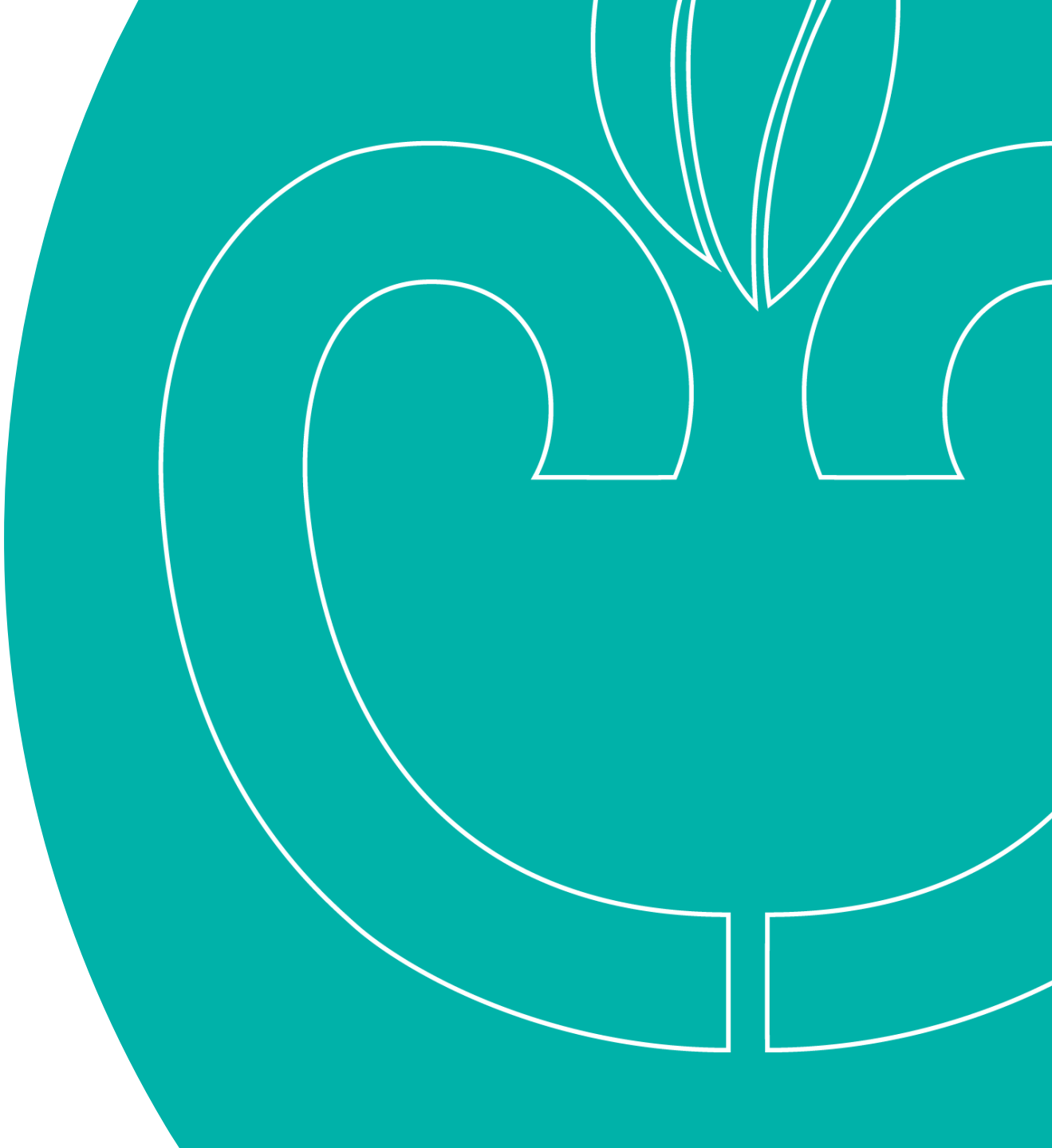
Canadian Cardiovascular Society

Société cardiovasculaire du Canada

Canadian Cardiovascular Society Secondary Prevention Pathway for Long-Term Post-Heart Attack Care

JD Schwalm presenting on behalf of:

Noah Ivers (Co-Chair)
Claudia Bucci (Co-Chair)
Meredith Wright (CCS)
Carolyn Gall Casey (CCS)



Meet Evelyn:

A 65-year-old who has just had a heart attack and a stent inserted.

A new chronic disease

FU appointments with:

-Family physician (if she has one)

-Specialist

-Cardiac rehab

At least 5 new medications

-Back to work

-Back to driving

-Back to life

-Mental health

Evelyn is about to encounter many challenges…

Guidelines

Early discharge (48 hrs)-little time for education and medical optimization

Less than 30% of patients are taking a statin at recommended intensity[3]

Hospital Readmission up to 18% at 30 days[5]

Only 66% of

Every 10% improvement in guideline adherence at a given hospital could result in 11% relative reduction in mortality rates

Only 50% of patients are referred to cardiac rehab[1] and less attend

are on their cholesterol and blood pressure medications by one year[2]

Clinical practice

1. Fitchett et al. CJC 2016 32(7).
2. Noah M. Ivers, J.-D. Schwalm et al. CJC 2013
3. Pearson, G. J et al; CJC 2013
4. Yusuf S et al. Lancet 2011
5. Hess et al. Circulation 2013

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Example: Meds at Discharge

Post-ACS Patients at 81 Hospitals across Ontario

Medication	Proportion at Discharge*
ASA	84%
Beta Blocker	85%
Statin	85%
ACEI/ARB	80%

Tu, J. EFFECT Trial. JAMA 2009

Post-STEMI In the Hamilton Region

Table I. Baseline characteristics of study participants

	Intervention (n = 424)	Control (n = 428)
Medications at discharge		
ASA	418 (98.6)	422 (98.6)
Secondary antiplatelet	393 (92.7)	397 (92.8)
ACEI/ARB	362 (85.4)	377 (88.1)
BB	372 (87.7)	372 (86.9)
Statin	403 (95)	408 (95.3)

Schwalm JD. AHJ 2015

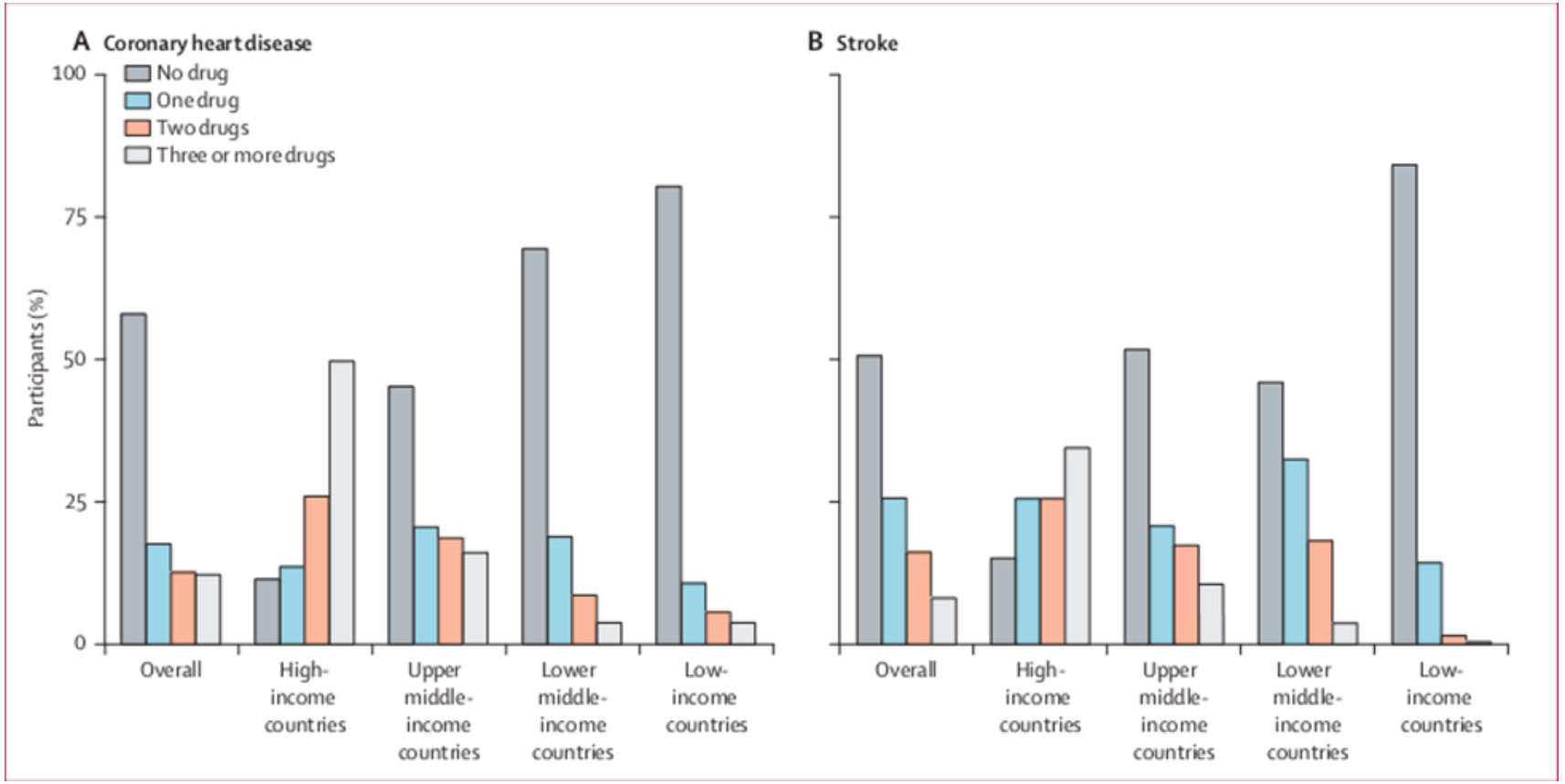
Polling Question?

What proportion of patients at 1.5 years post-myocardial Infarction are taking their Class I-indicated, secondary prevention medications?

1. <40%
2. 40-60%
3. 60-80%
4. 80-100%

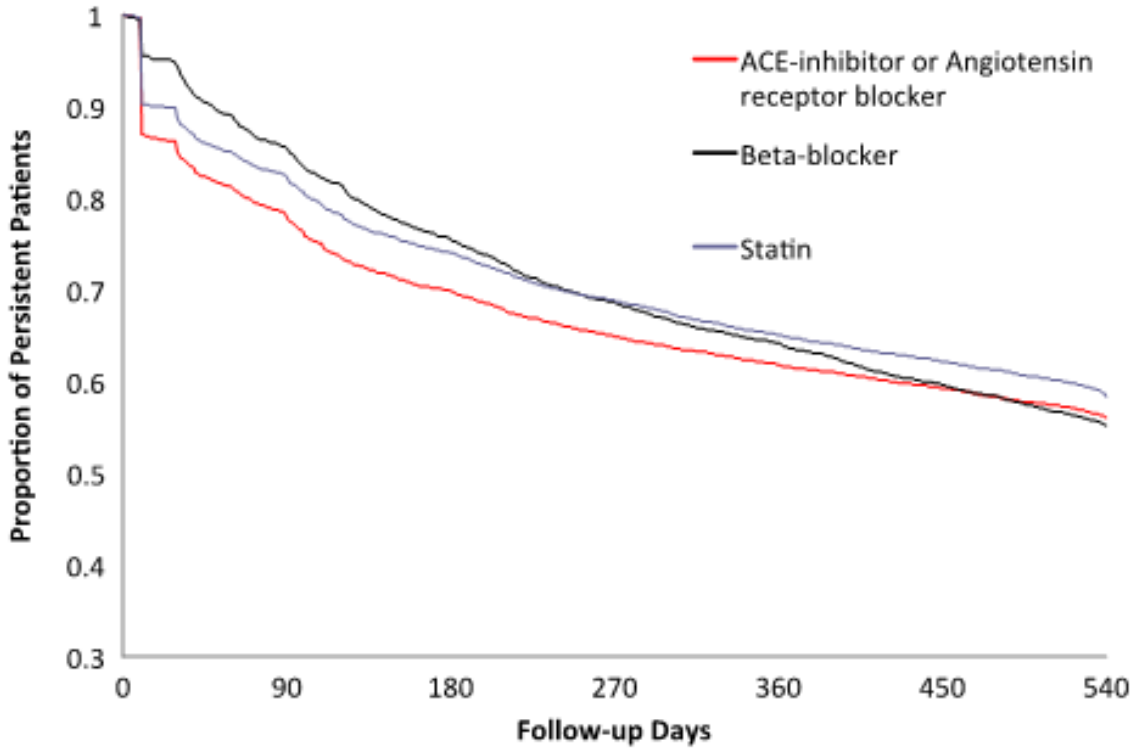
Evidence-Practice Gap-International:

- **Use of CV medications for secondary prevention by country economic status[1]**



Yusuf et al. PURE Study, Lancet 2011

Evidence-Practice Gap-Provincial:



18000 patients
>65 yo
=Free Meds

Figure 2. Persistence with secondary prevention medications after angiography. ACE, angiotensin-converting enzyme.

Canadian Journal of Cardiology ■ (2013) 1–7

Clinical Research

Length of Initial Prescription at Hospital Discharge and Long-term Medication Adherence for Elderly Patients With Coronary Artery Disease: A Population-Level Study

Noah M. Ivers, MD,[a,b] J.-D. Schwalm, MD,[c,d] Cynthia A. Jackevicius, PharmD, MSc,[e,f,g,h,i] Helen Guo, MSc,[i] Jack V. Tu, MD, PhD,[i,j] and Madhu Natarajan, MD, MSc[c,d,k]

Health Through Knowledge PHRI

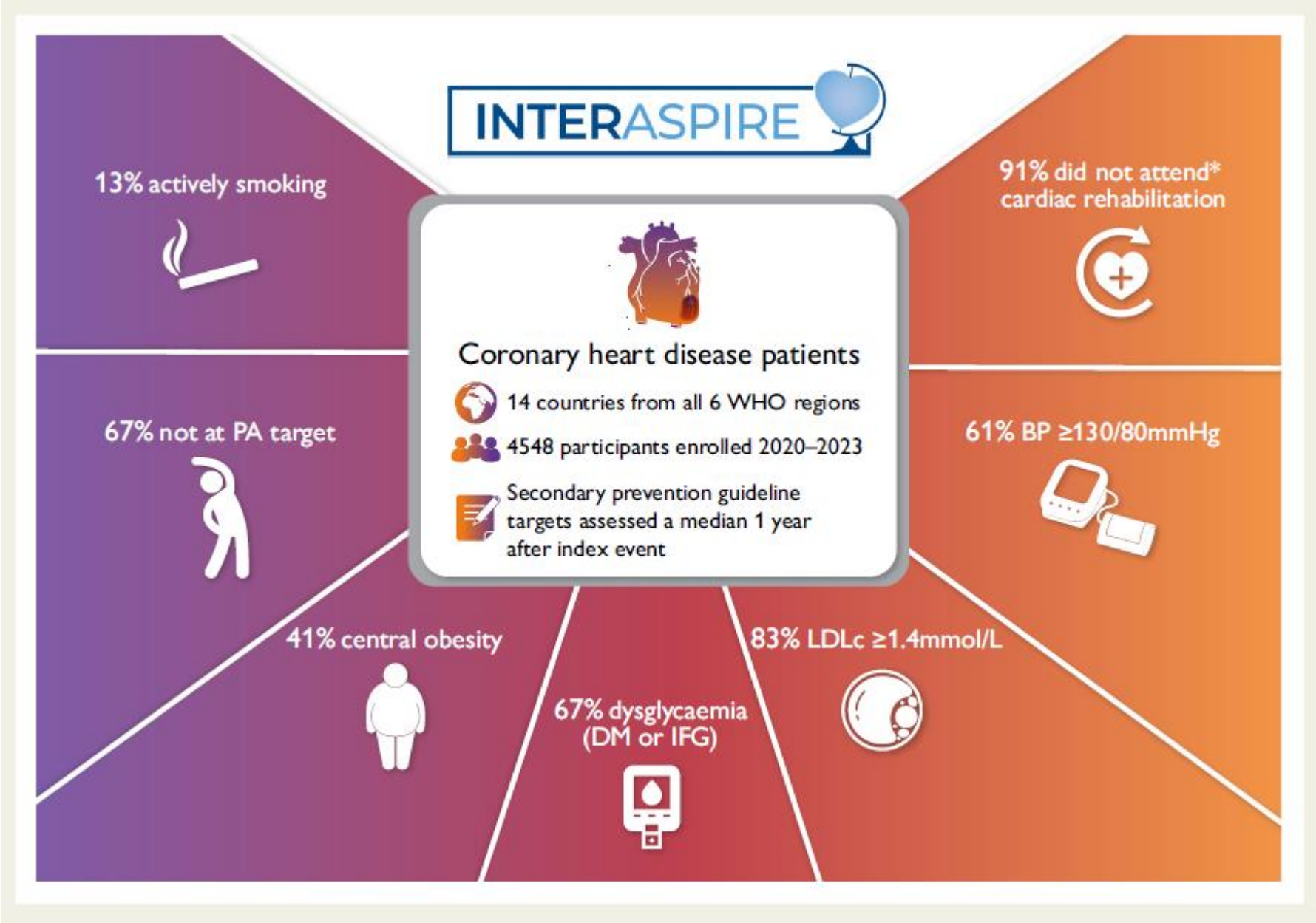
McMaster University DIVISION OF CARDIOLOGY

Polling Question?

How long do you prescribe CV secondary prevention medications at discharge (including repeats)?

1. 1 month
2. 2 months
3. 3 months
4. 6 months
5. 12 months

Secondary prevention is sub-optimal as a whole…



McAvoy JW et al. European Heart Journal (2024) 00, 1–13

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SUPPORTING TRANSITIONS OF CARE POST-STEMI

- Study aim was to identify barriers and enablers to delivering evidence-based care transitions post-STEMI
- Conducted as part of a CIHR Health System Impact Postdoctoral Fellowship (2021-23)
- Theory-based qualitative interviews with patients, healthcare providers, and healthcare leaders in Central-West Health Region, Ontario
- Guided by the behavioural and implementation theory - Theoretical Domains Framework (TDF) and the Consolidated Framework for Implementation Research (CFIR)
- 26 interviews in total

STEMI PATIENTS (N=14)

- **Knowledge gaps**
- **Low confidence in self-management**
- Logistical barriers to follow-up care

HEALTHCARE PROVIDERS (N=8)

- **Communication and planning inefficiencies**
- Resource limitations for patients and providers
- Some skepticism toward new innovations

HEALTHCARE LEADERS (N=4)

- **Need for structured implementation strategies**
- Sustainable funding models
- **Expanded roles for HCPs such as nurse practitioners and pharmacists**

POTENTIAL SOLUTIONS

- Strengthening patient education
- Enhancing interdisciplinary collaboration
- Expanding nurse/pharmacist roles along care transitions
- Addressing financial and structural barriers
- Standardizing follow-up systems
- Fostering an ‘implementation climate’ for better results


Evidence
Practice
CCS Secondary Prevention Pathway

CCS Secondary Prevention Pathway Project

- Initiated in 2023 to support implementation of:
    - 2021 CCS Dyslipidemia Guidelines
    - Other relevant guidance documents (e.g., Canadian Association of Cardiovascular Prevention and Rehabilitation Guidelines, and other society guidelines).

- Led by a multidisciplinary working group of researchers, clinical experts, people with lived experience, and representatives from Ontario Health and industry to:
    - Refine and finalize the pathway
    - Support implementation of the pathway at two sites in Ontario

- Beginning in 2025, the CCS will explore the potential for scale and spread of the pathway in Ontario and regions across Canada where there is a need.

Working Group Members

Name	Position
JD Schwalm	Co-Chair (cardiologist)
Claudia Bucci	Co-Chair (pharmacist)
Noah Ivers	Co-Chair (family physician)
Robert Hegele	CCS Guidelines Committee representative
Shaun Goodman	Cardiologist
Paul Oh	Cardiologist (cardiac rehabilitation)
Jacob Udell	Cardiologist
Palki Bhatt	CCS Member-in-Training
Pishoy Gouda	CCS Early Career Member
Heather Kertland	Pharmacist
Chris Varughese	Nurse practitioner
Kyle Baysarowich	Ontario Health
Colleen Lackey	Ontario Health
Grant and Susan Koppers	People with lived experience
Warren Ball	Peterborough site lead
Adnan Hameed	St Catherine's s site lead
Elizabeth Fry	Industry representative (ex officio)
Melanie Kok	Industry representative (ex officio)
Erin Mackinnon	Industry representative (ex officio)
Carolyn Gall Casey	CCS staff (ex officio)
Meredith Wright	CCS staff (ex officio)

Objectives:

- Improve guideline recommended follow-up post-heart attack by:
    - Collaborating with Ontario Health to increase cardiac rehab referral, attendance and completion
    - Optimizing transitional care from Hospital to Home
    - Considering the patient journey and fostering patient education
        - Parallel patient pathway developed
- Improve guideline-directed medical therapy post-heart attack
- Improve equitable access to care post-heart attack

How are we accomplishing this?

- Through an established multidisciplinary steering committee and working group:

Developed provincial standards for a post-heart attack secondary prevention pathway

-Including accountability for multidisciplinary care delivery

Collating and developing tools and resources for patients, providers, and health systems to successfully implement this pathway

Working with Ontario Health to ensure capacity for each component of the pathway

The CCS Secondary Prevention Pathway

1. Develop a comprehensive care plan for short- and long-term follow-up and self-management

2. Conduct necessary medical investigations to identify risk factors and optimize management

3. Implement all appropriate and tolerated guideline-directed medical therapies

4. Provide information to patients and carers about the care plan and recommended interventions

5. Ensure clear communication, documentation, as well as patient and carer engagement

Long-Term Follow-Up Tasks

The CCS Pathway

Post-Acute Coronary Syndrome (ACS): Secondary Prevention Pathway

Canadian Cardiovascular Society

The CCS Secondary Prevention Pathway presents evidence-based guideline recommendations to support a patient's journey from discharge to outpatient follow-up after ACS. The pathway indicates when care goals should be implemented and the most responsible clinician. Links are provided to helpful resources.

Objective 1. Develop a comprehensive care plan for short- and long-term follow-up and self-management

Standard	Goals			Most Responsible Clinician				
	At Discharge	1 Week to 1 Month After Discharge	>1 Month After Discharge	Discharging clinician*	PCC**	Nurse	Pharmacist	Dietitian
1. Cardiac rehabilitation	• Refer to a cardiac rehabilitation program and reinforce the benefits of the program[1]	• Follow-up with PCC or alternative provider at 2 weeks post discharge • Ensure cardiac rehabilitation referral is made and reinforce the importance of attending and completing the program	• Follow-up with PCC or alternative provider at least every 3 months for the first year • Encourage cardiac rehabilitation attendance and completion	✓	✓			
2. Plan early post-discharge follow-up for clinical assessment and medication optimization within 30 days	• Ensure follow-up with PCC or alternative provider within 2 weeks • Refer to outpatient cardiology/ internal medicine for intermediate and long-term follow-up • Arrange further investigations/ interventions as required (i.e. staged revascularization, further invasive or non-invasive testing)	• Ensure referral is made to cardiology/internal medicine for follow-up that is beyond 1 month after discharge	• Ensure patient has long-term cardiology/internal medicine follow-up • Make referral for further investigations/interventions that are required (i.e. staged revascularization, further invasive or non-invasive testing, heart function clinic, electrophysiology)	✓	✓			
3. Discuss with the patient when they should seek medical attention	• Inform the patient when to seek immediate care after discharge, including typical symptoms such as chest pain or shortness of breath, along with atypical symptoms such as nausea, abdominal pain, unexplained fatigue, and syncope			✓	✓	✓		

- Standards
- Goals
  - ⇢ At discharge
  - ⇢ 1 Week to 1 Month
  - ⇢ > 1 Month
- Most Responsible Clinician

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Questions?

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