

Measuring the Value of an In-reach Rehabilitation Program

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Health
Western Sydney
Local Health District

Presentation Overview

- Westmead Hospital In-reach Rehabilitation Program
- Why measure our value?
- Research Questions
- Patient Profile
- Outcomes
 - Length of Stay
 - Functional Independence
 - Discharge Destination
 - ED Presentations
- Conclusions and Project Next Steps

NSW Rehabilitation Model of Care



In-reach to
acute



Inpatient
Rehab Unit



Community

(Agency of Clinical Innovation, 2011)

Objectives:

- Optimise function of patients receiving acute medical care
- Reduce secondary complications
- Facilitate timely progression along appropriate rehab pathways
- Support safe and timely discharge home

Approach:

- Patient-focused goals and treatment plans
- Education and insight-building
- Multi-disciplinary
- Adapt to acute environment

Discipline	Staffing	Responsibilities
Physiotherapists	3 FTE	Daily/twice daily therapy (7 days)
Occupational Therapists	3 FTE	Daily therapy (5 days) Discharge planning
Therapy Assistants	2 FTE	Supporting PT and OT
Social Workers	1.4 FTE	Supportive Counselling Discharge planning
Rehab Nurse (CNS)	1 FTE	Program coordination Acute ward liaison Patient and carer education
Rehab Consultant	0.3 FTE	Shared care with medical team
Rehab Registrar	0.5 FTE	



What We Really Do



What Doctors think we do



What Nurses think we do



What Patients think we do



What Acute Therapists
think we do



What we think we do



What we really do

Purpose and Research Questions

Who do we see?

Building patient profiles



What are their outcomes?

Length of Stay, Function, Discharge, ED presentations



What influences outcomes?

Patient and admission characteristics

Data Collection



SYNAPTIX –
Grouped
Activity Reports



Local
Rehabilitation
Database

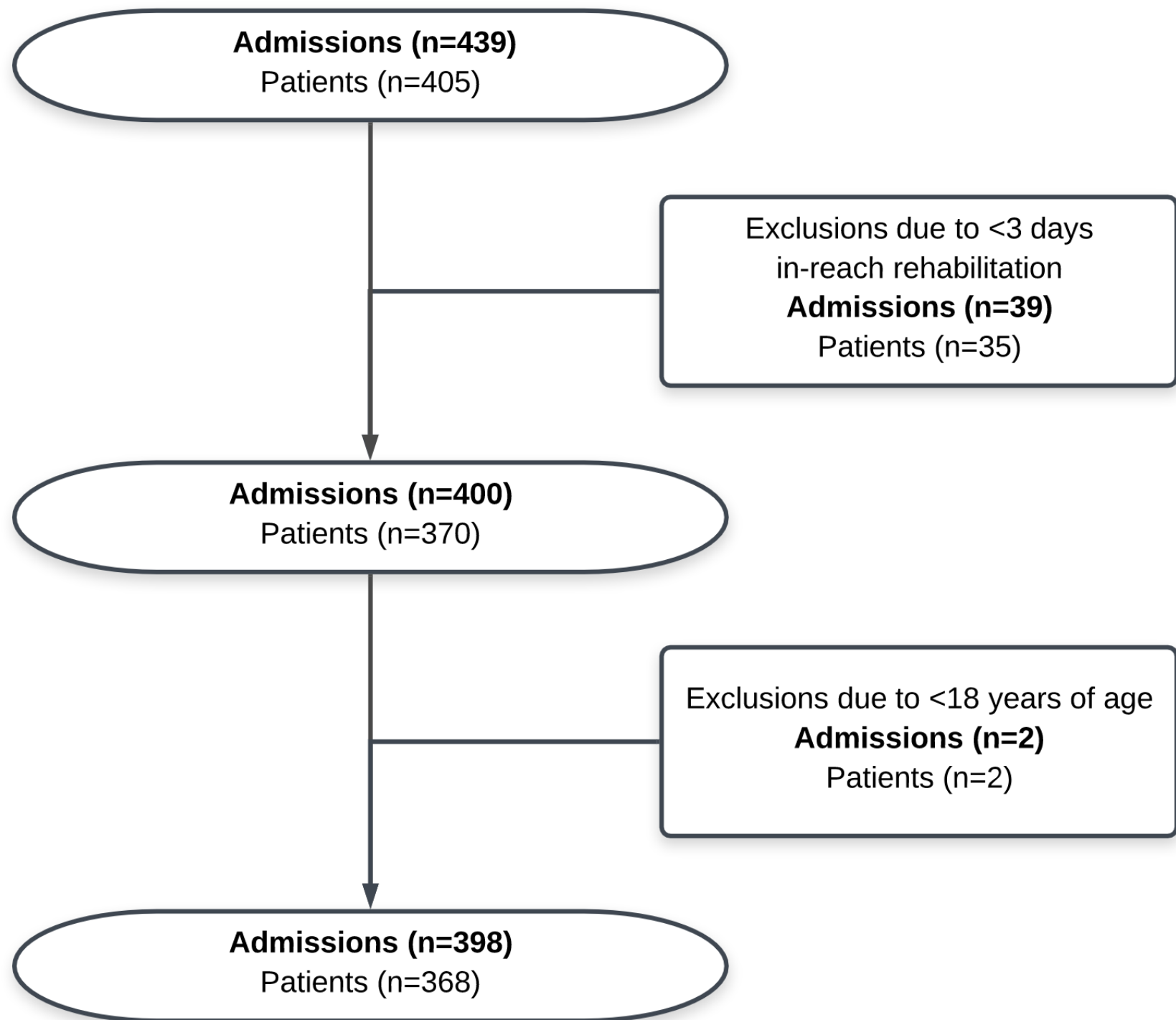


Health
Information
Exchange



EMR File Audit

Flow diagram of admissions to in-reach rehabilitation



Admission Profiles: 2017 and 2018 (n= 398)

Age

Average = 64 years

Sex

Male = 55%, Female = 45%

Country of Birth

51% from overseas

Language Spoken

22% require Health Interpreters

Independence Prior to Admission

55% = No Carer

87% = No Services

Reason for Rehab

Reconditioning = 55%

Neuro, Cardiac, Other = 45%

Comorbidities

2+ Comorbidities = 85%

Mortality

17% have died since discharge from in-reach

Length of Stay

LOS Variable	Range	Mean	Median	SD
Days in hospital prior to in-reach rehab	1 – 216	26.1	17.0	26.3
In-reach rehab LOS	3 – 63	12.4	9.0	9.5

Functional Independence Measure (FIM)

Standardised rehabilitation outcome measure

Comprises 18 items e.g. eating, showering, walking, memory

Higher score = Greater independence

Table of FIM 7-point Scale

Score	Score Description
1	Total assistance with helper
2	Maximal assistance with helper
3	Moderate assistance with helper
4	Minimal assistance with helper
5	Supervision or setup with helper
6	Modified independence with no helper
7	Complete independence with no helper

FIM Change:

Discharge FIM minus Admission FIM

FIM Efficiency:

FIM change ÷ rehab length of stay

Functional Independence Measure (FIM) Averages:

In-reach
Rehab LOS
12.4 ± 9.5
days

FIM change
18.8 point ↑
± 15.3

FIM
Efficiency
2.1 ± 2.4

Age	FIM Efficiency (per day)
18-24	1.1 ± 0.6
25-29	1.3 ± 0.6
30-34	1.6 ± 2.5
35-39	1.5 ± 1.2
40-44	1.8 ± 1.4
45-49	1.3 ± 1.6
50-54	1.3 ± 2.4
55-59	2.1 ± 1.8
60-64	2.3 ± 2.2
65-69	1.9 ± 1.8
70-74	2.1 ± 2.2
75-79	2.6 ± 3.0
80-84	3.2 ± 3.6
85+	2.3 ± 2.1

Comparison with National Data

Admission and Outcome Data	Westmead In-reach Rehab (mean)	*National (mean)
Days in hospital prior to rehab	26.1	12
Rehab LOS	12.4	17
Admission FIM	66.5	88
Discharge FIM	85	107.5
FIM Change	18.8	19

*Australasian Rehabilitation Outcomes Centre (AROC). All Impairments Reports 2017 and 2018.
In-reach and Sub-acute rehabilitation data collected from all participating Australian private and public hospitals.

Discharge Destinations (n=398)



Acute
27%



Inpatient
Rehab
28%



Home
42%

Other
3%

File Audit: Emergency Presentations

(n=25 of 165)

Reason for ED Presentation	Number
Acopia	1
Fall	2
Medical Deterioration	22
TOTAL	25

File Audit: Emergency Presentations

(n=25 of 165)

Outcome of ED Presentation	Number
Admitted and died during admission	2
Overnight stay	4
Home (same day)	8
Admitted	11
TOTAL	25

Acopia



Fall

Conclusions

Who do we see?

- We provide rehab to a highly complex and diverse patient group

What are their outcomes?

- Almost half of our patients return directly home
- LOS and FIM change at or above National rehab averages

What influences outcomes?

- Patient: Age, diagnosis
- Admission: Time in hospital prior to in-reach rehab, communication with carers and acute teams

Project Next Steps

- Linear and Logistic Regression Analysis
- Further medical records audits
 - Groups with higher FIM efficiencies (e.g. 80-84 year olds)
 - Groups with lower FIM efficiencies (e.g. haematology patients)
- MDT Quality Improvement Plan
- Cost-Effectiveness Analysis

Project Team

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Research and Education Network