

# Brain Dysfunction LOS and FIM Change Benchmarks in Australia and New Zealand by AN-SNAP V4, Calendar Year 2017



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
<b>Traumatic episodes</b>												
4AZ1	48	113.4 (91.3 - 135.5)	68.2 (60.5 - 75.9)	4.2	23	50.5 (36.5 - 64.5)	42.2 (28.9 - 55.5)	5.8	71	93.1 (76.0 - 110.1)	59.8 (52.5 - 67.1)	4.5
4AZ2	57	98.2 (72.1 - 124.2)	81.8 (75.9 - 87.8)	5.8	6	69.3 (44.3 - 94.3)	58.0 (30.7 - 85.3)	5.9	63	95.4 (71.8 - 119.1)	79.6 (73.4 - 85.7)	5.8
4AB1	115	13.9 (12.0 - 15.8)	10.8 (9.5 - 12.2)	5.5	89	12.6 (11.2 - 14.1)	11.5 (9.9 - 13.2)	6.4	204	13.4 (12.1 - 14.6)	11.1 (10.1 - 12.2)	5.8
4AB2	157	25.9 (21.8 - 30.0)	16.5 (14.6 - 18.3)	4.5	51	17.7 (14.3 - 21.1)	14.1 (11.6 - 16.6)	5.6	208	23.9 (20.7 - 27.1)	15.9 (14.4 - 17.4)	4.7
4AB3	34	21.8 (17.3 - 26.3)	29.2 (26.6 - 31.9)	9.4	152	17.0 (15.5 - 18.4)	23.1 (21.3 - 24.9)	9.5	186	17.8 (16.4 - 19.3)	24.2 (22.6 - 25.8)	9.5
4AB4	80	32.9 (25.5 - 40.3)	34.9 (32.2 - 37.6)	7.4	117	21.1 (18.8 - 23.4)	26.2 (23.5 - 28.8)	8.7	197	25.9 (22.5 - 29.3)	29.7 (27.7 - 31.7)	8.0
4AB5	73	44.6 (36.9 - 52.4)	41.9 (38.3 - 45.6)	6.6	29	28.5 (19.0 - 38.1)	28.1 (21.1 - 35.2)	6.9	102	40.1 (33.8 - 46.4)	38.0 (34.5 - 41.5)	6.6
4AB6	42	54.2 (35.7 - 72.6)	62.2 (58.0 - 66.5)	8.0	60	29.3 (26.1 - 32.4)	33.2 (27.9 - 38.4)	7.9	102	39.5 (31.4 - 47.7)	45.1 (40.7 - 49.6)	8.0
4AB7	27	49.5 (39.3 - 59.7)	70.3 (62.6 - 78.1)	9.9	35	40.9 (32.5 - 49.2)	37.1 (28.2 - 46.0)	6.4	62	44.6 (38.2 - 51.1)	51.6 (44.3 - 58.8)	8.1
4AP1	188	39.0 (34.6 - 43.4)	36.9 (33.8 - 39.9)	6.6	144	35.8 (31.0 - 40.6)	34.9 (32.0 - 37.8)	6.8	332	37.6 (34.4 - 40.9)	36.0 (33.9 - 38.1)	6.7
<b>Total episodes</b>	<b>821</b>				<b>706</b>				<b>1,527</b>			
<b>Non-Traumatic episodes</b>												
4AZ1	10	85.9 (58.1 - 113.7)	56.2 (32.1 - 80.3)	4.6	57	50.2 (43.1 - 57.2)	35.9 (27.9 - 43.8)	5.0	67	55.5 (47.7 - 63.3)	38.9 (31.2 - 46.6)	4.9
4AZ2	14	124.8 (78.1 - 171.5)	42.6 (28.6 - 56.5)	2.4	17	85.8 (52.2 - 119.4)	44.3 (29.8 - 58.8)	3.6	31	103.4 (75.4 - 131.4)	43.5 (33.7 - 53.4)	2.9
4AB1	61	12.5 (10.4 - 14.6)	10.1 (7.6 - 12.7)	5.7	243	12.1 (11.1 - 13.1)	10.4 (9.5 - 11.2)	6.0	304	12.2 (11.3 - 13.1)	10.3 (9.4 - 11.2)	5.9
4AB2	77	27.3 (22.5 - 32.1)	15.9 (13.6 - 18.1)	4.1	102	19.1 (15.7 - 22.5)	14.4 (12.8 - 16.1)	5.3	179	22.6 (19.8 - 25.5)	15.1 (13.7 - 16.4)	4.7
4AB3	39	19.1 (15.0 - 23.3)	22.6 (19.4 - 25.8)	8.3	288	18.9 (17.1 - 20.7)	22.8 (21.6 - 24.1)	8.5	327	18.9 (17.3 - 20.6)	22.8 (21.6 - 24.0)	8.4
4AB4	33	26.1 (20.0 - 32.1)	30.3 (25.4 - 35.2)	8.1	213	22.6 (20.9 - 24.4)	26.2 (24.4 - 28.1)	8.1	246	23.1 (21.4 - 24.8)	26.8 (25.1 - 28.5)	8.1
4AB5	30	45.0 (32.0 - 58.0)	32.2 (26.4 - 38.0)	5.0	75	26.7 (22.7 - 30.8)	26.5 (22.7 - 30.4)	6.9	105	32.0 (27.0 - 36.9)	28.2 (24.9 - 31.4)	6.2
4AB6	20	40.8 (29.0 - 52.6)	38.5 (26.6 - 50.3)	6.6	118	28.7 (25.7 - 31.7)	32.5 (28.7 - 36.2)	7.9	138	30.4 (27.3 - 33.6)	33.3 (29.7 - 37.0)	7.7
4AB7	20	78.4 (51.4 - 105.3)	46.9 (35.7 - 58.1)	4.2	75	38.7 (30.4 - 47.0)	34.4 (28.4 - 40.5)	6.2	95	47.1 (37.8 - 56.3)	37.1 (31.6 - 42.5)	5.5
<b>Total episodes</b>	<b>304</b>				<b>1,188</b>				<b>1,492</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 2017



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
<b>Traumatic episodes</b>												
3-202	69	119.4 (94.9 - 144.0)	76.0 (69.5 - 82.5)	4.5	12	50.8 (32.4 - 69.1)	39.8 (19.3 - 60.4)	5.5	81	109.2 (87.5 - 131.0)	70.6 (63.7 - 77.5)	4.5
3-210	28	11.8 (8.9 - 14.6)	9.1 (6.3 - 11.9)	5.4	74	12.9 (11.4 - 14.4)	13.0 (10.9 - 15.1)	7.1	102	12.6 (11.2 - 13.9)	11.9 (10.2 - 13.6)	6.6
3-211	149	16.9 (14.9 - 18.8)	16.1 (14.5 - 17.8)	6.7	132	14.3 (12.9 - 15.8)	17.3 (15.6 - 19.0)	8.4	281	15.7 (14.5 - 16.9)	16.7 (15.5 - 17.9)	7.4
3-212	96	25.8 (20.8 - 30.7)	20.0 (17.6 - 22.3)	5.4	47	18.3 (14.4 - 22.2)	18.9 (15.8 - 22.1)	7.2	143	23.3 (19.7 - 26.9)	19.6 (17.8 - 21.5)	5.9
3-213	116	33.6 (28.2 - 38.9)	26.1 (23.4 - 28.8)	5.4	45	26.6 (19.6 - 33.5)	20.1 (16.5 - 23.7)	5.3	161	31.6 (27.3 - 36.0)	24.4 (22.2 - 26.6)	5.4
3-214	119	46.8 (38.1 - 55.4)	51.9 (48.5 - 55.3)	7.8	208	24.0 (22.4 - 25.6)	30.0 (27.6 - 32.3)	8.7	327	32.3 (28.8 - 35.8)	38.0 (35.7 - 40.2)	8.2
3-215	38	73.7 (59.4 - 87.9)	71.1 (63.7 - 78.6)	6.8	39	43.9 (35.5 - 52.3)	42.3 (33.6 - 50.9)	6.7	77	58.6 (49.7 - 67.4)	56.5 (50.0 - 63.0)	6.8
3-238	29	17.6 (11.0 - 24.3)	10.2 (8.0 - 12.4)	4.0	13	15.7 (9.6 - 21.8)	11.5 (9.1 - 13.9)	5.1	42	17.0 (12.1 - 21.9)	10.6 (8.9 - 12.3)	4.4
3-239	75	28.3 (24.7 - 31.8)	26.8 (24.8 - 28.7)	6.6	61	25.3 (22.0 - 28.7)	27.4 (24.7 - 30.1)	7.6	136	26.9 (24.5 - 29.4)	27.1 (25.4 - 28.7)	7.0
3-240	63	50.4 (43.0 - 57.8)	51.3 (47.9 - 54.6)	7.1	72	51.0 (42.5 - 59.4)	47.1 (43.5 - 50.8)	6.5	135	50.7 (45.0 - 56.4)	49.1 (46.5 - 51.6)	6.8
3-241	39	68.3 (56.4 - 80.2)	71.6 (65.4 - 77.9)	7.3	3	n.a n.a	n.a n.a	n.a	42	67.8 (56.5 - 79.2)	69.9 (63.2 - 76.6)	7.2
<b>Total episodes</b>	<b>821</b>				<b>706</b>				<b>1,527</b>			
<b>Non-Traumatic episodes</b>												
3-202	17	123.0 (83.3 - 162.7)	41.7 (24.8 - 58.6)	2.4	36	67.1 (49.8 - 84.5)	41.3 (30.9 - 51.6)	4.3	53	85.1 (66.6 - 103.5)	41.4 (32.6 - 50.1)	3.4
3-210	35	13.9 (11.5 - 16.3)	13.8 (10.7 - 16.9)	6.9	174	12.5 (11.1 - 13.9)	12.6 (11.4 - 13.9)	7.1	209	12.7 (11.5 - 13.9)	12.8 (11.7 - 14.0)	7.1
3-211	82	16.0 (13.7 - 18.3)	14.4 (12.0 - 16.8)	6.3	310	15.2 (13.9 - 16.5)	16.0 (15.0 - 17.1)	7.4	392	15.4 (14.3 - 16.5)	15.7 (14.7 - 16.7)	7.1
3-212	27	24.9 (18.1 - 31.6)	17.6 (14.0 - 21.1)	4.9	77	18.2 (15.8 - 20.6)	17.8 (15.4 - 20.2)	6.9	104	19.9 (17.4 - 22.5)	17.8 (15.8 - 19.8)	6.2
3-213	67	34.4 (27.4 - 41.4)	24.4 (20.8 - 27.9)	5.0	84	22.7 (18.5 - 26.8)	21.8 (19.2 - 24.5)	6.7	151	27.9 (23.9 - 31.9)	23.0 (20.8 - 25.1)	5.8
3-214	54	39.6 (32.5 - 46.8)	35.8 (29.7 - 41.9)	6.3	415	26.6 (25.0 - 28.2)	29.4 (27.8 - 31.1)	7.7	469	28.1 (26.5 - 29.8)	30.2 (28.5 - 31.8)	7.5
3-215	22	82.2 (57.4 - 107.0)	51.9 (41.8 - 62.0)	4.4	92	44.7 (37.1 - 52.3)	35.7 (30.0 - 41.4)	5.6	114	51.9 (43.7 - 60.1)	38.8 (33.7 - 43.9)	5.2
<b>Total episodes</b>	<b>304</b>				<b>1,188</b>				<b>1,492</b>			

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### 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

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