

Brain Dysfunction LOS and FIM Change Benchmarks in Australia and New Zealand by AN-SNAP V5, Financial Year 2023



AN-SNAP class	Specialist Brain Units				Non Specialist Brain Units				All AROC Facilities			
	Length of stay		FIM change	FIM gain	Length of stay		FIM change	FIM gain	Length of stay		FIM change	FIM gain
	No.	Mean (95%CI)	Mean (95%CI)	per week	No.	Mean (95%CI)	Mean (95%CI)	per week	No.	Mean (95%CI)	Mean (95%CI)	per week
Traumatic episodes												
5AZ1	22	97.9 (79.9 - 115.8)	75.5 (66.5 - 84.5)	5.4	29	47.8 (40.0 - 55.5)	31.9 (22.5 - 41.4)	4.7	51	69.4 (58.1 - 80.6)	50.7 (41.8 - 59.7)	5.1
5AZ2	40	98.8 (77.3 - 120.4)	62.0 (51.9 - 72.0)	4.4	9	58.4 (36.5 - 80.4)	39.3 (20.2 - 58.5)	4.7	49	91.4 (73.0 - 109.8)	57.8 (48.7 - 66.9)	4.4
5AB1	62	18.8 (14.8 - 22.9)	11.0 (8.9 - 13.1)	4.1	132	13.4 (11.9 - 14.9)	13.9 (12.3 - 15.5)	7.3	194	15.2 (13.5 - 16.8)	13.0 (11.7 - 14.3)	6.0
5AB2	9	40.7 (17.0 - 64.4)	37.7 (26.7 - 48.6)	6.5	85	20.0 (17.4 - 22.6)	26.7 (23.8 - 29.6)	9.3	94	22.0 (18.6 - 25.4)	27.8 (24.9 - 30.6)	8.8
5AB3	118	24.9 (21.3 - 28.6)	19.9 (17.9 - 22.0)	5.6	126	17.6 (15.8 - 19.4)	19.5 (17.5 - 21.5)	7.8	244	21.1 (19.1 - 23.2)	19.7 (18.3 - 21.1)	6.5
5AB4	17	45.9 (25.9 - 65.8)	44.0 (35.1 - 52.9)	6.7	55	27.6 (23.1 - 32.0)	30.4 (26.4 - 34.3)	7.7	72	31.9 (26.0 - 37.9)	33.6 (29.7 - 37.5)	7.4
5AB5	113	45.0 (36.1 - 54.0)	34.7 (31.7 - 37.6)	5.4	88	31.2 (25.0 - 37.4)	26.9 (23.3 - 30.4)	6.0	201	39.0 (33.2 - 44.7)	31.2 (28.9 - 33.6)	5.6
5AB6	31	70.5 (54.6 - 86.5)	58.8 (50.2 - 67.3)	5.8	37	43.0 (32.4 - 53.6)	36.9 (28.3 - 45.5)	6.0	68	55.5 (45.7 - 65.4)	46.9 (40.2 - 53.5)	5.9
5AP1	78	28.4 (21.9 - 35.0)	25.4 (22.5 - 28.4)	6.3	54	19.9 (17.0 - 22.8)	23.5 (20.9 - 26.2)	8.3	132	24.9 (20.9 - 29.0)	24.7 (22.6 - 26.7)	6.9
5AP2	35	80.9 (58.6 - 103.1)	55.9 (51.0 - 60.9)	4.8	45	47.3 (36.2 - 58.5)	42.3 (38.8 - 45.9)	6.3	80	62.0 (49.9 - 74.1)	48.3 (45.0 - 51.6)	5.5
Total episodes	525				660				1,185			
Non-Traumatic episodes												
5AZ1	7	122.9 (90.4 - 155.3)	27.6 (6.8 - 48.4)	1.6	46	51.4 (40.4 - 62.5)	37.8 (29.6 - 46.1)	5.2	53	60.8 (48.6 - 73.1)	36.5 (28.9 - 44.1)	4.2
5AZ2	16	85.3 (60.1 - 110.5)	44.9 (27.2 - 62.6)	3.7	19	86.7 (60.4 - 113.0)	42.7 (31.4 - 54.1)	3.5	35	86.1 (67.8 - 104.3)	43.7 (33.6 - 53.8)	3.6
5AB1	49	12.1 (10.0 - 14.2)	13.3 (11.2 - 15.4)	7.7	252	13.1 (12.1 - 14.1)	14.0 (12.9 - 15.1)	7.5	301	12.9 (12.0 - 13.8)	13.9 (12.9 - 14.9)	7.5
5AB2	13	27.6 (21.4 - 33.9)	29.7 (20.4 - 38.9)	7.5	147	23.5 (20.6 - 26.4)	29.3 (27.1 - 31.6)	8.7	160	23.9 (21.1 - 26.6)	29.4 (27.2 - 31.5)	8.6
5AB3	56	27.8 (21.0 - 34.6)	19.3 (16.2 - 22.4)	4.9	177	19.9 (17.1 - 22.7)	20.4 (18.6 - 22.1)	7.2	233	21.8 (19.1 - 24.5)	20.1 (18.6 - 21.6)	6.4
5AB4	15	41.8 (30.9 - 52.7)	45.9 (35.0 - 56.7)	7.7	116	37.1 (31.8 - 42.5)	35.3 (32.0 - 38.5)	6.6	131	37.7 (32.7 - 42.6)	36.5 (33.3 - 39.7)	6.8
5AB5	56	47.8 (30.4 - 65.2)	30.9 (26.5 - 35.3)	4.5	137	38.8 (31.1 - 46.5)	23.1 (20.3 - 25.9)	4.2	193	41.4 (34.0 - 48.8)	25.4 (23.0 - 27.8)	4.3
5AB6	15	64.7 (47.6 - 81.8)	40.5 (25.8 - 55.1)	4.4	66	43.6 (34.8 - 52.4)	36.9 (30.7 - 43.2)	5.9	81	47.5 (39.5 - 55.5)	37.6 (31.8 - 43.3)	5.5
Total episodes	227				960				1,187			

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 V5 classes for Brain Dysfunction

Class	Description of AN-SNAP class
5AZ1	Weighted FIM Motor score 13-18, Brain, Spine, MMT, Burns, Age >= 59
5AZ2	Weighted FIM Motor score 13-18, Brain, Spine, MMT, Burns, Age 18 - 58
5AB1	Brain dysfunction, FIM Cognition 27 - 35 Weighted FIM Motor 59 - 91
5AB2	Brain dysfunction, FIM Cognition 27 - 35 Weighted FIM Motor 19 - 58
5AB3	Brain dysfunction, FIM Cognition 19 - 26 Weighted FIM Motor 50 - 91
5AB4	Brain dysfunction, FIM Cognition 19 - 26 Weighted FIM Motor 19 - 49
5AB5	Brain dysfunction, FIM Cognition 5 - 18 Weighted FIM Motor 39 - 91
5AB6	Brain dysfunction, FIM Cognition 5 - 18 Weighted FIM Motor 19 - 38
5AP1	Major Multiple Trauma, Weighted FIM Motor 51 - 91
5AP2	Major Multiple Trauma, Weighted FIM Motor 19 - 50

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 V4, Financial Year 2023



AN-SNAP class	Specialist Brain Units				Non Specialist Brain Units				All AROC Facilities			
	Length of stay		FIM change	FIM gain per week	Length of stay		FIM change	FIM gain per week	Length of stay		FIM change	FIM gain per week
	No.	Mean (95%CI)	Mean (95%CI)		No.	Mean (95%CI)	Mean (95%CI)		No.	Mean (95%CI)	Mean (95%CI)	
Traumatic episodes												
4AZ1	27	109.6 (86.5 - 132.6)	73.6 (65.2 - 82.0)	4.7	28	49.5 (41.5 - 57.5)	31.6 (22.4 - 40.7)	4.5	55	79.0 (64.6 - 93.4)	52.2 (43.9 - 60.6)	4.6
4AZ2	34	90.1 (69.5 - 110.7)	60.6 (49.3 - 72.0)	4.7	8	62.5 (37.0 - 88.0)	46.1 (23.7 - 68.5)	5.2	42	84.8 (67.4 - 102.2)	57.9 (47.8 - 68.0)	4.8
4AB1	57	18.7 (14.3 - 23.1)	8.5 (6.7 - 10.2)	3.2	75	13.1 (10.8 - 15.5)	8.6 (7.2 - 10.1)	4.6	132	15.5 (13.2 - 17.9)	8.6 (7.4 - 9.7)	3.9
4AB2	106	26.0 (22.1 - 29.9)	16.4 (14.9 - 18.0)	4.4	53	21.4 (16.0 - 26.7)	14.3 (11.9 - 16.6)	4.7	159	24.4 (21.3 - 27.6)	15.7 (14.4 - 17.0)	4.5
4AB3	23	20.6 (16.8 - 24.4)	24.6 (20.4 - 28.7)	8.4	153	16.3 (14.8 - 17.8)	22.3 (20.5 - 24.0)	9.6	176	16.9 (15.5 - 18.3)	22.6 (21.0 - 24.2)	9.4
4AB4	51	38.4 (29.2 - 47.6)	33.9 (31.0 - 36.8)	6.2	109	20.1 (17.9 - 22.3)	25.2 (23.0 - 27.4)	8.8	160	26.0 (22.4 - 29.5)	28.0 (26.1 - 29.8)	7.5
4AB5	70	51.7 (38.2 - 65.2)	42.7 (39.5 - 45.9)	5.8	53	34.9 (25.8 - 44.0)	29.7 (24.9 - 34.5)	6.0	123	44.5 (35.7 - 53.2)	37.1 (34.1 - 40.1)	5.8
4AB6	25	53.8 (36.8 - 70.8)	50.2 (40.7 - 59.8)	6.5	58	33.9 (27.5 - 40.3)	35.1 (29.7 - 40.5)	7.2	83	39.9 (32.9 - 46.9)	39.7 (34.7 - 44.6)	7.0
4AB7	19	73.9 (55.2 - 92.7)	62.3 (51.7 - 73.0)	5.9	25	41.3 (30.7 - 51.9)	35.8 (25.2 - 46.5)	6.1	44	55.4 (44.2 - 66.6)	47.3 (38.7 - 55.8)	6.0
4AP1	113	44.7 (35.3 - 54.0)	34.9 (31.3 - 38.5)	5.5	98	31.8 (25.9 - 37.7)	31.7 (28.9 - 34.4)	7.0	211	38.7 (32.9 - 44.4)	33.4 (31.1 - 35.7)	6.0
Total episodes	525				660				1,185			
Non-Traumatic episodes												
4AZ1	13	103.1 (76.8 - 129.3)	35.5 (18.4 - 52.6)	2.4	44	58.9 (44.4 - 73.5)	34.5 (25.9 - 43.1)	4.1	57	69.0 (55.5 - 82.5)	34.7 (27.1 - 42.4)	3.5
4AZ2	8	93.8 (50.4 - 137.2)	48.1 (18.7 - 77.6)	3.6	9	86.0 (44.6 - 127.4)	48.6 (34.3 - 62.8)	4.0	17	89.6 (60.6 - 118.7)	48.4 (33.2 - 63.6)	3.8
4AB1	42	13.9 (10.2 - 17.6)	10.9 (9.1 - 12.8)	5.5	172	11.9 (10.7 - 13.1)	11.0 (9.7 - 12.2)	6.4	214	12.3 (11.1 - 13.5)	11.0 (9.9 - 12.0)	6.2
4AB2	48	30.1 (22.3 - 37.9)	14.8 (12.4 - 17.2)	3.4	79	22.5 (17.7 - 27.3)	12.8 (10.8 - 14.8)	4.0	127	25.4 (21.2 - 29.6)	13.6 (12.0 - 15.1)	3.7
4AB3	24	19.2 (14.2 - 24.1)	24.7 (19.7 - 29.7)	9.0	234	19.4 (17.3 - 21.5)	23.7 (22.4 - 25.0)	8.5	258	19.4 (17.4 - 21.3)	23.8 (22.5 - 25.1)	8.6
4AB4	35	31.6 (25.1 - 38.0)	30.5 (26.5 - 34.4)	6.8	169	24.7 (21.7 - 27.7)	27.7 (25.7 - 29.8)	7.9	204	25.9 (23.1 - 28.6)	28.2 (26.4 - 30.0)	7.6
4AB5	25	65.0 (27.6 - 102.5)	41.0 (34.8 - 47.3)	4.4	76	48.2 (35.4 - 61.1)	25.5 (21.4 - 29.7)	3.7	101	52.4 (39.0 - 65.8)	29.4 (25.7 - 33.1)	3.9
4AB6	19	46.5 (35.2 - 57.7)	38.1 (26.8 - 49.4)	5.7	101	32.7 (28.3 - 37.0)	36.4 (32.4 - 40.3)	7.8	120	34.9 (30.7 - 39.0)	36.7 (32.9 - 40.4)	7.4
4AB7	13	62.7 (44.3 - 81.1)	48.5 (34.9 - 62.0)	5.4	76	51.4 (42.8 - 60.1)	39.3 (33.7 - 44.9)	5.3	89	53.1 (45.2 - 61.0)	40.6 (35.4 - 45.8)	5.4
Total episodes	227				960				1,187			

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, Financial Year 2023



AN-SNAP class	Specialist Brain Units				Non Specialist Brain Units				All AROC Facilities			
	Length of stay		FIM change	FIM gain per week	Length of stay		FIM change	FIM gain per week	Length of stay		FIM change	FIM gain per week
	No.	Mean (95%CI)	Mean (95%CI)		No.	Mean (95%CI)	Mean (95%CI)		No.	Mean (95%CI)	Mean (95%CI)	
Traumatic episodes												
3-202	39	93.3 (75.6 - 110.9)	65.3 (55.1 - 75.4)	4.9	15	63.7 (50.2 - 77.1)	29.6 (14.9 - 44.3)	3.3	54	85.0 (71.4 - 98.7)	55.4 (46.0 - 64.7)	4.6
3-210	17	14.3 (10.2 - 18.4)	9.5 (4.6 - 14.5)	4.7	62	14.0 (11.4 - 16.5)	14.3 (12.1 - 16.6)	7.2	79	14.0 (11.8 - 16.2)	13.3 (11.2 - 15.4)	6.6
3-211	96	21.4 (18.3 - 24.4)	14.7 (12.7 - 16.6)	4.8	131	13.7 (12.5 - 14.9)	15.5 (13.8 - 17.2)	7.9	227	16.9 (15.4 - 18.5)	15.1 (13.9 - 16.4)	6.3
3-212	52	28.7 (21.4 - 36.1)	20.3 (17.6 - 23.1)	5.0	33	18.2 (13.6 - 22.7)	16.5 (13.0 - 20.0)	6.4	85	24.6 (19.7 - 29.6)	18.8 (16.7 - 21.0)	5.4
3-213	86	35.5 (30.0 - 41.0)	27.0 (24.3 - 29.8)	5.3	54	29.6 (20.7 - 38.4)	20.9 (17.6 - 24.2)	5.0	140	33.2 (28.4 - 38.0)	24.7 (22.5 - 26.8)	5.2
3-214	88	55.4 (43.5 - 67.3)	48.2 (44.4 - 51.9)	6.1	227	26.5 (23.9 - 29.0)	29.7 (27.6 - 31.9)	7.9	315	34.6 (30.5 - 38.6)	34.9 (32.8 - 37.0)	7.1
3-215	24	90.9 (65.2 - 116.5)	65.5 (55.2 - 75.7)	5.0	35	41.2 (33.0 - 49.3)	33.9 (25.5 - 42.3)	5.8	59	61.4 (48.4 - 74.3)	46.7 (39.2 - 54.3)	5.3
3-238	23	29.0 (8.7 - 49.3)	12.1 (9.4 - 14.9)	2.9	8	16.3 (10.2 - 22.3)	12.8 (7.6 - 17.9)	5.5	31	25.7 (10.6 - 40.9)	12.3 (9.9 - 14.6)	3.3
3-239	47	28.1 (23.4 - 32.7)	28.5 (25.9 - 31.1)	7.1	54	21.0 (17.4 - 24.6)	26.0 (23.8 - 28.3)	8.7	101	24.3 (21.3 - 27.2)	27.2 (25.4 - 28.9)	7.8
3-240	37	66.3 (47.1 - 85.4)	50.9 (46.9 - 54.8)	5.4	36	49.3 (37.2 - 61.4)	44.8 (41.0 - 48.6)	6.4	73	57.9 (46.3 - 69.5)	47.9 (45.1 - 50.7)	5.8
3-241	16	107.0 (71.9 - 142.1)	71.3 (61.8 - 80.7)	4.7	5	71.4 (38.4 - 104.4)	64.2 (54.6 - 73.8)	6.3	21	98.5 (70.4 - 126.6)	69.6 (62.0 - 77.1)	4.9
Total episodes	525				660				1,185			
Non-Traumatic episodes												
3-202	19	96.7 (73.3 - 120.2)	37.8 (22.0 - 53.7)	2.7	29	57.2 (41.1 - 73.3)	29.9 (19.5 - 40.4)	3.7	48	72.9 (58.3 - 87.4)	33.1 (24.1 - 42.0)	3.2
3-210	31	12.4 (10.1 - 14.6)	12.2 (9.6 - 14.9)	6.9	133	13.0 (11.4 - 14.5)	13.8 (12.2 - 15.4)	7.4	164	12.9 (11.6 - 14.2)	13.5 (12.1 - 14.9)	7.3
3-211	36	18.1 (13.1 - 23.1)	14.5 (11.2 - 17.8)	5.6	217	14.7 (13.5 - 15.9)	16.9 (15.7 - 18.1)	8.0	253	15.2 (13.9 - 16.5)	16.6 (15.5 - 17.7)	7.6
3-212	32	30.4 (19.7 - 41.1)	20.4 (16.7 - 24.1)	4.7	56	19.2 (13.0 - 25.4)	16.7 (13.8 - 19.6)	6.1	88	23.3 (17.7 - 28.9)	18.0 (15.7 - 20.3)	5.4
3-213	43	46.3 (23.8 - 68.8)	23.0 (19.1 - 26.8)	3.5	71	38.3 (27.9 - 48.7)	18.5 (15.2 - 21.8)	3.4	114	41.3 (30.7 - 51.9)	20.2 (17.7 - 22.7)	3.4
3-214	55	41.0 (35.1 - 46.8)	40.5 (35.4 - 45.7)	6.9	374	31.6 (28.6 - 34.7)	31.1 (29.4 - 32.8)	6.9	429	32.8 (30.1 - 35.6)	32.3 (30.6 - 33.9)	6.9
3-215	11	83.5 (58.8 - 108.3)	51.4 (36.0 - 66.7)	4.3	80	57.3 (47.2 - 67.4)	43.0 (37.3 - 48.7)	5.3	91	60.5 (51.0 - 70.0)	44.0 (38.7 - 49.3)	5.1
Total episodes	227				960				1,187			

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