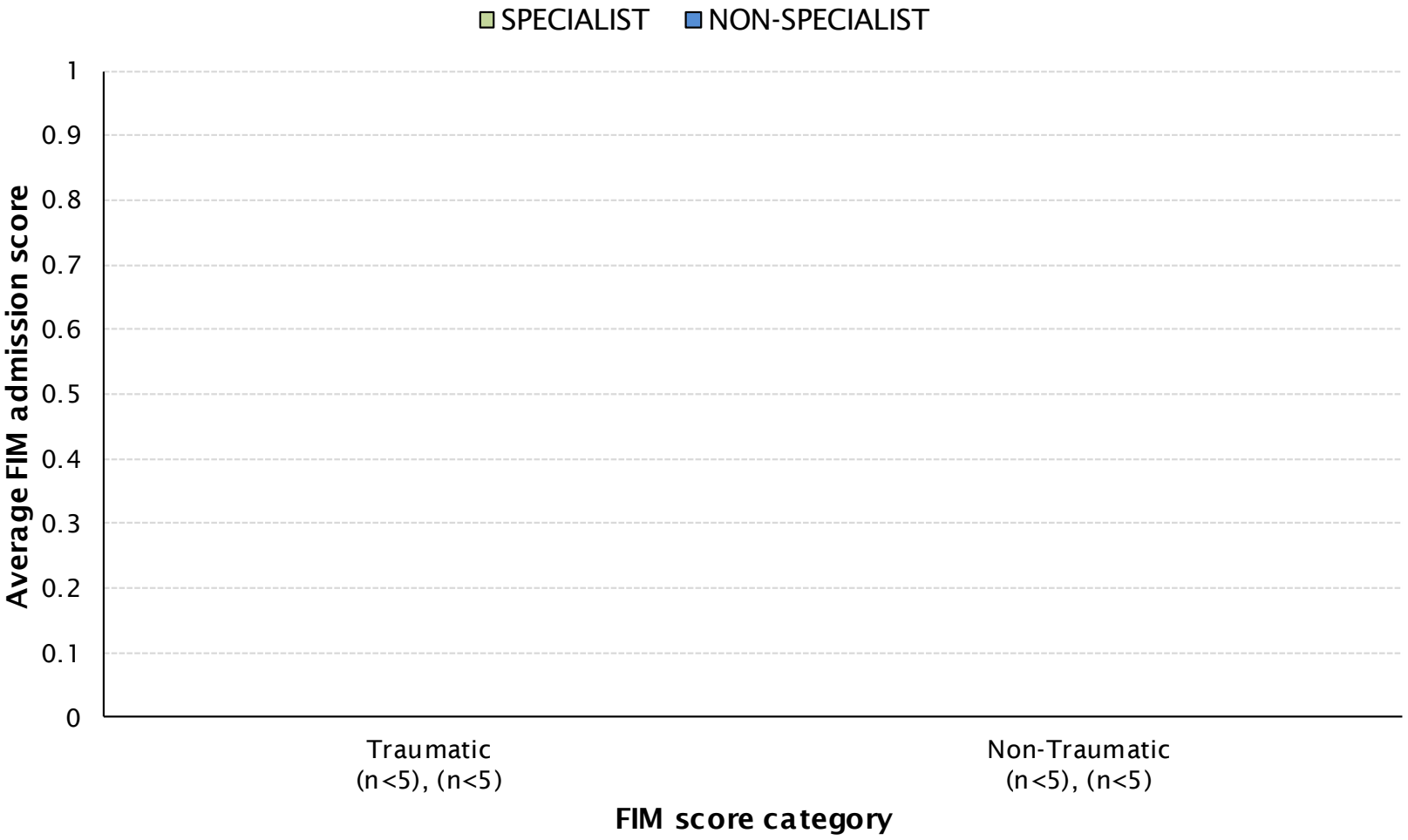
Low FIM score Discharge Destination

Discharge Destination	Stay 18	Start 18	Stay < 21	Start 19/20	End 18	Other
YOUR FACILITY						
Discharged to final destination	0	0	0	2	0	54
Discharged to interim destination	0	0	0	0	0	7
Death	0	0	0	0	0	0
Discharged/transferred to other hospital	0	0	0	0	0	6
Care type change and transferred to a different ward	0	0	0	0	0	4
Care type change and remained on same ward	0	0	0	1	0	2
Change of care type within sub/non acute care	0	0	0	0	0	0
Discharged at own risk	0	0	0	0	0	0
Other and unspecified	0	0	0	0	0	0
Total	0	0	0	3	0	73
SPECIALIST (ALL FACILITIES)						
Discharged to final destination	0	4	0	2	0	440
Discharged to interim destination	0	0	0	0	0	73
Death	0	0	0	0	0	1
Discharged/transferred to other hospital	0	1	0	0	1	75
Care type change and transferred to a different ward	0	0	0	0	1	28
Care type change and remained on same ward	0	1	0	1	0	21
Change of care type within sub/non acute care	0	0	0	0	0	2
Discharged at own risk	0	0	0	0	0	5
Other and unspecified	0	0	0	0	0	13
Total	0	6	0	3	2	658
NON-SPECIALIST (ALL FACILITIES)						
Discharged to final destination	0	0	0	0	1	486
Discharged to interim destination	0	1	0	0	0	62
Death	0	0	0	0	1	0
Discharged/transferred to other hospital	0	0	0	0	2	116
Care type change and transferred to a different ward	0	0	0	0	2	38
Care type change and remained on same ward	0	0	0	0	1	31
Change of care type within sub/non acute care	0	0	0	0	0	15
Discharged at own risk	1	0	0	0	0	10
Other and unspecified	0	0	0	0	0	6
Total	1	1	0	0	7	764

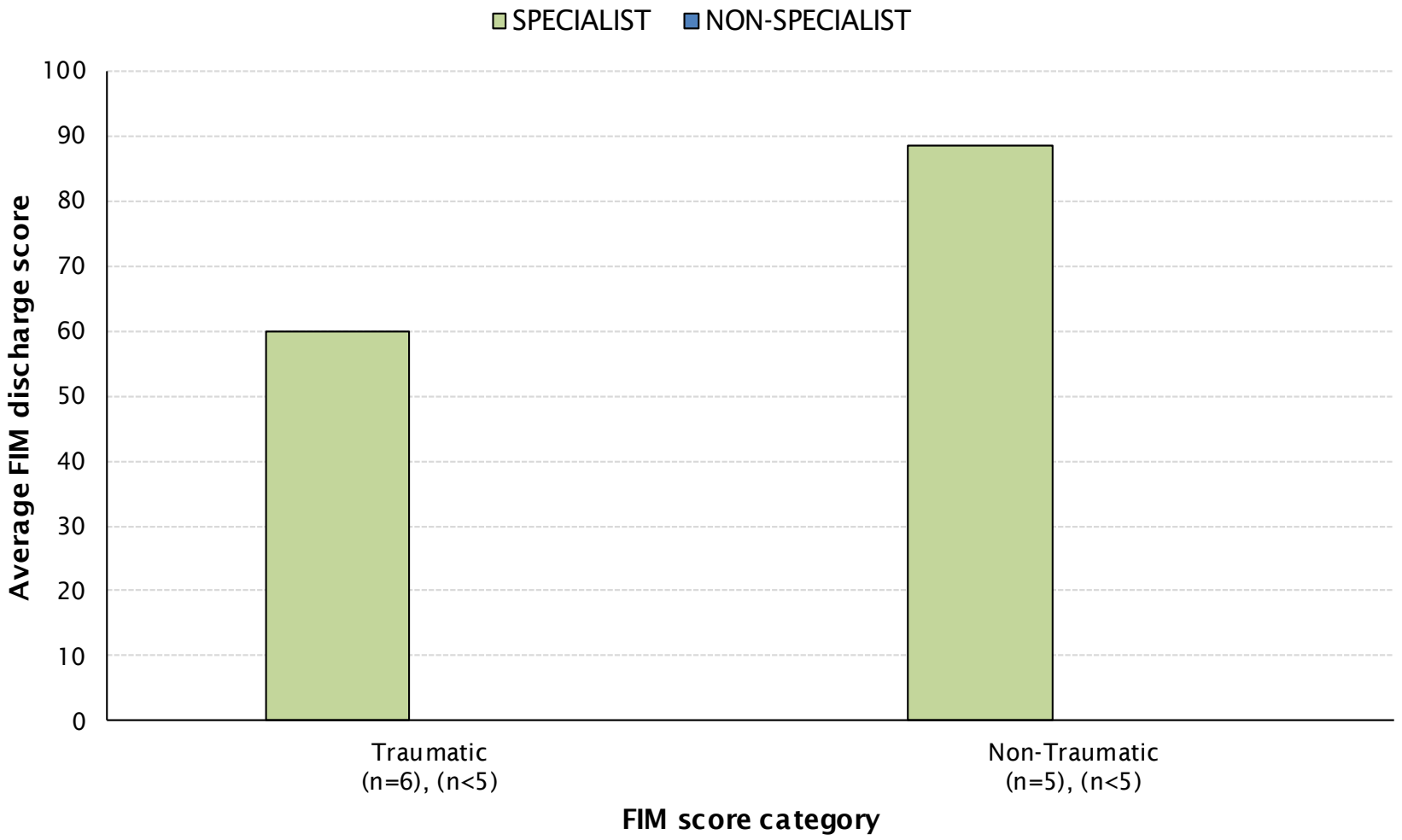
Low FIM score average LOS



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

Between AN-SNAP V3 and V4 there have been some minor refinements to the positioning of age and FIM score splits, however the greatest change has been the introduction of impairment-specific weights to FIM item scores in the calculation of a motor score, the introduction of reconditioning only classes and the removal of orthopaedic replacement classes (now grouped with all other orthopaedic conditions). Refer Appendix 3 for the full list of classes and the section Impairment-specific weighted FIM scores below for more detail about how the items are weighted. For more information about AN-SNAP class V4 please refer to the AROC website.

AROC

The Australasian Rehabilitation Outcomes Centre (AROC) was established in 2002 and current membership encompasses close to 100% of all Australian and New Zealand rehabilitation facilities. Facilities routinely submit deidentified data to AROC for each rehabilitation episode, including information about demographics, process indicators and functional status.

Benchmark group

In Calendar Year 2015 new benchmark groups were introduced. With the exception of brain injury and spinal cord 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.

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 quality score

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

Functional Independence Measure (FIM)

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

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

FIM change

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

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

FIM efficiency

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

Appendix 1: Glossary

Impairment-specific weighted FIM motor scores

Impairment-specific weighted FIM motor scores are new to the inpatient (admitted overnight adult) rehabilitation AN-SNAP V4 classes. Weights reflect the relative impact of each item on the cost of caring for the rehabilitation patient. If an item has a weight of more than 1, it will have an impact on the cost of care that is more than average – a weight less than 1 implies the impact will be less than average. Within each impairment type, the weights are scaled to sum to 13 – thus both weighted and unweighted scores range from a minimum of 13 to a maximum of 91. Where impairments are grouped together in the classification, a single set of weights for that group has been derived. The exception is Major Multiple Trauma (MMT) where there were too few episodes to develop relative weights and so all weights were set to 1.

Interquartile range (IQR)

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

Length of stay (LOS)

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

Mean

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

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.

Valid LOS

For an episode to have a Valid LOS flag it must be a complete episode with a length of stay ranging between 1 and 500 days.

Version 4 data set

The version 4 (V4) AROC dataset was introduced on 1 July 2012. V4 is designed as a bank of data items, combinations of which are used to describe 6 possible pathways of care (see the AROC website for more information about the different pathways). NOTE: This report utilises only Pathway 3 data (inpatient direct care).

Appendix 2: AROC Impairment Codes

STROKE

Haemorrhagic

1.11 Left body involvement
1.12 Right body involvement
1.13 Bilateral involvement
1.14 No paresis
1.19 Other Orthopaedic fractures

Ischaemic

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

BRAIN DYSFUNCTION

Non-traumatic

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

Traumatic

2.21 Open injury
2.22 Closed injury

NEUROLOGICAL CONDITIONS

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

SPINAL CORD DYSFUNCTION

Non traumatic spinal cord dysfunction

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

Traumatic spinal cord dysfunction

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

AMPUTATION OF LIMB

Not resulting from trauma

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

AMPUTATION OF LIMB

Resulting from trauma

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

ARTHRITIS

6.1 Rheumatoid arthritis
6.2 Osteoarthritis
6.9 Other arthritis

PAIN SYNDROMES

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

Appendix 2: AROC Impairment Codes

ORTHOPAEDIC CONDITIONS

Fractures (includes dislocation)

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

Post Orthopaedic Surgery

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

Soft tissue injury

8.3 Soft tissue injury

CARDIAC

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

PULMONARY

10.1 Chronic obstructive pulmonary disease
10.2 Lung transplant
10.9 Other pulmonary

BURNS

11 Burns

CONGENITAL DEFORMITIES

12.1 Spina bifida
12.9 Other congenital deformity

OTHER DISABLING IMPAIRMENTS

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

MAJOR MULTIPLE TRAUMA

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

DEVELOPMENTAL DISABILITIES

15.1 Developmental disabilities (excludes cerebral palsy)

RE-CONDITIONING/RESTORATIVE

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

Appendix 3: AN-SNAP V4 Overnight Rehabilitation Classes (Pathway 3)

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

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

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