

National Quality Improvement Conference

An initiative towards increasing uptake rates for INR Remote Monitoring (RM) Service

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Problem Statement

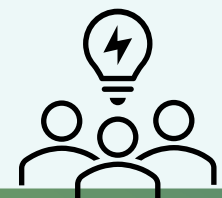
Background

Frequent monitoring of International Normalised Ratio (INR) is often required given warfarin's narrow therapeutic window.

Numerous feedback from patients about the hassle of returning to hospital for frequent INR blood tests and the long wait time at clinic and pharmacy.

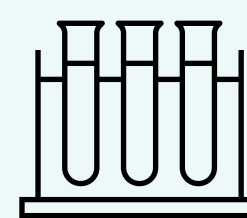
RM of INR was explored as a potential solution to ease warfarin patients' care journey. RM of INR service was set up since 2012, with loaning of home Point-of-care-testing (POCT) INR meters to suitable patients.

However, uptake rate for RM of INR service is low as it is limited by number of POCT meters and suitability of patients.



Potential Solutions

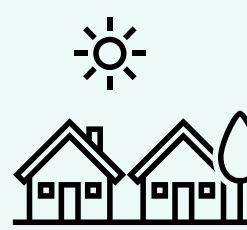
Explored partnerships with different community healthcare partners from 2020 to increase avenues in which patients can have their INRs drawn. With an increase in accessibility for patient's INR to be drawn, we work towards increasing uptake rate for RM of INR service as well as increasing patient's adherence to consultations and warfarin therapy.



New service level agreement (SLA) with **NHG Diagnostics** to allow INR blood test to be taken at NHG Polyclinics



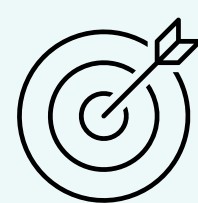
INR blood taking expanded to **General Practitioners (GP) and other tertiary institutions** i.e. IMH and nursing homes (NH)



Collaborated with **home care partner, Active Global**, i.e. home care nurses travel to patient's house to draw venous INR

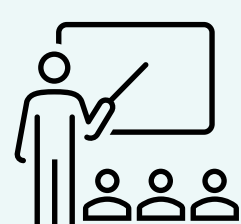
Project Aim

1. Increase uptake for RM of INR service by at least 50% in number of visits.
2. Evaluate if RM of INR is also able to achieve at least 60% of INR within therapeutic range, that is equivalent to face to face (F2F) Anticoagulation Clinic (ACC) visits.

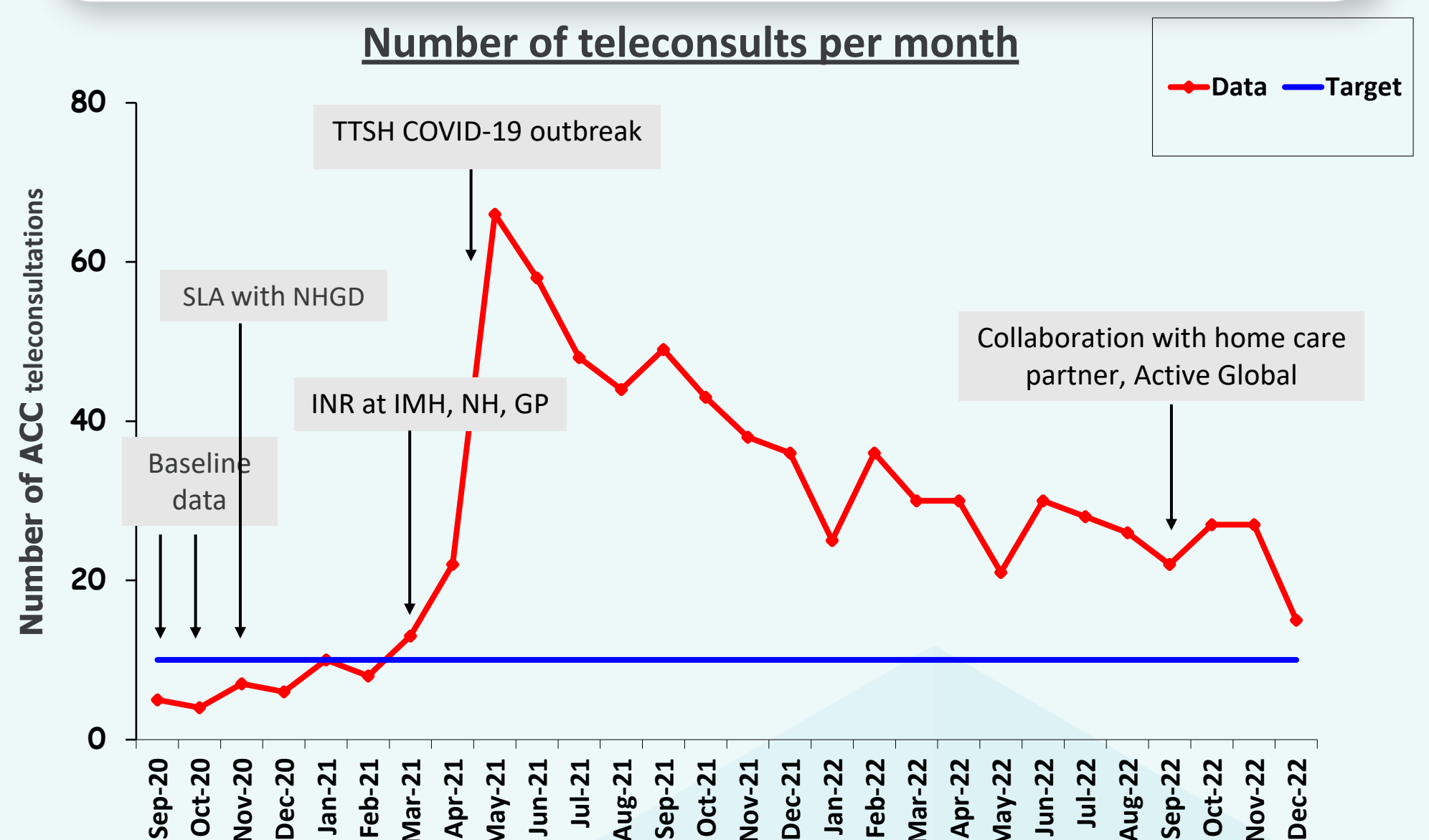


Lessons Learnt

- In retrospect, this initiative was a timely one as it allowed our team to effectively cope with the TTSH COVID-19 cluster outbreak on 28 April 2021, where there was a surge in demand for RM and teleconsultations in view of the mandatory ramping down of physical clinics.
- At the advice of TTSH haematologist, it is our responsibility to ensure accreditation of external labs as pharmacists rely on these results for warfarin dosing. We proceeded to ensure that the private laboratories in Singapore that we work with are SAC-Singlas (Singapore Laboratory Accreditation Scheme) accredited.



Outcomes & Impacts



There is an **annual increase** in number of RM visits of **435% from 2020 to 2021**. It then **sustained at 375% from 2020 to 2022**.

	Year 2019	Year 2020	Year 2021	Year 2022
Number of RM visits	26	68	364	323
% within therapeutic INR range for RM visits	70%	70.8%	66.9%	60.3%

Between Year 2019 and 2023, the average % within therapeutic INR range for F2F visits was 64.55%