

## Brain Dysfunction LOS and FIM Change Benchmarks in Australia and New Zealand by AN-SNAP V4, Calendar Year 2019



AN-SNAP class	Specialist Brain Units				Non Specialist Brain Units				All AROC Facilities			
	No.	Length of stay	FIM change	FIM gain per week	No.	Length of stay	FIM change	FIM gain per week	No.	Length of stay	FIM change	FIM gain per week
		Mean (95%CI)	Mean (95%CI)			Mean (95%CI)	Mean (95%CI)			Mean (95%CI)	Mean (95%CI)	
<b>Traumatic episodes</b>												
4AZ1	34	93.9 (74.2 - 113.6)	64.5 (52.3 - 76.6)	4.8	25	59.0 (29.9 - 88.2)	39.9 (27.3 - 52.5)	4.7	59	79.1 (62.0 - 96.2)	54.1 (44.8 - 63.3)	4.8
4AZ2	68	115.6 (96.9 - 134.2)	67.1 (60.2 - 74.1)	4.1	3	n.a n.a	n.a n.a	n.a	71	116.7 (98.6 - 134.9)	67.6 (60.9 - 74.2)	4.1
4AB1	56	15.0 (12.6 - 17.4)	11.2 (9.6 - 12.9)	5.2	89	10.8 (9.4 - 12.3)	10.6 (9.0 - 12.3)	6.9	145	12.4 (11.1 - 13.8)	10.9 (9.7 - 12.1)	6.1
4AB2	148	25.0 (21.3 - 28.7)	17.2 (15.7 - 18.8)	4.8	55	20.1 (15.9 - 24.4)	15.1 (12.7 - 17.5)	5.2	203	23.7 (20.7 - 26.7)	16.7 (15.3 - 18.0)	4.9
4AB3	22	21.5 (16.7 - 26.4)	27.5 (22.2 - 32.9)	8.9	169	17.5 (15.8 - 19.1)	23.1 (21.6 - 24.6)	9.3	191	17.9 (16.4 - 19.5)	23.6 (22.1 - 25.1)	9.2
4AB4	69	36.0 (25.1 - 47.0)	35.1 (32.4 - 37.9)	6.8	141	20.0 (17.9 - 22.0)	25.0 (22.9 - 27.1)	8.8	210	25.3 (21.3 - 29.2)	28.3 (26.5 - 30.1)	7.9
4AB5	70	53.6 (43.5 - 63.7)	42.0 (38.3 - 45.6)	5.5	50	25.3 (21.0 - 29.7)	23.2 (18.9 - 27.5)	6.4	120	41.8 (35.2 - 48.4)	34.1 (30.9 - 37.4)	5.7
4AB6	35	57.8 (44.2 - 71.4)	51.6 (44.6 - 58.6)	6.2	63	31.1 (26.6 - 35.7)	28.0 (22.4 - 33.7)	6.3	98	40.7 (34.5 - 46.8)	36.4 (31.5 - 41.4)	6.3
4AB7	22	94.0 (38.4 - 149.5)	70.3 (64.4 - 76.2)	5.2	33	36.2 (28.7 - 43.7)	30.9 (23.6 - 38.2)	6.0	55	59.3 (35.6 - 83.0)	46.7 (39.5 - 53.8)	5.5
4AP1	181	35.5 (31.9 - 39.1)	36.3 (33.4 - 39.1)	7.1	168	33.3 (29.0 - 37.6)	33.2 (30.7 - 35.7)	7.0	349	34.4 (31.7 - 37.2)	34.8 (32.9 - 36.7)	7.1
<b>Total episodes</b>	<b>705</b>				<b>796</b>				<b>1,501</b>			
<b>Non-Traumatic episodes</b>												
4AZ1	12	122.8 (86.4 - 159.2)	53.8 (32.9 - 74.6)	3.1	60	54.5 (43.2 - 65.8)	32.3 (25.3 - 39.2)	4.1	72	65.9 (53.4 - 78.4)	35.8 (28.9 - 42.8)	3.8
4AZ2	17	136.9 (85.6 - 188.3)	42.2 (28.5 - 56.0)	2.2	8	128.9 (67.5 - 190.3)	30.3 (6.4 - 54.1)	1.6	25	134.4 (95.2 - 173.5)	38.4 (26.5 - 50.3)	2.0
4AB1	37	12.4 (10.6 - 14.2)	11.9 (9.9 - 13.8)	6.7	233	11.1 (10.0 - 12.1)	10.8 (9.8 - 11.7)	6.8	270	11.3 (10.3 - 12.2)	10.9 (10.1 - 11.8)	6.8
4AB2	65	29.2 (23.4 - 35.0)	16.3 (14.5 - 18.1)	3.9	129	18.2 (15.6 - 20.7)	12.4 (10.4 - 14.3)	4.8	194	21.9 (19.2 - 24.6)	13.7 (12.2 - 15.1)	4.4
4AB3	33	20.5 (15.4 - 25.7)	20.9 (16.5 - 25.3)	7.1	289	16.4 (15.3 - 17.6)	24.1 (23.1 - 25.1)	10.3	322	16.8 (15.7 - 18.0)	23.8 (22.7 - 24.8)	9.9
4AB4	32	28.3 (23.0 - 33.6)	33.2 (27.8 - 38.6)	8.2	265	22.1 (20.0 - 24.2)	24.9 (23.4 - 26.4)	7.9	297	22.8 (20.8 - 24.8)	25.8 (24.3 - 27.3)	7.9
4AB5	30	33.8 (28.3 - 39.2)	44.2 (39.2 - 49.1)	9.2	90	28.0 (23.9 - 32.1)	27.2 (23.2 - 31.1)	6.8	120	29.4 (26.1 - 32.8)	31.4 (28.0 - 34.9)	7.5
4AB6	18	61.7 (34.7 - 88.6)	47.1 (34.7 - 59.6)	5.3	119	29.9 (25.9 - 34.0)	34.5 (30.4 - 38.5)	8.1	137	34.1 (28.9 - 39.4)	36.1 (32.2 - 40.0)	7.4
4AB7	21	87.0 (50.2 - 123.8)	62.2 (51.7 - 72.8)	5.0	81	38.8 (33.9 - 43.6)	41.3 (35.7 - 46.8)	7.5	102	48.7 (39.5 - 57.9)	45.6 (40.4 - 50.7)	6.6
<b>Total episodes</b>	<b>265</b>				<b>1,274</b>				<b>1,539</b>			

NOTE 1: Where the number of episodes < 5 details are not given for reasons of privacy and accuracy.

NOTE 2: Analysis includes first admission, complete episodes only

### AN-SNAP V4 classes for Brain Dysfunction

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
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
4AP1	Major Multiple Trauma, weighted FIM motor 19-91

### All Brain Dysfunction impairment codes

Non-traumatic brain dysfunction
2.11 Sub-arachnoid haemorrhage
2.12 Anoxic brain damage
2.13 Other non-traumatic brain dysfunction
Traumatic brain dysfunction
2.21 Open injury
2.22 Closed injury
Major Multiple Trauma
14.1 Brain + spinal cord injury
14.2 Brain + multiple fracture/amputation

# Brain Dysfunction LOS and FIM Change Benchmarks in Australia and New Zealand by AN-SNAP V3, Calendar Year 2019



AN-SNAP class	Specialist Brain Units			Non Specialist Brain Units			All AROC Facilities					
	No.	Length of stay	FIM change	FIM gain per week	No.	Length of stay	FIM change	FIM gain per week	No.	Length of stay	FIM change	FIM gain per week
		Mean (95%CI)	Mean (95%CI)			Mean (95%CI)	Mean (95%CI)			Mean (95%CI)	Mean (95%CI)	
<b>Traumatic episodes</b>												
3-202	62	121.4 (102.0 - 140.8)	65.8 (57.2 - 74.4)	3.8	13	65.7 (27.6 - 103.8)	36.3 (18.3 - 54.3)	3.9	75	111.7 (93.9 - 129.6)	60.7 (52.6 - 68.8)	3.8
3-210	10	9.2 (6.4 - 12.0)	11.1 (4.5 - 17.7)	8.4	76	12.1 (10.7 - 13.5)	15.1 (13.3 - 16.9)	8.7	86	11.8 (10.5 - 13.1)	14.6 (12.9 - 16.4)	8.7
3-211	101	17.2 (15.2 - 19.2)	14.5 (12.7 - 16.3)	5.9	141	14.2 (12.6 - 15.8)	15.6 (14.1 - 17.1)	7.7	242	15.5 (14.2 - 16.7)	15.1 (14.0 - 16.3)	6.8
3-212	70	21.0 (18.1 - 23.9)	20.3 (17.5 - 23.0)	6.8	45	18.0 (14.8 - 21.2)	19.9 (16.8 - 23.1)	7.8	115	19.8 (17.6 - 22.0)	20.1 (18.1 - 22.2)	7.1
3-213	112	38.5 (31.7 - 45.3)	27.2 (24.9 - 29.5)	4.9	55	24.2 (19.5 - 28.8)	19.8 (16.6 - 23.0)	5.7	167	33.8 (28.9 - 38.7)	24.8 (22.8 - 26.7)	5.1
3-214	118	54.2 (45.8 - 62.6)	47.7 (44.4 - 51.0)	6.2	261	24.6 (22.7 - 26.6)	27.2 (25.3 - 29.2)	7.7	379	33.8 (30.6 - 37.1)	33.6 (31.7 - 35.6)	7.0
3-215	28	111.5 (64.8 - 158.1)	67.7 (58.2 - 77.1)	4.3	32	37.4 (27.9 - 47.0)	36.1 (26.8 - 45.4)	6.7	60	72.0 (47.7 - 96.2)	50.8 (43.0 - 58.6)	4.9
3-238	25	17.2 (12.3 - 22.2)	11.5 (8.5 - 14.4)	4.7	19	13.2 (10.2 - 16.2)	10.9 (8.7 - 13.2)	5.8	44	15.5 (12.4 - 18.6)	11.3 (9.3 - 13.2)	5.1
3-239	79	27.7 (24.5 - 30.8)	28.0 (25.7 - 30.4)	7.1	78	24.8 (19.9 - 29.8)	26.5 (24.5 - 28.4)	7.5	157	26.3 (23.3 - 29.2)	27.2 (25.7 - 28.8)	7.3
3-240	63	45.7 (39.1 - 52.3)	49.6 (46.7 - 52.5)	7.6	69	47.3 (39.9 - 54.7)	46.5 (43.3 - 49.8)	6.9	132	46.5 (41.6 - 51.5)	48.0 (45.8 - 50.2)	7.2
3-241	37	72.4 (60.0 - 84.7)	68.9 (61.7 - 76.1)	6.7	7	109.6 (26.0 - 193.2)	59.7 (47.8 - 71.6)	3.8	44	78.3 (61.6 - 94.9)	67.5 (61.0 - 73.9)	6.0
<b>Total episodes</b>	<b>705</b>				<b>796</b>				<b>1,501</b>			
<b>Non-Traumatic episodes</b>												
3-202	19	161.6 (118.1 - 205.1)	43.1 (29.2 - 56.9)	1.9	38	68.3 (51.7 - 84.9)	29.8 (21.3 - 38.3)	3.1	57	99.4 (77.8 - 121.0)	34.2 (26.7 - 41.7)	2.4
3-210	25	13.7 (10.8 - 16.6)	13.5 (11.0 - 15.9)	6.9	162	12.0 (10.8 - 13.1)	15.4 (14.1 - 16.7)	9.0	187	12.2 (11.1 - 13.3)	15.1 (14.0 - 16.3)	8.7
3-211	49	17.9 (14.4 - 21.4)	15.0 (12.6 - 17.4)	5.9	347	13.8 (12.9 - 14.7)	16.3 (15.2 - 17.3)	8.2	396	14.3 (13.4 - 15.2)	16.1 (15.1 - 17.1)	7.9
3-212	25	22.2 (15.9 - 28.4)	17.6 (13.7 - 21.6)	5.6	105	20.0 (16.9 - 23.0)	18.6 (16.6 - 20.7)	6.5	130	20.4 (17.6 - 23.1)	18.5 (16.7 - 20.2)	6.3
3-213	53	34.8 (28.5 - 41.1)	25.0 (21.6 - 28.3)	5.0	100	24.2 (20.1 - 28.2)	17.9 (14.7 - 21.1)	5.2	153	27.9 (24.4 - 31.3)	20.4 (17.9 - 22.8)	5.1
3-214	71	41.3 (32.6 - 49.9)	44.2 (39.0 - 49.4)	7.5	428	25.5 (23.7 - 27.4)	30.6 (28.9 - 32.2)	8.4	499	27.8 (25.7 - 29.8)	32.5 (30.8 - 34.2)	8.2
3-215	23	90.3 (57.2 - 123.5)	56.6 (43.6 - 69.6)	4.4	94	45.6 (37.6 - 53.5)	38.7 (33.1 - 44.2)	5.9	117	54.4 (44.7 - 64.0)	42.2 (36.9 - 47.4)	5.4
<b>Total episodes</b>	<b>265</b>				<b>1,274</b>				<b>1,539</b>			

NOTE 1: Where the number of episodes < 5 details are not given for reasons of privacy and accuracy.

NOTE 2: Analysis includes first admission, complete episodes only

## AN-SNAP V3 classes for Brain Dysfunction

Class	Description of AN-SNAP class
3-202	Brain, Neurological, Spinal & Major Multiple Trauma, FIM 13
3-210	Brain Dysfunction, FIM motor 56-91, FIM cognition 32-35
3-211	Brain Dysfunction, FIM motor 56-91, FIM cognition 24-31
3-212	Brain Dysfunction, FIM motor 56-91, FIM cognition 20-23
3-213	Brain Dysfunction, FIM motor 56-91, FIM cognition 5-19
3-214	Brain Dysfunction, FIM motor 24-55
3-215	Brain Dysfunction, FIM motor 14-23
3-238	Major Multiple Trauma, FIM total 101-126
3-239	Major Multiple Trauma, FIM total 74-100 or Burns
3-240	Major Multiple Trauma, FIM total 44-73
3-241	Major Multiple Trauma, FIM total 19-43

## All Brain Dysfunction impairment codes

### Non-traumatic brain dysfunction

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

### Traumatic brain dysfunction

- 2.21 Open injury
- 2.22 Closed injury

### Major Multiple Trauma

- 14.1 Brain + spinal cord injury
- 14.2 Brain + multiple fracture/amputation