

THE CANADIAN CARDIOVASCULAR
SOCIETY SECONDARY PREVENTION
PATHWAY: A NEW RESOURCE TO SUPPORT
LONG-TERM POST-ACUTE CORONARY
SYNDROME CARE

27th Annual Excellence in Cardiac Care Conference

January 24th, 2026



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The CCS Secondary Prevention Pathway Project received unrestricted grant support from Amgen Canada, HLS Therapeutics, and Novartis Canada. This workshop was developed by the planning committee to achieve scientific integrity, objectivity, and balance.



LEARNING OBJECTIVES

On completion of this presentation, participants should be able to:

1. Report the known gaps and barriers to evidence-based post-acute coronary syndrome (ACS) care in Canada.
2. Describe the CCS Secondary Prevention Pathway (SPP) for post-ACS care.
3. Determine if there is a need for the SPP in their practice setting as well as any challenges or barriers to its introduction.

AGENDA

Topic	Duration	Speakers
Welcome & Introduction	3 mins	Shaun Goodman
Case Study	3 mins	Shaun Goodman
Barriers to Implementation & Perspectives of People with Lived Experience	7 mins	Jacob Crawshaw
Development of the CCS Secondary Prevention Pathway	7 mins	JD Schwalm
Phase 1: At Discharge	5 mins	Palki Bhatt
Phase 2: Early After Discharge	5 mins	Claudia Bucci
Phase 3: Longer-Term Follow-Up	5 mins	Noah Ivers
Q &A	10 mins	All

SPEAKERS & PANELISTS

JD Schwalm | MD, MSc, FRCPC

McMaster University
Population Health Research Institute
Centre for Evidence-Based Implementation, Hamilton
Health Sciences Centre

Jacob Crawshaw | PhD

Ottawa Hospital Research Institute

Palki Bhatt | MD, MSc

McMaster University
Hamilton Health Sciences

Claudia Bucci | PharmD

Sunnybrook Health Sciences Centre

Noah Ivers | MD PhD CCFP

University of Toronto, Women's College Hospital

PROGRAM DISCLOSURE OF COMMERCIAL SUPPORT

Dr. Shaun Goodman

Research grant support (e.g., steering committee or data and safety monitoring committee) and/or speaker/consulting honoraria (e.g., advisory boards)

from: Alnylam, Amgen, Anthos Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Bristol Myers Squibb, CSL Behring, CYTE Ltd., Daiichi-Sankyo/American Regent, Eli Lilly, Esperion, Ferring Pharmaceuticals, HLS Therapeutics, Idorsia/Viatris, JAMP Pharma, Merck, Novartis, Novo Nordisk A/C, Pendopharm/Pharmascience, Pfizer, Regeneron, Roche, Sanofi, Servier, Tolmar Pharmaceuticals, Valeo Pharma; and salary support/honoraria from the Canadian Heart Failure Society, Canadian Heart Research Centre and MD Primer, Canadian VIGOUR Centre, Cleveland Clinic Coordinating Centre for Clinical Research, Duke Clinical Research Institute, Jewish General Hospital\ CIUSSS Centre-Ouest-de-l'Île-de-Montreal, New York University Clinical Coordinating Centre, PERFUSE Research Institute, Peter Munk Cardiac Centre Clinical Trials and Translation Unit, Ted Rogers Centre for Heart Research, TIMI Study Group (Brigham Health)

Dr. JD Schwalm

Speaker/consulting honoraria: Novartis

Thirumagal Gowrikanthan

None

Dr. Jacob Crawshaw

None

Dr. Palki Bhatt

None

Dr. Claudia Bucci

None

Dr. Noah Ivers

None

Grant Koppers

None

Susan Koppers

None

Case Study



Shaun Goodman

St. Michael's Hospital, Unit Health Toronto, and Peter Munk Cardiac Centre, University Health Network, University of Toronto & Canadian VIGOUR Centre, University of Alberta



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Meet James*

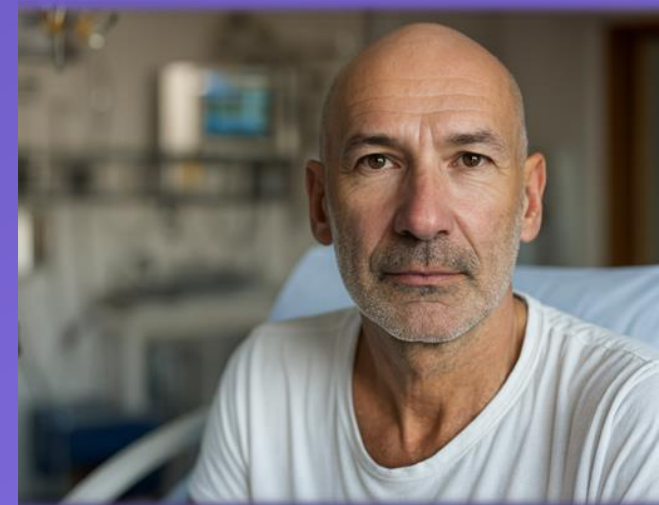
- James is a 62-year-old smoker, who lives in a semi-rural town. He is married with a modest income and no private medication coverage.
- James had a STEMI with a stent placed. He is stable and going to be discharged.

*James is a fictional patient but represents what many patients face, including our patient partner



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James has a lot on his plate ...

**A short hospital stay
with limited time for
education**

**Often Discharged
within 48 hours**

**At least 5 new
medications:**

- Side effects
- Refills
- Benefits/risks

**Adjusting to life
post-MI:**

- Confidence
- Mental Health
- Back to life, driving,
work, etc

**A new chronic
disease with many
questions**

**Where does he
reliably get info?**

**Access to:
+
-Family physician (if
he has one)
-Specialist
-Cardiac rehab**



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Is James' Situation Unique?

• Burden of Heart Disease in Canada

1 person dies every **5 minutes**

from heart conditions, stroke or vascular cognitive impairment²



CVD is the **#1** cause

of premature mortality and healthcare utilization among women³

CVD is the **2nd** leading cause of death, after cancer¹

In 2015/16

≈2.4 M

had ischemic heart disease

≈800 K

were living with the effects of a **stroke**¹

In 2016



1 in 3

deaths was due to **heart conditions, stroke** or **vascular cognitive impairment**²

CVD=Cardiovascular Disease

1. CCDI Steering Committee. *Health Promot Chronic Dis Prev Can*. 2018; 38: 385–390.

2. Heart & Stroke Foundation of Canada. (Dis)connected: How unseen links are putting us at risk. <https://www.heartandstroke.ca/-/media/pdf-files/canada/2019-report/heartandstrokereport2019.ashx>.

3. Jaffer S et al. *Can J Cardiol Open*. 2021; 3:1-11.

Barriers to Implementation & Perspectives of People with Lived Experience

Jacob Crawshaw
Ottawa Hospital Research Institute



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- Study design:
 - Qualitative study using semi-structured interviews
- Participants (n=26):
 - 14 patients (post-STEMI, discharged within 3 months); 8 healthcare providers (cardiologists, internists, nurse, pharmacists); 4 system leaders (administrative & clinical); regional cardiac network in Ontario
- Frameworks:
 - Theoretical Domains Framework (TDF) – patient & HCP behaviours;
Consolidated Framework for Implementation Research (CFIR) – organizational & system-level barriers
- Analysis:
 - Directed content analysis, compared perspectives across groups

Results

"I had to drive **40 minutes to attend rehab**, which made it harder to commit weekly." (Patient #12)

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

"We don't have a **pharmacist** in our secondary prevention clinic, which I think is a disservice to patients." (Provider #2)

"Good ideas always come up. We also do implementation projects, but then what happens is **somehow it doesn't translate** to necessarily sustained, funded activity." (Leader #4)

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

"We need a **more structured process** to ensure that patients aren't lost to follow-up after discharge." (Leader #1)

"If we had **more structured follow-up post-discharge**, our goal could be to reduce readmissions, but there's no clear strategy on how to implement that." (Leader #3)

Opportunities to Rethink the Patient Journey...



The image shows a screenshot of a webpage from CJC Open. The header is a dark blue bar with the CJC Open logo on the left. Below the header is a light grey navigation bar with links for Articles, Publish, Topics, About, and Contact. The main content area is white and features the following text: 'ORIGINAL ARTICLE · Articles in Press, December 23, 2025 · Open Access'. The title of the article is 'Strengthening transitions in care for patients with ST-elevation myocardial infarction: a theory-based qualitative study'. Below the title are the authors' names and credentials: 'Jacob Crawshaw, BSc, MSc, PhD^{1,2,3} · Marija Corovic, MSc^{1,2} · Muhammad Ajlan, MBBS, FRCPC, ABIM² · Karen D. Mosleh, MSc^{1,2} · Madhu Natarajan, MD, FRCPC^{1,2,4} · Jd Schwalm, MSc, MD, FRCPC^{1,2,4}'. There are also links for 'Affiliations & Notes' and 'Article Info'. At the bottom of the article section are icons and text for 'Download PDF', 'Cite', 'Share', 'Set Alert', 'Get Rights', and 'Reprints'.

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ORIGINAL ARTICLE · [Articles in Press](#), December 23, 2025 · [Open Access](#)

Strengthening transitions in care for patients with ST-elevation myocardial infarction: a theory-based qualitative study

[Jacob Crawshaw, BSc, MSc, PhD^{1,2,3}](#) · [Marija Corovic, MSc^{1,2}](#) · [Muhammad Ajlan, MBBS, FRCPC, ABIM²](#) · [Karen D. Mosleh, MSc^{1,2}](#) · [Madhu Natarajan, MD, FRCPC^{1,2,4}](#) · [Jd Schwalm, MSc, MD, FRCPC^{1,2,4}](#)

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Development of the CCS Secondary Prevention Pathway



JD Schwalm

McMaster University & Hamilton Health Sciences Centre



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Polling Question

What proportion of patients, like James, will be taking their class-I indicated secondary prevention medications at 18 months post-myocardial Infarction?

1. <40%
2. 41-60%
3. 61-80%
4. 81-100%

Evidence-Practice Gap-Provincial:

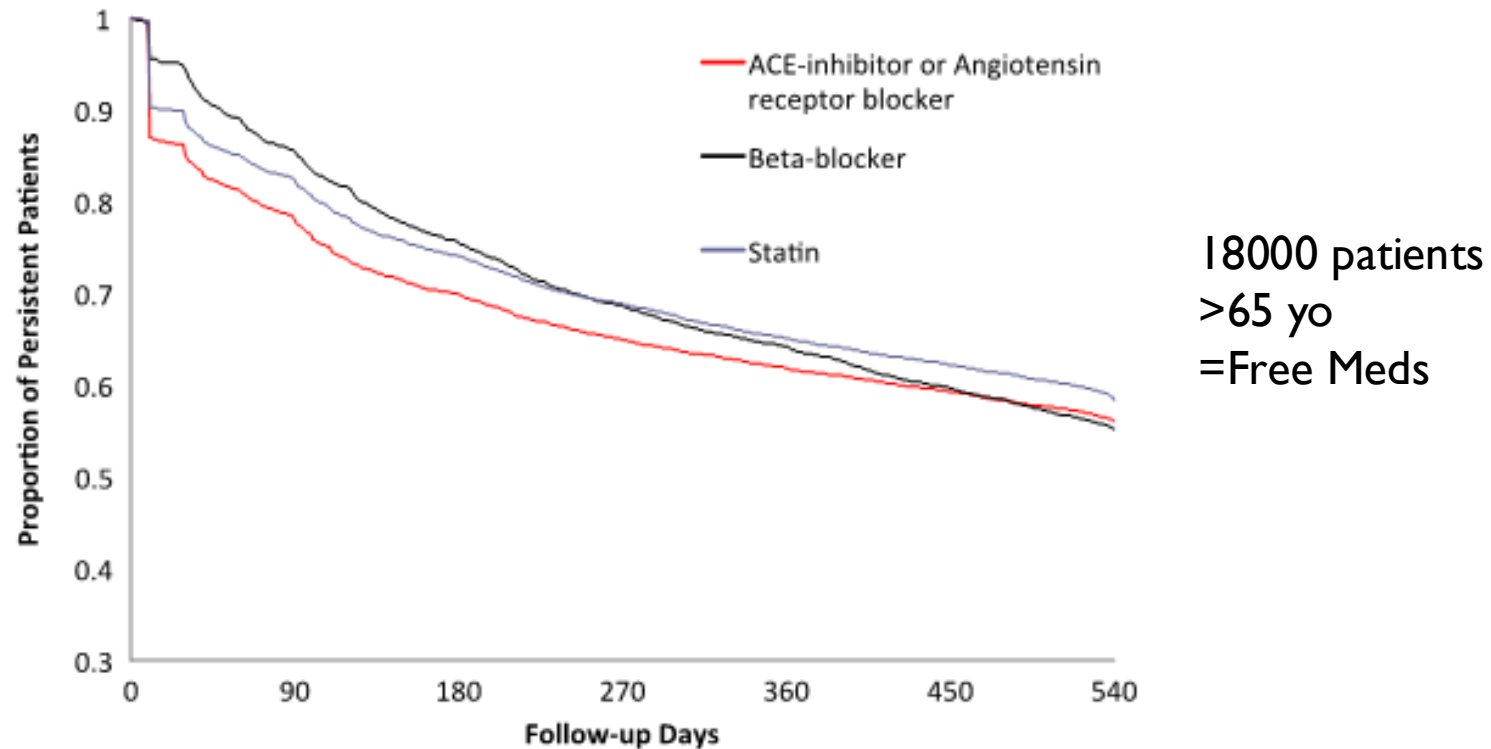


Figure 2. Persistence with secondary prevention medications after angiography. ACE, angiotensin-converting enzyme.

Canadian Journal of Cardiology ■ (2013) 1–7

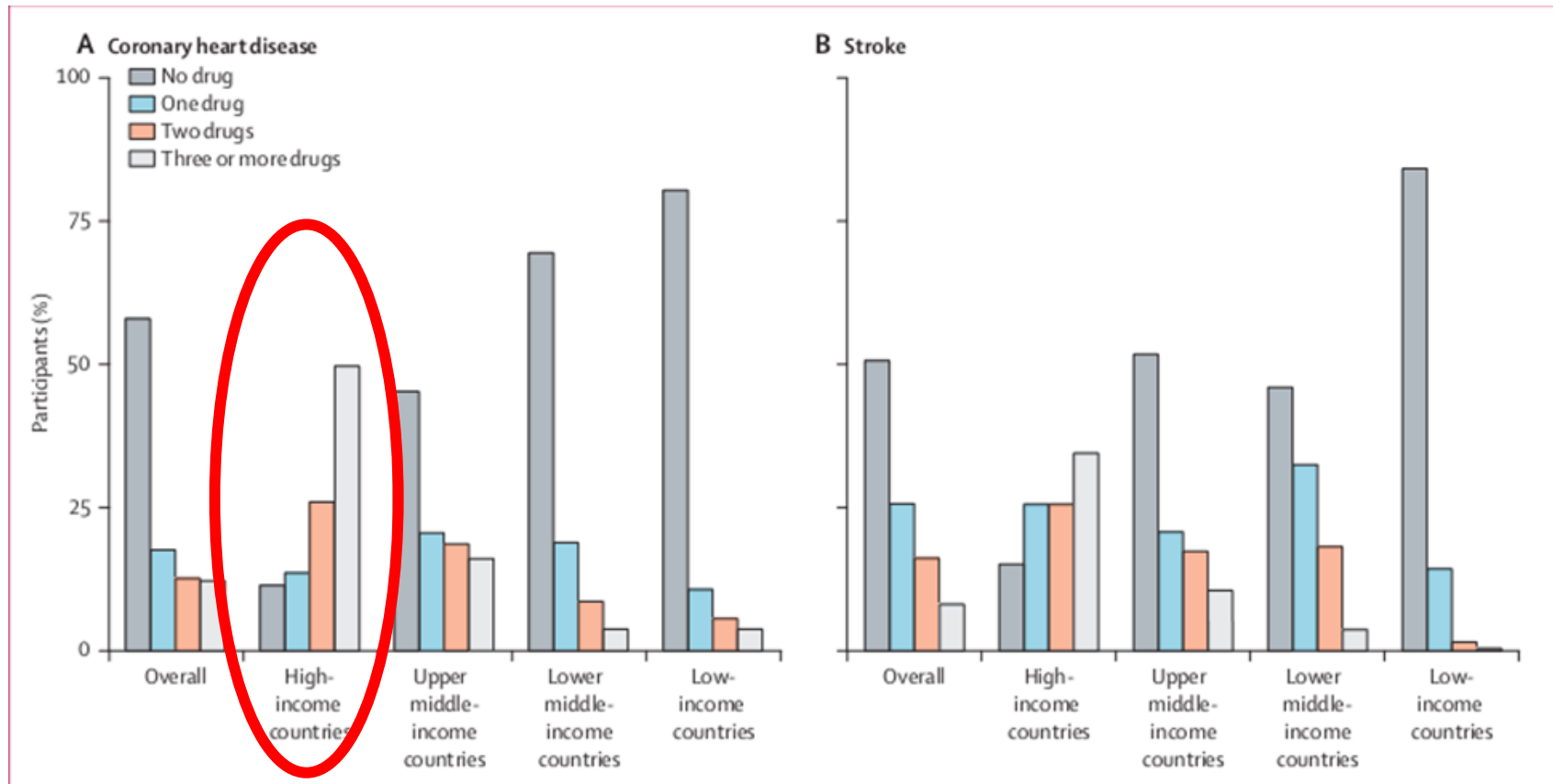
Clinical Research

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}

An International Evidence-Practice Gap:

- Use of CV medications for secondary prevention by country economic status¹



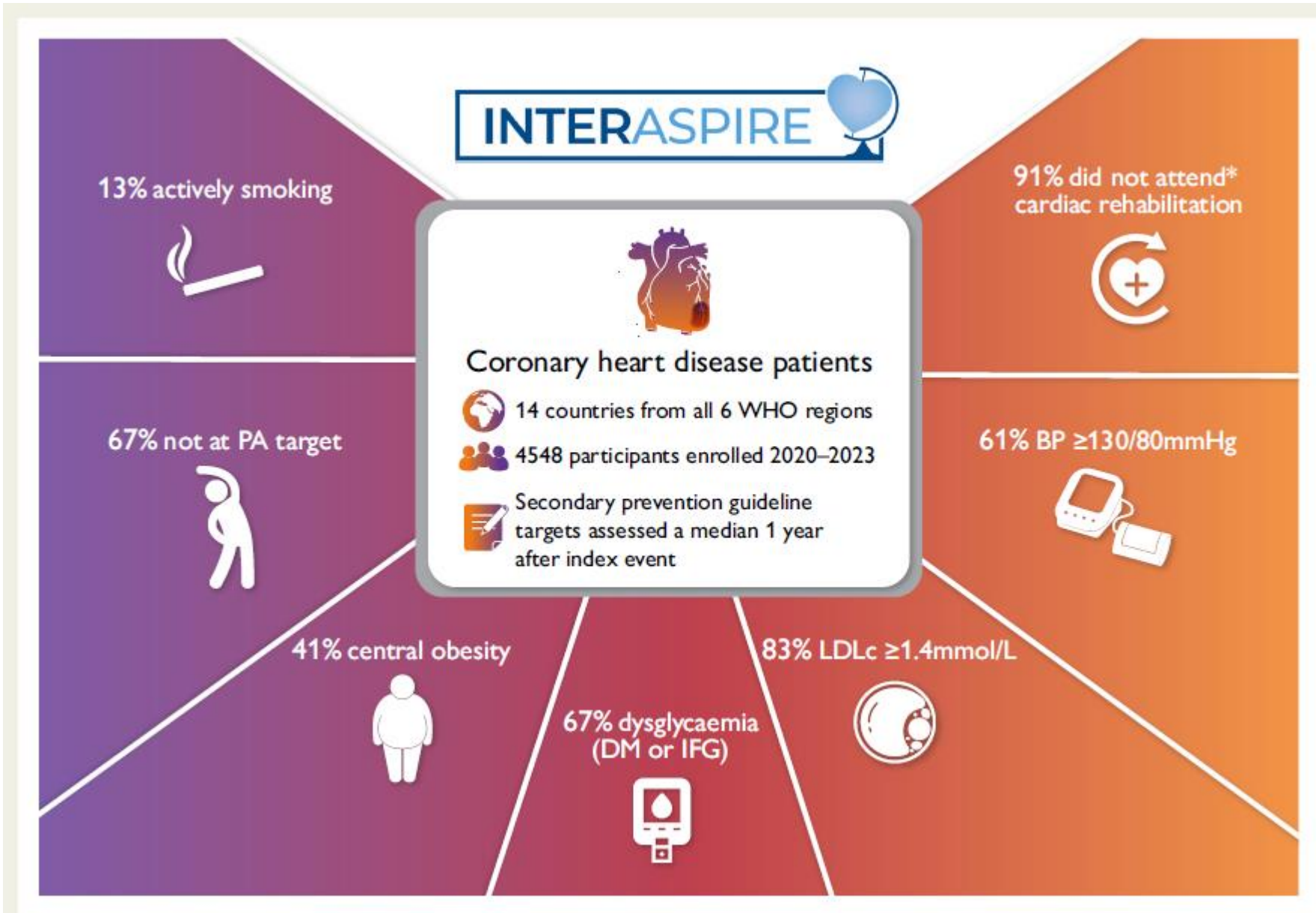
Polling Question

What proportion of eligible Canadian patients participate in Cardiac Rehabilitation Programs post-MI?

- A. < 20%
- B. 21-40%
- C. 41-60%
- D. > 60%

As few as 34% of eligible Canadian cardiac patients participate in a CR program (Grace et al. 2014)

Secondary prevention is sub-optimal as a whole...



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

James 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 intensity³

Hospital Readmission up to 18% at 30 days⁵

Fragmentation of communication between Hospital to Outpatient

Only 66% of people used statins post discharge⁴

1 in 4 Ontarians without family doctor by 2026

Only 40% used antiplatelet drugs⁴

Only 50% of patients are referred to cardiac rehab¹ and less attend

More than 30% of patients are off their cholesterol and blood pressure medications by one year²

Clinical practice

1. Peterson ED et al. JAMA 2006;295:1912-20.
2. Noah M. Ivers, J.-D. Schwalm et al. CJC 2013
3. Pearson, G.J et al .CJC 2021
4. Yusuf S et al. Lancet 2011
5. Hess et al. Circulation 2013

EVIDENCE

PRACTICE



CCS Secondary Prevention Pathway

CCS Secondary Prevention Pathway (SPP)

- Initiated in 2023 to support implementation of:
 - CCS Guidelines and CPUs (Dyslipidemia, Antiplatelet, Fitness to Drive, Smoking Cessation etc.)
 - 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

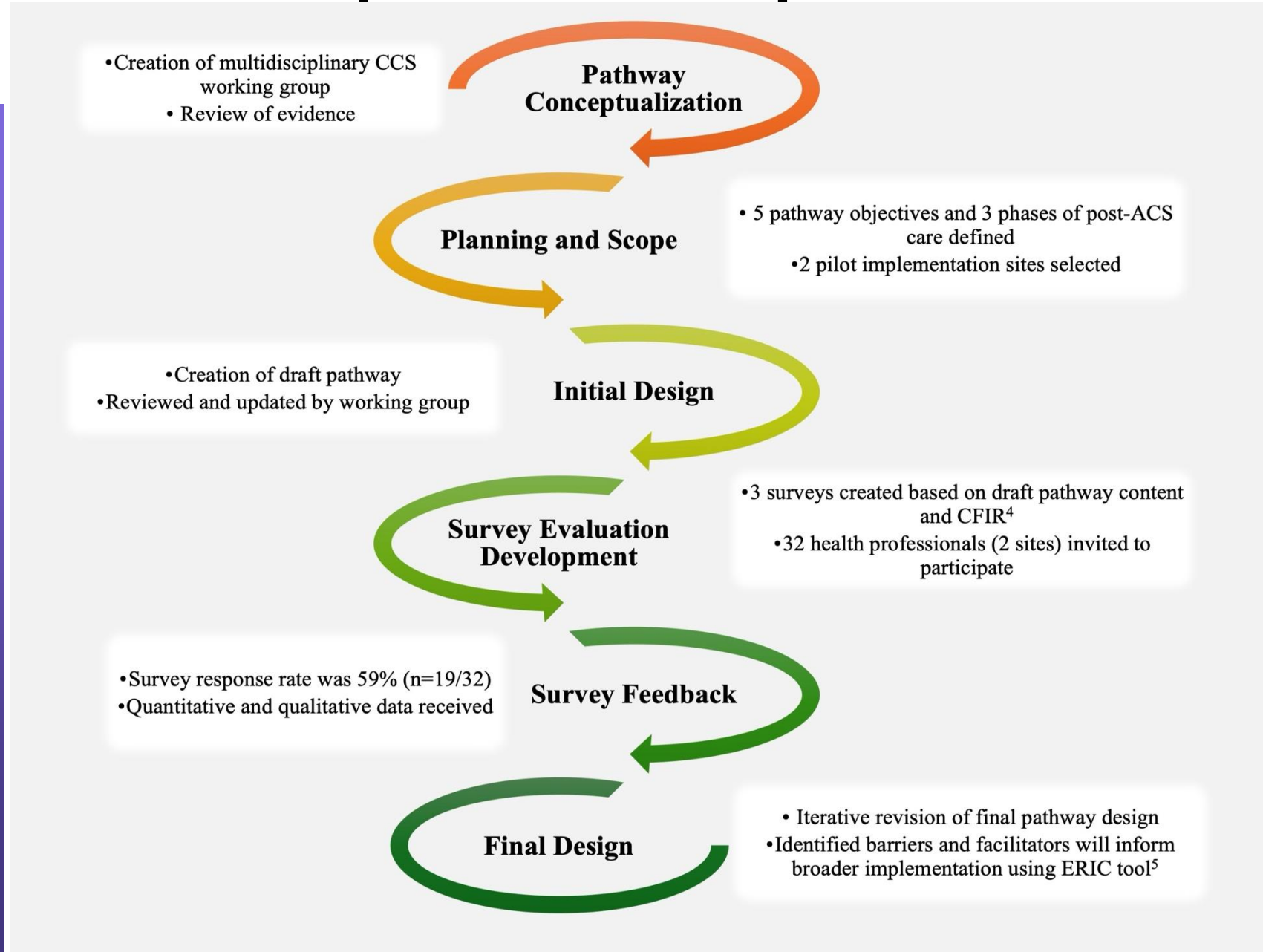
Working Group Members

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

Objectives

- Improve guideline-directed medical therapy post-heart attack
- Improve equitable access to care post-heart attack
- 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

SPP Development and Implementation Process



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



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

Foundational Practice	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	<ul style="list-style-type: none"> Refer to a cardiac rehabilitation program and reinforce the benefits of the program' 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> Ensure referral is made to cardiology/internal medicine for follow-up that is beyond 1 month after discharge 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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 			✓	✓	✓		

One of five defined objectives of effective secondary prevention

Identification of clinician(s) that can be responsible for each task

Foundational practices considered essential to each objective

Organized into three crucial post-ACS follow up intervals

Suggestions for alternate pathways of care

* Discharging physician, or cardiologist/internist at follow-up (also includes nurse practitioner working with a specialist)
 ** Primary care clinician (PCC) (family physician or nurse practitioner) or alternative clinician.
 For patients without a PCC: Pathway care planning, interventions, and follow-up should be provided by an alternative clinician such as a cardiologist/internist, OR hospital-based clinic (nurse practitioner, pharmacist or physician-led clinic), OR cardiac rehabilitation program. Regional resources and center-specific practices will determine the approach.



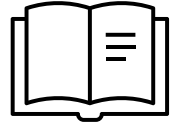
SPP Resources

Topic	Resources
(A) Diabetes	<ul style="list-style-type: none"> • Full Diabetes Management Guidelines: https://guidelines.diabetes.ca/cpg • In Hospital Management of Diabetes: https://guidelines.diabetes.ca/cpg/chapter16 • Management of Acute Coronary Syndromes: https://guidelines.diabetes.ca/cpg/chapter27 • Diabetes Canada Health-Care Provider Tools: https://guidelines.diabetes.ca/health-care-provider-tools (Includes tools for self-management, glycemic targets, monitoring, in-hospital management and more) • Diabetes Canada People with Diabetes Tools: https://guidelines.diabetes.ca/financial-support-and-services; https://guidelines.diabetes.ca/patient-resources; https://guidelines.diabetes.ca/patient-videos
(B) Lipid Management	<ul style="list-style-type: none"> • CCS Dyslipidemia Pocket Guide: https://ccs.ca/wp-content/uploads/2022/07/2022-Lipids-Gui-PG-EN.pdf • CCS Dyslipidemia Guidelines and Resources: https://ccs.ca/guideline/2021-lipids/ (Includes Dyslipidemia guidelines, At-a-glance Summary, patient education tools, webinars for health-care providers)
(C) Smoking Cessation	<ul style="list-style-type: none"> • Canadian Cardiovascular Society Clinical Practice Update on Contemporary Approaches to Smoking Cessation: https://onlinecjc.ca/article/S0828-282X(25)00009-1/fulltext
(D) Heart Failure	<ul style="list-style-type: none"> • CCS Heart Failure Guidelines and Resources: https://ccs.ca/guideline/2021-heart-failure-reduced-ef/
(E) Medication Review/Counselling	<ul style="list-style-type: none"> • Medication Interaction Checker: https://www.drugs.com/drug_interactions.html • Sick Day Medication List: https://guidelines.diabetes.ca/GuideLines/media/Docs/cpg/Appendix-8.pdf and for patients: https://guidelines.diabetes.ca/GuideLines/media/Docs/Patient%20Resources/stay-safe-when-you-have-diabetes-and-sick-or-at-risk-of-dehydration.pdf
(F) Identifying Barriers to Care	<ul style="list-style-type: none"> • Resource Guide to Ontario Health's Social Determinants of Health Framework: https://www.ontariohealth.ca/sites/ontariohealth/files/Social-Determinants-of-Health%E2%80%93Resource-Guide.pdf • BC College of Family Physicians Social Determinants of Health Screening Tool: https://bccfp.bc.ca/wp-content/uploads/2020/06/SDH-Reference-Sheets.pdf • Multidisciplinary Approach to Facilitating Medication Access and Coverage



Patient Pathway

Goal: Create a Secondary Prevention Patient-Facing Tool



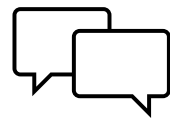
1. Foundation & Synthesis

Input from:

- CCS Pathway (HCP focus)
- Literature Review
- Inventory Database

Output:

- Initial Draft Tool

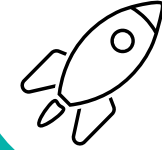


2. Iterative Refinement

3 Rounds of Feedback:

1. Health & Research Professionals
2. 10 ASCVD Patients
3. CCS Working Group

Graphic Designer version developed.



3. Finalizing & Launch

Worked with PIVOT using User-centred and Life-centred Design to improve the tool.



Further ASCVD Patient Review, Revision, then Launch!



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Phase 1: At Discharge

Palki Bhatt
McMaster University



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Getting James Ready for Discharge



He is given a prescription for DAPT, statin for 3 months.
His blood pressure is too low to start an ACE or BB

He is given a paper with discharge instructions and told about driving restrictions

He was told to stop smoking

His wife is unable to attend discharge teaching

He is asked to follow up with his primary care clinician in 2 weeks

He is referred to Cardiac Rehab



GETTING JAMES READY FOR DISCHARGE



"The stent fixed my problem. I don't think I'll need all these pills in the long term"



"I feel like I'm in the dark about what happened"

"We don't have medication coverage, but will figure something out"

"He's looking really down, how am I going to help him?"



"We just don't have time to talk about diet, smoking, activity with every patient"

What Barriers is James Facing at Discharge?

Patient-Level

Knowledge gaps about medications
No involvement of carers

Provider-Level

Limited time for counselling

System-Level

Limited access to medications due to cost

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

Most Responsible Clinician

Foundational Practice

Goals

1. Review importance of medication adherence

- Provide clear instructions on the importance of taking medications as prescribed

2. Review prescriptions

- Explain indication, current and goal dosage, timing and potential side effects of each medication

3. Discuss risk of medication discontinuation

- Discuss the importance of not discontinuing medications before consulting a healthcare provider

11. Social and mental health

- Screen for depression, anxiety, and other psychosocial issues, and refer to if appropriate (Resource J)

Primary
Physician

PCC**

Nurse

Pharmacist

Dietician

Implement all appropriate and tolerated guideline-directed medical therapies

Foundational Practice	Goals
8. Assess patient's ability to access medications	<ul style="list-style-type: none"> Assess patient's ability to pay for medications and identify barriers to patient accessing medications, including nicotine replacement therapy <small>(Resource F)</small> Refer to social work for assistance as needed
9. Ensure adequate duration of prescription	<ul style="list-style-type: none"> Provide initial prescription of 3 months with repeats for 12 months to ensure continuous access and improve adherence

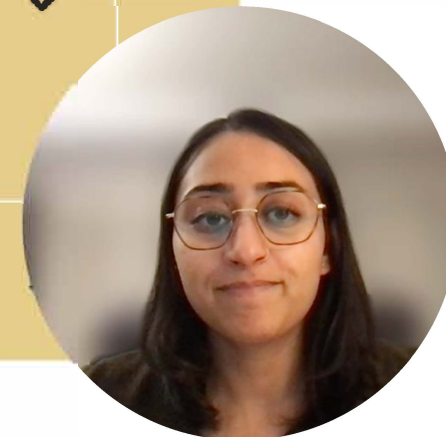
Most Responsible Clinician				
Discharging clinician*	PCC**	Nurse	Pharmacist	Dietitian
✓	✓			
✓	✓			



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

Foundational Practice	Goals
1. Use clear verbal and written communication to provide information and instructions	<ul style="list-style-type: none"> Use verbal and written communication for discharge instructions, prescribed medications, follow-up appointments, and indications to return to hospital
4. Evaluate the patient's understanding of their condition and management	<ul style="list-style-type: none"> Assess patients understanding of their discharge instructions and their readiness for self-management before discharge <small>(Resource K)</small> Allow sufficient time for patient and carers to ask questions
5. Engage family members and carers	<ul style="list-style-type: none"> Include family members and carers in discharge instruction

Most Responsible Clinician				
Discharging* clinician	PCC**	Nurse	Pharmacist	Dietitian
✓	✓	✓	✓	
✓	✓	✓		



What if this patient did not have a primary care clinician (PCC)?

For patients without a PCC:

Pathway care planning, interventions, and follow-up should be provided by an **alternative clinician such as a cardiologist/internist**

OR

Hospital-based clinic (nurse practitioner, pharmacist or physician-led clinic),

OR

Cardiac rehabilitation program.



Phase 2: Early After Discharge (1-4 weeks)

Claudia Bucci

Pharmacist

Sunnybrook Health Sciences Centre



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62-year-old Patient with STEMI

At 1-2 weeks after discharge:

- He is tolerating medications but has questions
- There is a need for dose titration or drug initiation ie. BB, ACEI
- He has not seen his family doctor yet
- There is no scheduled appointment with a cardiologist or internist
- He has started smoking again

Undertreatment and Outcome Data

Adherence With Statin Therapy in Elderly Patients With and Without Acute Coronary Syndromes

Cynthia A. Jackevicius, BScPhm, MSc, FCSHP

Muhammad Mamdani, PharmD, MA, MPH

Jack V. Tu, MD, PhD, FRCPC

Context Landmark clinical trials have demonstrated the survival benefits of statins, with benefits usually starting after 1 to 2 years of treatment. Research prior to these trials of older lipid-lowering agents demonstrated low levels of 1-year adherence.

Objective To compare 2-year adherence following statin initiation in 3 cohorts of patients: those with recent acute coronary syndrome (ACS), those with chronic coro-

Jackevicius C, Mamdani M, Tu J. JAMA 2002;288:462-467

- Two-year adherence rates were 40.1% for ACS, 26.1% for chronic CAD and 25.4% for primary prevention

Impact of Medication Therapy Discontinuation on Mortality After Myocardial Infarction

P. Michael Ho, MD, PhD; John A. Spertus, MD, MPH; Frederick A. Masoudi, MD, MSPH; Kimberly J. Reid, MS; Eric D. Peterson, MD, MPH; David J. Magid, MD, MPH; Harlan M. Krumholz, MD, SM; John S. Rumsfeld, MD, PhD

Ho M, Spertus J, Masoudi, F. Arch Intern Med 2006

- Stopping meds is independently correlated with higher mortality at one year

Early After Discharge - Goals

1. Patients are discharged after a short hospital stay on several new medications.
Goal: New medications should be reviewed early after discharge
2. Some patients don't have a primary care clinician
Goal: Ensure primary care follow-up is arranged
3. Initial follow-up with a cardiologist or cardiac rehab can be delayed
Goal: Ensure cardiologist follow-up arranged and cardiac rehab referral made
4. There is a need to titrate some medications, assess adherence and side effects
Goal: Ongoing medication recommendations and relevant laboratory and BP monitoring

The Role of Pharmacists

- Improved medication optimization
 - Adherence
 - Dose titration
 - Tolerability
 - Patient education
- Improved access to healthcare providers
- Improved outcomes

The Effectiveness of Pharmacist Interventions on Cardiovascular Risk

The Multicenter Randomized Controlled RxEACH Trial

Ross T. Tsuyuki, PharmD, MSc,^{a,b} Yazid N. Al Hamameh, PhD,^{a,b} Charlotte A. Jones, MD, PhD,^c Brenda R. Hemmelgarn, MD, PhD^d

A randomized trial of a community-based approach to dyslipidemia management: Pharmacist prescribing to achieve cholesterol targets (RxACT Study)

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I-4 Weeks After Discharge: Tasks

- 1) Follow up with PCC or alternative at 2 weeks post discharge (assess for and educate about symptoms)
- 2) Encourage Rehab referral is made and reinforce the importance of attending the program
- 3) Ensure referral to cardiology/internal medicine is made for follow-up after 1 month post discharge
- 4) Assess for and educate about symptoms
- 5) Repeat labs as indicated
- 6) Titrate meds to target and assess adherence and side effects

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

	At Discharge	1 Week to 1 Month After Discharge	> 1 Month After Discharge	Discharging clinician*	PCC**	Nurse	Pharmacist
	Provide information and support to patients and carers, answer questions, facilitate understanding, and optimize adherence						
1. Review importance of medication adherence	<ul style="list-style-type: none"> Provide clear instructions on the importance of taking medications as prescribed 	<ul style="list-style-type: none"> Encourage medication adherence 			✓	✓	✓
2. Review prescriptions	<ul style="list-style-type: none"> Explain indication, current and goal dosage, timing and potential side effects of each medication 	<ul style="list-style-type: none"> Review details of prescriptions with patients/families/carers as needed 		✓	✓	✓	✓
3. Discuss risk of medication discontinuation	<ul style="list-style-type: none"> Discuss the importance of not discontinuing medications before consulting a healthcare provider 			✓	✓	✓	✓
4. Review blood pressure targets	<ul style="list-style-type: none"> Review patient-specific blood pressure targets and review home blood pressure monitoring^{††} 			✓	✓	✓	
5. Driving	<ul style="list-style-type: none"> Provide patient-specific driving restrictions 	<ul style="list-style-type: none"> Re-evaluate and reinforce adherence to restrictions 			✓		
6. Exercise	<ul style="list-style-type: none"> Recommend a gradual increase in physical activity as tolerated. For example, start with walking at comfortable pace for 5 min and increasing by 2-3 min daily 	<ul style="list-style-type: none"> Review progress with gradual resumption of physical activity as recommended by cardiac rehab 			✓	✓	✓



PHASE 3: LONGER-TERM FOLLOW-UP (5+ WEEKS)

Context: The Primary Care Crisis



6.5M

Canadians Without
Primary Care

Approximately 6.5 million Canadians
lack consistent access to a regular
provider.



Growing **Complexity**

Patients present with multiple chronic
conditions, overlapping social needs,
and growing expectations.



Provider **Burnout**

Increasing administrative tasks detract
from direct care and contribute to rising
burnout.



62-year-old Patient with STEMI

It's now 75 days after discharge:

-He needs refills of his medications. His BP isn't at target today.

AND

-He has muscle aches and is worried it's from the statin.

AND

-His daughter is having a mental health crisis which means he has to help with his grandkids, **AND** his knee hurts, **AND** he really needs to get back to work as finances are tight. These things are making it difficult for him to do rehab and are really stressing him out **AND** he hasn't been able to quit smoking yet.

WHOSE JOB IS IT?

This is a story about four people named
Everybody, **Somebody**, **Anybody**, and **Nobody**.



There was an important job to be done
and **Everybody** was asked to do it.

Everybody was sure **Somebody** would do it.
Anybody could have done it, but **Nobody** did it.

Somebody got angry about that,
because it was **Everybody's** job.



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

Standard	Goals			Most Responsible Clinician				
	At Discharge	1 Week to 1 Month After Discharge	>1 Month After Discharge	Discharging clinician*	PCC**	Nurse	Pharmacist	Dietitian
Guideline-directed initiation of the following medication classes: Provider should include appropriate classes of tolerated medications (even at a low dose) for early optimization.								
1. Antiplatelet therapy ^v	<ul style="list-style-type: none"> Continue dual antiplatelet therapy using low dose ASA + P2Y12 inhibitor for at least 12 months and up to 3 years <ul style="list-style-type: none"> Note: Interventional cardiologist to decide on limited/extended duration Consider 'triple therapy' (ASA + P2Y12 inhibitor + oral anticoagulant) if there is an indication for anticoagulation (e.g., atrial fibrillation) Consider limited duration of dual antiplatelet therapy if there are contraindications to significant bleeding concerns Consider PPI therapy in those with high bleeding risk 	<ul style="list-style-type: none"> Confirm appropriate therapy and adequate duration of prescriptions Discontinue ASA between 0 and 30 days post PCI if on triple therapy 	<ul style="list-style-type: none"> Confirm appropriate therapy and adequate duration of prescriptions Discontinue P2Y12 inhibitor between 1 month and 6 months 					

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

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. Use clear verbal and written communication to provide information and instructions	<ul style="list-style-type: none"> Use verbal and written communication for discharge instructions, prescribed medications, follow-up appointments, and indications to return to hospital 	<ul style="list-style-type: none"> Use verbal and written communication for any new medication, upcoming appointments and indications to return to hospital 		✓	✓	✓		
2. Communicate with other providers involved in patient's care	<ul style="list-style-type: none"> Ensure discharge summaries are sent to the primary care provider and relevant others 			✓	✓	✓		
3. Transmit discharge medication prescriptions to patient's pharmacy	<ul style="list-style-type: none"> Send prescription to patient's pharmacy of choice prior to discharge when possible 	<ul style="list-style-type: none"> Send all medication changes to pharmacy 		✓	✓	✓	✓	
4. Evaluate the patient's understanding of their condition and management	<ul style="list-style-type: none"> Assess patients understanding of their discharge instructions and their readiness for self-management before discharge ^(Resource K) Allow sufficient time for patient and carers to ask questions 	<ul style="list-style-type: none"> Confirm the patient understands the discharge instructions and care and self-management plan ^(Resource K) 		✓	✓	✓	✓	
5. Engage family members and carers	<ul style="list-style-type: none"> Include family members and carers in discharge instruction 	<ul style="list-style-type: none"> Include family members and carers, when possible, in follow-up appointments 		✓	✓	✓	✓	✓

2. Lipid lowering therapy ⁱⁱⁱ ^(Resource B)	<ul style="list-style-type: none"> Start high intensity statin therapy or intensify pre-existing therapy with r Consider add-on therapy if already receiving maximally tolerated statin <ul style="list-style-type: none"> If LDL-C >1.8-2.2 mmol/L, ApoB >0.7 -0.8 g/L or non-HDL-C 2.4-2.9 If LDL-C >2.2 mmol/L, ApoB>0.8 g/L or non-HDL-C >2.9 mmol/L c If triglycerides >1.5-5.6 mmol/L, consider icosapent ethyl 2000mg BI 							
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Moving Forward



BUILDING TRUST



CLARITY ON ROLES
AND TASKS



OPEN LINES OF
COMMUNICATION

Pathway Scale and Spread

JD Schwalm

McMaster University & Hamilton Health
Sciences Centre



Canadian
Cardiovascular
Society

20 Canadian
25 Canadian
Congress



Visit <https://ccs.ca/guidelines/ccs-secondary-prevention-pathway> to access:

CCS Secondary Prevention Pathway

Bhatt, P., Wright, M.K., Gall Casey, C., Bucci, C., Ivers, N., Schwalm, J.D. on behalf of the Canadian Cardiovascular Society Secondary Prevention Pathway Working Group (2025). Closing the Practice Gap in Secondary Prevention after Acute Coronary Syndromes: A Provincial Implementation Pathway. *Canadian Journal of Cardiology*. <https://doi.org/10.1016/j.cjca.2025.10.016>

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

The CCS Secondary Prevention Pathway presents evidence-based guideline recommendations to support a patient's journey from discharge to long-term 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

Foundational Practice	Goals			Most Responsible Clinician				
	At Discharge	1 Week to 1 Month After Discharge	1 Month After Discharge	Discharge	PCP*	Nurse	Pharmacist	Diabetes
1. Cardiac rehabilitation	Refer to a cardiac rehabilitation program and confirm the benefits of the program	Follow-up with PCP or alternative provider at 2 weeks post-discharge 2. Ensure cardiac rehabilitation is initiated within 4 weeks and includes the components of monitoring and counseling for the program	Follow-up with PCP or alternative provider at 1 month post-discharge 3. Ensure cardiac rehabilitation attendance and completion	✓	✓	✓	✓	✓
2. Plan early post-discharge follow-up (in-hospital assessment and medication optimization within 30 days)	Ensure follow-up with PCP or alternative provider within 30 days 2. Refer to appropriate endocrinology, nephrology, or other specialist as required (e.g., lipid, renal, or other) for management, further assessment or treatment (e.g., statin, ACE-inhibitor, beta-blocker, or aspirin)	Ensure referral is made to a cardiologist or other specialist for follow-up that is initiated 1 month after discharge 2. Plan referral for further management (e.g., lipid, renal, or other) as required (e.g., lipid, renal, or other) for management, further assessment or treatment (e.g., statin, ACE-inhibitor, beta-blocker, or aspirin)	✓	✓	✓	✓	✓	
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 changes in health along with warning symptoms such as severe abdominal pain, unexplained fatigue, and dizziness			✓	✓	✓	✓	

*Discharge provider or cardiologist/nurse at home in all-inclusive care practices working with a patient.
*Primary care provider (PCP) includes physician or nurse practitioner or physician assistant.
*Nurse includes nurse practitioner or nurse clinician.
*Pharmacist includes pharmacist or pharmacist clinician.
*Diabetes includes diabetes educator or diabetes specialist.
*Other includes other specialist or other healthcare professional.
*The most responsible provider is the provider who is most responsible for the patient's care at the time of the assessment.

