CHI Learning & Development System (CHILD)



Project Title

Improving Out of Bed Daily Activities for Spinal Cord Injured Patients at Tan Tock Seng Hospital Rehabilitation Centre

Project Lead and Members

Project lead:

- Ms Chloe Lin Na-Ling
- Ms Ong Chui Ni

Project members:

- Dr Lui Wen Li
- Ms Padigos Honeylet
- Ms Portillo Liberty Conde
- Ms Cheryl Chan

Organisation(s) Involved

Tan Tock Seng Hospital (TTSH)

Healthcare Family Group(s) Involved in this Project

Allied Health

Applicable Specialty or Discipline

Neurology, Rehabilitation Therapy

Project Period

Start date: July 2019

Completed date: December 2019

Aims

To increase the percentage of spinal cord injured patients to achieve a 30-minute leisure activities out of bed daily at Rehab in 6 months from median 25% to 70%.

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Background

See poster appended/below

Methods

See poster appended/below

Results

See poster appended/below

Lessons Learnt

- 1. It's important to listen ground challenges and to implement solutions that facilitate work processes
- 2. Multi-disciplinary collaborative approach to look at problems from different perspectives
- 3. To rely on system level changes rather than people driven changes

Conclusion

See poster appended/ below

Additional Information

NHG Quality Improvement Awards 2021 (Developing A Flexible & Sustainable Workforce Category) - Best Award

Project Category

Care & Process Redesign, Quality Improvement, Clinical Practice Improvement, Value Based Care, Length of Stay

Care Continuum, Rehabilitative Care

Keywords

Clinical Practice Improvement (CPI) Program, Sustainability, Quality, Safety, Out of Bed Activities, Spinal Cord Injured Patients, Rehab, Rehabilitation Therapy



CHI Learning & Development System (CHILD)

Name and Email of Project Contact Person(s)

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Improving Daily Out of Bed Activities for Spinal Cord Injured Patients at Ang Mo Kio Rehab



Ms Chloe Lin Na-Ling & Ms Ong Chui Ni Rehab at Ang Mo Kio (AMK)

Adding years of healthy life

Mission Statement

To increase the percentage of *spinal cord injured patients to achieve daily 30-minute out of bed #leisure activities at Rehab in 6 months from median 25% to 70%.

*Spinal Cord Injured Patient: Patient who requires more than min assist (A1) for transfer to chair/wheelchair, including used of equipment (transfer board/hoist/sara steady)
Inclusion criterion: Medically stable, able to sit out for 30 minutes without postural hypotension issue.

Exclusion criterion: Medically unstable, presence of pressure sores.

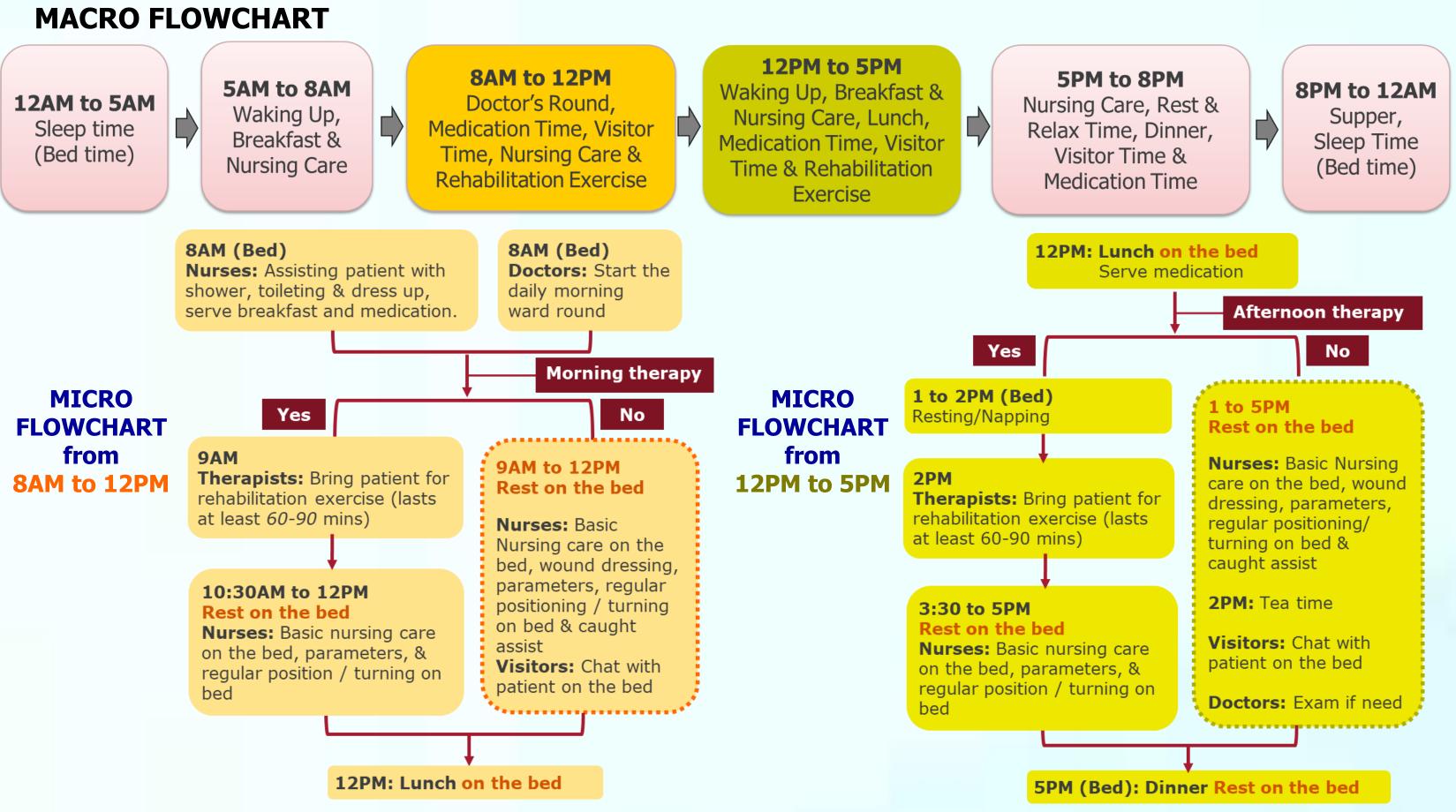
#Leisure Activities: Any physical/leisure activities out of therapy time (eg. watch TV, reading book, having meals out of bed)

Team Members								
	Name	Designation	Department					
Team Leaders	Ms Ong Chui Ni	Senior Physiotherapist						
	Ms Chloe Lin Na-ling	Senior Occupational Therapist						
Team Members	Dr Lui Wen Li	Associate Consultant	Rehab					
	Ms Padigos Honeylet	Staff Nurse	@ AMK					
	Ms Portillo Liberty Conde	Staff Nurse						
	Ms Cheryl Chan	Therapy Assistant						
Sponsors	Ms Sharon Sew Woan Yee							
Mentors	Ms Senifah Bte Radi & Ms							

Evidence for a Problem Worth Solving

- 1. Persons with spinal cord injury (SCI) are, more than the able-bodied population, at risk of developing a hypoactive lifestyle, with possible detrimental effects on physical fitness, social participation, and quality of life.
- 2. A hypoactive lifestyle can increase the risk of developing secondary health problems later in life, such as cardiovascular disease and diabetes.
 - Cardiovascular disease is one of the major causes of morbidity and mortality in persons with SCI. (Manns PJ, 1999; Noreau L, 1993)
- 3. Physical activity is low in the inpatient SCI rehabilitation setting outside of structured therapy (Dominik Zbogar, 2016)
- 4. A person with SCI participates in some form of LPTA (LTPA; defined as any physical activity that people choose to do during their spare time) for an average of about an hour per day (median ~ 30 minutes). (Spinal Cord Injury Research Evidence)

Flow Chart of Process



Cause and Effect Diagram has planned workload Wrong perception to ward to help from team LACK OF MAN POWER No formalize/SOP (AM break) **FAMILY DO NOT** No continuous training Risk of injury for 2 men transfer (Nurses) FIT FOR SITTING No CGT UNSURE OF PT's SCHEDULE Not main care waiting helper TRANSER PATIENT to refer to No time to learn Heavy lifting/strength demand **FAMILY DO NOT** WHY DID NO Require 2-3 person SIT OUT OF **BED FOR** C-class 8 beds 30 MINS FOR Did not want to trouble staff Medical **LEISURE ACTIVITY** Anxious no one to help patien LACK OF MOTIVATION Budget Limited by physical state Space crowded REFUSE (Visitors/ Volunteer NO SUITABLE Fatigue/unwell NO EQUIPMENT talk at ward TO USE WARD AFTER PREFERS TO sit >30 min ed to attend pation SITTING OUT **BE IN BED** NO TIME **FOR LEISURE** poor task endurance cord injury patient at Return after use Occupied by ward is ad-hoc Fatigue After medical appt

PATIENTS

PROCESS

to designed area

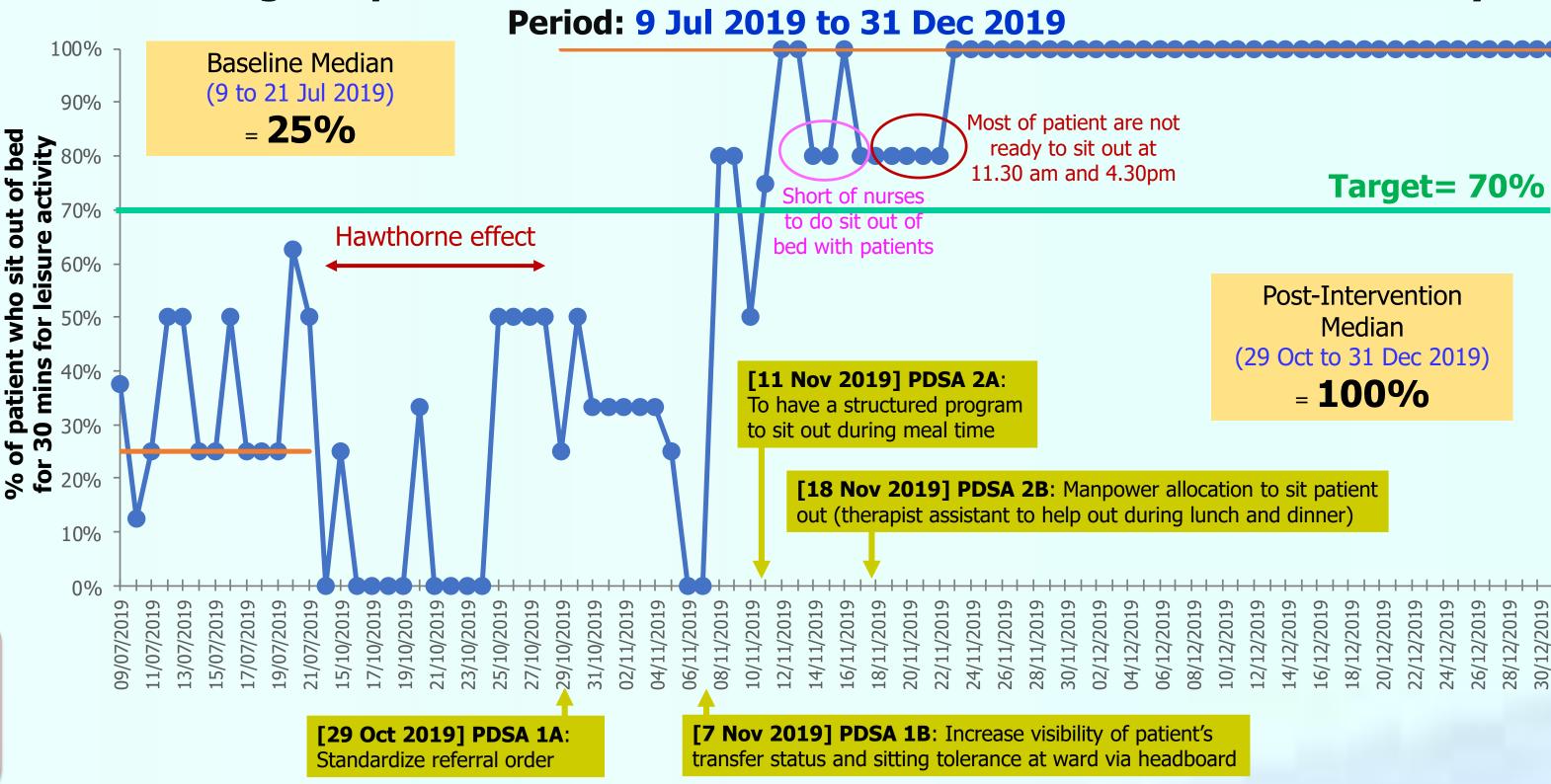
EQUIPMENT

Pareto Chart Causes why patients did not sit out of bed **Cause** The program for spinal cord injury for 30mins for leisure activity patient at ward is ad-hoc **Cause** Patient timetable is individualized and variable day to day **Cause** Referral for sit out bed program is ad-Number 4 **Cause** Nursing schedule for sit out program is 40 💆 individualize and variable day to day Cause Therapist assistants' duties depend on therapists' orders **Cause** Limited social support system (Visitors/ Volunteers)

Implementation							
Root Cause	Intervention	Implementation Date					
Cause C: Referral for sit out bed program is ad-hoc	PDSA 1A: Standardization of order referral - improving communication between different professionals	29 Oct 2019					
(Nurse unsure if patient is fit to sit out of bed)	PDSA 1B: To increase visibility of patient's transfer status and sitting tolerance at ward	7 Nov 2019					
Cause A: The program for spinal	PDSA 2A: To have a structured program to sit out during meal time	11 Nov 2019					
cord injury patient at ward is ad-hoc	PDSA 2B: Manpower allocation to sit patient out (therapist assistant to help out during lunch and dinner)	18 Nov 2019					

Results

Percentage of patient who sit out of bed for 30 mins for leisure activity



	[29 Oct 2019] PDSA 1A: Standardize referral order					[7 Nov 2019] PDSA 1B: Increase visibility of patient's transfer status and sitting tolerance at ward via headboard							
Month	Jul 19 Week 1	Jul 19 Week 2	Oct 19 Week 1	Oct 19 Week 2	Oct 19 Week 3	Nov 19 Week 1	Nov 19 Week 2	Nov 19 Week 3	Nov 19 Week 4	Dec 19 Week 1	Dec 19 Week 2	Dec 19 Week 3	Dec 19 Week 4
No. of patient sitting out	16	21	2	3	8	12	29	30	11	30	19	21	21
No. of eligible patient	48	56	23	14	22	25	33	35	11	30	19	21	21

Cost Savings Pre-Intervention Post-Intervention Average length of rehab stay (Per Patient) 73 days 69 days 69-73 Average length of rehab stay saved (Per Patient) **= -4 days** 73 x 334 69 x 334 Cost of inpatient stay (Per Patient) = \$24,382 = \$23,046 \$23,046 - \$24,382 **Cost Savings (Per Patient) = -\$1,336** Assume No. of Patients under Rehab Spinal Cord Injury CPIP in 1 year = 17 -4 days x 17 Total length of Rehab stay saved (Annualized) = - 68 days -\$1,336 x 17 **Cost Savings (Annualized)**

Lessons Learnt

= - \$22,712

- 1. It's important to listen ground challenges and to implement solutions that facilitate work processes
- 2. Multidisciplinary collaborative approach will enable to look at problems from different perspectives
- 3. To rely on system level changes rather than people driven changes

Strategies to Sustain

- 1. Involve all stakeholders and taking a collaborative approach e.g. Sit out by therapist and return to bed by nurses (creating a work process)
- 2. Engaging patient/family member is one of the most important driver for a successful program
- 3. To prompt a sit out of bed culture for patients