



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



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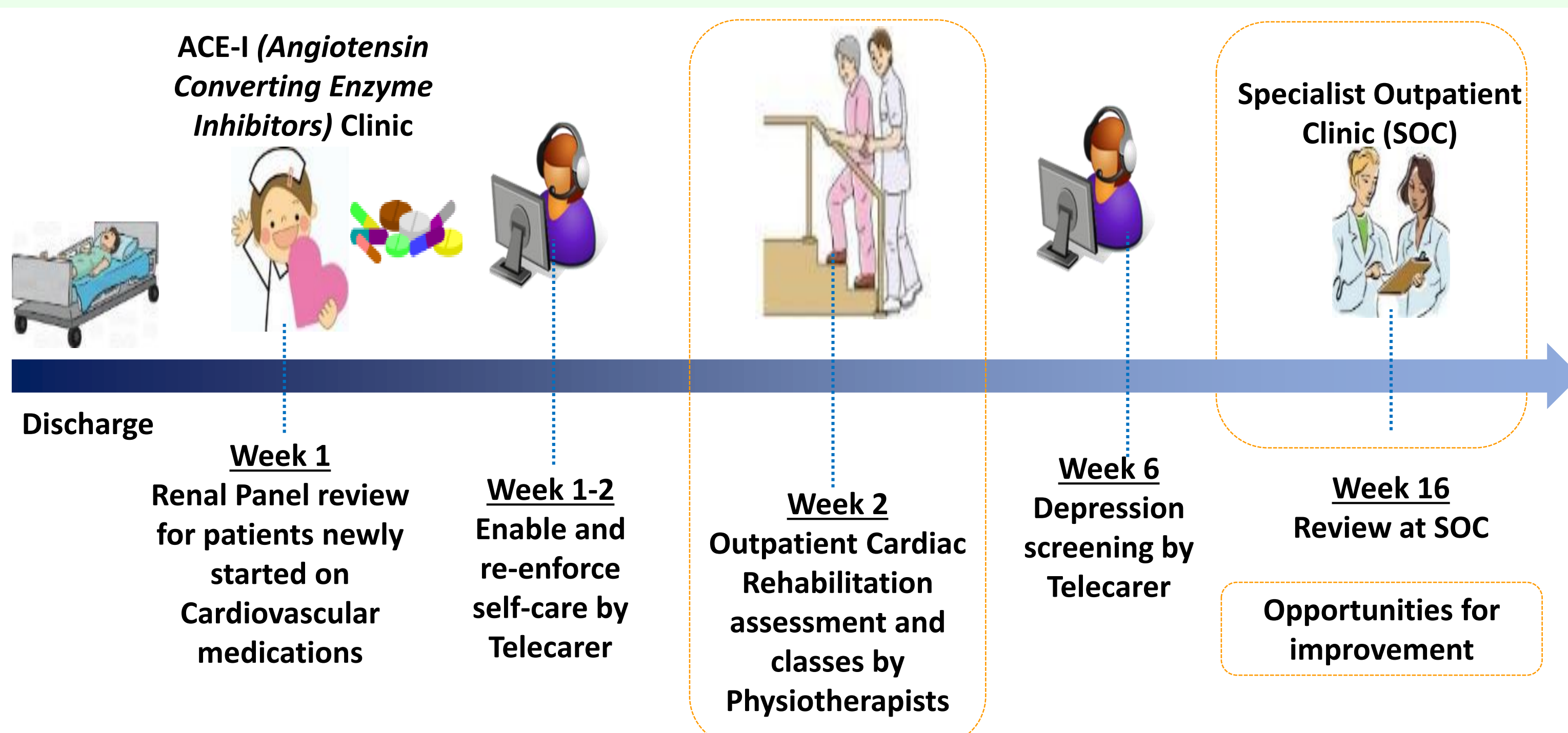
Introduction

Changi General Hospital's (CGH) AMI programme incorporates evidence-based checkpoints by a Transdisciplinary care team for holistic post-discharge care (Figure 1). Timeliness and uptake of health services are crucial drivers of patient outcomes. Timely intervals in optimizing cardiovascular medications is recommended for better symptom control and reduction in mortality, where studies have shown that reviews within 2 weeks post discharge helps in reducing readmissions¹.

A new clinic service: Post-AMI (PAMI) Clinic commenced in September 2020. It is an outpatient service provided within CGH on top of existing Cardiologist appointment. In a PAMI clinic session, patients will have their cardiovascular medications optimized; counselled for CRP enrolment and self-management.

Lead time to PAMI Clinic is tracked as a process measure while outpatient CRP rates and 30-day hospital returns are tracked as outcome measures.

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



Hence, our team aims to improve outpatient CRP uptake; reduce unplanned readmissions and conceptualize an early intervention post-discharge service for AMI patients.

Methodology

The team consists of various stakeholders who brainstormed on change initiatives using Plan-Do-Study-Act (PDSA) Cycles.

Sept 2020
Opening of PAMI Clinic

Integrated, one stop Clinic
Transdisciplinary Team review within 2 weeks of inpatient discharge

Improvement Measures

30 day A&E returns

30 day unplanned readmissions (All Cause)

Outpatient CRP rates

Lead time to PAMI Clinic (from inpatient discharge)

Services provided:

- 1) Physical review and examination
- 2) Optimisation of medications
- 3) Encourage CRP enrolment + prescription of home exercises + Same day CRP assessment
- 4) Educate patient on post AMI self-management

Results

The group that attended PAMI clinic showed significant improvement in 30-day A&E return rates (12.6%, $p=0.01^*$) and 30-day all-cause readmissions (10.8%, $p=0.02^*$) when compared to baseline rates of 14.3% and 17.1% respectively. The defaulted group had significantly poorer outcomes than baseline rates (Figure 2).

The sustained improvement for the group that attended PAMI Clinic was evident in the consistently lower than baseline rates of 30D returns (Figure 2). Outpatient CRP rates were also higher at 38.1% ($p=0.00$) vs baseline of 27.3% in Figure 3. Lead time to PAMI Clinic started out between 3-8 weeks but successfully reduced to 2 weeks through a number of PDSA cycles (Figure 4).

Figure 2: PAMI Clinic Outcomes (Sept 20-Jan 22)

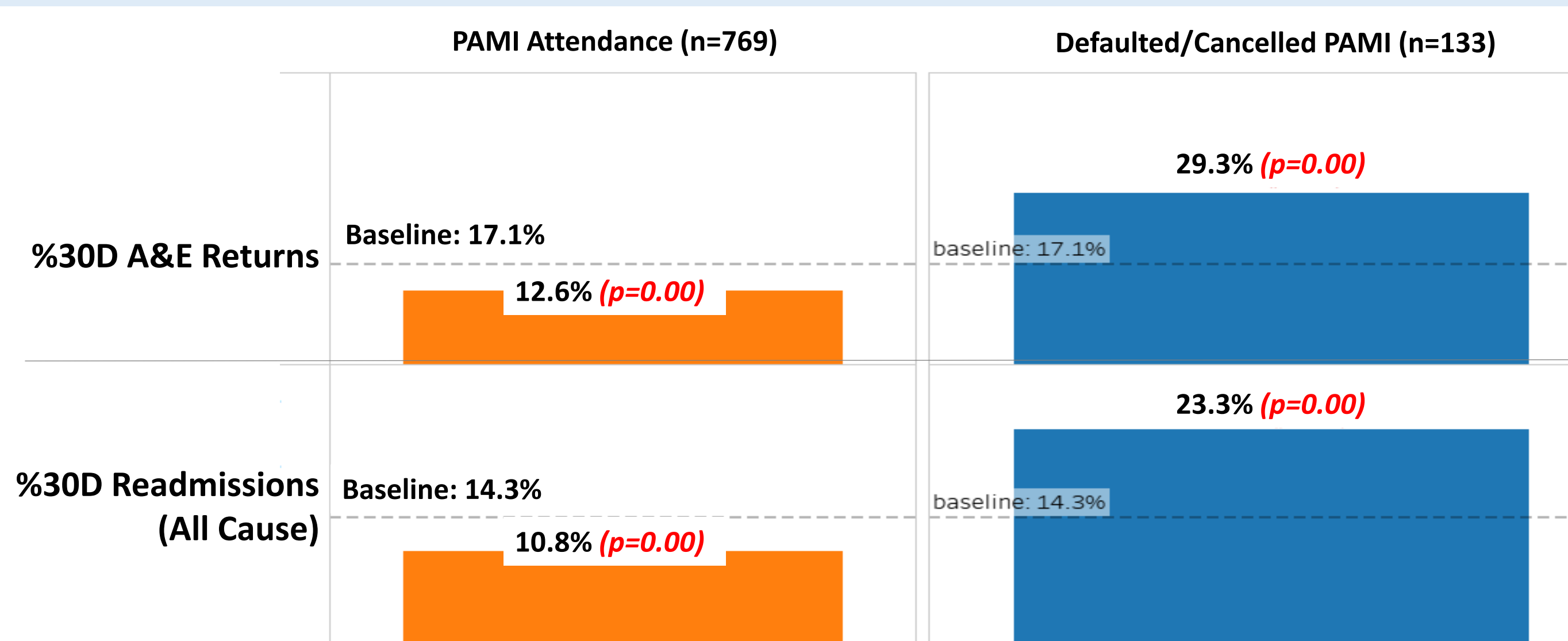
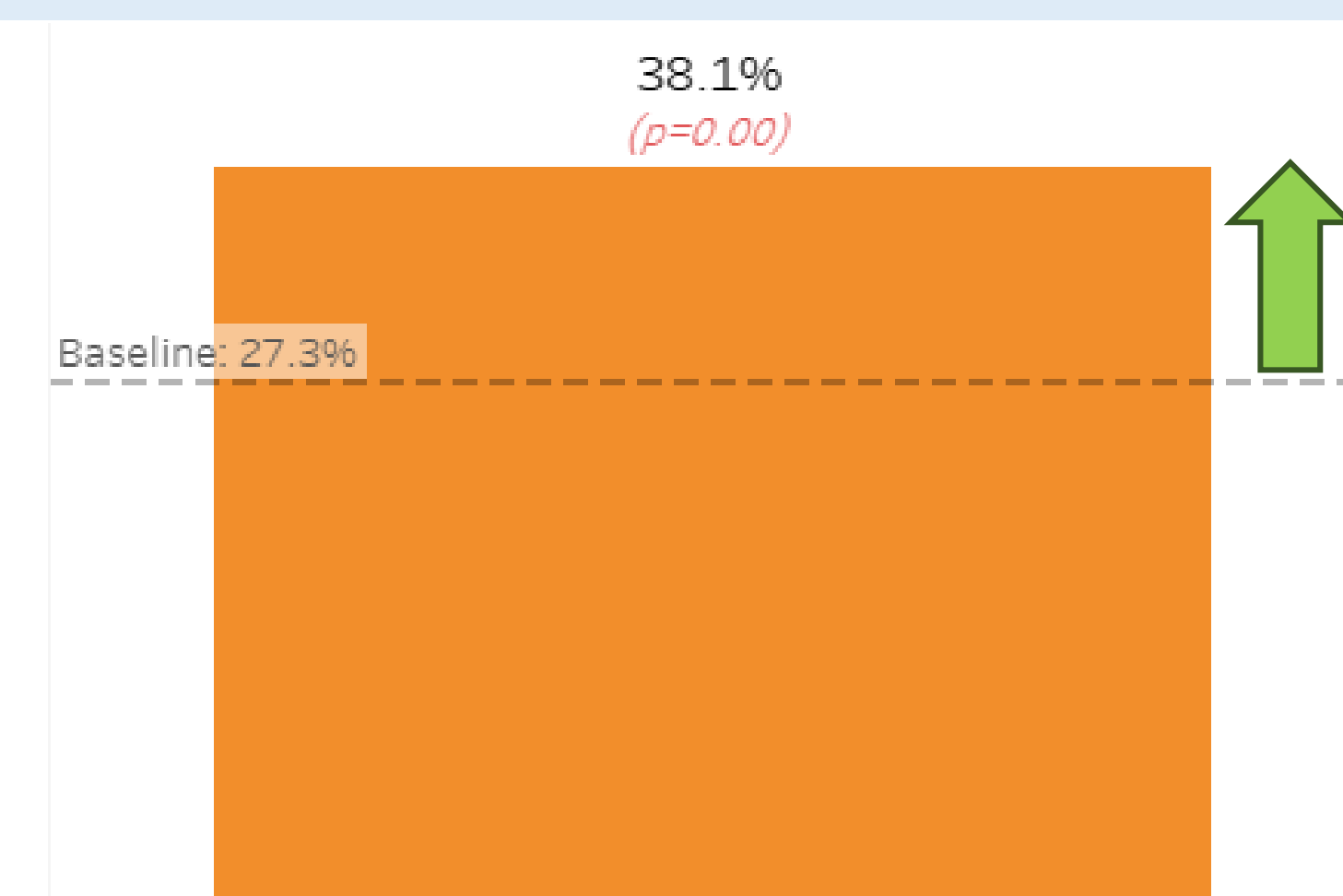
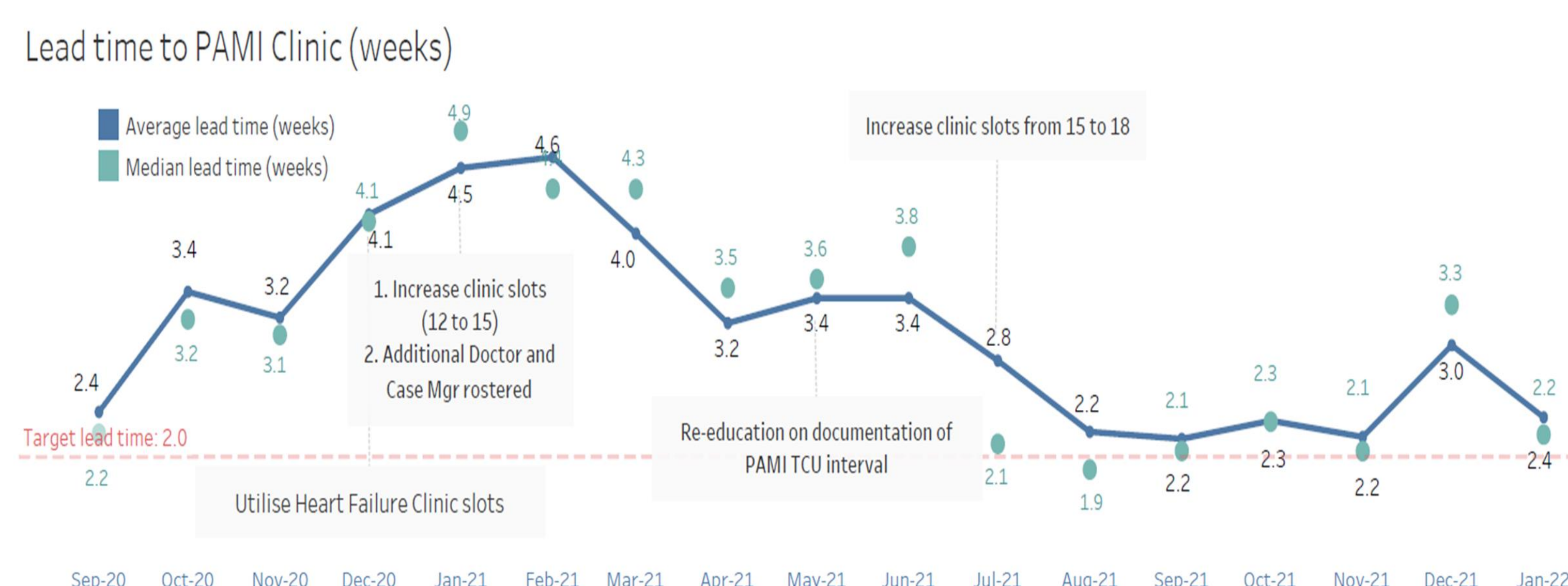


Figure 3: Outpatient CRP Uptake Rate (Sept 20-Nov 22)



1. BL (Baseline): 1 year prior to intervention period
 2. AMI related readmissions are based on AMI Value-driven Care 30D readmission codes
 3. PAMI ineligibility includes staged PCI, planned for CABG, transfer to/follow up at other acute hospitals, Prison Inmates and Poor prognosis / life expectancy ≤ 1 year
 4. P value derived from one tailed z test of proportions. P value < 0.05 denotes statistical significance
- *Statistical analysis was done using a one tailed two proportion Z-test with 95% confidence interval

Figure 4: Lead time (weeks) to PAMI Clinic (Sept 20 to Jan 22)



Conclusion

The improved outcomes of PAMI group reflect benefits of early intervention. Patients reported better satisfaction in care continuity with earlier follow-up.

Future development of risk-stratification tools to streamline clinic referrals would help in right-siting and sustenance of timely reviews amidst limited clinic resources and manpower.

Reference

1. Lee DW, Armistead L, Coleman H, Cicci J, Deyo Z, Roth ME. Abstract 15387: Post-Discharge Follow-Up Within 14 Days Reduces 30-Day Hospital Readmission Rates in Patients With Acute Myocardial Infarction and/or Acutely Decompensated Heart Failure. *Circulation*. 2016;134(suppl_1): A15387-A15387. doi:10.1161/circ.134.suppl_1.15387