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# The state of rehabilitation in New Zealand

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# The state of rehabilitation in New Zealand

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# The State Rehabilitation in New Zealand

Presentation to NZRA  
Biennial Conference, Auckland  
4-6 March 2011

Frances Simmonds, AROC Manager  
Monique Berger, Research Fellow  
A/Prof Ben Marosszky Clinical Director, AROC

# What is AROC ?

- AROC began as a joint initiative of the whole Australian rehabilitation sector (providers, payers, regulators and consumers) with support from key New Zealand providers
- Established 1 July 2002 as a not-for-profit Centre
- The Australasian Faculty of Rehabilitation Medicine (AFRM) is the auspice body and data custodian
- The Centre for Health Service Development (CHSD) at the University of Wollongong is the data manager and responsible for AROC's day to day operations

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# Purpose and Aims of AROC

The basic purpose and aims of AROC were established as, and continue to be:

- To provide national benchmarking systems to improve clinical rehabilitation outcomes
- To produce information on the efficacy of interventions through the systematic collection of outcomes information in both the inpatient and ambulatory settings
- To provide annual reports that summarise the data at a national level

# Benchmarking Reports

- AROC provides analysis of each individual member facilities data for that member, and also compares that data to:
  - analysis of a benchmark group
  - the national data
  - industry developed impairment specific target outcomes
- AROC Benchmarking Reports distributed to facility members electronically twice yearly





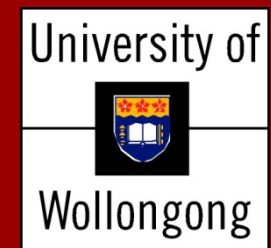
# AROC Report

*Anywhere Hospital*

January 2008 – December 2008



**Australasian Faculty  
of Rehabilitation  
Medicine**



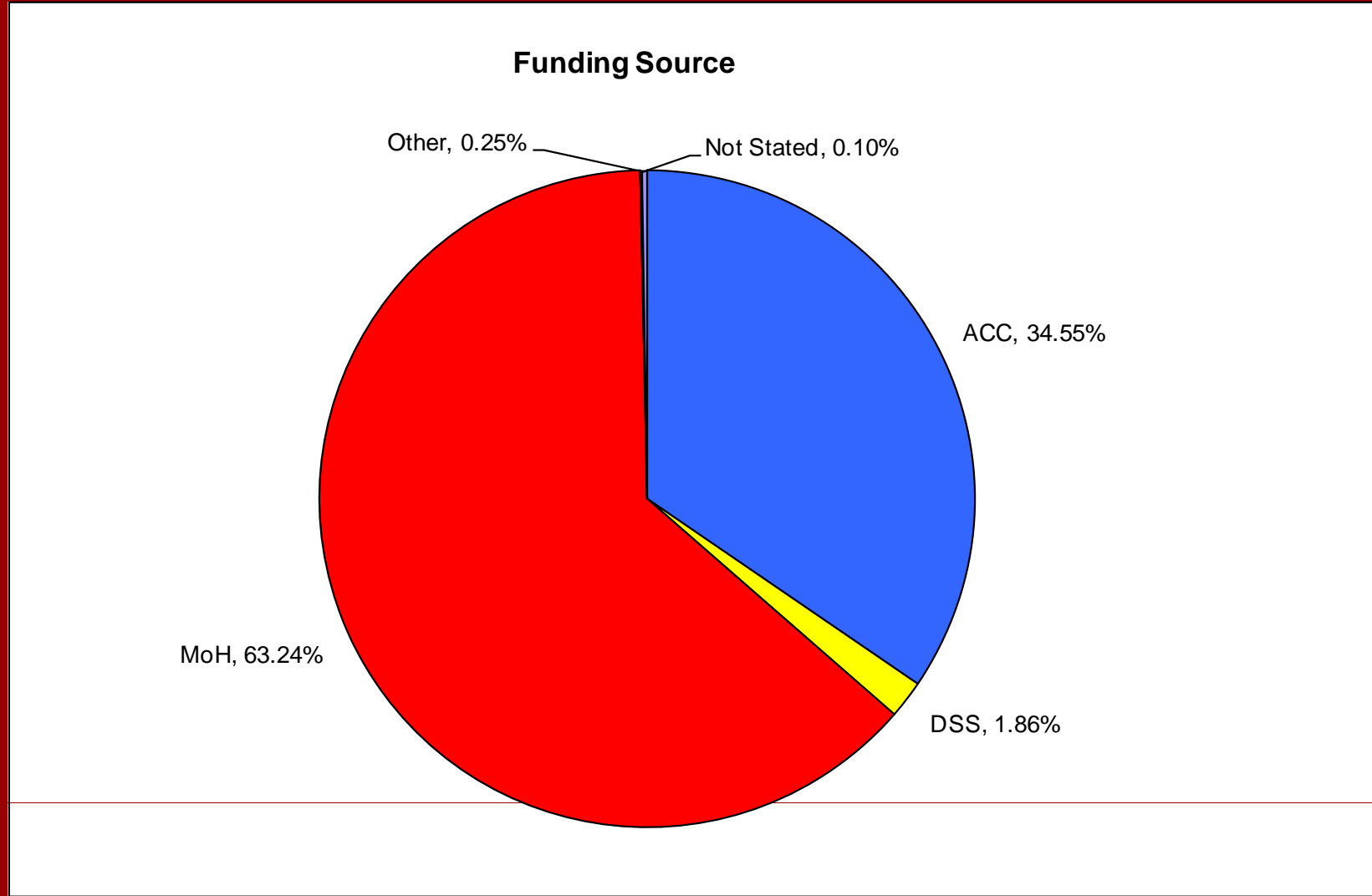
# AROC Coverage

- AUSTRALIA
  - There are approximately 190 rehabilitation units in Australia
  - 183 currently belong to AROC and of those 163 submitted data to AROC in the 2010 calendar year
  - In 2010 data describing more than 65,000 episodes was submitted to AROC
- NEW ZEALAND
  - There are 31 currently identified rehabilitation units in New Zealand
  - Currently 24 units are members of AROC, with 17 submitting data in 2010
  - In 2010 data describing almost 3,000 episodes was submitted to AROC
  - Since Jan 2009 data describing more than 6,000 episodes has been submitted to AROC

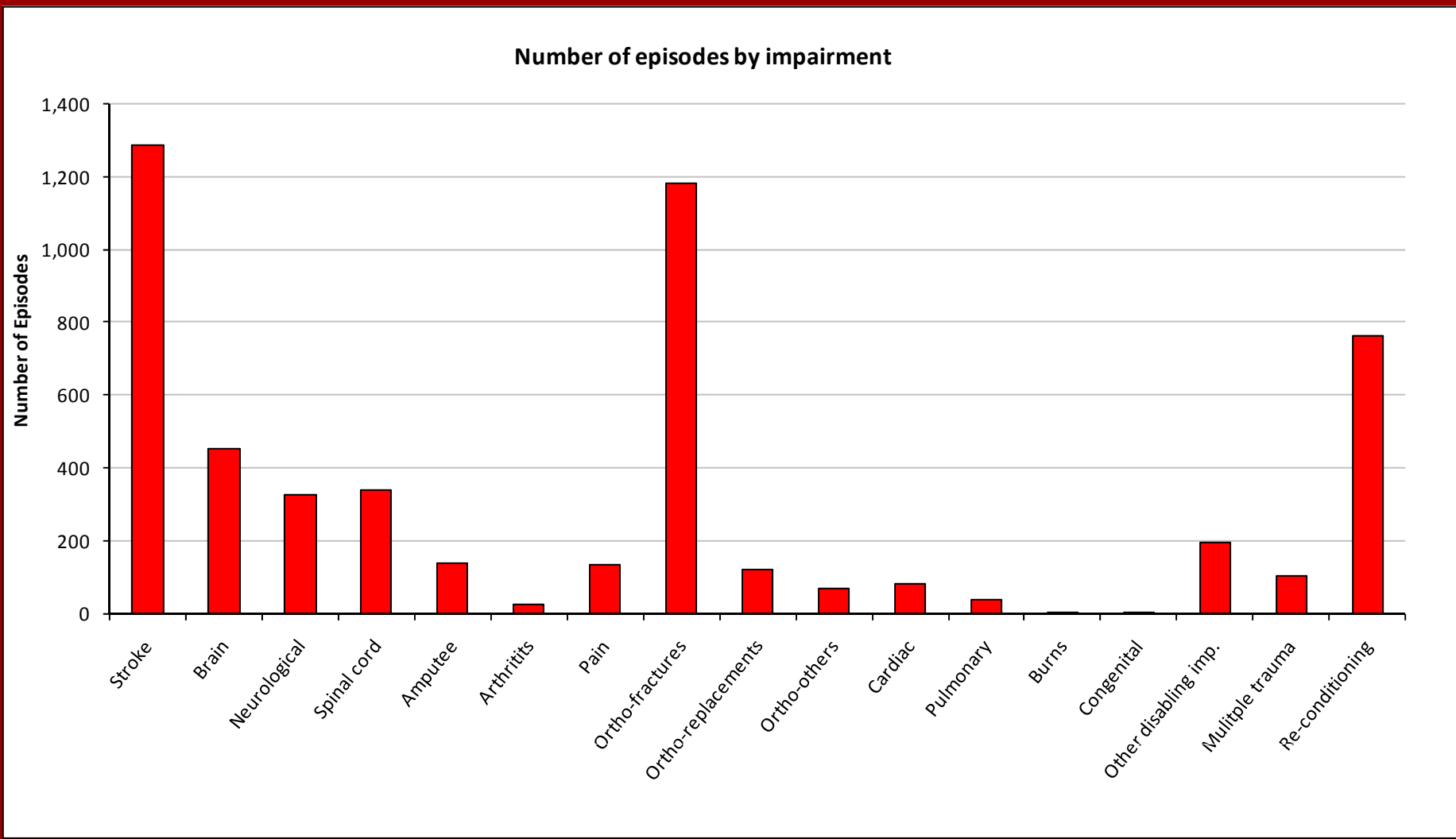
# AROC Coverage in NZ

- There are 24 AROC members in NZ
- 18 are collecting and submitting
- 3 are expected to collect and begin submitting next quarter
- 1 very new member
  
- There are 7 identified non AROC member rehab units

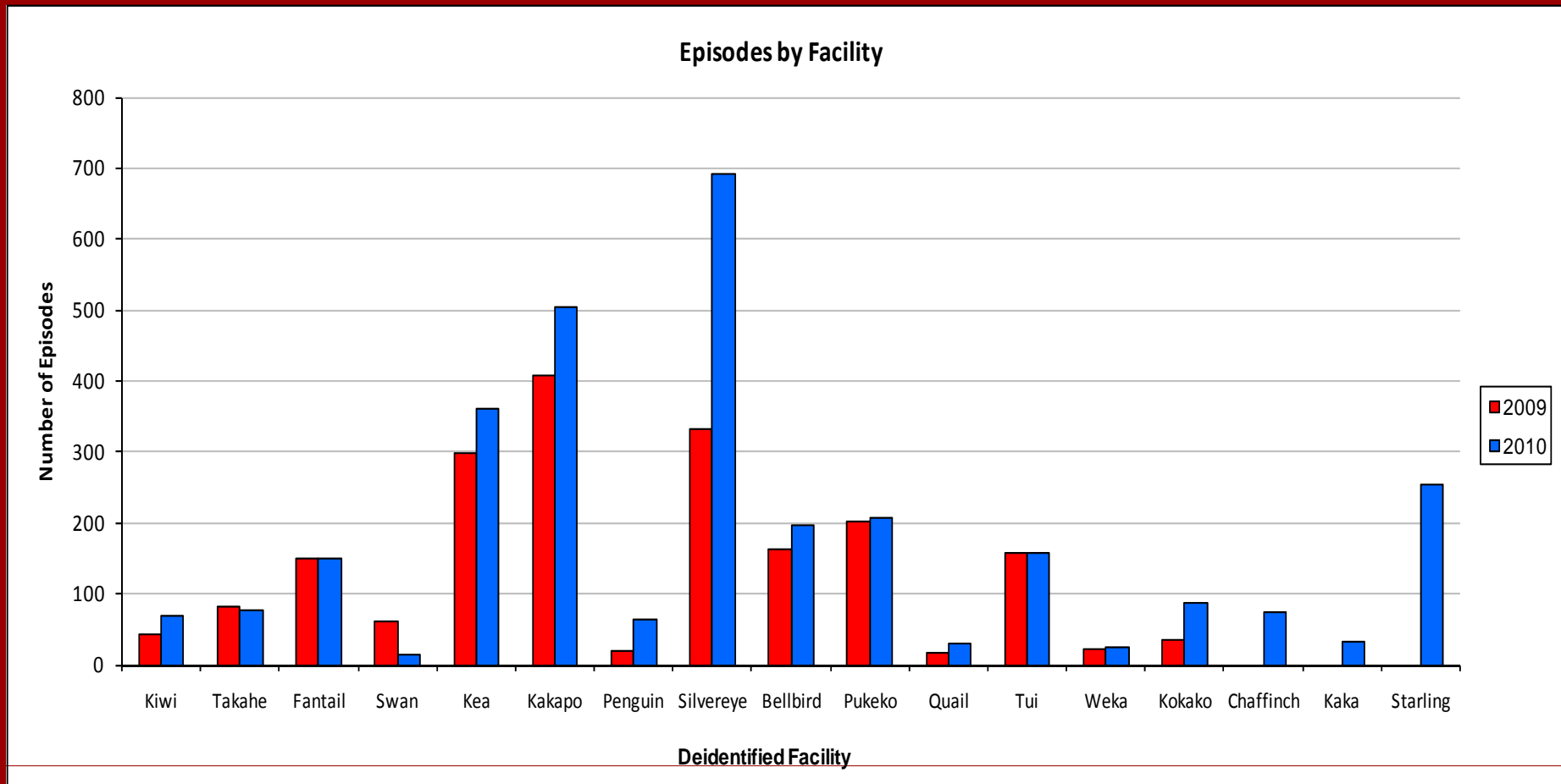
# Funding Source



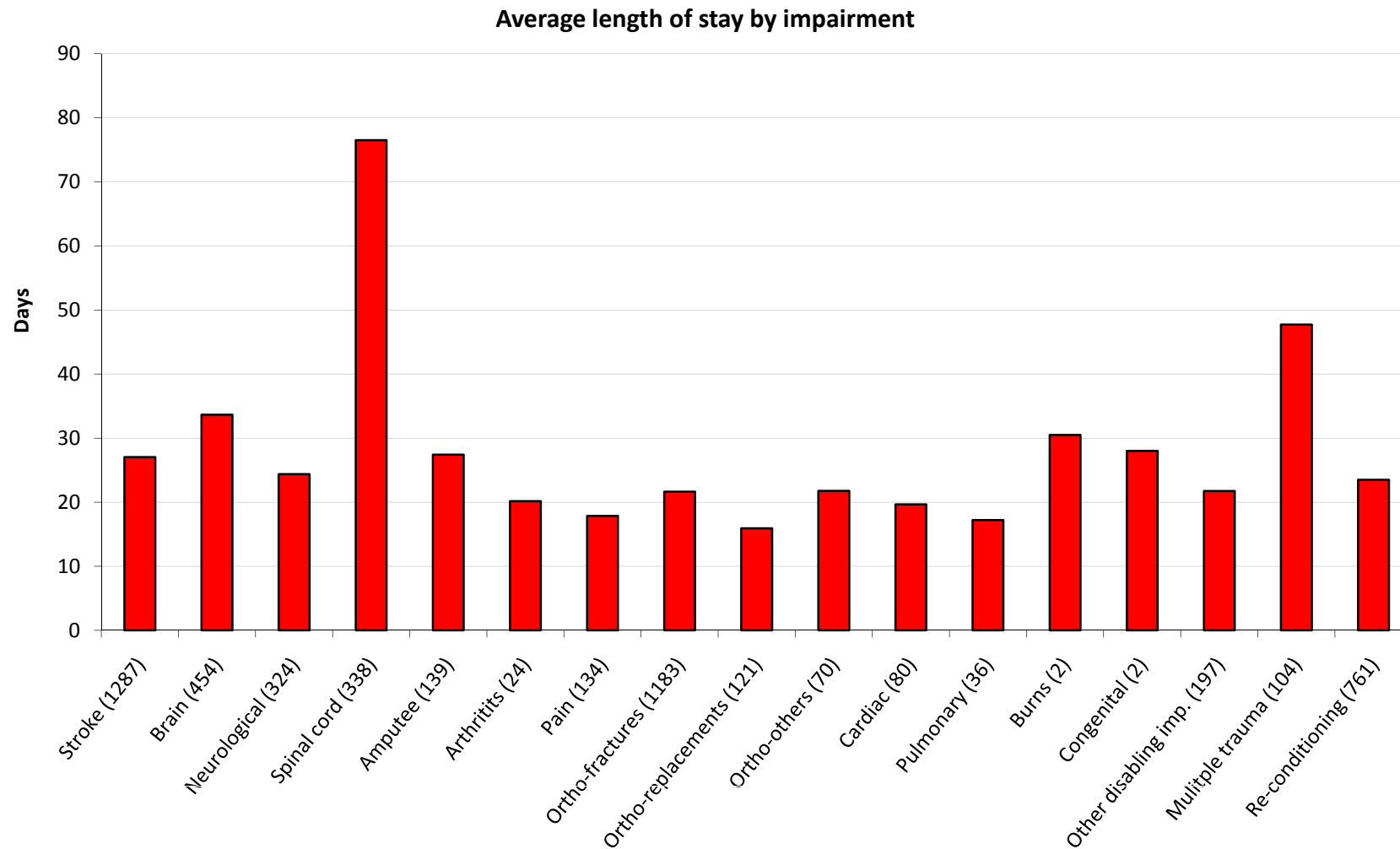
# Episodes by Impairment



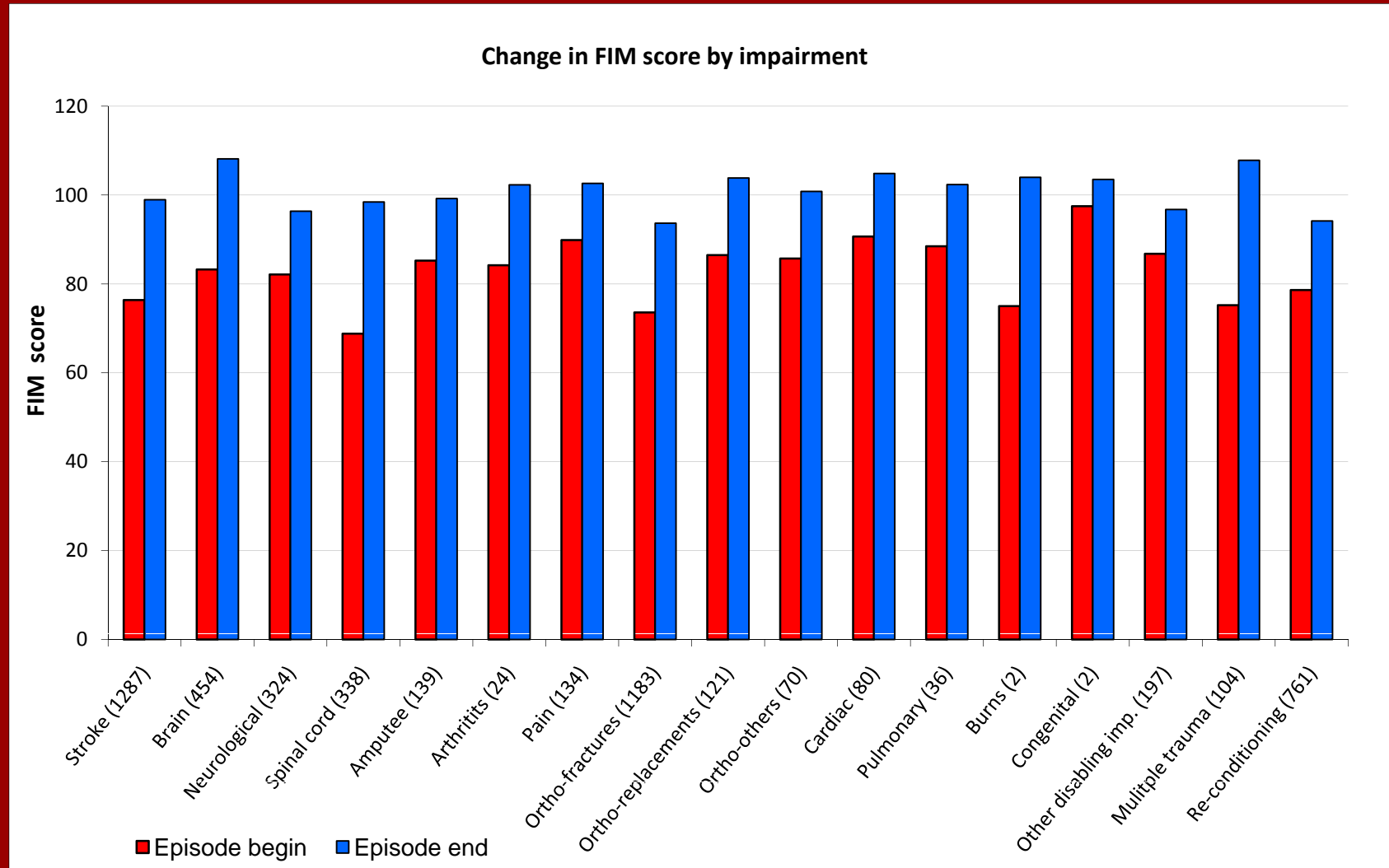
# Episodes by Facility



# ALOS by Impairment



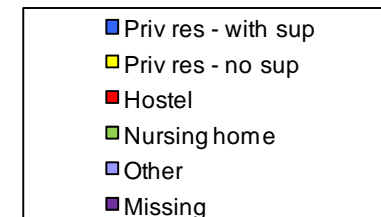
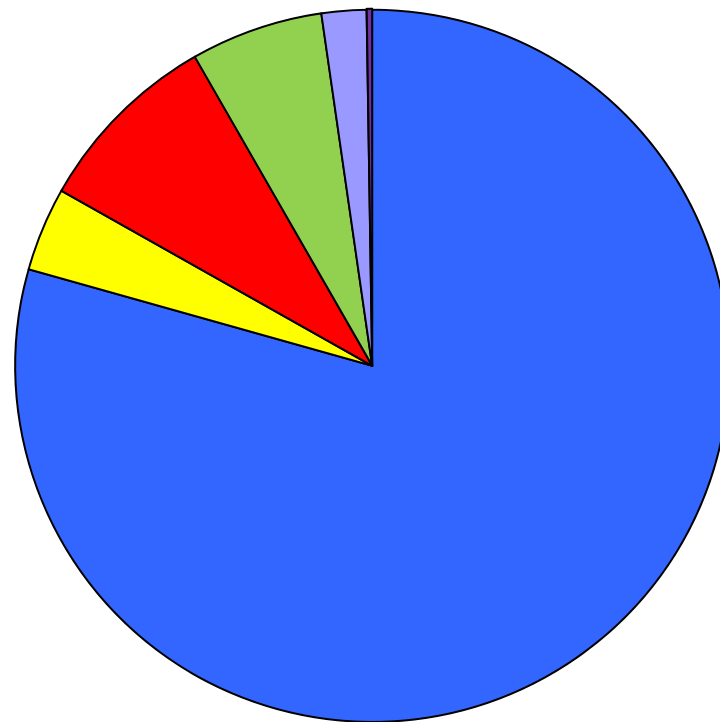
# FIM Change by Impairment





# Discharge Destination

Discharge Destination



# # NOF

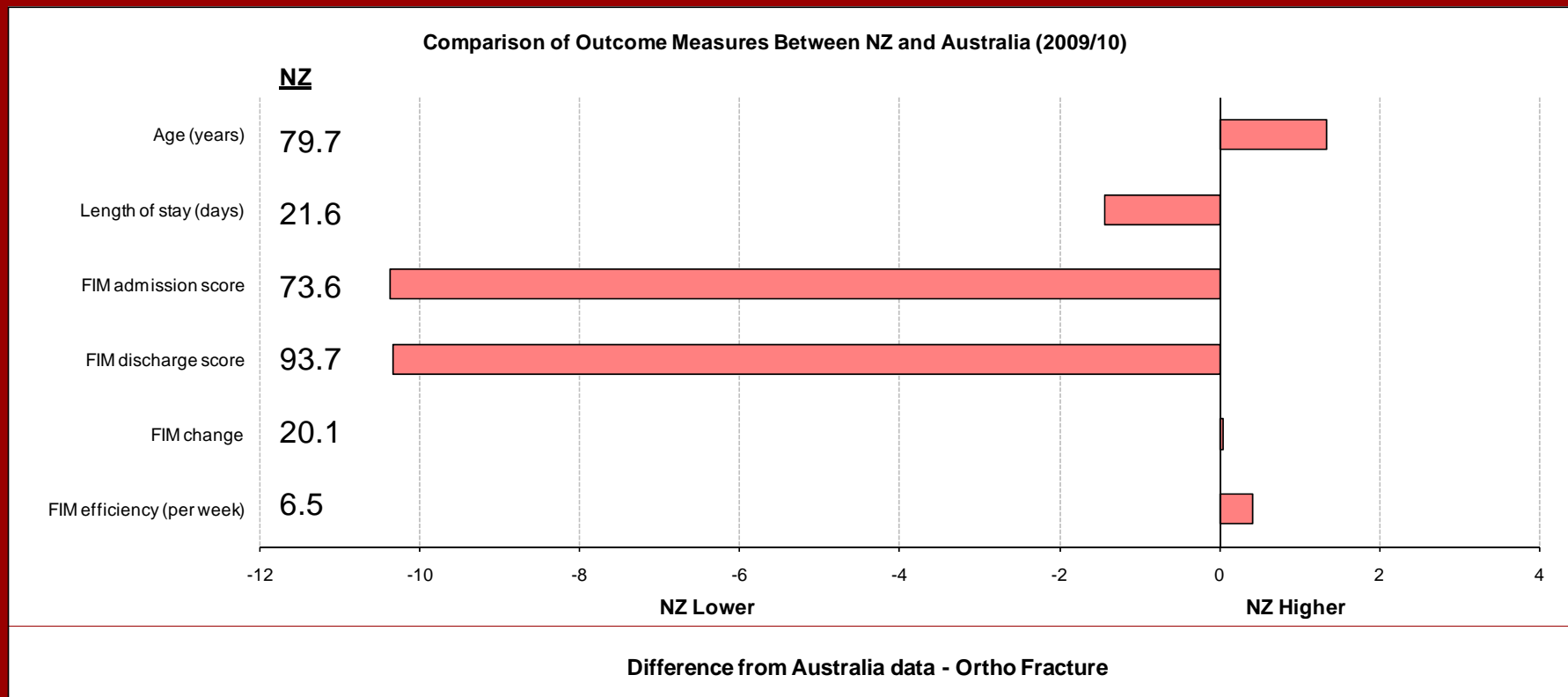
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SNAP class		# episodes	ALOS
S2-227	Ortho fracture, FIM motor 59-91	361	14.9
S2-228	Ortho fracture, FIM motor 48-57	227	20.7
S2-229	Ortho fracture, FIM motor 14-47, FIM cog 5-18	437	26.8
S2-230	Ortho fracture, FIM motor 14-47, FIM cog 19-36	140	23.9
Grand Total		1165	21.6

- Less readmissions (n=59) – ALOS 25.9 days
- Less those that stayed in the hospital system after discharge (n=43)
- Of the remainder
  - Discharged to usual accommodation:
    - private residence (n=806) – ALOS 20.6 days
    - rest home (n=142) – ALOS 22.4 days
    - hospital level care (n=106) – ALOS 22 days
  - Discharged to interim accom (n=85, ALOS 23.7 days)

# Orthopaedic Fracture

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<b><i>Ortho fracture</i></b>	<b>NZ</b>	<b>Aus</b>	<b>Difference</b>
<b>Age (years)</b>	79.7	78.4	1.3
<b>Length of stay (days)</b>	21.6	23.1	-1.4
<b>FIM admission score</b>	73.6	84.0	-10.4
<b>FIM discharge score</b>	93.7	104.0	-10.3
<b>FIM change</b>	20.1	20.0	0.0
<b>FIM efficiency (per week)</b>	6.5	6.1	0.4

# Stroke

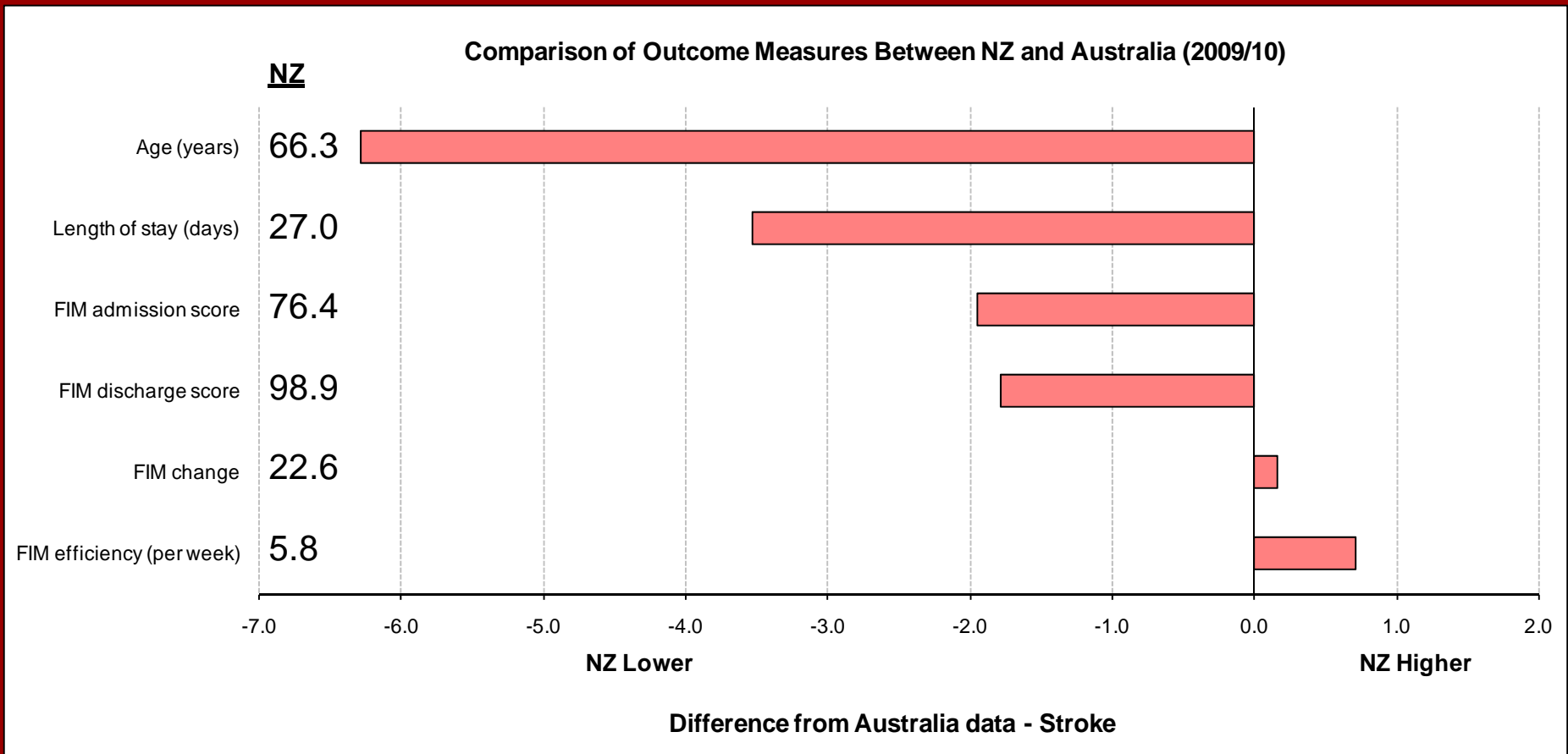
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SNAP class		# episodes	ALOS
S2-204	Stroke, FIM motor 63-91, FIM cog 20-35	479	15.6
S2-205	Stroke, FIM motor 63-91, FIM cog 5-19	53	20.5
S2-206	Stroke, FIM motor 47-62, FIM cog 16-35	244	22.8
S2-207	Stroke, FIM motor 47-62, FIM cog 5-15	19	25.8
S2-208	Stroke, FIM motor 14-46, age $\geq 75$	160	31.2
S2-209	Stroke, FIM motor 14-46, age $\leq 74$	280	44.7
Grand Total		1235	26.0

- Less readmissions (n=132) – ALOS 19.2 days
- Less those that stayed in the hospital system after discharge (n=184)
- Of the remainder
  - Discharged to usual accommodation:
    - private residence (n=1001) – ALOS 26.1 days
    - rest home (n=54) – ALOS 30.9 days
    - hospital level care (n=62) – ALOS 30.1 days
  - Discharged to interim accom (n=74, ALOS 43.3 days)

# Stroke

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<b>Stroke</b>	<b>NZ</b>	<b>Aus</b>	<b>Difference</b>
<b>Age (years)</b>	66.3	72.6	-6.3
<b>Length of stay (days)</b>	27.0	30.6	-3.5
<b>FIM admission score</b>	76.4	78.3	-1.9
<b>FIM discharge score</b>	98.9	100.7	-1.8
<b>FIM change</b>	22.6	22.4	0.2
<b>FIM efficiency (per week)</b>	5.8	5.1	0.7

# Brain Injury

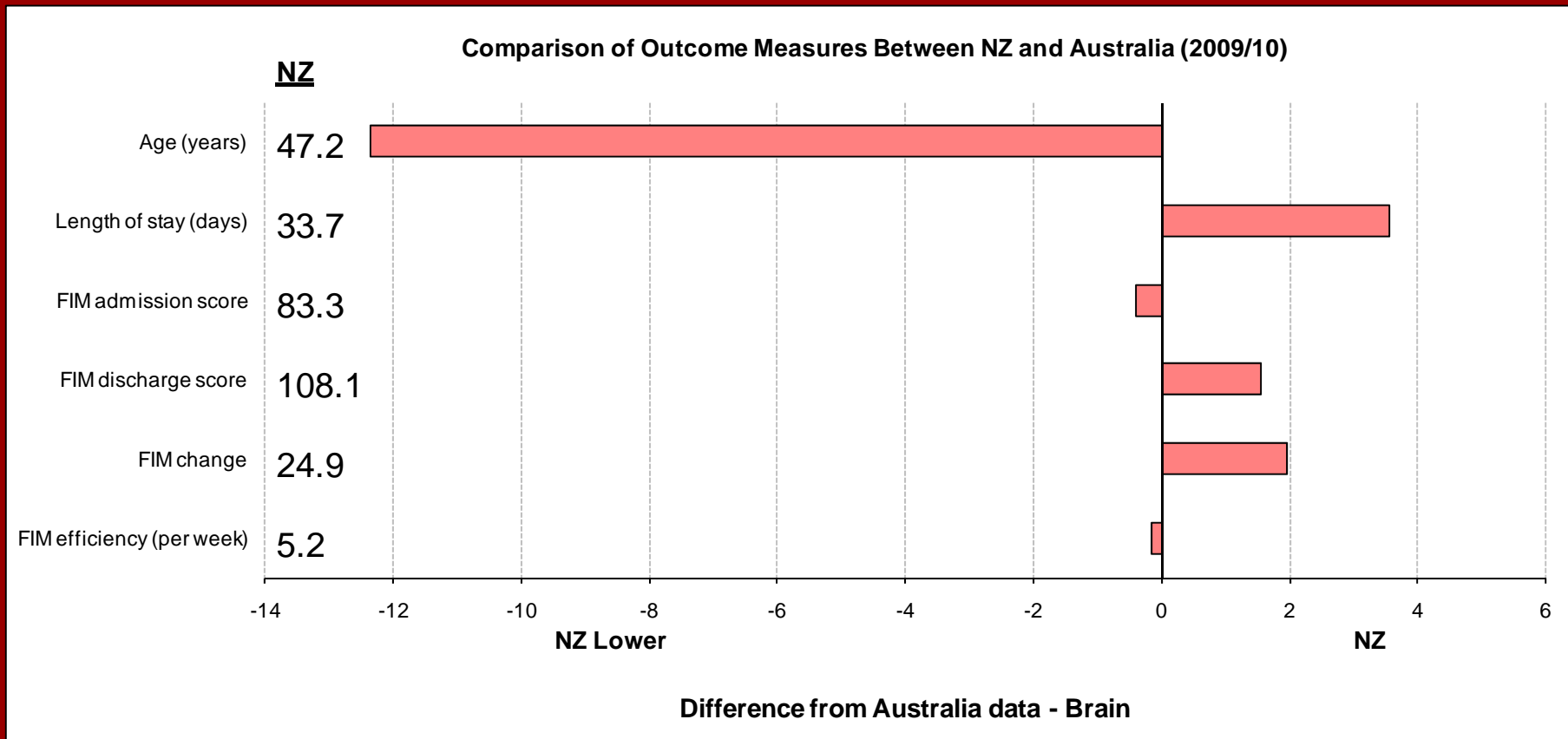
SNAP class		# episodes	ALOS
S2-210	Brain Dysfunction, FIM motor 6-91, FIM cog 32-35	50	14.5
S2-211	Brain Dysfunction, FIM motor 56-91, FIM cog 24-31	149	18.7
S2-212	Brain Dysfunction, FIM mptpr 56-91, FIM cog 20-23	37	27.8
S2-213	Brain Dysfunction, FIM motor 56-91, FIM cog 5-19	75	36.5
S2-214	Brain Dysfunction, FIM motor 24-55	88	37.4
S2-215	Brain Dysfunction, FIM motor14-23	35	69.9
Grand Total		434	30.0

- Less readmissions (n=48) – ALOS 24.9 days
- Less those that stayed in the hospital system after discharge (n=55)
- Of the remainder
  - Discharged to usual accommodation:
    - private residence (n=352) – ALOS 30.8 days
    - rest home (n=7) – ALOS 116.5 days
    - hospital level care (n=3) – ALOS 26.3 days
  - Discharged to interim accom (n=47, ALOS 50.4 days)



# Brain

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<b><i>Brain</i></b>	<b>NZ</b>	<b>Aus</b>	<b>Difference</b>
<b>Age (years)</b>	47.2	59.6	-12.4
<b>Length of stay (days)</b>	33.7	30.1	3.6
<b>FIM admission score</b>	83.3	83.7	-0.4
<b>FIM discharge score</b>	108.1	106.6	1.5
<b>FIM change</b>	24.9	22.9	1.9
<b>FIM efficiency (per week)</b>	5.2	5.3	-0.2

# Spinal Cord Injury

SNAP class		# episodes	ALOS
S2-220	Spinal Cord Dysfunction, FIM motor 81-91	10	21.7
S2-221	Spinal Cord Dysfunction, FIM motor 47-80	99	33.5
S2-222	Spinal Cord Dysfunction, FIM motor 14-46, age>=33	126	80.6
S2-223	Spinal Cord Dysfunction, FIM motor 14-46, age<=32	43	80.0
Grand Total		278	61.6

	LOS < 90 days		LOS >= 90 days		Total	
SNAP class	#	ALOS	#	ALOS	#	ALOS
S2-220	10	21.7			10	21.7
S2-221	95	29.6	4	124.8	99	33.5
S2-222	81	53.0	45	130.5	126	80.6
S2-223	30	61.7	13	122.4	43	80.0
Grand Total	216	42.4	62	128.4	278	61.6

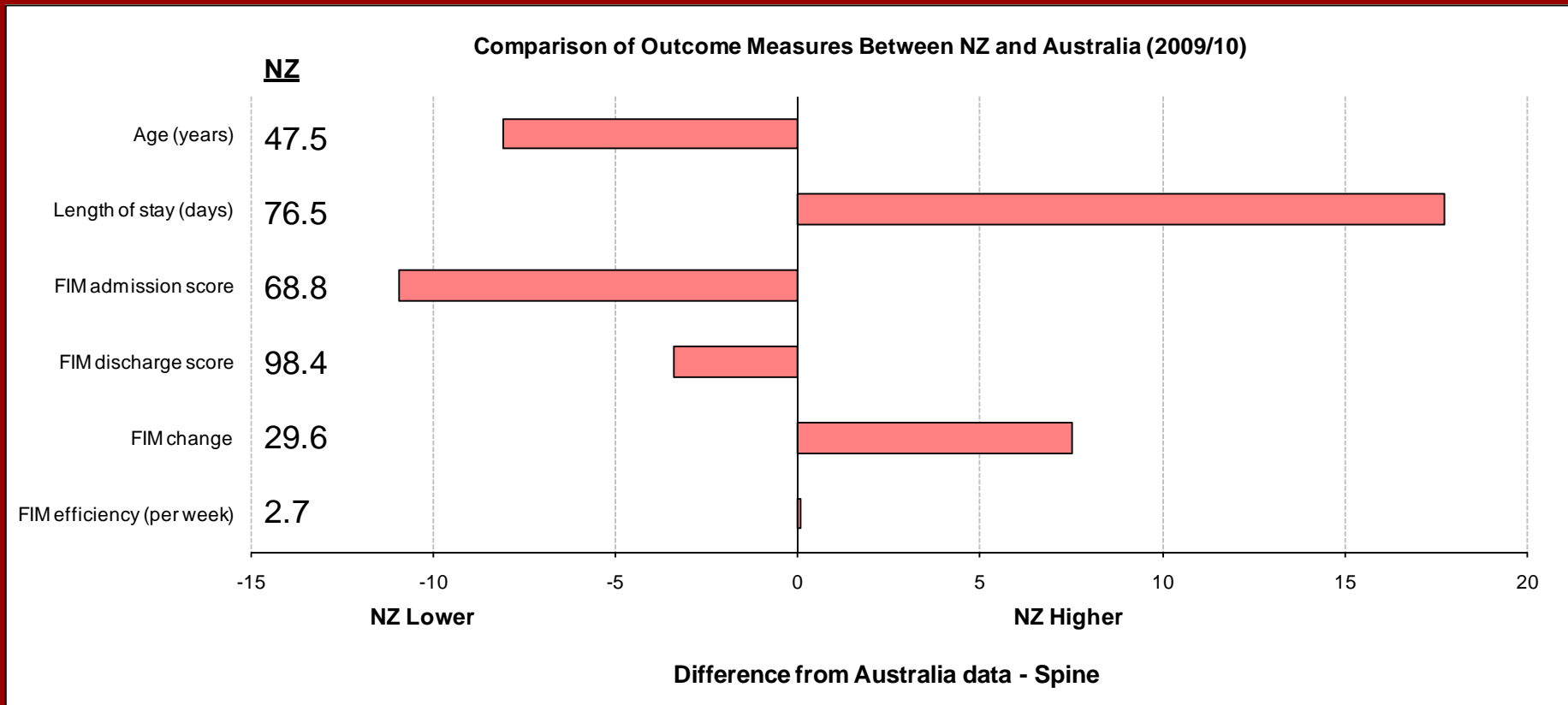
# Spinal Cord Injury

SNAP class		# episodes	ALOS
S2-220	Spinal Cord Dysfunction, FIM motor 81-91	10	21.7
S2-221	Spinal Cord Dysfunction, FIM motor 47-80	99	33.5
S2-222	Spinal Cord Dysfunction, FIM motor 14-46, age $\geq$ 33	126	80.6
S2-223	Spinal Cord Dysfunction, FIM motor 14-46, age $\leq$ 32	43	80.0
Grand Total		278	61.6

- Less readmissions (n=17) – ALOS 71.6 days
- Less those that stayed in the hospital system after discharge (n=34)
- Of the remainder
  - Discharged to usual accommodation:
    - private residence (n=247) – ALOS 67.2 days
    - rest home (n=1) – ALOS 164 days
    - hospital level care (n=6) – ALOS 70 days
  - Discharged to interim accom (n=70, ALOS 112.6 days)

# Spine

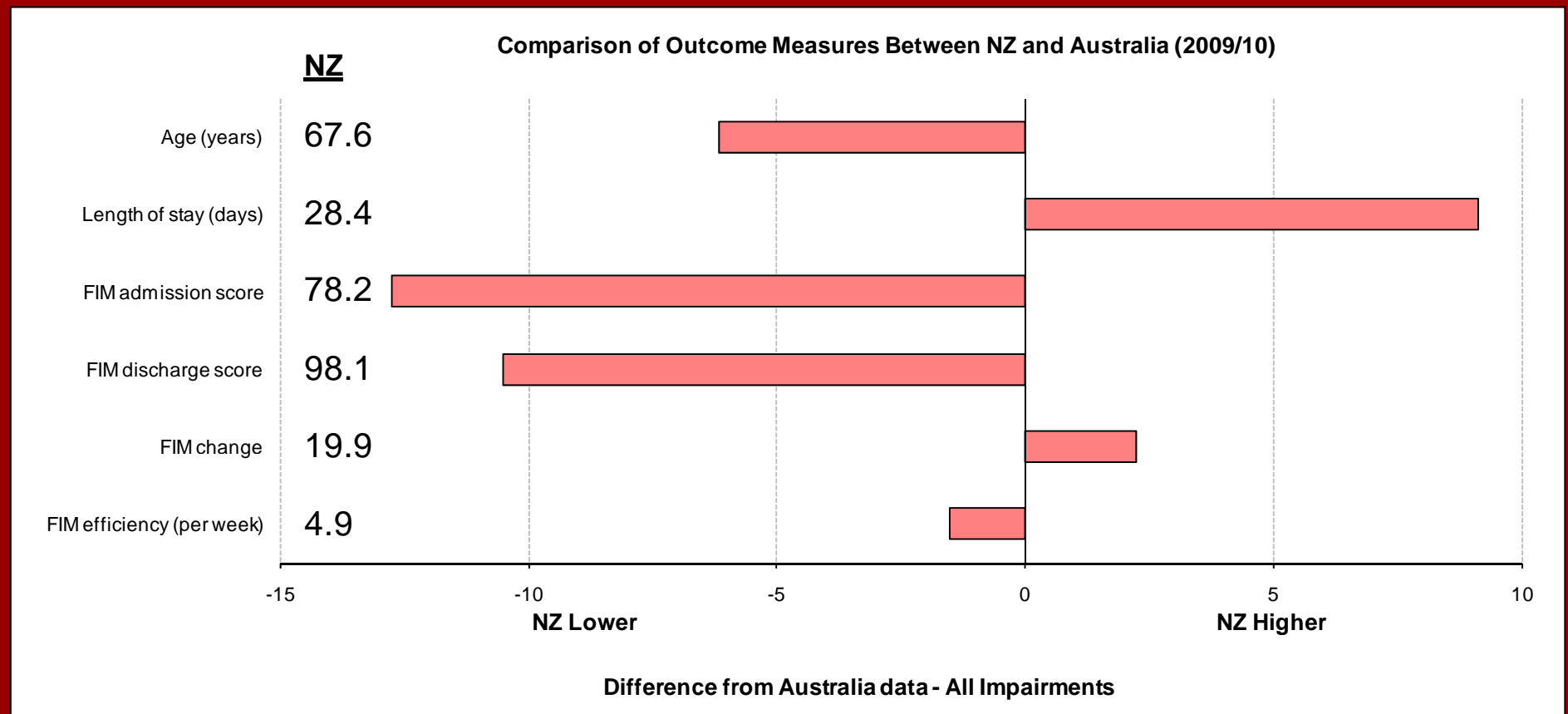
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<b><i>Spine</i></b>	<b>NZ</b>	<b>Aus</b>	<b>Difference</b>
<b>Age (years)</b>	47.5	55.6	-8.1
<b>Length of stay (days)</b>	76.5	58.8	17.7
<b>FIM admission score</b>	68.8	79.7	-10.9
<b>FIM discharge score</b>	98.4	101.8	-3.4
<b>FIM change</b>	29.6	22.1	7.5
<b>FIM efficiency (per week)</b>	2.7	2.6	0.1

# All Impairments



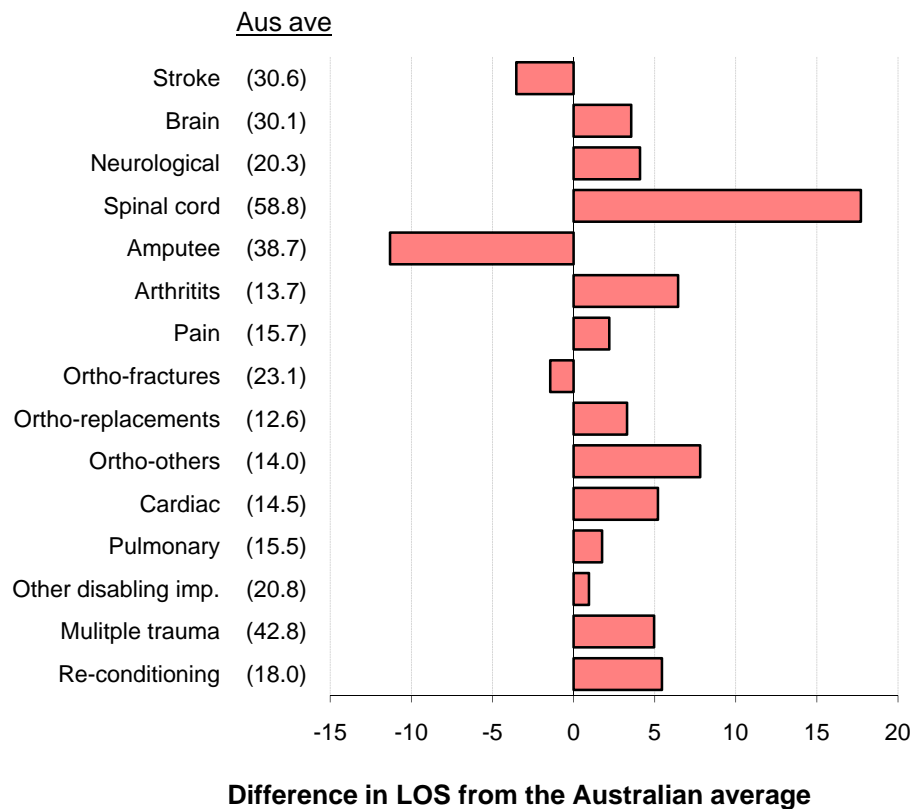
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<b><i>All Impairments</i></b>	<b>NZ</b>	<b>Aus</b>	<b>Difference</b>
<b>Age (years)</b>	67.6	73.8	-6.2
<b>Length of stay (days)</b>	28.4	19.2	9.1
<b>FIM admission score</b>	78.2	90.9	-12.7
<b>FIM discharge score</b>	98.1	108.6	-10.5
<b>FIM change</b>	19.9	17.7	2.2
<b>FIM efficiency (per week)</b>	4.9	6.4	-1.5

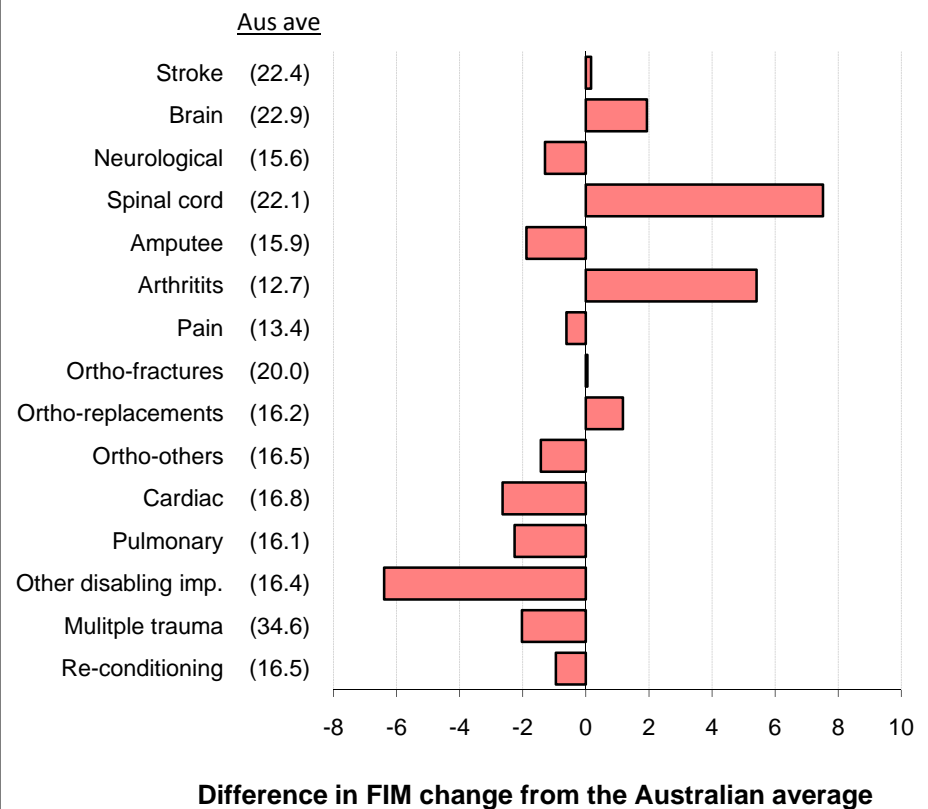


# NZ vs Aus Outcomes

**Length of stay in New Zealand compared to Australia**



**FIM change in New Zealand compared to Australia**



# NZ Outcomes - 2009

<b>Impairment</b>	<b>Count</b>	<b>LOS</b>	<b>FIM Change</b>	<b>FIM Efficiency (per week)</b>
<b>Stroke</b>	514	26.11	21.50	5.76
<b>Ortho fracture</b>	455	21.93	19.03	6.07
<b>Debility</b>	246	23.80	14.98	4.41
<b>Brain</b>	173	35.18	24.73	4.92
<b>Spine</b>	133	72.59	29.49	2.84
<b>Neuro</b>	117	23.77	12.91	3.80
<b>Other</b>	78	23.50	9.69	2.89
<b>MultTrauma</b>	48	42.48	31.50	5.19
<b>Ortho replacement</b>	46	16.67	16.48	6.92
<b>Pain</b>	45	19.07	12.84	4.71
<b>Amputee</b>	44	29.50	11.51	2.73
<b>Cardiac</b>	33	23.09	11.49	3.48
<b>Other ortho</b>	33	18.30	13.89	5.31
<b>Pulmonary</b>	17	16.47	15.55	6.61
<b>Arthritits</b>	12	16.25	18.36	7.91
<b>Total</b>	1,994	28.29	20.21	5.00

# NZ Outcomes - 2010

<b>Impairment</b>	<b>Count</b>	<b>LOS</b>	<b>FIM Change</b>	<b>FIM Efficiency (per week)</b>
<b>Stroke</b>	707	26.62	22.79	5.99
<b>Ortho fracture</b>	713	21.30	20.76	6.82
<b>Debility</b>	502	23.04	15.85	4.82
<b>Brain</b>	219	33.21	25.69	5.42
<b>Spine</b>	148	67.12	31.10	3.24
<b>Neuro</b>	182	25.37	15.14	4.18
<b>Other</b>	112	19.55	10.45	3.74
<b>MultTrauma</b>	45	51.11	32.02	4.39
<b>Ortho replacement</b>	72	15.72	17.70	7.88
<b>Pain</b>	88	17.38	12.74	5.13
<b>Amputee</b>	92	26.64	15.22	4.00
<b>Cardiac</b>	47	20.62	16.15	5.48
<b>Other ortho</b>	34	20.62	16.51	5.61
<b>Pulmonary</b>	19	17.89	11.95	4.67
<b>Arthritits</b>	12	24.08	17.83	5.18
<b>Total</b>	2,992	26.50	20.09	5.30

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# AROC Contact Details

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