

# AROC Impairment Specific Report

## Spinal Cord Injury

INPATIENT – PATHWAY 3

January 2018 – December 2018

Anywhere Hospital



**Australasian  
Faculty of  
Rehabilitaion  
Medicine**



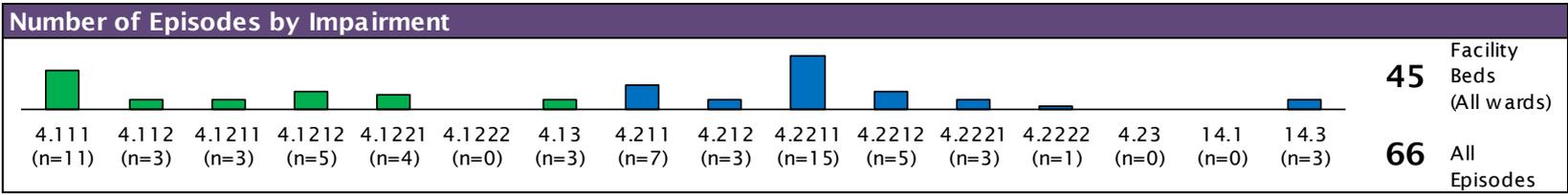
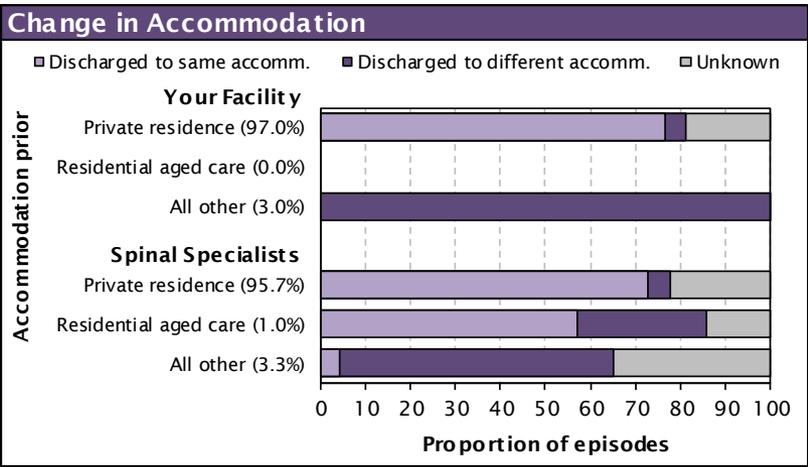
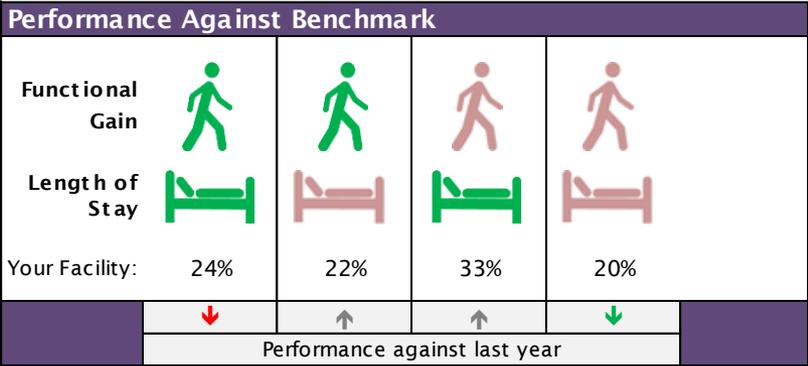
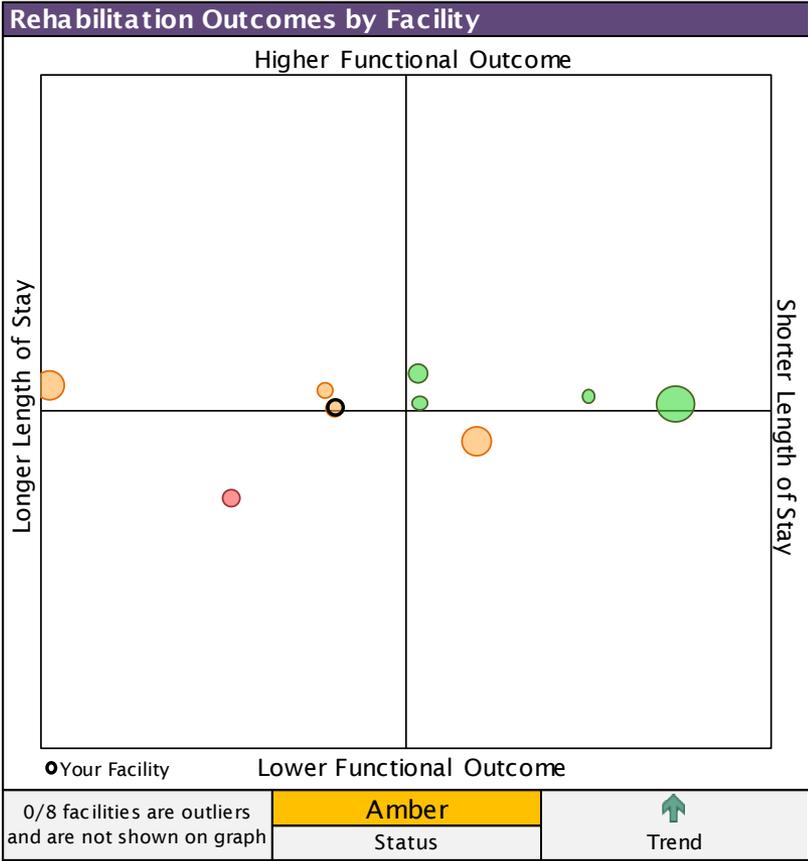
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# Spinal Injury Dashboard



# Spinal Injury Dashboard

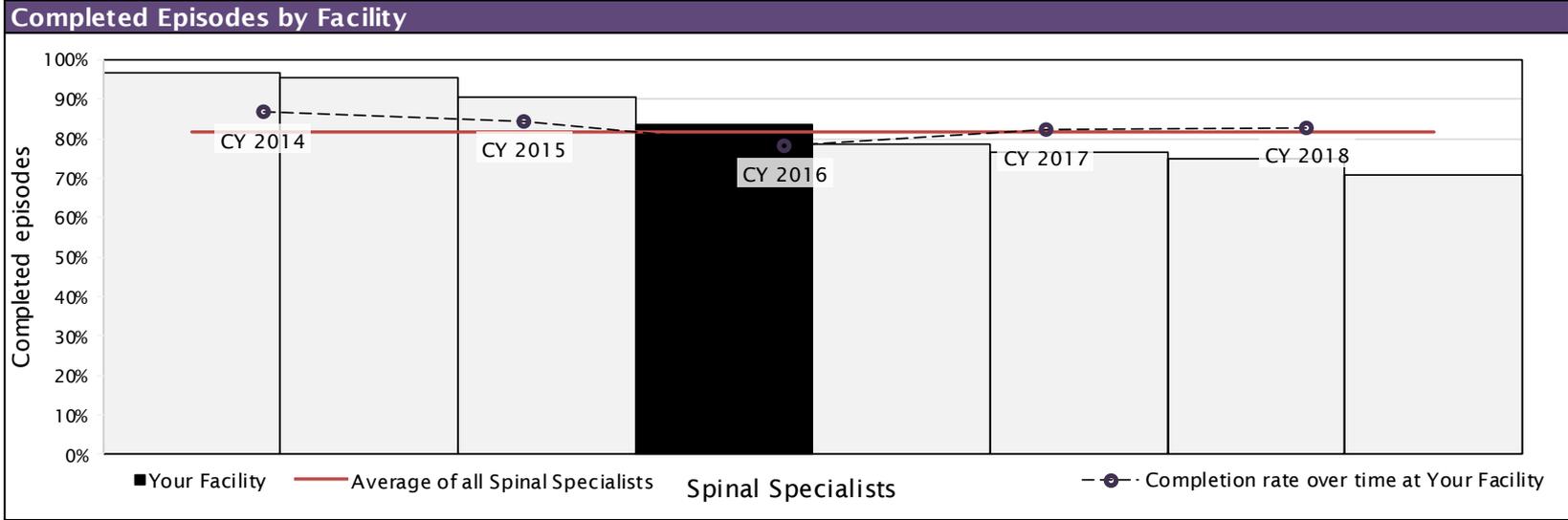


Key Indicators*	
Your Facility	Spinal Specialists
Average Age: <b>51.7</b>	Average Age: <b>52.4</b>
Mortality Rate: <b>0.0%</b>	Mortality Rate: <b>0.0%</b>
% with at least one comorbidity: <b>36%</b>	% with at least one comorbidity: <b>40%</b>
% with at least one complication: <b>30%</b>	% with at least one complication: <b>38%</b>
% episodes with start delays: <b>19%</b>	% episodes with start delays: <b>16%</b>
Days between onset and rehab episode: <b>34.9</b>	Days between onset and rehab episode: <b>33.5</b>
Days between clinically rehab ready & start date: <b>2.1</b>	Days between clinically rehab ready & start date: <b>1.6</b>

Facility FIM Training*	
FIM Credentialed Staff per 100 Episodes	FIM Credentialed Facility Trainers
8.4 Your Facility	<b>0</b> Your Facility
11.3 Spinal Specialists (Mean)	<b>2</b> AROC Suggested Minimum

\* Mean value provided unless otherwise specified

\* This includes all impairments from all wards



- Spinal cord injury episodes discharged during the reporting period (January 2018 – December 2018) 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.
- 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

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

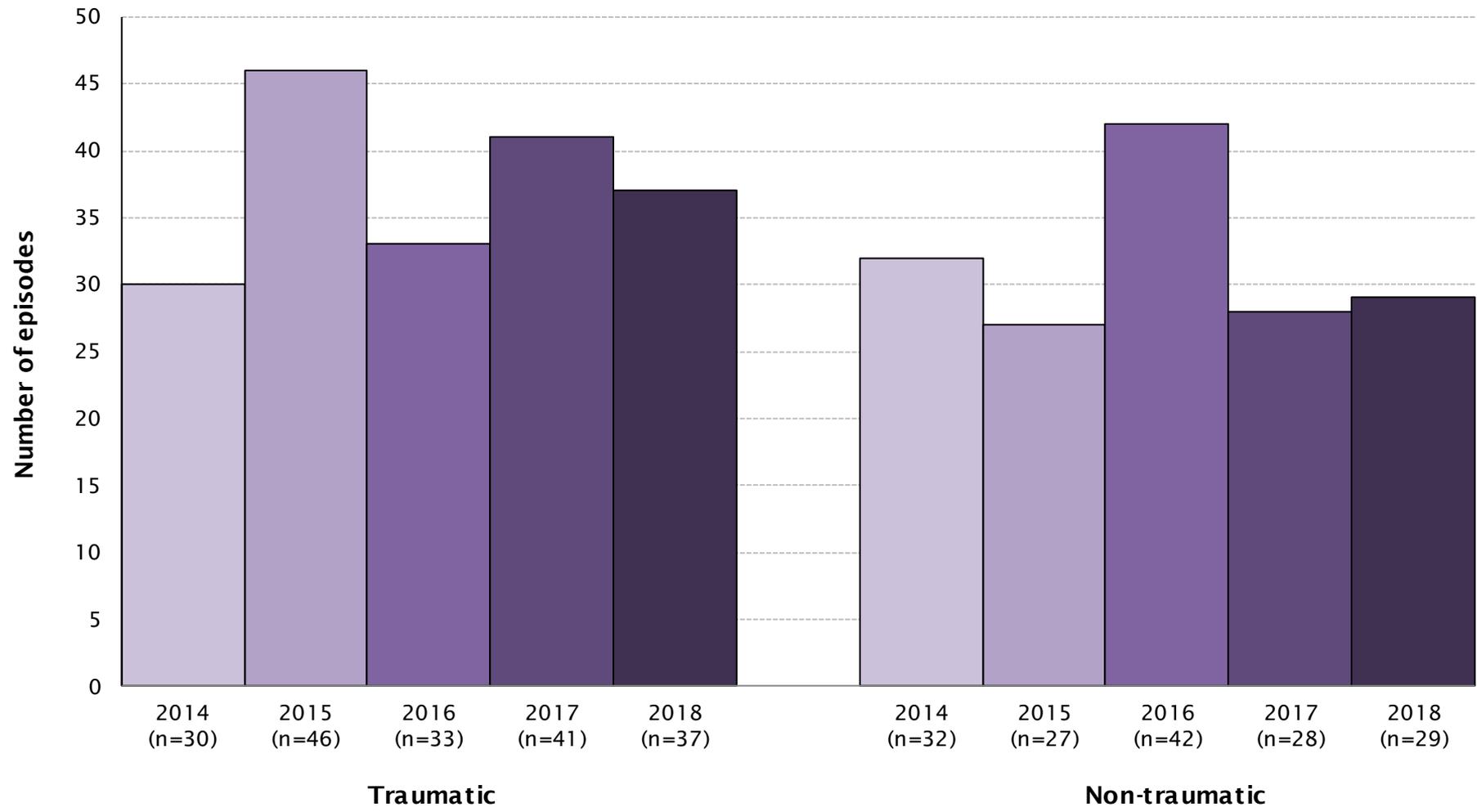
- 4AD1 Spinal cord dysfunction, Age  $\geq$  50, weighted FIM motor 42-91
- 4AD2 Spinal cord dysfunction, Age  $\geq$  50, weighted FIM motor 19-41
- 4AD3 Spinal cord dysfunction, Age  $\leq$  49, weighted FIM motor 34-91
- 4AD4 Spinal cord dysfunction, Age  $\leq$  49, weighted FIM motor 19-33
- 4AP1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

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

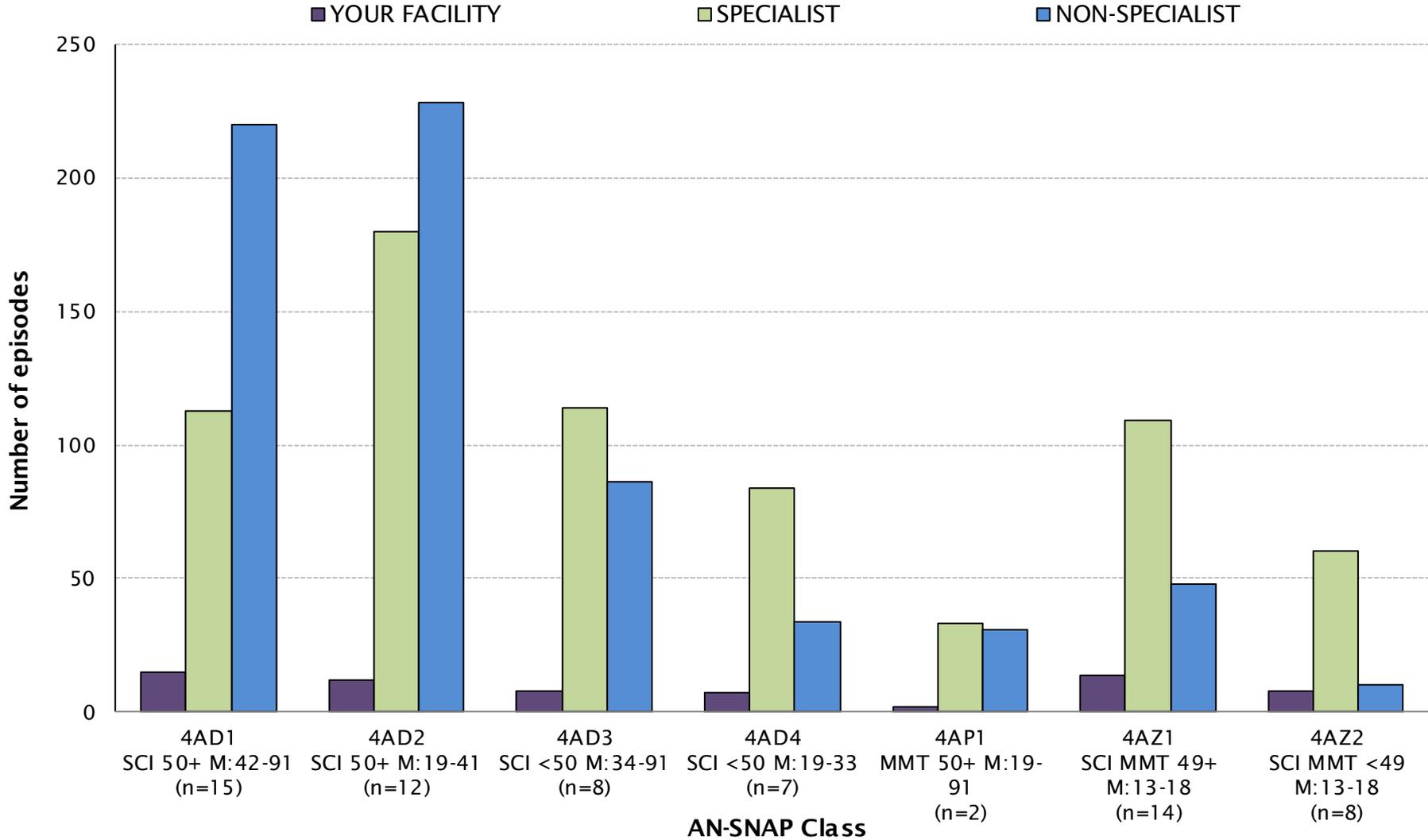
# The BIG picture



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



# Number of episodes by AN-SNAP class

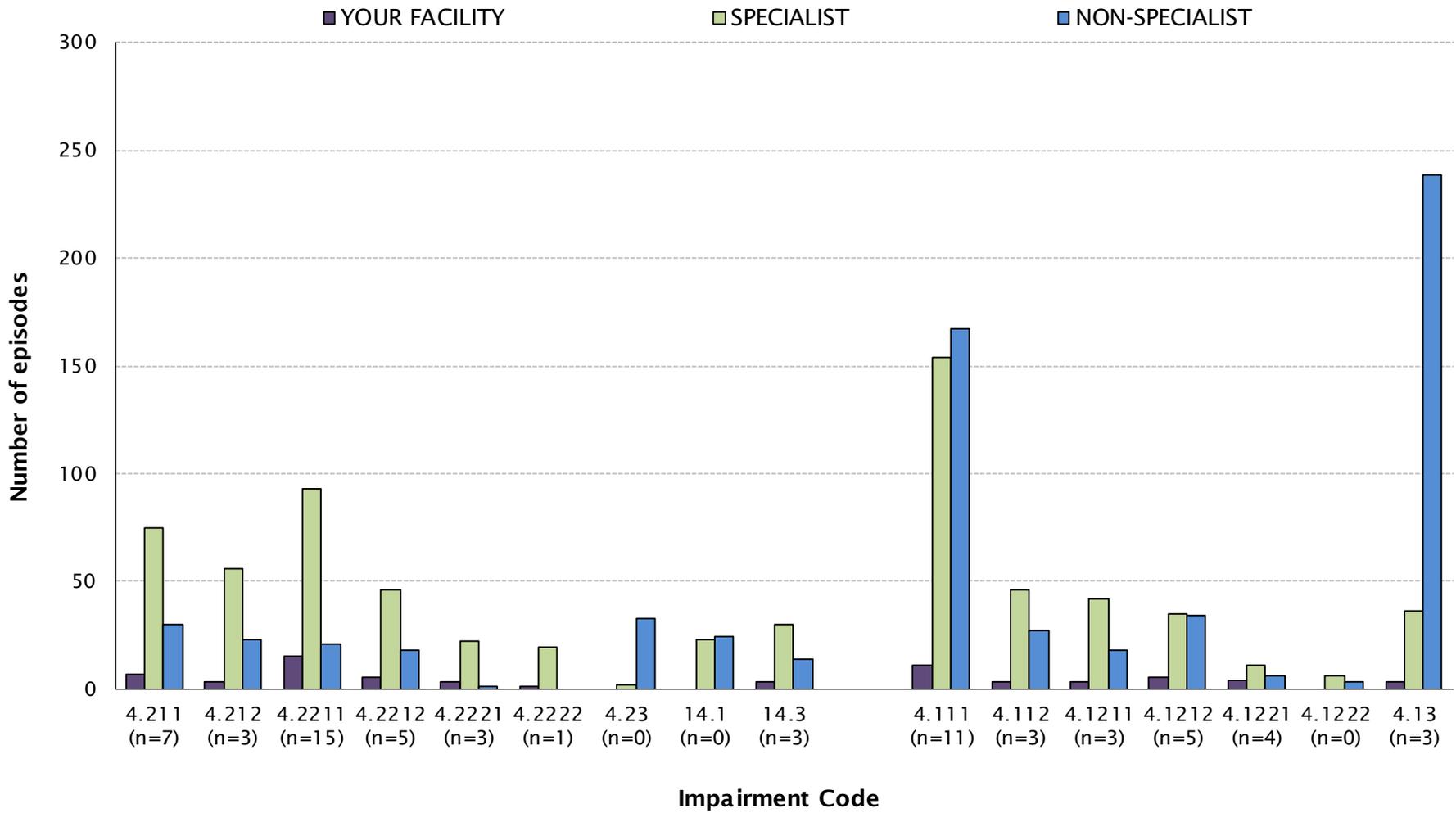


# Number of episodes by AN-SNAP class

AN-SNAP class	YOUR FACILITY		SPECIALIST		NON-SPECIALIST	
	No.	%	No.	%	No.	%
4AD1 (SCI, age ≥ 50, weighted FIM motor 42-91)	15	22.7	113	16.3	220	33.5
4AD2 (SCI, age ≥ 50, weighted FIM motor 19-41)	12	18.2	180	26.0	228	34.7
4AD3 (SCI, age ≤ 49, weighted FIM motor 34-91)	8	12.1	114	16.5	86	13.1
4AD4 (SCI, age ≤ 49, weighted FIM motor 19-33)	7	10.6	84	12.1	34	5.2
4AP1 (MMT, weighted FIM motor 19-91)	2	3.0	33	4.8	31	4.7
4AZ1 (SCI or MMT, age ≥ 49, weighted FIM motor 13-18)	14	21.2	109	15.7	48	7.3
4AZ2 (SCI or MMT, age ≤ 48, weighted FIM motor 13-18)	8	12.1	60	8.7	10	1.5
<b>All Spinal AN-SNAP classes</b>	<b>66</b>	<b>100.0</b>	<b>693</b>	<b>100.0</b>	<b>657</b>	<b>100.0</b>

Note: 0 episode(s) at YOUR FACILITY, 3 episode(s) at SPECIALIST facilities and 1 episode(s) at NON-SPECIALIST facilities had an AN-SNAP class of 499A.

# Number of traumatic and non-traumatic episodes by impairment

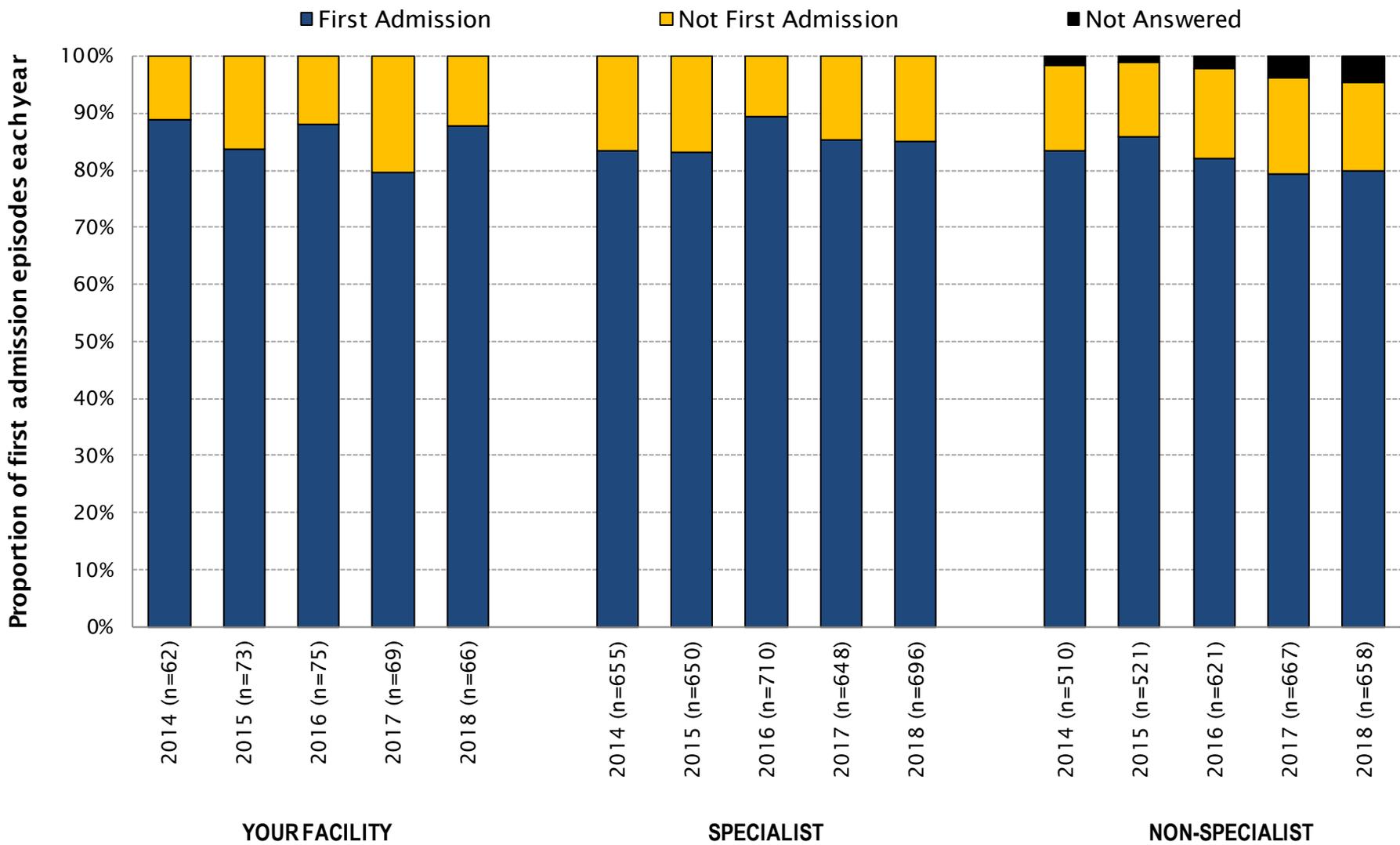


# Number of traumatic and non-traumatic episodes by impairment

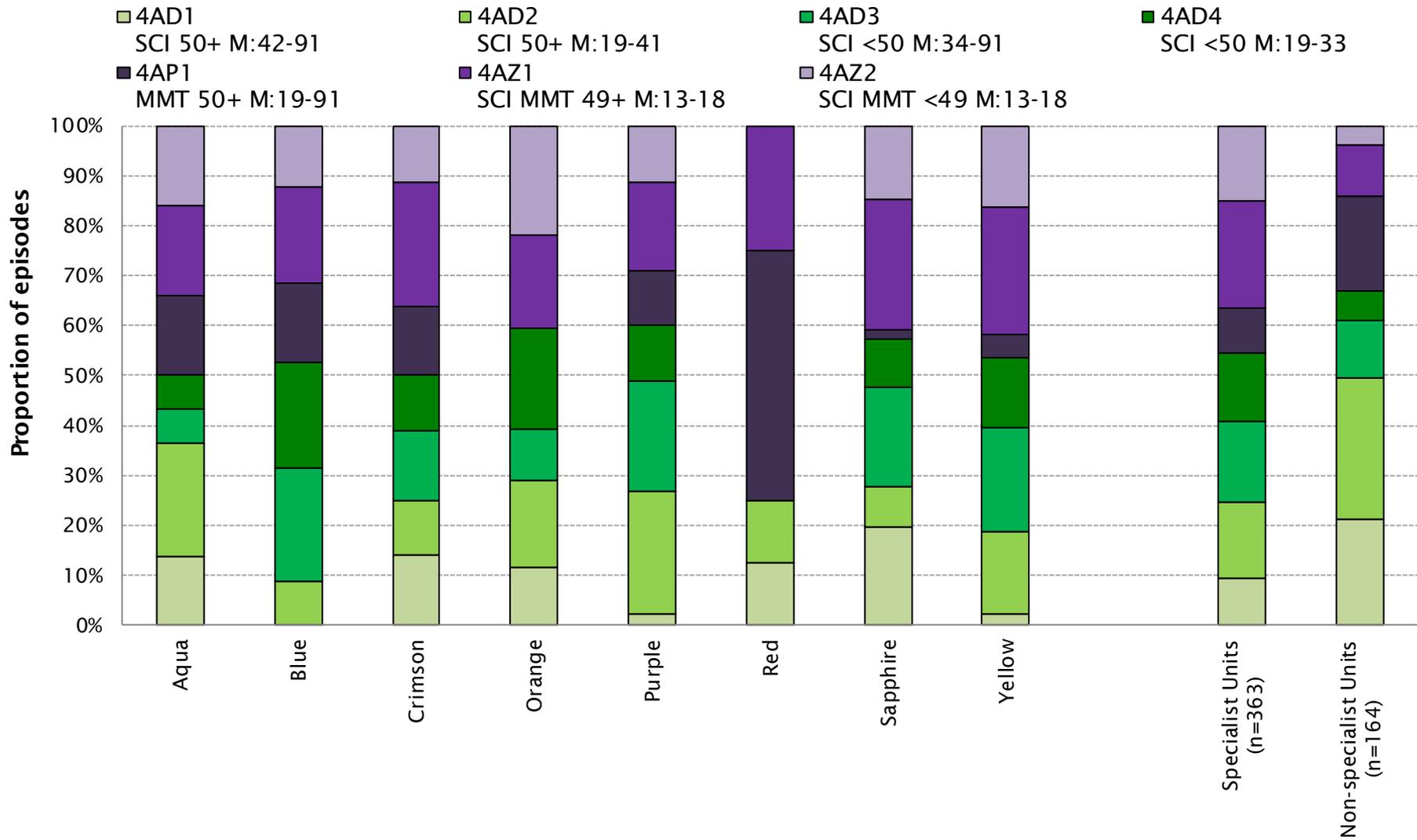


Impairment	YOUR FACILITY		SPECIALIST		NON-SPECIALIST	
	No.	%	No.	%	No.	%
<b><u>Traumatic impairments</u></b>						
4.211 Para-Inc	7	18.9	75	20.5	30	18.3
4.212 Para-Comp	3	8.1	56	15.3	23	14.0
4.2211 Quad-Inc C1-4	15	40.5	93	25.4	21	12.8
4.2212 Quad-Inc C5-8	5	13.5	46	12.6	18	11.0
4.2221 Quad-Comp C1-4	3	8.1	22	6.0	1	0.6
4.2222 Quad-Comp C5-8	1	2.7	19	5.2	0	0.0
4.23 Other TSCI	0	0.0	2	0.5	33	20.1
14.1 MMT: brain+spine	0	0.0	23	6.3	24	14.6
14.3 MMT: spine+other	3	8.1	30	8.2	14	8.5
<b>Total TSCI</b>	<b>37</b>	<b>100.0</b>	<b>366</b>	<b>100.0</b>	<b>164</b>	<b>100.0</b>
<b><u>Non-traumatic impairments</u></b>						
4.111 Para-Inc	11	37.9	154	46.7	167	33.8
4.112 Para-Comp	3	10.3	46	13.9	27	5.5
4.1211 Quad-Inc C1-4	3	10.3	42	12.7	18	3.6
4.1212 Quad-Inc C5-8	5	17.2	35	10.6	34	6.9
4.1221 Quad-Comp C1-4	4	13.8	11	3.3	6	1.2
4.1222 Quad-Comp C5-8	0	0.0	6	1.8	3	0.6
4.13 Other NTSCI	3	10.3	36	10.9	239	48.4
<b>Total NTSCI</b>	<b>29</b>	<b>100.0</b>	<b>330</b>	<b>100.0</b>	<b>494</b>	<b>100.0</b>
<b>TOTAL SCI</b>	<b>66</b>		<b>696</b>		<b>658</b>	

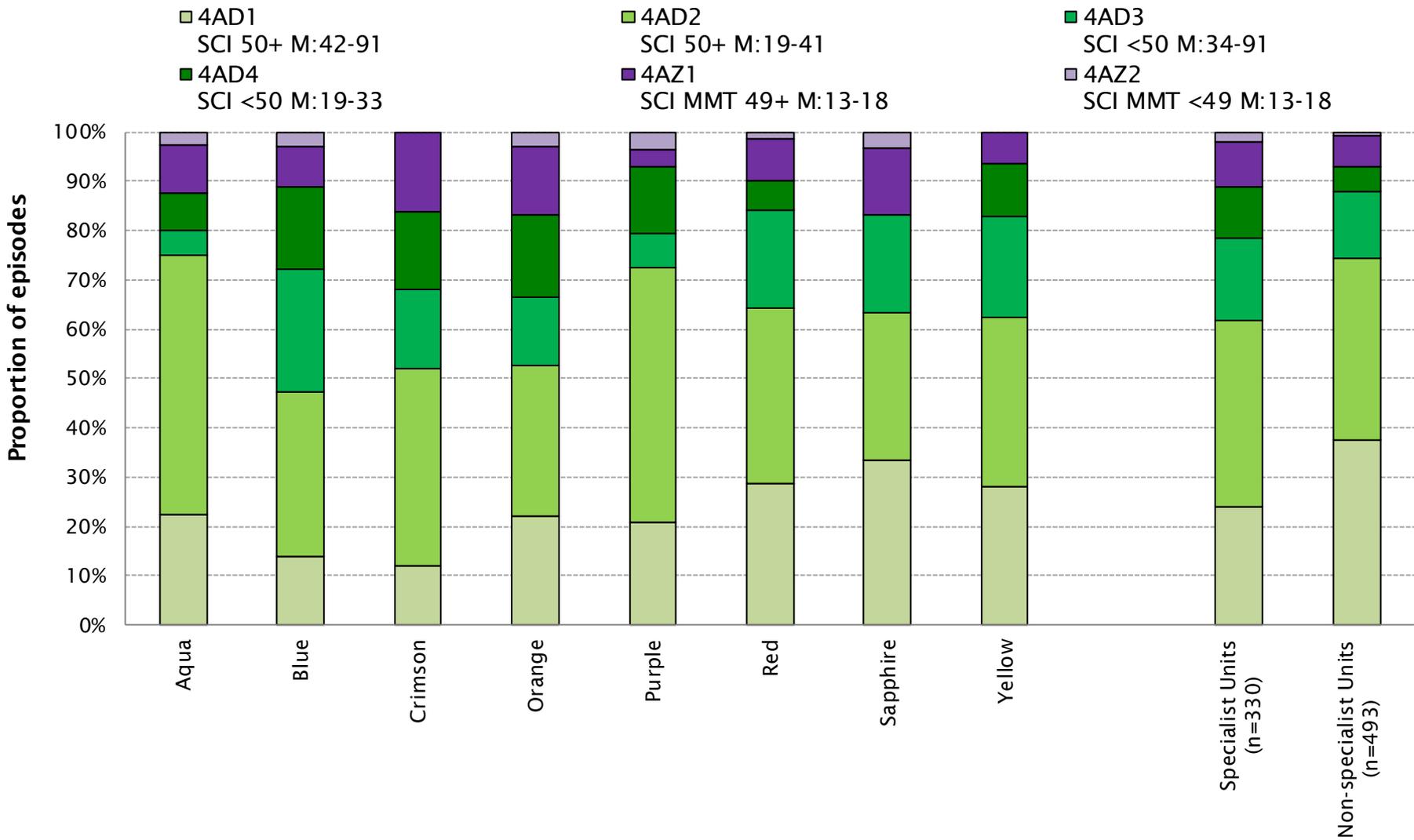
# Proportion of first admission episodes over time



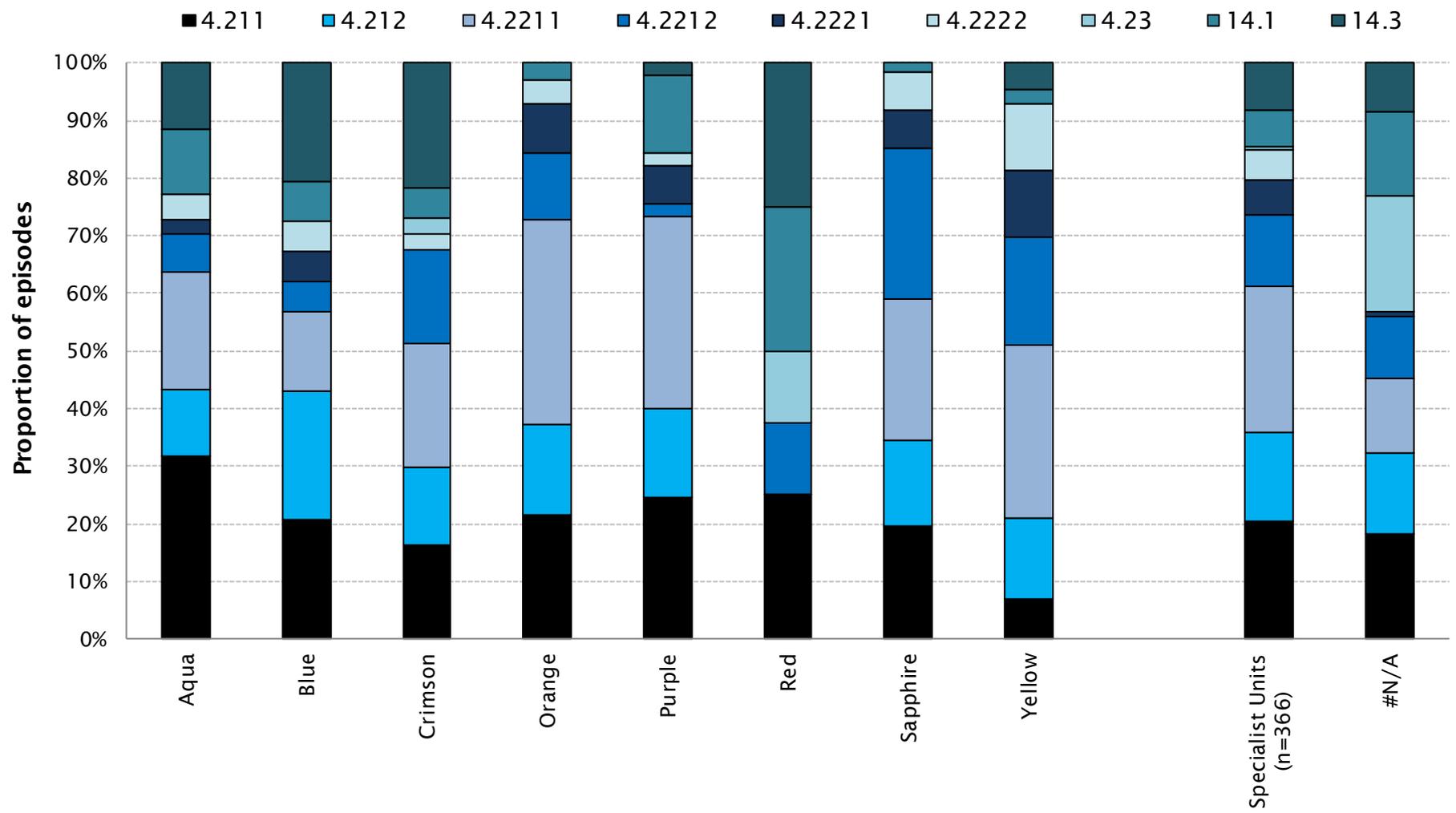
# Proportion of traumatic episodes by AN-SNAP class and specialist facility



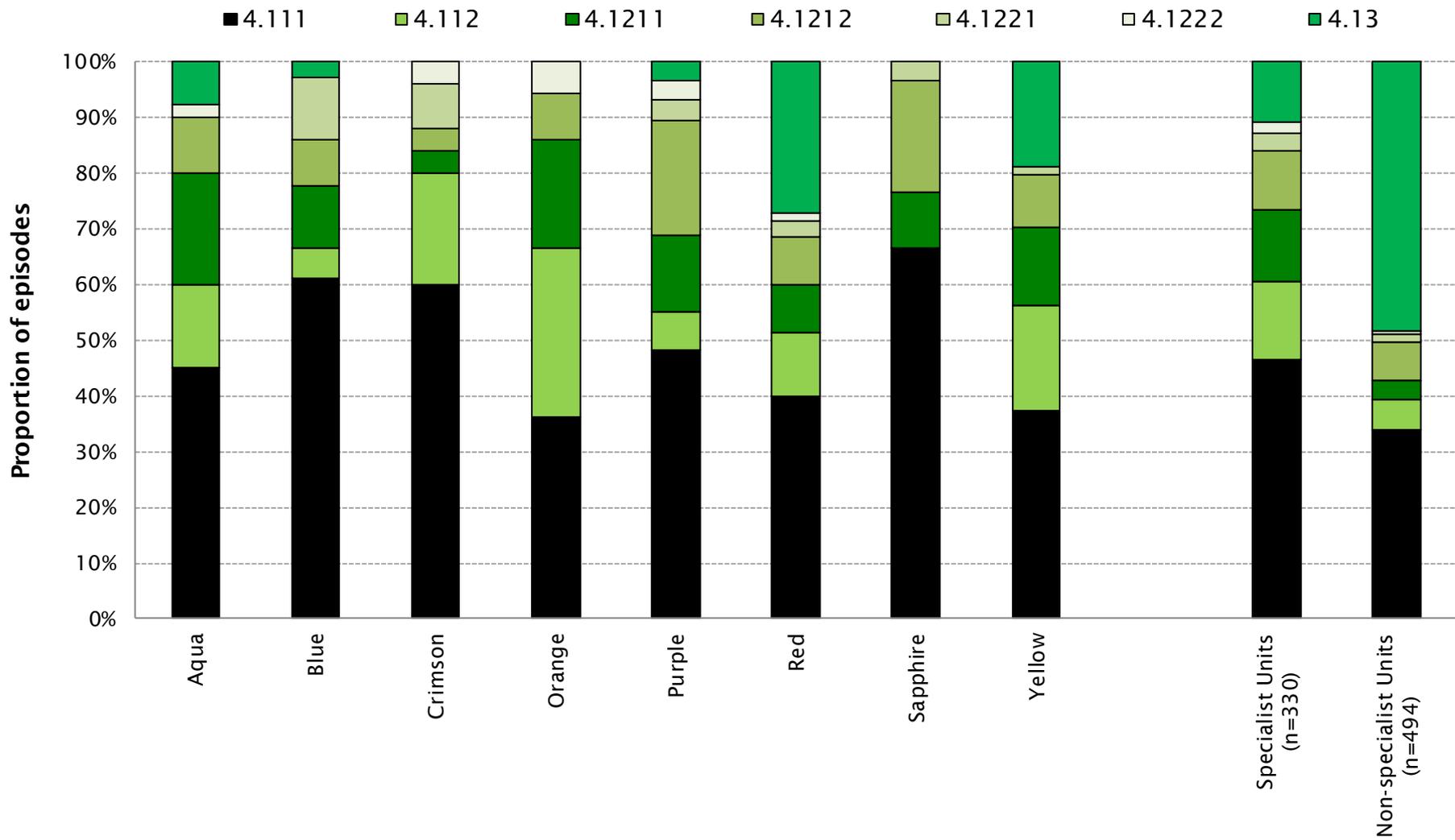
# Proportion of non-traumatic episodes by AN-SNAP class and specialist facility



# Proportion of traumatic episodes by impairment and specialist facility



# Proportion of non-traumatic episodes by impairment and specialist facility



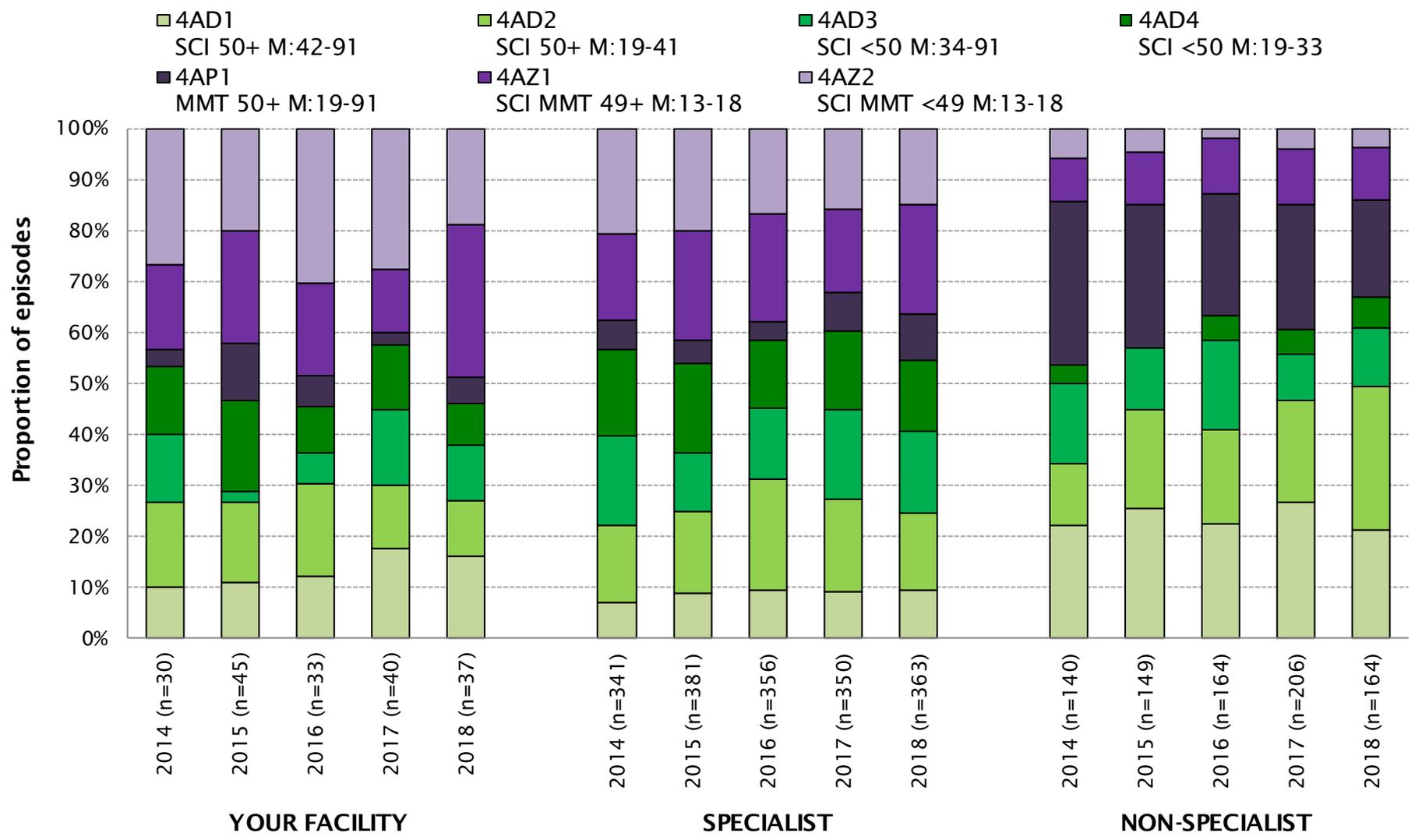
# Traumatic and non-traumatic episodes by impairment and AN-SNAP class

Traumatic Impairment	YOUR FACILITY							TOTAL	SPECIALIST	NON-SPECIALIST
	4AD1	4AD2	4AD3	4AD4	4API	4AZ1	4AZ2			
4.211 Para-Inc	2	0	1	2	0	2	0	7	74	30
4.212 Para-Comp	0	1	1	1	0	0	0	3	55	23
4.2211 Quad-Inc C1-4	3	3	2	0	0	7	0	15	93	21
4.2212 Quad-Inc C5-8	1	0	0	0	0	2	2	5	45	18
4.2221 Quad-Comp C1-4	0	0	0	0	0	0	3	3	22	1
4.2222 Quad-Comp C5-8	0	0	0	0	0	0	1	1	19	0
4.23 Other TSCI	0	0	0	0	0	0	0	0	2	33
14.1 MMT: brain+spine	0	0	0	0	0	0	0	0	23	24
14.3 MMT: spine+other	0	0	0	0	2	0	1	3	30	14
<b>Total</b>	<b>6</b>	<b>4</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>11</b>	<b>7</b>	<b>37</b>	<b>363</b>	<b>164</b>
<b>SPECIALIST</b>	<b>34</b>	<b>55</b>	<b>59</b>	<b>50</b>	<b>33</b>	<b>78</b>	<b>54</b>	<b>363</b>		
<b>NON-SPECIALIST</b>	<b>35</b>	<b>46</b>	<b>19</b>	<b>10</b>	<b>31</b>	<b>17</b>	<b>6</b>	<b>164</b>		

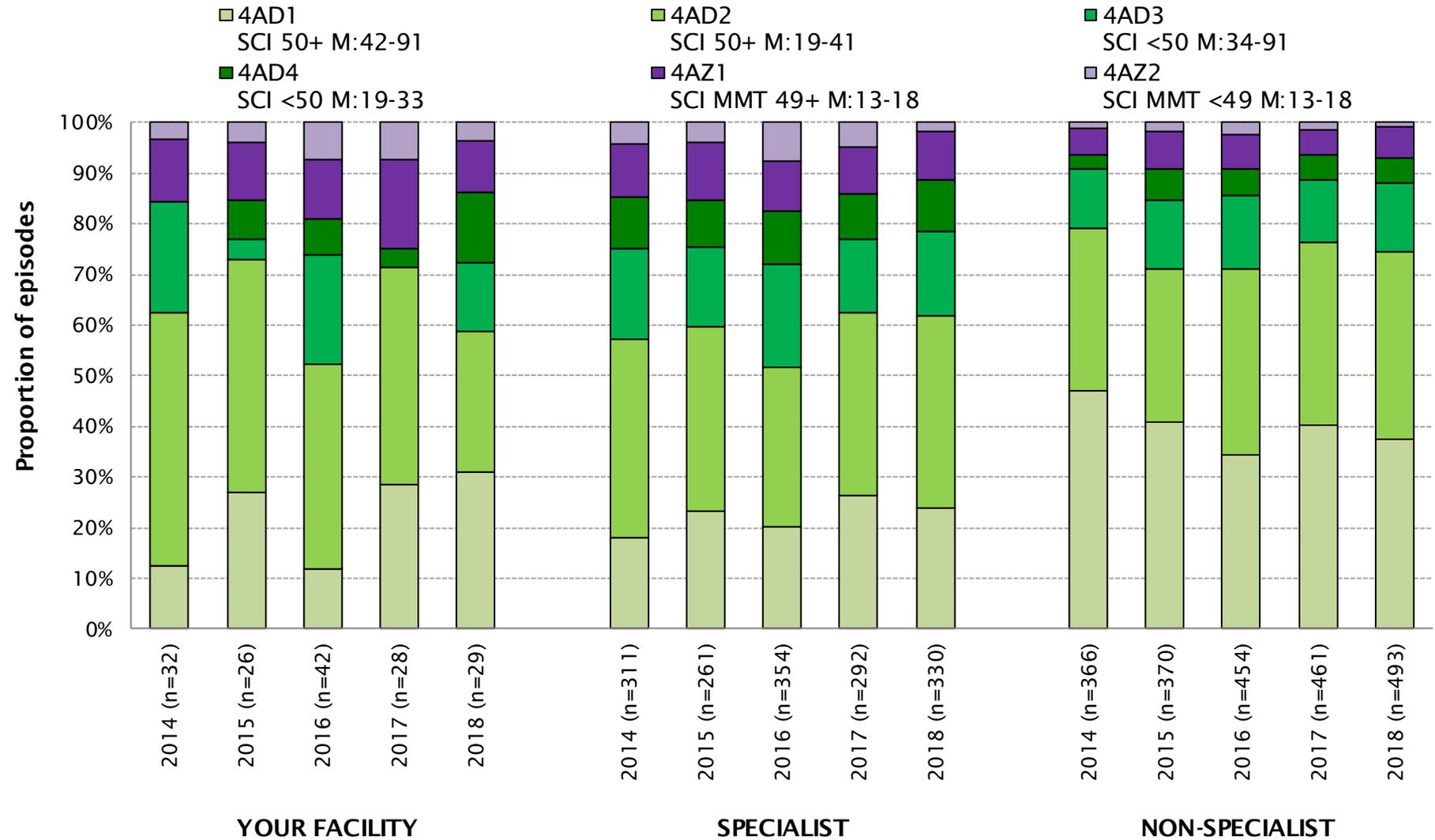
Non-traumatic Impairment	YOUR FACILITY						TOTAL	SPECIALIST	NON-SPECIALIST
	4AD1	4AD2	4AD3	4AD4	4AZ1	4AZ2			
4.111 Para-Inc	4	4	2	1	0	0	11	154	167
4.112 Para-Comp	0	1	1	1	0	0	3	46	27
4.1211 Quad-Inc C1-4	2	1	0	0	0	0	3	42	18
4.1212 Quad-Inc C5-8	1	2	0	2	0	0	5	35	34
4.1221 Quad-Comp C1-4	0	0	0	0	3	1	4	11	6
4.1222 Quad-Comp C5-8	0	0	0	0	0	0	0	6	3
4.13 Other NTSCI	2	0	1	0	0	0	3	36	238
<b>Total</b>	<b>9</b>	<b>8</b>	<b>4</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>29</b>	<b>330</b>	<b>493</b>
<b>SPECIALIST</b>	<b>79</b>	<b>125</b>	<b>55</b>	<b>34</b>	<b>31</b>	<b>6</b>	<b>330</b>		
<b>NON-SPECIALIST</b>	<b>185</b>	<b>182</b>	<b>67</b>	<b>24</b>	<b>31</b>	<b>4</b>	<b>493</b>		

Note: 0 episode(s) at YOUR FACILITY, 3 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

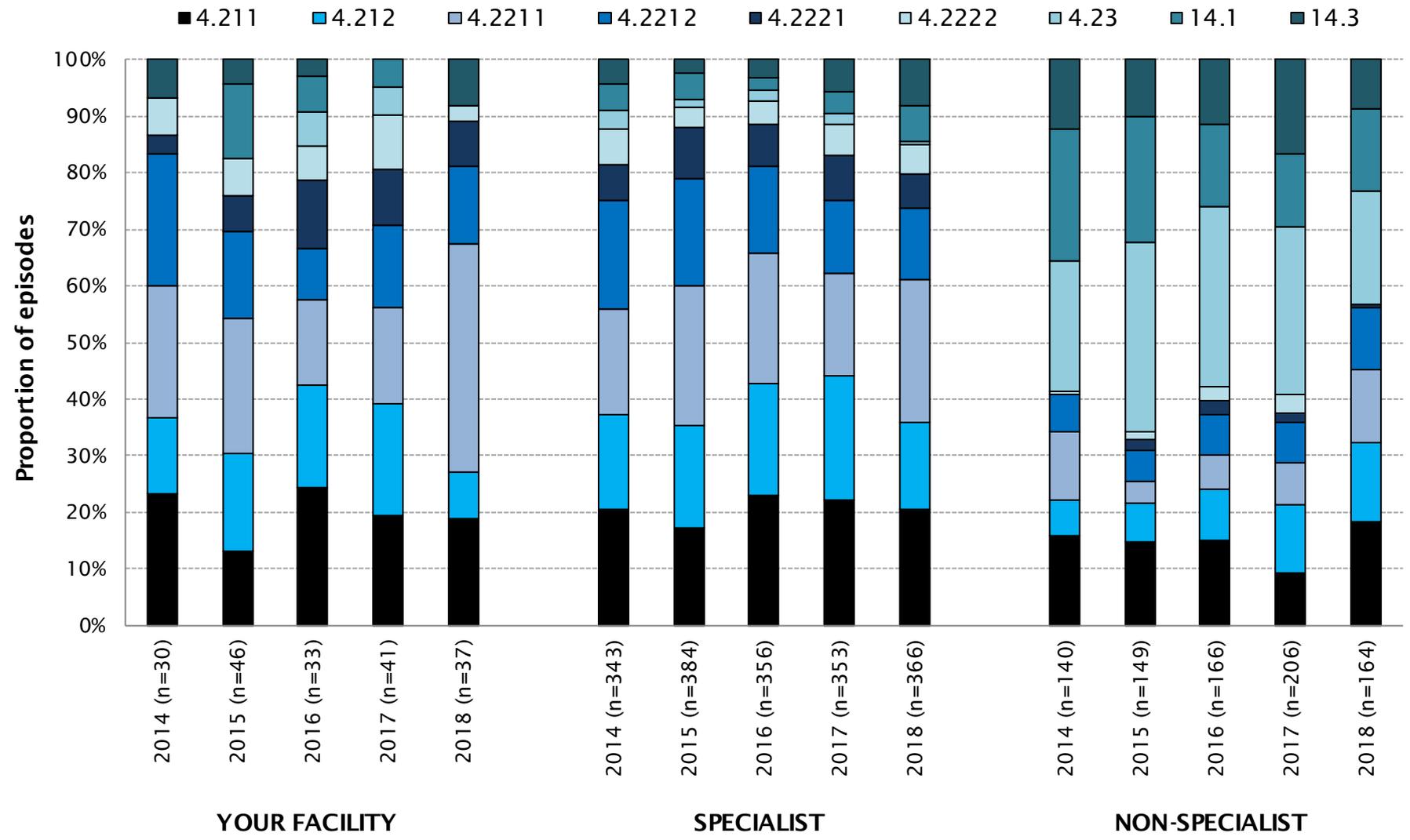


# Traumatic and non-traumatic episodes by AN-SNAP class over time

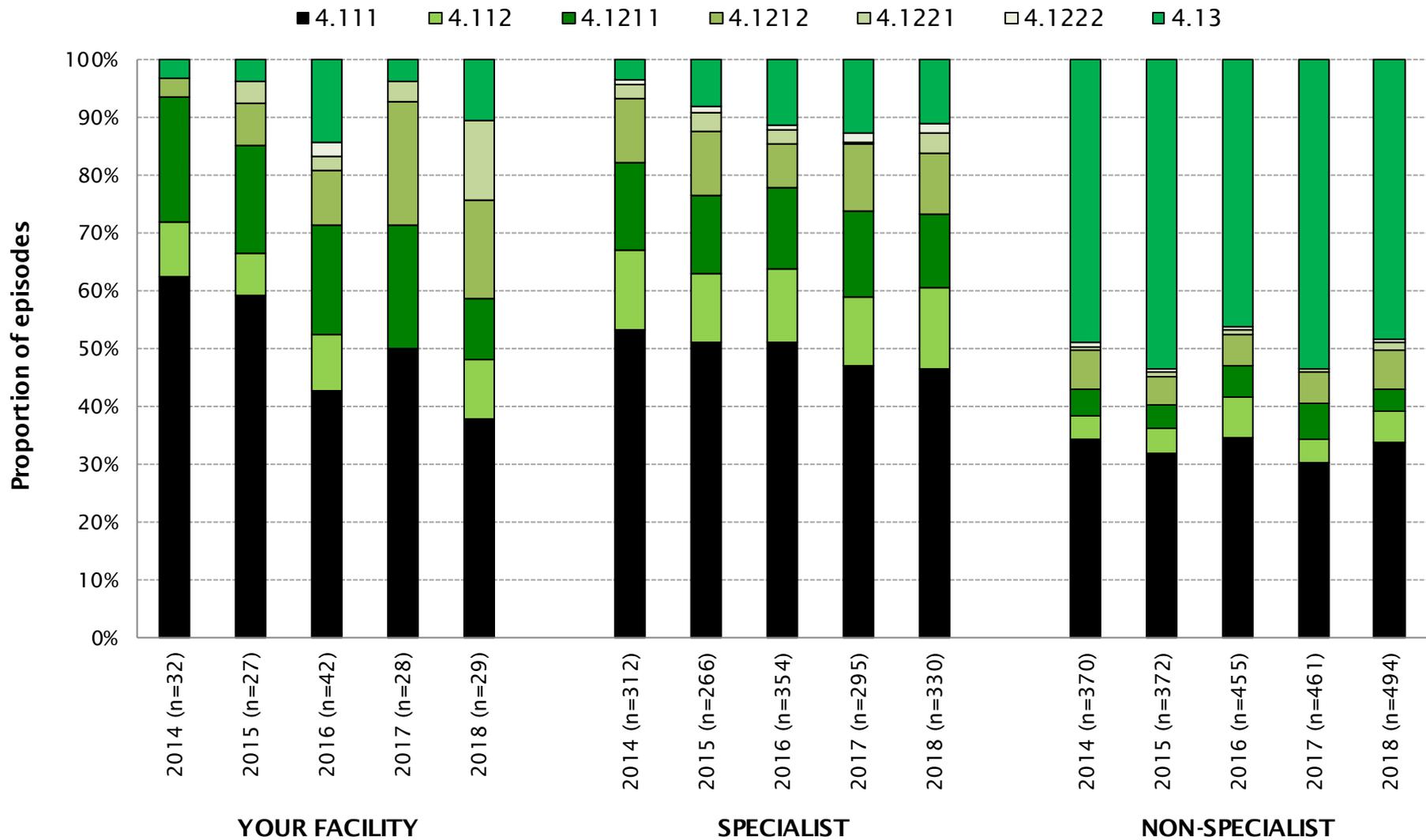
Traumatic AN-SNAP class	YOUR FACILITY					SPECIALIST					NON-SPECIALIST				
	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
4AD1 (SCI, age ≥ 50, weighted FIM motor 42-91)	3	5	4	7	6	24	34	34	32	34	31	38	37	55	35
4AD2 (SCI, age ≥ 50, weighted FIM motor 19-41)	5	7	6	5	4	52	61	77	64	55	17	29	30	41	46
4AD3 (SCI, age ≤ 49, weighted FIM motor 34-91)	4	1	2	6	4	59	44	50	61	59	22	18	29	19	19
4AD4 (SCI, age ≤ 49, weighted FIM motor 19-33)	4	8	3	5	3	58	66	47	54	50	5	0	8	10	10
4AP1 (MMT, weighted FIM motor 19-91)	1	5	2	1	2	20	18	13	26	33	45	42	39	50	31
4AZ1 (SCI or MMT, age ≥ 49, weighted FIM motor 13-18)	5	10	6	5	11	58	82	76	58	78	12	15	18	23	17
4AZ2 (SCI or MMT, age ≤ 48, weighted FIM motor 13-18)	8	9	10	11	7	70	76	59	55	54	8	7	3	8	6
<b>All Spinal AN-SNAP classes</b>	<b>30</b>	<b>45</b>	<b>33</b>	<b>40</b>	<b>37</b>	<b>341</b>	<b>381</b>	<b>356</b>	<b>350</b>	<b>363</b>	<b>140</b>	<b>149</b>	<b>164</b>	<b>206</b>	<b>164</b>

Non-traumatic AN-SNAP class	YOUR FACILITY					SPECIALIST					NON-SPECIALIST				
	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
4AD1 (SCI, age ≥ 50, weighted FIM motor 42-91)	4	7	5	8	9	56	61	71	77	79	172	151	156	185	185
4AD2 (SCI, age ≥ 50, weighted FIM motor 19-41)	16	12	17	12	8	122	95	112	105	125	118	112	167	167	182
4AD3 (SCI, age ≤ 49, weighted FIM motor 34-91)	7	1	9	0	4	56	41	72	43	55	43	50	66	57	67
4AD4 (SCI, age ≤ 49, weighted FIM motor 19-33)	0	2	3	1	4	31	24	37	26	34	10	23	24	22	24
4AZ1 (SCI or MMT, age ≥ 49, weighted FIM motor 13-18)	4	3	5	5	3	33	30	35	27	31	19	28	30	23	31
4AZ2 (SCI or MMT, age ≤ 48, weighted FIM motor 13-18)	1	1	3	2	1	13	10	27	14	6	4	6	11	7	4
<b>All Spinal AN-SNAP classes</b>	<b>32</b>	<b>26</b>	<b>42</b>	<b>28</b>	<b>29</b>	<b>311</b>	<b>261</b>	<b>354</b>	<b>292</b>	<b>330</b>	<b>366</b>	<b>370</b>	<b>454</b>	<b>461</b>	<b>493</b>

# Proportion of traumatic episodes by impairment over time



# Proportion of non-traumatic episodes by impairment over time

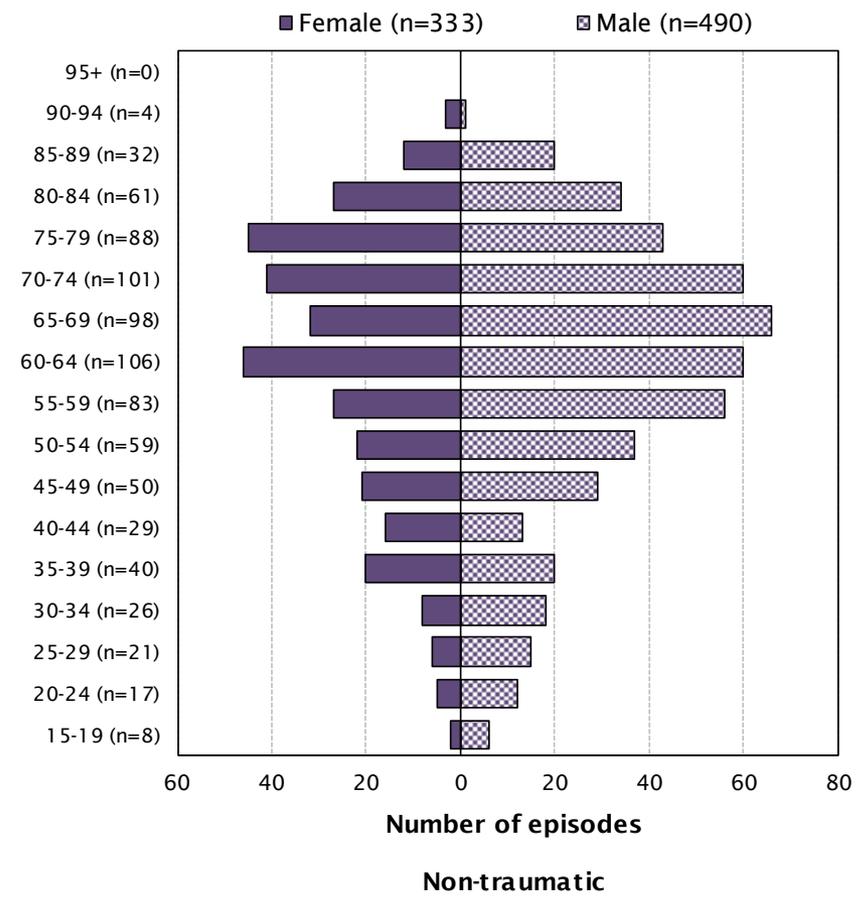
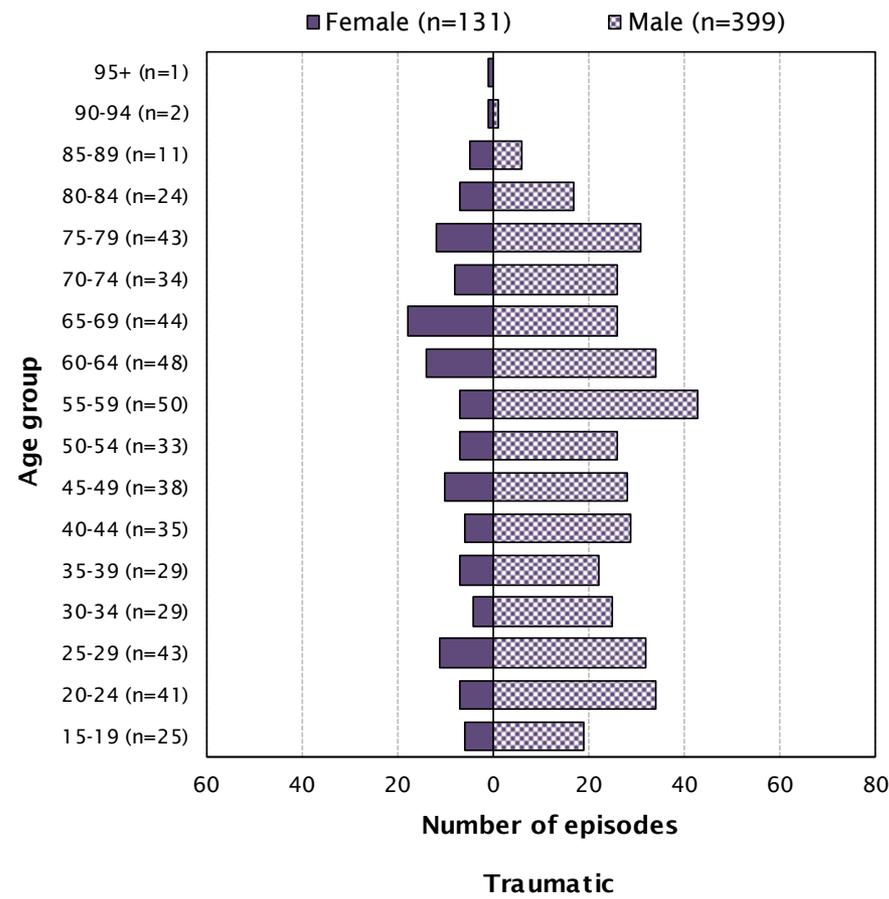


# Traumatic and non-traumatic episodes by impairment over time

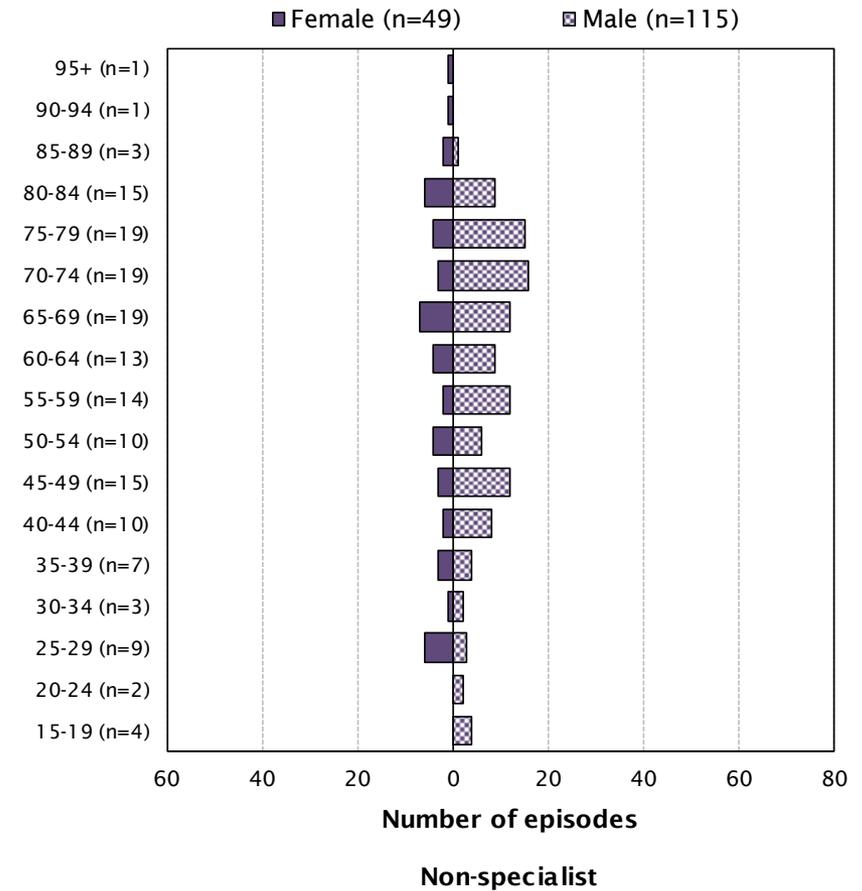
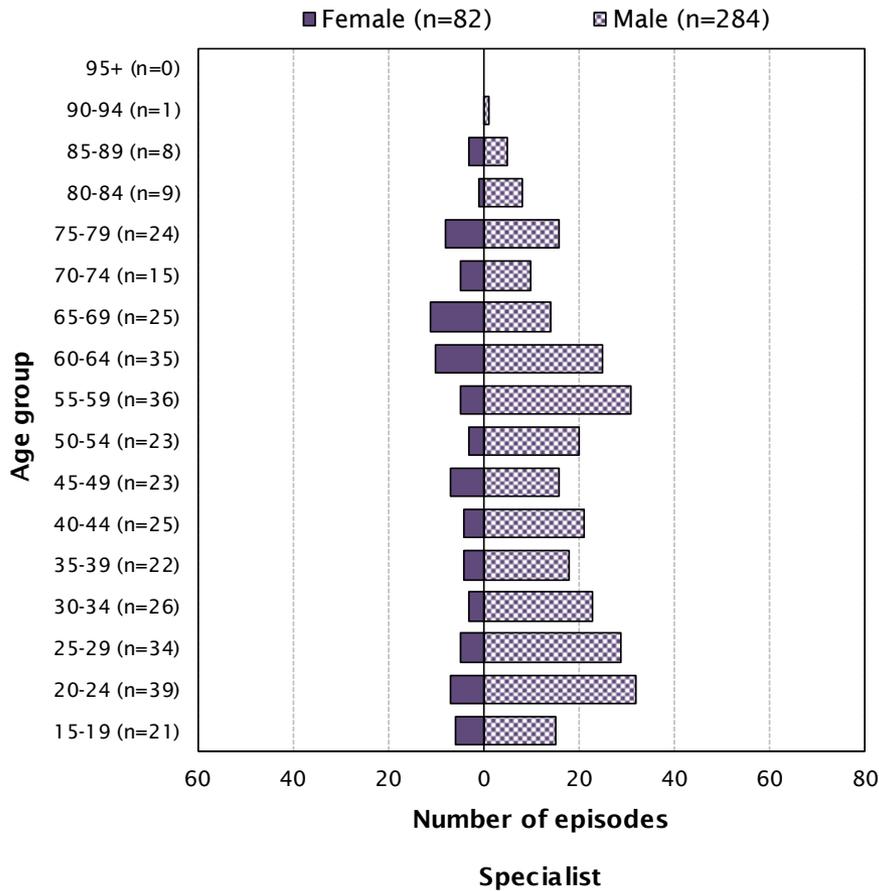


Impairment	YOUR FACILITY					SPECIALIST					NON-SPECIALIST				
	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
<b><u>Traumatic impairments</u></b>															
4.211 Para-Inc	7	6	8	8	7	70	66	82	78	75	22	22	25	19	30
4.212 Para-Comp	4	8	6	8	3	58	70	70	78	56	9	10	15	25	23
4.2211 Quad-Inc C1-4	7	11	5	7	15	64	94	82	64	93	17	6	10	15	21
4.2212 Quad-Inc C5-8	7	7	3	6	5	66	73	55	45	46	9	8	12	15	18
4.2221 Quad-Comp C1-4	1	3	4	4	3	21	35	26	28	22	0	3	4	3	1
4.2222 Quad-Comp C5-8	2	3	2	4	1	22	14	15	20	19	1	2	4	7	0
4.23 Other TSCI	0	0	2	2	0	11	5	7	6	2	32	50	53	61	33
14.1 MMT: brain+spine	0	6	2	2	0	16	18	8	14	23	33	33	24	27	24
14.3 MMT: spine+other	2	2	1	0	3	15	9	11	20	30	17	15	19	34	14
<b>Total TSCI</b>	<b>30</b>	<b>46</b>	<b>33</b>	<b>41</b>	<b>37</b>	<b>343</b>	<b>384</b>	<b>356</b>	<b>353</b>	<b>366</b>	<b>140</b>	<b>149</b>	<b>166</b>	<b>206</b>	<b>164</b>
<b><u>Non-traumatic impairments</u></b>															
4.111 Para-Inc	20	16	18	14	11	166	136	181	139	154	127	119	158	140	167
4.112 Para-Comp	3	2	4	0	3	43	32	45	35	46	15	16	31	18	27
4.1211 Quad-Inc C1-4	7	5	8	6	3	48	36	50	44	42	17	15	25	29	18
4.1212 Quad-Inc C5-8	1	2	4	6	5	34	29	27	34	35	25	18	25	25	34
4.1221 Quad-Comp C1-4	0	1	1	1	4	8	9	8	1	11	2	3	3	2	6
4.1222 Quad-Comp C5-8	0	0	1	0	0	2	3	3	5	6	3	2	3	0	3
4.13 Other NTSCI	1	1	6	1	3	11	21	40	37	36	181	199	210	247	239
<b>Total NTSCI</b>	<b>32</b>	<b>27</b>	<b>42</b>	<b>28</b>	<b>29</b>	<b>312</b>	<b>266</b>	<b>354</b>	<b>295</b>	<b>330</b>	<b>370</b>	<b>372</b>	<b>455</b>	<b>461</b>	<b>494</b>
<b>TOTAL SCI</b>	<b>62</b>	<b>73</b>	<b>75</b>	<b>69</b>	<b>66</b>	<b>655</b>	<b>650</b>	<b>710</b>	<b>648</b>	<b>696</b>	<b>510</b>	<b>521</b>	<b>621</b>	<b>667</b>	<b>658</b>

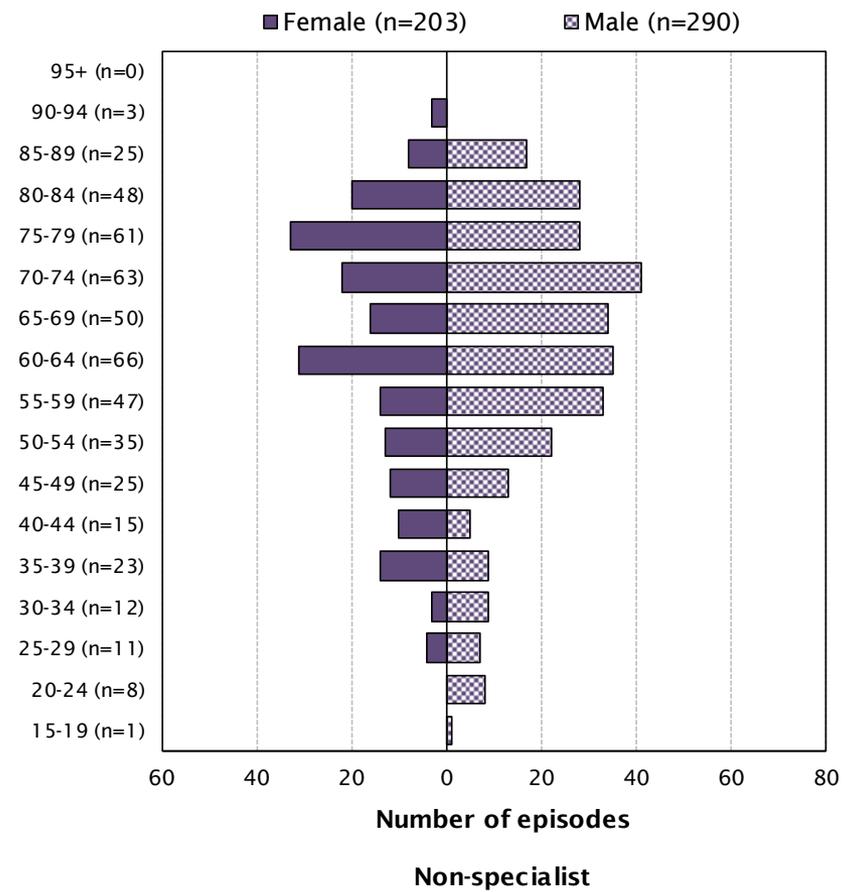
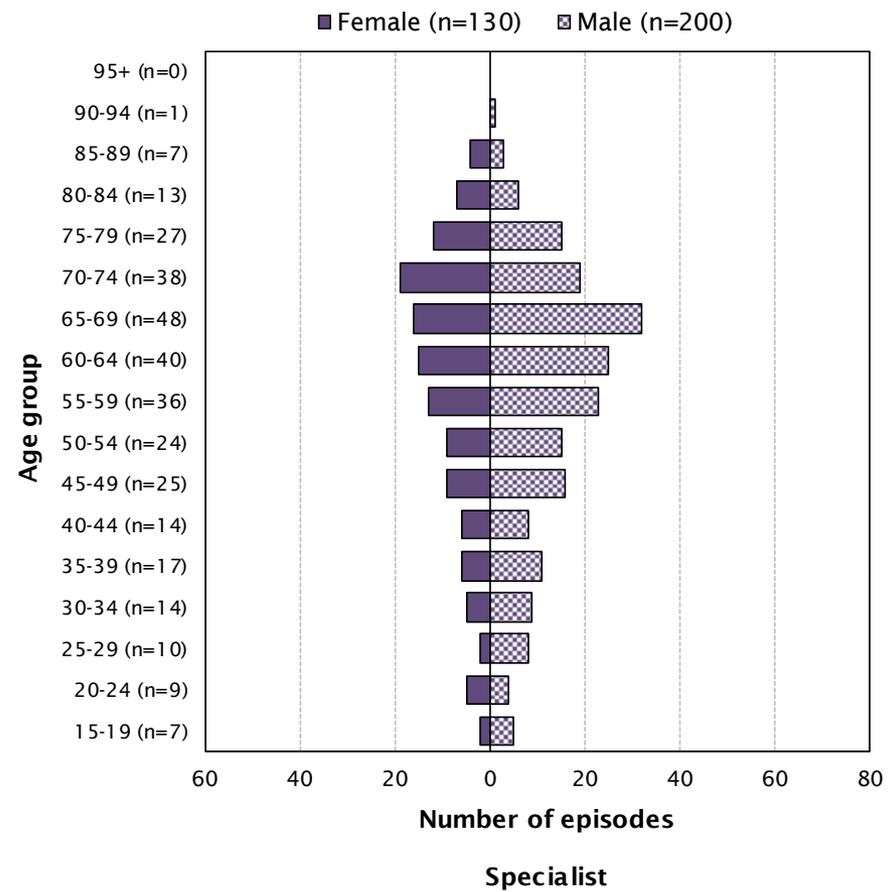
# Number of episodes by age group and sex – TSCI and NTSCI



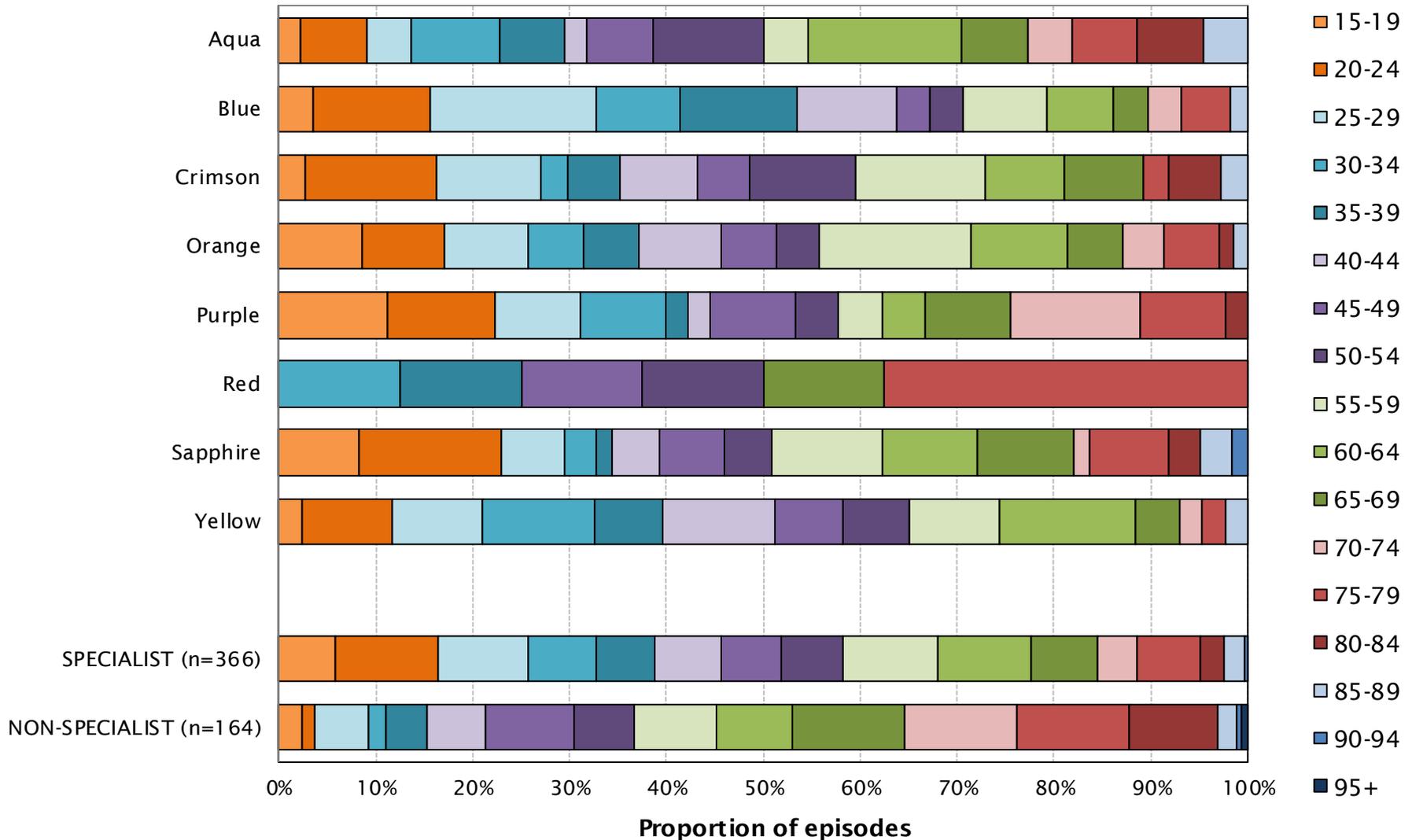
# Number of TSCI episodes by age group and sex – specialist and non-specialist



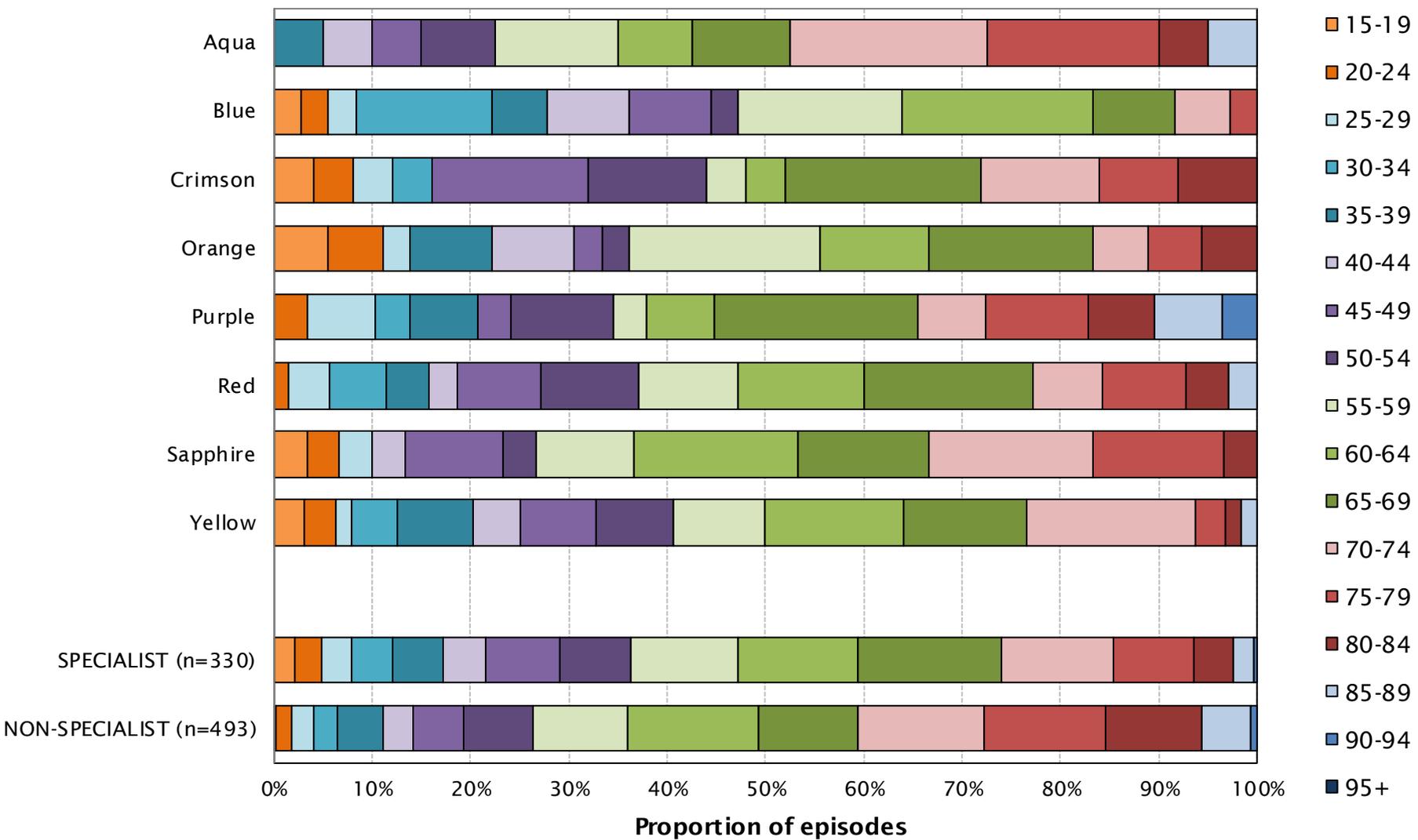
# Number of NTSCI episodes by age group and sex – specialist and non-specialist



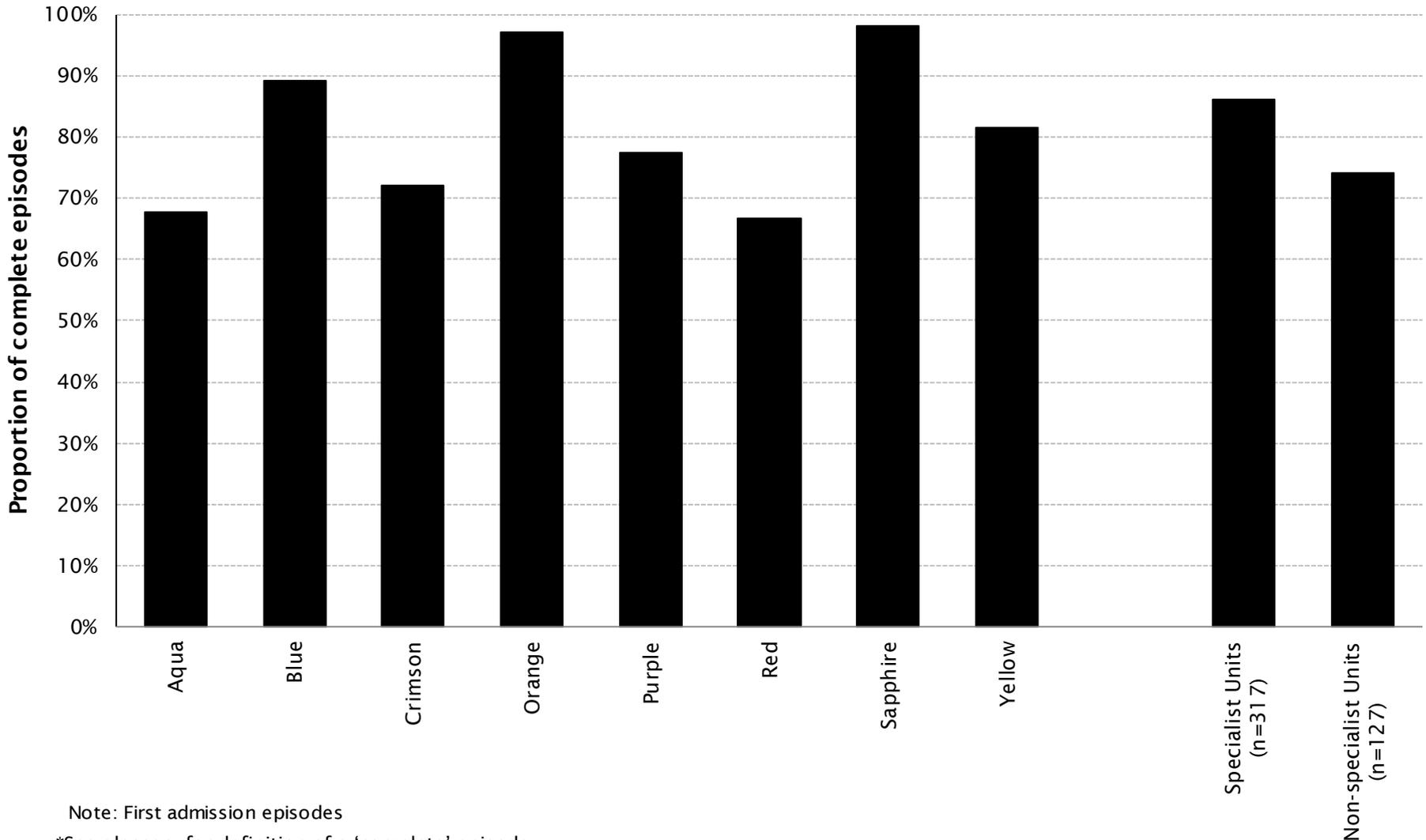
# Traumatic episodes by age group and specialist facility



# Non-traumatic episodes by age group and specialist facility



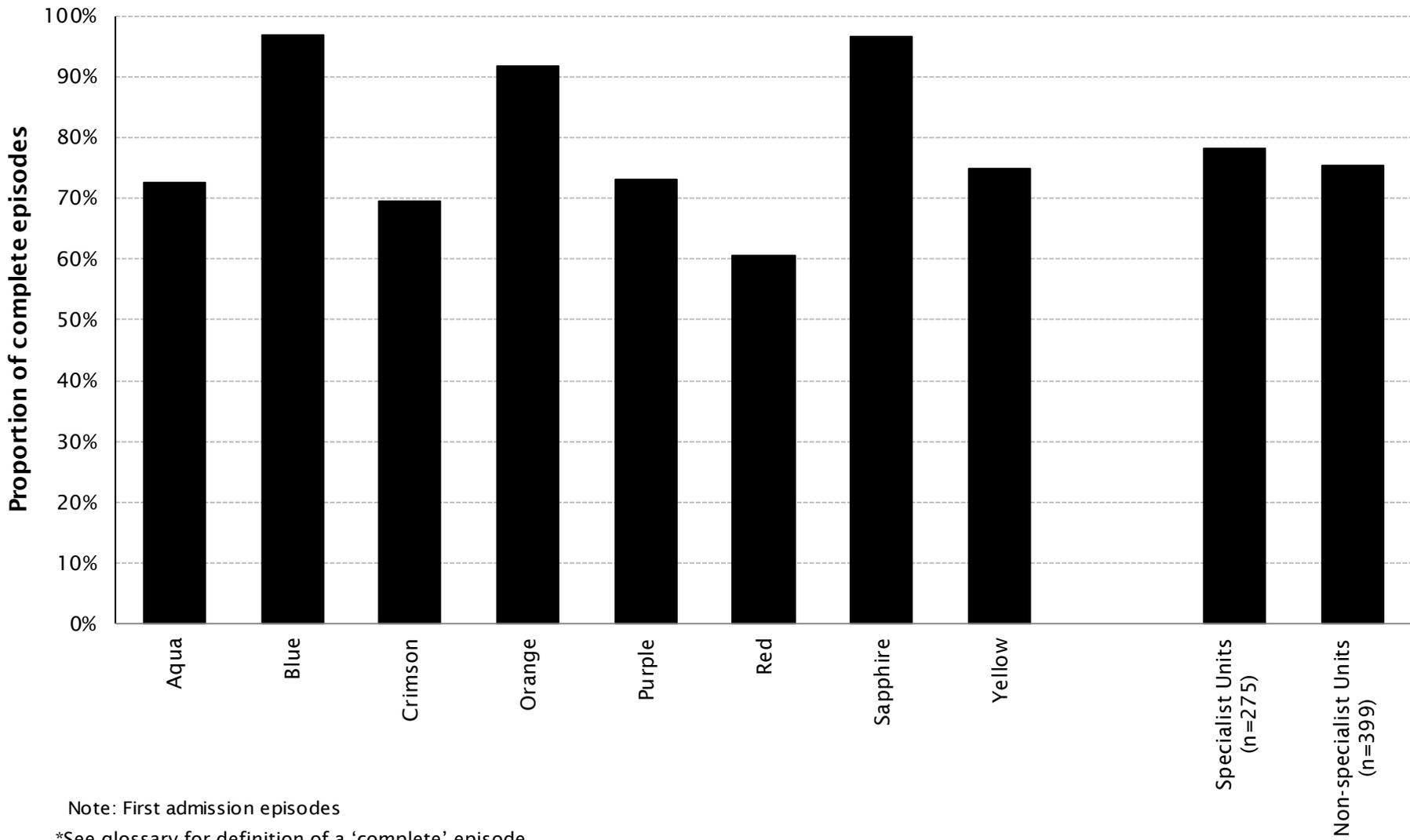
# Proportion of complete\* first admission traumatic episodes by specialist facility



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

AN-SNAP class	YOUR FACILITY			SPECIALIST			NON-SPECIALIST		
	All episodes	Completed episodes	%Complete	All episodes	Completed episodes	%Complete	All episodes	Completed episodes	%Complete
4AD1 (SCI, age ≥ 50, weighted FIM motor 42-91)	15	12	80.0	94	83	88.3	179	159	88.8
4AD2 (SCI, age ≥ 50, weighted FIM motor 19-41)	10	9	90.0	150	109	72.7	186	123	66.1
4AD3 (SCI, age ≤ 49, weighted FIM motor 34-91)	5	5	100.0	90	81	90.0	66	57	86.4
4AD4 (SCI, age ≤ 49, weighted FIM motor 19-33)	7	4	57.1	78	66	84.6	26	11	42.3
4AP1 (MMT, weighted FIM motor 19-91)	2	2	100.0	27	21	77.8	23	20	87.0
4AZ1 (SCI or MMT, age ≥ 49, weighted FIM motor 13-18)	13	12	92.3	95	79	83.2	39	20	51.3
4AZ2 (SCI or MMT, age ≤ 48, weighted FIM motor 13-18)	6	5	83.3	56	49	87.5	6	4	66.7
<b>All Spinal AN-SNAP classes</b>	<b>58</b>	<b>49</b>	<b>84.5</b>	<b>590</b>	<b>488</b>	<b>82.7</b>	<b>525</b>	<b>394</b>	<b>75.0</b>

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

Impairment	YOUR FACILITY			SPECIALIST			NON-SPECIALIST		
	All episodes	Completed episodes	%Complete	All episodes	Completed episodes	%Complete	All episodes	Completed episodes	%Complete
<b>Traumatic impairments</b>									
4.211 Para-Inc	7	6	85.7	65	55	84.6	25	14	56.0
4.212 Para-Comp	3	3	100.0	46	40	87.0	15	10	66.7
4.2211 Quad-Inc C1-4	15	13	86.7	84	77	91.7	17	15	88.2
4.2212 Quad-Inc C5-8	4	3	75.0	40	37	92.5	14	13	92.9
4.2221 Quad-Comp C1-4	2	2	100.0	18	16	88.9	1	1	100.0
4.2222 Quad-Comp C5-8	1	1	100.0	16	14	87.5	0	0	—
4.23 Other TSCI	0	0	—	2	1	50.0	27	19	70.4
14.1 MMT: brain+spine	0	0	—	20	14	70.0	17	11	64.7
14.3 MMT: spine+other	3	3	100.0	26	19	73.1	11	11	100.0
<b>Total TSCI</b>	<b>35</b>	<b>31</b>	<b>88.6</b>	<b>317</b>	<b>273</b>	<b>86.1</b>	<b>127</b>	<b>94</b>	<b>74.0</b>

### Non-traumatic impairments

4.111 Para-Inc	8	7	87.5	135	106	78.5	143	102	71.3
4.112 Para-Comp	3	3	100.0	36	24	66.7	20	9	45.0
4.1211 Quad-Inc C1-4	3	2	66.7	36	31	86.1	14	8	57.1
4.1212 Quad-Inc C5-8	4	2	50.0	27	22	81.5	25	21	84.0
4.1221 Quad-Comp C1-4	3	2	66.7	10	9	90.0	3	2	66.7
4.1222 Quad-Comp C5-8	0	0	—	6	6	100.0	2	1	50.0
4.13 Other NTSCI	2	2	100.0	25	17	68.0	192	158	82.3
<b>Total NTSCI</b>	<b>23</b>	<b>18</b>	<b>78.3</b>	<b>275</b>	<b>215</b>	<b>78.2</b>	<b>399</b>	<b>301</b>	<b>75.4</b>
<b>TOTAL SCI</b>	<b>58</b>	<b>49</b>	<b>84.5</b>	<b>592</b>	<b>488</b>	<b>82.4</b>	<b>526</b>	<b>395</b>	<b>75.1</b>

\*First Admission Only

# Summary of incomplete episodes

	YOUR FACILITY		SPECIALIST		NON-SPECIALIST		ALL SPINE	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Total reporting episodes	66		696		658		1,354	
Incomplete episodes	11	(16.7)	128	(18.4)	170	(25.8)	298	(22.0)

## Reason for incomplete:

Discharged home with end FIM=18	0	(0.0)	0	(0.0)	2	(1.2)	2	(0.7)
Discharged home with no end FIM	0	(0.0)	1	(0.8)	0	(0.0)	1	(0.3)
Discharged to another hospital	7	(63.6)	67	(52.3)	97	(57.1)	164	(55.0)
Care type change - same hospital	4	(36.4)	39	(30.5)	53	(31.2)	92	(30.9)
Discharged at own risk	0	(0.0)	6	(4.7)	9	(5.3)	15	(5.0)
Change of care type (LOS<1 week)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Died	0	(0.0)	0	(0.0)	1	(0.6)	1	(0.3)
Other/Unknown Discharge	0	(0.0)	15	(11.7)	8	(4.7)	23	(7.7)

	YOUR FACILITY	
	Incomplete Episodes	Complete episodes
<b>Impairment Code:</b>		
4.111 Para-Inc	1 (9.1)	10 (18.2)
4.112 Para-Comp	0 (0.0)	3 (5.5)
4.1211 Quad-Inc C1-4	1 (9.1)	2 (3.6)
4.1212 Quad-Inc C5-8	3 (27.3)	2 (3.6)
4.1221 Quad-Comp C1-4	2 (18.2)	2 (3.6)
4.1222 Quad-Comp C5-8	0 (0.0)	0 (0.0)
4.13 Other NTSCI	0 (0.0)	3 (5.5)
4.211 Para-Inc	1 (9.1)	6 (10.9)
4.212 Para-Comp	0 (0.0)	3 (5.5)
4.2211 Quad-Inc C1-4	2 (18.2)	13 (23.6)
4.2212 Quad-Inc C5-8	1 (9.1)	4 (7.3)
4.2221 Quad-Comp C1-4	0 (0.0)	3 (5.5)
4.2222 Quad-Comp C5-8	0 (0.0)	1 (1.8)
4.23 Other TSCI	0 (0.0)	0 (0.0)
14.1 MMT: brain+spine	0 (0.0)	0 (0.0)
14.3 MMT: spine+other	0 (0.0)	3 (5.5)
<b>AN-SNAP Class:</b>		
4AD1 (SCI, age ≥ 50, weighted FIM motor 42-91)	3 (27.3)	12 (21.8)
4AD2 (SCI, age ≥ 50, weighted FIM motor 19-41)	2 (18.2)	10 (18.2)
4AD3 (SCI, age ≤ 49, weighted FIM motor 34-91)	0 (0.0)	8 (14.5)
4AD4 (SCI, age ≤ 49, weighted FIM motor 19-33)	3 (27.3)	4 (7.3)
4AP1 (MMT, weighted FIM motor 19-91)	0 (0.0)	2 (3.6)
4AZ1 (SCI or MMT, age ≥ 49, weighted FIM motor 13-18)	2 (18.2)	12 (21.8)
4AZ2 (SCI or MMT, age ≤ 48, weighted FIM motor 13-18)	1 (9.1)	7 (12.7)

# Review of FIM item scoring by AN-SNAP class

# Interpreting the comparative FIM item scoring charts



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

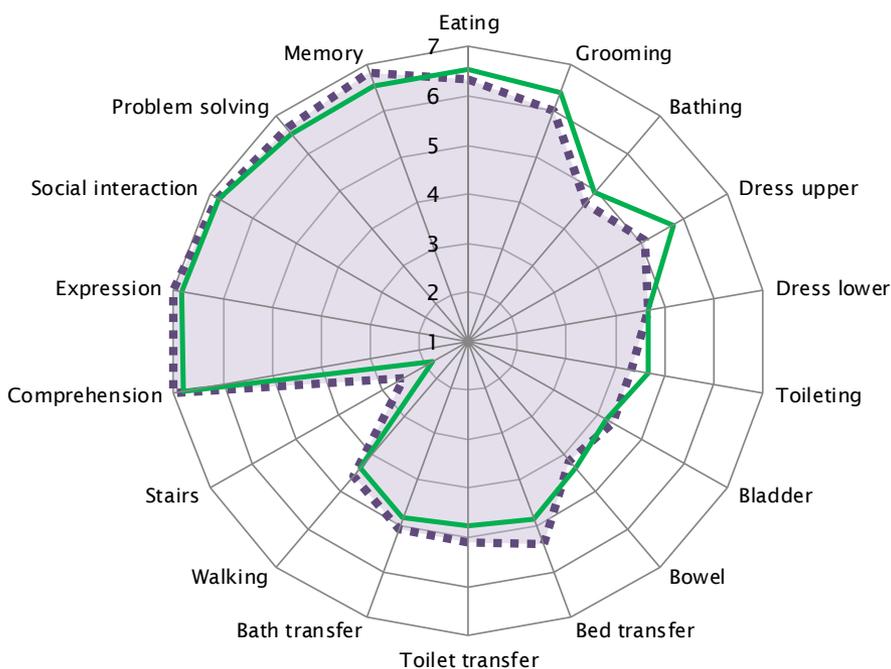
## AN-SNAP class 4AD1



### 4AD1 Admission FIM scores

▣ Your Facility (n=12)

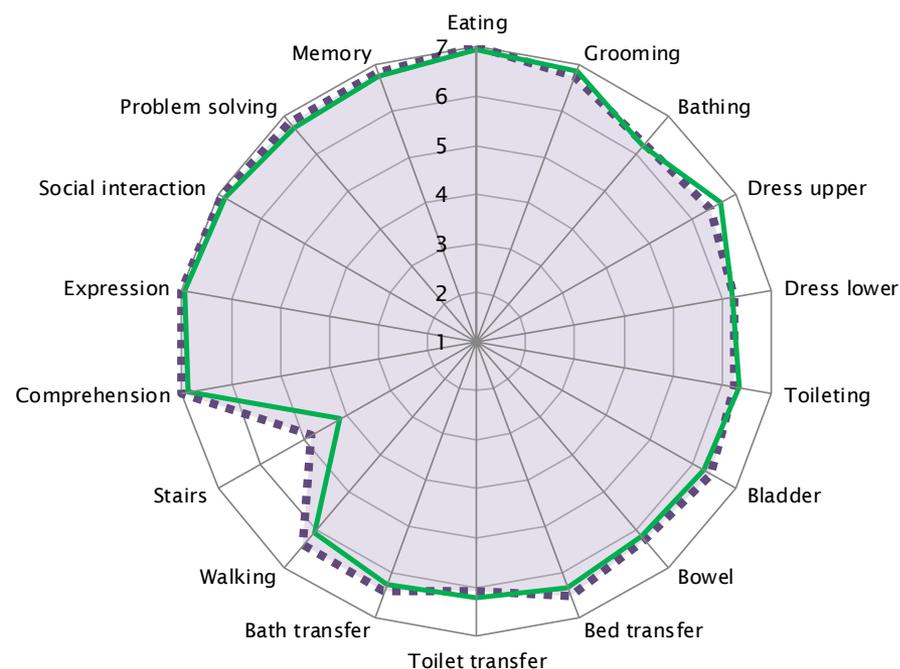
▣ Specialist (n=101)



### 4AD1 Discharge FIM scores

▣ Your Facility (n=12)

▣ Specialist (n=101)



Note: Includes only completed episodes with valid FIM scores

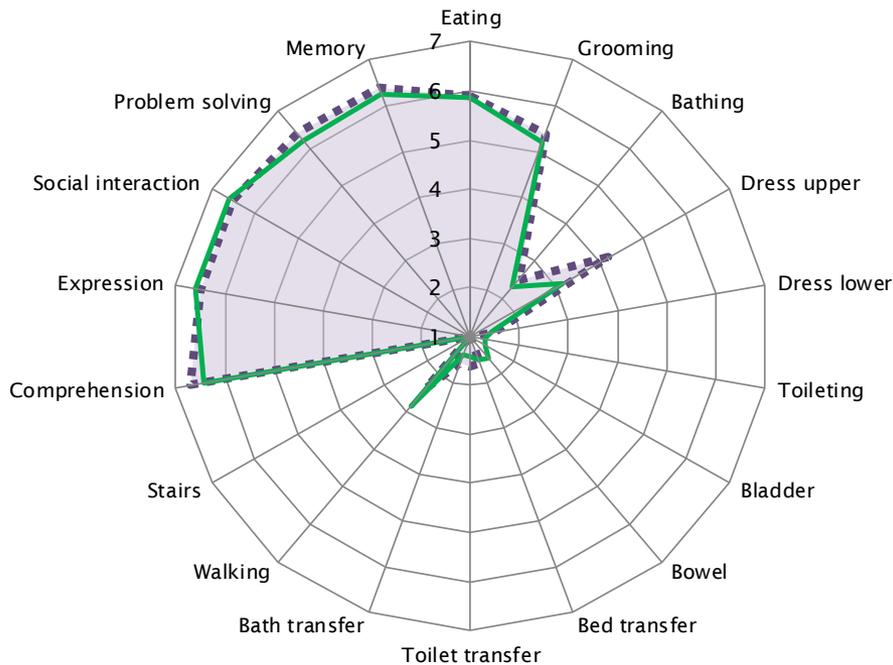
# Comparative FIM item scoring

## AN-SNAP class 4AD2



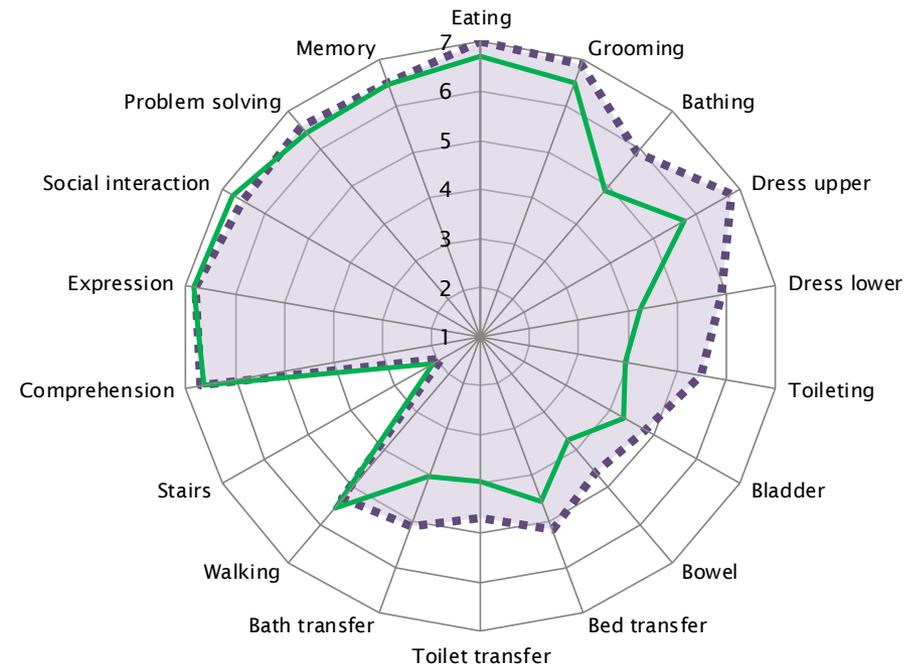
### 4AD2 Admission FIM scores

- ▣ Your Facility (n=10)
- ▣ Specialist (n=132)



### 4AD2 Discharge FIM scores

- ▣ Your Facility (n=10)
- ▣ Specialist (n=132)



Note: Includes only completed episodes with valid FIM scores

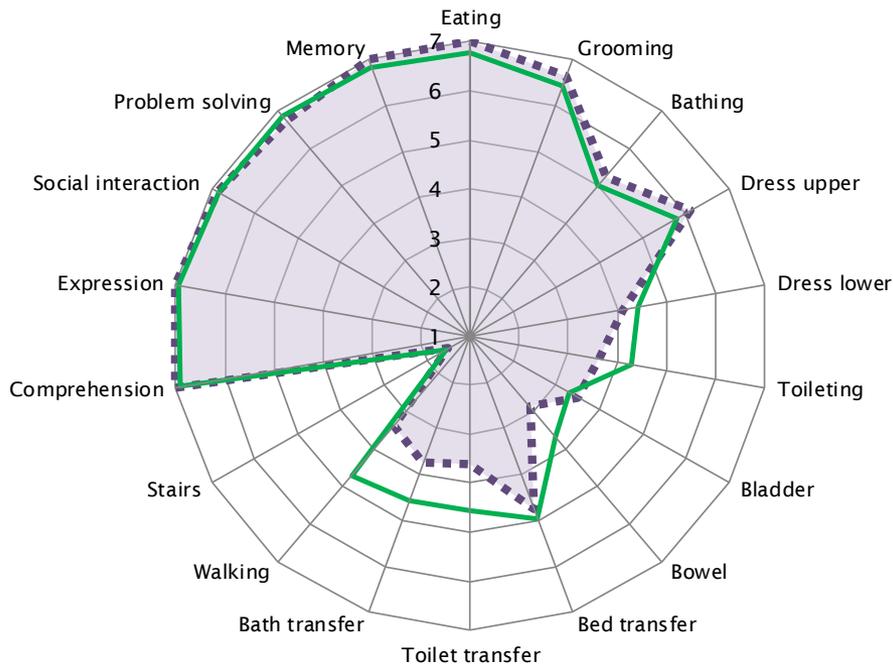
# Comparative FIM item scoring

## AN-SNAP class 4AD3



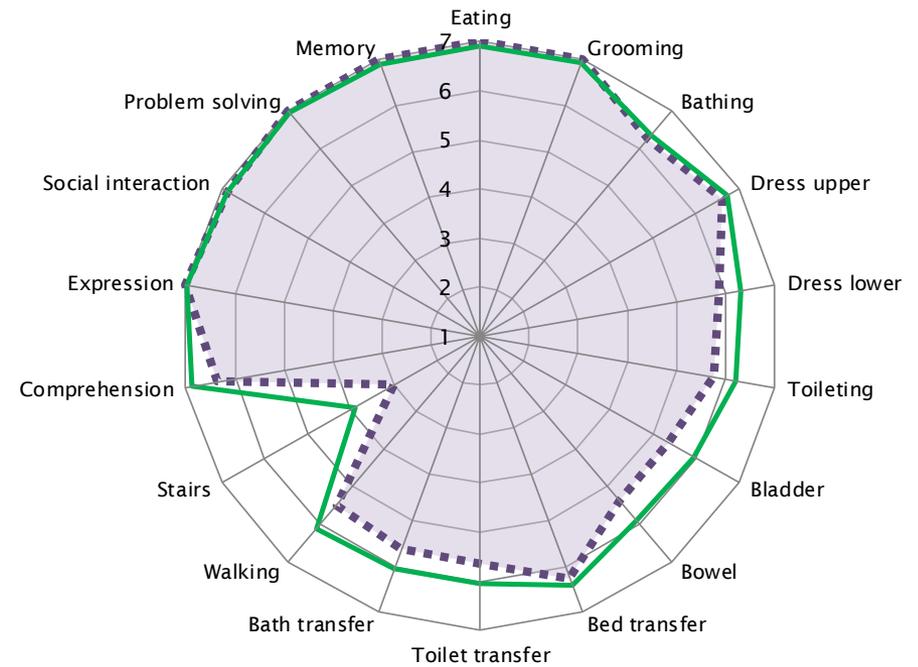
### 4AD3 Admission FIM scores

- ▣ Your Facility (n=8)
- ▣ Specialist (n=96)



### 4AD3 Discharge FIM scores

- ▣ Your Facility (n=8)
- ▣ Specialist (n=96)



Note: Includes only completed episodes with valid FIM scores

# Comparative FIM item scoring

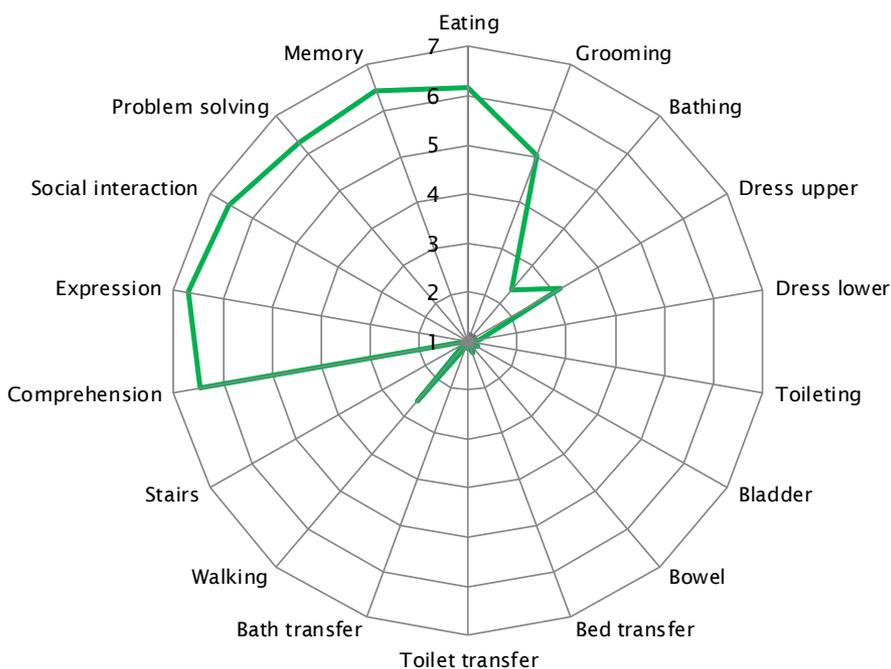
## AN-SNAP class 4AD4



### 4AD4 Admission FIM scores

🏥 Your Facility (n<5)

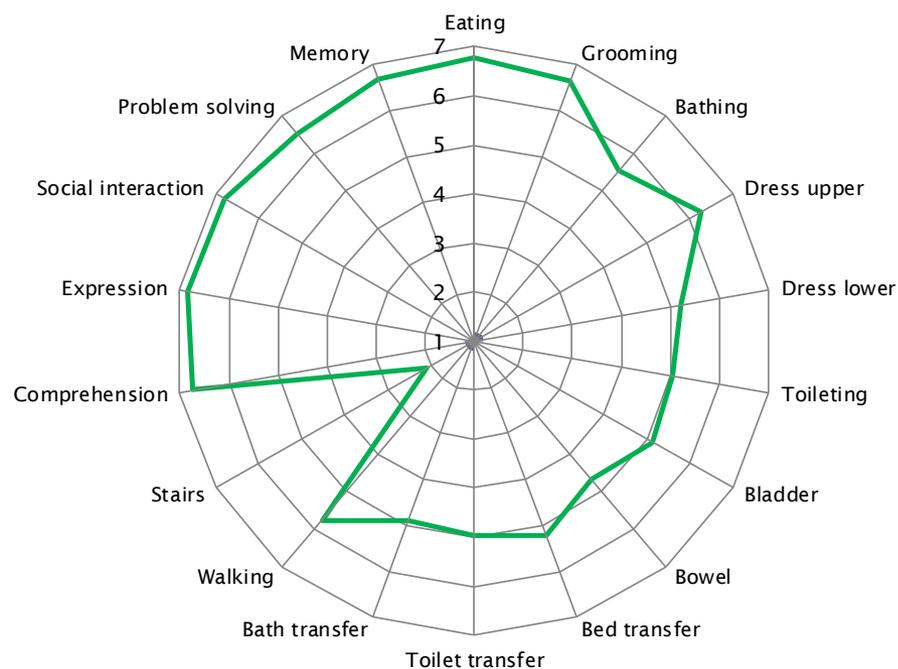
🟩 Specialist (n=71)



### 4AD4 Discharge FIM scores

🏥 Your Facility (n<5)

🟩 Specialist (n=71)



Note: Includes only completed episodes with valid FIM scores

# Comparative FIM item scoring

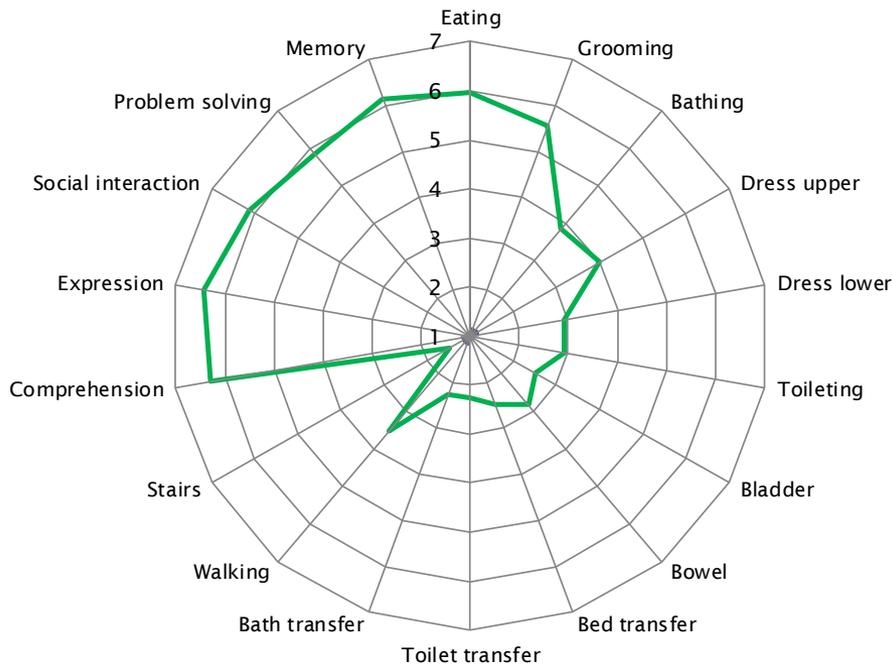
## AN-SNAP class 4AP1



### 4AP1 Admission FIM scores

▣ Your Facility (n<5)

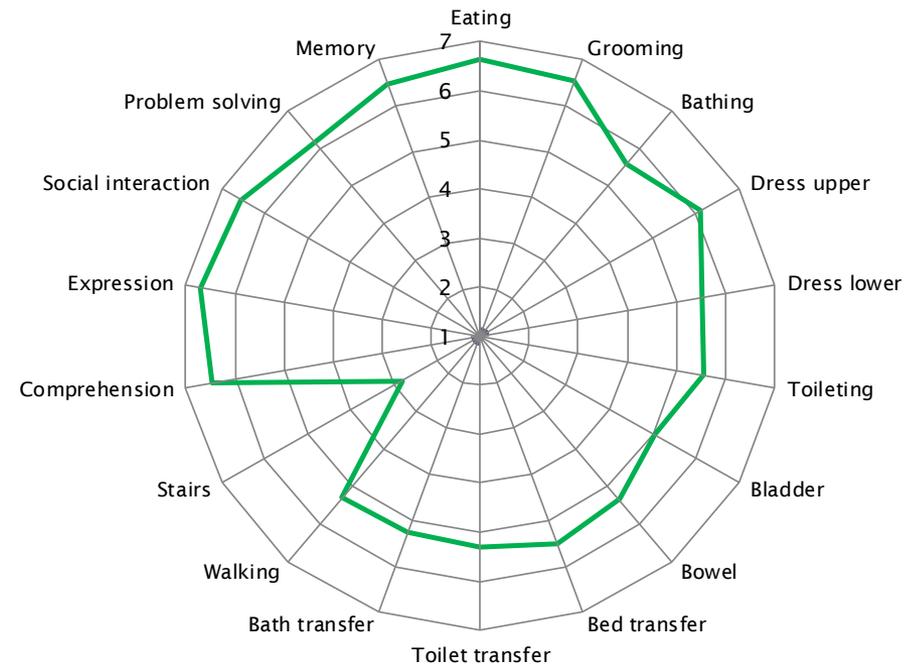
▣ Specialist (n=26)



### 4AP1 Discharge FIM scores

▣ Your Facility (n<5)

▣ Specialist (n=26)



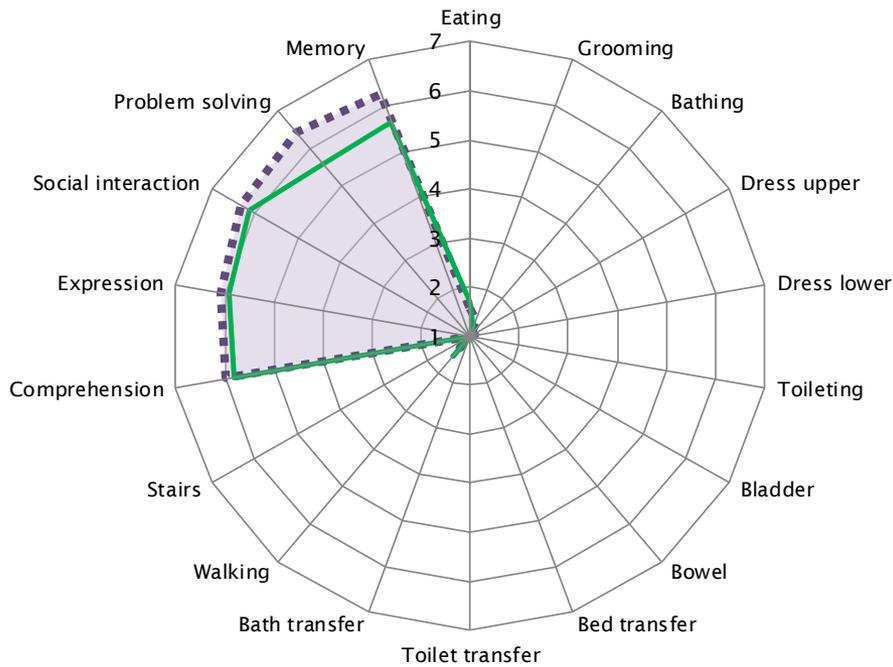
Note: Includes only completed episodes with valid FIM scores

# Comparative FIM item scoring

## AN-SNAP class 4AZ1

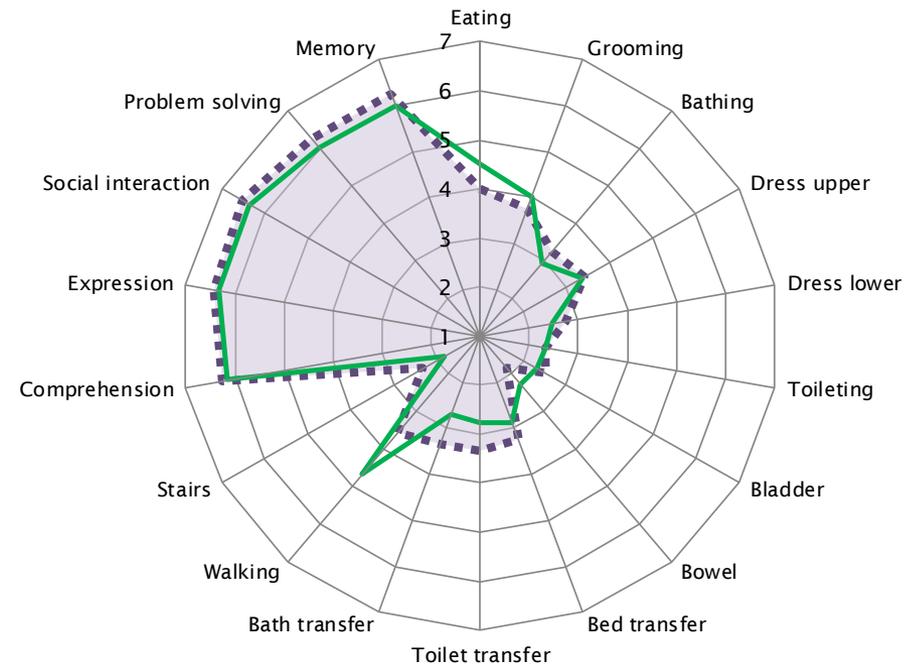
### 4AZ1 Admission FIM scores

- ▣ Your Facility (n=12)
- ▣ Specialist (n=88)



### 4AZ1 Discharge FIM scores

- ▣ Your Facility (n=12)
- ▣ Specialist (n=88)



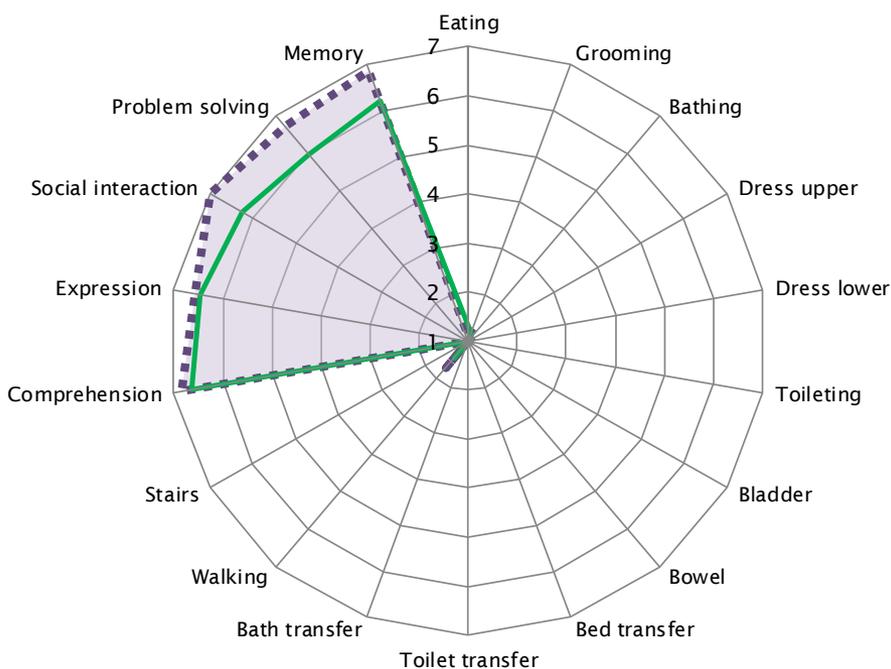
Note: Includes only completed episodes with valid FIM scores

# Comparative FIM item scoring AN-SNAP class 4AZ2

## 4AZ2 Admission FIM scores

▣ Your Facility (n=7)

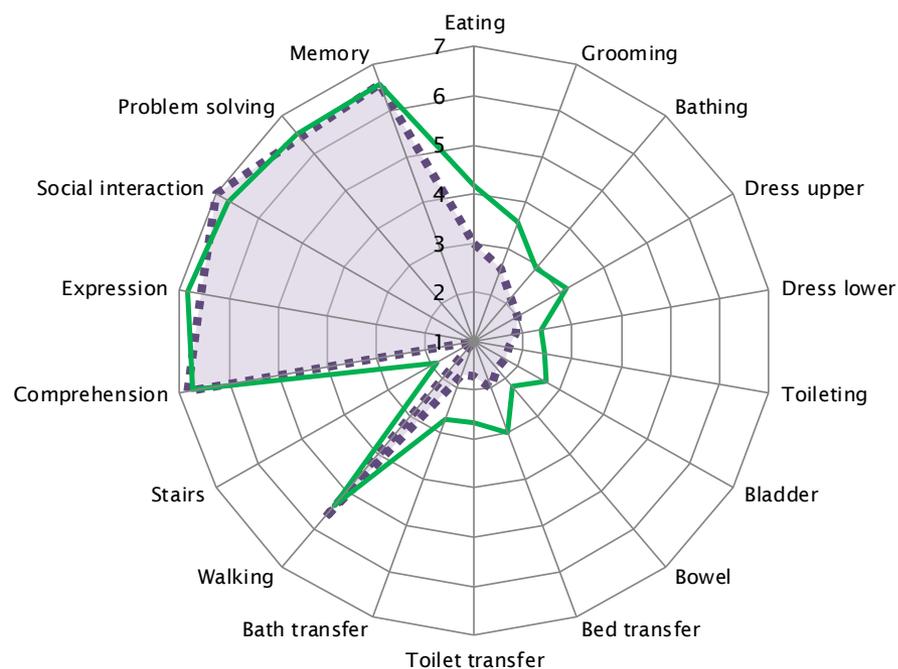
▣ Specialist (n=53)



## 4AZ2 Discharge FIM scores

▣ Your Facility (n=7)

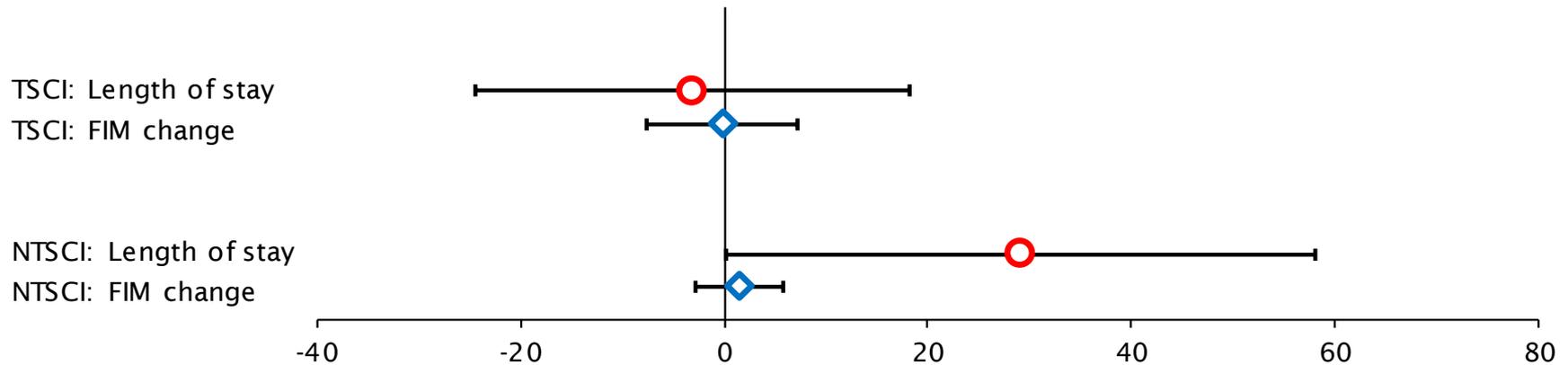
▣ Specialist (n=53)



Note: Includes only completed episodes with valid FIM scores

# Outcome analysis

# Casemix-adjusted\* relative means



Casemix-adjusted relative means with 95% confidence intervals

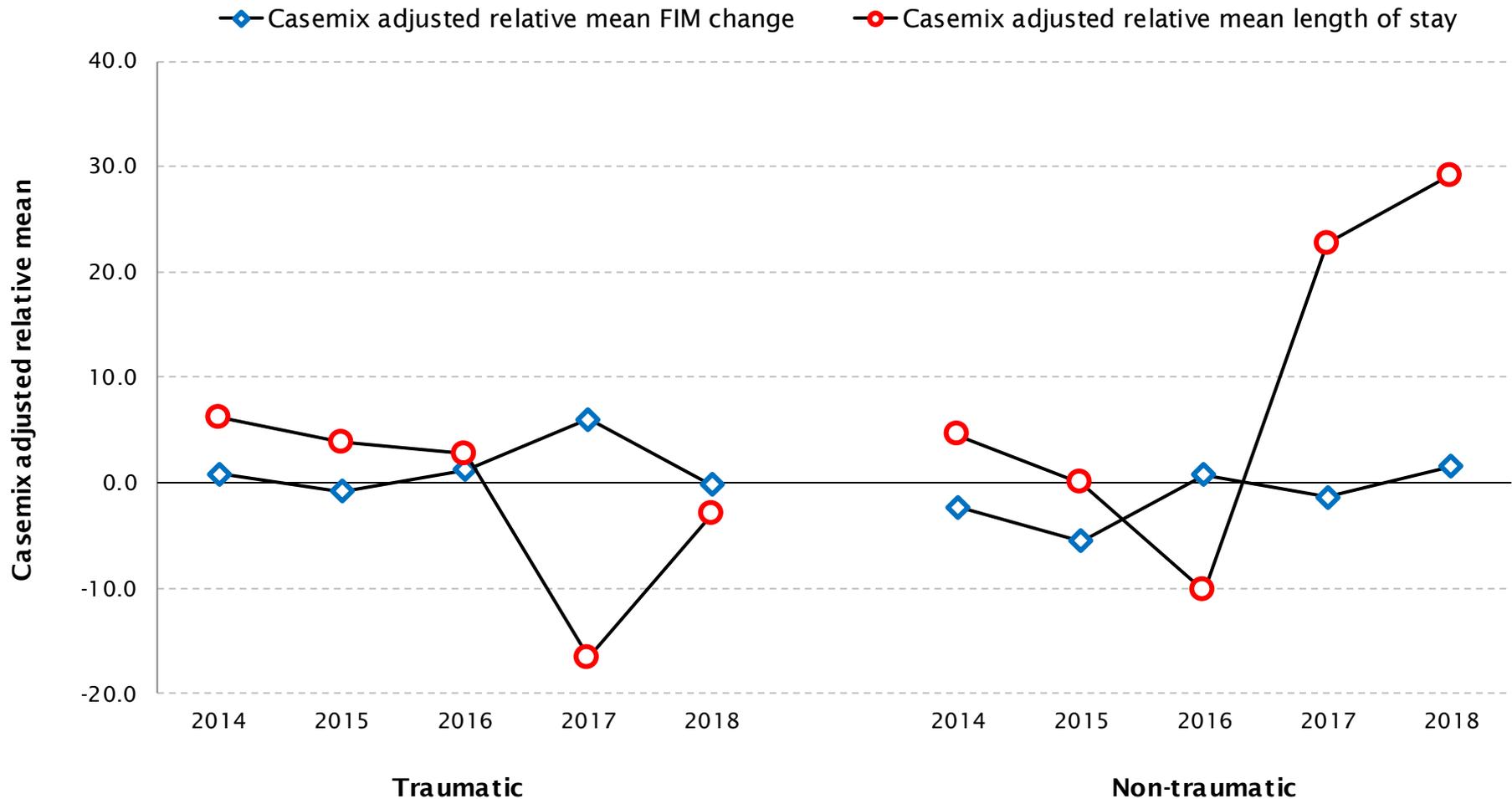
Out come measure	Traumat ic		YOUR FACILITY		Non-traumat ic	
	Casemix-adjusted* relat ive mean	95% CI	Casemix-adjusted* relat ive mean	95% CI	Casemix-adjusted* relat ive mean	95% CI
Length of stay	-3.0	-24.4 to 18.3			29.1	.2 to 58.0
FIM change	-0.2	-7.6 to 7.2			1.5	-2.8 to 5.8

Note: First admission, completed episodes

\*Casemix-adjustment uses CY2018 specialist unit first admissions calculated separately for TSCI and NTSCI

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

(base year = 2018)

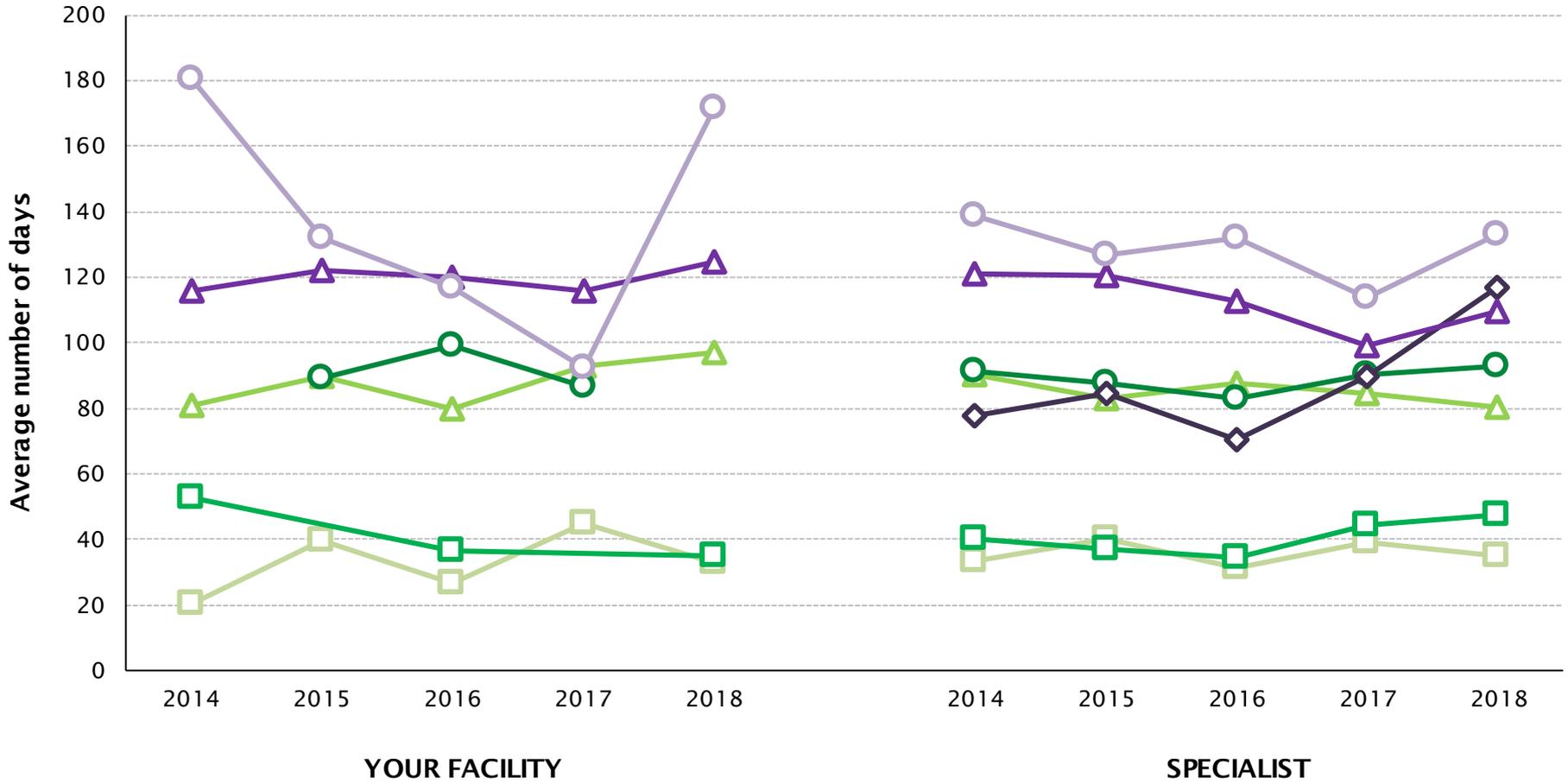


Note: First admission, completed episodes

\*Casemix-adjustment uses CY2018 specialist unit first admissions calculated separately for TSCI and NTSCI

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

- 4AD1  
SCI 50+ M:42-91
- ▲ 4AD2  
SCI 50+ M:19-41
- 4AD3  
SCI <50 M:34-91
- 4AD4  
SCI <50 M:19-33
- ◆ 4AP1  
MMT 50+ M:19-91
- ▲ 4AZ1  
SCI MMT 49+ M:13-18
- 4AZ2  
SCI MMT <49 M:13-18

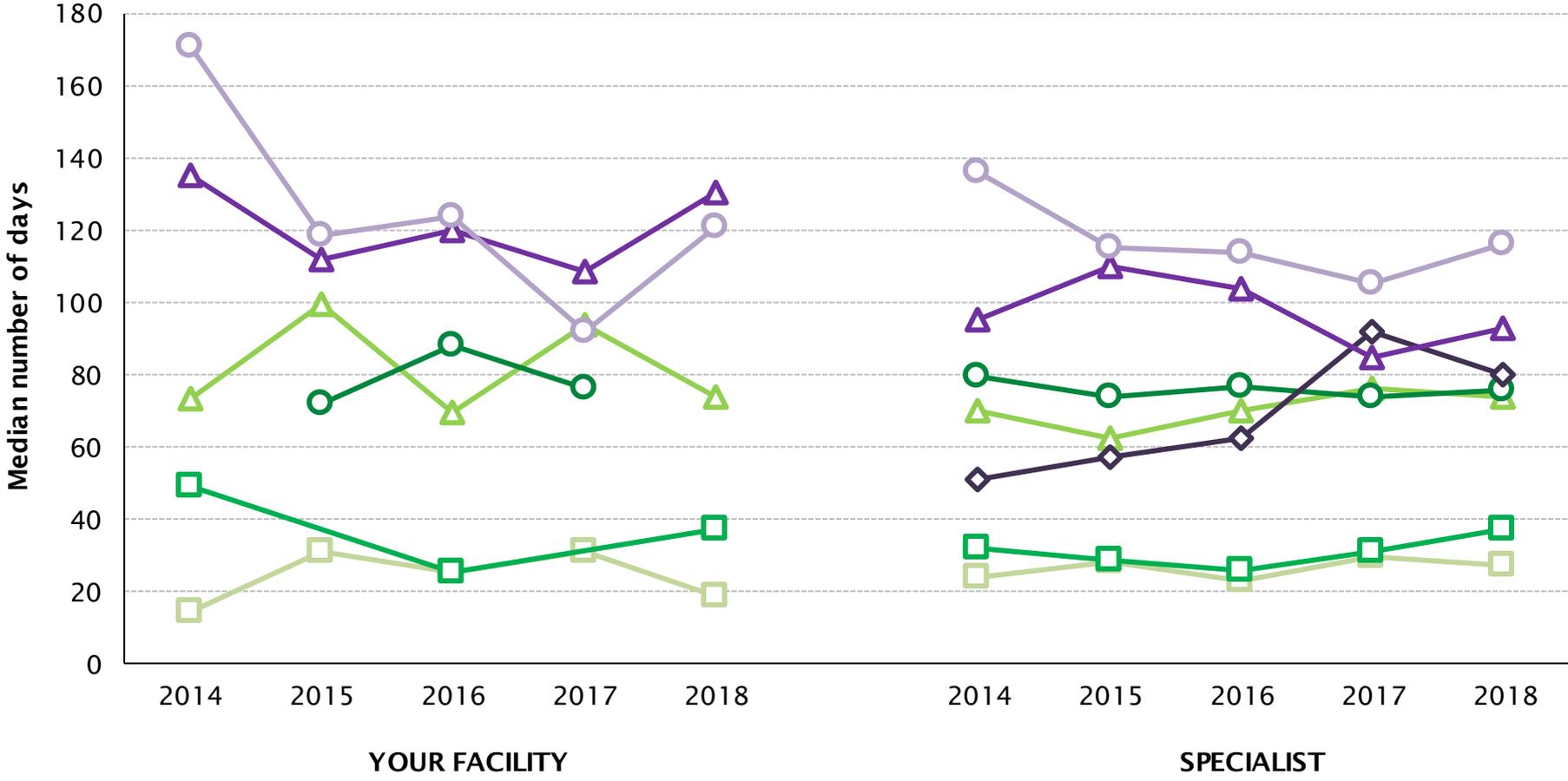


Note: First admission, completed episodes

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



- 4AD1  
SCI 50+ M:42-91
- ▲ 4AD2  
SCI 50+ M:19-41
- 4AD3  
SCI <50 M:34-91
- 4AD4  
SCI <50 M:19-33
- ◆ 4AP1  
MMT 50+ M:19-91
- ▲ 4AZ1  
SCI MMT 49+ M:13-18
- 4AZ2  
SCI MMT <49 M:13-18



Note: First admission, completed episodes

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

## AVERAGE

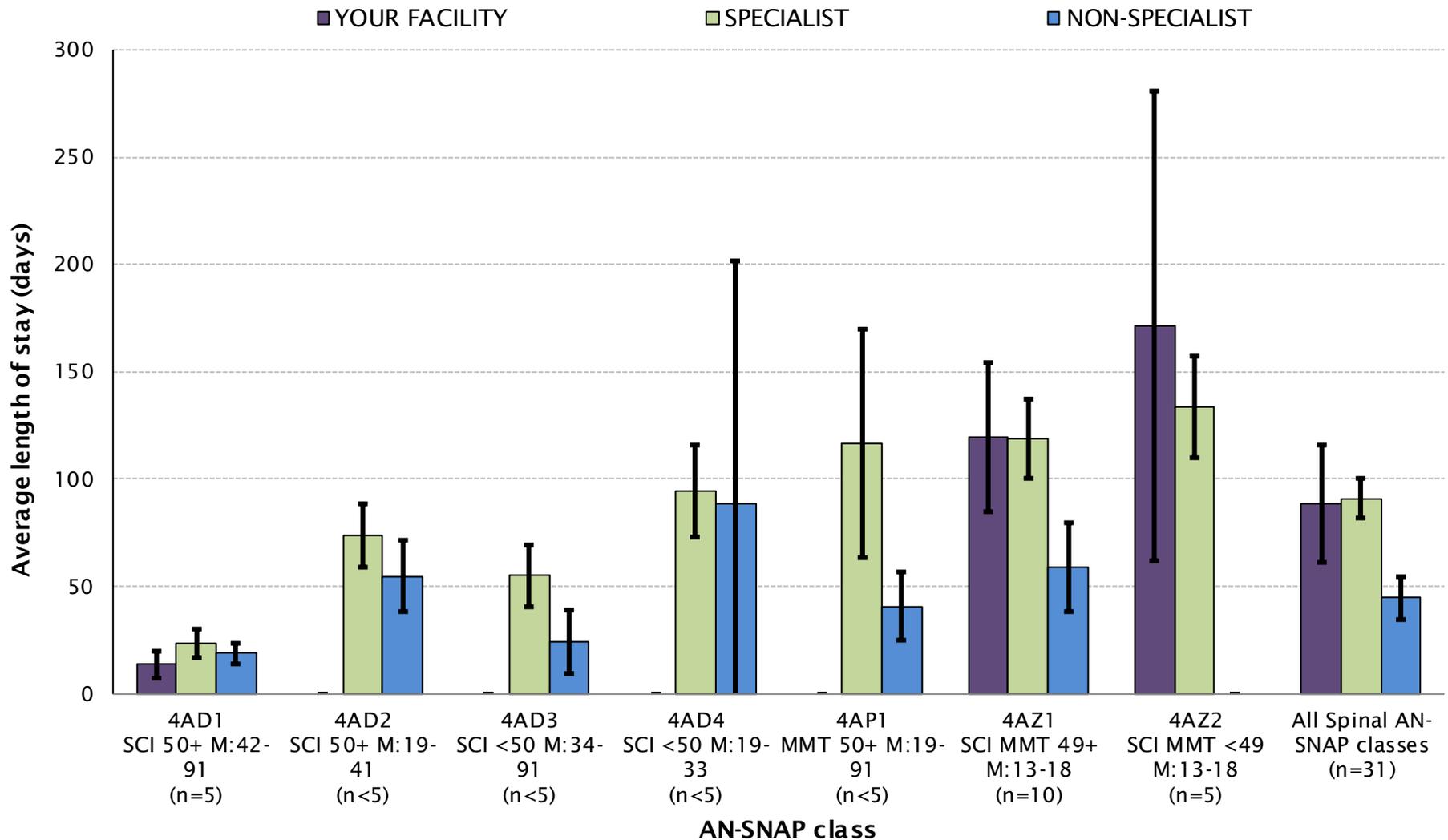
AN-SNAP class	YOUR FACILITY					SPECIALIST					NON-SPECIALIST				
	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
4AD1 (SCI, age ≥ 50, weighted FIM motor 42-91)	20.2	39.6	26.5	44.8	32.8	33.6	40.2	31.5	39.1	35.1	20.5	18.6	19.0	20.9	21.6
4AD2 (SCI, age ≥ 50, weighted FIM motor 19-41)	80.7	89.7	79.9	92.7	97.1	90.1	82.7	87.7	84.3	80.1	48.2	46.5	48.7	45.1	46.0
4AD3 (SCI, age ≤ 49, weighted FIM motor 34-91)	52.4	—	36.3	—	34.8	39.9	36.9	34.5	44.2	47.4	19.5	25.2	24.8	25.0	21.3
4AD4 (SCI, age ≤ 49, weighted FIM motor 19-33)	—	89.2	99.0	86.8	—	91.4	87.5	83.1	90.0	92.8	59.2	70.7	48.2	55.5	100.6
4AP1 (MMT, weighted FIM motor 19-91)	—	—	—	—	—	77.5	84.3	70.6	89.9	116.9	29.7	37.1	31.9	39.0	40.8
4AZ1 (SCI or MMT, age ≥ 49, weighted FIM motor 13-18)	115.6	122.1	120.0	115.7	124.8	121.0	120.3	112.5	98.9	109.4	51.3	61.5	67.4	55.6	53.6
4AZ2 (SCI or MMT, age ≤ 48, weighted FIM motor 13-18)	180.6	131.8	116.7	92.3	171.4	138.8	127.0	131.8	113.6	133.1	38.9	43.1	—	76.3	—
<b>All Spinal AN-SNAP classes</b>	<b>85.3</b>	<b>88.6</b>	<b>78.6</b>	<b>79.2</b>	<b>90.6</b>	<b>83.5</b>	<b>82.6</b>	<b>77.0</b>	<b>74.4</b>	<b>80.3</b>	<b>30.8</b>	<b>33.4</b>	<b>33.1</b>	<b>33.9</b>	<b>34.5</b>

## MEDIAN

AN-SNAP class	YOUR FACILITY					SPECIALIST					NON-SPECIALIST				
	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
4AD1 (SCI, age ≥ 50, weighted FIM motor 42-91)	14.5	31.0	25.0	31.0	18.5	24.0	28.0	23.0	29.5	27.0	17.5	15.0	15.0	16.0	19.0
4AD2 (SCI, age ≥ 50, weighted FIM motor 19-41)	73.5	99.5	69.5	94.0	74.0	70.0	62.5	70.0	76.0	74.0	39.0	39.0	42.0	40.0	36.0
4AD3 (SCI, age ≤ 49, weighted FIM motor 34-91)	49.0	—	25.0	—	37.0	32.0	28.5	25.5	31.0	37.0	14.5	21.0	18.0	16.0	15.0
4AD4 (SCI, age ≤ 49, weighted FIM motor 19-33)	—	72.0	88.0	76.0	—	79.5	74.0	76.5	74.0	75.5	49.0	46.0	30.0	49.0	81.0
4AP1 (MMT, weighted FIM motor 19-91)	—	—	—	—	—	51.0	57.0	62.5	92.0	80.0	19.0	26.0	24.0	23.5	27.0
4AZ1 (SCI or MMT, age ≥ 49, weighted FIM motor 13-18)	135.0	112.0	120.0	108.5	130.5	95.0	110.0	104.0	84.5	93.0	50.5	50.5	59.0	51.0	46.0
4AZ2 (SCI or MMT, age ≤ 48, weighted FIM motor 13-18)	171.0	118.5	124.0	92.0	121.0	136.0	115.0	114.0	105.0	116.0	9.0	40.0	—	43.0	—
<b>All Spinal AN-SNAP classes</b>	<b>62.0</b>	<b>66.0</b>	<b>70.0</b>	<b>75.0</b>	<b>63.0</b>	<b>63.0</b>	<b>64.0</b>	<b>63.0</b>	<b>61.0</b>	<b>66.0</b>	<b>21.0</b>	<b>23.0</b>	<b>23.0</b>	<b>23.0</b>	<b>25.0</b>

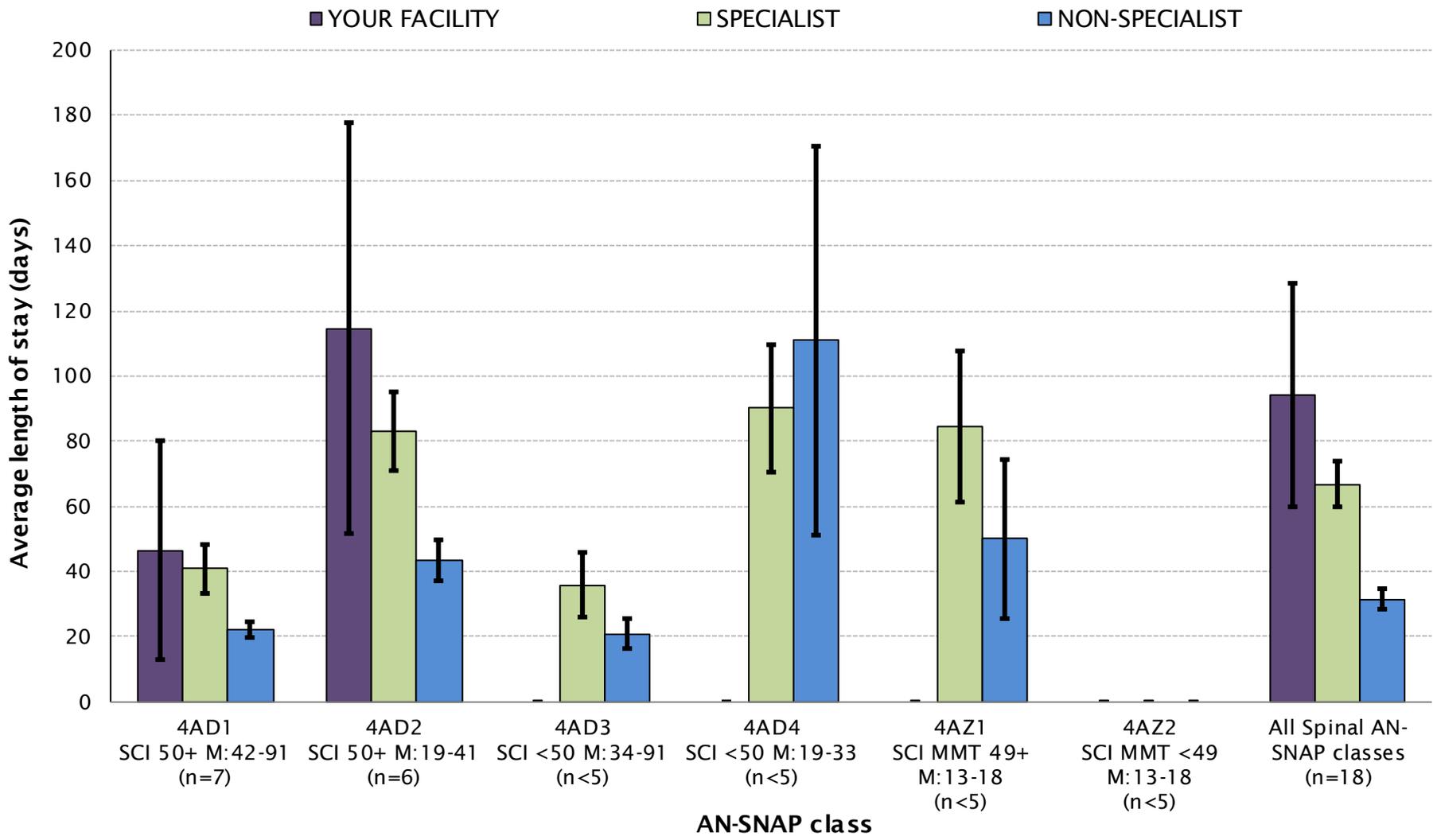
Note: First admission, completed episodes

# Traumatic SCI average length of stay by AN-SNAP class



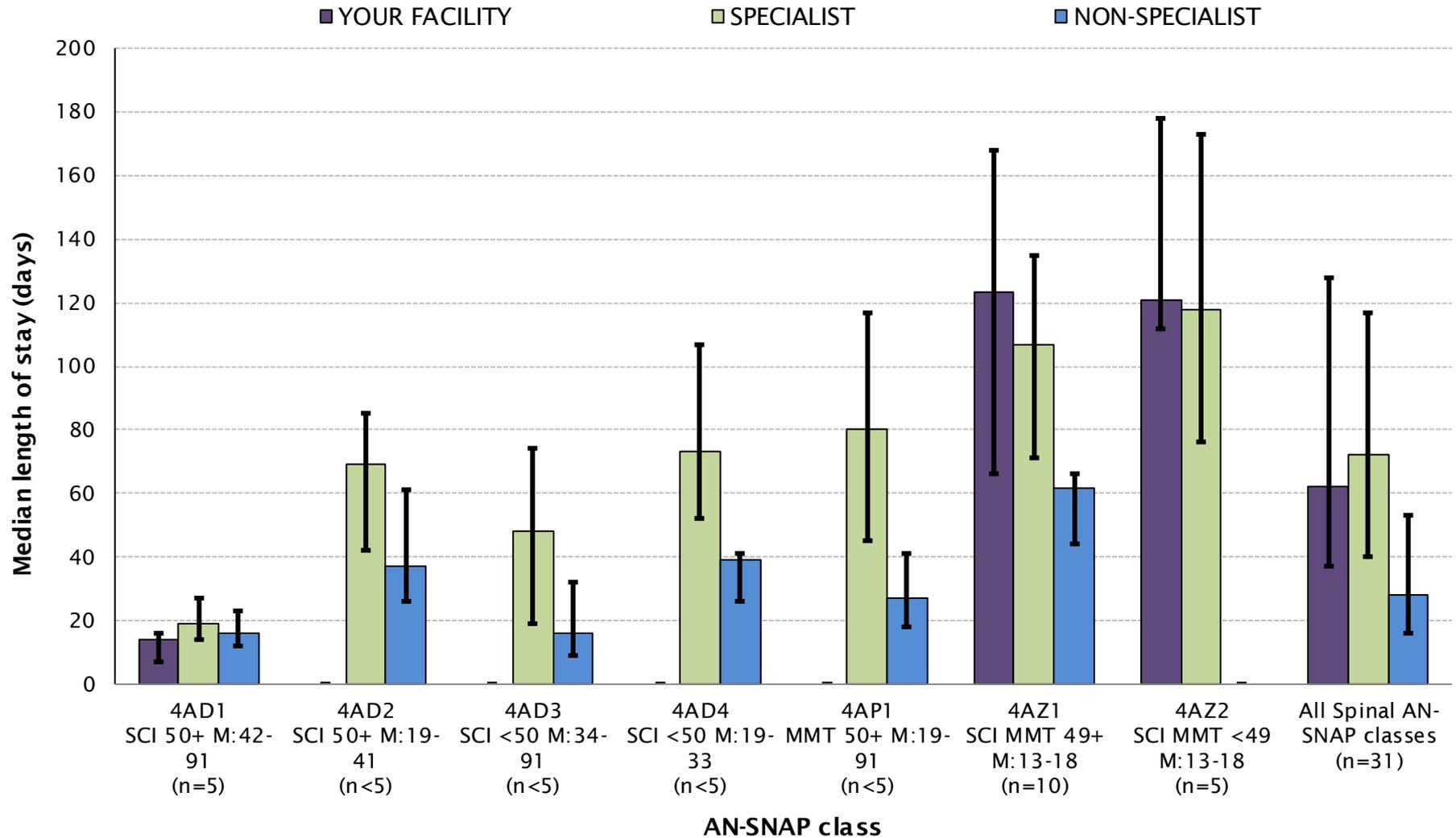
Note: First admission, completed episodes

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



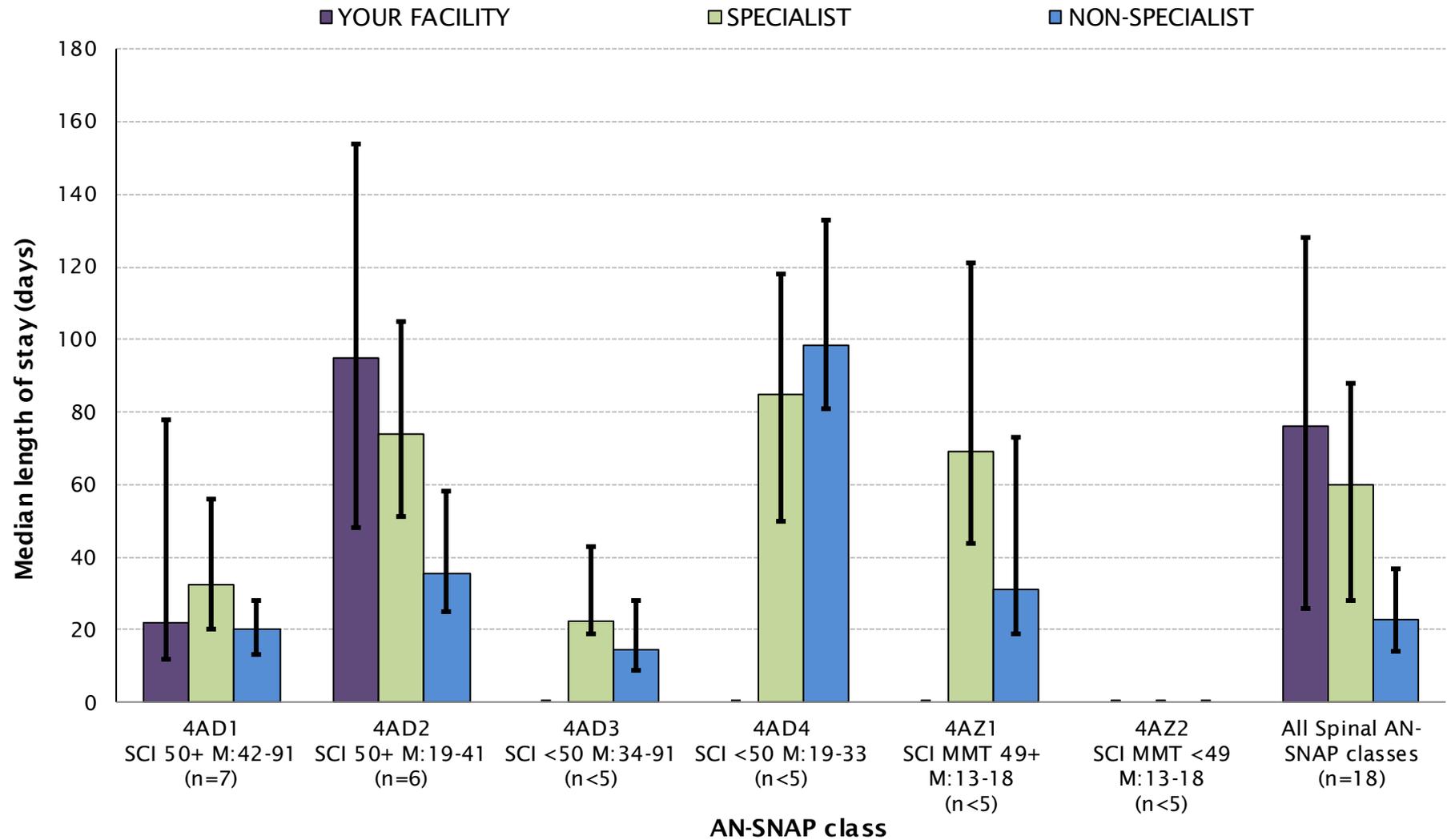
Note: First admission, completed episodes

# Traumatic SCI median length of stay by AN-SNAP class



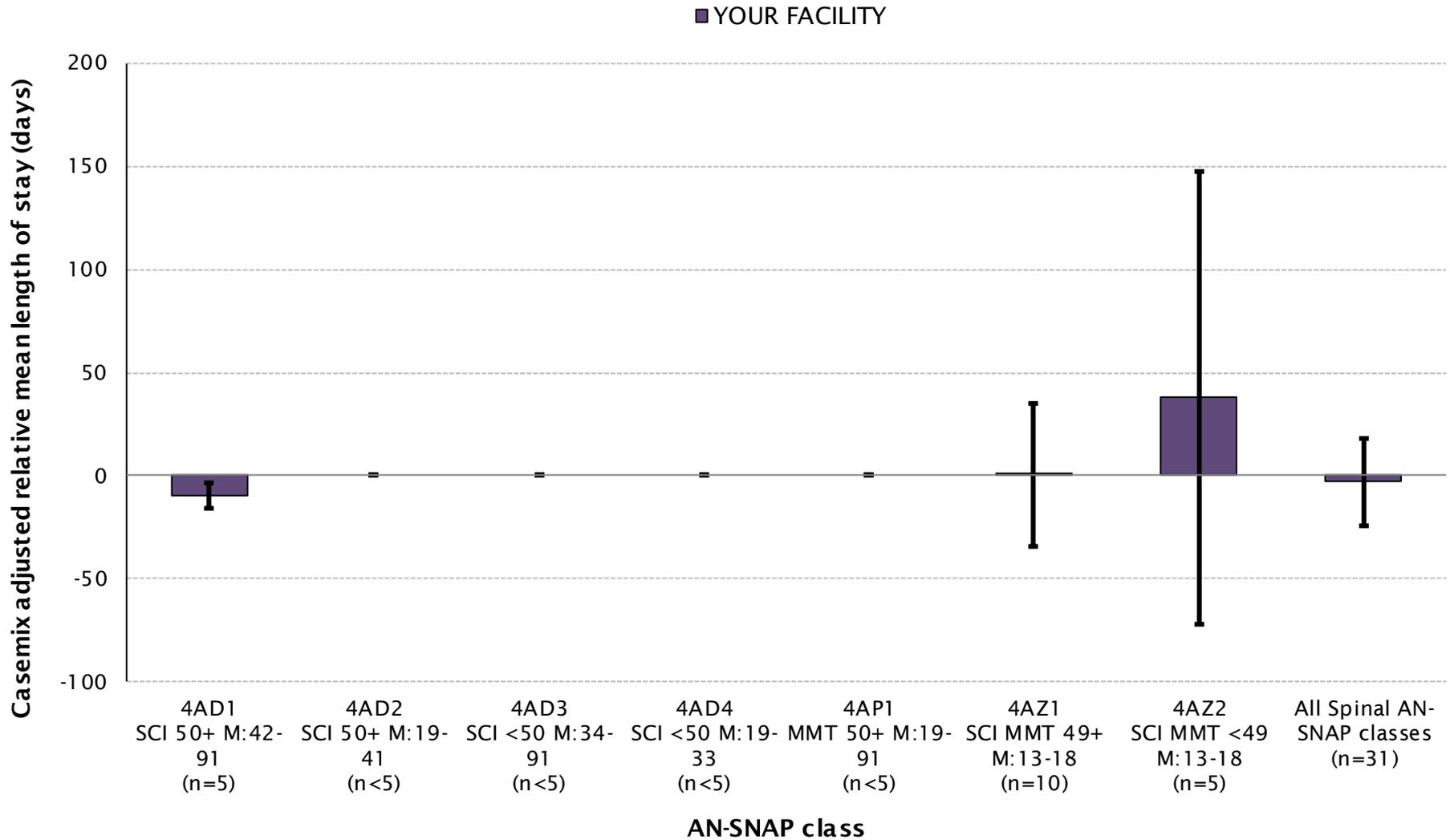
Note: First admission, completed episodes

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



Note: First admission, completed episodes

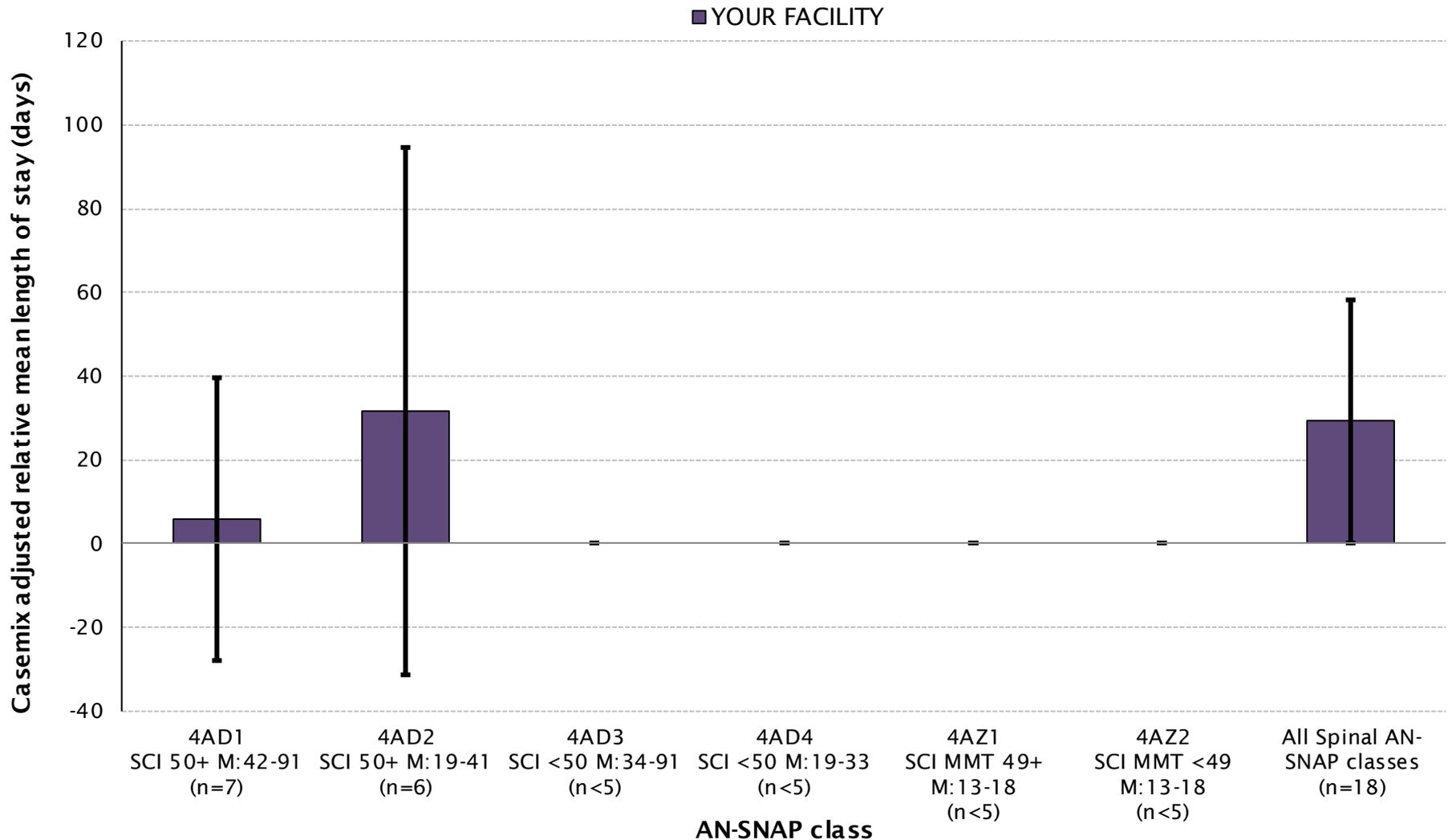
# TSCI casemix-adjusted\* relative mean length of stay by AN-SNAP class



Note: First admission, completed episodes

\*Casemix-adjustment uses CY2018 specialist unit first admissions calculated separately for TSCI and NTSCI

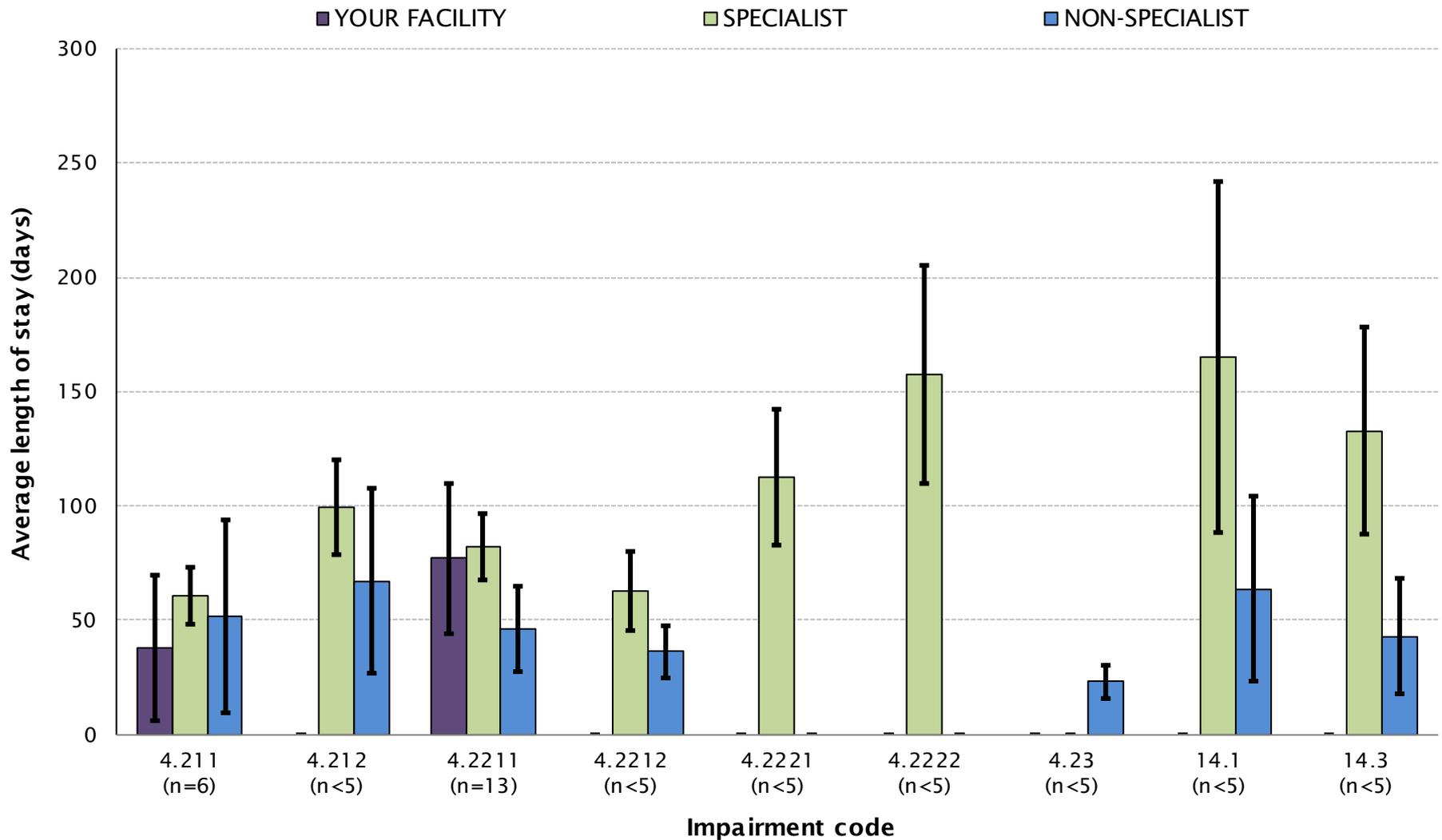
# NTSCI casemix-adjusted\* relative mean length of stay by AN-SNAP class



Note: First admission, completed episodes

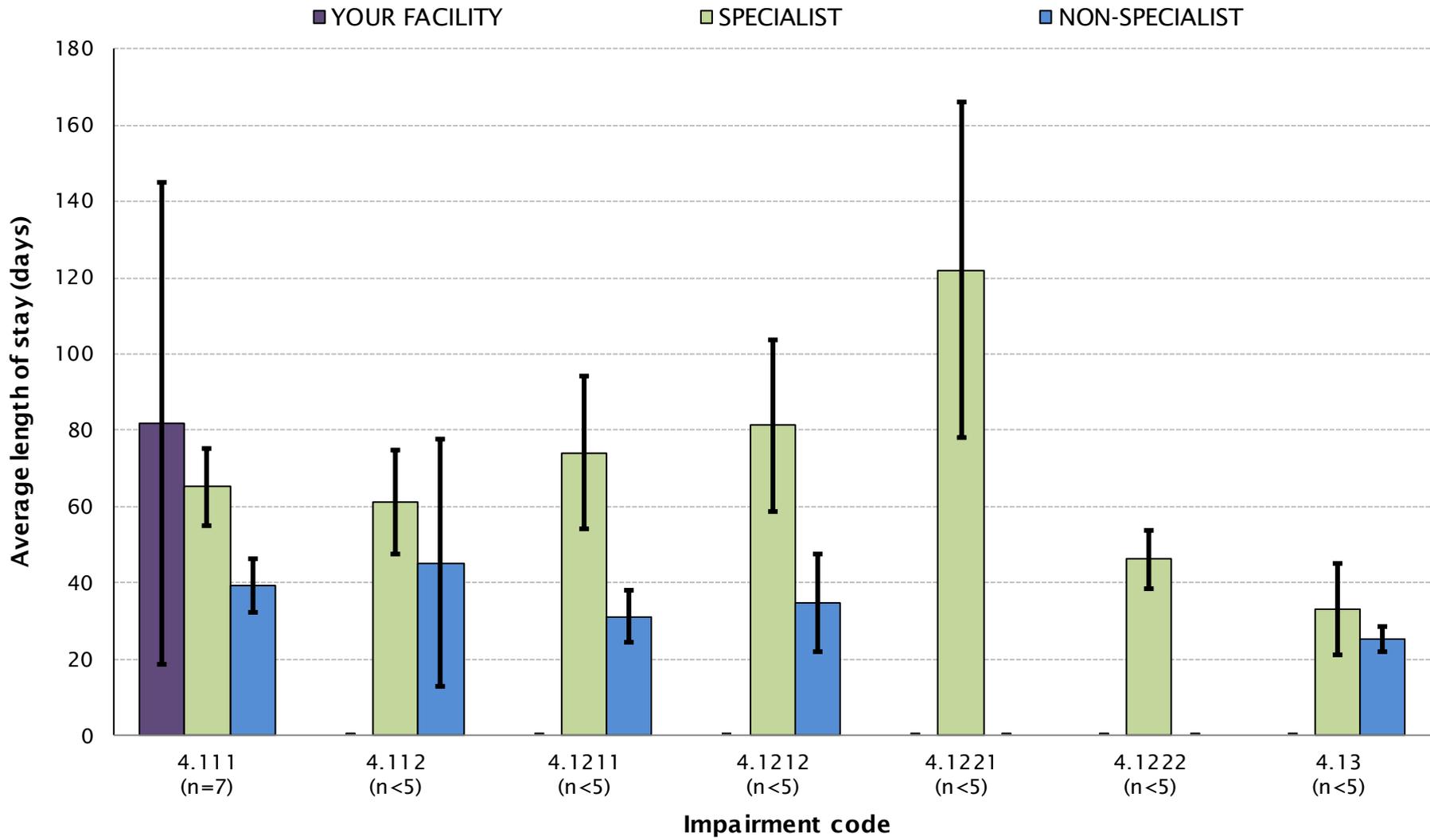
\*Casemix-adjustment uses CY2018 specialist unit first admissions calculated separately for TSCI and NTSCI

# TSCI average length of stay by impairment



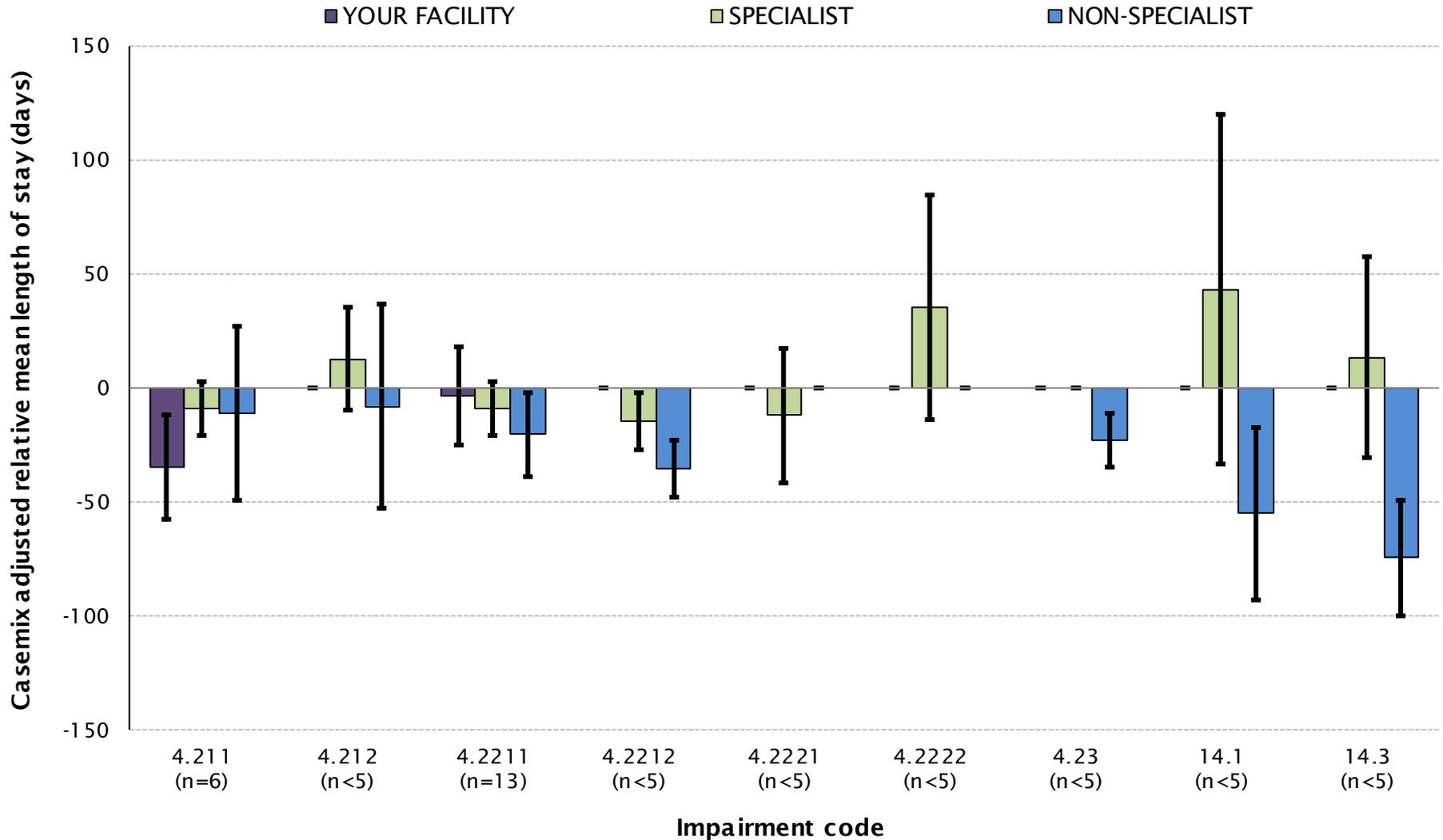
Note: First admission, completed episodes

# NTSCI average length of stay by impairment



Note: First admission, completed episodes

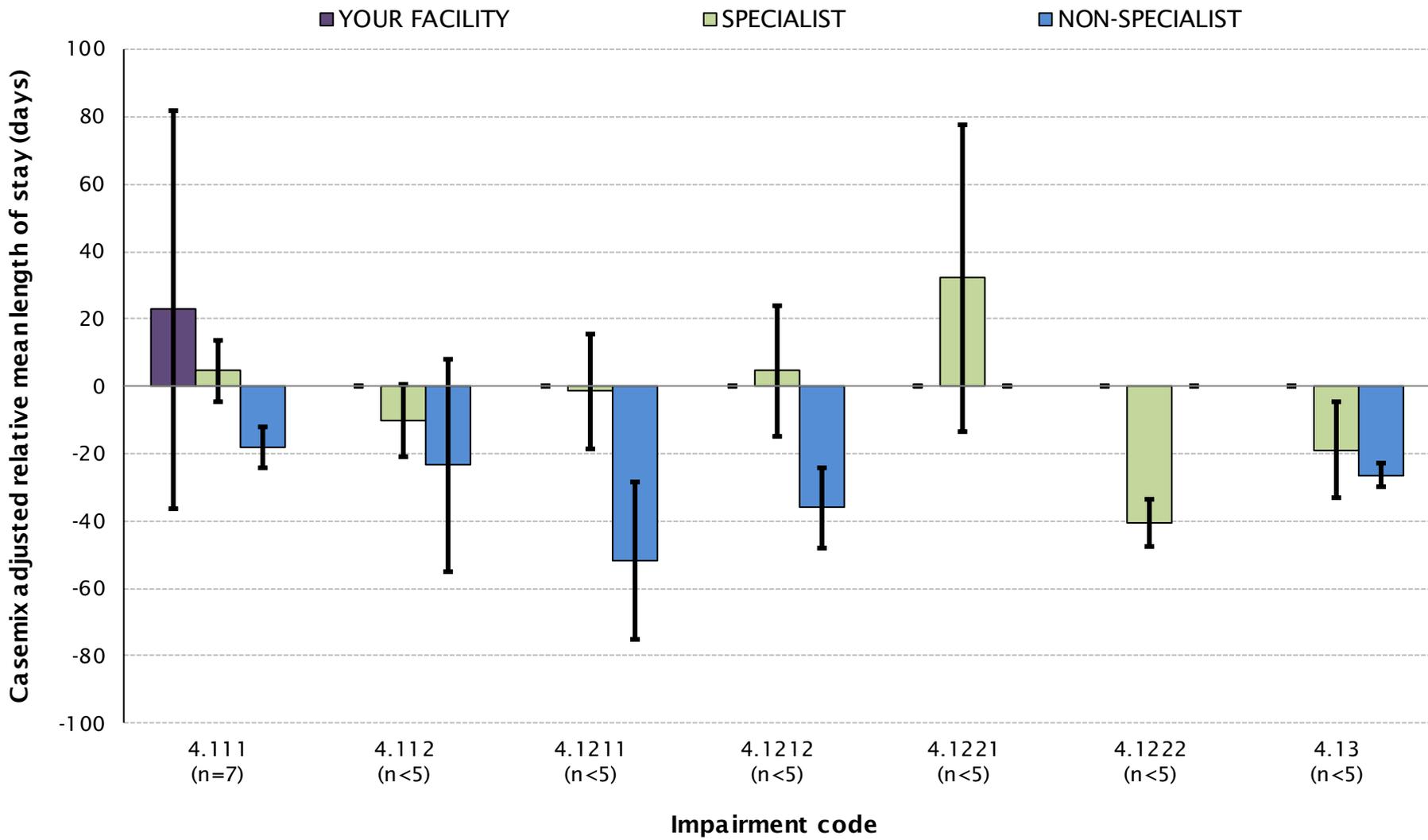
# TSCI casemix-adjusted\* relative mean length of stay by impairment



Note: First admission, completed episodes

\*Casemix-adjustment uses CY2018 specialist unit first admissions calculated separately for TSCI and NTSCI

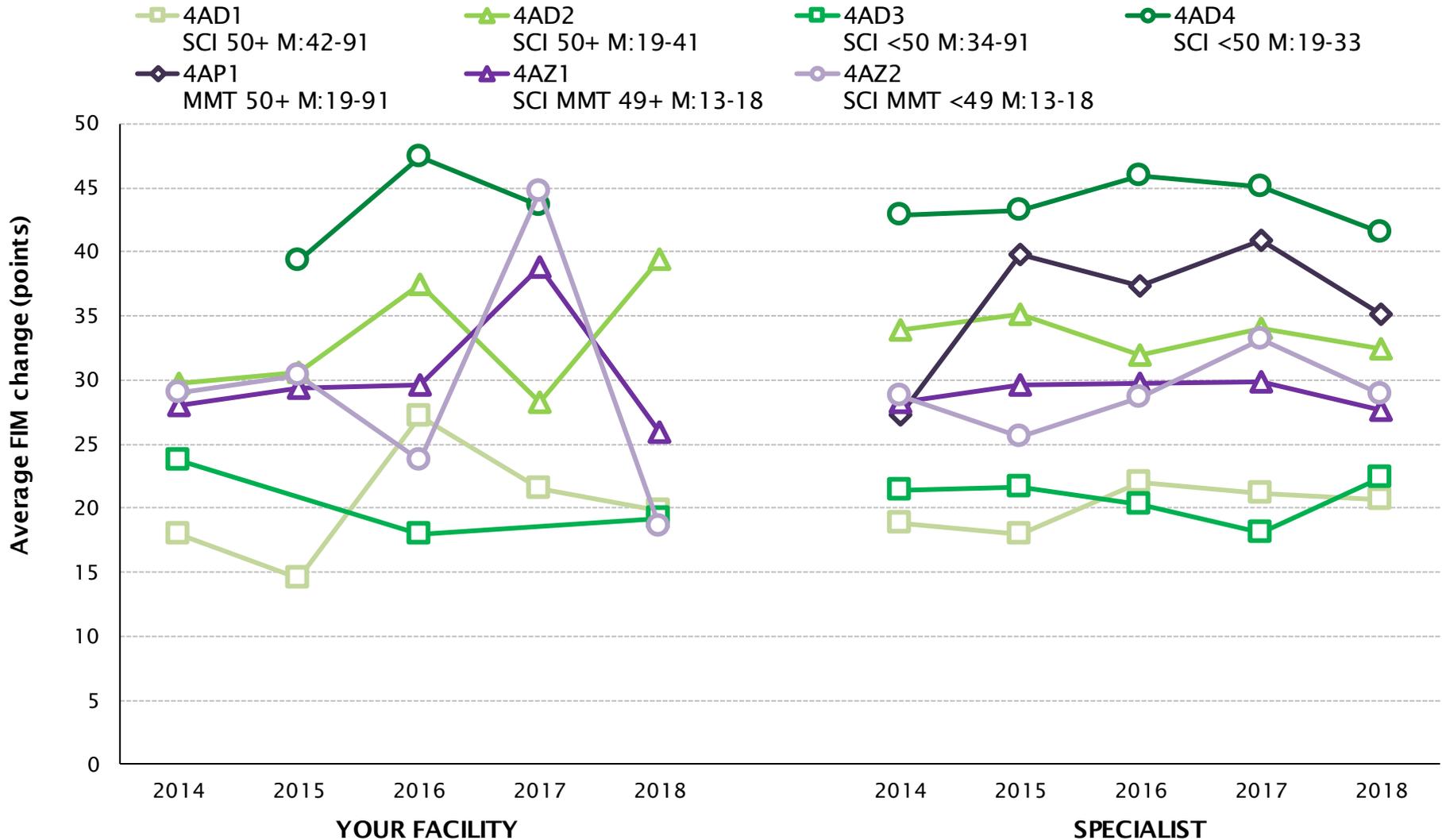
# NTSCI casemix-adjusted\* relative mean length of stay by impairment



Note: First admission, completed episodes

\*Casemix-adjustment uses CY2018 specialist unit first admissions calculated separately for TSCI and NTSCI

# Average FIM change by AN-SNAP class over time



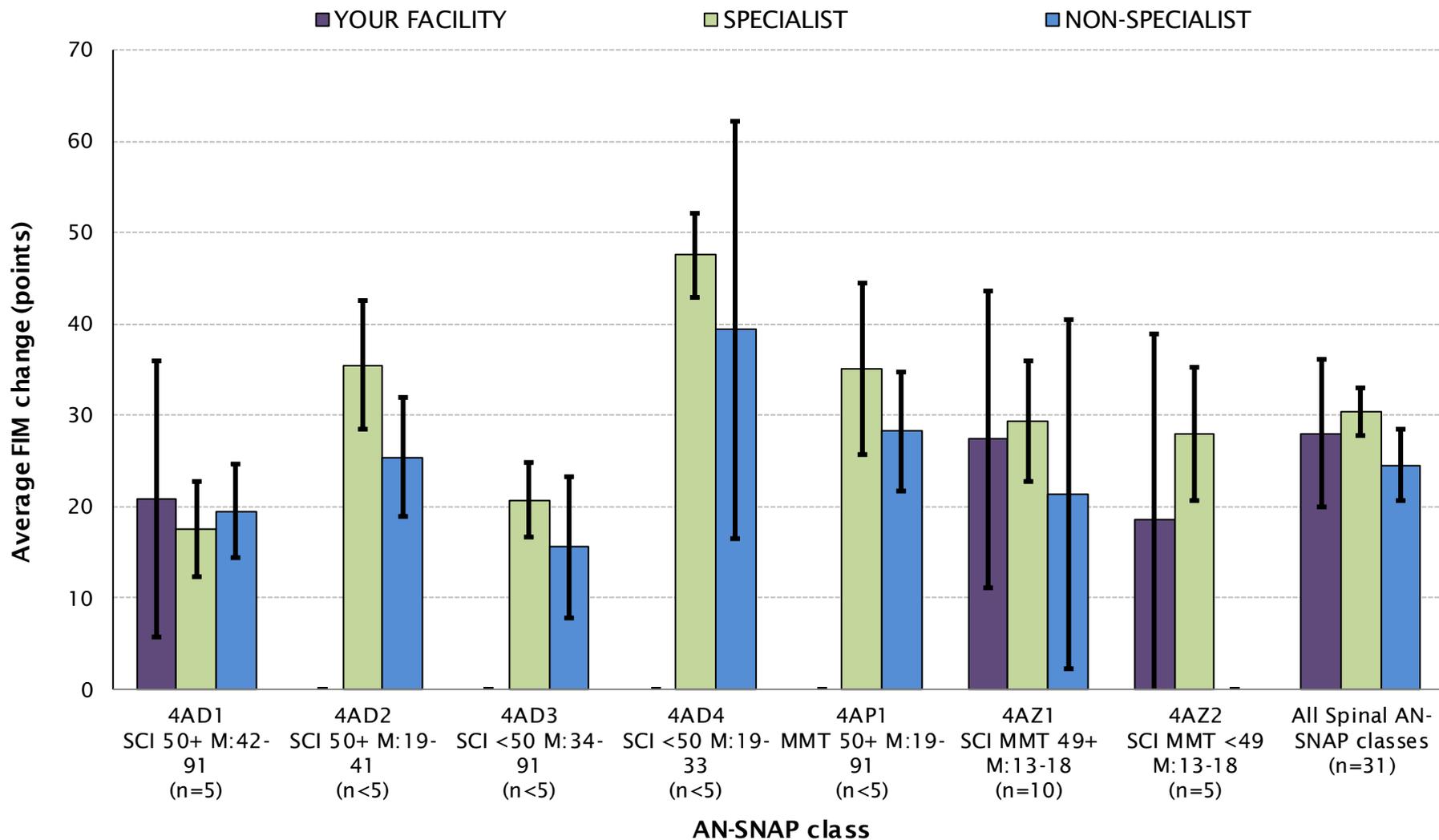
Note: First admission, completed episodes

# Average FIM change by AN-SNAP class over time

AN-SNAP class	YOUR FACILITY					SPECIALIST					NON-SPECIALIST				
	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
4AD1 (SCI, age ≥ 50, weighted FIM motor 42-91)	18.0	14.5	27.2	21.5	19.8	18.8	18.0	22.0	21.1	20.7	17.4	16.2	18.0	18.6	19.0
4AD2 (SCI, age ≥ 50, weighted FIM motor 19-41)	29.8	30.6	37.4	28.3	39.4	34.0	35.2	31.9	34.1	32.4	25.9	24.1	27.9	25.4	26.7
4AD3 (SCI, age ≤ 49, weighted FIM motor 34-91)	23.7	—	18.0	—	19.2	21.4	21.7	20.3	18.1	22.3	17.9	17.6	18.7	17.4	16.6
4AD4 (SCI, age ≤ 49, weighted FIM motor 19-33)	—	39.3	47.4	43.6	—	42.9	43.3	45.9	45.1	41.5	12.9	29.5	26.3	31.0	35.5
4AP1 (MMT, weighted FIM motor 19-91)	—	—	—	—	—	27.3	39.8	37.4	40.9	35.1	26.9	28.7	28.9	29.0	28.3
4AZ1 (SCI or MMT, age ≥ 49, weighted FIM motor 13-18)	28.0	29.4	29.7	38.8	25.9	28.3	29.6	29.8	29.8	27.7	32.9	21.4	27.5	18.4	20.2
4AZ2 (SCI or MMT, age ≤ 48, weighted FIM motor 13-18)	29.0	30.4	23.7	44.7	18.6	28.7	25.5	28.7	33.2	28.8	.4	27.8	—	35.8	—
<b>All Spinal AN-SNAP classes</b>	<b>28.2</b>	<b>28.8</b>	<b>30.4</b>	<b>30.9</b>	<b>28.0</b>	<b>29.3</b>	<b>30.0</b>	<b>29.4</b>	<b>29.8</b>	<b>29.0</b>	<b>20.8</b>	<b>20.6</b>	<b>22.6</b>	<b>22.0</b>	<b>22.2</b>

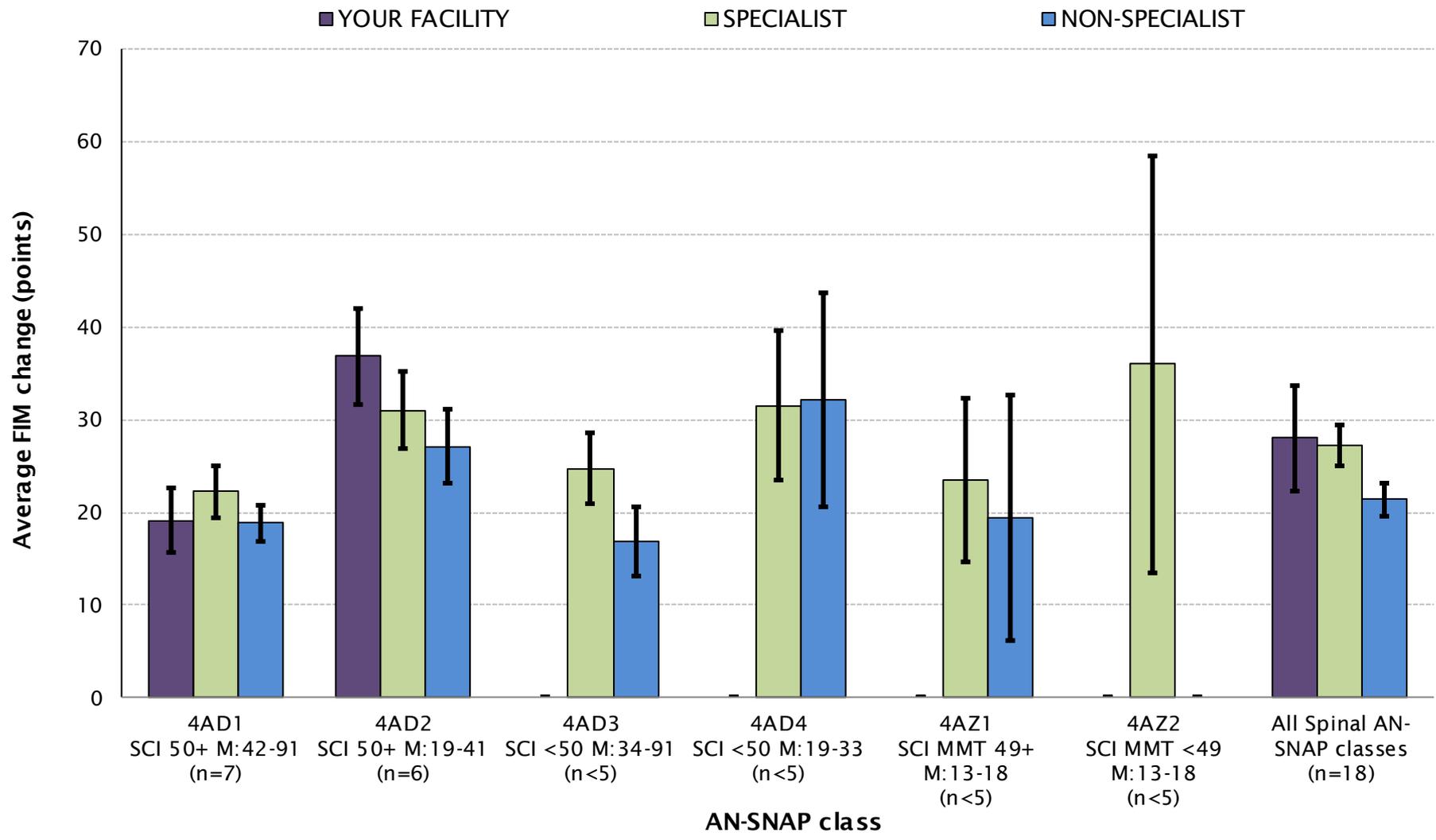
Note: First admission, completed episodes

# Traumatic SCI average FIM change by AN-SNAP class



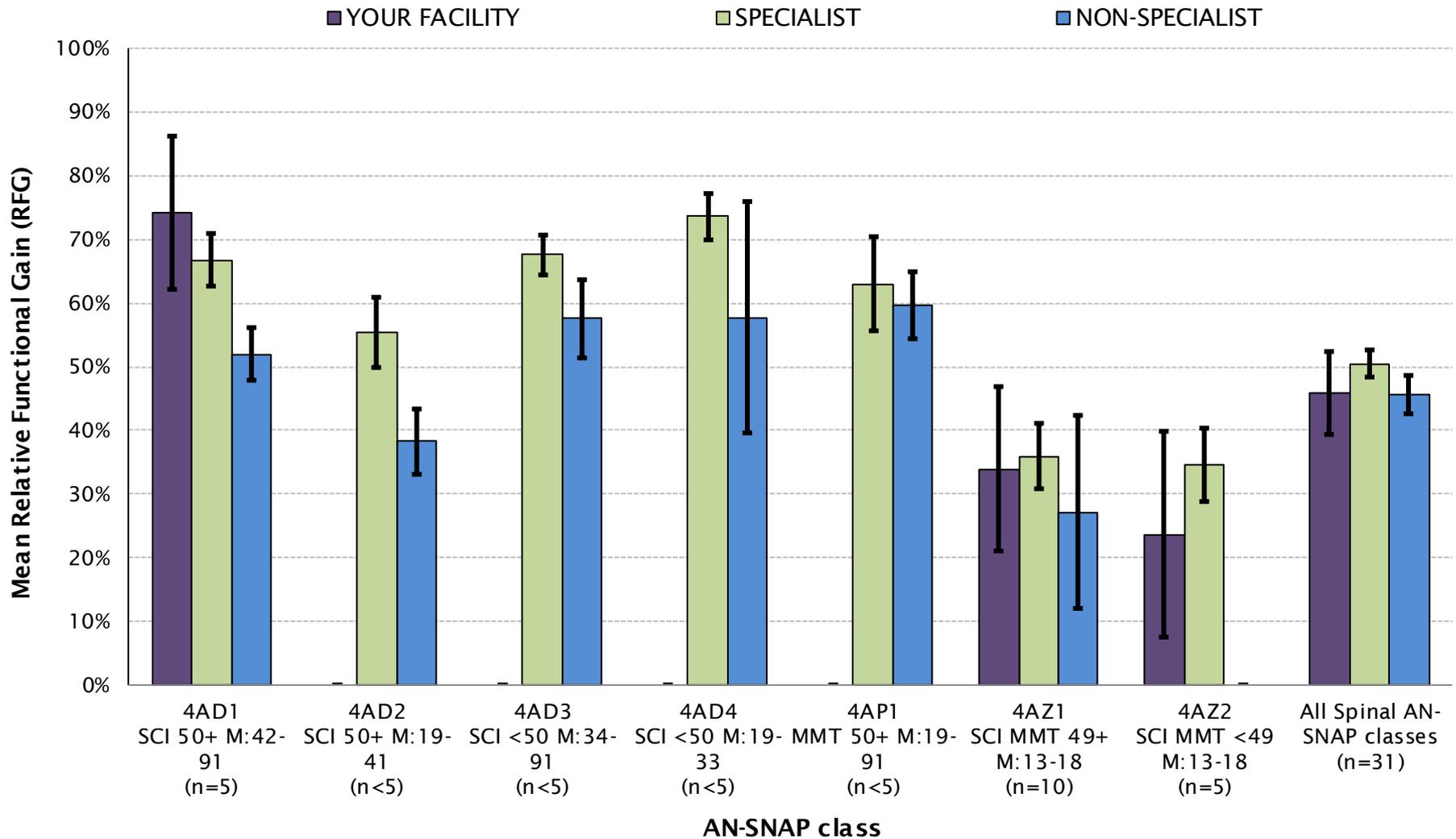
Note: First admission, completed episodes

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



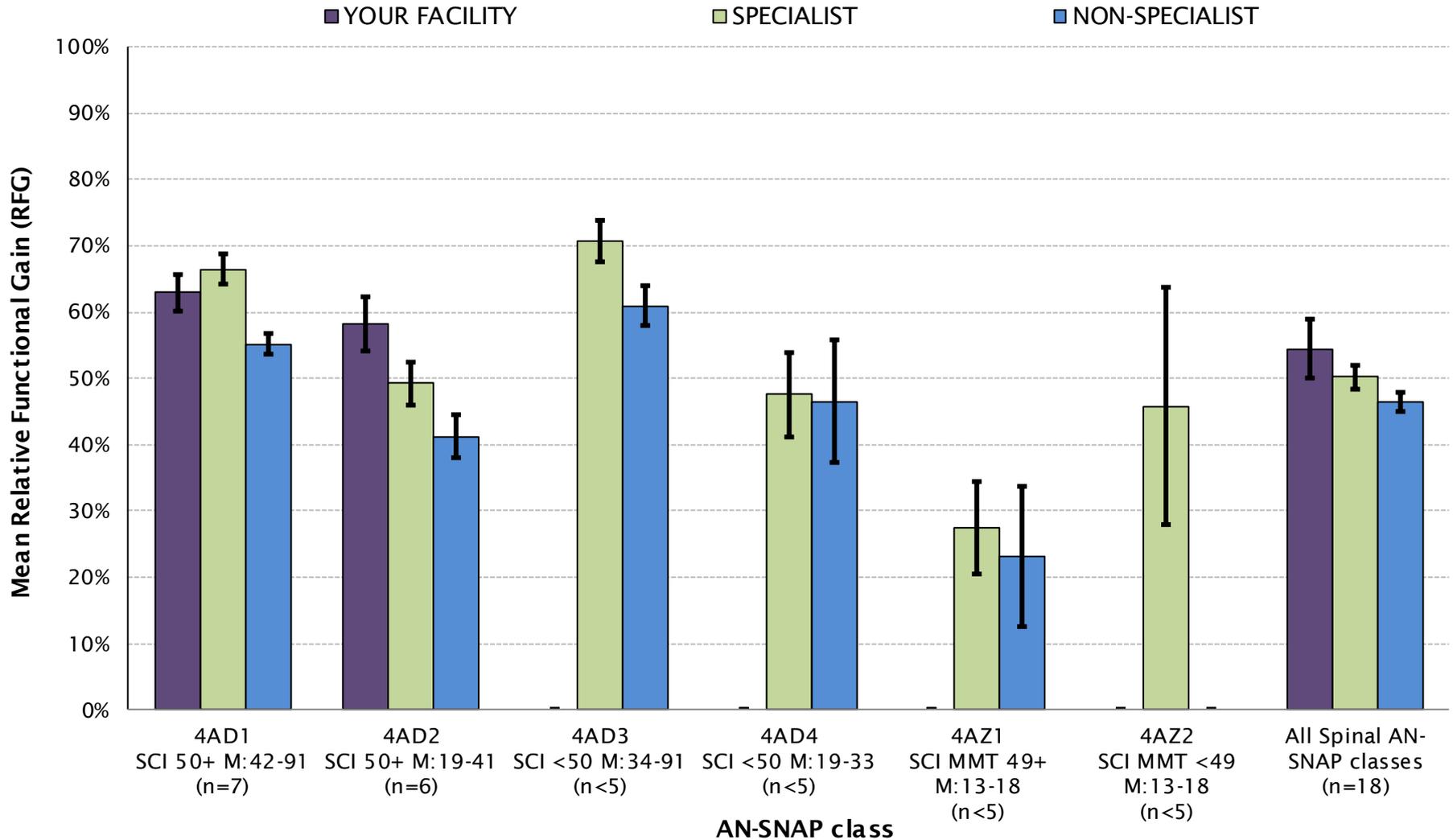
Note: First admission, completed episodes

# Traumatic SCI average relative functional gain by AN-SNAP class



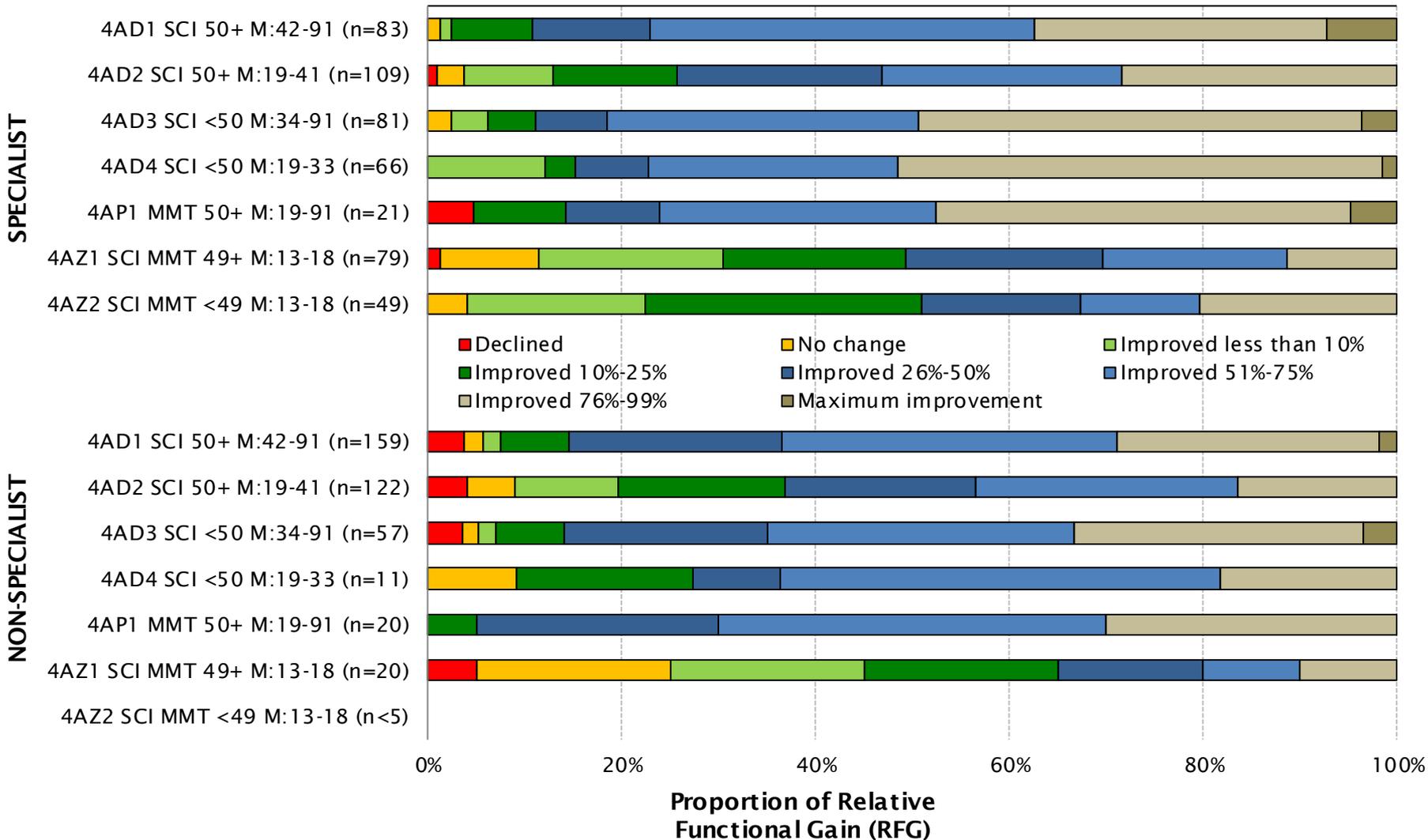
Note: First admission, completed episodes

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



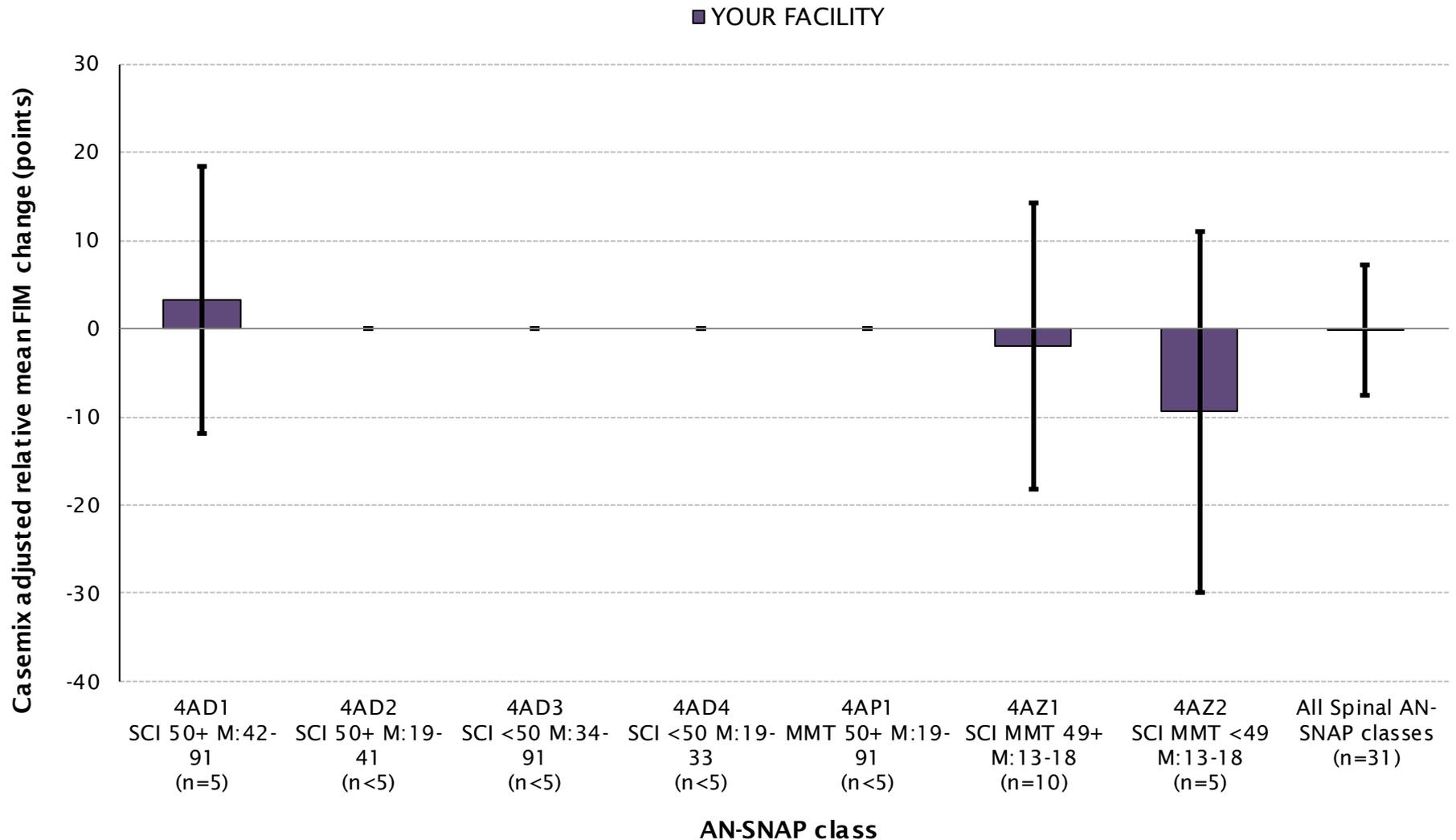
Note: First admission, completed episodes

# Relative functional gain by AN-SNAP class



Note: First admission, completed episodes

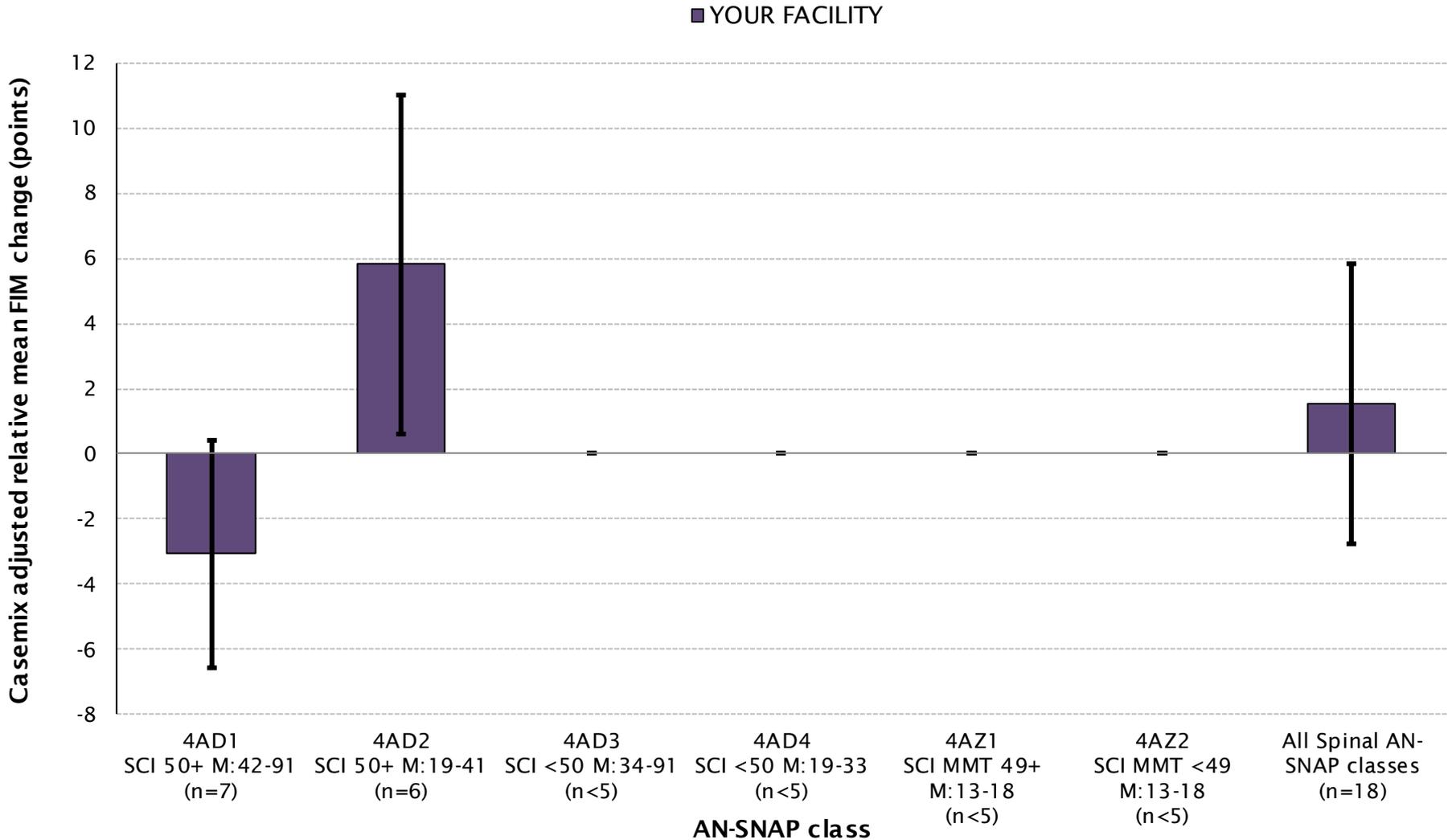
# TSCI casemix-adjusted\* relative mean FIM change by AN-SNAP class



Note: First admission, completed episodes

\*Casemix-adjustment uses CY2018 specialist unit first admissions calculated separately for TSCI and NTSCI

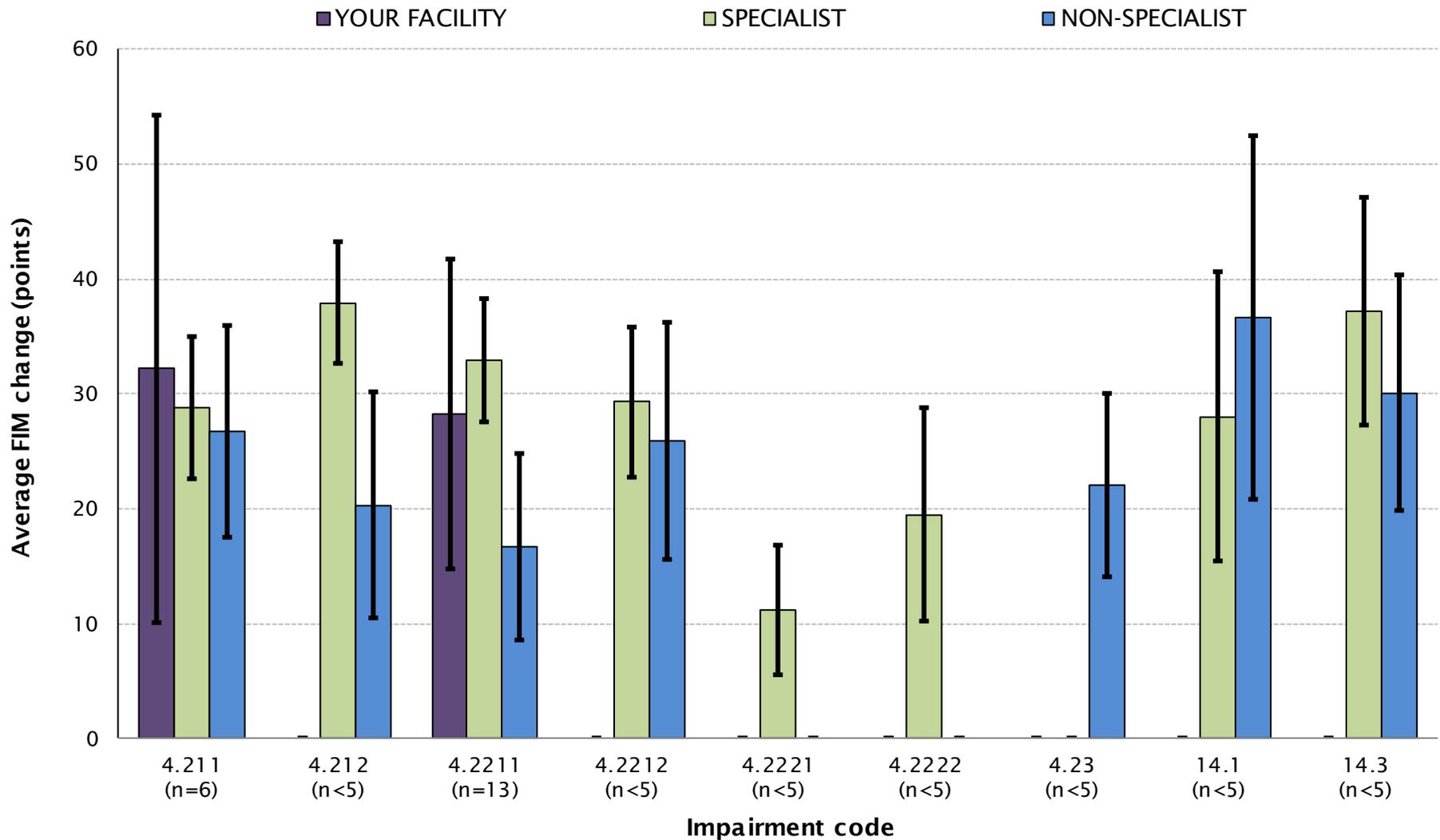
# NTSCI casemix-adjusted\* relative mean FIM change by AN-SNAP class



Note: First admission, completed episodes

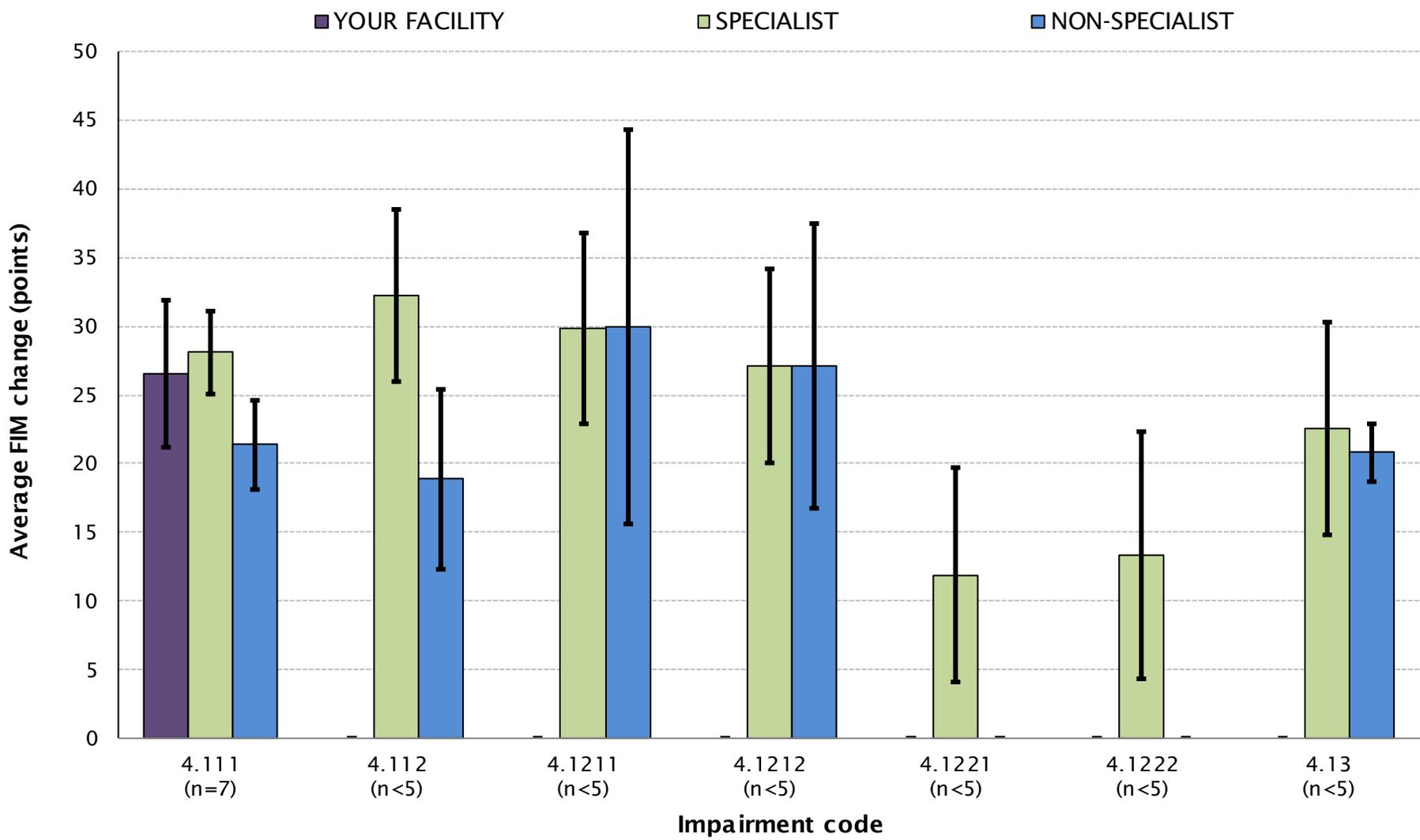
\*Casemix-adjustment uses CY2018 specialist unit first admissions calculated separately for TSCI and NTSCI

# Traumatic SCI average FIM change by impairment



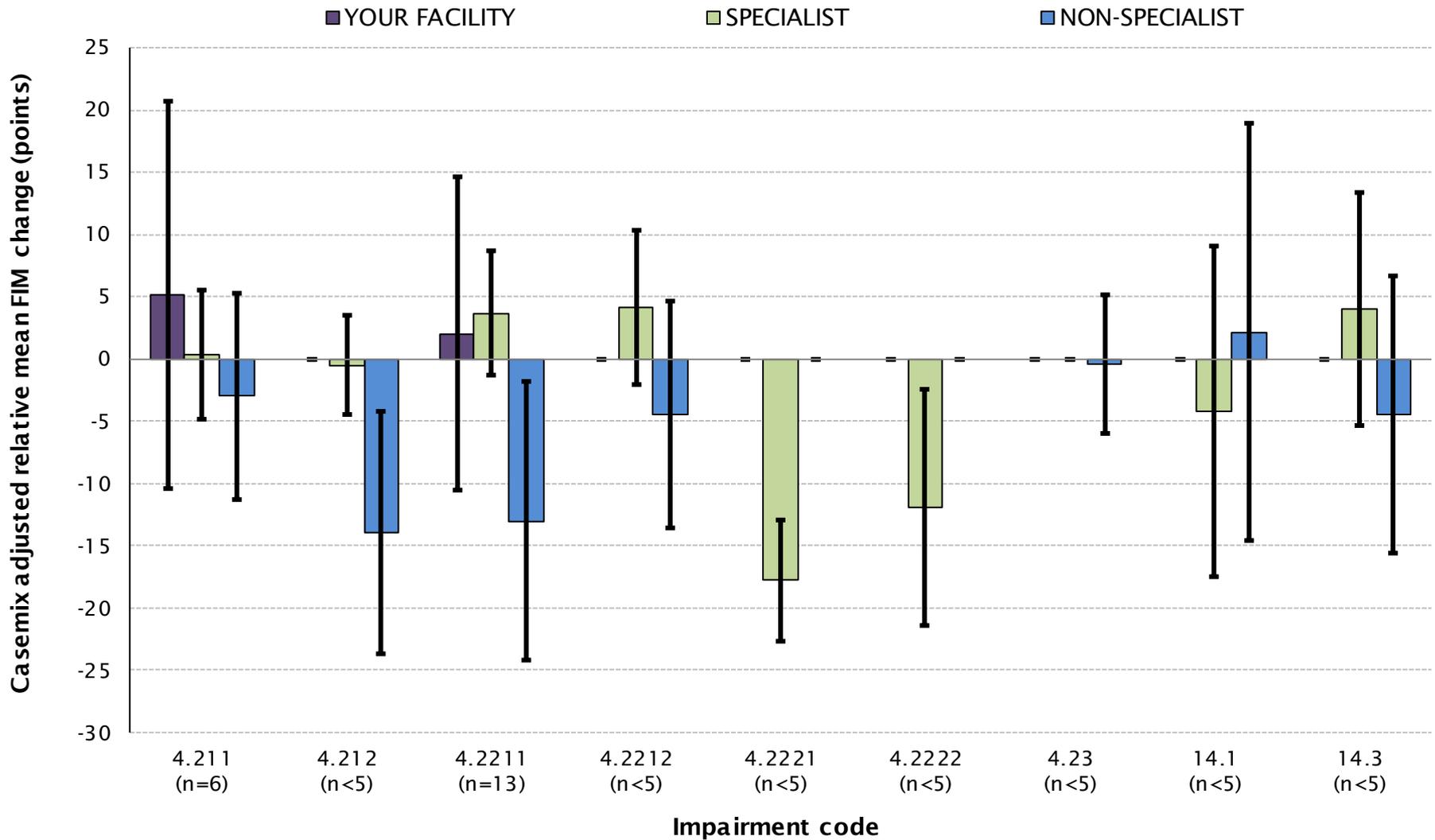
Note: First admission, completed episodes

# Non-traumatic SCI average FIM change by impairment



Note: First admission, completed episodes

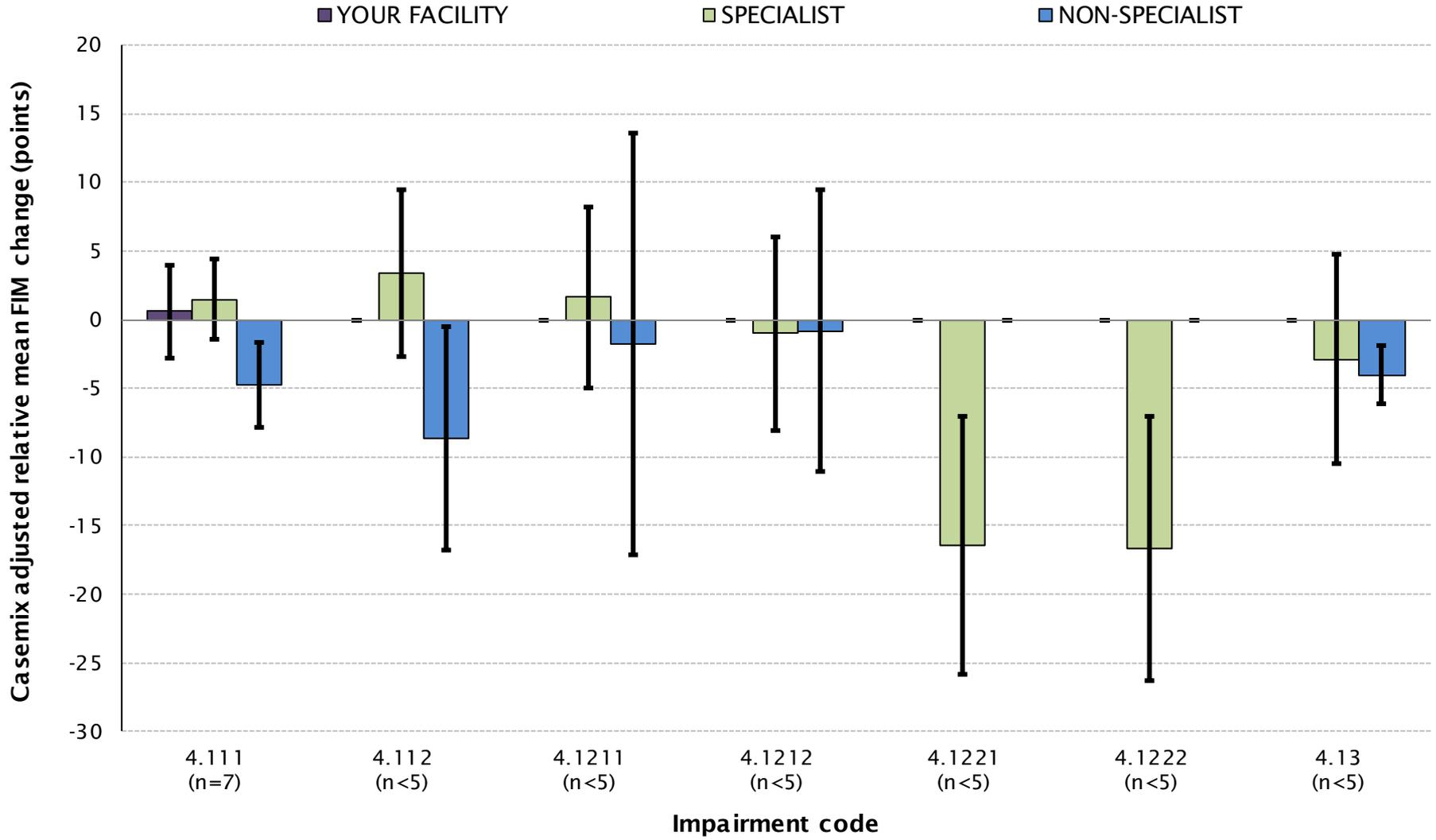
# TSCI casemix-adjusted\* relative mean FIM change by impairment



Note: First admission, completed episodes

\*Casemix-adjustment uses CY2018 specialist unit first admissions calculated separately for TSCI and NTSCI

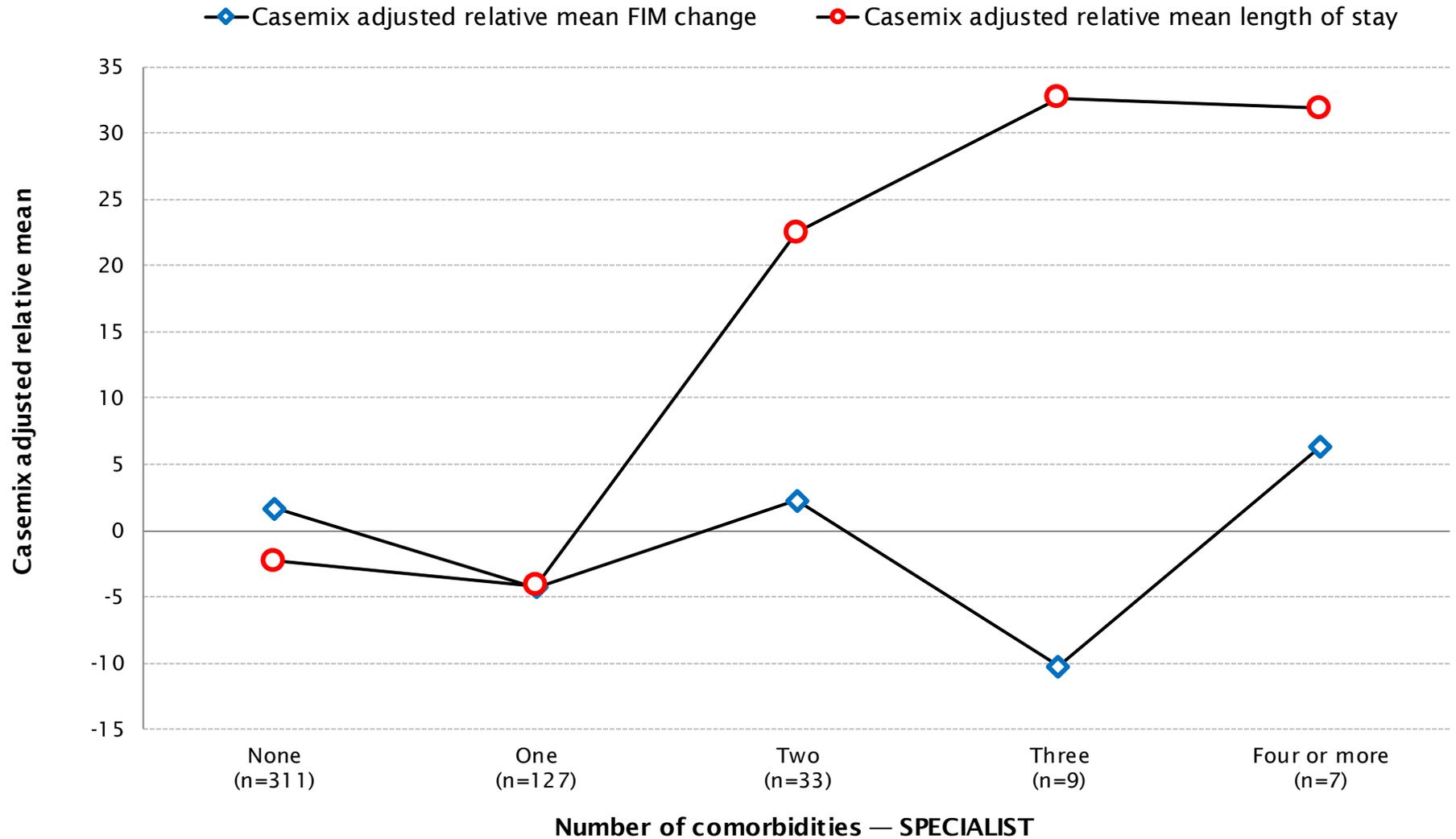
# NTSCI casemix-adjusted\* relative mean FIM change by impairment



Note: First admission, completed episodes

\*Casemix-adjustment uses CY2018 specialist unit first admissions calculated separately for TSCI and NTSCI

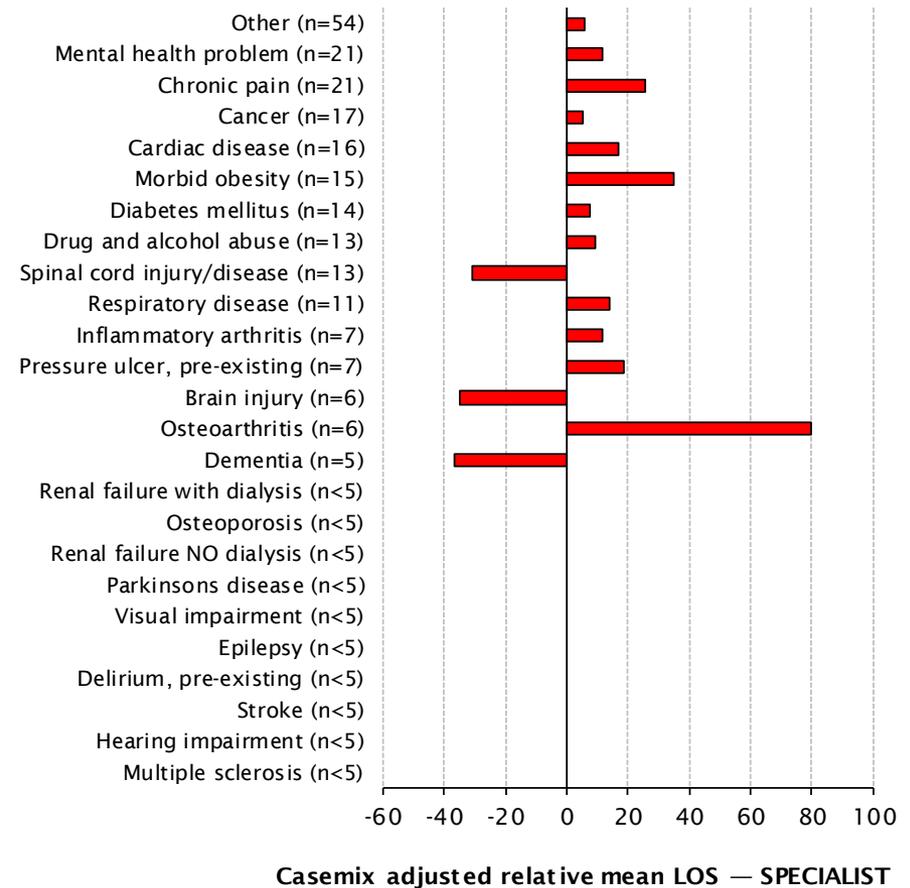
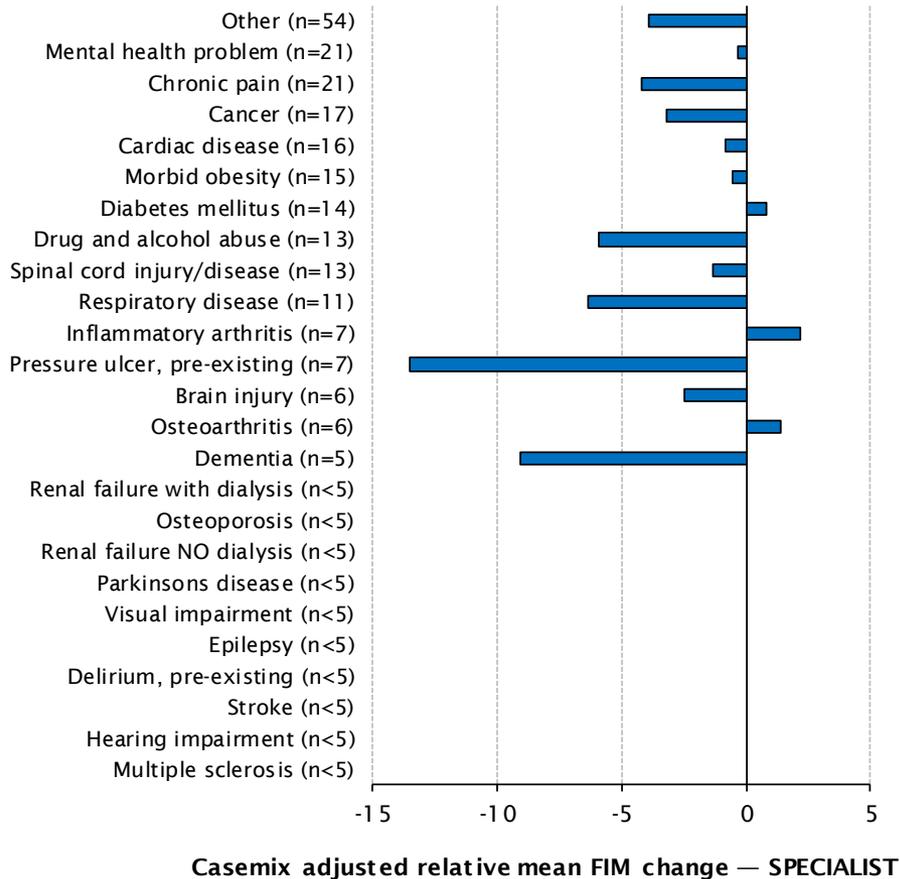
# Casemix-adjusted\* relative mean length of stay and FIM change by number of comorbidities



Note: First admission, completed episodes

\*Casemix-adjustment uses CY2018 specialist unit first admissions calculated separately for TSCI and NTSCI

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

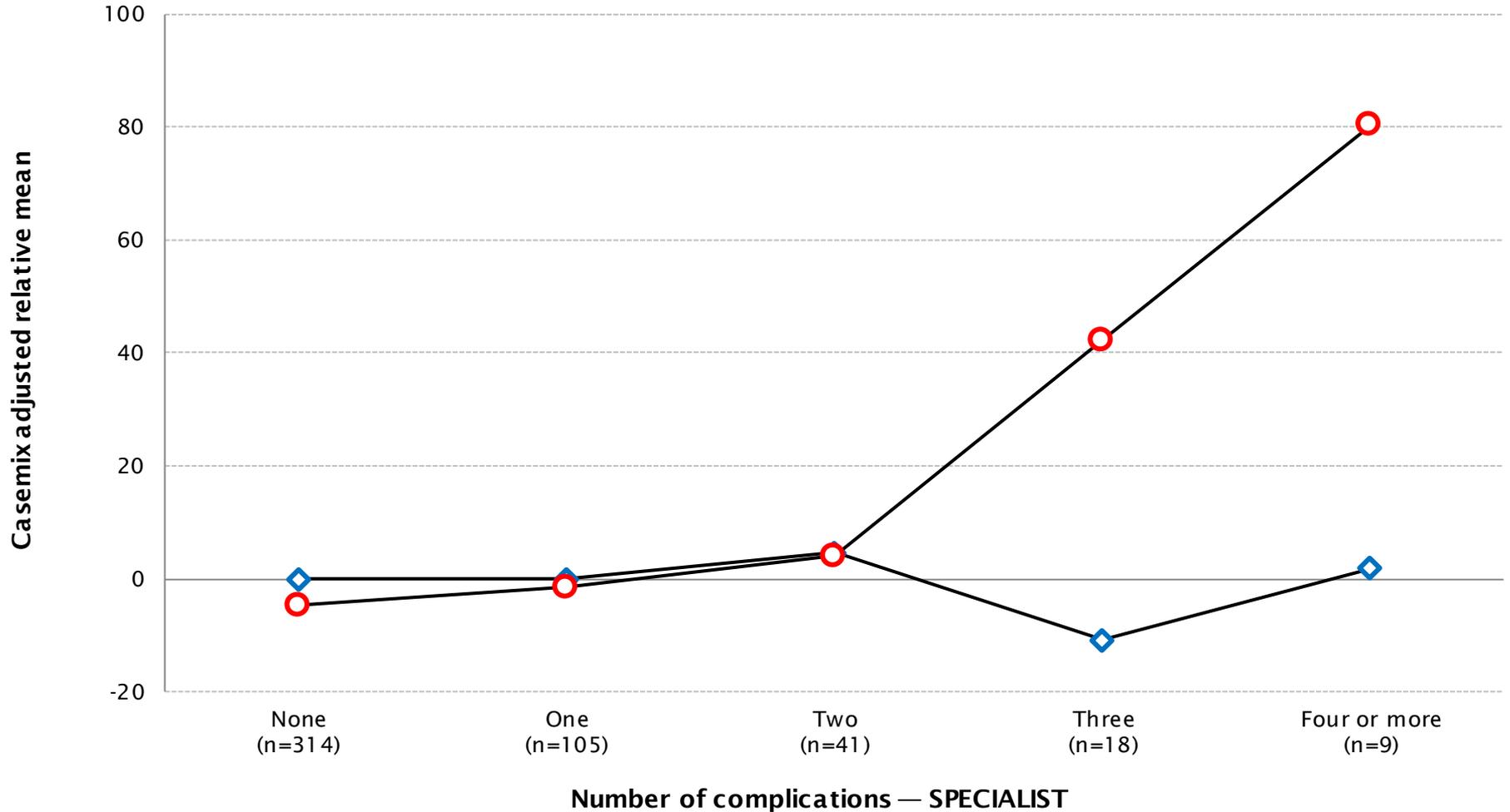


Note: First admission, completed episodes

\*Casemix-adjustment uses CY2018 specialist unit first admissions calculated separately for TSCI and NTSCI

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

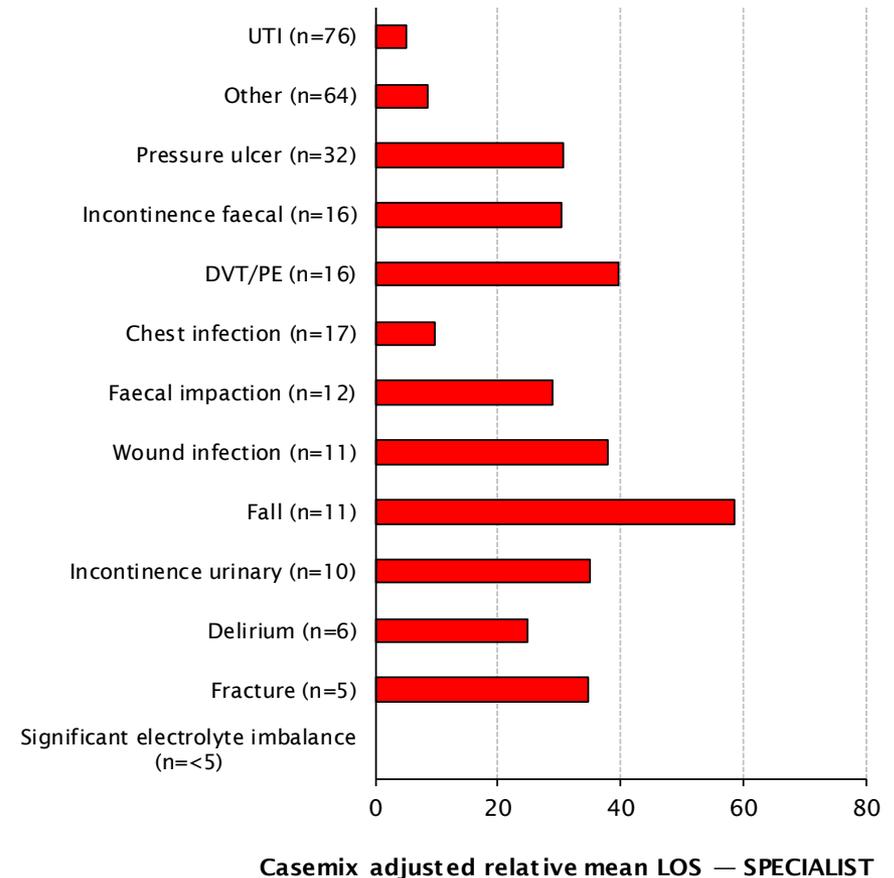
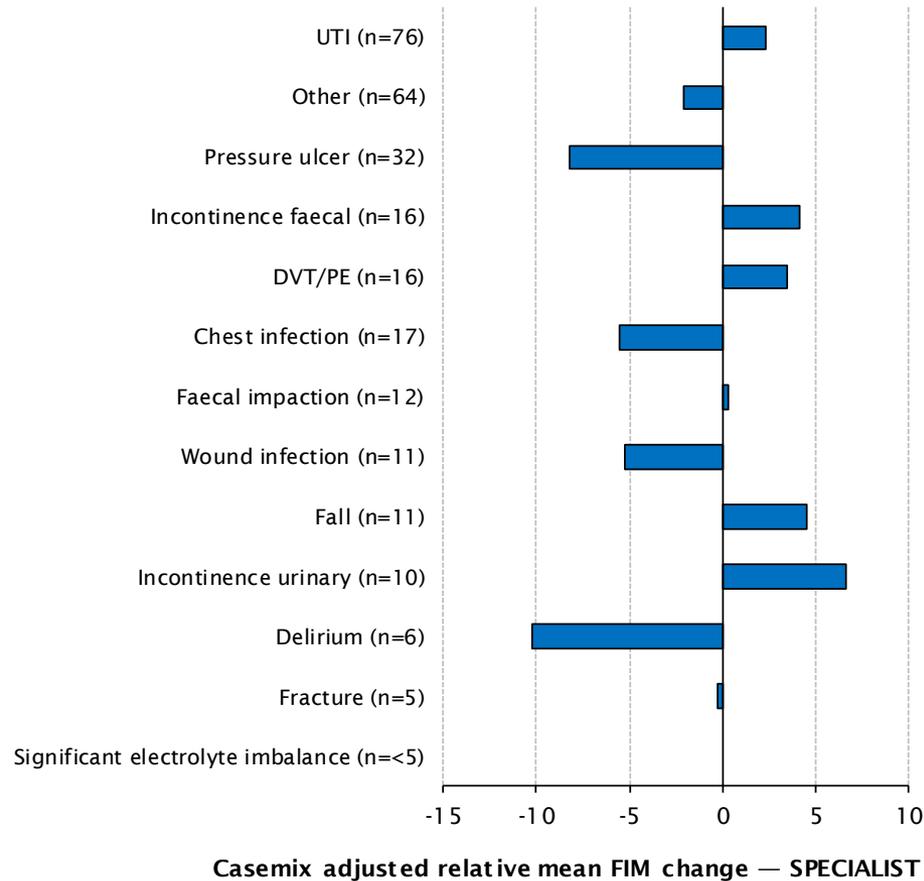
—◆— Casemix adjusted relative mean FIM change      —●— Casemix adjusted relative mean length of stay



Note: First admission, completed episodes

\*Casemix-adjustment uses CY2018 specialist unit first admissions calculated separately for TSCI and NTSCI

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

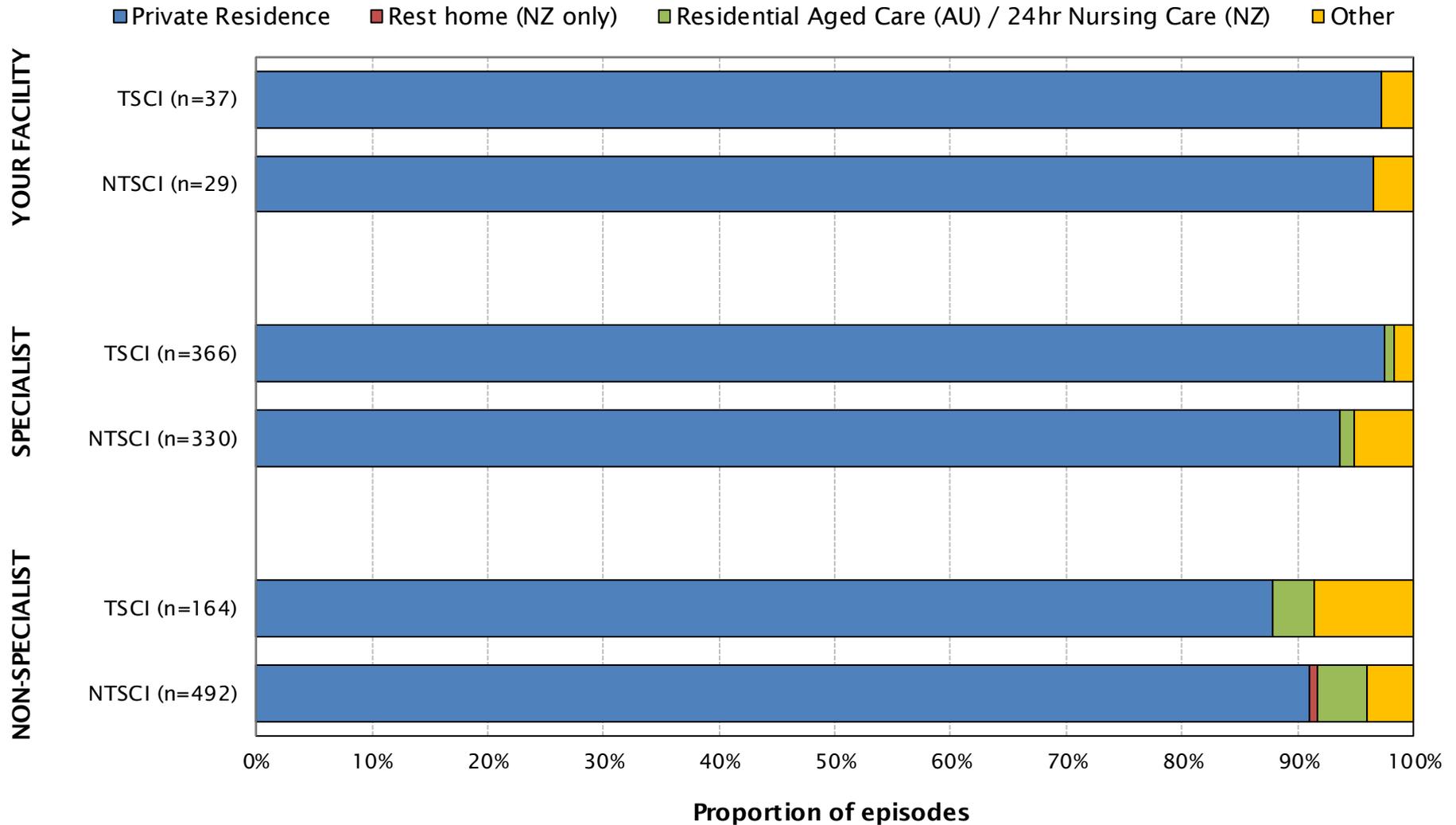


Note: First admission, completed episodes

\*Casemix-adjustment uses CY2018 specialist unit first admissions calculated separately for TSCI and NTSCI

## Explanatory data

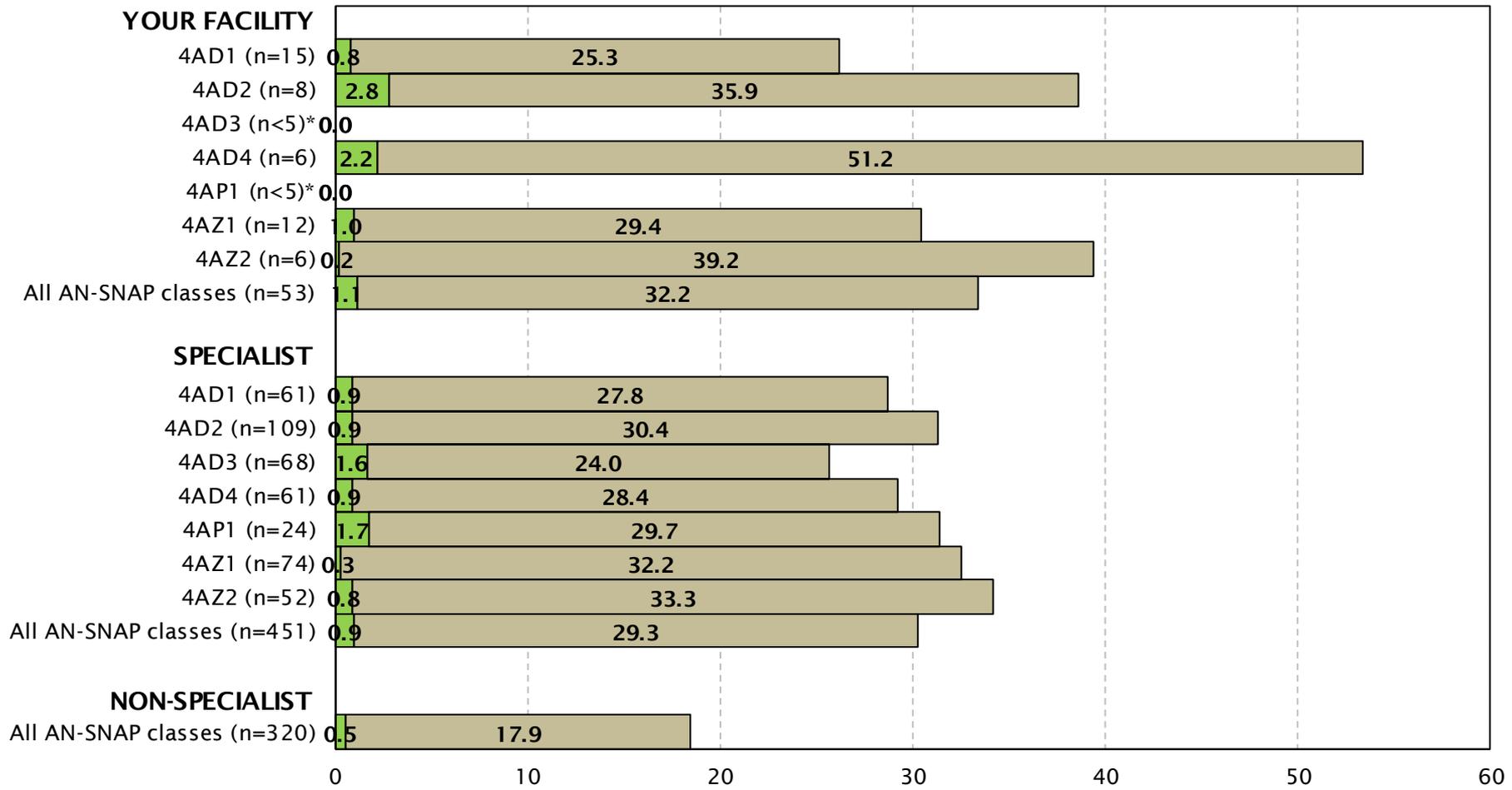
# Type of accommodation prior to impairment



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



■ Days from injury to acute admission    ■ Days from acute admission to rehabilitation episode start



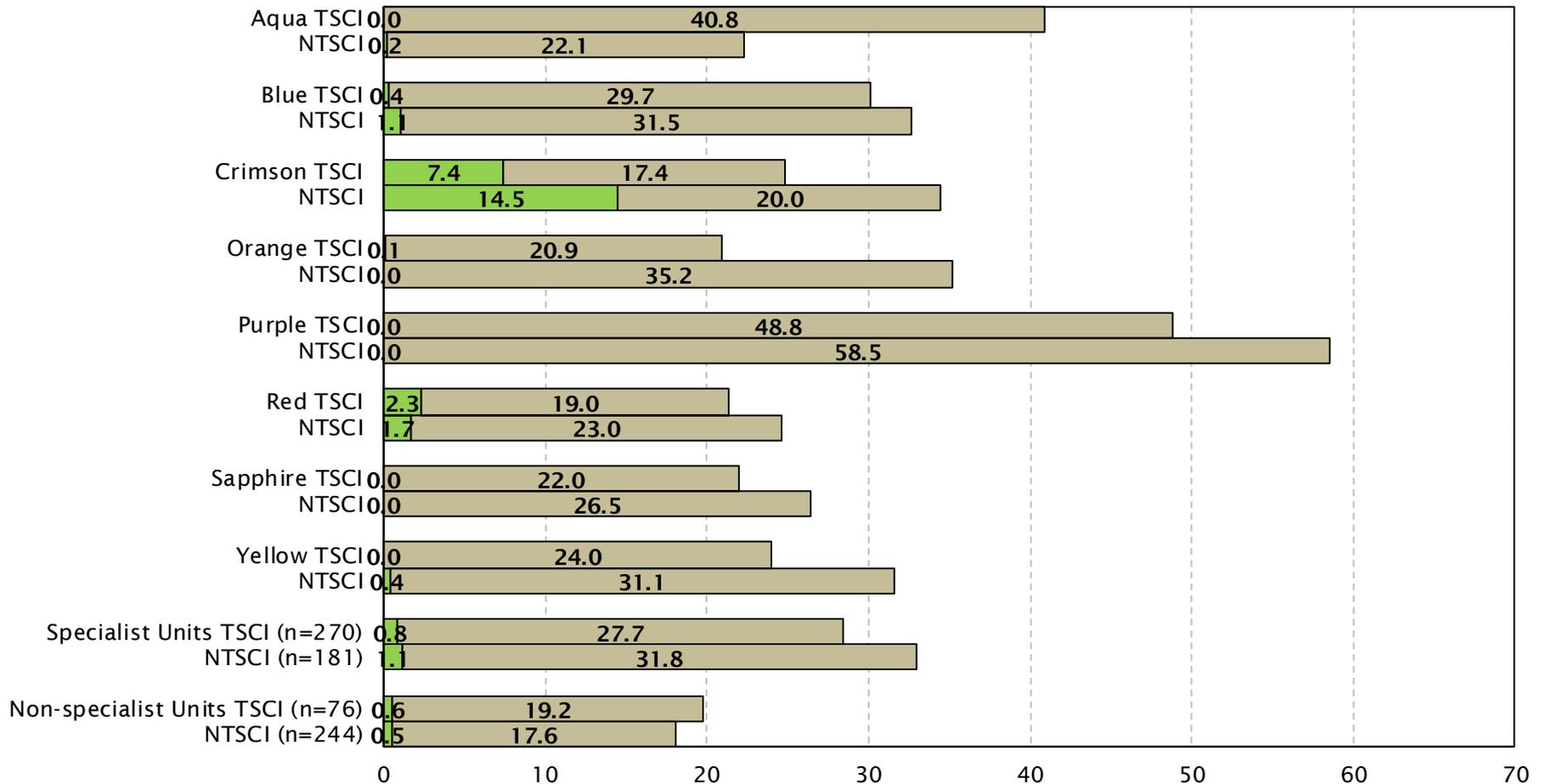
\*No data provided when less than 5 episodes have dates

Average number of days

Note: First admission episodes

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

■ Days from injury to acute admission      □ Days from acute admission to rehabilitation episode start



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

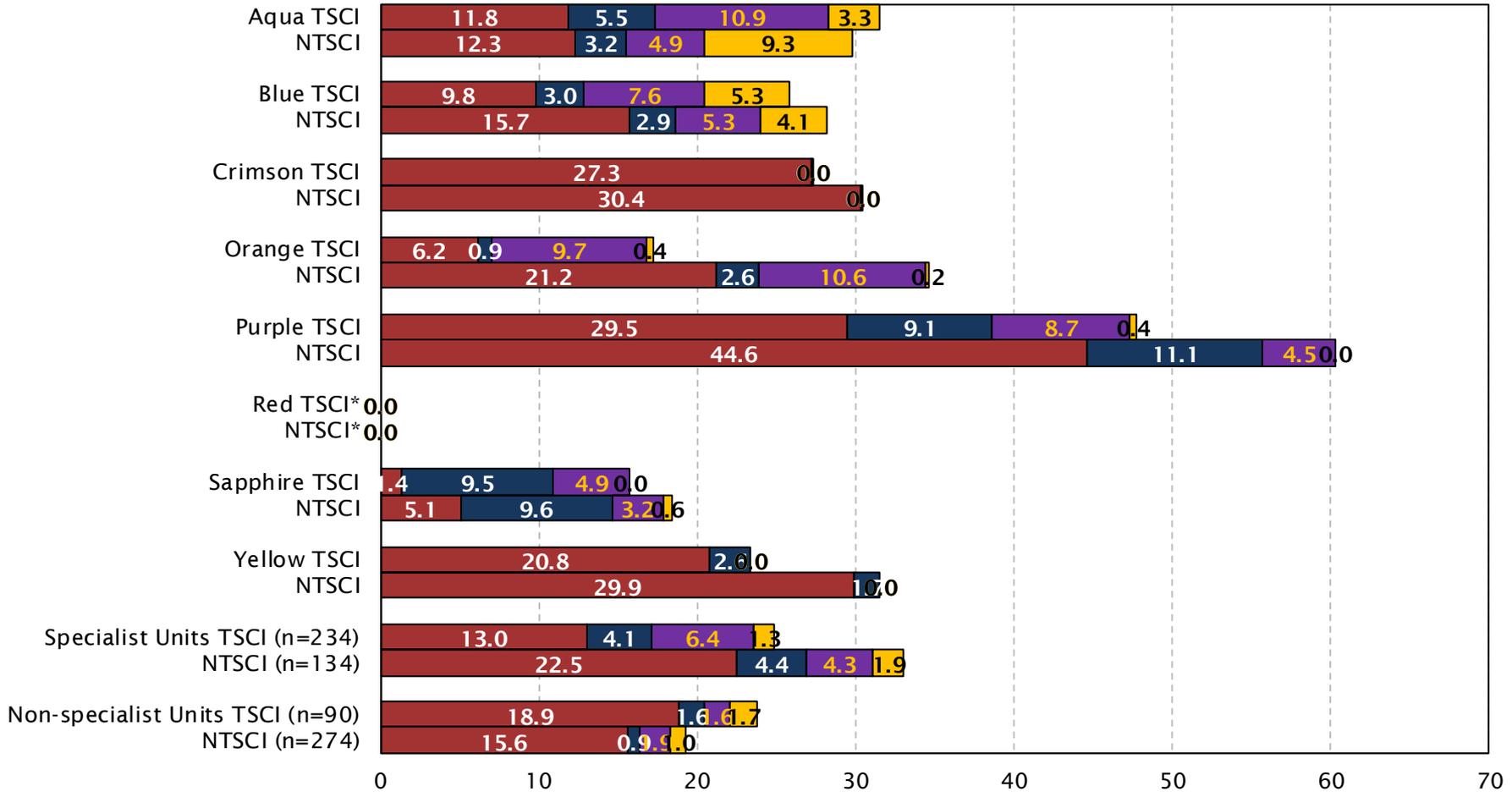
Average number of days

Note: First admission episodes

# Days from injury to episode start by specialist facility



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

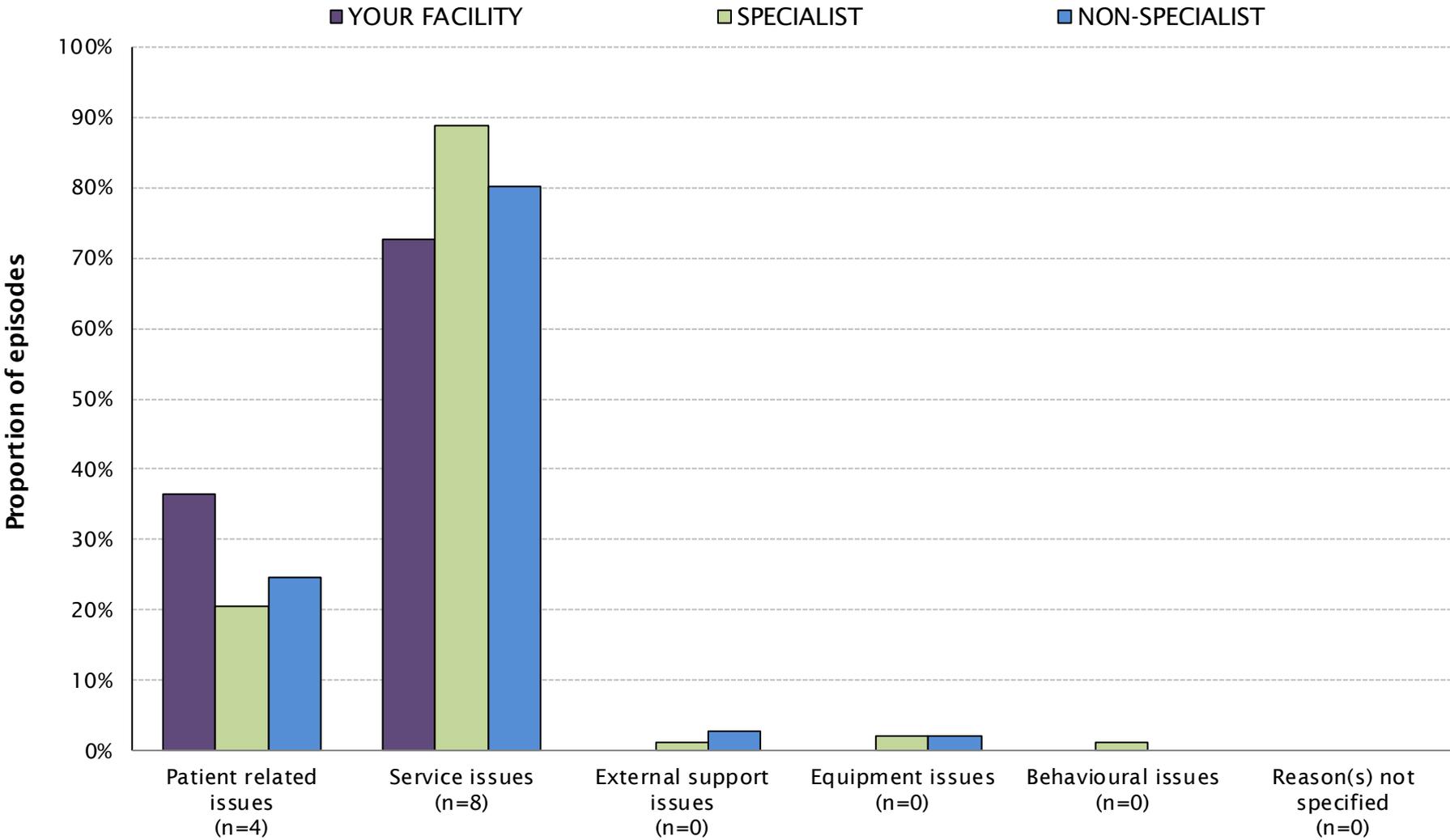


\*No data provided when less than 5 episodes have dates

Average number of days

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

# Reason for delay in episode start

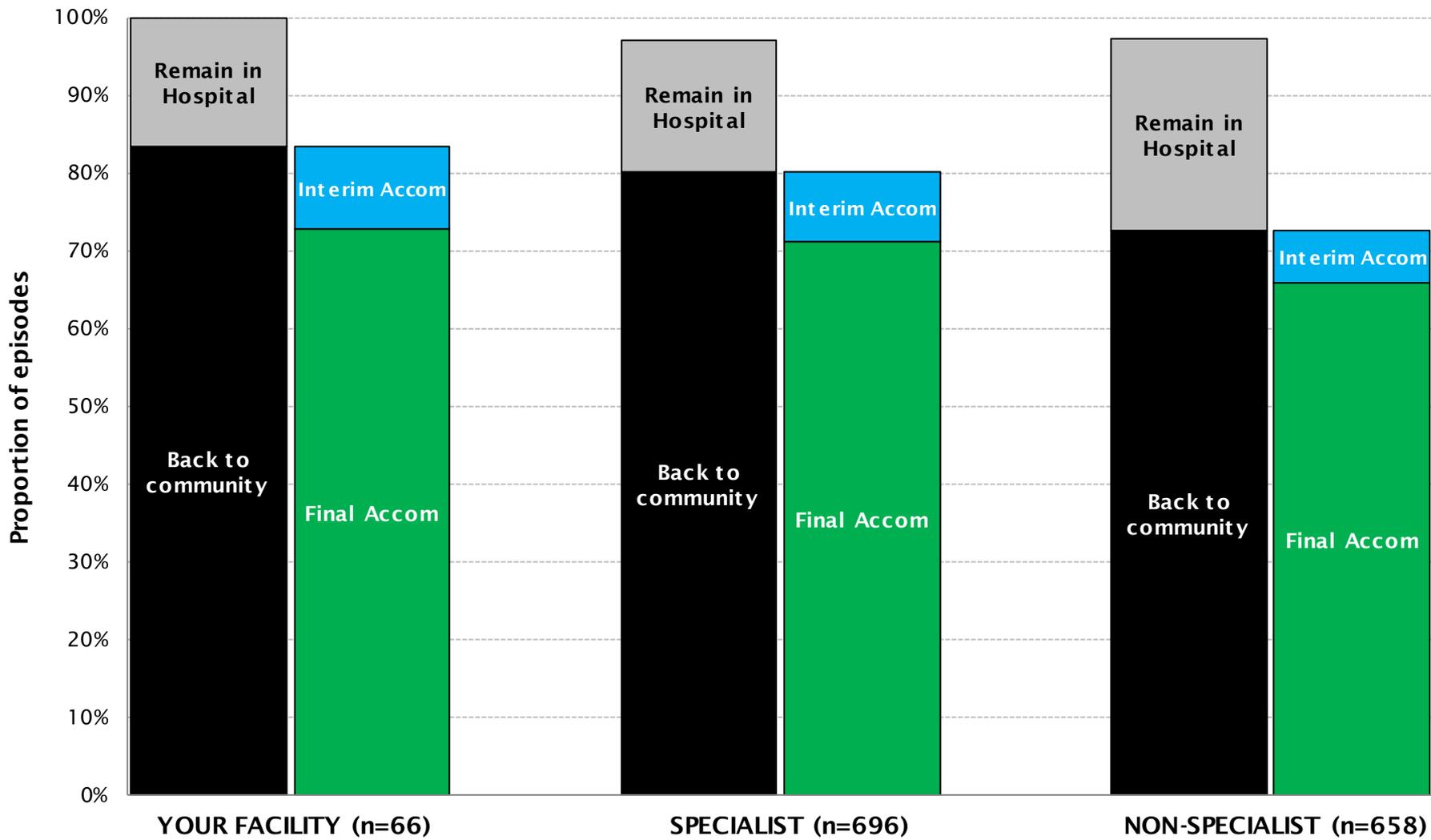


# Delays in episode start

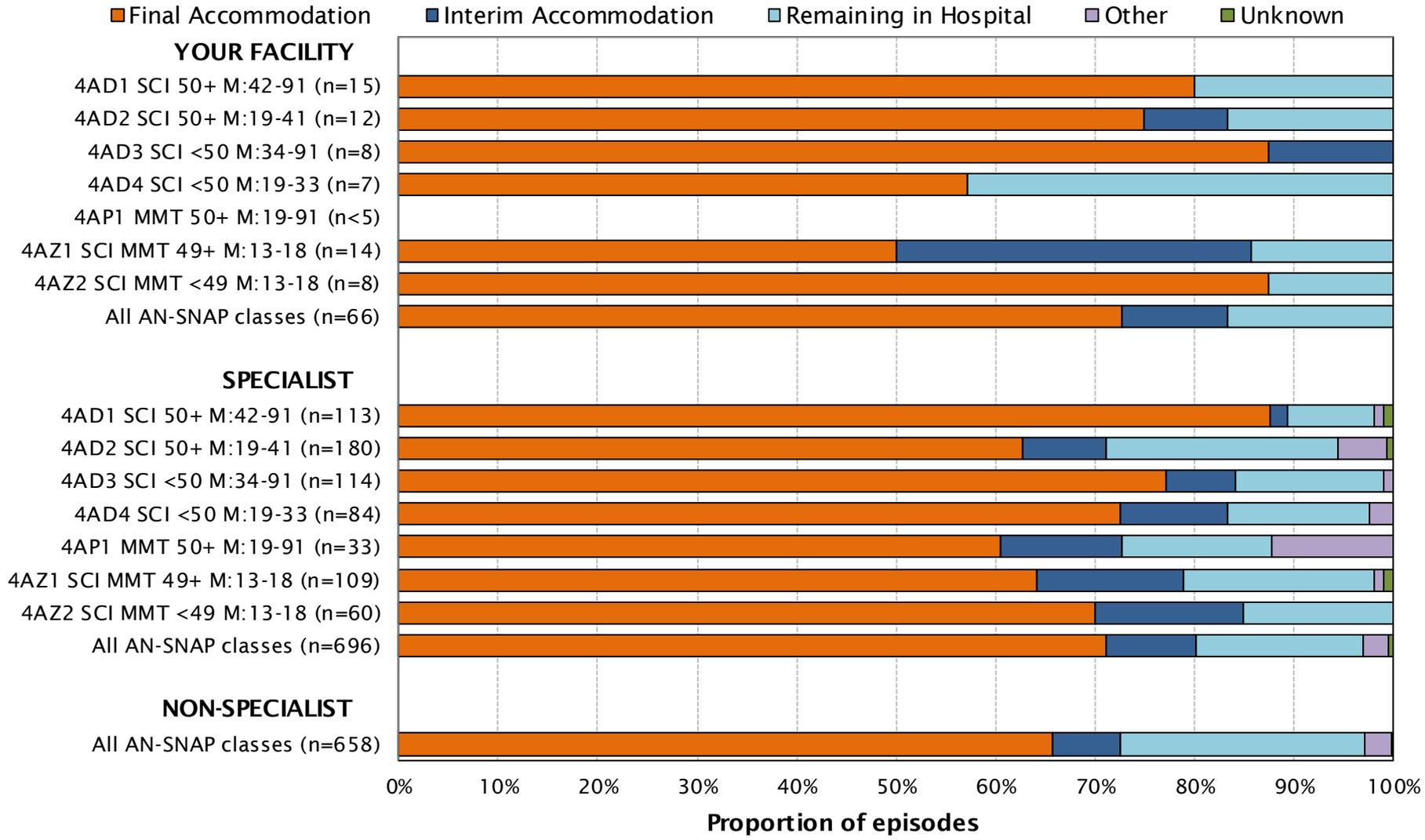
Delay in episode start	YOUR FACILITY		SPECIALIST		NON-SPECIALIST	
	No.	%	No.	%	No.	%
No delay	46	80.7	520	84.1	437	74.8
Delay in episode start	11	19.3	98	15.9	147	25.2
Missing	9		78		74	
<b>All episodes</b>	<b>66</b>	<b>100.0</b>	<b>696</b>	<b>100.0</b>	<b>658</b>	<b>100.0</b>

Delay in episode start	YOUR FACILITY		SPECIALIST		NON-SPECIALIST	
	No.	%	No.	%	No.	%
Patient related issues	4	36.4	20	20.4	36	24.5
Service issues	8	72.7	87	88.8	118	80.3
External support issues	0	0.0	1	1.0	4	2.7
Equipment issues	0	0.0	2	2.0	3	2.0
Behavioural issues	0	0.0	1	1.0	0	0.0
Reason(s) not specified	0	0.0	0	0.0	0	0.0

# Discharge destination



# Discharge destination end by AN-SNAP class

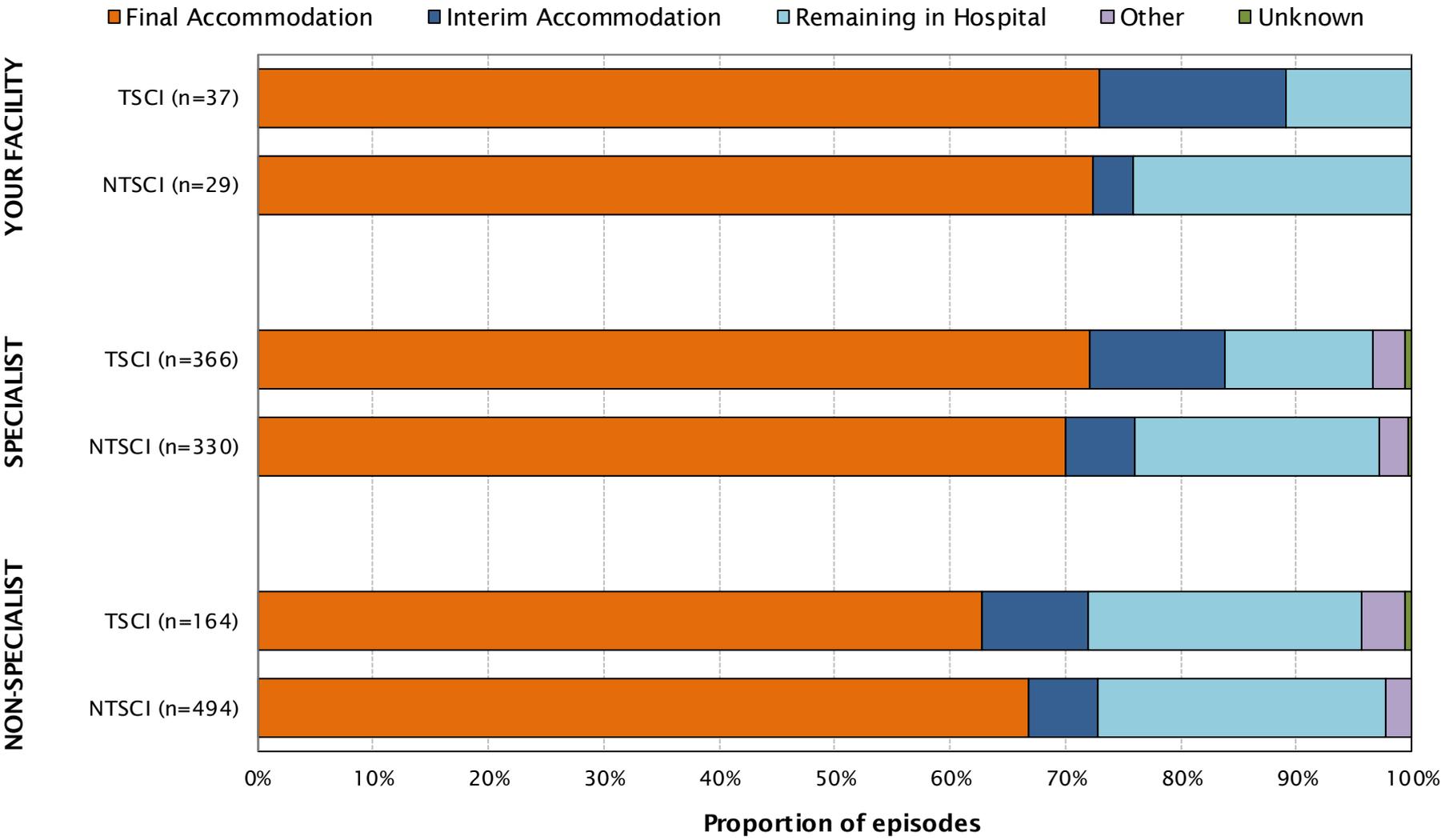


# Discharge destination end by AN-SNAP class



	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown
AN-SNAP class	No.					%				
<b>Your Facility</b>										
4AD1 SCI 50+ M:42-91	12	0	3	0	0	80.0	0.0	20.0	0.0	0.0
4AD2 SCI 50+ M:19-41	9	1	2	0	0	75.0	8.3	16.7	0.0	0.0
4AD3 SCI <50 M:34-91	7	1	0	0	0	87.5	12.5	0.0	0.0	0.0
4AD4 SCI <50 M:19-33	4	0	3	0	0	57.1	0.0	42.9	0.0	0.0
4AP1 MMT 50+ M:19-91	2	0	0	0	0	100.0	0.0	0.0	0.0	0.0
4AZ1 SCI MMT 49+ M:13-18	7	5	2	0	0	50.0	35.7	14.3	0.0	0.0
4AZ2 SCI MMT <49 M:13-18	7	0	1	0	0	87.5	0.0	12.5	0.0	0.0
<b>All AN-SNAP classes</b>	<b>48</b>	<b>7</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>72.7</b>	<b>10.6</b>	<b>16.7</b>	<b>0.0</b>	<b>0.0</b>
<b>SPECIALIST Unit s</b>	<b>495</b>	<b>63</b>	<b>117</b>	<b>18</b>	<b>3</b>	<b>71.1</b>	<b>9.1</b>	<b>16.8</b>	<b>2.6</b>	<b>0.4</b>
<b>NON-SPECIALIST Unit s</b>	<b>433</b>	<b>45</b>	<b>162</b>	<b>17</b>	<b>1</b>	<b>65.8</b>	<b>6.8</b>	<b>24.6</b>	<b>2.6</b>	<b>0.2</b>

# Discharge destination by TSCI and NTSCI



# Employment status prior and post spinal cord injury

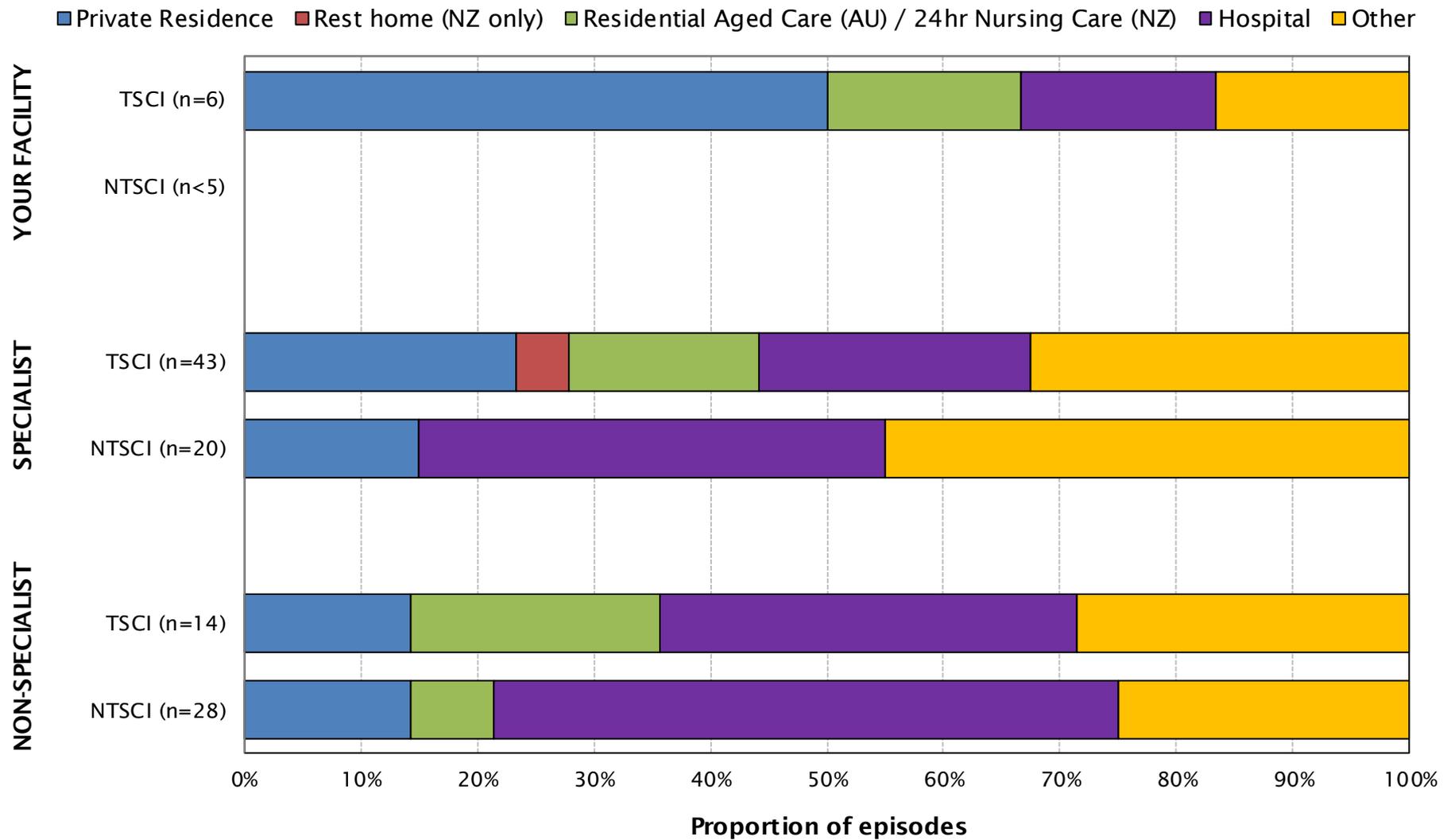


# Employment status prior and post spinal cord injury

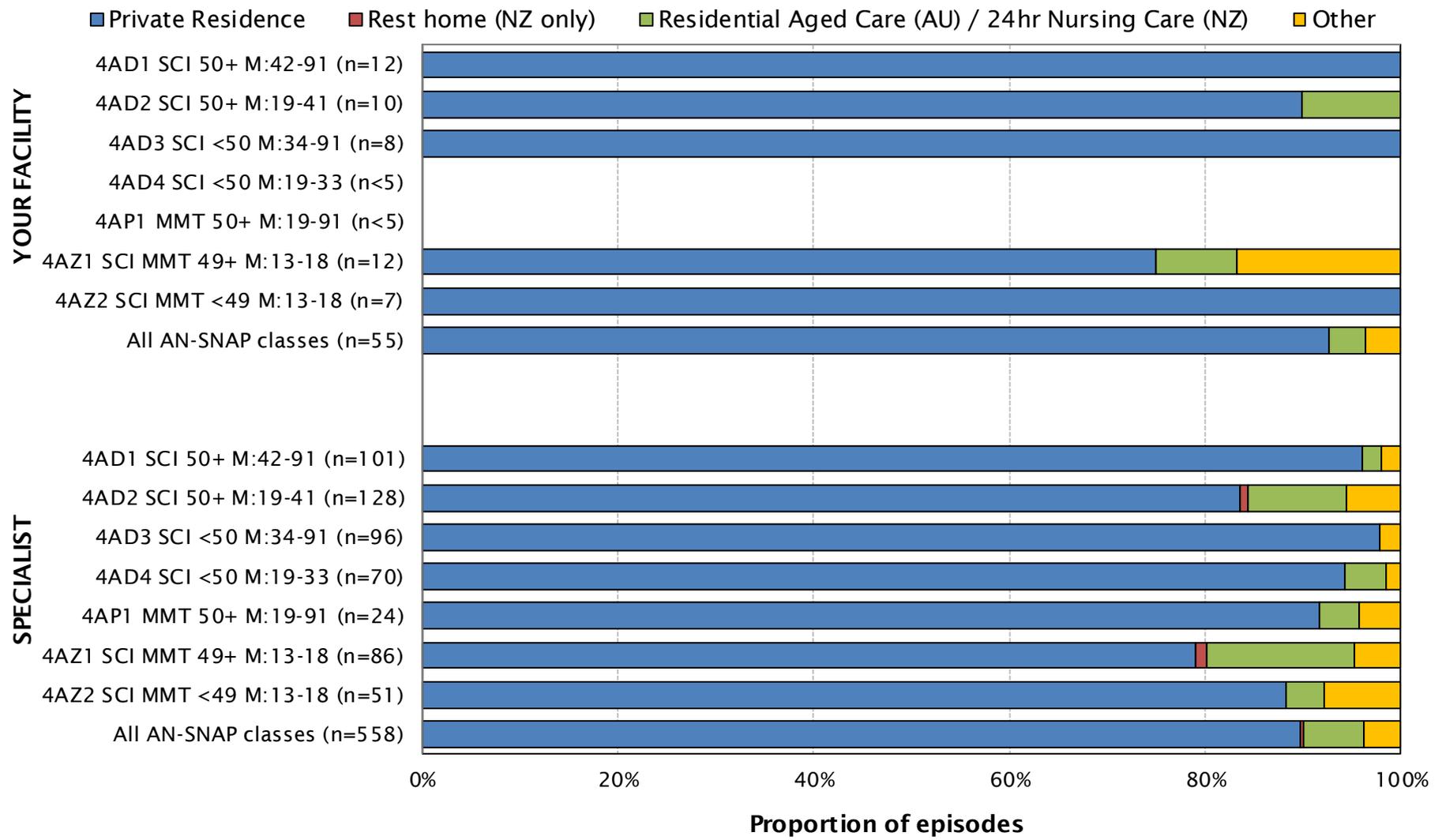


Employment status	YOUR FACILITY		SPECIALIST		NON-SPECIALIST	
	No.	%	No.	%	No.	%
<b><u>Prior to this spinal cord injury:</u></b>						
Employed	27	40.9	290	41.7	145	22.8
Unemployed	10	15.2	77	11.1	49	7.7
Student/child	4	6.1	31	4.5	3	0.5
Not in the labour force	9	13.6	81	11.7	114	18.0
Retired for age	12	18.2	171	24.6	254	40.0
Retired for disability	4	6.1	45	6.5	70	11.0
Not answered	0		1		23	
<b>Total</b>	<b>66</b>	<b>100.0</b>	<b>696</b>	<b>100.0</b>	<b>658</b>	<b>100.0</b>
<b><u>After discharge (if previously employed):</u></b>						
Same or similar job, same or similar hours	3	11.5	34	13.0	11	9.2
Same or similar job, reduced hours	4	15.4	32	12.2	11	9.2
Different job by choice	0	0.0	1	0.4	0	0.0
Different job due to reduced function	0	0.0	3	1.1	5	4.2
Not able to work	5	19.2	30	11.5	11	9.2
Chosen to retire	0	0.0	7	2.7	4	3.3
Too early to determine	14	53.8	155	59.2	78	65.0
Not answered	1		28		25	
<b>Total employed prior</b>	<b>27</b>	<b>100.0</b>	<b>290</b>	<b>100.0</b>	<b>145</b>	<b>100.0</b>

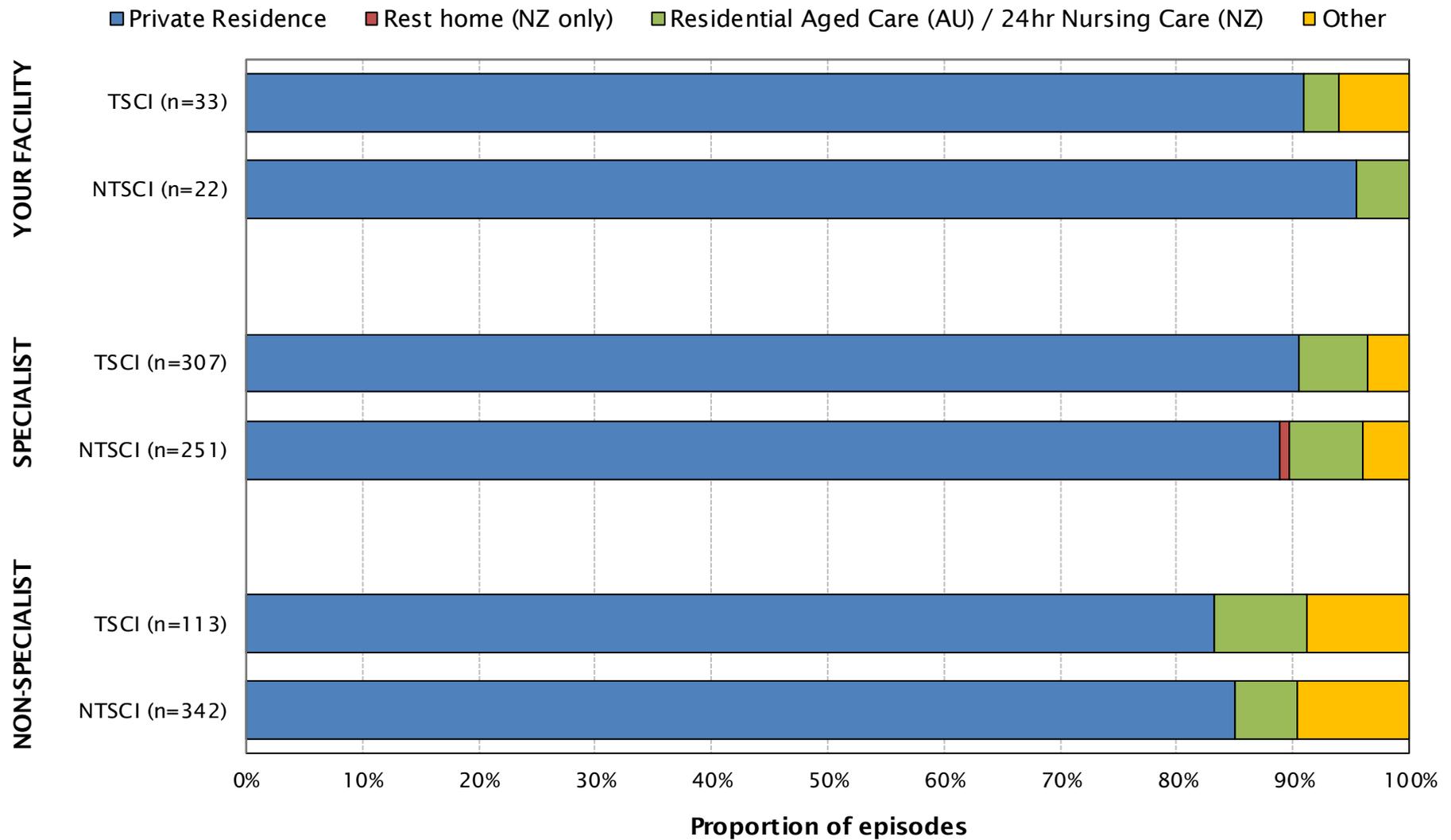
# Interim accommodation post discharge by TSCI and NTSCI



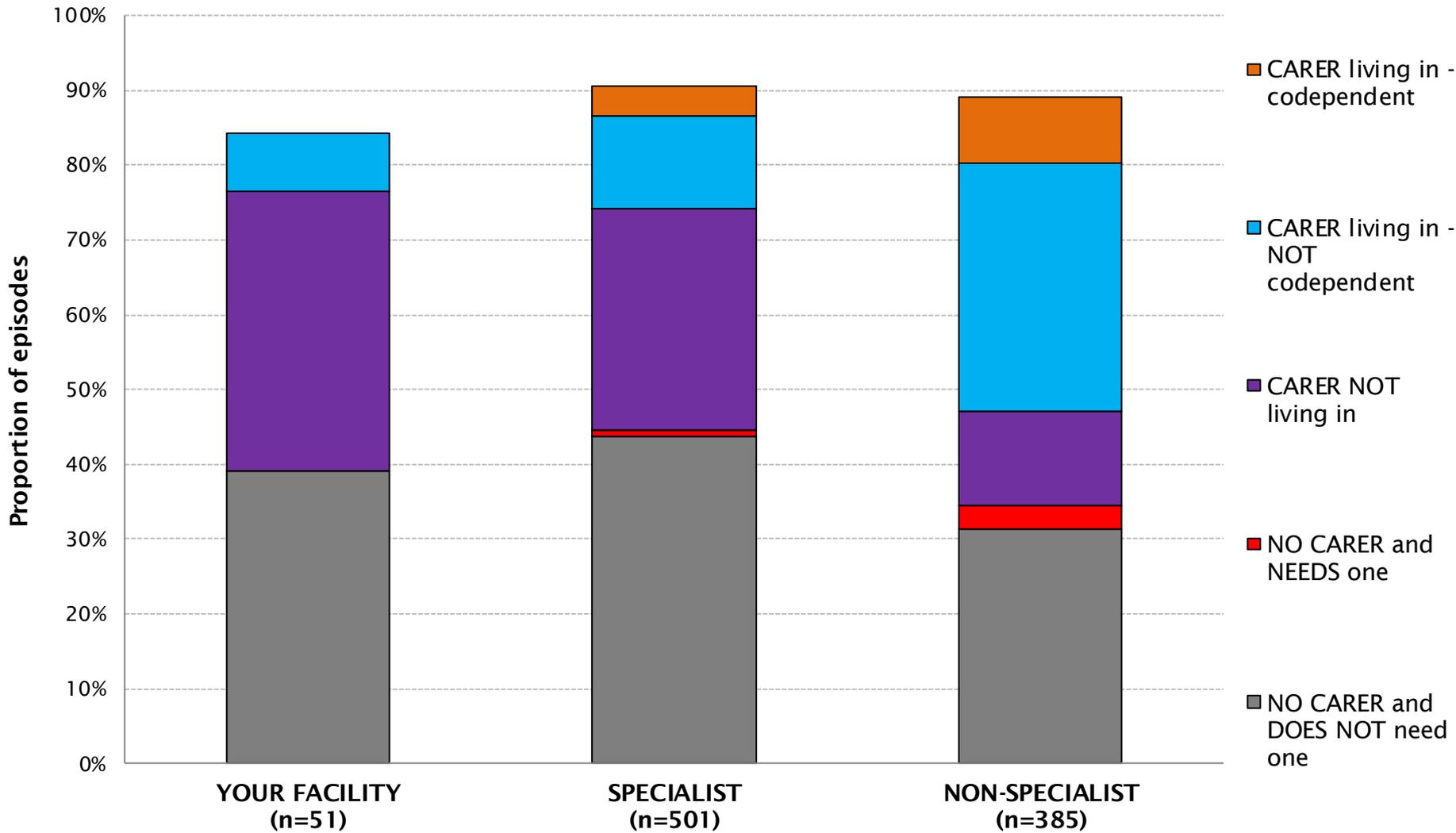
# Final accommodation post discharge by AN-SNAP class



# Final accommodation post discharge by TSCI and NTSCI

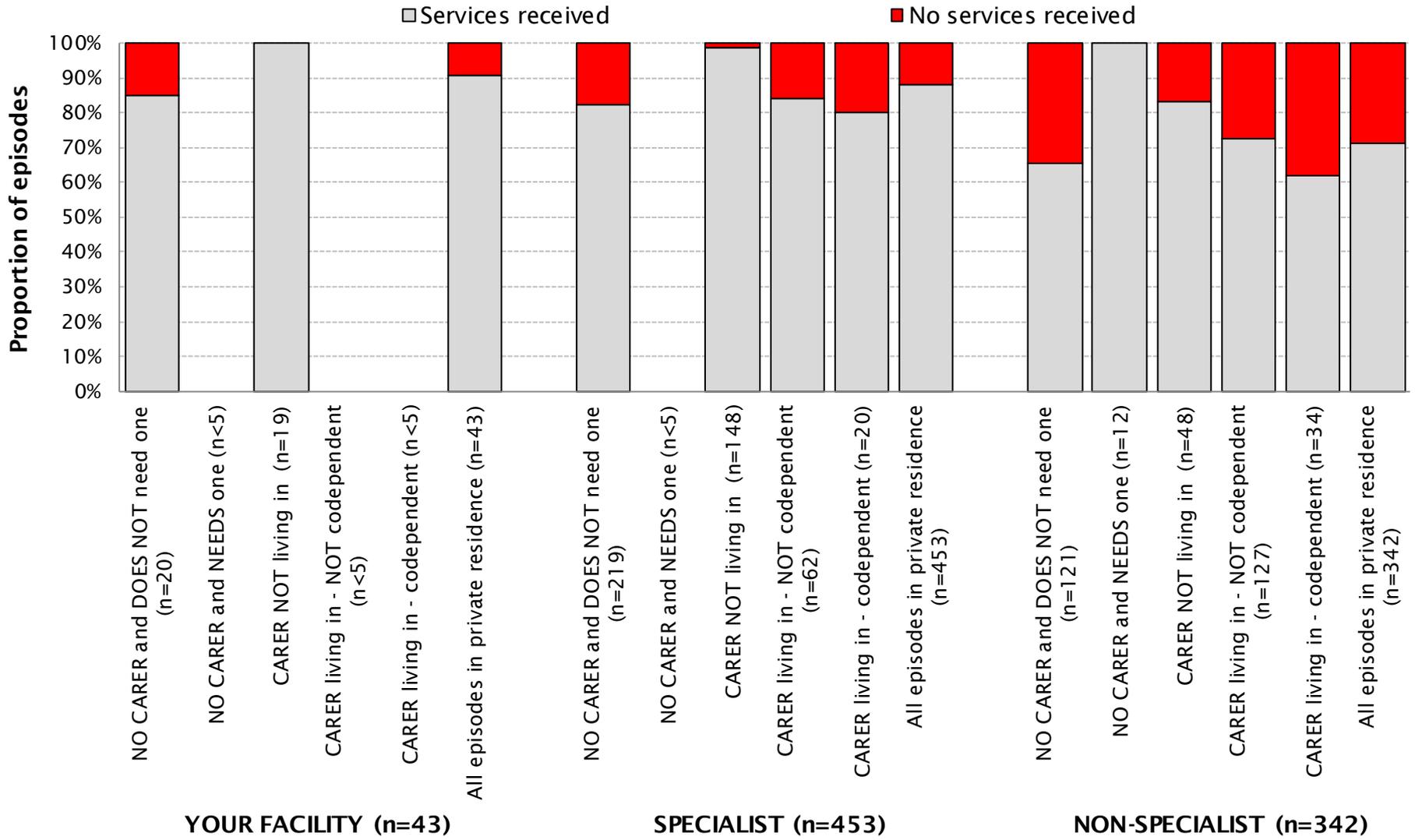


# Carer status post discharge



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

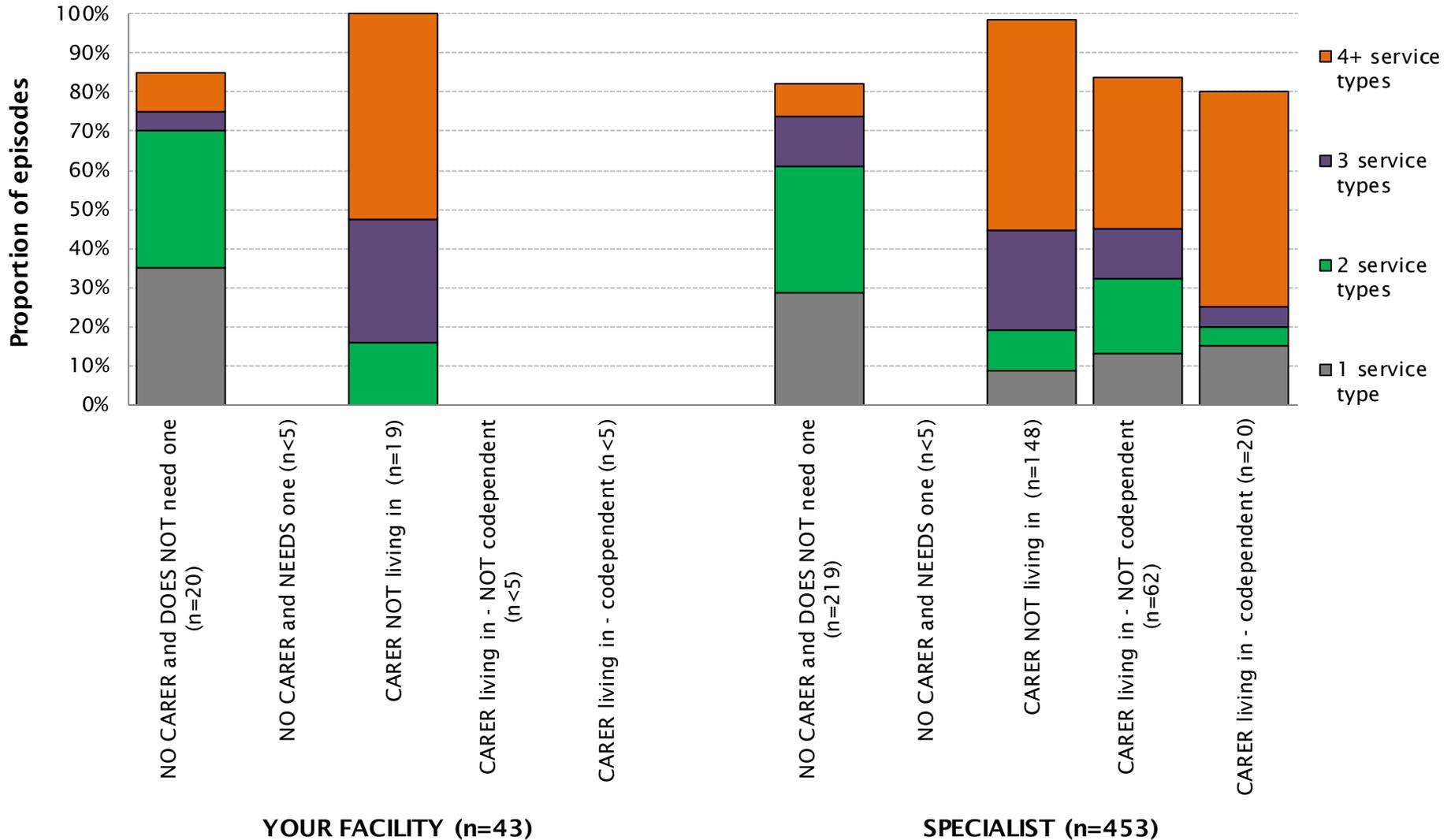


Carer status post discharge	YOUR FACILITY		SPECIALIST		NON-SPECIALIST	
	No.	%	No.	%	No.	%
NO CARER and DOES NOT need one	20	46.5	219	48.2	121	35.3
NO CARER and NEEDS one	0	0.0	4	0.9	12	3.5
CARER NOT living in	19	44.2	149	32.8	48	14.0
CARER living in - NOT codependent	4	9.3	62	13.7	128	37.3
CARER living in - codependent	0	0.0	20	4.4	34	9.9
Missing	8		47		42	
<b>All episodes in private residence</b>	<b>51</b>	<b>100.0</b>	<b>501</b>	<b>100.0</b>	<b>385</b>	<b>100.0</b>

Any services received post discharge?						
Carer status post discharge	YOUR FACILITY		SPECIALIST		NON-SPECIALIST	
	Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)	No (%)
NO CARER and DOES NOT need one	85.0	15.0	82.2	17.8	65.3	34.7
NO CARER and NEEDS one	—	—	100.0	0.0	100.0	0.0
CARER NOT living in	100.0	0.0	98.0	1.3	83.3	16.7
CARER living in - NOT codependent	75.0	25.0	83.9	16.1	71.9	27.3
CARER living in - codependent	—	—	80.0	20.0	61.8	38.2
<b>All episodes in private residence</b>	<b>90.7</b>	<b>9.3</b>	<b>87.7</b>	<b>12.1</b>	<b>71.1</b>	<b>28.6</b>

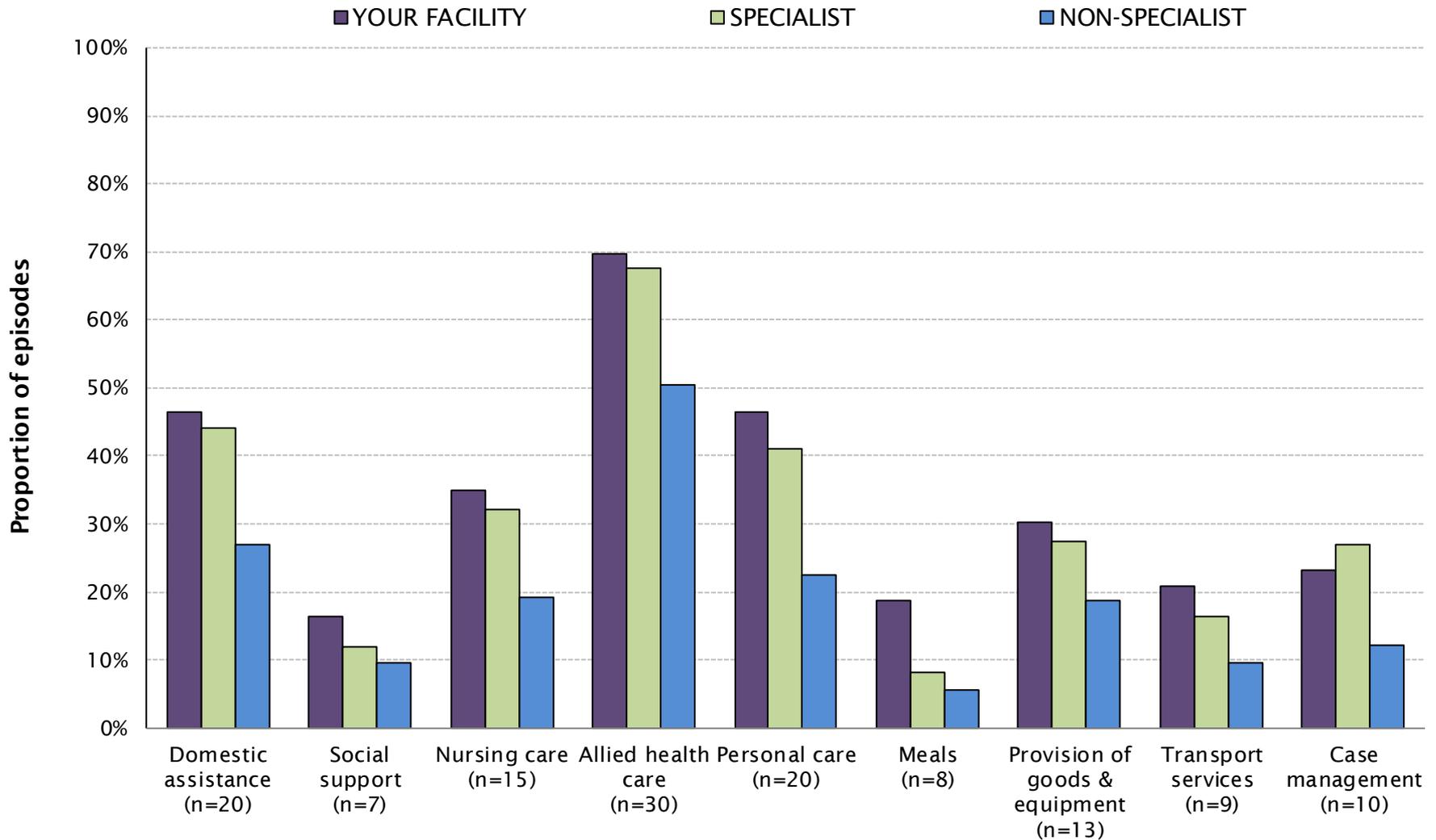
Note: Final accommodation is private residence.

# Number of services received post discharge by carer status



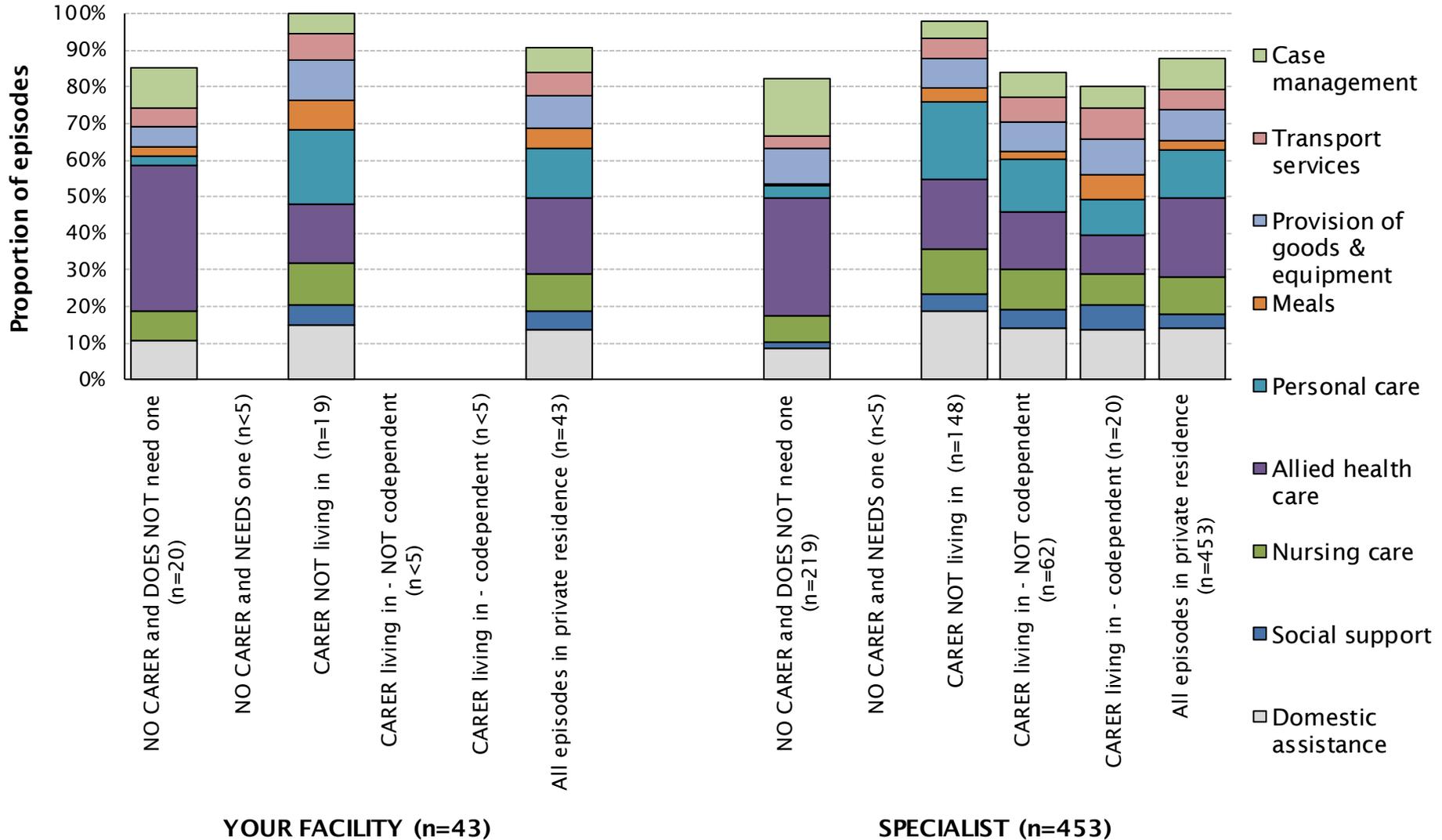
Note: Final accommodation is private residence.

# 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	19	4	0	
<b>Percent of episodes receiving:</b>						
No services	15.0	—	0.0	25.0	—	9.3
1 service type	35.0	—	0.0	25.0	—	18.6
2 service types	35.0	—	15.8	0.0	—	23.3
3 service types	5.0	—	31.6	25.0	—	18.6
4 or more service types	10.0	—	52.6	25.0	—	30.2
<b>Service Type received</b>						
Domestic assistance	20.0	—	68.4	75.0	—	46.5
Social support	0.0	—	26.3	50.0	—	16.3
Nursing care	15.0	—	52.6	50.0	—	34.9
Allied health care	75.0	—	73.7	25.0	—	69.8
Personal care	5.0	—	94.7	25.0	—	46.5
Meals	5.0	—	36.8	0.0	—	18.6
Provision of goods & equipment	10.0	—	52.6	25.0	—	30.2
Transport services	10.0	—	31.6	25.0	—	20.9
Case management	20.0	—	26.3	25.0	—	23.3

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	219	4	149	62	20	
<b>Percent of episodes receiving:</b>						
No services	17.8	0.0	1.3	16.1	20.0	12.1
1 service type	28.8	25.0	8.7	12.9	15.0	19.4
2 service types	32.4	50.0	10.1	19.4	5.0	22.2
3 service types	12.8	0.0	25.5	12.9	5.0	16.5
4 or more service types	8.2	25.0	53.7	38.7	55.0	29.5
<b>Service Type received</b>						
Domestic assistance	17.8	25.0	74.5	56.5	70.0	44.1
Social support	2.7	0.0	19.5	19.4	35.0	11.9
Nursing care	15.5	75.0	49.0	43.5	45.0	32.2
Allied health care	65.3	50.0	75.2	62.9	55.0	67.6
Personal care	6.8	0.0	84.6	56.5	50.0	41.0
Meals	0.9	0.0	15.4	8.1	35.0	8.1
Provision of goods & equipment	19.6	50.0	32.9	32.3	50.0	27.3
Transport services	7.3	0.0	21.5	27.4	45.0	16.3
Case management	32.0	25.0	19.5	25.8	30.0	26.9

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	121	12	48	128	34	
<b>Percent of episodes receiving:</b>						
No services	34.7	0.0	16.7	27.3	38.2	<b>28.6</b>
1 service type	31.4	16.7	16.7	30.5	26.5	<b>28.0</b>
2 service types	16.5	16.7	25.0	12.5	11.8	<b>15.7</b>
3 service types	9.1	25.0	12.5	11.7	8.8	<b>11.1</b>
4 or more service types	8.3	41.7	29.2	16.4	14.7	<b>16.0</b>
<b>Service Type received</b>						
Domestic assistance	19.0	58.3	54.2	22.7	20.6	<b>26.8</b>
Social support	6.6	25.0	18.8	8.6	5.9	<b>9.6</b>
Nursing care	14.0	50.0	20.8	20.3	20.6	<b>19.2</b>
Allied health care	53.7	58.3	50.0	47.7	44.1	<b>50.4</b>
Personal care	5.0	66.7	45.8	25.8	20.6	<b>22.4</b>
Meals	2.5	16.7	10.4	6.3	2.9	<b>5.5</b>
Provision of goods & equipment	9.9	25.0	22.9	25.8	14.7	<b>18.7</b>
Transport services	8.3	33.3	14.6	8.6	2.9	<b>9.6</b>
Case management	14.0	16.7	14.6	10.2	8.8	<b>12.2</b>

Note: Final accommodation is private residence.

# Spinal cord injury

## specific data

# Traumatic SCI AIS grade at admission and discharge at specialist facilities



Begin AIS grade	Primary admission		Subsequent admission		All admissions	
	Episodes	%	Episodes	%	Episodes	%
A	90	30.4	22	50.0	112	32.9
B	34	11.5	1	2.3	35	10.3
C	59	19.9	11	25.0	70	20.6
D	113	38.2	10	22.7	123	36.2
E	0	0.0	0	0.0	0	0.0

End AIS grade	Primary admission		Subsequent admission		All admissions	
	Episodes	%	Episodes	%	Episodes	%
A	71	24.5	22	51.2	93	27.9
B	35	12.1	1	2.3	36	10.8
C	35	12.1	10	23.3	45	13.5
D	148	51.0	10	23.3	158	47.4
E	1	0.3	0	0.0	1	0.3

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

Note 2: 33 episode(s) did not record AIS scores.

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



Begin AIS grade	Primary admission		Subsequent admission		All admissions	
	Episodes	%	Episodes	%	Episodes	%
A	22	28.6	6	35.3	28	29.8
B	9	11.7	2	11.8	11	11.7
C	19	24.7	3	17.6	22	23.4
D	25	32.5	6	35.3	31	33.0
E	2	2.6	0	0.0	2	2.1

End AIS grade	Primary admission		Subsequent admission		All admissions	
	Episodes	%	Episodes	%	Episodes	%
A	21	28.4	6	40.0	27	30.3
B	8	10.8	2	13.3	10	11.2
C	16	21.6	2	13.3	18	20.2
D	27	36.5	5	33.3	32	36.0
E	2	2.7	0	0.0	2	2.2

Note 1: 7 episode(s) did not record admission status.

Note 2: 73 episode(s) did not record AIS scores.

# Traumatic SCI change in AIS grade from admission to discharge

Admission AIS grade	Discharge AIS grade -SPECIALIST					Discharge AIS grade -NON-SPECIALIST				
	A	B	C	D	E	A	B	C	D	E
<b>A</b>	90	10	4	3	0	27	0	0	1	0
<b>B</b>	0	24	9	2	0	0	9	1	0	0
<b>C</b>	3	1	31	35	0	0	1	16	3	0
<b>D</b>	0	1	1	118	1	0	0	1	29	0
<b>E</b>	0	0	0	0	0	0	0	0	0	2

Note: 33 SPECIALIST and 73 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
C1		0	1	2	1	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
C2		0	12	2	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
C3		1	1	11	3	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
C4		0	3	3	5	2	2	3	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C5		0	0	1	3	25	2	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	1	0	13	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
C7		1	0	0	0	1	2	5	2	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	2	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	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
T2		0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
T3		0	0	0	0	0	0	0	0	0	1	3	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
T4		0	0	0	0	0	0	0	0	0	0	0	10	1	1	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	3	1	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	1	2	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	6	1	0	0	1	0	0	0	1	0	0	0	0	0	
T8		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	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	1	5	1	0	1	0	0	0	0	0	0	0	0	
T10		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	6	8	1	1	0	0	0	0	0	0	0	
T11		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	8	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	1	1	0	9	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	1	1	1	8	1	1	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	2	2	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	6	1	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	1	2	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	2	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	
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	
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	
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	
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	

# 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		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C2		0	5	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
C3		0	0	3	0	1	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
C4		0	0	0	12	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C5		0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C6		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	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T2		0	0	0	0	0	0	0	0	0	0	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	1	0	0	0	0	0	2	2	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	3	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	1	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	3	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	0	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	0	3	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	4	0	0	0	0	0	0	0	0	0	0	0
T12		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0
L1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	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	4	0	0	0	0	0	0	0	0
L3		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
L4		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	1	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	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	291	79.5%
<b>No. ventilator dependent</b>	<b>1</b>	

Completed ventilator data item - NON-SPECIALIST	82	50.0%
<b>No. ventilator dependent</b>	<b>0</b>	

## **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.

## 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**

## Data quality score

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

## Functional Independence Measure (FIM)

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

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

## FIM change

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

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

## FIM efficiency

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

## **Impairment-specific weighted FIM motor scores**

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

## **Interquartile range (IQR)**

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

## **Length of stay (LOS)**

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

## **Mean**

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

## Mean or median - which to use?

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

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

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

## Median

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

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

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

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

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

## Submitted versus reporting episodes

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

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

## **Valid FIM**

For an episode to have a Valid FIM flag it must be a complete episode and each of the 18 items on admission and discharge must have been answered with a valid response of 1-7.

## **Valid LOS**

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

## **Version 4 data set**

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

# Appendix 2: AROC Impairment Codes

## STROKE

### Haemorrhagic

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

### Ischaemic

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

## BRAIN DYSFUNCTION

### Non-traumatic

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

### Traumatic

- 2.21 Open injury
- 2.22 Closed injury

## NEUROLOGICAL CONDITIONS

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

## SPINAL CORD DYSFUNCTION

### Non traumatic spinal cord dysfunction

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

### Traumatic spinal cord dysfunction

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

## AMPUTATION OF LIMB

### Not resulting from trauma

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

## AMPUTATION OF LIMB

### Resulting from trauma

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

## ARTHRITIS

- 6.1 Rheumatoid arthritis
- 6.2 Osteoarthritis
- 6.9 Other arthritis

## PAIN SYNDROMES

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

# 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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