

# Processes of stroke care at *Hutt Hospital*

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# Overview

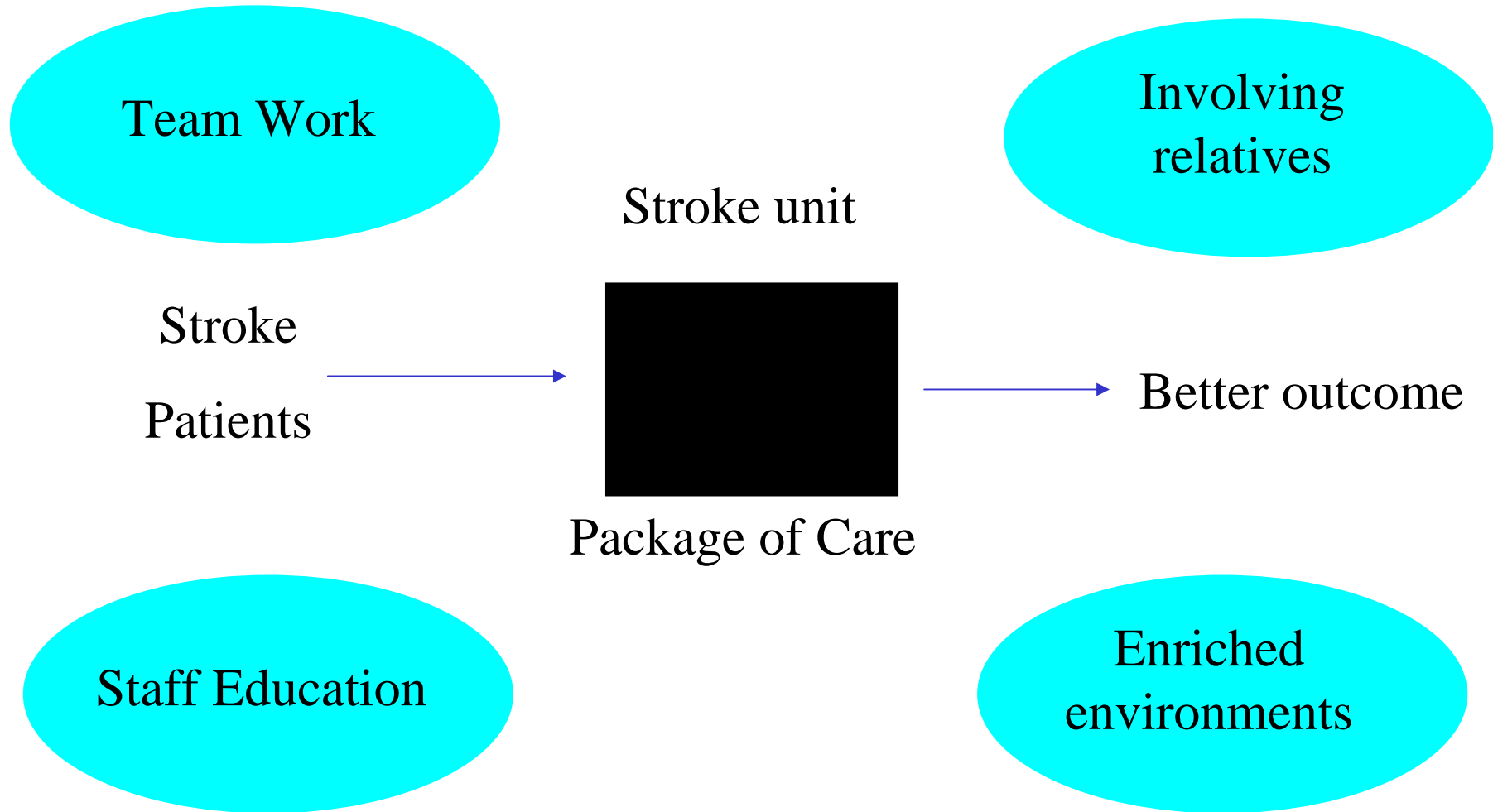
- Background
- Aims and Methods
- Results
- Recommendations

# The Burden of stroke

- Stroke a leading cause of death and disability in NZ
- Stroke units save lives, reduce dependency and reduce institutionalization

1. New Zealand Guidelines Group. The assessment and management of cardiovascular risk. Wellington: NZGG; December 2003.
2. Organized Inpatient (Stroke Unit) care for stroke. Cochrane Database of systematic reviews, 1 2006.
3. Kalra L, et al. Alternative strategies in stroke care: A prospective randomized control trial. The Lancet; Volume 356; 2000.
4. Life After stroke: New Zealand Guidelines for management of stroke. Stroke Foundation of New Zealand, Wellington, New Zealand; 2003.

# How do stroke units save lives?



# Processes of care

- More frequent monitoring
- Increased measures to reduce aspiration
- Early nutrition
- Early mobilization
- Timely and frequent MDT input

1. Indredavik B, et al. Treatment in a combined acute and rehabilitation stroke unit: which aspects are most important? *Stroke* 1999; 30:917-23.
2. Andrew Evans, et al. Can differences in management processes explain different outcomes between stroke unit and stroke team care? *The Lancet*; Volume 358, November 10, 2001.
3. Peter L, et al. What are the components of effective stroke unit care? *Age and Ageing* 2002; 31:365-371

# Early mobilization

- A key aspect in Scandinavian Countries

## Umea Hospital in Northern Sweden

*“In Umea even those who have severe strokes will sit up and move their bodies using specially designed wheelchairs. When not engaged in therapy patients are encouraged to independently use a range of devices that practice mobility, dexterity and memory”*

# Hutt Hospital

- Serves a Population of 135,000
- Patients admitted to one of three medical teams
- Referral to MDT on case-by-case basis
- Onsite rehab ward if needed
- Recruitment of Stroke specialist 2007

# Aims

- Audit of current processes of stroke care at Hutt Hospital
- Multidisciplinary focus
- Compare with NZ guidelines & other national audits
- Use local data to make changes

# Methods

- Retrospective audit of all strokes Jan-Dec 2006
- Discharge codes of ICH, CVA, Cerebral infarction or stroke
- Information from patient notes and concerto

# Results

# Patient characteristics

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Strokes	159 total	124 Notes available	78% % of all strokes analysed
Age	35 youngest	103 oldest	72 Mean age
Sex	53% male	47% female	
Subtype	15% ICH	85% Infarct	

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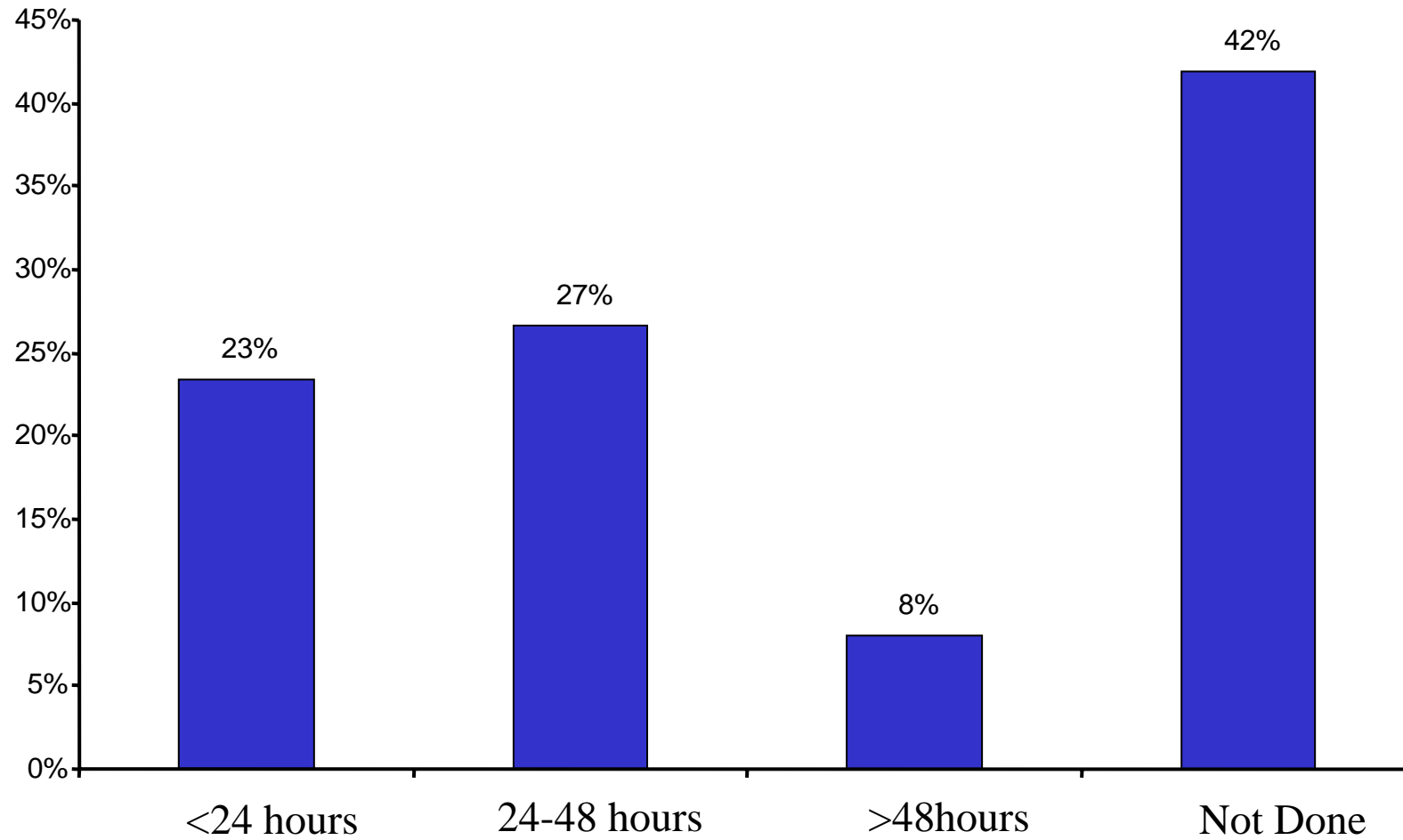
# Acute Medical Care

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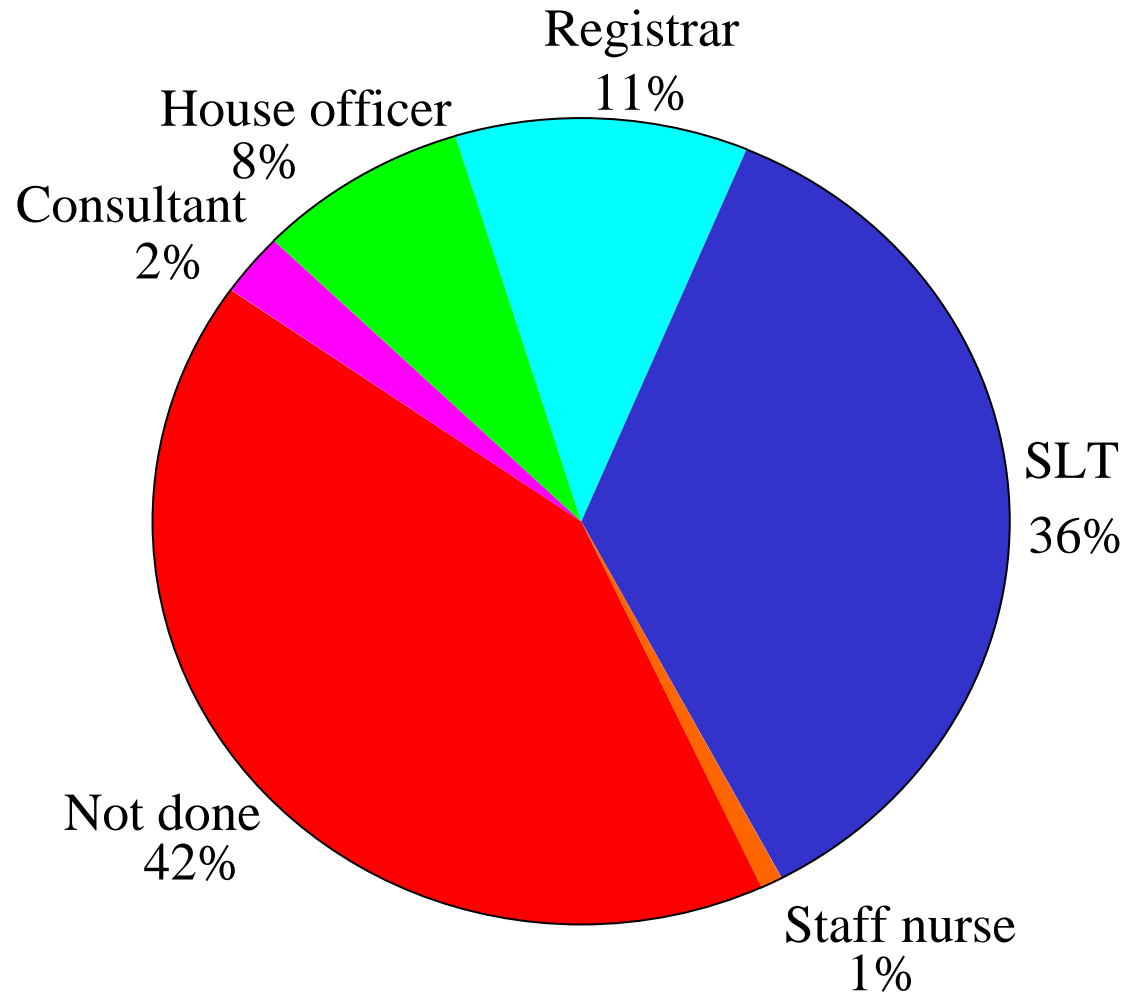
Time taken	Median	Range
First assessment	1.4 hrs	0 – 9.4 hrs
First aspirin	30 hrs	0 – 408 hrs

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# Time to Swallow Test



# First Swallow Test



# Mobilization

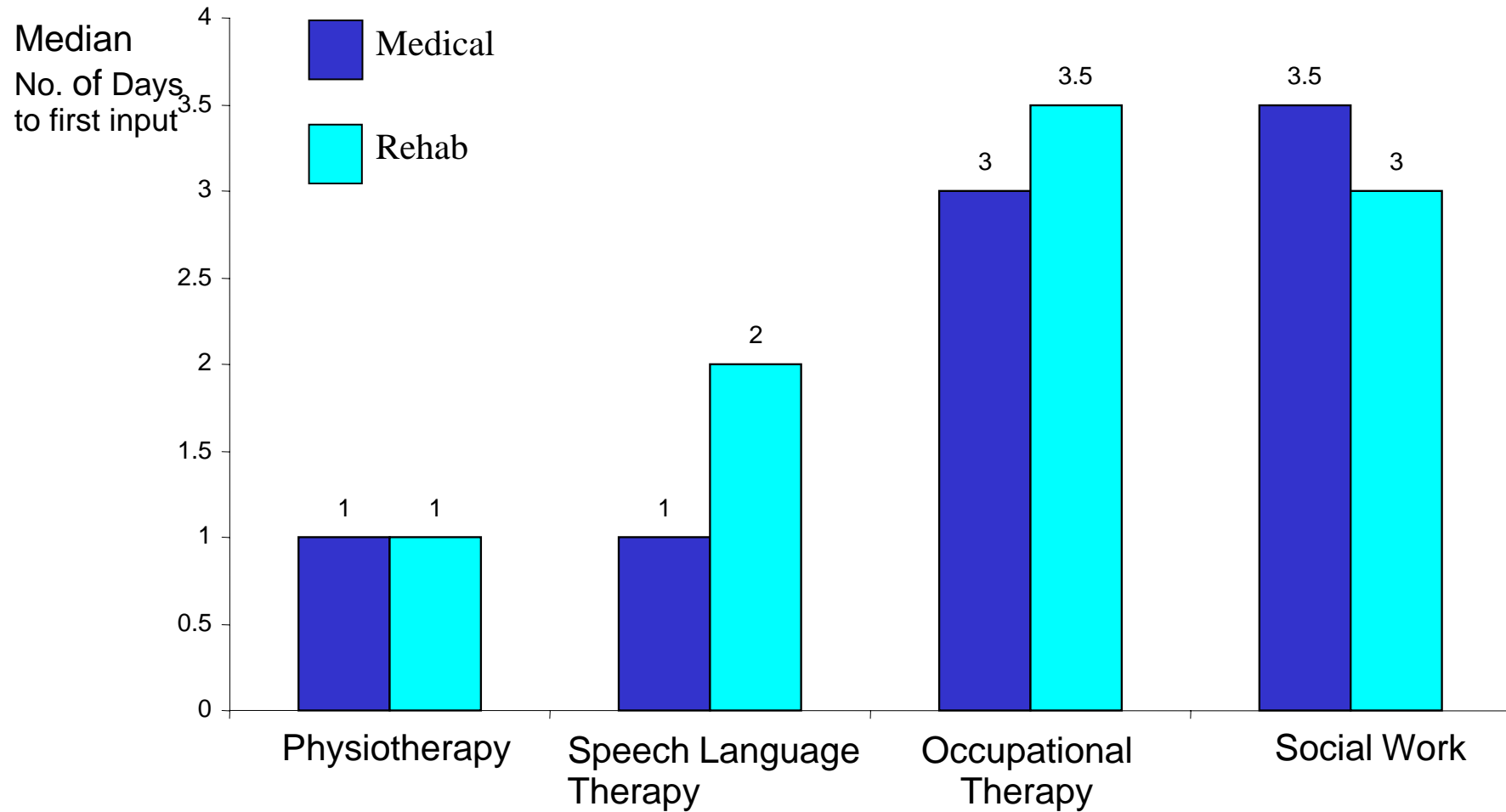
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Time to first mobilization	Mean
Hutt Hospital	2.3 days
Indredavik et al	0.33 days

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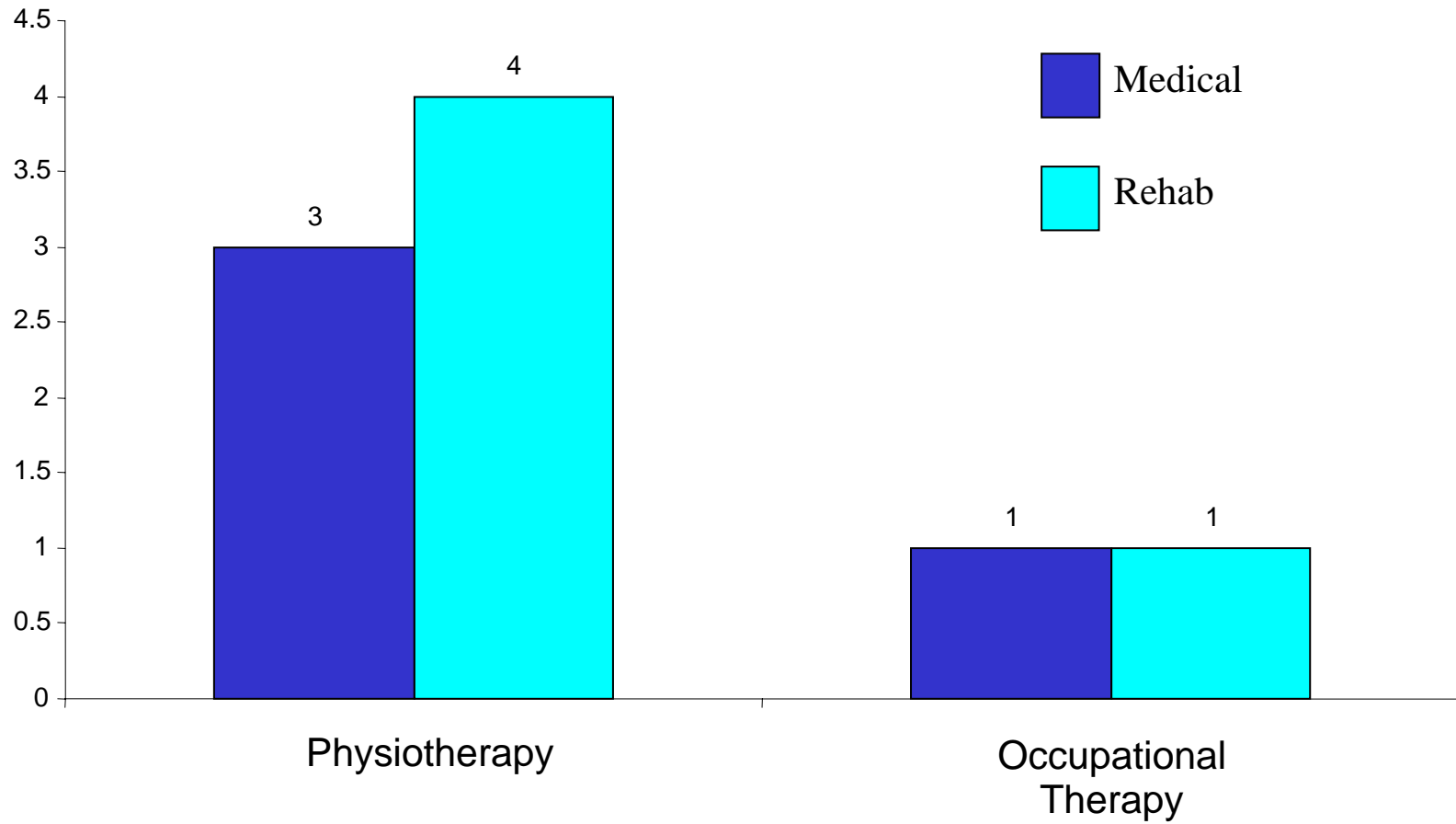
1. Indredavik B, et al. Treatment in a combined acute and rehabilitation stroke unit: which aspects are most important? Stroke 1999; 30:917-23.

# MDT – timeliness of input



# MDT –intensity of input

Median  
freq of  
input in  
the first  
7 days



# Nursing

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Preventive Measure	% of patients
TEDS	10%
Pressure risk assessment	23%

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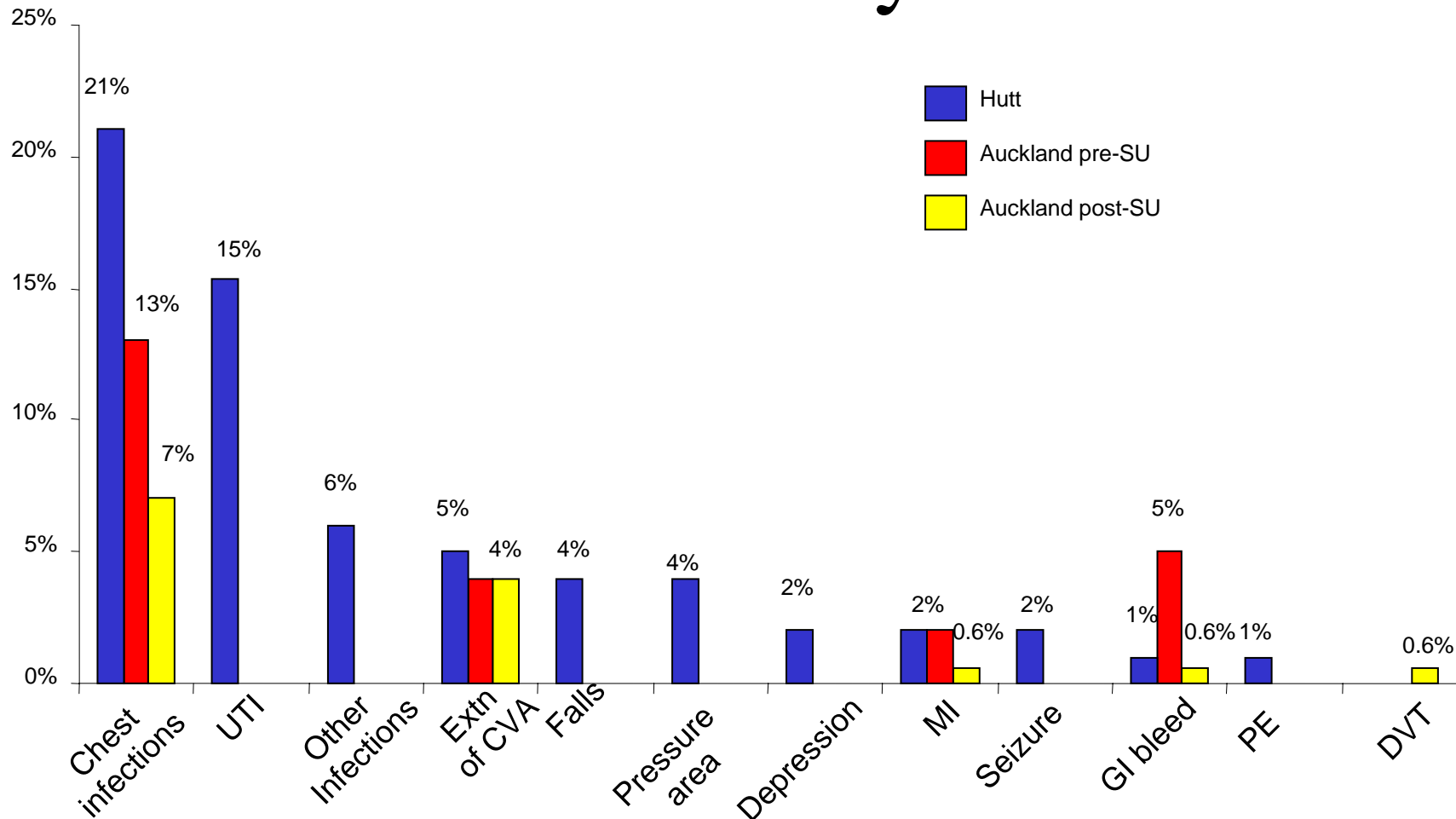
# Delays to rehab

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No. of days (median)	Range
<b>5</b>	<b>1-14</b>

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# Morbidity



# Mortality

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In-Hospital Mortality	Percentage
Hutt 2006	10.5%
Middlemore SU 2001-2002	11.4%
Auckland SU 2001	14%

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1. Maria Di Matteo et al. The acute stroke unit at Middlemore Hospital: an evaluation in its first year of operation. NZMJ; Vol 117 No 1190, March 12 2004.
2. Alan Barber et al. Changes in stroke care at Auckland Hospital between 1996 and 2001. NZMJ. Vol 117 No 1190; March 12 2004.

# Length of stay

<b>Hospital</b>	<b>Mean</b>	<b>Year</b>	<b>Stroke unit</b>
Hutt	19.8	2006	No
Christchurch	15.7	2004-5	Yes
Auckland	16	2001	Yes
Hawkes Bay	20.9	2003	No

1. Carl Hanger et al. Improving care to stroke patients: adding an acute stroke unit helps. NZMJ. Vol 120 No 1250; March 2 2007.
2. John Gommans et al. Guideline recommendations for management of patients admitted with acute stroke: implications of a local audit. NZMJ. Vol 118 No 1214; May 6 2005.

# Recommendations

- Target initial resources at the deficiencies identified locally
  - Swallow training for staff nurses and junior doctors (educational sessions with SLT, stroke specialist)
  - Earlier Aspirin (reduce time to swallow test)
  - Early Mobilization (nursing, physiotherapy & OT teamwork)
  - Better liaison between Acute and Rehab ward to reduce waiting time for rehab (?establish priority for stroke patients having access to rehab beds)

# Acute Stroke Unit at Hutt

- Current evidence and results from the stroke audit used in a business case for establishing a stroke unit at Hutt Hospital
- 4-6 bed geographically distinct Stroke Unit is starting this July
- Stroke Audit to be repeated 6 months after its establishment

*The end...*