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Introduction and Mission Statement

National Healthcare Group Polyclinics Rapid Assessment and Physiotherapy for Patients in Need (RAPID) aims to provide prompt access to safe, timely and effective integrated MSK care through collaborative practice between polyclinic doctors and NHGP physiotherapists and escalation to hospitals using standardized delivery of clinical care for patients with non-surgical MSK conditions in primary care.

Primary goals of RAPID Physio:

- Provide early and prompt access to safe and effective care for patients with musculoskeletal (MSK) disorders.
- Minimise unnecessary referrals to the hospitals and reduce cost of care.
- Stratification of patient's needs and standardising procedures in triaging, management and escalation.
- Promotes collaborative practice and training between orthopaedic surgeons, primary care physicians, physiotherapists and community partners.

Team Members

	Name	Designation	Department
Team Leader 1	Dr Donna Tan	Deputy Director	Clinical Services
Team Leader 2	Mr Gary Cheok	Principal Physiotherapist	Clinical Services
Team Leader 3	Ms Wong Yan Ping	Manager	Clinical Services
Team Members	Ms Tay Mary Ann Ms Leong Chai Yen Mr Chang Chuen Ern, Joel	Senior Physiotherapist Senior Physiotherapist Physiotherapist	Clinical Services
Sponsor	Dr Lim Chee Kong	Director	Clinical Services

Evidence for a Problem Worth Solving

The Global Burden of Disease study (2019) reported that in Singapore, MSK disorders is the top cause (24.3%) of healthy life lost to disability (YLD) per 100 000.

Literature has suggested that prompt access to physical therapy (PT), exercise and education is beneficial in improving function and reducing pain, without compromising outcomes¹⁻⁴.

Taking reference to UK models, early PT intervention has shown additional benefits in primary care setting where it prevented chronicity of several MSK conditions, improved patient experience and provided quicker support to help patients return to work, or function, where appropriate⁵⁻⁶.

Service Redesign & Delivery

There are 4 key cornerstones in the interventions to ensure safe and efficient care delivery in the management of MSK patients:

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| <p>1. Engineering Prompt Access
Capability building of RAPID trained physios to accurately stratify patients' needs and provide prompt treatment for patients in need.</p> | <p>2. Standardized MSK Clinical Protocols
Co-develop standardised structured clinical protocols for clinical care and escalation.</p> | <p>3. Providing Effective Physiotherapy
Implementing clinical measures to track patient's progress and clinical effectiveness.</p> | <p>4. Community Integration
Community referral pathways established for sustained physical activity and therapy with community facilities.</p> |
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Implementation

Using Plan-Do-Study-Act cycles, the team analysed system and process gaps to develop prototyped work processes and streamlined clinical flows to improve patients' acceptability and alter traditional beliefs of patients. As of Feb 2023, 63% of patients have 2-point Pain score improvement and 67% with 2-point improvement in Patient Specific Functional Score. These significant clinical outcomes improvement clearly demonstrated efficacy of workflows and clinical process of prompt assessment and effective treatment.

References

1. CG Maher, Effective physical treatment for chronic low back pain, *Journal Orthop Clin North Am* 2004 Jan;35(1):57-64
2. S. George, J Fritz et al Interventions for the management of acute and chronic low back pain: Revision 2021 *Journal of Orthopaedic & Sports Physical Therapy* Vol 51 Issue 11 Pg CPG1-CPG60
3. J Fritz, E. Lane et al, Physical Therapy Referral from primary care for acute back pain with sciatica: a randomized controlled trial, *Epub* 2020 Oct 6
4. Timing of Physical Therapy initiation for nonsurgical management of musculoskeletal disorders and effects on patient outcomes: A systematic review: Ojha HA, Wyrsta NJ, Davenport TE, et al. *Journal of Orthopaedic & Sports Physical Therapy* Feb 2016
5. Effects of waiting for outpatient physiotherapy services in persons with musculoskeletal disorders: a systematic review: Simon Deslauriersa, b, *Disability And Rehabilitation* <https://doi.org/10.1080/09638288.2019>
6. Reducing wait time from referral to first visit for community outpatient services may contribute to better health outcomes: a systematic review: Annie K. Lewis, et al, *BMC Health Services Research* (2018) 18:869

Results

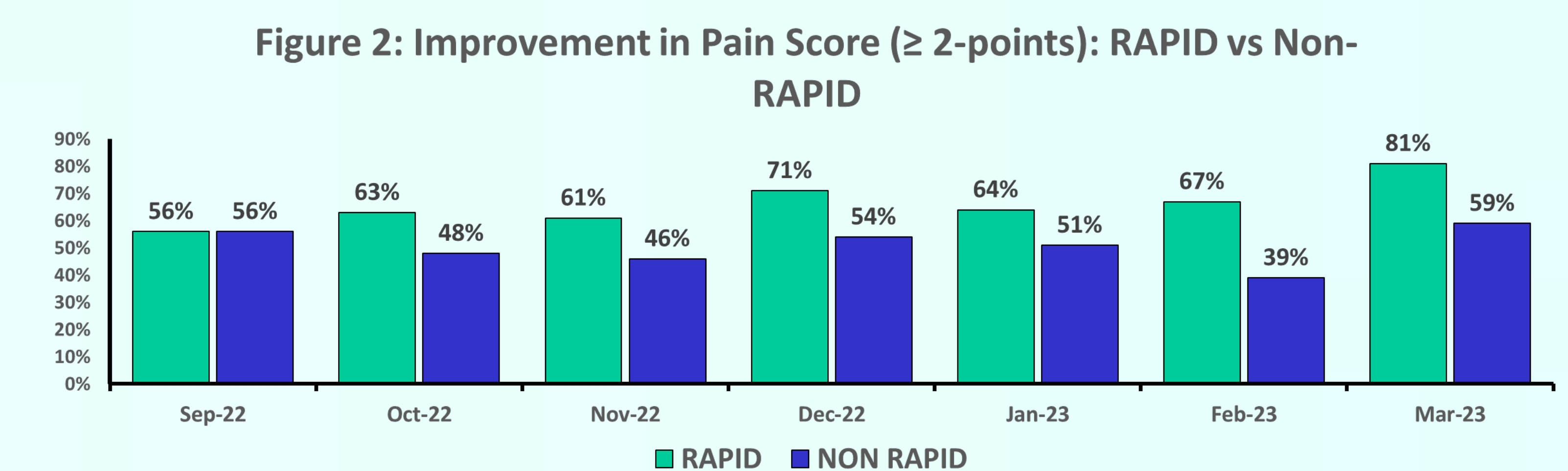
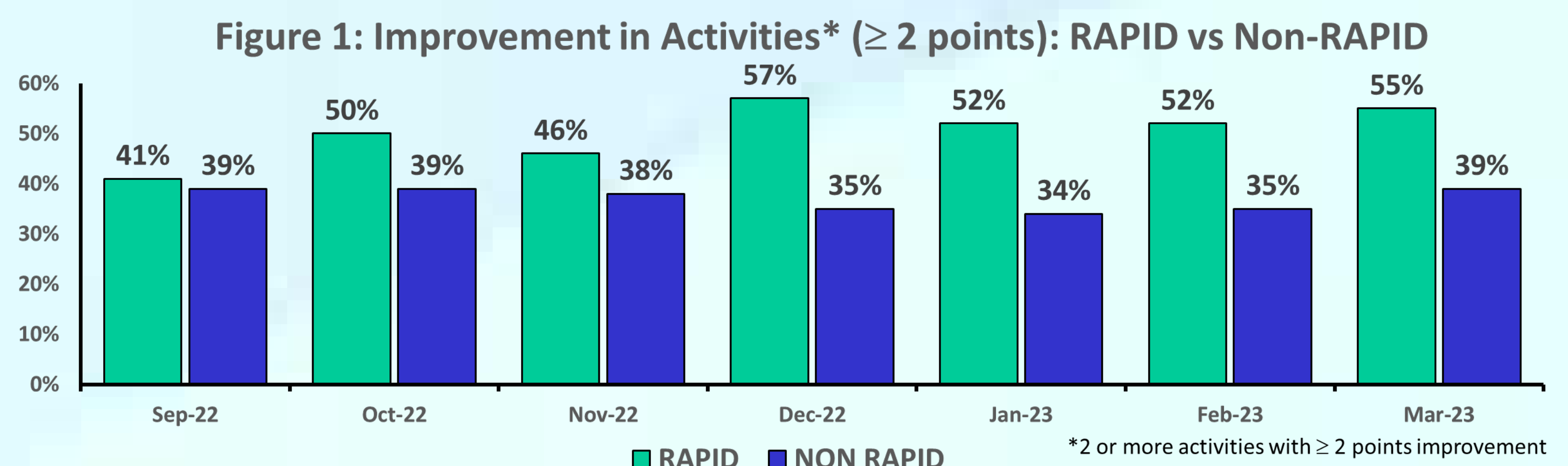
Since the pilot in Oct 2020, RAPID Physio has seen significant improvements:

1) Process Improvement

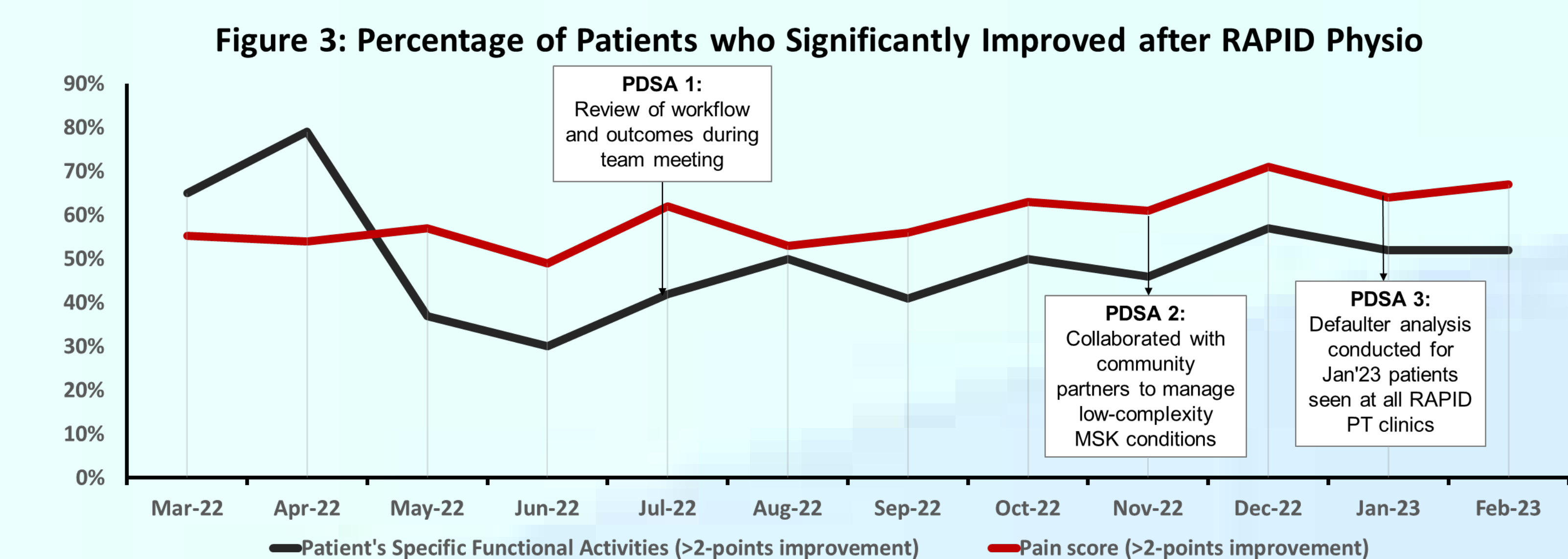
RAPID Physio is now available in 6 NHG Polyclinics, from the initial 2. Evaluating PT treatment and its effectiveness is now standardised across NHGP. Referral to community is now actively integrated into discharge plans.

2) Clinical Improvement

Clinical outcomes between RAPID and Non-RAPID patients were compared. From Sept 2022 to March 2023, RAPID patients had better mean improvement in pain (66% vs 50%) and activities (50% vs 37%) score compared Non-RAPID patients. This is illustrated in Figure 1 and 2.



Adopting the Plan-Do-Study Act (PDSA) methodology (Figure 3), the RAPID team continually review efficacy of interventions. The respective PDSA cycles have shown to improve RAPID patients' outcomes, as there is a steady improving trend from Jul 22 to Feb 23. There were also no adverse events reported from potential delay in referral to Orthopaedics.



3) Access Improvement

In FY21, 44% (compared to 32% FY19) patients accessed PT within 2 weeks, 69% (vs 56% in FY19) within 4 weeks. However in FY22, patients who had early access to PT fell to 28% and 36% respectively. This is due to post-pandemic demand for PT, hence slots were limited.

Cost Savings

Since the start of the pilot in Oct 2020 to Feb 2023, the implementation of RAPID Physio has reduced 19,902 of SOC referrals, which attributed to an estimated savings of \$278,634.

\$278,634
 (From 19,902 SOC referrals saved)

Conclusion

- Early physiotherapy in polyclinics optimises outcomes for patients with MSK disorders to reduce or delay need for unnecessary surgery, decreasing cost of care.
- Embracing Singapore multi-year Healthier SG strategy: RAPID is well placed within primary care to play a core role in preventive care and healthcare sustainability.
- RAPID Physio across polyclinics plays a significant role to deliver preventive care, develop individualised health plan and connecting the dots for patients beyond the clinic walls.