

Brain Dysfunction LOS and FIM Change Benchmarks in Australia and New Zealand by AN-SNAP V5, Calendar 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												
5AZ1	20	103.0 (69.3 - 136.6)	70.4 (59.6 - 81.2)	4.8	21	48.0 (37.5 - 58.5)	36.1 (23.7 - 48.5)	5.3	41	74.8 (55.6 - 94.0)	52.8 (43.1 - 62.6)	4.9
5AZ2	42	127.5 (98.8 - 156.1)	58.0 (48.3 - 67.8)	3.2	10	73.0 (29.0 - 117.0)	53.0 (29.8 - 76.2)	5.1	52	117.0 (91.7 - 142.3)	57.1 (48.1 - 66.1)	3.4
5AB1	74	17.6 (14.8 - 20.5)	10.8 (8.3 - 13.2)	4.3	145	12.9 (11.7 - 14.1)	14.1 (12.5 - 15.7)	7.7	219	14.5 (13.2 - 15.8)	13.0 (11.6 - 14.3)	6.3
5AB2	7	29.7 (20.4 - 39.0)	38.7 (30.0 - 47.5)	9.1	93	18.6 (16.6 - 20.6)	26.2 (23.5 - 29.0)	9.9	100	19.4 (17.3 - 21.4)	27.1 (24.4 - 29.8)	9.8
5AB3	140	27.7 (24.1 - 31.3)	20.1 (18.1 - 22.0)	5.1	122	18.2 (16.3 - 20.1)	19.0 (16.9 - 21.0)	7.3	262	23.3 (21.1 - 25.5)	19.6 (18.2 - 21.0)	5.9
5AB4	23	48.0 (31.1 - 64.8)	48.7 (40.9 - 56.5)	7.1	54	27.1 (23.0 - 31.2)	32.8 (29.1 - 36.4)	8.5	77	33.3 (27.2 - 39.4)	37.5 (33.7 - 41.3)	7.9
5AB5	118	46.5 (39.2 - 53.9)	34.3 (31.2 - 37.3)	5.2	89	32.3 (26.0 - 38.5)	28.8 (25.5 - 32.1)	6.3	207	40.4 (35.4 - 45.4)	31.9 (29.6 - 34.2)	5.5
5AB6	41	94.0 (76.0 - 112.0)	56.2 (47.9 - 64.4)	4.2	42	41.1 (31.5 - 50.7)	37.6 (29.6 - 45.7)	6.4	83	67.2 (55.6 - 78.8)	46.8 (40.7 - 52.9)	4.9
5AP1	65	28.0 (20.5 - 35.5)	24.0 (21.0 - 27.0)	6.0	66	20.5 (17.6 - 23.4)	23.0 (20.3 - 25.6)	7.8	131	24.2 (20.1 - 28.3)	23.5 (21.5 - 25.5)	6.8
5AP2	42	71.4 (51.2 - 91.5)	54.3 (50.5 - 58.1)	5.3	45	41.7 (34.1 - 49.2)	43.6 (39.8 - 47.5)	7.3	87	56.0 (45.0 - 67.0)	48.8 (45.9 - 51.7)	6.1
Total episodes	572				687				1,259			
Non-Traumatic episodes												
5AZ1	7	130.0 (86.7 - 173.3)	24.1 (3.7 - 44.6)	1.3	47	55.8 (41.0 - 70.6)	37.6 (29.2 - 45.9)	4.7	54	65.4 (49.8 - 81.0)	35.9 (28.0 - 43.7)	3.8
5AZ2	18	124.6 (77.3 - 171.8)	56.6 (42.4 - 70.8)	3.2	19	106.2 (84.3 - 128.1)	36.8 (26.6 - 47.1)	2.4	37	115.1 (89.9 - 140.3)	46.5 (37.3 - 55.6)	2.8
5AB1	44	12.8 (10.9 - 14.6)	13.7 (11.7 - 15.8)	7.5	262	12.8 (12.0 - 13.6)	14.7 (13.6 - 15.7)	8.0	306	12.8 (12.0 - 13.5)	14.5 (13.6 - 15.5)	8.0
5AB2	11	26.1 (21.0 - 31.2)	33.9 (24.8 - 43.0)	9.1	149	23.7 (20.9 - 26.5)	30.5 (28.3 - 32.8)	9.0	160	23.9 (21.2 - 26.5)	30.8 (28.6 - 33.0)	9.0
5AB3	49	31.9 (23.1 - 40.6)	18.9 (15.5 - 22.2)	4.1	202	19.3 (16.9 - 21.8)	20.8 (19.2 - 22.4)	7.5	251	21.8 (19.1 - 24.5)	20.4 (19.0 - 21.9)	6.6
5AB4	15	38.4 (30.0 - 46.8)	49.4 (41.0 - 57.8)	9.0	98	36.4 (30.6 - 42.1)	33.9 (30.2 - 37.6)	6.5	113	36.6 (31.5 - 41.8)	35.9 (32.4 - 39.5)	6.9
5AB5	55	44.1 (36.3 - 51.9)	29.0 (25.0 - 33.1)	4.6	131	37.7 (30.9 - 44.5)	22.8 (19.9 - 25.8)	4.2	186	39.6 (34.3 - 44.9)	24.7 (22.2 - 27.1)	4.4
5AB6	18	70.1 (52.9 - 87.2)	46.6 (36.1 - 57.1)	4.7	73	40.3 (33.5 - 47.2)	43.2 (37.4 - 49.0)	7.5	91	46.2 (39.3 - 53.1)	43.9 (38.8 - 49.0)	6.6
Total episodes	217				981				1,198			

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, Calendar 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	26	102.3 (74.7 - 129.8)	71.0 (61.9 - 80.1)	4.9	19	51.3 (40.2 - 62.4)	41.4 (27.3 - 55.5)	5.7	45	80.7 (62.7 - 98.8)	58.5 (49.5 - 67.5)	5.1
4AZ2	36	133.8 (101.6 - 166.0)	54.3 (43.7 - 64.8)	2.8	7	85.3 (22.3 - 148.3)	40.9 (12.0 - 69.7)	3.4	43	125.9 (97.0 - 154.8)	52.1 (42.2 - 62.0)	2.9
4AB1	79	18.7 (15.3 - 22.1)	9.4 (7.9 - 11.0)	3.5	83	12.6 (11.0 - 14.2)	9.9 (8.3 - 11.4)	5.5	162	15.6 (13.7 - 17.5)	9.6 (8.6 - 10.7)	4.3
4AB2	112	27.8 (23.3 - 32.3)	16.6 (15.0 - 18.3)	4.2	52	16.9 (13.8 - 20.1)	14.3 (12.1 - 16.6)	5.9	164	24.3 (21.0 - 27.7)	15.9 (14.5 - 17.2)	4.6
4AB3	21	22.2 (18.3 - 26.2)	24.6 (17.5 - 31.7)	7.7	162	16.3 (14.8 - 17.7)	22.0 (20.1 - 23.9)	9.5	183	16.9 (15.6 - 18.3)	22.3 (20.5 - 24.1)	9.2
4AB4	63	38.9 (31.4 - 46.4)	34.8 (32.0 - 37.6)	6.3	106	23.0 (19.6 - 26.5)	25.2 (23.0 - 27.5)	7.7	169	28.9 (25.2 - 32.6)	28.8 (26.9 - 30.7)	7.0
4AB5	70	54.3 (43.4 - 65.1)	40.1 (36.3 - 43.8)	5.2	56	34.1 (26.1 - 42.1)	32.1 (28.0 - 36.3)	6.6	126	45.3 (38.1 - 52.5)	36.5 (33.7 - 39.4)	5.6
4AB6	25	50.1 (34.0 - 66.2)	55.8 (47.1 - 64.5)	7.8	61	34.0 (27.6 - 40.3)	36.4 (31.5 - 41.4)	7.5	86	38.7 (32.1 - 45.2)	42.1 (37.4 - 46.7)	7.6
4AB7	34	96.6 (76.9 - 116.3)	57.0 (47.9 - 66.1)	4.1	30	35.4 (26.4 - 44.4)	36.6 (26.5 - 46.7)	7.2	64	67.9 (54.5 - 81.4)	47.4 (40.3 - 54.6)	4.9
4API	106	44.8 (34.8 - 54.9)	35.7 (32.0 - 39.4)	5.6	111	29.1 (25.0 - 33.1)	31.3 (28.4 - 34.3)	7.5	217	36.8 (31.3 - 42.2)	33.5 (31.1 - 35.8)	6.4
Total episodes	572				687				1,259			
Non-Traumatic episodes												
4AZ1	15	123.9 (78.5 - 169.4)	41.4 (25.9 - 56.9)	2.3	43	66.3 (47.8 - 84.8)	35.5 (27.6 - 43.4)	3.7	58	81.2 (62.0 - 100.3)	37.0 (29.9 - 44.2)	3.2
4AZ2	7	146.9 (64.1 - 229.6)	64.4 (38.9 - 90.0)	3.1	9	114.7 (91.9 - 137.4)	34.4 (16.2 - 52.7)	2.1	16	128.8 (91.6 - 165.9)	47.6 (31.2 - 63.9)	2.6
4AB1	39	12.5 (10.6 - 14.5)	12.1 (10.2 - 13.9)	6.8	161	12.0 (10.9 - 13.1)	11.2 (10.0 - 12.4)	6.5	200	12.1 (11.2 - 13.1)	11.4 (10.3 - 12.4)	6.6
4AB2	50	38.9 (29.6 - 48.2)	15.8 (13.4 - 18.2)	2.8	94	21.3 (17.1 - 25.6)	13.8 (12.2 - 15.4)	4.5	144	27.4 (23.0 - 31.9)	14.5 (13.1 - 15.8)	3.7
4AB3	21	26.4 (14.9 - 37.9)	28.0 (23.6 - 32.3)	7.4	244	17.6 (16.0 - 19.2)	23.9 (22.7 - 25.2)	9.5	265	18.3 (16.6 - 20.1)	24.2 (23.0 - 25.5)	9.3
4AB4	29	31.5 (24.8 - 38.2)	34.0 (29.1 - 38.9)	7.6	166	22.0 (19.5 - 24.5)	26.5 (24.5 - 28.4)	8.4	195	23.4 (21.1 - 25.8)	27.6 (25.8 - 29.5)	8.2
4AB5	21	47.6 (34.6 - 60.7)	37.7 (30.6 - 44.8)	5.5	77	45.7 (35.1 - 56.4)	26.5 (22.1 - 30.9)	4.1	98	46.1 (37.3 - 55.0)	28.9 (25.0 - 32.7)	4.4
4AB6	22	50.7 (36.1 - 65.2)	41.4 (31.9 - 50.8)	5.7	109	37.9 (32.7 - 43.0)	36.1 (32.3 - 39.9)	6.7	131	40.0 (35.1 - 45.0)	37.0 (33.4 - 40.5)	6.5
4AB7	13	70.8 (56.4 - 85.3)	50.8 (38.4 - 63.2)	5.0	77	43.5 (36.7 - 50.3)	42.9 (36.9 - 48.9)	6.9	90	47.4 (41.0 - 53.9)	44.1 (38.6 - 49.5)	6.5
Total episodes	217				980				1,197			

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
4API	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 2023



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)	
Traumatic episodes												
3-202	40	135.7 (107.9 - 163.5)	57.2 (47.1 - 67.2)	2.9	13	75.2 (42.6 - 107.9)	37.3 (16.7 - 57.9)	3.5	53	120.9 (97.6 - 144.2)	52.3 (43.0 - 61.6)	3.0
3-210	22	14.5 (11.0 - 18.0)	4.9 (0.0 - 9.8)	2.4	58	13.1 (11.3 - 14.9)	12.8 (10.5 - 15.1)	6.8	80	13.5 (11.9 - 15.1)	10.6 (8.4 - 12.9)	5.5
3-211	116	21.7 (19.0 - 24.5)	14.7 (12.9 - 16.4)	4.7	145	14.3 (13.0 - 15.6)	16.0 (14.4 - 17.7)	7.8	261	17.6 (16.1 - 19.1)	15.4 (14.2 - 16.6)	6.1
3-212	57	33.5 (26.0 - 40.9)	21.9 (19.1 - 24.8)	4.6	32	15.7 (12.2 - 19.1)	18.6 (15.1 - 22.2)	8.3	89	27.1 (21.8 - 32.3)	20.7 (18.5 - 23.0)	5.4
3-213	90	39.6 (33.3 - 45.8)	27.5 (24.7 - 30.4)	4.9	55	31.1 (21.8 - 40.5)	22.1 (19.1 - 25.2)	5.0	145	36.4 (31.1 - 41.7)	25.5 (23.3 - 27.6)	4.9
3-214	97	57.0 (46.0 - 67.9)	47.5 (43.8 - 51.1)	5.8	235	25.7 (23.4 - 28.0)	30.3 (28.1 - 32.4)	8.2	332	34.9 (31.0 - 38.7)	35.3 (33.2 - 37.3)	7.1
3-215	33	93.4 (73.9 - 113.0)	64.2 (54.2 - 74.1)	4.8	34	38.6 (30.2 - 47.0)	36.4 (27.4 - 45.4)	6.6	67	65.6 (53.3 - 77.9)	50.1 (42.7 - 57.5)	5.3
3-238	22	25.9 (5.3 - 46.6)	12.5 (9.9 - 15.0)	3.4	12	16.0 (9.8 - 22.2)	11.8 (8.7 - 14.8)	5.1	34	22.4 (8.8 - 36.0)	12.2 (10.2 - 14.2)	3.8
3-239	42	29.1 (24.2 - 34.0)	29.8 (26.9 - 32.7)	7.2	56	22.7 (19.2 - 26.1)	25.7 (23.1 - 28.3)	7.9	98	25.4 (22.5 - 28.3)	27.4 (25.5 - 29.4)	7.6
3-240	40	59.0 (42.3 - 75.6)	53.9 (50.3 - 57.4)	6.4	41	41.5 (33.2 - 49.8)	43.7 (39.8 - 47.6)	7.4	81	50.1 (40.8 - 59.5)	48.7 (45.9 - 51.5)	6.8
3-241	13	120.9 (64.7 - 177.2)	62.5 (47.9 - 77.2)	3.6	6	48.8 (19.7 - 78.0)	65.7 (48.2 - 83.1)	9.4	19	98.2 (56.7 - 139.6)	63.5 (52.5 - 74.5)	4.5
Total episodes	572				687				1,259			
Non-Traumatic episodes												
3-202	17	142.9 (95.0 - 190.8)	42.1 (26.0 - 58.2)	2.1	31	72.3 (50.0 - 94.6)	33.1 (23.2 - 43.0)	3.2	48	97.3 (73.3 - 121.4)	36.3 (27.7 - 44.9)	2.6
3-210	25	12.6 (10.3 - 14.9)	13.5 (10.9 - 16.1)	7.5	127	12.5 (11.4 - 13.7)	14.8 (13.2 - 16.3)	8.3	152	12.5 (11.5 - 13.6)	14.6 (13.2 - 15.9)	8.1
3-211	45	21.6 (15.3 - 27.8)	16.5 (13.8 - 19.2)	5.3	237	14.6 (13.0 - 16.2)	16.4 (15.2 - 17.5)	7.8	282	15.7 (14.0 - 17.4)	16.4 (15.3 - 17.4)	7.3
3-212	19	32.9 (16.6 - 49.3)	19.5 (13.2 - 25.9)	4.1	60	17.4 (14.4 - 20.4)	17.6 (14.5 - 20.7)	7.1	79	21.2 (16.4 - 25.9)	18.1 (15.3 - 20.8)	6.0
3-213	44	44.8 (35.3 - 54.4)	24.0 (20.7 - 27.3)	3.7	65	31.7 (25.3 - 38.2)	20.4 (17.5 - 23.3)	4.5	109	37.0 (31.4 - 42.6)	21.8 (19.6 - 24.0)	4.1
3-214	54	43.7 (36.5 - 50.9)	42.9 (37.8 - 48.1)	6.9	378	32.2 (29.0 - 35.3)	31.2 (29.5 - 32.9)	6.8	432	33.6 (30.7 - 36.5)	32.7 (31.0 - 34.4)	6.8
3-215	13	88.5 (65.4 - 111.7)	55.8 (41.6 - 70.1)	4.4	83	52.1 (43.7 - 60.4)	43.0 (37.1 - 48.9)	5.8	96	57.0 (48.8 - 65.2)	44.7 (39.2 - 50.2)	5.5
Total episodes	217				981				1,198			

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