Project Title

Early Intervention for Post-Discharge Patients with Acute Myocardial Infarction (AMI)

Project Lead and Members

- Teo Yi Liang
- Yow Pei Jing Clara
- Tan Jian Jing
- Liew Boon Wah
- Cao Yan
- Dawn Loh Hui Fen
- Foong Mei Mei
- Evelyn Tan Wei Yu
- Huang Yanhong
- Nur Adawiyah Binte Yusoff
- Christina Xiong Xuefei

Organisation(s) Involved

Changi General Hospital

Healthcare Family Group Involved in this Project

Medical

Applicable Specialty or Discipline

Cardiology

Project Period

Start date: September 2020

Completed date: July 2023

Aims

Improve 30 day readmission rates for AMI patients from **17.1% to 12.0%** by implementing early patient reviews (within 14 days post discharge). The team also aims to increase awareness and enrolment opportunities for CRP.

Background

See poster appended/ below

Methods

See poster appended/ below

Results

See poster appended/ below

Lessons Learnt

See poster appended/ below

Conclusion

See poster appended/ below

Additional Information

Accorded the MOH National Quality Improvement Conference 2023 (Outstanding Poster Award)

Project Category

Care & Process Redesign

Value Based Care, Utilisation

Keywords

Acute Myocardial Infarction; Post-discharge; Early intervention

Curated by CHI Faculty: Dr Ivan Woo, Principal Medical Social Worker, TTSH

Name and Email of Project Contact Person(s)

Name: Mr Yi Liang Teo

Email: yi_liang_teo@cgh.com.sg

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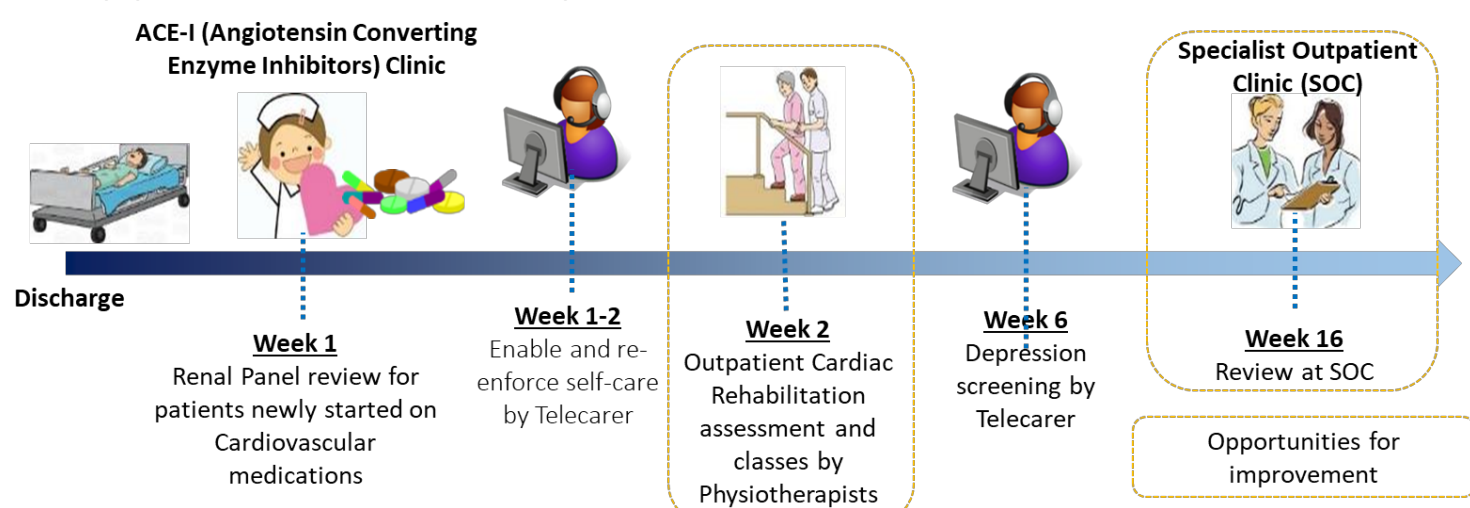
yi_liang_teo@cgh.com.sg

Changi General Hospital
SingHealth

Problem Statement

Timeliness and uptake of health services are crucial drivers for AMI patient outcomes. Outpatient cardiac rehabilitation programme (CRP) is integral to AMI recovery and prevention, but CRP enrolment rates have remained suboptimal at 27.3%. Long lead time to Specialist Outpatient Clinic (SOC) review meant increased probability of unplanned readmissions before the first SOC appointment.
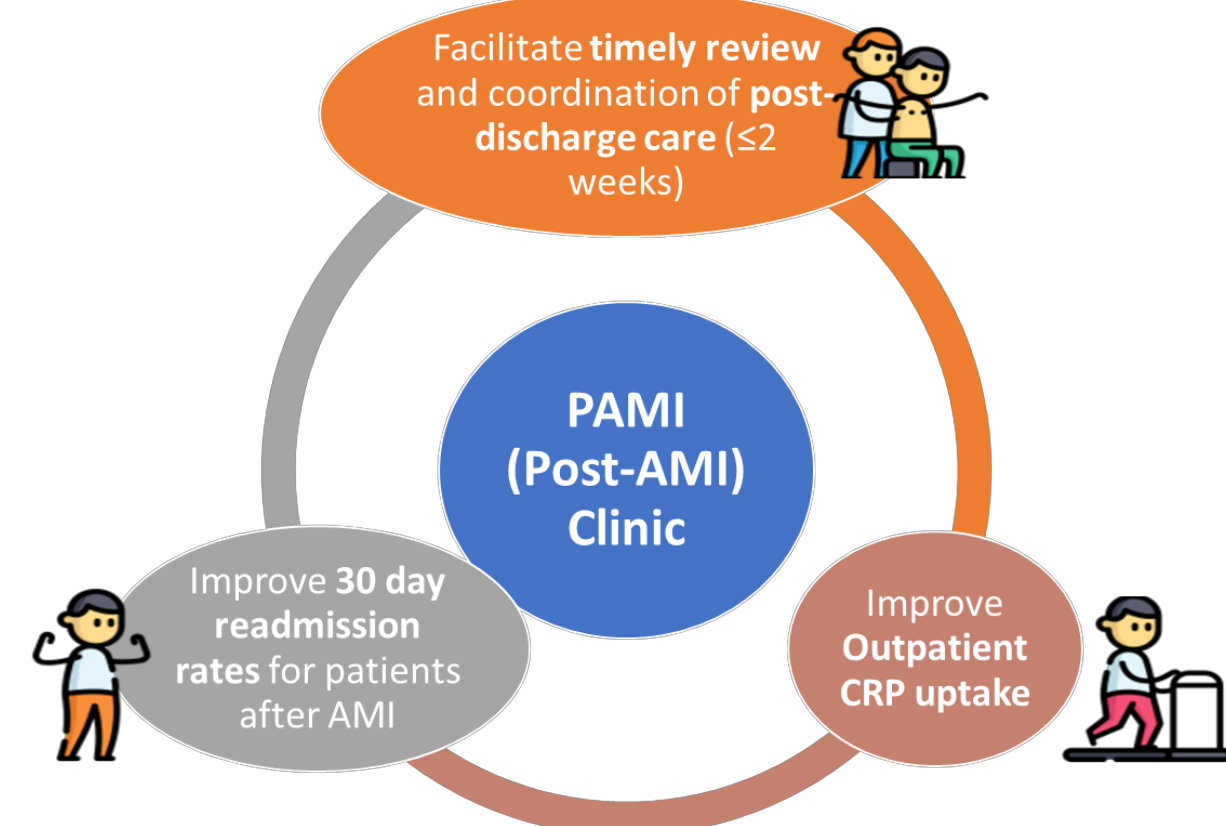

Figure 1: Current management of AMI patients upon discharge and opportunities for improvement

Project Aim

Improve 30 day readmission rates for AMI patients from **17.1% to 12.0%** by implementing early patient reviews (within 14 days post-discharge). The team also aims to increase awareness and enrolment opportunities for CRP.

Lessons Learnt

Figure 5: PAMI Lead Time (Weeks)

Through multiple PDSA cycles, the team identified that current number of clinic slots resulted in more than 14 days lead time. Having a long lead time would reduce the session's effectiveness. The team successfully implemented interventions highlighted in **Figure 5** to reduce PAMI lead time to maintain its effectiveness.

The team learnt that it is important to identify root causes contributing to long lead time. Hence, crafting targeted interventions are needed to effectively reduce lead time of our PAMI sessions.
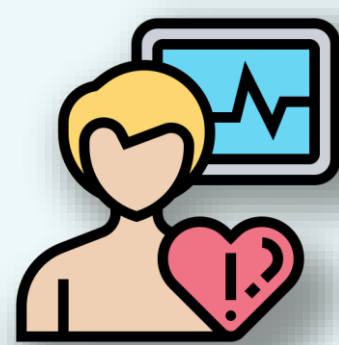
Potential Solutions

- Schedule patients for earlier reviews within 2 weeks of discharge

  o Physical review and examination
  o Optimisation of medicine
  o Encourage outpatient CRP enrolment + prescription of home exercise + Same day CRP assessment
  o Educate patient on post AMI self management

- Increase awareness & enrolment opportunities for CRP

Figure 2: Post AMI Clinic Solution Diagram

Outcomes & Impacts

Figure 3: 30 day returns of AMI patients from Sep 2020 - Jul 2023
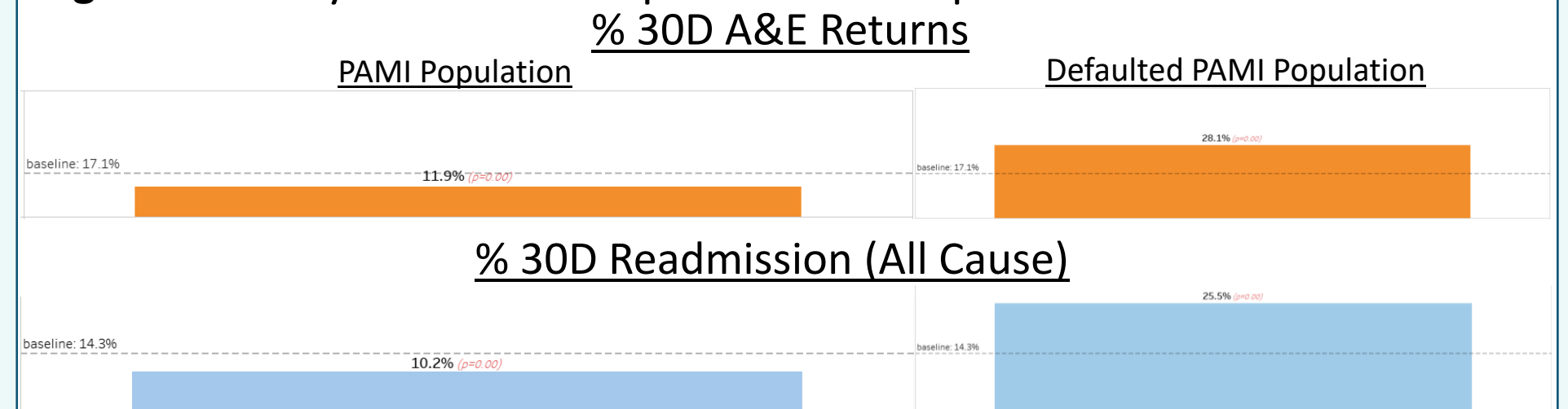
The group that attended PAMI clinic showed significant improvement in 30-day A&E return rates (11.9%, p=0.00*) and 30-day all-cause readmissions (10.2%, p=0.00*) when compared to baseline rates of 17.1% and 14.3% respectively. The defaulted group had poorer outcomes than baseline rates (Figure 3).
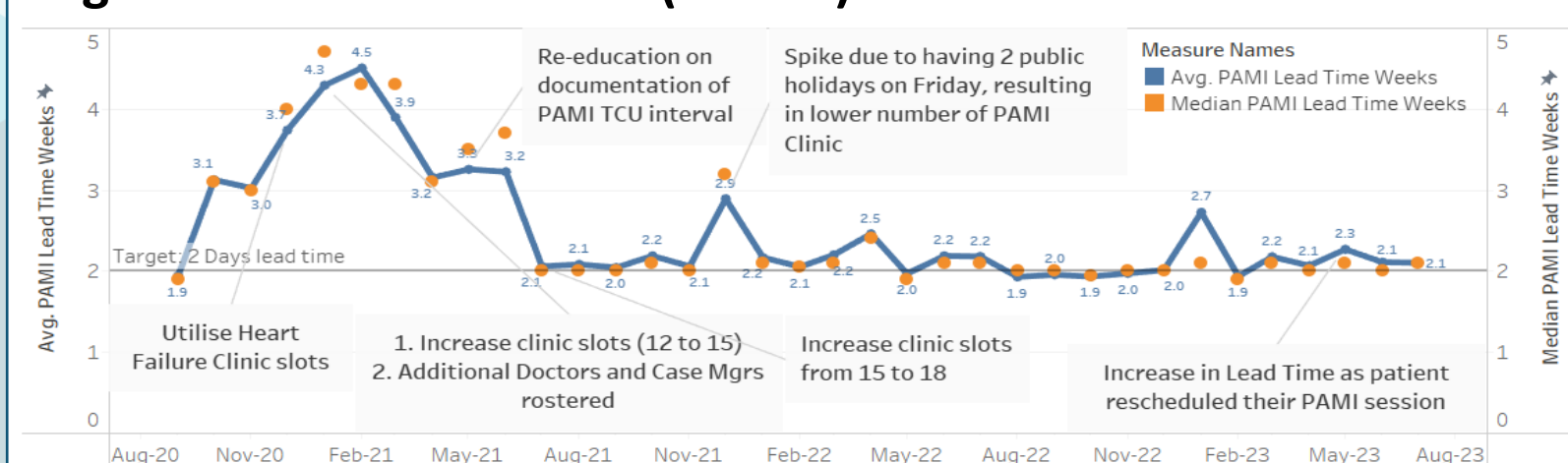

Figure 4: Outpatient CRP rates from Sep 2020 - May 2023
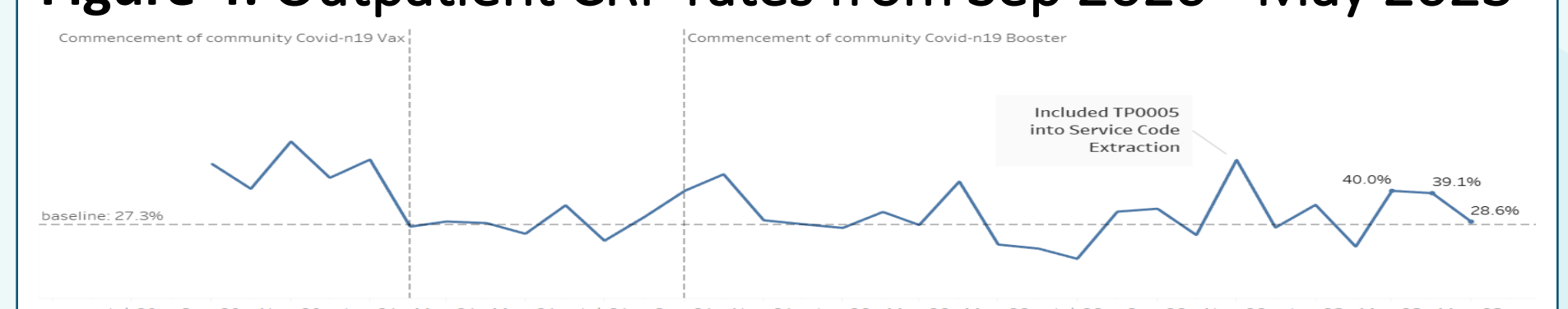
The team is also able to ensure a consistently higher than baseline rates for outpatient CRP enrolment (Figure 4) for AMI patients with an estimated increase of 5%