Demystifying the decline in London's cardiac rehabilitation referral rates

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AIM Statement: By July 2025, we will aim to improve the referral rates to cardiac rehabilitation for patients post coronary revascularization, acute coronary syndrome, and coronary artery bypass surgery by 100% from its current baseline of 25-50%.

PROBLEM DEFINITION

Cardiac rehabilitation (CR) is known to improve cardiac morbidity and mortality. It is a Class 1a recommendation for all patients post-acute coronary syndrome and revascularization with either percutaneous coronary intervention or coronary artery bypass graft surgery to undergo CR. However, it remains underutilized and even worsened after the COVID-19 pandemic.

ROOT CAUSE ANALYSIS

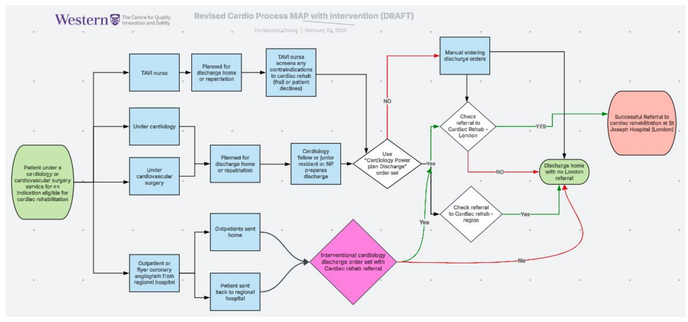


Figure 1: Process map describing cardiac rehabilitation referral pathway

We postulated the following root causes for reduced referral rates:

1. Perception that patients are having CR outside london
2. Outpatient and flyer patients with PCI did not have CR ordered
3. Care providers (eg. residents and RN) missing CR orders
4. Patients not appreciating importance of CR, thereby opting out.

We investigated each of these causes by discussing with stakeholders. Upon discussions and chart review of missed referrals, it became clear that outpatient and flyer PCI had high rates of missed referral (32% of total missed referrals). The unspoken expectation, confirmed by talking with these individuals, was that the referring physician for PCI would be responsible for sending a referral to cardiac rehabilitation.

Missed referrals from outpatient PCI and flyer coronary angiogram cohorts significantly contribute to the referral gap among all eligible cardiac rehabilitation patients.

IMPLEMENTATION

CHANGE IDEA 1: PDSA CYCLE #1		
Project Title	Demystifying the decline in London's cardiac rehabilitation referral rates	
Start Date		February 2025
End Date		July 1st 2025
Type of PDSA cycle	Pure learning	
PLAN		
What change will be tested?	We will test 1) Education of Cadiac surgery NPs, Cardiology residents, TAVI nurse practitioners 2) Cath lab post-PCI CR order automatically selected in module	
How will the change be tested?	We will get help from decision support to retreive the number of referrals after change is implemented	
Who will run the test?	PGY5 cardiology residents	
Where will the test occur?	Cardiology wards, cath lab, cardiac surgery wards	
When will the test occur?	February 2025	
Predictions	CR referrals should increase	
DO		
Test of change observations	CR order automatically pre-selected to cath lab PCI order module (Anticipated July 2025)	
Surprise observations or unexpected insights (if	1	
	2	
	3	
STUDY		
Compare what you observed to what you	Need atleast 1 month of data	
ACT		
Based on your insights from the study phase, describe next steps in terms of the following: 1. Adopt: scale up or spread intervention 2. Adjust: refine change idea 3. Abandon: discovered critical flaw		

MEASUREMENT & RESULTS

Figure 2: Geographic location of patients with missed CR referrals

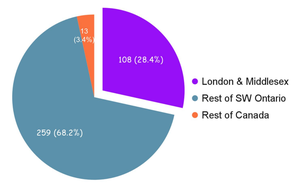


Figure 3: Missed London CR referrals

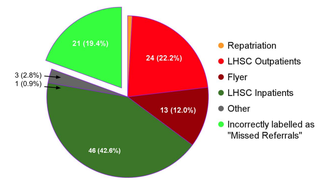


Figure 4a: TRUE missed referrals

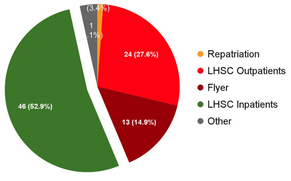


Figure 4b: TRUE missed referrals with LHSC inpatients categorized

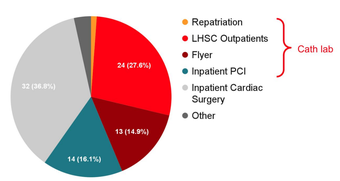
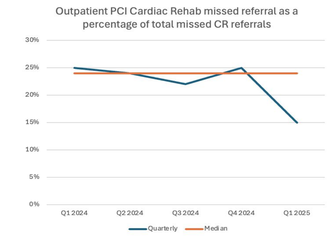


Figure 5: Expected run chart for our project



SUSTAINABILITY

Through our implemented change, the new post-PCI order set will include a London cardiac rehabilitation referral order to be selected. Starting June, 2025, the referral order will be automatically selected to streamline and ensure the referral is made. Dr. Neville Suskin and Dr. Ashlay Huitema will follow up quarterly with Cerner/Powerchart Decision Support to gather data and assess its use/effectiveness.