Project Title

Improving Chronic Pain Patients' Self-Efficacy in Pain Management and Reducing Emergency Department Visits

Project Lead and Members

- **Team Leaders:** Dr Elizabeth Tan Sein Jieh, SSN Rachel Lee Min Qi
- **Team members:** Dr Jane Mary George, SSN Shirley Rosales Catimbang @ Sharifah Abdullah Catimbang, PEN Sew Choy Ngor, Ms Grace Li Yuanting
- **Sponsor:** Dr Diana Chan Xin Hui
- **Project Coaches:** Dr Khee Giat Yeng & Mr William Yap

Organisation(s) Involved

Singapore General Hospital

Healthcare Family Group(s) Involved in this Project

Medical

Applicable Specialty or Discipline

Pain Management

Aim(s)

- To improve self-efficacy in pain management in high needs chronic pain patients, thereby reducing the frequency of emergency department visits and hospital admissions due to poorly controlled pain.

Background

See poster appended/ below

Methods

See poster appended/ below

Results

See poster appended/ below

Conclusion

See poster appended/ below

Additional Information

Singapore Healthcare Management (SHM) Congress 2022 – 2nd Prize (Patient Experience category)

Project Category

Care & Process Redesign

Quality Improvement, Clinical Practice Improvement

Keywords

Pain Management, Chronic Pain, Self-Efficacy

Name and Email of Project Contact Person(s)

Name: Dr Elizabeth Tan Sein Jieh

Email: singaporehealthcaremanagement@singhealth.com.sg

Improving chronic pain patients' self-efficacy in pain management and reducing emergency department visits

Singapore Healthcare Management 2022

Team Leaders: Dr Elizabeth Tan Sein Jieh, SSN Rachel Lee Min Qi
Team members: Dr Jane Mary George, SSN Shirley Rosales Catimbang @ Sharifah Abdullah Catimbang, PEN Sew Choy Ngor, Ms Grace Li Yuanting
Sponsor: Dr Diana Chan Xin Hui
Project coaches: Dr Khee Giat Yeng & Mr William Yap

Singapore General Hospital
SingHealth

1. BACKGROUND

Patients with chronic pain and mobility impairment tend to have multiple healthcare visits for pain, resulting in poor satisfaction.

This is a continuation from the Community Pain Service in SingHealth (COMPASS) project "Collaborative Community Virtual Pain Clinic for mobility impaired to enhance access to care and quality of pain management for improved outcomes & reduced admissions" done in 2019.

Concerns of patients engaged in 2019:

a. *Chronic pain led to **mobility & transport difficulties** in accessing treatment.*
b. ***More time** and **clearer communication** in familiar language regarding their health issues.*
c. *A **contact point** outside of the Emergency Department but within SingHealth to address their pain.*
d. *Pain and impaired mobility led to fear of **financial constraints and social isolation**.*

Aim of this project:

To **improve self-efficacy in pain management** in high needs chronic pain patients, thereby **reducing the frequency of emergency department visits and hospital admissions due to poorly controlled pain.**

2. METHODOLOGY & PROPOSED SOLUTION

1. A **nurse-led telephonic support** was initiated and calls identified issues with pain control and medications.
2. **27 high needs chronic pain patients** were identified and followed up 1 to 3-monthly for 6 months.
3. Data collected before (on the 1st call) and after the intervention (6 months later):
   (i) Patients' pain control, (ii) Patient's adherence to medication regime, (iii) Adequacy of medication stock, (iv) Number of visits to hospitals or clinics due to pain, and (v) Patient satisfaction.

3. ACTIONS TAKEN

Summary of actions taken to address problems identified via follow-up phone calls

1. **Patient empowerment & self-efficacy:** To educate on correct medication usage and safe limits
2. **Adjust medication dosage**: To address adverse drug effects identified
3. **Arrange for home delivery of medication**
4. **Reschedule appointments:** Based on patient's pain control and medication side effects
5. **Liaise with Community Nurses (CMN):** Advice given on pain medication changes / titration
6. **Referral to community / hospital support services:** E.g. transport, home-based care

4. OUTCOMES

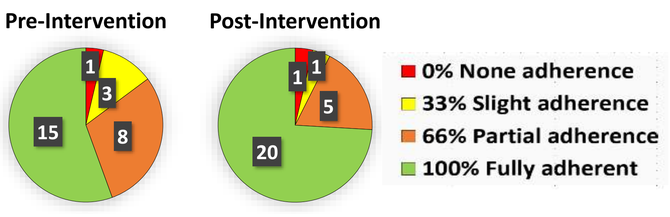
PATIENT REPORTED OUTCOME MEASURES (PROM)

High Needs Patients' Profile

1. **Age**: Median (IQR) - **77 (71 to 86)**.
2. **No. of comorbidities**: Median (IQR) - **4 (3 to 6)**.
3. **Patients with mobility impairment**: **100%**
4. **Patients prescribed opioids: 66.6%**.

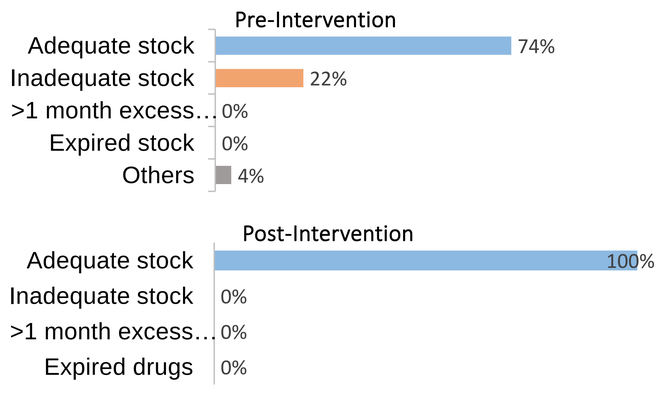
GOAL: Patient's self-efficacy in pain management

1. Modified Medtake Score



33.3% more patients had **perfect Modified Medtake Score** by the 6th month call.

2. Medication Stock Taking



- **Adequate stock** of medications **without overstocking** was ensured
- **Inadequate stock** was addressed through timely **home delivery**
- **By the 6th month**, satisfactory management through **nurse calls led to postponement of Dr's appointments** with top up of shortfall in medication through home delivery.

Significance: **High risk patients** have many medications, thus face **difficulty managing stock**. This exercise helps to allow **timely medication delivery** and **reduce overstocking**.

3. Brief Pain Inventory (BPI) and Pain Catastrophising Score (PCS)

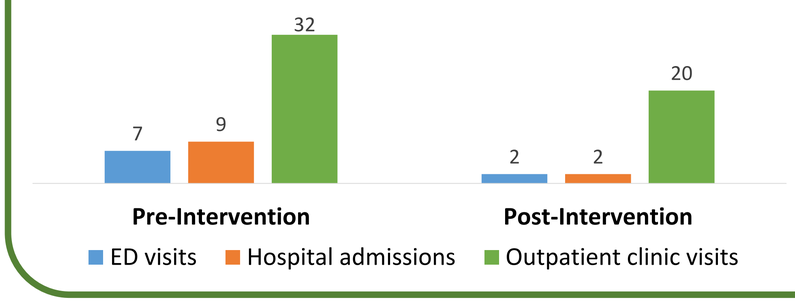
	Pre-intervention: Median (IQR)	Post-intervention: Median (IQR)
Least Pain Score	5 (2 to 6)	4.5 (3 to 6)
Worst Pain Score	7 (5.5 to 8)	7 (6 to 8)
Pain Interference Score	5.6 (3.9 to 6.9)	5.3 (3.6 to 6.1)
PCS	25 (2.5 to 38)	15 (5.5 to 31.5)

Significance:
- No significant difference in pain-related outcomes → **No deterioration in pain** that risked increase in Emergency Department visits and hospital admissions.

PATIENT REPORTED OUTCOME MEASURES (PROM)

GOAL: Reduction in emergency department visits related to pain

4. Number of emergency department (ED) visits, hospital admissions and non-PMC outpatient clinic visits related to pain



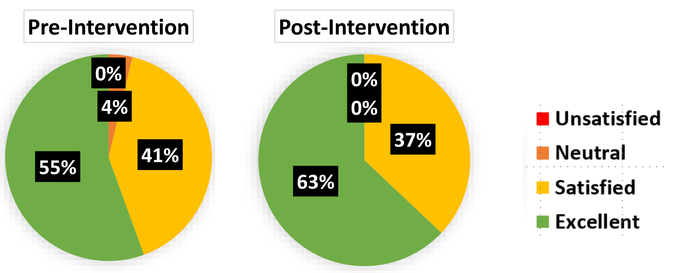
Overall **reduction in number** of ad hoc ED visits, hospital admissions and outpatient clinic visits in the 6 months after initiation of the project.

PATIENT REPORTED EXPERIENCE MEASURES (PREM)

1. Timeliness of intervention

- Median time between clinic appointments: **6 months**
- Median time from clinic appointment to first phone call: **1 month**
- Interval between nurse follow-up calls: **2 weeks to 3 months**
- **Significance:** More timely contact between doctor's appointments allows early intervention for high needs patients.

2. Patient Satisfaction



By the final call, **100% patient satisfaction** achieved with increased percentage of highly satisfied patients.

3. Percentage of patients who will recommend SGH PMC to others: 100%

4. Percentage of patients who will want to continue care in SGH PMC: 100%

Patient anecdotes on experience with Pilot ESTHER Project

Patient 1: Mr B, 55yr old

- **Condition:** Long-standing back pain and leg weakness. Multiple comorbidities and confusion with appointments or medications, leading to multiple ED visits for pain control.
- **Actions:** Referrals made for CMN visits, occupational therapist for home modifications and acupuncture appointments.
- **Feedback:** Patient is empowered and more confident in self-management of pain medications.

"Nobody cares about me, I have lost my job due to pain and feeling lonely because I don't have family. Thank you nurse for your help and lending me your listening ear."

Patient 2: Mdm C, 77yr old

- **Condition:** Lumbar spinal stenosis with uncontrolled pain. She had stopped taking her pain medications as she experienced no immediate effect. This led to frequent visits to clinic.
- **Actions:** Explained to patient the need to take her anti-neuropathic medications regularly as these medications need time to take effect.
- **Feedback:** Patient verbalised that her pain had improved and she is confident enough to manage her pain medications. Ad-hoc outpatient appointments have also reduced in frequency.

"I am very thankful for your service. This is my first time receiving so much care from the hospital. Your patience and follow up calls made an impact in my life. If you did not call and educate me, I would have thought my life is hopeless living with pain. I am very happy, thank you!"

SUMMARY OF FINDINGS

- The nurse-led telephonic initiative supported the **high-risk cohort** with persistent chronic pain.
- Close support with **patient education** and **empowerment** improved self-efficacy, medication adherence and management, pain control and patient satisfaction.
- Pain control remained stable resulting in **reductions in ED visits and hospital admissions**.

5. FUTURE PLANS

Our goal is to implement this service in our **COMPASS programme** with the following plans:

1. **Train care coordinator** for follow-up phone calls and care coordination. Nurses will provide supervision and management of medication issues.
2. **Identify elderly hospitalised patients** referred for uncontrolled pain – For post-discharge telephonic follow-up to reduce risk of re-admissions for pain.
3. **Collaboration with Community Nursing teams** – Training talks, set up communication portals.
4. **Pharmacy collaboration** – Video consultations with at risk patients to improve adherence and reduce medication-related complications and monitor opioid use.