The Official Journal of the Canadian Council of Cardiovascular Nurses
La revue officielle du Conseil canadien des infirmières et infirmiers en soins cardiovasculaires

Canadian Journal of Cardiovascular Nursing

Revue canadienne de soins infirmiers cardiovasculaires

VOLUME 35, ISSUE 1 • SPRING 2025
eISSN: 2368-8068

Canadian
Council of
Cardiovascular
Nurses

Conseil canadien
des infirmières et
infirmiers en soins
cardiovasculaires

Canadian Journal of
Cardiovascular
Nursing

Revue canadienne de soins
infirmiers
cardiovasculaires

eISSN: 2368-8068

VOLUME 35, ISSUE 1, SPRING 2025

ARTICLES

Canadian Journal of Cardiovascular Nursing

Revue canadienne de soins infirmiers cardiovasculaires

Address

Canadian Council of Cardiovascular Nurses
202–300 March Road
Ottawa, Ontario K2K 2E2
Phone: 613-599-9210, Fax: 613-595-1155
Email: david@cccn.ca

For general information, please contact:
david@cccn.ca

Publishing

The *Canadian Journal of Cardiovascular Nursing* is published three times per year by the Canadian Council of Cardiovascular Nurses (CCCN).

This is a refereed journal concerned with health care issues related to cardiovascular health and illness. All manuscripts are reviewed by the editorial board and selected reviewers. Opinions expressed in published articles reflect those of the author(s) and do not necessarily reflect those of the Board of Directors of CCCN or the publisher. The information contained in this journal is believed to be accurate, but is not warranted to be so. The CCCN does not endorse any person or products advertised in this journal. Produced by Pappin Communications, Cobden, Ontario.

Managing Editor

Heather Coughlin
Cobden, ON

Layout and Design

Sherri Keller
Pembroke, ON

Advertising

For information on advertising, please see www.cccn.ca for the rate sheet with full technical specifications.

Yearly subscription rates*

	Canada	International
Individual	$85.00	
Institution	$100.00	$125.00

If you become a member of CCCN for $85.00* (CAD) annually, you will receive your journal subscription at no additional charge.
* Plus applicable taxes

Subscriptions

Subscribe online at: www.cccn.ca

Or send cheque or money order to:
Canadian Council of Cardiovascular Nurses
202–300 March Road
Ottawa, Ontario K2K 2E2

Indexing

The *Canadian Journal of Cardiovascular Nursing* is indexed in EBSCO.
eISSN: 2368-8068

Canadian
Council of
Cardiovascular
Nurses

Conseil canadien
des infirmières(iers)
en nursing
cardiovasculaire

EDITORIAL

The Vital Role of Annual Cardiovascular Nursing Conferences in Strengthening our Collaborative Future

The highly anticipated annual nursing Canadian Council of Cardiovascular Nursing conference **Update Your Cardiovascular Nursing Toolkit** is not just a date on the calendar – it's a call for collective progress, renewed purpose, and shared innovation. In a time when our Canadian healthcare landscape is evolving rapidly, the importance of this in-person gathering for cardiovascular nurses cannot be overstated. As the abstracts of this year's conference are published in this edition of the *Canadian Journal of Cardiovascular Nursing*, readers will note a wide range of diverse sessions on the agenda, highlighting the breadth and depth of the vital work carried out by cardiovascular nurses in the domains of clinical care, education, research, and policy. This conference is more than a series of workshops, oral and poster presentations: it is a powerful convergence of minds, experience, and ambition.

Each year, this conference offers a hub where nurses from across Canada, cardiovascular specialty areas, domains of practice, and career stage come together. It offers a platform to share best practices, learnings, and hard-earned insights. The initiatives and innovations shared at the conference can elevate practice, re-ignite passion and enthusiasm for our profession and chosen specialty, while simultaneously improving practices and outcomes well beyond our home institutions.

Amongst our impressive progress, there are existing challenges that require our attention and need to be addressed with innovative solutions: workforce shortages and burnout, managing and supporting patients with complex, multimorbid chronic conditions; health inequities; and artificial intelligence. All these – and more – demand that we accelerate the implementation of solutions. Yet, acceleration cannot happen in isolation. This is where the conference's role as a catalyst for collaboration and courage is most critical. Nurses are uniquely positioned to lead and influence integration across disciplines, creating new interdisciplinary pathways to these much-needed solutions (Orchard et al., 2017, Part 1; Part 2). With nurses' holistic understanding of patient and family needs and continuous presence across the care continuum, nurses often serve as the vital connectors between patients and families, physicians, therapists, social workers, pharmacists, and other knowledge users. Partnering with these people who are in positions that allow them to use the knowledge produced through these initiatives in the real-world, leads to timely, informed, evidence-based healthcare practice and policy decisions (Gagliardi, 2016). They intimately understand the context in which the knowledge is being generated and, hence, are well suited to propose solutions to address locally identified needs. By integrating diverse voices, especially those with lived and living experience, into our initiatives, we can develop novel approaches to solving complex problems and ensure that the most relevant questions are being asked, and most pressing problems are being solved. This inclusivity shapes everything from project design, what data are being collected to what outcomes are being measured, and keeping people and communities' needs and priorities at the forefront. This also expands our networks for knowledge mobilization, crucial for achieving timely, real-world impact. Increasingly, many funders are supporting team-based and mission-driven research programs grounded in interdisciplinarity, cross-sector partnerships, and knowledge mobilization (Canadian Research Coordinating Committee, 2025; Government of Canada, 2024; Social Science and Humanities Research Council, 2025).

These sentiments are mirrored in this issue of the *Canadian Journal of Cardiovascular Nursing*, which continues to share and amplify advancements in cardiovascular nursing. In this issue, we share a compelling collection of articles that tackle complex cardiovascular and clinical issues, including a rapid review of self-management interventions for patients living with refractory angina; concept analysis of shared decision-making for African, Caribbean, and Black Patients Seeking Diabetes care; research exploring the therapeutic relationship and its role in supporting patient decision aids for implantable cardioverter-Defibrillator therapy; and a study exploring the development of a Nurse Practitioner clinical for patients following cardiac surgery. These articles bring together a dynamic range of perspectives and illuminate opportunities for nurses to continue to advance cardiovascular care and outcomes. We continue to invite submissions of research studies, reviews, clinical improvement initiatives, and more.

In a time when healthcare systems must be more agile and integrated than ever, empowering nurses to inform and lead co-produced, interdisciplinary efforts is essential.

As emphasized by the Canadian Council of Cardiovascular Nurses' president during the recent conference, we are ***Stronger Together.*** Because when nurses come together and bring others along on the journey, they turn challenges into opportunities, transform bold ideas into action, and find ways to overcome even the most complex barriers.

Krystina B. Lewis, PhD, RN, and Davina Banner, PhD, RN
Co-editors

REFERENCES

Canadian Research Coordinating Committee. (2025). *New frontiers in research fund*. Government of Canada. https://www.sshrc-crsh.gc.ca/funding-financement/nfrf-fnfr/index-eng.aspx

Gagliardi, A. R., Berta, W., Kothari, A., Boyko, J., Urquhart, R. (2016). Integrated knowledge translation (IKT) in health care: A scoping review. *Implement Sci, 11*(38).

Government of Canada (2024). *Canada First Research Excellence Fund*. https://www.cfref-apogee.gc.ca/home-accueil-eng.aspx

Orchard, C. A., Sonibare, O., Morse, A., Collins, J., Al-Hamad, A. (2017). Collaborative leadership, Part 1: The nurse leader's role within interprofessional teams. *Nursing Leadership, 30,* 14–25.

Orchard, C..A., Sonibare, O., Morse, A., Collins, J., Al-Hamad, A. (2017). Collaborative leadership, Part 2: The role of the nurse leader in interprofessional team-based practice – Shifting from task- to collaborative patient-/family-focused care. *Nurs Leadersh, 30,* 26–38.

Social Science and Humanities Resarch Council. (2025). *Partnership grants*. Government of Canada. https://www.sshrc-crsh.gc.ca/funding-financement/programs-programmes/partnership_grants_stage1-subventions_partenariat_etape1-eng.aspx

Canadian Journal of Cardiovascular Nursing

Shared Decision-Making in the Context of African, Caribbean, and Black Patients Seeking Diabetes Care: A Concept Analysis with Implications for Cardiovascular Advanced Practice Nursing

Semhal Gessese, RN, MSCN(c)[1], Jane Tyerman, RN, PhD, CCSNE[1], and Krystina B. Lewis, RN, PhD[1,2,3]

[1] School of Nursing, Faculty of Health Sciences, University of Ottawa
[2] University of Ottawa Heart Institute
[3] Centre for Implementation Research, Ottawa Hospital Research Institute

Semhal S. Gessese https://orcid.org/0009-0008-7042-3558
Krystina B. Lewis https://orcid.org/0000-0001-6761-7548

Corresponding author: Semhal S. Gessese; email: sgess061@uottawa.ca

Abstract

Background: *Shared decision-making (SDM) enhances patient-clinician collaboration. Racism and discrimination hinder SDM for African, Caribbean, and Black (ACB) patients, who are disproportionately affected by diabetes and cardiovascular complications. There is limited evidence investigating SDM for ACB patients with diabetes and no concept analyses to date have conceptualized SDM for ACB patients with diabetes.*

Purpose: *To clarify the concept of SDM among ACB patients with diabetes.*

Methods: *Following Walker and Avant's concept analysis approach, we searched CINAHL, Nursing & Allied Health, Medline, Scopus, and Embase in November 2023. Eligible articles defined SDM, involved ACB patients, and were published after 2010.*

Results: *Of 181 records, 11 studies were included. Identified attributes include collaboration, communication, and cultural competency. Shared decision-making is conceptualized with a focus on the barriers impeding this approach.*

Conclusions: *Equitable SDM improves ACB patients' involvement in decisions. Cardiovascular Advanced Practice Nurses have an important role in implementing equitable SDM. Research should focus on supporting all members of the interprofessional team to mitigate barriers to SDM.*

Keywords: advanced practice nurses, Black patients, concept analysis, diabetes, shared decision-making

Gessese, S., Tyerman, J., Lewis, K. B. (2025). Shared decision-making in the context of African, Caribbean, and Black patients seeking diabetes care: A concept analysis with implications for cardiovascular advanced practice nursing. *Canadian Journal of Cardiovascular Nursing, 35*(1), 5–13. https://doi.org/10.5737/cjcn-35-1-5

Key Highlights

- **Disparities in Diabetes Care:** ACB patients are disproportionately affected by diabetes and cardiovascular complications. Barriers such as racial bias and discrimination further exacerbate health disparities and impede effective diabetes management.
- **Significance of SDM:** SDM is an approach that fosters collaboration between clinicians and patients, ensuring that treatment plans are tailored to individual patient needs and preferences. However, traditional SDM models often fail to address the unique cultural needs of ACB patients.
- **Cultural Competence in SDM:** Effective SDM with ACB patients requires culturally competent care that respects and integrates their values, preferences, and experiences. Clinicians must actively listen, avoid discriminatory practices, and provide culturally appropriate recommendations.
- **Operational Definition and Attributes:** The manuscript proposes a new operational definition of SDM for ACB patients with diabetes, emphasizing humanistic communication, collaboration, and culturally competent care.

Diabetes is a chronic disease affecting 1 in 10 adult Canadians (Statistics Canada, 2023). Poorly controlled diabetes, characterized by elevated glucose in the bloodstream, poses serious long-term damage to one's blood vessels, nerves, and organs (Heart and Stroke Foundation of Canada [HSFC], 2024). Among the affected organs is the heart, as elevated glucose levels over time impair the blood vessels and nerves essential for heart function, thereby increasing the risk of cardiovascular disease (CVD; HSFC, 2024). Cardiovascular diseases, which encompass conditions impacting the heart and blood vessels, are the leading cause of death globally (American Heart Association [AHA], 2024; Lindstrom et al., 2022). Diabetes is recognized as a critical risk factor for CVDs, with individuals diagnosed with diabetes being twice as likely to develop CVDs, such as heart failure and stroke (AHA, 2024; Lindstrom et al., 2022; Public Health Agency of Canada [PHAC], 2018). Effective diabetes management requires patients to regularly seek primary care services and make decisions with their clinicians regarding medication options, blood sugar monitoring, and lifestyle modifications (Peek et al., 2010a). African, Caribbean, and Black (ACB) patients are disproportionately affected by both type 1 (T1DM) and type 2 (T2DM) diabetes mellitus, experiencing twice the risk compared to White patients, and being at an increased risk for developing CVDs (Peek et al., 2010a). Furthermore, the ACB patient population with diabetes is underrepresented in the literature, with few studies focusing on the barriers contributing to this health disparity (Quinn et al., 2011).

Shared decision-making (SDM) is a recommended approach to facilitate effective collaboration between clinicians and patients when making health decisions (Peek et al., 2010a). Shared decision-making is a process where clinicians collaborate and actively engage with patients as equal partners to enable patients to make informed decisions regarding their health and wellness that align with their values, preferences, and needs (Hoefel et al., 2020; Stacey et al., 2020). Shared decision-making is important in the context of diabetes and cardiac care by ensuring that treatment plans are tailored to individual patient needs and preferences (Mhaimeed et al., 2023). The implementation of SDM has been linked to improved quality of the decision made, patient knowledge of their diagnosis and available options, patient satisfaction, and patient-clinician communication (Freeman-Hildreth et al., 2024; Kashaf et al., 2017). Emerging evidence also suggests that challenges in the implementation of SDM among ACB patients with diabetes in the global north are largely due to barriers that disproportionately impact this population, such as anti-Black racism and discrimination (Peek et al., 2010a). These barriers prevent ACB patients from receiving equitable healthcare services, leading to poor diabetes management, suboptimal mental health, and mistrust toward clinicians (Anim et al., 2024). Currently, limited studies explore SDM between clinicians and ACB patients with diabetes in primary care settings (Peek et al., 2010a). The existing concept of SDM does not fully capture the needs of ACB patients when engaging in health decisions (Mhaimeed et al., 2023; Zisman-Ilani et al., 2023). Furthermore, no existing concept analyses have conceptualized SDM in the context of ACB populations with diabetes. The purpose of this concept analysis is to explore and provide an operational definition of SDM among ACB patients who are making diabetes health decisions in primary care settings.

Methods

Study Design

A concept analysis is an approach used to explore what is known about a concept in the existing literature, understand its components, and develop a clear and precise operational definition (Walker & Avant, 2011). This study employed Walker and Avant's (2011) eight-step approach for concept analysis, chosen for its capacity to provide a comprehensive and structured framework. The first step is to select a concept for the analysis. The second step involves identifying the purpose for the concept analysis. The third step focuses on identifying all uses of the concept within a discipline. In the fourth step, the attributes that characterize the concept are determined. The fifth step involves creating a model case based on a real-life or hypothetical scenario that reflects an example of how the concept is appropriately depicted. In the sixth step, alternative cases are constructed, such as a contrary case in which an example of how the concept is not used correctly is depicted. For the purposes of our concept analysis, we have developed hypothetical scenarios. The seventh step involves identifying the antecedents, which are the necessary components preceding the concept, and the consequences, which describe what happens as a result of the concept. Finally, the eighth step defines empirical referents, which outline how the concept can be measured or evaluated. This approach was used to explore and define the concept of SDM in the context of ACB patients seeking diabetes care.

Data Collection

An independent reviewer conducted a literature search in CINAHL, Nursing & Allied Health, Medline (Ovid), Scopus, and Embase databases in November 2023 to explore how SDM in the context of ACB patients diagnosed with diabetes has been conceptualized in the existing literature. The search strategy was developed with the guidance of the University of Ottawa's Faculty of Health Science librarian (see Table 1). Search terms included the exact phrase "shared decision-making" as the concept and "diabetes" or "diabetic" as the diagnosis. The ACB population was represented using the search terms "African*," "Caribbean*," or "Black*," with an asterisk at the end of each term to address variations. The Boolean operator "and" was used to yield search results referring to all three aspects in the title or abstract.

Table 1

Database Search Terms

Concept	Title and Abstract Search Terms
Concept 1: Shared Decision Making	"Decision making" OR "making decisions" OR "informed decisions" OR "collaborative decisions" OR "decision support" OR "preferred decision" OR "information needs" OR "decision aids"
Concept 2: African, Caribbean, and Black Population	"african*" OR "caribbean*" OR "black*" OR "afro*" OR "racialized*"
Concept 3: Diabetes	"Diabetes" OR "diabetic" OR "hyperglycemia" OR "insulin resistance" OR "blood glucose monitoring"

Inclusion Criteria

Eligible articles had to explicitly define the term SDM in the article, focusing on adult ACB patients with T1DM or T2DM as the primary diagnosis. Eligible articles encompassed empirical quantitative, qualitative, and mixed-methods studies or gray literature. They had to be published in English and be from countries in the global north, where ACB populations are a minority ethnic group. We excluded articles that were not available online in the English language, did not describe SDM in the context of primary care, did not focus on the needs of ACB patients, and T1DM or T2DM were not a diagnosis that was discussed. Articles related to prediabetes, pediatrics, gestational diabetes, and technology were also excluded, as the primary focus was specifically on T1DM and T2DM. The publication year was restricted from 2010 to present to ensure relevant and timely findings for our current healthcare context.

Selection of Articles

Eligible articles obtained through the literature search were selected through a manual screening process (Figure 1). Initially, titles and abstracts of each article were reviewed to identify potentially relevant studies. This was followed by a full-text screening to ensure each selected study met the inclusion criteria.

Data Extraction and Analysis

The extraction phase involved gathering relevant data from the studies included. We began by identifying how SDM was defined and conceptualized across each study and synthesized the findings. Additionally, we examined the attributes, antecedents, consequences, and empirical referents associated with SDM. The operational definition was derived from integrating these insights, focusing on common elements in the context of ACB patients with diabetes.

Results

Steps 1 and 2 of Walker and Avant's (2011) eight-step approach for concept analysis are addressed in the article's introduction, in which the identified concept of SDM in the context of ACB patients diagnosed with diabetes and the purpose are explicitly identified. Steps 3 to 8 are addressed below, whereby we present the search results of the literature review. Finally, we propose a new operational definition for the concept.

Search Results

The initial search yielded 181 results across the selected databases (Figure 1). At the title and abstract level, we removed 88 duplicates, five sources published before 2010, and 77 sources that did not meet the inclusion criteria. After the full-text screening process, 11 sources met the inclusion criteria. These comprised one scoping review, five qualitative, two quantitative, and three mixed-methods studies.

Step 3: Identified Uses of the Concept

Definition of SDM

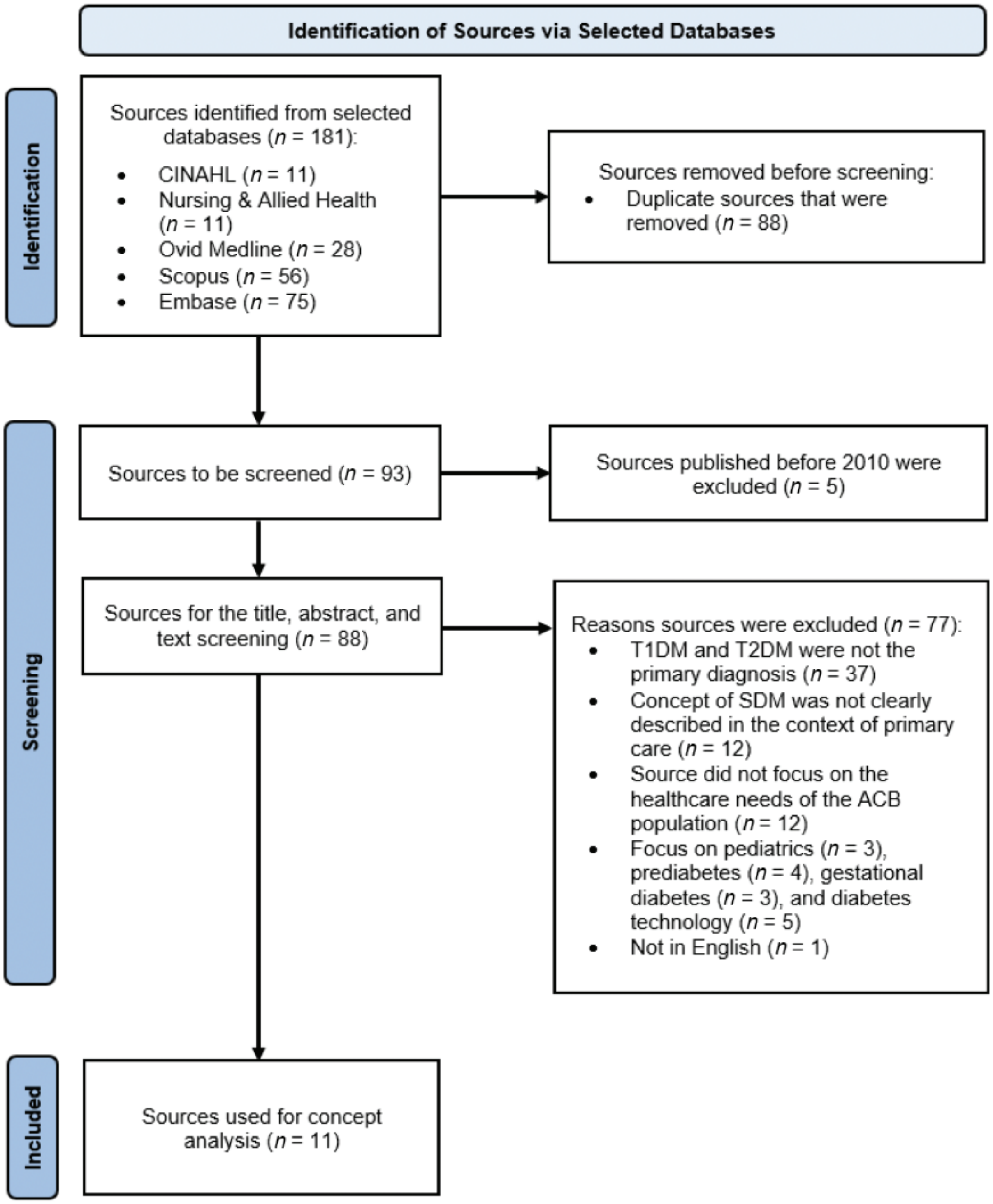
Shared decision-making has been conceptualized as an approach to facilitating patient-clinician collaboration in decision-making. For instance, Mhaimeed et al. (2023) defined SDM as a concept that "is a model of patient-clinician interaction in which both parties share information and take steps to build consensus regarding preferred treatments" (p. 1). Peek et al. (2012) defined SDM as a process in which "patients are equal partners with their physicians in the discussions and decisions about diabetes treatment and clinical care" (p. 297). This concept also focuses on equity, as Whitney et al. (2017) highlighted the importance of including patients in the decision-making process and incorporating their preferences and values. Zisman-Ilani et al. (2023) noted that SDM is "a recommended practice to improve health communication and decision making and is particularly recommended for patients with T2D" (p. 1). Together, these definitions demonstrate that SDM is a collaborative process requiring communication and equity.

Use of the Concept

Within the literature, SDM, in the context of ACB patients seeking diabetes care, focuses on the role of physicians, with no mention of nurses or other clinicians (Mhaimeed et al., 2023). When describing SDM, synonyms of this concept have been used interchangeably, such as 'collaborative,' 'participatory,' and 'informed' decision-making (Mhaimeed et al., 2023; Quinn et al., 2011). Barriers to implementing SDM that adversely affect ACB populations have also been identified. An example involved clinicians engaging in discriminatory practices, such as dismissing the patient's concerns, stereotyping, using condescending language, withholding information, and treating ACB patients differently than other patients (Peek et al., 2010b; Peek et al., 2012). This results in ACB patients not trusting clinicians and suboptimal

Figure 1

PRISMA Flow Diagram Representing the Literature Search Process



collaboration during SDM (Mhaimeed et al., 2023; Peek et al., 2010b). Another reported barrier was poor communication, which occurred when clinicians used medical jargon, lacked interpersonal skills, and did not actively listen to the patient (Peek et al., 2010b; Zisman-Ilani et al., 2023). This prevented effective information exchange and limited SDM (Mhaimeed et al., 2023; Peek et al., 2010b).

SDM Process

Included articles describe SDM as a process that begins with *bidirectional communication.* This occurs when patients share their experiences, values, and preferences while clinicians actively listen and offer information related to the condition and the available options. This enables clinicians to understand what matters most to the patient and identify their needs. Barriers in this phase include ineffective communication, discrimination from clinicians, and clinicians appearing disengaged from the conversation (Peek et al., 2010a; Whitney et al., 2017).

In the second phase, after initial bidirectional communication, clinicians provide *culturally tailored options and recommendations.* Clinicians offer and may recommend evidence-based treatment options that incorporate the patients' cultural needs, values, and preferences. For example, recommendations for a dietary plan must align with the patient's preferred cultural meals. Patients will consider these options and be invited to ask questions for clarification. Barriers include clinicians withholding information or not eliciting or incorporating the patient's needs, values, and preferences into their recommendations (Peek et al., 2010a; Whitney et al., 2017).

Once the patient has considered each of the available treatment options, a *culturally appropriate shared decision* will be achieved in which patients and clinicians mutually agree on a patient-centred treatment plan that aligns with the patient's cultural needs, values, and preferences. This can involve the patient's family for social support, setting manageable goals, and arranging follow-up appointments. Barriers at this phase include clinicians imposing decisions on the patient, excluding the patient's support system, and disregarding the patient's cultural needs. A summary of the SDM process is depicted in Figure 2 (Mhaimeed et al., 2023; Peek et al., 2010a).

Step 4: Defining Attributes

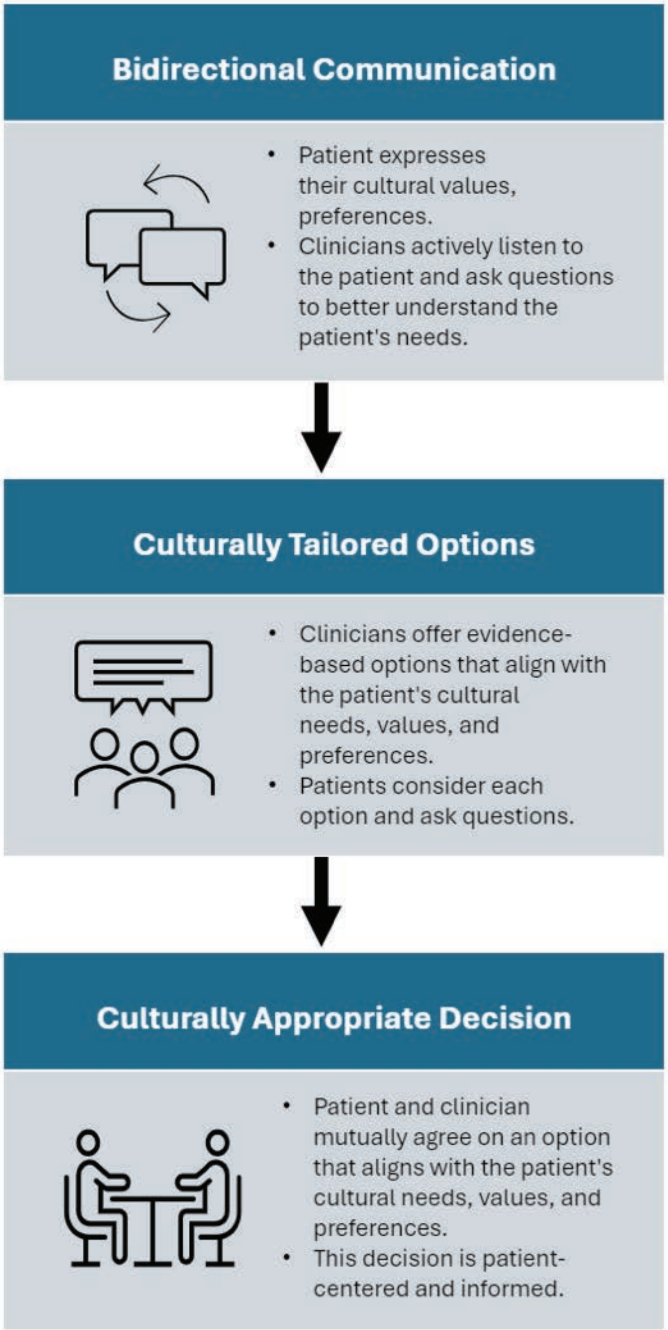
Three attributes characterize SDM. One attribute is *collaboration*, where clinicians and patients work together to identify the patient's preferences for the options and establish a treatment plan (Peek et al., 2010a). Collaboration empowers patients to make decisions with clinicians and increases patient engagement during the decision-making process (Whitney et al., 2017). This attribute requires mutual trust, respect, honesty, and open communication (Zisman-Ilani et al., 2023). This leads to a patient-centred treatment plan to achieve the best possible health outcomes (Syverud et al., 2021).

Another attribute is *humanistic communication,* whereby clinicians actively listen to the patient and understand the patient's perspective (Zisman-Ilani et al., 2023). This requires empathy (Zisman-Ilani et al., 2023), honesty (Peek et al., 2013), and respect (Whitney et al., 2017). For example, patients may need a modified medication regimen to align with their routine (Quinn et al., 2011). Clinicians demonstrated this attribute by validating the patient's concerns and educating the patient on alternative medication options during the recommendations phase (Peek et al., 2012). This resulted in patients feeling valued, increasing collaboration through SDM (Peek et al., 2010a).

The third attribute is *culturally competent or appropriate care*, which requires clinicians to provide care that respects the patient's cultural values and beliefs (Peek et al., 2012). Culture has a significant role in shaping one's perceptions and decision-making needs (Mhaimeed et al., 2023). Therefore, being aware of the patient's cultural background enables clinicians to engage the patient in developing a patient-centred treatment plan (Peek et al., 2012). For example, Whitney et al. (2017) discussed how the African-American church shares strong spiritual values. In this example, clinicians can

Figure 2

A Process for Shared Decision-Making with ACB Patients



- Patient expresses their cultural values, preferences.
- Clinicians actively listen to the patient and ask questions to better understand the patient's needs.

- Clinicians offer evidence-based options that align with the patient's cultural needs, values, and preferences.
- Patients consider each option and ask questions.

- Patient and clinician mutually agree on an option that aligns with the patient's cultural needs, values, and preferences.
- This decision is patient-centered and informed.

demonstrate culturally competent care by respecting the patient's religious needs and incorporating the patient's spiritual values during the decision-making process (Whitney et al., 2017). This can increase patient satisfaction and quality decision-making (Syverud et al., 2021).

Step 5: A Hypothetical Model Case

Mrs. E is a 38-year-old Black patient of Kenyan descent. She was diagnosed with T2DM four months ago. Mrs. E scheduled an appointment with her Primary Care Nurse Practitioner (NP) to share her frustrations with her current diabetes treatment plan involving the use of a glucometer to monitor her blood sugar and follow a prescribed dietary plan.

At the appointment, the NP initiated the conversation by inquiring about Mrs. E's preferences and goals related to diabetes management. The NP also explored Mrs. E's cultural background to understand how her heritage influences her lifestyle and values. Mrs. E shared that she had difficulty using her glucometer at home to assess her blood glucose levels. Mrs. E also expressed that the prescribed diet was "too bland," making it difficult to adhere to the plan. The NP actively listened to Mrs. E by validating her experiences and acknowledging her concerns.

After listening to Mrs. E's health-related concerns, the NP actively engaged Mrs. E in discussing the importance of managing her blood sugar by accurately using a glucometer and making appropriate lifestyle changes. Specifically, the NP explained the available treatment options, which included identifying alternative glucometers available and referring the patient to a dietitian specializing in culturally tailored meal planning. The NP engaged Mrs. E in a discussion about medication options and the risks and benefits of each, how to use a glucometer, a dietary plan that incorporates traditional Kenyan meals, and explored the feasibility of recommended lifestyle modifications for Mrs. E's situation. The NP used understandable language and Mrs. E's preferred method of communication to ensure understanding. This resulted in the NP and Mrs. E collaboratively developing an individualized diabetes management plan aligned with Mrs. E's lifestyle, culture, and values. Together, they agreed on achievable short-term goals and identified ways to involve Mrs. E's family to support her. Ultimately, Mrs. E felt empowered and demonstrated increased satisfaction following this positive healthcare experience.

Step 6: A Hypothetical Contrary Case

Mr. E is a 42-year-old Black male patient of Haitian descent. Mr. E was recently diagnosed with T2DM and scheduled an appointment to meet with his Primary Care NP to seek assistance with diabetes management. During the appointment, the NP neglected to discuss Mr. E's cultural background or inquire about his values, preferences, and treatment goals related to diabetes management. When Mr. E attempted to voice concerns about previous experiences of discrimination in healthcare settings, the NP disregarded these issues.

Mr. E encountered difficulties understanding the medical terminology used by the NP, compounded by English being his second language. Despite this language barrier, the NP failed to provide adequate explanations about available treatment options, leaving Mr. E with a limited understanding of his diagnosis and potential treatment approaches. The NP proceeded to prescribe a treatment plan based on generic guidelines, which did not account for Mr. E's individual preferences, values, or goals. This impersonal approach deepened Mr. E's mistrust toward clinicians and the healthcare system, leaving him feeling disempowered and dissatisfied with his healthcare experience.

Step 7: The Antecedents and Consequences

Antecedents

For SDM to occur, patients must recognize the significance of their diabetes diagnosis, understand the need for medical treatment, demonstrate willingness to participate, and perceive themselves as capable decision-makers (Peek et al., 2012; Syverud et al., 2021). Clinicians must provide a safe space and be knowledgeable regarding diabetes pathophysiology, assessments, treatment, communication strategies, and SDM knowledge and skills (Peek et al., 2010b; Quinn et al., 2011). Additionally, clinicians need to recognize barriers to equitable healthcare and have the skills to provide culturally competent care (Quinn et al., 2011; Whitney et al., 2017). Overall, patients and clinicians must recognize that a culturally appropriate decision regarding the course of treatment must be made, exhibit willingness to collaborate and share mutual trust (Peek et al., 2012; Whitney et al., 2017).

Consequences

Effective SDM increases communication and collaboration between clinicians and patients, resulting in developing a patient-centred treatment plan that addresses the patient's values, preferences, and cultural needs (Peek et al., 2010b). Through SDM, clinicians can improve the patient's health literacy by tailoring to meet the patient's learning needs (Whitney et al., 2017). According to Peek et al. (2012), patients who actively participate in the decision-making process report increased satisfaction and empowerment in managing their care. This leads to sustained lifestyle changes, improved glycemic control, decreased blood pressure, reduced hospitalizations, etc. (Peek et al., 2010b; Quinn et al., 2011). Furthermore, patients who feel that their opinions are valued and receive culturally appropriate care through SDM are more likely to trust clinicians (Mhaimeed et al., 2023).

Step 8: The Empirical Referents

Indicators of successful SDM with ACB patients include patients who are actively engaging in discussions regarding their care, share their experiences and preferences, ask questions, and express overall satisfaction with the care provided during the decision-making process (Zisman-Ilani et al., 2021). Patients' experiences with SDM can be measured using self-reporting tools, such as the Patient-Practitioner Orientation Scale (PPOS; Peek et al., 2011). This tool requires patients to self-report their preferences and experiences regarding SDM with physicians by answering six questions (Peek et al., 2011). Each question contains a six-point Likert scale and addresses the three phases of the SDM process, with an internal reliability Cronbach's alpha score of 0.81 (Peek et al., 2011). Similarly, Syverud et al. (2021) recommended the Desire to Participate in Shared Decision-Making (DPMD) scale, and Zisman-Ilani et al. (2023) introduced the Shared Decision-Making Questionnaire (SDM-Q9), all serving the same objective. However, these scales overlook race as a factor impacting SDM in the care of ACB patients (Zisman-Ilani et al., 2021).

Proposed New Operational Definition

A definition of SDM in the context of ACB patients with diabetes is needed to incorporate clinicians other than physicians, particularly nurses and, further emphasize cultural competence throughout the SDM process. A proposed new operational definition of SDM, specifically for ACB patients with diabetes, can be considered: a concept in health care that describes patients' and clinicians' engagement in bidirectional communication and collaboration when making decisions regarding the course of treatment. Shared decision-making, in this context, requires clinicians to actively listen to the patient, avoid barriers and discriminatory practices preventing equitable healthcare delivery, and if they arise, address them, provide culturally competent care, and tailor treatment options to meet the patient's holistic needs (Mhaimeed et al., 2023; Zisman-Ilani et al., 2023).

Discussion

This concept analysis revealed that existing definitions of SDM often overlook the significance of culturally appropriate care, which is crucial for achieving equitable and effective healthcare outcomes (Mhaimeed et al., 2023). While the uses of the concept of SDM in the context of ACB patients with diabetes aligns with the established definition of SDM (Stacey et al., 2020), there is a notable absence of cultural competency as a critical component to the established definition (Mhaimeed et al., 2023). The study findings describe SDM as a process that can be organized into three components (see Figure 2): bidirectional communication, culturally tailored recommendations, and reaching a mutually agreed-upon and culturally appropriate decision (Mhaimeed et al., 2023; Peek et al., 2010a). However, barriers, such as discrimination, disregard for the patient's cultural needs, and poor communication, impede effective and equitable SDM among the ACB population (Mhaimeed et al., 2023; Peek et al., 2010b). Although existing definitions emphasize the collaborative nature of SDM between patients and clinicians, there is a notable gap in its practical application and the breadth of research exploring culturally inclusive approaches (Whitney et al., 2017). Culturally sensitive care is an important factor in the context of the ACB population as it ensures that their values, preferences, and experiences are respected and integrated into their care (Whitney et al., 2017). Key attributes to successfully achieve SDM identified through this analysis include collaboration between patients and clinicians, humanistic communication involving empathy and honesty, and culturally appropriate care that respects the patient's cultural values and preferences (Quinn et al., 2011; Zisman-Ilani et al., 2023). Ultimately, this paper proposes a new operational definition of SDM as a process that incorporates the attributes discussed in the literature and emphasizes the need for culturally appropriate care to be practiced by all clinicians.

Implications for Practice

Primary care NPs and diabetes clinical nurse specialists (CNSs) are advanced practice nurses (APNs) who can use their clinical and academic expertise to integrate SDM strategies effectively into their care (Peek et al., 2011). SDM is a concept that can be integrated into the practice of APNs when providing care for ACB patients with diabetes (Zisman-Ilani et al., 2021). This is reflected through three competencies identified in the APN pan-Canadian framework: consultation and collaboration, direct comprehensive care, and education (Canadian Nurses Association [CNA], 2019).

Shared decision-making is related to the competency of consultation and collaboration in working with patients and families when developing a treatment plan for diabetes management. Collaboration is one of the three attributes identified in the SDM literature, as both patients and APNs need to work together to identify the patient's concerns and preferences, discuss possible treatment options, and mutually agree upon a decision. For example, suppose a patient expresses frustrations with the current dietary plan during the information exchange phase. In that case, the APN can work with the patient to find a solution during the recommendations phase. Solutions to this concern may include modifying the dietary plan to incorporate cultural meals, collaborating with the patient's family for support at home, and consulting a dietitian for additional resources. This individualized plan meets the patient's preferences and cultural needs, which empowers patients to engage in SDM and follow the treatment plan. This also encourages APNs to consult other clinicians, such as physicians or social workers, to optimize patient care. This has implications for interprofessional SDM, where two or more clinicians collaborate to deliver patient-centred care and support patients in decision-making (CNA, 2019; Peek et al., 2011; Stacey et al., 2016).

Direct comprehensive care is achieved when APNs communicate with the patient, apply their knowledge of diabetes pathophysiology, and collaboratively develop a patient-centred treatment plan. Shared decision-making has a direct role within this competency, as APNs need to collaborate with patients to provide patient-centred care throughout the three phases of the SDM process. For example, APNs need SDM when caring for patients who report difficulty using their glucometer to monitor blood glucose levels. This is achieved by listening to their concerns and identifying the patient's preferences during the information exchange phase. In the recommendation and deliberation phase, APNs identify strategies to educate patients on glucose monitoring, explain the importance of glycemic control, and provide resources to support patients in using their glucometer. Advanced practice nurses collaborate with patients to mutually agree upon a decision and plan follow-up appointments to monitor outcomes during the decision-making phase. SDM ultimately promotes therapeutic communication and collaboration between patients and APNs (CNA, 2019; Zisman-Ilani et al., 2023).

Finally, education is a competency in which SDM has a direct role in APN practice. Through humanistic communication, APNs are responsible for interacting with patients and evaluating the patient's learning needs. Based on this assessment, APNs provide education to their patients regarding diabetes pathophysiology during the information exchange phase, and the available treatment options during the recommendations and deliberation phase. For instance, APNs can educate patients on how to use a glucometer to monitor their blood sugar by demonstrating this skill to the patient. Shared decision-making impacts patient education by improving the patient's health literacy and empowering them to make decisions regarding glucose management. Patient education should be culturally tailored and involve the appropriate language to ensure the patient's understanding (CNA, 2019; Peek et al., 2010a).

Relevance for Nursing

Understanding SDM in the context of ACB patients with diabetes seeking primary care services is required to address this gap and overcome racial barriers (Zisman-Ilani et al., 2023). This will allow clinicians to understand the impact of SDM on ACB patients and how to provide culturally competent patient-centred care (Mhaimeed et al., 2023). Advanced practice nurses, including NPs and CNSs, are well-positioned to implement patient-centred SDM strategies and address barriers preventing equitable healthcare delivery to promote positive health outcomes and experiences (Peek et al., 2011; Zisman-Ilani et al., 2021).

Strengths and Limitations

This concept analysis has several notable strengths. First, it addresses a gap in the existing literature by focusing on the concept of SDM in the context of ACB patients diagnosed with diabetes, a group that is disproportionately impacted by diabetes and under-represented in research. The analysis implemented Walker and Avant's (2011) systematic eight-step method to allow for a rigorous and structured approach to analyzing the concept of SDM. The inclusion of studies employing different study designs allows for a diverse exploration of the factors influencing SDM for ACB patients. Yet, our findings need to be considered in view of some limitations. First, we identified a limited variety of sources, as Peek was the first author for five of the 11 included studies. Another limitation is that 10 studies were based in the United States and none focused exclusively on the Canadian context. Despite this, the findings remain relevant to the experiences of ACB populations seeking healthcare services in the Canadian healthcare system, with barriers to care, such as anti-Black racism, medical mistrust, and paternalistic care having been documented in Canadian studies as well (Williams et al., 2024). Finally, the screening process was conducted by a single reviewer, as this concept analysis was part of a graduate nursing course that required the primary author to conduct screening independently, which may have introduced possible selection bias. To reduce the possibility of bias, the screening criteria and data extraction processes were clearly defined, and the study findings were reviewed by two co-authors.

Recommendations for Research

Future research needs to prioritize examining SDM among the ACB population with diabetes to address the gaps highlighted in this paper. Systemic barriers impeding equitable SDM need to be further examined to determine ways to address this in clinical practice and promote cultural competency. Additionally, greater attention needs to be placed on the role of nursing in the implementation of interprofessional SDM, as opposed to solely focusing on the role of physicians. Finally, future work should adopt a research co-production approach, including patient partners, nurses and other clinical members of the interprofessional team, on research teams, to ensure that the work is relevant and aligns with the perspectives and lived experiences of this patient population and the people caring for them.

Conclusion

This paper aimed to provide a clear and precise operational definition of SDM to support an appropriate understanding of the term, improve SDM practices, and address the research gap concerning the decision-making needs of ACB patients with diabetes. It also aimed to conceptualize SDM to support clinicians in fostering culturally appropriate SDM, when caring for ACB patients diagnosed with diabetes. Clinicians are responsible for addressing racial inequities and providing culturally appropriate care to promote patient-centred care, patient satisfaction, and positive health outcomes and experiences. Within the context of the ACB population with diabetes, APNs and other clinicians need to encourage SDM that addresses racial inequities acting as barriers during the decision-making process. This also requires clinicians to address racial bias and discriminatory practices. By addressing these barriers, clinicians can provide equitable care throughout the three phases of the SDM process. This can thereby mitigate the burden of diabetes and risk for CVDs. Future studies should focus on developing culturally tailored decision support strategies, such as decision aids, to facilitate SDM in clinical practice for ACB patients (CNA, 2019; Peek et al., 2013).

Author Note

There are no conflicts of interest to disclose.

Disclosures

Co-Editor-in-Chief Davina Banner handled the review process for this article. Krystina B. Lewis had no access to the paper during the review process in her role as co-Editor-in-Chief or reviewer.

REFERENCES

American Heart Association. (2024). *Diabetes.* https://www.heart.org/en/health-topics/diabetes

Anim, S. B., Spurlark, R., Turkson-Ocran, R.-A., Bohr, N., Soco, C., & Simonovich, S. D. (2024). A systematic review of the relationship between discrimination, racism, and type 2 diabetes healthcare outcomes for Black Americans. *Journal of Racial and Ethnic Health Disparities*, *11*(5), 2935–2944. https://doi.org/10.1007/s40615-023-01751-x

Canadian Nurses Association. (2019). *Advanced practice nursing: A pan-Canadian framework.* https://www.apnch.ch/documents/498219/514757/Advanced+Practice+Nursing+-+A+PanCanadian+Framework.pdf/e8688392-8b31-ff8c-ddd9-f30a6f0c6f37?t=1599208412123

Freeman-Hildreth, Y., Aron, D., Cola, P. A., Jr, R. B., & Wang, Y. (2024). Empowering diabetes management: The impact of patient-provider collaboration on type 2 diabetes outcomes through autonomy support and shared decision-making. *Patient Education and Counseling*, *127*, 108348. https://doi.org/10.1016/j.pec.2024.108348

Heart and Stroke Foundation of Canada. (2024). *Diabetes.* https://www.heartandstroke.ca/heart-disease/risk-and-prevention/condition-risk-factors/diabetes

Hoefel, L., O'Connor, A. M., Lewis, K. B., Boland, L., Sikora, L., Hu, J., & Stacey, D. (2020). 20th anniversary update of the Ottawa decision support framework part 1: A systematic review of the decisional needs of people making health or social decisions. *Medical Decision Making*, *40*(5), 555–581. https://doi.org/10.1177/0272989X209362

Kashaf, M., McGill, E. T., & Berger, Z. D. (2017). Shared decision-making and outcomes in type 2 diabetes: A systematic review and meta-analysis. *Patient Education and Counseling*, *100*(12), 2159–2171. https://doi.org/10.1016/j.pec.2017.06.030

Lindstrom, M., DeCleene, N., Dorsey, H., Fuster, V., Johnson, C. O., LeGrand, K. E., Mensah, G. A., Razo, C., Stark, B., Varieur Turco, J., & Roth, G. A. (2022). Global burden of cardiovascular diseases and risks collaboration, 1990-2021. *Journal of the American College of Cardiology*, *80*(25), 2372–2425. https://doi-org.proxy.bib.uottawa.ca/10.1016/j.jacc.2022.11.001

Mhaimeed, N., Mhaimeed, N., Mhaimeed, O., Alanni, J., Burney, Z., Elshafeey, A., Laws, S., & Choi, J. J. (2023). Shared decision making with Black patients: A scoping review. *Patient Education and Counseling*, *110*, 107646–107646. https://doi.org/10.1016/j.pec.2023.107646

Peek, M. E., Gorawara-Bhat, R., Quinn, M. T., Odoms-Young, A., Wilson, S. C., & Chin, M. H. (2013). Patient trust in physicians and shared decision-making among African-Americans with diabetes. *Health Communication*, *28*(6), 616–623. https://doi.org/10.1080/10410236.2012.710873

Peek, M. E., Harmon, S. A., Scott, S. J., Eder, M., Roberson, T. S., Tang, H., & Chin, M. H. (2012). Culturally tailoring patient education and communication skills training to empower African-Americans with diabetes. *Translational Behavioral Medicine*, *2*(3), 296–308. https://doi.org/10.1007/s13142-012-0125-8

Peek, M. E., Odoms-Young, A., Quinn, M. T., Gorawara-Bhat, R., Wilson, S. C., & Chin, M. H. (2010a). Race and shared decision-making: Perspectives of African-Americans with diabetes. *Social Science & Medicine (1982)*, *71*(1), 1–9. https://doi.org/10.1016/j.socscimed.2010.03.014

Peek, M. E., Odoms-Young, A., Quinn, M. T., Gorawara-Bhat, R., Wilson, S. C., & Chin, M. H. (2010b). Racism in healthcare: Its relationship to shared decision-making and health disparities: A response to Bradby. *Social Science & Medicine (1982)*, *71*(1), 13–17. https://doi.org/10.1016/j.socscimed.2010.03.018

Peek, M. E., Tang, H., Cargill, A., & Chin, M. H. (2011). Are there racial differences in patients' shared decision-making preferences and behaviors among patients with diabetes? *Medical Decision Making*, *31*(3), 422–431. https://doi.org/10.1177/0272989X10384739

Public Health Agency of Canada (PHAC). (2018). *Heart disease in Canada.* https://www.canada.ca/en/public-health/services/publications/diseases-conditions/heart-disease-canada.html

Quinn, C. C., Royak-Schaler, R., Lender, D., Steinle, N., Gadalla, S., & Zhan, M. (2011). Patient understanding of diabetes self-management: Participatory decision-making in diabetes care. *Journal of Diabetes Science and Technology*, *5*(3), 723–730. https://doi.org/10.1177/193229681100500327

Stacey, D., Légaré, F., Boland, L., Lewis, K. B., Loiselle, M.-C., Hoefel, L., Garvelink, M., & O'Connor, A. (2020). 20th anniversary Ottawa decision support framework: Part 3 overview of systematic reviews and updated framework. *Medical Decision Making*, *40*(3), 379–398. https://doi.org/10.1177/0272989X20911870

Stacey, D., Légaré, F., & Brière, N. (2016). Engaging clinical teams in an interprofessional approach to shared decision making. In G. Elwyn, A. Edwards, & R. Thompson (Eds.), *Shared decision making in health care: Achieving evidence-based patient choice.* (p. 64–69). Oxford University Press.

Statistics Canada. (2023). *Diabetes prevalence.* Government of Canada. https://www/statcan.gc.ca/en/dai/smr08/2023/smr08/270

Syverud, E., Manser, S. T., Arriaza, S., & Rogers, E. A. (2021). Desire for and experience of shared decision-making and associations with patient-reported outcomes in those with diabetes. *American Diabetes Association (New York, N.Y.)*, *70*(1). https://doi.org/10.2337/db21-512-P

Walker, L. O., & Avant, K. C. (2011). *Strategies for theory construction in nursing* (5th ed.). Prentice Hall.

Whitney, E., Kindred, E., Pratt, A., O'Neal, Y., Harrison, C., & Peek, M. E. (2017). Culturally tailoring a patient empowerment and diabetes education curriculum for the African American church. *The Diabetes Educator*, *43*(5), 441–448. https://doi.org/10.1177/0145721717725280

Williams, K. K. A., Baidoobonso, S., Lofters, A., Haggerty, J., Leblanc, I., & Adams, A. M. (2024). Anti-Black racism in Canadian health care: A qualitative study of diverse perceptions of racism and racial discrimination among Black adults. *BMC Public Health*, *24*(1), 3152–17. https://doi.org/10.1186/s12889-024-20636-0

Zisman-Ilani, Y., Khaikin, S., Savoy, M. L., Paranjape, A., Rubin, D. J., Jacob, R., Wieringa, T. H., Suarez, J., Liu, J., Gardiner, H., Bass, S. B., Montori, V. M., & Siminoff, L. A. (2023). Disparities in shared decision-making research and practice: The case for Black American patients. *Annals of Family Medicine*, *21*(2), 112–118. https://doi.org/10.1370/afm.2943

Zisman-Ilani, Y., Siminoff, L. A., Savoy, M. L., Paranjape, A., Liu, J., Jacob, R. A., Gardiner, H. M., Bass, S. B., Montori, V. M., & Rubin, D. J. (2021). Unmet communication needs and barriers of Black and African Americans with type 2 diabetes. *American Diabetes Association (New York, N.Y.)*, *70*(1). https://doi.org/10.2337/db21-519-P

Self-Management Interventions for Patients with Refractory Angina: A Rapid Review

Marie-Gabrielle Lessard, RN, MSc[1,2*], & Patrick Lavoie, RN, PhD[1,2]

[1] Faculty of Nursing, Université de Montréal
[2] Montreal Heart Institute Research Centre, Montreal, Quebec

***Corresponding author**: Marie-Gabrielle Lessard; phone: 514-376-3330 ext. 2094; email: marie-gabrielle.lessard@icm-mhi.org

Abstract

Background: *Self-management interventions for patients with refractory angina (RA) are minimally implemented in clinical practice.*

Purpose: *This paper reviews the literature on self-management interventions for RA, focusing on their components and structure.*

Methods: *A rapid review.*

Results: *The search yielded 137 records. Ten relevant studies were identified by combining the current search results with those from a notable 2014 meta-analysis. Eight unique interventions were analyzed, comparing their efficacy, components, and structure.*

Conclusion: *The review highlights essential components and structural features of self-management interventions for individuals with RA, aiming to improve patient engagement and treatment outcomes.*

Implications for Practice: *Findings highlight the importance of interventions that reduce uncertainty, boost self-efficacy, and incorporate personalized elements and peer support. These features are essential for addressing the evolving needs of patients with RA, with nurses playing a key role in continuous support, education, and personalized care that empowers patients to manage their condition.*

Keywords: refractory angina, self-management interventions, quality of life, rapid review

Lessard, M.-G., & Lavoie, P. (2025). Self-Management interventions for patients with refractory angina: A rapid review. *Canadian Journal of Cardiovascular Nursing*, *34*(1), 14–23. https://doi.org/10.5737/cjcn-35-1-14

Key Highlights

- Existing self-management interventions for refractory angina face accessibility barriers and often lack a personalized approach.
- This rapid review describes the components and structure of existing self-management interventions for refractory angina.
- Acting planning, feedback, problem-solving, relaxation techniques, and pacing are critical components of successful self-management interventions for refractory angina.

Background

Refractory angina (RA) is a chronic condition characterized by chest pain with minimal exertion or at rest (Gallone et al., 2020). The diagnosis requires the presence of chest pain for more than three months despite optimal medical treatment, bypass grafting, or stenting (Davies et al., 2020). Prevalence estimates in the United States range from 35,000 to 50,000 (Povsic et al., 2021) to 662,000 to 1.3 million (Benck & Henry, 2019). Lower prevalence estimates occur when a narrower definition of RA is applied, one that includes only patients with more than seven episodes of angina per week, compared to the broader definition used by the European Society of Cardiology's working group (Mannheimer et al., 2002). Although the annual mortality rate is relatively low (i.e., less than 4% per year; Henry et al., 2013), half of the patients with RA will be hospitalized, require coronary revascularization, or suffer a myocardial infarction within three years following coronary angioplasty (Povsic et al., 2015).

Patients with RA live with constant uncertainty, unaware of how to manage their symptoms and fearing that chest pain will lead to myocardial infarction and death (Spoletini et al., 2020). This fear can cause patients to become less active, cease working, limit social interactions, and avoid everyday tasks (Wu et al., 2021).

Patients often struggle with self-management tasks like monitoring symptoms or using short-acting nitroglycerin properly (Spoletini et al., 2020). Additionally, many patients hold misconceptions about angina, such as viewing chest pain as a "mini heart attack" or believing that exercise is unsafe. These beliefs hinder their optimal functioning and are associated with high anxiety and depression levels (Spoletini et al., 2020).

The primary objectives in caring for patients with RA are pain relief and quality of life (Davies et al., 2020). Self-management training is recommended to mitigate symptoms, enrich quality of life, and reduce hospital readmissions

(Kardos, 2020). Such interventions offer educational resources to clarify misconceptions about angina alongside cognitive and behavioural strategies for symptom and limitation management (Kardos, 2020).

A meta-analysis by McGillion et al. (2014) revealed a marked reduction in both the frequency of angina episodes and physical limitations following self-management programs. This meta-analysis included data from nine randomized controlled trials (1994-2012) involving 1,282 adult outpatients with coronary insufficiency and Canadian Cardiovascular Society (CCS) Class 1–4 angina, all of whom had stable symptoms for at least three months, to assess the effectiveness of various self-management interventions on angina symptom profiles, health-related quality of life, and psychological well-being. These interventions, delivered individually or in small groups and facilitated by peers or healthcare professionals, varied in frequency from one to 16 sessions, with some occurring weekly and others spread over several weeks (Bundy et al., 1994; Furze et al., 2012; Gallacher et al., 1997; Lewin et al., 1995; Lewin et al., 2002; Ma & Teng, 2005; McGillion et al., 2008; Payne et al., 1994; Zetta et al., 2011). Despite their differences, the interventions had commonalities, such as a blend of educational content and cognitive-behavioural strategies aimed at behavioural and knowledge changes. Techniques taught included relaxation, energy conservation, problem-solving, and action planning. Moreover, the interventions emphasized safe physical exercises tailored for patients with RA (McGillion et al., 2014).

Despite the effectiveness of these interventions, implementation in clinical practice has been minimal (McGillion et al., 2022). Patients report participation barriers, including scheduling conflicts, transportation difficulties, and mobility-restricting physical symptoms (Merius & Rohan, 2017). Furthermore, many interventions lack customization to accommodate each patient's unique needs. Self-management programs are lengthy (Lorig, 2015), demand effort and training from healthcare professionals (Furze et al., 2012), and incur costs for organizations (Morsch et al., 2021). In addition, some self-management interventions carry licensing costs, which further complicate their integration into the care trajectories (Ory et al., 2015).

Given the variability in RA self-management interventions and the challenges inherent in their implementation, it is crucial to describe them thoroughly. Clear articulation of the materials, schedules, activities, and delivery methods will enhance self-management programs' development and adaptation to local contexts. Such detailed articulation can offer invaluable guidance, ensuring these interventions are more effectively tailored to meet the needs of patients. Tailoring programs in this way will likely enhance patient engagement and facilitate adoption and implementation by cardiovascular nurses. Addressing this need will help bridge the gap between intervention design and practical application, ensuring that patient care is effective and efficient.

Aim and Methods

This rapid review aimed to describe the components and structure of RA self-management interventions reported in the literature. Expanding upon the foundational work by McGillion et al. (2014), which synthesized evidence on self-management interventions for patients with stable RA symptoms for at least 3 months up to 2012, we conducted a rapid review (Dobbins, 2017). This review thus focused on the studies included in the prior meta-analysis (before 2012) and added research published afterwards (2012 onwards). We aimed to identify all relevant self-management interventions and provide a detailed description, focusing on their key components and delivery structure. The rapid review method aims to identify the most relevant and high-quality evidence to inform recommendations and facilitate decision-making. Reporting is based on the PRISMA 2020 Statement (Page et al., 2021).

Eligibility Criteria

The literature search focused on randomized controlled trials published after 2012 reporting the efficacy of RA self-management interventions, defined as persistent chest pain for more than three months despite optimal treatment (McGillion et al., 2009). We included studies with patients older than 18 with a functional angina class ranging from 1 (at intense or prolonged physical activity) to 4 (at rest or with any light physical activity; Campeau, 2002).

The primary endpoint in eligible studies was angina symptoms—including chest discomfort, arm, jaw, or back pain—or dyspnea (Jolicoeur & Henry, 2018). These symptoms were measured using tools, such as the angina frequency subscale of the Seattle Angina Questionnaire (Spertus et al., 1995), or angina diaries. The secondary endpoint was quality of life, assessed through the perception of the impact on an individual's physical, psychological, social, and spiritual states (Bowling, 2005). Measurements included the composite five dimensions of the Seattle Angina Questionnaire (Spertus et al., 1995) or other health-related quality-of-life questionnaires.

Eligible interventions combined educational materials with cognitive and behavioural strategies, such as stress management, energy conservation, and safe exercise (McGillion et al., 2012). Control conditions included usual care without exposure to the intervention or other self-management interventions. We considered articles in English or French published in peer-reviewed journals between 2012 and 2024. Grey literature, conference proceedings, opinion papers, best practice guidelines, theses, and dissertations were excluded.

Study Identification

On April 4, 2024, two electronic databases (i.e., Cumulative Index of Nursing and Allied Health Literature [CINAHL; EBSCOhost] and MEDLINE [Ovid]) were searched using descriptors and keywords related to RA and self-management interventions. The search strategy was developed in collaboration with a certified science librarian and is available on request.

Study Selection and Risk of Bias Assessment

Using Covidence (Covidence, Melbourne, Australia), retrieved records were sorted based on their titles and abstracts. Subsequently, two independent reviewers (MGL, PL) reviewed the full texts to confirm compliance with the eligibility criteria. Under the guidance of the second author (PL), the first author (MGL) used the second version of the Cochrane risk of bias tool for randomized trials (Sterne et al., 2019) to evaluate the risk of bias in the included studies.

Data Extraction and Analysis

Interventions were characterized using the Template for Intervention Description and Replication (TIDieR) checklist and guide (Hoffmann et al., 2014). Data extracted encompassed: 1) country, 2) name of the intervention, 3) theoretical basis, 4) study population, 5) materials and information provided to participants, 6) materials used by providers, 7) description of the teaching/learning activities, 8) who delivered the intervention, 9) mode of administration, 10) setting, 11) number, duration, and schedule of sessions, and 12) degree of personalization.

We evaluated the degree of personalization for each intervention by examining the extent to which they were standardized versus customized to meet individual patient needs. The efficacy of these interventions is discussed narratively, complemented by findings from the meta-analysis conducted by McGillion et al. (2014). It is important to note that the unit of analysis was the intervention itself; therefore, some interventions were assessed across multiple studies.

Stakeholder Consultation

In alignment with the final step of the rapid review method (Dobbins, 2017), we aimed to evaluate the applicability and transferability of existing RA self-management interventions. The first author consulted two experienced facilitators from the Chronic Disease Self-Management and Chronic Pain Self-Management programs (LeFort et al., 1998; Lorig et al., 1999). In a one-hour meeting, they distilled the essence of self-management programs, identifying key themes from their dual perspectives as facilitators and chronic disease patients.

Additionally, we consulted with two patient partners with RA (a 51-year-old woman and a 70-year-old man) to gather their insights on the essential components, preferred providers, and optimal structure for a self-management intervention. Each participated in two one-hour meetings. In the first, they were briefed on the pathophysiology of RA and a synthesis of interventions identified from the review. In the second meeting, they provided feedback on the intervention components and discussed the best structure to meet their needs. A summary of the discussions was sent to the patient partners to validate their preferences.

Results

The search identified 137 records (see Figure 1), from which three articles were selected for inclusion (Kimble, 2018; Moattari et al., 2014; Tylee et al., 2016). The risk of bias in the three additional studies ranged from moderate to high (see Table 1). Additionally, we included the eight articles that McGillion et al. (2014) reviewed in their meta-analysis (Bundy et al., 1994; Furze et al., 2012; Gallacher et al., 1997; Lewin et al., 1995; Lewin et al., 2002; McGillion et al., 2008; Payne et al., 1994; Zetta et al., 2011).

We identified eight unique interventions (see Table 2): the Angina Self-Management Intervention (Kimble, 2018), the Nurse-Personalized Care Intervention (Tylee et al., 2016), the Angina Plan Intervention (Furze et al., 2012; Lewin et al., 2002; Moattari et al., 2014; Zetta et al., 2011), the Chronic Angina Self-Management Intervention (CASMP; McGillion et al., 2008), the Stress Management Program Intervention (Gallacher et al., 1997), the Angina Management Program Intervention (Lewin et al., 1995), the Pain Management Intervention (Payne et al., 1994) and the Cognitive-Behavioural Stress Management Intervention (Bundy et al., 1994).

Target Population

The target populations shared similar angina symptoms but differed in demographic and other characteristics. Kimble (2018) and Moattari et al. (2014) focused on patients who had recently undergone angiography or percutaneous coronary intervention (PCI), while the other studies examined those without recent PCI. Lewin et al. (2002) studied patients with RA for less than 12 months, whereas Bundy et al. (1994), Lewin et al. (1995), and McGillion et al. (2008) included those with RA for at least 6 months ($n = 236$). The mean patient age ranged from 54 to 66 years, with some studies limiting participation to adults less than 65 years (Payne et al., 1994) or 70 years (Gallacher et al., 1997; Lewin et al., 1995; Moattari et al., 2014). While most studies included men and women, Gallacher et al. (1997) and Payne et al. (1994) focused exclusively on male participants. Screening for depressive symptoms also varied, with Tylee et al. (2016) including patients scoring ≥8 on the Hospital Anxiety and Depression Scale (Zigmond & Snaith, 1983), whereas Moattari et al. (2014) including those scoring <7.

Intervention Components

The delivery of interventions varied, with the Angina Self-Management (Kimble, 2018), Nurse-Personalized Care (Tylee et al., 2016), and Angina Plan (Furze et al., 2012; Lewin et al., 2002; Moattari et al., 2014; Zetta et al., 2011) provided individually. Other interventions were conducted in small groups, ranging from three to eight participants (Bundy et al., 1994; Gallacher et al., 1997; Payne et

Figure 1

PRISMA Flow Diagram

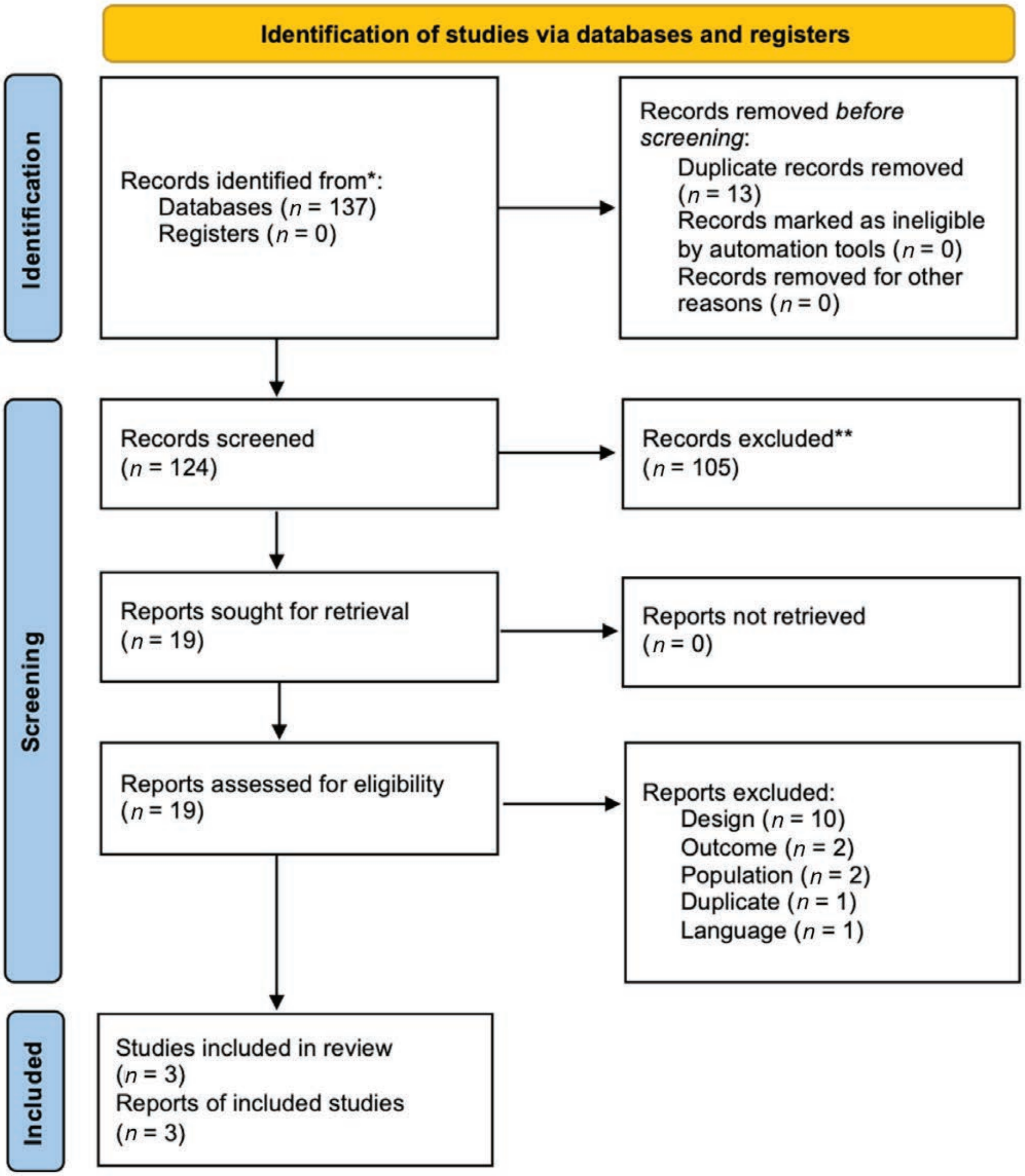


Table 1

Risk of Bias Assessment

References	1	2	3	4	5	Global
Kimble (2018)	Moderate	Moderate	Low	Low	Moderate	Moderate
Tylee et al. (2016)	Low	Moderate	Low	Moderate	Low	Moderate
Moattari et al. (2014)	Moderate	Moderate	Low	High	Moderate	High

Note. 1. Randomization process; 2. Deviations from intended interventions; 3. Missing outcome data; 4. Measurement of the outcome; 5. Selection of the reported results.

Table 2

Components of the Self-Management Interventions for Patients with Refractory Angina

Authors; country	Intervention; theoretical basis	Population	Material provided to participants; providers	Provider; schedule and mode of administration	Activities
Kimble (2018) USA	Angina Self-Management Psychoeducation (Colivicchi et al., 2016)	Post-angiography or angioplasty; CCS 1–4; no infarction before admission; no bypasses in the last six months	NR Standardized telephone script	Nurses One 30-minute telephone session, individual	Information to promote self-management of symptoms (5 topics)
Tylee et al. (2016) UK	Nurse-Personalized Care Self-efficacy (Bandura, 1977)	Outpatient; CCS 1–4; presence of depressive symptoms ≥ 8 on HADS (Zigmond & Snaith, 1983)	Brochure on self-management and action plans; personalized health plan Health Assessment Form; Behaviour Change Toolkit	Nurses One 60-min individual meeting at the clinic or home, followed by 15-minute weekly phone calls as needed for six months	Information according to patient needs (4 topics or more)
Moattari et al. (2014) [a] Furze et al. (2012) [b] Zetta et al. (2011) [c] Lewin et al. (2002) [d] UK, Iran	Angina Plan Cognitive behavioural therapy (Beck, 1979)	Outpatient[b, d]; post-admission for angina[c]; post-angioplasty[a] CCS 1–4[a, c, d]; CCS 1–3[b] Diagnosis of RA > 12 months[d] Coronary heart disease (1–2 vessels); 40–70 years old; no bypasses; < 11 points on HADS[a]	Information guide; relaxation program on CD Manual describing the intervention protocol	NR[a]; Nurses[c, d]; Peers[b] Individual meeting (40 min) at the hospital, followed by four phone calls (10–15 min.) over the next 12 weeks	Discussions and readings (10 topics)
McGillion et al. (2008) Canada	Chronic Angina Self-Management Program (CASMP) Self-efficacy (Bandura, 1977)	Outpatient; CCS 1–3; diagnosis ≥ 6 months; No heart attack in the last 6 months	Information Guide Manual describing the intervention protocol	Nurses Group meeting (2 hours.) of 8-15 participants in a classroom setting; One session per week for six weeks	Information, discussions, and exercise to promote self-efficacy and pain management (20 topics)
Gallacher et al. (1997) UK	Stress Management Program Standard principles of stress management	Outpatient; CCS 1–4; Male only; < 70 years old	Information guide; relaxation program on tape NR	NR Group meeting of 3–8 participants at the clinic; 3 sessions at 4- and 6-week intervals	Information, discussion, and exercise to manage stress (10 topics)
Lewin et al. (1995) UK	Angina Management Program Cognitive behavioural therapy (Beck, 1979)	Outpatient; CCS 1–4; diagnosis ≥ 6 months; ≥ 1 episode of angina/week; Coronary artery stenosis > 50%; ≤ 69 years old NR	NR	Physiotherapists; psychologists Group meeting (4 hours) of 16 participants at the hospital; individual meeting at each session; Two sessions per week for eight weeks	Information and exercise to manage stress and negative emotions; physical activity program (11 topics)
Payne et al. (1994) USA	Pain Management Program Cognitive behavioural therapy (Beck, 1979)	Outpatient; male only; CCS 1–4; ≥ 4 episodes of angina in the last month; ≤ 65 years old; no hospitalization in the last 30 days	Homework to practice relaxation exercises and self-management strategies NR	Group meeting of 3–8 participants; 1 session per week for three weeks	Information and exercise to manage negative emotions and thoughts (6 topics)
Bundy et al. (1994) UK	Cognitive-behavioural stress management training Stress management education (Lazarus, 1966)	Outpatient; CCS 1–4; diagnosis ≥ 6 months; No infarction in the last 6 months; ≤ 69 years old	CD of relaxation exercises; homework between sessions to generate discussion in the next session NR	Psychologists Group meeting (1h30 min.) of 6–8 participants; 1 session per week for seven weeks	Presentation, discussions, and relaxation exercises (11 topics)

Note. CCS = Canadian Cardiovascular Society Angina Grade; CD = Compact Disc; HADS= Hospital Anxiety and Depression Scale; NR = Not Reported; RA= Refractory Angina.

al., 1994), eight to 15 (McGillion et al., 2008), or up to 16 participants (Lewin et al., 1995). Interventions were administered by nurses (Kimble, 2018; Lewin et al., 2002; Tylee et al., 2016; Zetta et al., 2011), psychologists or physiotherapists (Bundy et al., 1994; Lewin et al., 1995), or peers (Furze et al., 2012). Additional peer involvement was a distinctive feature in the CASMP (McGillion et al., 2008) and the Angina Plan (Furze et al., 2012). In the CASMP, participants were encouraged to call a peer between sessions, fostering motivation and problem-solving. In the Angina Plan, peers trained by healthcare professionals delivered the program and conducted follow-up calls.

Regarding format, the Angina Self-Management program (Kimble, 2018) consisted of a 30-minute telephone session. The Angina Plan (Furze et al., 2012; Lewin et al., 2002; Moattari et al., 2014; Zetta et al., 2011) and the Nurse-Personalized Care (Tylee et al., 2016) involved ongoing support through 15-minute phone calls by a nurse or a peer, with a single longer session lasting 40 and 60 minutes, respectively. The total duration also varied across programs: 3 hours for the Stress Management Program Intervention (Gallacher et al., 1997), 12 hours for the CASMP (McGillion et al., 2008), and 64 hours for the Angina Management Program Intervention (Lewin et al., 1995). Payne et al. (1994) did not report the duration of their intervention.

Activities across the interventions typically included information presentations, discussions, and practical exercises focused on managing stress, negative emotions, and angina symptoms. The topics covered by at least two interventions are presented in Table 3. The degree of personalization varied significantly. For example, the Angina Plan (Furze et al., 2012; Lewin et al., 2002; Moattari et al., 2014; Zetta et al., 2011) and the Nurse-Personalized Care (Tylee et al., 2016) offered high personalization, tailoring content and number of sessions to individual misconceptions, risk

Table 3

Topics Covered in at Least Two Self-Management Interventions for Refractory Angina

Components	1	2	3	4	5	6	7	8
Overview of chronic angina and secondary prevention			X	X		X		X
Overview of self-management and the role of cognition in pain management			X	X			X	
Misconceptions about angina			X			X		
Making an action plan		X	X	X	X	X		
Feedback on the implementation of the action plan		X	X	X	X	X		
Problem-solving		X		X	X		X	X
Responses to stress (fight or flight) and consequences on physical and psychological health					X			X
Relaxation techniques ± yoga			X	X	X	X	X	X
Link between thoughts, emotions and behaviours								X
Recognition and management of negative thoughts, emotions, and attitudes			X	X	X	X	X	X
Cardiac pain and depression				X	X			
Staying active or getting in shape	X		X	X		X		
Energy conservation (pacing)			X	X	X	X	X	
Use of short-acting nitroglycerin	X						X	
Medication for angina			X	X				
Monitoring angina symptoms and deciding when to call an ambulance	X			X				

Note. 1. *Angina Self-Management (Kimble, 2018)*; 2. *Nurse-Personalised Care* (Tylee et al., 2016); 3. *Angina Plan* (Furze et al., 2012; Lewin et al., 2002; Moattari et al., 2014; Zetta et al., 2011); 4. *Chronic Angina Self-Management Program (McGillion et al., 2008)*; 5. *Stress Management Program* (Gallacher et al., 1997); 6. *Angina Management* (Lewin et al., 1995); 7. Pain Management (Payne et al., 1994) ; 8. Cognitive-Behavioural Stress Management (Bundy et al., 1994).

factors, and priorities, whereas the CASMP (McGillion et al., 2008) and the Pain Management Program (Payne et al., 1994) were completely standardized.

Intervention Efficacy

The meta-analysis by McGillion et al. (2014) identified a significant reduction in the frequency of angina symptoms and physical limitations 6 months after intervention. However, results from our rapid review presented a more nuanced picture. The Angina Self-Management study (Kimble, 2018) reported no significant difference in angina frequency, though it did note a decrease in physical limitations and anxiety in men, with an opposite trend observed in women. The Nurse-Personalized Care study (Tylee et al., 2016) found that 37% of participants were free of angina symptoms at six months, a substantial improvement over the 18% in the control group, though caution is warranted given the study's pilot nature. Conversely, Moattari et al. (2014) observed no significant changes in angina frequency or physical limitations, but documented a significant reduction in anxiety among the experimental group compared to controls.

Stakeholder Consultation

The two experienced facilitators from self-management programs highlighted the importance of making an action plan, engaging in peer feedback, problem-solving, and practicing relaxation techniques. They emphasized that these components promote interactive learning and enhance group dynamics, increasing participants' self-efficacy for behaviour changes. They also noted the psychological benefits of relaxation techniques, but pointed out the constraints of standardized programs, particularly the insufficient time allocated.

The two patient partners underscored the necessity of tailored interventions. They expressed a strong need to understand their condition, differentiate chronic angina pain from myocardial infarction, and monitor symptoms to recognize patterns. They favoured managing stress with simple relaxation methods (e.g., nature-themed breathing exercises) over complex yoga poses, which they found stressful and potentially harmful. They emphasized the importance of energy conservation, sleep management, physical rehabilitation, and short-acting nitroglycerin to maintain an active lifestyle. Communication with loved ones about their limitations was also deemed crucial, while they preferred to avoid overly paternalistic interactions with professionals. Nutrition and communication with health professionals were not considered essential themes.

As articulated by the patient partners, the optimal intervention structure involves a nurse with a deep understanding of RA and strong interpersonal skills, supported by a kinesiologist and a psychologist. They advocated for a highly personalized approach, valuing peer support and the option for regular phone calls with peers experiencing similar challenges. They also wished for initial support from a patient who had long managed their condition to normalize their feelings and provide a perspective on living a fulfilling life despite their disease. To aid in learning, they suggested providing visual aids such as an informational guide, homework, and a compact disk for relaxation exercises and self-management strategies.

Discussion

This rapid review sought to gather high-quality evidence on the features and efficacy of self-management interventions for RA. Combining the results from a prior meta-analysis by McGillion et al. (2014) and a literature search from 2012 to April 4, 2024, we identified eight unique interventions. Our review revealed that effective interventions (Gallacher et al., 1997; Lewin et al., 1995; McGillion et al., 2008; Payne et al., 1994; Tylee et al., 2016) consistently incorporate action planning, feedback, problem-solving, relaxation techniques, and pacing strategies. These components align with the needs expressed by patient partners and are pivotal in enhancing self-management. Focusing on increasing patient self-efficacy through active mastery, role modelling, and verbal persuasion can improve patients' confidence and motivation, which are vital for managing chronic conditions like RA (Bandura, 1977; Marks & Allegrante, 2005).

Effective self-management interventions for RA must address the pervasive issue of uncertainty (Mishel, 1990), which can amplify pain by activating brain regions linked to affective response, attention, and pain anticipation (Johnson Wright et al., 2009). Education is essential, as a lack of knowledge intensifies uncertainty (Ferreira et al., 2023), decreasing self-management behaviours (Kao et al., 2023). Providing clear information helps dispel misconceptions, such as the belief that angina is a minor heart attack or that exercise is detrimental (McGillion et al., 2007).

Personalization and peer support can impact psychological well-being by reducing depression and anxiety, thereby enhancing the effectiveness of self-management interventions (Furze et al., 2012; Lewin et al., 2002; Moattari et al., 2014). Personalized programs have been associated with better outcomes in managing symptoms and fostering positive health behaviours (Rees & Williams, 2009). Additionally, integrating peer support normalizes patient experiences, provides motivation, and offers practical strategies, thus improving the management of RA.

A strength of this review is the use of the TIDieR checklist (Hoffmann et al., 2014) to describe and compare the intervention components. This approach standardizes the description of intervention components, ensuring they can be reproduced and implemented. In addition, incorporating feedback from patient partners has significantly enhanced the relevance and applicability of our findings, ensuring that the interventions align with patient needs and preferences.

However, the small sample of patient partners may restrict the applicability of our findings across a more diverse population. This highlights the need for future research to involve a more varied cohort of patient partners. Additionally, while thorough, the foundational meta-analysis by McGillion et al. (2014) is now more than 10 years old, underscoring the necessity for up-to-date research in this field. Moving forward, it is crucial to address these limitations by conducting additional research on self-management and expanding the diversity of patient input. As highlighted by Kimble (2018), it would be essential to explore gender differences in relation to physical limitations and anxiety. These steps will help refine the effectiveness and applicability of self-management interventions for RA, ensuring they are evidence based and patient centred.

Implications for Practice

In this collaborative effort with experienced facilitators and patient partners, we identified essential features for an optimal self-management intervention for patients with RA. The intervention must include robust action planning and feedback mechanisms. The patient partners emphasized a high need for personalization, reflecting individual patient experiences and needs. They also expressed the importance of peer support from fellow patients experiencing similar challenges, which can provide emotional support and practical advice.

Critical to the intervention's design are communication tools that enable patients to express their physical limitations to loved ones and differentiate symptoms of chronic angina from those of myocardial infarction. Physical rehabilitation and short-acting nitroglycerin are also foundational, enhancing patients' ability to engage in physical activity safely.

The intervention would ideally combine group sessions with supportive phone calls to maximize self-efficacy and facilitate mutual learning among participants. This approach addresses the need for personal interaction and the convenience of remote support, potentially increasing participation by reducing travel. Spreading sessions over time could also lighten the workload on professionals and reduce costs by minimizing the frequency of in-person gatherings. The program requires a nurse with in-depth knowledge of RA and strong interpersonal skills to guide and support patients throughout their self-management journey.

Conclusion

The findings from this review underscore the necessity of self-management interventions that reduce uncertainty, enhance self-efficacy, and incorporate personalized components and peer support. This multifaceted approach highlights the critical components and structural preferences necessary for designing effective interventions tailored to individuals with RA to enhance patient engagement and efficacy. Customizing these interventions is essential for fostering patient engagement and ensuring seamless integration into clinical practice. Such strategies are crucial in helping patients manage the complexities of RA, leading to better health outcomes and an improved quality of life. Future research should continue to refine these components, ensuring they adapt to the evolving needs of patients with RA.

REFERENCES

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191–215. https://doi.org/10.1037/0033-295X.84.2.191

Beck, A. T. (1979). *Cognitive therapy and the emotional disorders* (1st ed.). Penguin Books Ltd.

Benck, L., & Henry, T. D. (2019). CD34+ cell therapy for no-option refractory disabling angina: Time for FDA approval? *Cardiovascular Revascularization Medicine, 20*(3), 177–178. https://doi.org/10.1016/j.carrev.2019.01.012

Bowling, A. (2005). *Measuring health: A review of quality of life measurement scales* (2nd ed.). McGraw-Hill Education.

Bundy, C., Carroll, D., Wallace, L., & Nagle, R. (1994). Psychological treatment of chronic stable angina pectoris. *Psychology & Health, 10*(1), 69–77. https://doi.org/10.1080/08870449408401937

Campeau, L. (2002). The Canadian Cardiovascular Society grading of angina pectoris revisited 30 years later. *Canadian Journal of Cardiology, 18*(4), 371–379.

Colivicchi, F., Di Fusco, S. A., & Santini, M. (2016). Psycho-educational interventions and cardiac rehabilitation. In A. Roncella & C. Pristipino (Eds.), *Psychotherapy for ischemic heart disease: An evidence-based clinical approach* (pp. 107–120). Springer International Publishing. https://doi.org/10.1007/978-3-319-33214-7_8

Davies, A., Fox, K., Galassi, A. R., Banai, S., Ylä-Herttuala, S., & Lüscher, T. F. (2020). Management of refractory angina: An update. *European Heart Journal, 42*(3), 269–283. https://doi.org/10.1093/eurheartj/ehaa820

Dobbins, M. (2017). *Guide pour les revues rapides*. Hamilton, Ontario : Centre de collaboration nationale des méthodes et outils. https://www.nccmt.ca/fr/tools/guide-des-revues-rapides

Ferreira, P. L., Morais, C., Pimenta, R., Ribeiro, I., Amorim, I., & Alves, S. M. (2023). Empowerment and knowledge as determinants for quality of life: A contribution to a better type 2 diabetes self-management. *International Journal of Environmental Research and Public Health, 20*(5), 4544. https://www.mdpi.com/1660-4601/20/5/4544

Furze, G., Cox, H., Morton, V., Chuang, L. H., Lewin, R. J., Nelson, P., Carty, R., Norris, H., Patel, N., & Elton, P. (2012). Randomized controlled trial of a lay-facilitated angina management programme. *Journal of Advanced Nursing, 68*(10), 2267–2279. https://doi.org/10.1111/j.1365-2648.2011.05920.x

Gallacher, J., Hopkinson, C., Bennett, P., Burr, M. L., & Elwood, P. C. (1997). Effect of stress management on angina. *Psychology and Health, 12*(4), 523–532. https://doi.org/10.1080/08870449708406728

Gallone, G., Baldetti, L., Tzanis, G., Gramegna, M., Latib, A., Colombo, A., Henry, T. D., & Giannini, F. (2020). Refractory angina: From pathophysiology to new therapeutic nonpharmacological technologies. *JACC: Cardiovascular Interventions, 13*(1), 1–19. https://doi.org/10.1016/j.jcin.2019.08.055

Henry, T. D., Satran, D., Hodges, J. S., Johnson, R. K., Poulose, A. K., Campbell, A. R., Garberich, R. F., Bart, B. A., Olson, R. E., Boisjolie, C. R., Harvey, K. L., Arndt, T. L., & Traverse, J. H. (2013). Long-term survival in patients with refractory angina. *European Heart Journal, 34*(34), 2683–2688. https://doi.org/10.1093/eurheartj/eht165

Hoffmann, T. C., Glasziou, P. P., Boutron, I., Milne, R., Perera, R., Moher, D., Altman, D. G., Barbour, V., Macdonald, H., Johnston, M., Lamb, S. E., Dixon-Woods, M., McCulloch, P., Wyatt, J. C., Chan, A.-W., & Michie, S. (2014). Better reporting of interventions: Template for intervention description and replication (TIDieR) checklist and guide. *British Medical Journal, 348,* g1687. https://doi.org/10.1136/bmj.g1687

Johnson Wright, L., Afari, N., & Zautra, A. (2009). The illness uncertainty concept: A review. *Current Pain and Headache Reports, 13*(2), 133–138. https://doi.org/10.1007/s11916-009-0023-z

Jolicoeur, E. M., & Henry, T. D. (2018). Refractory angina. In J. A. de Lemos & T. Omland (Eds.), *Chronic coronary artery disease: A companion to Braunwald's heart disease* (pp. 412–431). Elsevier. https://doi.org/10.1016/B978-0-323-42880-4.00027-3

Kao, Y.-Y., Lee, C.-T., & Wang, R.-H. (2023). Predictors of self-management behaviors after discharge among unplanned dialysis patients. *Journal of Nursing Research, 31*(2), e267. https://doi.org/10.1097/jnr.0000000000000523

Kardos, A. (2020). Managing refractory angina – Is exercise with co-administered heparin the solution? *European Journal of Preventive Cardiology, 28*(15), e12–e15. https://doi.org/10.1177/2047487320915346

Kimble, L. P. (2018). A randomized clinical trial of the effect of an angina self-management intervention on health outcomes of patients with coronary heart disease. *Rehabilitation Nursing, 43*(5), 275–284. https://doi.org/10.1097/rnj.0000000000000039

Lazarus, R. S. (1966). *Psychological stress and the coping process* (1st ed.). McGraw Hill.

LeFort, S. M., Gray-Donald, K., Rowat, K. M., & Jeans, M. E. (1998). Randomized controlled trial of a community-based psychoeducation program for the self-management of chronic pain. *Pain, 74*(2–3), 297–306. https://doi.org/10.1016/s0304-3959(97)00190-5

Lewin, B., Cay, E., Todd, I., Goodfield, N., Bloomfield, P., & Elton, R. (1995). The angina management programme: A rehabilitation treatment. *British Journal of Cardiology, 2*(8), 221–226.

Lewin, R. J., Furze, G., Robinson, J., Griffith, K., Wiseman, S., Pye, M., & Boyle, R. (2002). A randomised controlled trial of a self-management plan for patients with newly diagnosed angina. *British Journal of General Practice, 52*(476), 194–201.

Lorig, K. (2015). Chronic disease self-management program: Insights from the eye of the storm. *Frontiers in Public Health, 2,* 253. https://doi.org/10.3389/fpubh.2014.00253

Lorig, K. R., Sobel, D. S., Stewart, A. L., Brown Jr., B. W., Bandura, A., Ritter, P., Gonzalez, V. M., Laurent, D. D., & Holman, H. R. (1999). Evidence suggesting that a chronic disease self-management program can improve health status while reducing hospitalization: A randomized trial. *Medical Care, 37*(1), 5–14. https://doi.org/10.1097/00005650-199901000-00003

Ma, W., & Teng, Y. (2005). Influence of cognitive and psychological intervention on negative emotion and severity of myocardial ischemia in patients with angina. *Chinese Journal of Clinical Rehabilitation, 24,* 25–27.

Mannheimer, C., Camici, P., Chester, M. R., Collins, A., DeJongste, M., Eliasson, T., Follath, F., Hellemans, I., Herlitz, J., Lüscher, T., Pasic, M., & Thelle, D. (2002). The problem of chronic refractory angina. Report from the ESC Joint Study Group on the treatment of refractory angina. *European Heart Journal, 23*(5), 355–370. https://doi.org/10.1053/euhj.2001.2706

Marks, R., & Allegrante, J. P. (2005). A review and synthesis of research evidence for self-efficacy-enhancing interventions for reducing chronic disability: Implications for health education practice (Part II). *Health Promotion Practice, 6*(2), 148–156. https://doi.org/10.1177/1524839904266792

McGillion, M., Arthur, H. M., Cook, A., Carroll, S. L., Victor, J. C., L'Allier, P. L., Jolicoeur, E. M., Svorkdal, N., Niznick, J., Teoh, K., Cosman, T., Sessle, B., Watt-Watson, J., Clark, A., Taenzer, P., Coyte, P., Malysh, L., Galte, C., & Stone, J. (2012). Management of patients with refractory angina: Canadian Cardiovascular Society/Canadian Pain Society joint guidelines. *Canadian Journal of Cardiology, 28*(2 Suppl), S20–41. https://doi.org/10.1016/j.cjca.2011.07.007

McGillion, M., L'Allier, P. L., Arthur, H., Watt-Watson, J., Svorkdal, N., Cosman, T., Taenzer, P., Nigam, A., & Malysh, L. (2009). Recommendations for advancing the care of Canadians living with refractory angina pectoris: A Canadian Cardiovascular Society position statement. *Canadian Journal of Cardiology, 25*(7), 399–401. https://doi.org/10.1016/s0828-282x(09)70501-x

McGillion, M., LeFort, S. M., Webber, K., Stinson, J. N., & Lalloo, C. (2022). Pain self-management: Theory and process for clinicians. In *Clinical Pain Management* (eds M.E. Lynch, K.D. Craig and P.W. Peng). (pp. 261–271). https://doi.org/10.1002/9781119701170.ch25

McGillion, M., O'Keefe-McCarthy, S., Carroll, S. L., Victor, J. C., Cosman, T., Cook, A., Hanlon, J. G., Jolicoeur, E. M., Jamal, N., McKelvie, R., & Arthur, H. M. (2014). Impact of self-management interventions on stable angina symptoms and health-related quality of life: A meta-analysis. *BMC Cardiovascular Disorders, 14,* 14. https://doi.org/10.1186/1471-2261-14-14

McGillion, M., Watt-Watson, J., LeFort, S., & Stevens, B. (2007). Positive shifts in the perceived meaning of cardiac pain following a psychoeducation program for chronic stable angina. *Canadian Journal of Nursing Research, 39*(2), 48–65.

McGillion, M. H., Watt-Watson, J., Stevens, B., LeFort, S. M., Coyte, P., & Graham, A. (2008). Randomized controlled trial of a psychoeducation program for the self-management of chronic cardiac pain. *Journal of Pain and Symptom Management, 36*(2), 126–140. https://doi.org/10.1016/j.jpainsymman.2007.09.015

Merius, H. N., & Rohan, A. J. (2017). An integrative review of factors associated with patient attrition from community health worker programs that support diabetes self-care. *Journal of Community Health Nursing, 34*(4), 214–228. https://doi.org/10.1080/07370016.2017.1369811

Mishel, M. H. (1990). Reconceptualization of the uncertainty in illness theory. *Image Journal of Nursing Scholarship, 22*(4), 256–262. https://doi.org/10.1111/j.1547-5069.1990.tb00225.x

Moattari, M., Adib, F., Kojuri, J., & Tabatabaee, S. H. (2014). Angina self-management plan and quality of life, anxiety and depression in post coronary angioplasty patients. *Iranian Red Crescent Medical Journal, 16*(11), e16981. https://doi.org/10.5812/ircmj.16981

Morsch, P., Pelaez, M., Vega, E., Hommes, C., & Lorig, K. (2021). Evidence-based programs for older persons in the Americas. *Revista Panamericana de Salud Pública, 45,* e91. https://doi.org/10.26633/rpsp.2021.91

Ory, M. G., Ahn, S., Towne, S. D., & Smith, M. L. (2015). Chronic disease self-management education: Program success and future directions. In M. L. Malone, E. A. Capezuti, & R. M. Palmer (Eds.), *Geriatrics models of care: Bringing "Best Practice" to an aging America* (pp. 147–153). Springer International Publishing. https://doi.org/10.1007/978-3-319-16068-9_12

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ, 372,* n71. https://doi.org/10.1136/bmj.n71

Payne, T. J., Johnson, C. A., Penzien, D. B., Porzelius, J., Eldridge, G., Parisi, S., Beckham, J., Pbert, L., Prather, R., & Rodriguez, G. (1994). Chest pain self-management training for patients with coronary artery disease. *Journal of Psychosomatic Research, 38*(5), 409–418. https://doi.org/10.1016/0022-3999(94)90102-3

Povsic, T. J., Broderick, S., Anstrom, K. J., Shaw, L. K., Ohman, E. M., Eisenstein, E. L., Smith, P. K., & Alexander, J. H. (2015). Predictors of long-term clinical endpoints in patients with refractory angina. *Journal of the American Heart Association, 4*(2). https://doi.org/10.1161/jaha.114.001287

Povsic, T. J., Henry, T. D., & Ohman, E. M. (2021). Therapeutic approaches for the no-option refractory angina patient. *Circulation: Cardiovascular Interventions, 14*(2), e009002. https://doi.org/10.1161/CIRCINTERVENTIONS.120.009002

Rees, S., & Williams, A. (2009). Promoting and supporting self-management for adults living in the community with physical chronic illness: A systematic review of the effectiveness and meaningfulness of the patient-practitioner encounter. *JBI Library of Systematic Reviews, 7*(13), 492–582. https://doi.org/10.11124/01938924-200907130-00001

Spertus, J. A., Winder, J. A., Dewhurst, T. A., Deyo, R. A., Prodzinski, J., McDonell, M., & Fihn, S. D. (1995). Development and evaluation of the Seattle Angina Questionnaire: A new functional status measure for coronary artery disease. *Journal of the American College of Cardiology, 25*(2), 333–341. https://doi.org/10.1016/0735-1097(94)00397-9

Spoletini, I., Ferrari, R., & Rosano, G. M. C. (2020). Living with stable angina: Patients' pathway and needs in angina. *Journal of Cardiovascular Medicine, 21*(5), 377–382. https://doi.org/10.2459/jcm.0000000000000954

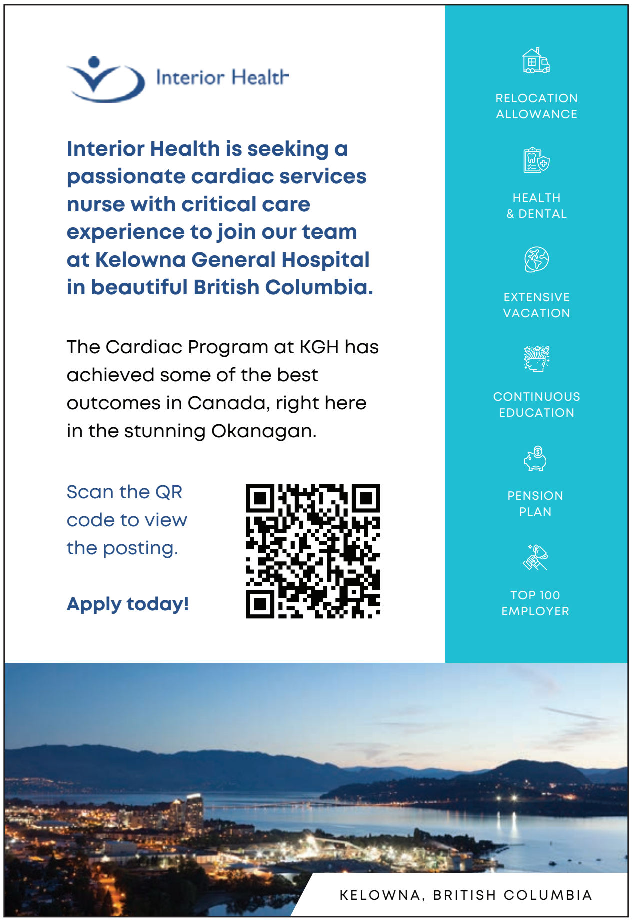
Sterne, J. A. C., Savović, J., Page, M. J., Elbers, R. G., Blencowe, N. S., Boutron, I., Cates, C. J., Cheng, H.-Y., Corbett, M. S., Eldridge, S. M., Emberson, J. R., Hernán, M. A., Hopewell, S., Hróbjartsson, A., Junqueira, D. R., Jüni, P., Kirkham, J. J., Lasserson, T., Li, T., … Higgins, J. P. T. (2019). RoB 2: A revised tool for assessing risk of bias in randomised trials. *British Medical Journal, 366*, l4898. https://doi.org/10.1136/bmj.l4898

Tylee, A., Barley, E. A., Walters, P., Achilla, E., Borschmann, R., Leese, M., McCrone, P., Palacios, J., Smith, A., Simmonds, R., Rose, D., Murray, J., van Marwijk, H., Williams, P., & Mann, A. (2016). UPBEAT-UK: A programme of research into the relationship between coronary heart disease and depression in primary care patients. *Programme Grants for Applied Research, 4*(8). https://doi.org/10.3310/pgfar04080

Wu, E., Mårtensson, J., Desta, L., & Broström, A. (2021). Predictors of treatment benefits after enhanced external counterpulsation in patients with refractory angina pectoris. *Clinical Cardiology, 44*(2), 160–167. https://doi.org/10.1002/clc.23516

Zetta, S., Smith, K., Jones, M., Allcoat, P., & Sullivan, F. (2011). Evaluating the angina plan in patients admitted to hospital with angina: A randomized controlled trial. *Cardiovascular Therapeutics, 29*(2), 112–124. https://doi.org/10.1111/j.1755-5922.2009.00109.x

Zigmond, A. S., & Snaith, R. P. (1983). The hospital anxiety and depression scale. *Acta Psychiatrica Scandinavica, 67*(6), 361–370. https://doi.org/10.1111/j.1600-0447.1983.tb09716.x



Is the Therapeutic Relationship Considered When Planning Patient Decision Aids Implementation for Implantable Cardioverter-Defibrillator Therapy? A Qualitative Investigation

Arianne Vallières, RN(EC)-PHC, MScN,[1,2] Dawn Stacey, RN, PhD, FAAN, FCAHS, FCAN,[1,3] Julie Chartrand, RN, PhD,[1,4] Halina Siedlikowski, RN, MSc(A),[1] Freya Kelly, RN, MScN,[2] Sandra L. Carroll, RN, PhD,[5] Krystina B. Lewis, RN, PhD[1,2,3]

[1]School of Nursing, University of Ottawa
[2]University of Ottawa Heart Institute
[3]Centre for Implementation Research, Ottawa Hospital Research Institute
[4]Children's Hospital of Eastern Ontario Research Institute
[5]School of Nursing, McMaster University

Corresponding author: Krystina B. Lewis; phone: 613-562-5800 ext. 8654; email: krystina.lewis@uottawa.ca

Abstract

Background*: Shared decision-making relies on patients and clinicians establishing a partnership. Patient decision aids (PDAs) can facilitate shared decision-making. The role of therapeutic relationships (TR) in PDA implementation has not been investigated.*

Objective: *To explore how the TR is considered when planning PDA implementation for patients eligible for or with an implantable cardioverter-defibrillator (ICD).*

Methods: *Secondary qualitative analysis using Thorne's interpretive description approach. Thematic analysis of five individual interviews and four focus groups of patients with ICDs and their family members, nurses and physicians.*

Results*: We revealed three themes. Pieces of the relational puzzle, as participants identified communication, respect, empathy, and trust as important to PDA implementation. Clinicians reported Good intentions, and challenges for building a TR, including time and discomfort with ICD-related discussions. Finally, participants believed PDAs can help foster the TR.*

Conclusion*: Some elements of the TR are deemed relevant when planning PDA implementation.*

Keywords: implantable cardioverter defibrillator, patient decision aids, decision support, therapeutic relationship, qualitative

Vallières, A., Stacey, D., Chartrand, J., Siedlikowski, H., Kelly, F., Carroll, S. L., & Lewis, K. B. (2025). Is the therapeutic relationship considered when planning patient decision aids implementation for implantable cardioverter-defibrillator therapy? A qualitative investigation. *Canadian Journal of Cardiovascular Nursing*, 35(1), 24–32. https://doi.org/10.5737/cjcn-35-1-24

Key Highlights

- Certain elements of the therapeutic relationship, in particular therapeutic communication, respect, empathy, and trust, are important for patient decision aid implementation.
- Clinicians have good intentions for establishing therapeutic relationships but face challenges.
- Patient decision aids can help foster elements of the therapeutic relationship during shared-decision making encounters.

Introduction

Implantable cardioverter-defibrillators (ICDs) are surgically implanted devices that detect and treat ventricular arrhythmias. In appropriately selected patients, they decrease the risk of sudden cardiac death (SCD; Bardy et al., 2005; Bennett et al., 2017; Moss et al., 2002). Despite its potential life-saving capacity, ICD therapy has risks including procedural risks (Nery et al., 2010; Poole et al., 2010), inappropriate shocks (Daubert et al., 2008; Peterson et al., 2017), psychological harms (Kapa et al., 2010), and potential suffering at end-of-life from repeated shocks (Goldstein et al., 2004; Stromberg et al., 2014). As such, patients identified as candidates for an ICD or those with an ICD need to weigh these risks and potential life-saving benefit when faced with the preference-sensitive decisions of whether to implant the device, replace the pulse generator, or deactivate the tachytherapies when nearing end of life (Lewis et al., 2014). Clinical practice guidelines recommend eliciting and integrating patients' informed values and preferences when considering these decisions (Al-Khatib et al., 2018; Philippon et al., 2017). This approach is referred to as shared decision-making (SDM).

Shared decision-making requires that patients and clinicians collaborate to make decisions. Clinicians provide their expertise on the health condition, the treatment options, and the risks and benefits of these options; whereas patients share their expertise on their personal situation, and what matters most to them (Makoul & Clayman, 2006). Interventions to facilitate this process include patient decision aids (PDAs; Alsulamy et al., 2020; Stacey et al., 2024). Patient decision aids are evidence-based interventions that explicitly state the health decision, describe the health condition, present the options with the risks and benefits, and help patients clarify their values for features of treatment options (Joseph-Williams et al., 2014; Stacey et al., 2024). A systematic review of 209 trials demonstrated high certainty of evidence that in comparison to usual care, PDAs improve patients' knowledge, accuracy of risk perceptions, decrease decisional conflict related to feeling uninformed and unclear personal values, and result in people being more active in decision-making (Stacey et al., 2024). Patient decision aids also increase patients' satisfaction with the decision-making process (Stacey et al., 2024).

Several SDM models discuss the importance of building a partnership between the clinician and patient, which is defined as a collaborative relationship focused on a shared goal (Bomhof-Roordink et al., 2019; Lewis et al., 2016; Makoul & Clayman, 2006). Partnerships between clinicians and patients result in better communication and participation in decision-making (Loiselle et al., 2021; Stacey et al., 2020). When these partnerships are established to gain an understanding of the patients' experiences of their health condition and considers feelings and attitudes that the patient and clinician have toward one another to limit power imbalances, this is referred to as a therapeutic relationship (TR; Doherty & Thompson, 2014; Mirhaghi et al., 2017; Phaneuf, 2011; Sylvestre & Gobeil, 2020). They are goal-directed and composed of several elements including empathy, trust, respect, genuineness, manifesting a presence, therapeutic communication, active listening, and reciprocity (Table 1; Kornhaber et al., 2016; Sylvestre & Gobeil, 2020). Grounded in a caring, supportive, and non-judgemental interpersonal process, TRs are central to nursing practice. Carroll et al. (2011) revealed that patients' trust in the physician and nurses positively influences ICD decision-making processes. Although trust and communication have been reported as facilitators to SDM (Covvey et al., 2019; Waddell et al., 2021), SDM models have yet to break down these partnerships into these key elements and consider their role in the delivery of decision support interventions. Little is known about how the elements of the TR – and the TR as a whole – influence PDA implementation (Joseph-Williams et al., 2021; Yu et al., 2019). The overarching aim of this research is to explore how the TR is considered when planning PDA implementation for patients eligible for or with an ICD. Understanding if, when, and how patients and clinicians consider the TR during the decision-making process may provide some insights into how PDAs can be used to support SDM in clinical practice.

Methods

Study Design

We conducted a secondary qualitative analysis using Thorne's (2016) interpretive description approach. We analyzed transcripts of individual interviews and focus groups from a multisite comparative case study that aimed to investigate effective approaches for the implementation of PDAs

Table 1

TR Elements and their Definitions[1]

TR Element	Definition
Active listening	Listening to hear and to understand the patient
Empathy	A sentiment of profound comprehension from the HCP toward the patient
Genuineness	Ability to be open and honest with the patient
Manifesting a presence	Being physically and psychologically present with the patient during encounters
Respect	Acknowledging the value of patients and accepting their individuality as well as their unique needs and rights
Reciprocity	Refers to the balance of giving and receiving in a relationship with the goal of creating a healthy and mutually beneficial partnership
Respect	Acknowledging the value of patients and accepting their individuality as well as their unique needs and rights
Therapeutic communication	Interpersonal exchange, using verbal and non-verbal messages, that expresses support, provides information and feedback, corrects distortions, and provides hope
Trust	A justified expectation that one can depend on another person's promise, commitment, or responsibility

Note. [1](Browne, 1993); (Geller, 2020); (Horner, 2020); (Phaneuf, 2011); (van Servellen, 2009), and (Yu et al., 2019).
TR = therapeutic relationship; HCP = healthcare professional.

(Lewis et al., 2022). Transcripts were re-analyzed specifically to explore the elements that contribute to TR during the PDA implementation planning process. A secondary analysis is justified as the focus on the TR and its elements is closely aligned with the parent study's objective to investigate the factors influencing the implementation of PDAs to facilitate SDM for ICD-related decisions (Lewis et al., 2022). In addition, our research questions are consistent with the evidence that patients are engaged better in decisions when receiving individualized decision support from clinicians (Lewis et al., 2018). We report the study using the Standards for Reporting Qualitative Research (SRQR) guidelines (O'Brien et al., 2014). The University of Ottawa research ethics board approved this secondary analysis (H-11-22-8655). With informed consent provided for the parent study, participants had agreed to their data being used for subsequent studies.

Theoretical Underpinnings

According to the Ottawa Decision Support Framework (ODSF), patients make informed and values-based decisions when their decisional needs are met– the ultimate goal of the PDAs that we intended to implement (Hoefel et al., 2020; Stacey et al., 2020). The ODSF was used in the parent study to guide the PDAs, desired outcomes, and support the establishment of a relationship between clinicians and patients. However, the latter has been poorly described in the ODSF. As such, we integrated theoretical writings on elements of the TR including its various elements, forming a theoretical scaffolding as per Thorne's interpretive description approach (Geller, 2020; Horner, 2020; Phaneuf, 2011; van Servellen, 2009; Thorne, 2016; Yu et al., 2019).

Research Characteristics and Reflexivity

The research team was comprised of a graduate student and cardiovascular nurse (AV), who value and prioritize the relational aspect of health care; faculty advisors (DS, JC, HS, SLC, and KBL), all of whom are registered nurses and university faculty members; and an advanced practice nurse in cardiac supportive and palliative care for patients with cardiac conditions (FK). Team members believe that building relationships with patients, therapeutic or otherwise, better position clinicians to support patients and their decision-making needs. Team member expertise included patient decision aids (DS, SLC, KBL), arrythmia care (FK, SLC, KBL), TR (JC, HS), and supportive and palliative care (FK). The parent study was led by the supervising author (KBL) with collaboration from co-authors (DS, SLC). We acknowledge our team does not represent the views of all those involved in the care of patients making decisions about ICDs.

Setting and Participants

Participants were recruited from one specialized arrhythmia site in Ontario, Canada, serving a geographic region of about 1.3 million patients. Annually, the hospital performs on average 280 new ICD implants and 170 replacements (Electrophysiology Triage Coordinator, Personal Communication, May 2023). We re-analyzed the transcripts of five individual interviews and four focus groups, including patients and family members who had an ICD or a non-replaced/deactivated ICD within the last year, and clinicians with more than one-year experience working with and making ICD-related decisions with patients and families.

Data Collection

Participants provided written informed consent as part of the parent study. Interviews/focus groups were 45–60 minutes in length with some conducted in person and others via video call due to data collection taking place pre- and post-COVID hospital lockdowns (February 2020 to September 2021). Individual interviews and focus groups were audio-recorded, transcribed, and deidentified. Ahead of their scheduled interview, all participants were sent the suite of three PDAs in both paper and electronic formats (for initial ICD implantation, pulse generator replacement, and deactivation), details of which are reported elsewhere(Carroll et al., 2013, 2017; Heart and Stroke Foundation of Canada, n.d.; Lewis et al., 2018, 2021). The PDAs are freely available here https://icddecisionaids.ca/.

Data Analysis

We re-analyzed de-identified transcripts in two groups: patients/family members, and clinicians, guided by Braun and Clarke's (2006) thematic analysis, an accepted data analysis method according to Thorne's interpretive description approach. We used an inductive and iterative approach. Team members (AV, FK) independently read and re-read the transcripts to become familiar with the data; organized data systematically with open coding; and, as relevant, mapped preliminary codes onto TR elements. We captured both explicit and implicit mention of the TR and its elements. We inferred implicit mention by referring to the elements' definition and discussing whether the data represented it. Transcripts were re-examined for similarities and differences, and to ensure that newer codes were reflected in initially analyzed transcripts. AV, FK, and KBL reviewed, discussed, and modified the preliminary codes and grouped them into themes, ensuring that they were supported by the data, coherent, and distinct. All team members reached consensus about the themes through discussion.

Results

We included 10 patients, three family members and 17 healthcare professionals (Table 2). Patients and family members varied in age with nearly half ($n = 6$; 46.2%) 50–59 years old and most self-identifiying as men ($n = 9$; 69.2%). More than half ($n = 7$, 53.8%) reported a preference for sharing decisions with their clinician, while five participants (38.5%) preferred to make the decision on their own. Clinicians were all under 60 years old and most self-identified as men ($n = 10$; 58.8%). Some had worked with patients with ICDs for less

Table 2

Participant Characteristics

	Patients (*n* = 10)	Family members (*n* = 3)	Clinicians (*n* = 17)
Age (years)			
18–49	1 (10.0%)	1 (33.3%)	11 (64.7%)
50–59	5 (50.0%)	1 (33.3%)	6 (35.3%)
60–69	1 (10.0%)	1 (33.3%)	
70–79	3 (30.0%)		
Gender			
Men	8 (80.0%)	1 (33.3%)	10 (58.8%)
Women	2 (20.0%)	2 (66.7%)	7 (41.2%)
Other	0 (0.0%)	0 (0.0%)	0 (0.0%)
Education level			
Some high school/elementary school	1 (10.0%)		
High school graduate	4 (40.0%)	1 (33.3%)	
Some college or university	3 (30.0%)		
University degree	2 (20.0%)	2 (66.7%)	
Post-graduate university degree			
Clinician role			
Cardiologist			1 (5.9%)
Electrophysiologist			6 (35.3%)
EP Fellow			4 (23.5%)
Registered nurse			6 (35.3%)
Experience with ICD in years			
Less or equal to 5	5 (50.0%)		6 (35.3%)
6–10	4 (40.0%)		3 (17.6%)
11–15	0 (0.0%)		2 (11.8%)
More than 16			3 (17.6%)

Note. EP = electrophysiologist; ICD = implantable cardioverter defibrillator.

than 5 years ($n = 6$; 35%) and others for more than 16 years ($n = 3$; 17.6%). The sample included people who identified as Caucasian, Black North American, East Indian, Latin American, West Indian, Asian and West Asian. We revealed three themes, along with subthemes, presented below.

Pieces of the Puzzle: Some Elements of the Therapeutic Relationship

Participants did not mention the TR by name, yet two of its elements, respect and therapeutic communication, were frequently identified as important for PDA use. Participants also referred to empathy and trust, but implicitly. Genuineness, active listening, manifesting a presence, and reciprocity were not mentioned.

Therapeutic communication was similarly understood by both groups as the sharing of helpful information to make informed and values-based decisions. In many of the instances described, therapeutic communication fell short. Shortcomings were primarily related to information not being shared or from misunderstandings. Patients and family members reported inadequate knowledge about the ICD and potential future ICD-related decisions. A family member (Patient-Family interview – Participant 2), whose spouse was eligible for an initial ICD, reported:

> *There's a lot of information that I still feel I'm lacking. I know that at one point I might have to make some tough decisions but also the more information I have the better I will be equipped and the more I can gently approach the subject with him to find what his wishes are.*

As a result, some patients and family members took it upon themselves to seek their own information. A patient (Patient Interview – Participant 7) reported:

> *I honestly did not think I'd be able to find the answers to all my questions or get them. I was basically writing them down to ask the doctor and I ended up finding most of them in literature before I even met with the doctor.*

These accounts highlighted that patients and family members want and need to be informed from reliable sources to participate in decision-making. Clinicians shared different perspectives. Some reported having conversations with patients and their intentions of sharing information about potential future decisions. An electrophysiologist (Physician focus group- Participant 9) explained their usual script when meeting patients about initial ICD implantation:

> *When we first meet patients and discuss the implantation of an ICD, we talk to them and explain that it fits them for their current circumstance, but those circumstances do change and setting the scene early on means that we build upon that later and particularly when you have the more difficult discussion about deactivation of the device.*

A nurse (Nurse focus group-Participant 2) reported that patients do not always understand the ICD's purpose and its implications:

> *A lot of the times people are being implanted where they're not necessarily aware of the decision that's being made. Like, if they come in with an MI (myocardial infarction) and they end up with an ICD, then it's like, "Well you know, what do you mean I have this?"*

Participants from both groups identified *respect* as important for PDA implementation. Participants understood it as respecting the patient's role and voice in the decision-making process. A patient (Patient interview-Participant 8) described learning about the option of ICD deactivation: *"They told me about that, I could choose to have it turned off if at any point I no longer want to use it."* A nurse (Nurse focus group-Participant 4) shared an encounter during which she acknowledged the importance of eliciting a patient's personal values and preferences and allowing choice:

> *One of [physician's name]'s cases, Lyme Disease. Now he doesn't need it [ICD]. Do you remove it [ICD]? Right? More than likely his choice is going to be to keep it. … I'd be like get it out, but so you don't know where people's minds are at.*

Participants (Patient interview-Participant 10) also shared experiences of not being presented with options, as evidenced by this quotation: *We weren't asked very much. It wasn't like, you know, "do you want one, yes or no." It was more like "you need one. Here it is."*

In the setting of ICD battery depletion, automatic replacement suggested that respect for the patient's voice and wishes may have been overlooked. A nurse (Nurse focus group-Participant 7) offered an example:

> *They don't really think there's a decision there, it's just work. Physicians were coming in and just saying, "There we go" and ... So, there's almost like not an open decision… I mean in certain situations where you think oh is this really something and then it gets discussed. But generally, with a lot of people it's just, oh the battery's low.*

Both participant groups raised the importance of *empathy*. Patients and family members considered themselves the *recipients* of empathy; and described it as being reassured by clinicians who elicited and acknowledged their personal preferences and concerns. Clinicians considered themselves as the *givers* of empathy, placing themselves into their patient's situation and offering supportive measures. Another patient (Patient interview-Participant 8) described empathy as a personal, intrinsic characteristic that is displayed in various degrees from one clinician to another: *"I mean don't get me wrong. Doctors are trained, but they're not necessarily skilled in that field. They don't all have the same amount of empathy."*

Patients and family members talked about *trust* as having confidence in the clinician, being comfortable with them and able to speak when desired. Clinicians described trust as being open and honest with patients and having their best interest at the forefront of their care. Patients and family members had mixed experiences with trust in ICD-related healthcare encounters. Clinicians considered themselves as trustworthy.

A patient (Patient interview-Participant 7) reported feeling confident in their clinician when considering their options at initial implantation:

> *I was super-impressed with that because I've dealt with a lot of doctors where the bias is the only thing that's influencing your decision. So, yeah, I had a lot of confidence in my medical team because of that.*

Another patient (Patient-Family focus group – Participant 4) shared a different perspective, doubting their clinician's commitment, sharing:

> *They always open the door and say you can talk with your doctor. So, confusion. I'm going to send a lot of emails to my doctor to ask him about if I can use my massage, my mobile massage machine. I'm not sure, he has a lot of things to do, right? He has a lot of patients. I'm not sure that he will have time to respond to me.*

In this patient's case, discrepancies between messages and action hindered trust between them and their clinician. An electrophysiologist (Physician focus group – Participant 9) described trust as the acknowledgment of the individuality of patients and the importance of their personal beliefs, support, and context and how these should be viewed alongside the research evidence:

> *It's such a mixture, isn't it, of someone's understanding, their beliefs, their family, those sorts of situations and I think the tools help us to see one thing from an information, from a research perspective maybe, what's the true risk for the patient?*

Good Intentions and Challenges of Establishing a Therapeutic Relationship

For patients, building relationships was about achieving connection and comfort with their clinicians. A patient explained: *"I've reached out to (name1) because I feel more comfortable speaking with her one-on-one rather than taking (name2)'s time"* (Patient-Family interview – Participant 1), a relationship that turned out to be very helpful for them for many years. Clinicians described good intentions for establishing relationships with their patients, speaking of their intentions to ensure therapeutic communication and respect. A nurse (Nurse focus group-Participant 3) reported their positive intentions about sharing information and respecting the patient's perspective at ICD replacement:

> *I think that it's part of the informed consent. If you're going to go on having a replacement, the patient should have all the information possible for making that decision whether they want it replaced or not.*

A frequent challenge raised by clinicians was that of insufficient time. An electrophysiologist (Physician focus group-Participant 10) suggested a way to overcome this:

> *I think that a proactive approach might be the way to mitigate the issue of the time crunch and supply that information there or if we have some kind of like a follow-up conversation that someone calls them, whether it's, you know, one of the nurses or one of the physicians or a combination, or whatever. To, outside of the hectic time crunch that device clinic is, initiate that conversation so that it's separate, and you don't have the same pressure.*

Other clinicians discussed their discomfort navigating ICD decision-making encounters. A nurse (Nurse focus group-Participant 4) shared the following concern:

> *I feel like I wouldn't know what to say because we're so not used to talking about it. I would need some practice maybe to introduce the subject or because they'll have questions, like "What do you mean? I can have… there's an option that I can have it, like just leave it there?" So I would probably have to be more knowledgeable myself first.*

Clinicians reported wanting to engage with their patients, yet discomfort rooted in limited knowledge and skills on navigating ICD decision-making discussions made it difficult to do so.

PDAs can Help Foster Elements of the Therapeutic Relationship

All participants spoke about ways in which the PDAs could facilitate therapeutic communication and respect. The PDA was valued by both groups for its ability to offer evidence-based information. The clinicians considered the PDA a useful tool to initiate conversations about issues that they may otherwise find difficult to introduce, such as ICD non-replacement and deactivation. A nurse (Nurse focus group-Participant 4) shared her view on using the PDA about deactivation:

> *Even if they've seen it almost at implant and then [deactivation] is easier to bring up depending on the person, their cognition, it's not like you're just sort of at the last-minute saying, "So what are you still doing with that?"*

With the PDAs explicitly listing treatment options, it fulfills the element of respect. A patient (Patient interview-Participant 7) stated: *"I think that probably the single most important precursor of any of these documents is like, your doctor may be telling you that you need this, but you need to decide what's right for you."* Clinicians agreed, further adding that the PDA can enhance patient knowledge about the options available. A nurse (Nurse focus group – Participant 1) shared her perspective about the PDA for battery replacement: *"And to realize, that you've got an option, it's not just like, we're okay we're coming back to replace, it's like you feel like you've got some options here."*

Many patients and family members affirmed that the PDAs should not stand alone and be used with the clinician, giving opportunity to foster TRs. This opinion was grounded in a patient's (Patient interview – Participant 7) prior experience with a PDA:

> *That's one thing I worry about with decision guides too, is that the only time I've ever been given one was in a hospital where doctors did not talk to patients. So, I do kind of worry about them being used as a replacement for doctors actually being available to answer questions.*

Discussion

We explored how the TR and/or its elements are considered when planning the implementation of PDAs for patients facing decisions about ICD therapy. Not one participant mentioned the TR by name, yet many raised TR elements, both explicitly and implicitly. Our findings also suggest that PDAs can facilitate TR elements within an encounter. Our observations lead us to three main points of discussion: 1) the importance of TR, 2) the importance of using/revising PDAs with patients in encounters, and 3) the integration of TR knowledge and skill-building in interprofessional SDM team training.

The TR and its elements are important to patients' health experiences, yet many of its elements are overlooked in the context of decision support. A systematic review of 40 SDM models, frameworks, and theories identified fostering a partnership as an important feature to both patients and clinicians (Bomhof-Roordink et al., 2019). An integrative review of 52 articles revealed relationship building as the first step to SDM in a nursing SDM model (Truglio-Londrigan & Slyer, 2018). The ODSF also integrates establishing a rapport in its framework (Stacey et al., 2020). Yet, existing SDM models, frameworks, and theories have yet to dissect these steps in the foundational elements required to build relationships and rapport, as done with the TR. In our study, only two of eight TR elements were explicitly identified (i.e., therapeutic communication and respect) and two others implicitly identified (i.e., trust and empathy) which is in keeping with previous studies that have raised the relevance of these elements for SDM (Alsulamy et al., 2020; Carroll et al., 2011; Covvey et al., 2019; Kalocsai et al., 2018; Pel-Littel et al., 2021; Waddell et al., 2021; Yu et al., 2019). Humanistic communication has recently been raised as important to SDM encounters and aligns with some of the TR elements, such as therapeutic communication and respect (Kunneman et al., 2019; Zisman-Ilani et al., 2023). It originates from a commitment to the dignity of each person while actively listening, respecting the patient, acting with compassion, integrity, and empathy in both the manner and the content of interactions, which has been shown to contribute to quality decision-making processes and better patient-clinician relationships (Kunneman et al., 2019; Santema et al., 2017). Kunneman et al.'s (2019) systematic review on humanistic communication emphasized that warmth, interest, and empathy have been neglected in SDM research. Their findings indicated that SDM evaluation studies tend to focus primarily on technique, such as providing information rather than the quality of the interaction (Kunneman et al., 2019). In another study, clinicians believed that the PDA changed the way they approached the encounter, which is similar to our findings that the PDA can help foster elements of the TRs (Fay et al., 2016). Hence, PDAs may offer an opportunity to promote TRs. In future research, observing interactions between patients and clinicians when P DAs are in use may be useful to gain a more accurate understanding of the depth of therapeutic relationships during SDM encounters. Feelings and emotions between patients and clinicians also play an important role in therapeutic relationships. Further research is required to explore the role and presence of feelings and emotions during interactions that incorporate PDAs.

In the context of ICDs, a potentially life-saving intervention, PDAs are to be used within an encounter. If used alone, the PDA content may be insufficient to support the decisional needs of patients with ICDs, and may not reach their potential (Stacey et al., 2024). This aligns with Rao et al. (2022) who concluded that a mandate focused on PDA use alone to support ICD decisions was insufficient to improve decision-making and decision quality outcomes. This was also suggested by Lewis et al. (2018, 2021), who recognized the need for physicians to tailor a PDA with nurse-led decision coaching based on patients' needs. Cardiovascular nurses can establish TRs and engage patients in decision-making using PDAs and decision coaching. This could help mitigate the barrier of time. (Lewis et al., 2016).

Knowledge and skill-building for establishing TRs could be integrated into interprofessional team training for PDA implementation. For instance, the Ottawa Patient Decision Aids Group offers a communication skill tool based on the ODSF to support therapeutic communication when providing decision support (Bunn et al., 1998). This tool provides key communication techniques such as listening and questioning, and how to provide information or offer feedback (Bunn et al., 1998). Gutman et al. (2021) adapted and evaluated a SDM training module for healthcare professionals. This training module integrated content related to elements of collaborative relationships and the contributions of PDAs to the SDM process using a range of interactive methods (e.g., slide presentations, group exercises and discussions; Gutman et al., 2021). Participants reported difficulty introducing the principles of SDM into their relationship with patients and faced challenges such as time, as similarly reported in our findings (Gutman et al., 2021). Establishing TRs or partnerships are often not integrated in training. Our findings suggest that it would be pertinent to consider, especially when planning to implement PDAs.

Strengths and Limitations

According to Lincoln and Guba's (1985) criteria to enhance the trustworthiness and credibility, an audit trail was maintained. Further, triangulation occurred at the level of the data sources between patients/family and clinicians, and at the level of data analysis by various team members with different roles and perspectives. For this secondary analysis, we used data collected from one site, and from patients with an indication for ICD without cardiac resynchronization. It is possible that patients, family members, and clinicians from other sites and with other types of cardiac devices have different experiences and expectations. Although many ethnicities/races were represented in our sample, further cross-cultural research is indicated to explore the transferability to other clinical and cultural contexts. Given the secondary use of data, interview questions did not explicitly pertain to the TR. Hence, the lack of mention of the elements of genuineness, active listening, manifesting a presence, and reciprocity, does not mean they are not important. Primary studies are required to investigate this directly. Finally, while secondary analysis findings may not be considered formally transferable, they can further our understanding of the role of the TR when planning PDA implementation in clinical practice.

Conclusion

Our findings suggest that certain elements of the TR, in particular therapeutic communication, respect, empathy and trust, are important for PDA implementation. The TR and its elements should be considered when developing implementation strategies. Further research is needed to explore the role and importance of the other TR elements of genuineness, manifesting a presence, active listening, and reciprocity.

Funding

Funding for the parent study on which this secondary analysis is based was provided by the Canadian Cardiovascular Society, CANet, the Bristol-Myers Squibb/Pfizer and the Heart & Stroke Foundation.

Conflicts of Interest

None

Disclosures

Co-Editor-in-Chief Davina Banner handled the review process for this article. Krystina B. Lewis had no access to the paper during the review process in her role as co-Editor-in-Chief or reviewer.

REFERENCES

Al-Khatib, S. M., Stevenson, W. G., Ackerman, M. J., Bryant, W. J., Callans, D. J., Curtis, A. B., Deal, B. J., Dickfeld, T., Field, M. E., Fonarow, G. C., Gillis, A. M., Granger, C. B., Hammill, S. C., Hlatky, M. A., Joglar, J. A., Kay, G. N., Matlock, D. D., Myerburg, R. J., Page, R. L., … Rj, M. (2018). *AHA/ACC/HRS guideline for management of patients with ventricular arrhythmias and the prevention of sudden cardiac death: Executive summary.* https://doi.org/10.1016/j.hrthm.2017.10.035

Alsulamy, N., Lee, A., Thokala, P., & Alessa, T. (2020). What influences the implementation of shared decision making: An umbrella review. *Patient Education and Counseling*, *103*, 2400–2407. https://doi.org/10.1016/j.pec.2020.08.009

Bardy, G. H., Lee, K. L., Mark, D. B., Poole, J. E., Packer, D. L., Boineau, R., Domanski, M., Troutman, C., Anderson, J., Johnson, G., McNulty, S. E., Clapp-Channing, N., Davidson-Ray, L. D., Fraulo, E. S., Fishbein, D. P., Luceri, R. M., Ip, J. H. & Sudden Cardiac Death in Heart Failure Trial (SCD-HeFT) Investigators. (2005). Amiodarone or an implantable cardioverter-defibrillator for congestive heart failure. *New England Journal of Medicine*, *352*(3), 225–237. doi: 10.1056/NEJMoa043399

Bennett, M., Parkash, R., Nery, P., Sénéchal, M., Mondesert, B., Birnie, D., Sterns, L. D., Rinne, C., Exner, D., Philippon, F., Campbell, D., Cox, J., Dorian, P., Essebag, V., Krahn, A., Manlucu, J., Molin, F., Slawnych, M., & Talajic, M. (2017). Canadian cardiovascular society/Canadian heart rhythm society 2016 implantable cardioverter-defibrillator guidelines. Canadian Journal of Cardiology, 33(2), 174–188. https://doi.org/10.1016/j.cjca.2016.09.009

Bomhof-Roordink, H., Gärtner, F. R., Stiggelbout, A. M., & Pieterse, A. H. (2019). Key components of shared decision making models: A systematic review. *British Medical Journal Open*, *9*. https://doi.org/10.1136/bmjopen-2019-031763

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Browne, A (1993). A conceptual clarification of respect. *Journal of Advanced Nursing, 18*, 211–217.

Bunn, H., O'Connor, A., & Jacobsen, M. J. (1998). Analyzing decision support and related communication.

Carroll, S. L., Mcgillion, M., Stacey, D., Healey, J. S., Browne, G., Arthur, H. M., & Thabane, L. (2013). Development and feasibility testing of decision support for patients who are candidates for a prophylactic implantable defibrillator: a study protocol for a pilot randomized controlled trial. *Trials, 14*, 346. https://doi.org/10.1186/1745-6215-14-346

Carroll, S. L., Stacey, D., Mcgillion, M., Healey, J. S., Foster, G., Hutchings, S., Arthur, H. M., Browne, G., & Thabane, L. (2017). Evaluating the feasibility of conducting a trial using a patient decision aid in implantable cardioverter defibrillator candidates: A randomized controlled feasibility trial. *Pilot and Feasibility Studies*, 3(49), 2–12. https://doi.org/10.1186/s40814-017-0189-9

Carroll, S. L., Strachan, P. H., De, S., Ma, L., Phdà, L. S., & Arthur, H. M. (2011). Patients' decision making to accept or decline an implantable cardioverter defibrillator for primary prevention of sudden cardiac death. *Blackwell Publishing Heath Expectations*, *16*, 69–79. https://doi.org/10.1111/j.1369-7625.2011.00703.x

Covvey, J. R., Kamal, K. M., Gorse, E. E., Mehta, Z., Dhumal, T., Heidari, E., Rao, D., & Zacker, C. (2019). Barriers and facilitators to shared decision-making in oncology: A systematic review of the literature. *Support Care Cancer*, *27*, 1613–1637. https://doi.org/10.1007/s00520-019-04675-7

Daubert, J. P., Zareba, W., Cannom, D. S., McNitt, S., Rosero, S. Z., Wang, P., Schuger, C., Steinberg, J. S., Higgins, S. L., Wilber, D. J., Klein, H., Andrews, M. L., Hall, W. J., & Moss, A. J. (2008). Inappropriate implantable cardioverter-defibrillator shocks in MADIT II: Frequency, mechanisms, predictors, and survival impact. *Journal of the American College of Cardiology*, *51*(14), 1357–1365. https://doi.org/10.1016/J.JACC.2007.09.073

Doherty, M., & Thompson, H. (2014). Enhancing person-centred care through the development of a therapeutic relationship. *British Journal of Community Nursing*, *19*(10), 502–507. https://doi.org/10.12968/BJCN.2014.19.10.502

Fay, M., Grande, S. W., Donnelly, K., & Elwyn, G. (2016). Communication study using option grids: Steps toward shared decision-making for neonatal circumcision. *Patient Education and Counseling*, *99*, 236–242. https://doi.org/10.1016/j.pec.2015.08.025

Geller, S. (2020). Cultivating online therapeutic presence: Strengthening therapeutic relationships in teletherapy sessions. *Counselling Psychology Quarterly*, *34*(3–4), 687–703. https://doi.org/10.1080/09515070.2020.1787348

Goldstein, N. E., Lampert, R., Bradley, E., Lynn, J., & Krumholz, H. M. (2004). Management of implantable cardioverter defibrillators in end-of-life care. *Journal of Internal Medicine*, *141*(11), 835–838. https://doi.org/10.7326/0003-4819-141-11-200412070-00006

Gutman, C., Cohen, A., & Redlich Amirav, D. (2021). SDM Training Modules for Health and Social Care Professionals in Israel. *Frontiers in Psychiatry*, *12*. https://doi.org/10.3389/fpsyt.2021.679036

Heart and Stroke Foundation of Canada. (n.d.). *When to consider Implantable Cardioverter Defibrillator (ICD) deactivation*.

Hoefel, L., O'Connor, A. M., Lewis, K. B., Boland, L., Sikora, L., Hu, J., & Stacey, D. (2020). 20th Anniversary Update of the Ottawa Decision Support Framework Part 1: A systematic review of the decisional needs of people making health or social decisions. *Review Medical Decision Making*, *40*(5), 555–581. https://doi.org/10.1177/0272989X20936209

Horner, J. (2020). Moral features of the TR with adults: Dignity, trust, autonomy, vulnerability, and resilience. *Seminars in Speech and Language*, *40*(3), 212–220. https://doi.org/10.1055/s-0040-1709203

Joseph-Williams, N., Abhyankar, P., Boland, L., Bravo, P., Brenner, A. T., Brodney, S., Coulter, A., Giguè, A., Hoffman, A., Korner, K., Langford, A., Légaré, F., Légaré, L., Matlock, D., Moumjid, N., Munro, S., Dahl Steffensen, K., Stirling, C., & Van Der Weijden, T. (2021). What works in implementing patient decision aids in routine clinical settings? *Medical Decision Making*, *41*(7), 907–937. https://doi.org/10.1177/0272989X20978208

Joseph-Williams, N., Newcombe, R., Politi, M., Durand, M. A., Sivell, S., Stacey, D., O'Connor, A., Volk, R. J., Edwards, A., Bennett, C., Pignone, M., Thomson, R., & Elwyn, G. (2014). Toward minimum standards for certifying patient decision aids: A modified delphi consensus process. *Medical Decision Making*, *34*(6), 699–710. https://doi.org/10.1177/0272989X13501721

Kalocsai, C., Amaral, A., Piquette, D., Walter, G., Dev, S. P., Taylor, P., Downar, J., & Gotlib Conn, L. (2018). "It's better to have three brains working instead of one": A qualitative study of building therapeutic alliance with family members of critically ill patients. *BMC Health Services Research*, *18*(1). https://doi.org/10.1186/s12913-018-3341-1

Kapa, S., Rotondi-Trevisan, D., Mariano, Z., Aves, T., Irvine, J., Dorian, P., & Hayes, D. L. (2010). Psychopathology in patients with ICDs over time: Results of a prospective study. *Pacing and Clinical Electrophysiology*, *33*(2), 198–208. https://doi.org/10.1111/J.1540-8159.2009.02599.X

Kornhaber, R., Walsh, K., Duff, J., & Walker, K. (2016). Enhancing adult therapeutic interpersonal relationships in the acute health care setting: An integrative review. *Journal of Multidisciplinary Healthcare*, *9*, 537–547. https://doi.org/10.2147/JMDH.S116957

Kunneman, M., Gionfriddo, M. R., Toloza, F. J. K., Gärtner, F. R., Spencer-Bonilla, G., Hargraves, I. G., Erwin, P. J., & Montori, V. M. (2019). Humanistic communication in the evaluation of shared decision making: A systematic review. *Patient Education and Counseling*, *102*(3), 452–466). Elsevier Ireland Ltd. https://doi.org/10.1016/j.pec.2018.11.003

Lewis, K. B., Birnie, D., Carroll, S. L., Brousseau-Whaley, C., Clark, L., Green, M., Nair, G. M., Nery, P. B., Redpath, C., & Stacey, D. (2021).

Decision support for implantable cardioverter-defibrillator replacement: A pilot feasibility randomized controlled trial. *Journal of Cardiovascular Nursing, 36*(2), 143–150. https://doi.org/10.1097/JCN.0000000000000694

Lewis, K. B., Birnie, D., Carroll, S. L., Clark, L., Kelly, F., Gibson, P., Rockburn, L., Rockburn, L., & Stacey, D. (2018). User-centered development of a decision aid for patients facing implantable cardioverter-defibrillator replacement: A mixed-methods study. *Journal of Cardiovascular Nursing, 33*(5), 481–491. https://doi.org/10.1097/JCN.0000000000000477

Lewis, K. B., Stacey, D., & Matlock, D. D. (2014). Making decisions about implantable cardioverter-defibrillators from implantation to end of life: An integrative review of patients' perspectives. *The Patient*, 7(3), 243–260. https://doi.org/10.1007/s40271-014-0055-2

Lewis, K. B., Stacey, D., Squires, J. E., & Carroll, S. (2016). Shared decision-making models acknowledging an interprofessional approach: A theory analysis to inform nursing practice. *Research and Theory for Nursing Practice*, *30*(1), 26–43. https://doi.org/10.1891/1541-6577.30.1.26

Lewis, K., Nair, K., Armstrong, A., Lauck, S., Stacey, D., Forman, J., Birnie, D., Healey, J., Krahn, A., McGillion, M., Schwalm, J., & Carroll, S. (2022). Factors Influencing patient decision aid use for implantable cardioverter-defibrillator decisions in three Canadian academic hospitals. *Canadian Journal of Cardiology*, *38*(10), S222–S223. https://doi.org/10.1016/J.CJCA.2022.08.211

Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry*. Sage Publications.

Loiselle, M.-C., O'Connor, A. M., & Michaud, C. (2021). Constructivist evaluation of a stage-based decision support intervention regarding dialysis modality choice. *International Journal of Nephrology Kidney Failure*, 7(2). https://doi.org/10.16966/2380-5498.213

Makoul, G., & Clayman, M. L. (2006). An integrative model of shared decision making in medical encounters. *Patient Education and Counseling, 60*(3), 301–312. https://doi.org/10.1016/j.pec.2005.06.010

Mirhaghi, A., Sharafi, S., Bazzi, A., & Hasanzadeh, F. (2017). Therapeutic relationship: Is it still heart of nursing? *Nursing Reports*, 7(1). https://doi.org/10.4081/NURSREP.2017.6129

Moss, A., Zareba, W., Hall, J., Klein, H., Wilber, D. J., Cannom, D. S., Daubert, J. P., Higgins, S. L., Brown, M. W., & Andrews, M. L. (2002). Prophylactic implantation of a defibrillator in patients with myocardial infarction and reduced ejection fraction. *New England Journal of Medicine*, *346*(12). https://doi.org/10.1056/NEJMoa013474

Nery, P. B., Fernandes, R., Nair, G. M., Sumner, G. L., Ribas, C. S., Menon, S. M. D., Wang, X., Krahn, A. D., Morillo, C. A., Connolly, S. J., & Healey, J. S. (2010). Device-related infection among patients with pacemakers and implantable defibrillators: Incidence, risk factors, and consequences. *Journal of Cardiovascular Electrophysiology*, *21*(7), 786–790. https://doi.org/10.1111/J.1540-8167.2009.01690.X

O'Brien, B. C., Harris, I. B., Beckman, T. J., Reed, D. A., & Cook, D. A. (2014). Standards for reporting qualitative research: A synthesis of recommendations. *Academic Medicine*, *89*(9), 1245–1251. https://doi.org/10.1097/ACM.0000000000000388

Pel-Littel, R. E., Snaterse, M., Teppich, N. M., Buurman, B. M., Van Etten-Jamaludin, F. S., Van Weert, J. C. M., Minkman, M. M., & Scholte Op Reimer, W. J. M. (2021). Barriers and facilitators for shared decision making in older patients with multiple chronic conditions: A systematic review. *BMC Geriatrics*, *21*(112). https://doi.org/10.1186/s12877-021-02050-y

Peterson, P. N., Greenlee, R. T., Go, A. S., Magid, D. J., Cassidy-Bushrow, A., Garcia-Montilla, R., Glenn, K. A., Gurwitz, J. H., Hammill, S. C., Hayes, J., Kadish, A., Reynolds, K., Sharma, P., Smith, D. H., Varosy, P. D., Vidaillet, H., Zeng, C. X., Normand, S. L. T., & Masoudi, F. A. (2017). Comparison of inappropriate shocks and other health outcomes between single- and dual-chamber implantable cardioverter-defibrillators for primary prevention of sudden cardiac death: Results from the Cardiovascular Research Network Longitudinal Study of Implantable Cardioverter-Defibrillators. *Journal of the American Heart Association*, *6*(11). https://doi.org/10.1161/JAHA.117.006937

Phaneuf, M. (2011). *La relation soigant-soigné : Rencontre et accompagnement*. Chenelière Éducation INC.

Philippon, F., Sterns, L. D., Nery, P. B., Parkash, R., Birnie, D., Rinne, C., Mondesert, B., Exner, D., & Bennett, M. (2017). Management of implantable cardioverter defibrillator recipients: Care beyond guidelines. *Canadian Journal of Cardiology*, *33*, 977–990. https://doi.org/10.1016/j.cjca.2017.05.012

Poole, J. E., Gleva, M. J., Mela, T., Chung, M. K., Uslan, D. Z., Borge, R., Gottipaty, V., Shinn, T., Dan, D., Feldman, L. A., Seide, H., Winston, S. A., Gallagher, J. J., Langberg, J. J., Mitchell, K., & Holcomb, R. (2010). Complication rates associated with pacemaker or implantable cardioverter-defibrillator generator replacements and upgrade procedures. *Circulation*, *122*(16), 1553–1561.https://doi.org/10.1161/CIRCULATIONAHA.110.976076

Rao, B. R., Merchant, F. M., Abernethy, E. R., Howard, D. H., Matlock, D. D., & Dickert, N. W. (2022). The impact of government-mandated shared decision-making for implantable defibrillators: A natural experiment. *Pacing and Clinical Electrophysiology*, *45*(2), 274–280. https://doi.org/10.1111/pace.14414

Santema, T. B. K., Stoffer, E. A., Kunneman, M., Koelemay, M. J. W., & Ubbink, D. T. (2017). What are the decision-making preferences of patients in vascular surgery? A mixed-methods study. *BMJ Open*, *7*(2). https://doi.org/10.1136/BMJOPEN-2016-013272

van Servellen, G. (2009). *Communication skills for the health care professional: Concepts, practice and evidence* (2nd ed.). Jones and Bartlett Publishers.

Stacey, D., Légaré, F., Boland, L., Lewis, K. B., Loiselle, M. C., Hoefel, L., Garvelink, M., & O'Connor, A. (2020). 20th Anniversary Ottawa decision support framework: Part 3 Overview of systematic reviews and updated framework. *Medical Decision Making*, *40*(3), 379–398. https://doi.org/10.1177/0272989X20911870

Stacey, D., Lewis, K. B., Smith, M., Carley, M., Volk, R., Douglas, E. E., Pacheco-Brousseau, L., Finderup, J., Gunderson, J., Barry, M. J., Bennett, C. L., Bravo, P., Steffensen, K., Gogovor, A., Graham, I. D., Kelly, S. E., Légaré, F., Sondergaard, H., Thomson, R., … Trevena, L. (2024). Decision aids for people facing health treatment or screening decisions. *The Cochrane Database of Systematic Reviews*, Issue 1. Art. No.: CD001431. doi:10.1002/14651858.CD001431.pub6.

Stromberg, A., Fluur, C., Miller, J., Chung, M. L., Moser, D. K., Thylén, I., & Thylén, T. (2014). ICD Recipients' understanding of ethical issues, ICD function, and practical consequences of withdrawing the ICD in the end-of-life. *Pacing and Clinical Electrophysiology*, *37*, 834–842. https://doi.org/10.1111/pace.12353

Sylvestre, A., & Gobeil, S. (2020). The Therapeutic Alliance: A must for clinical practice. *Canadian Journal of Speech-Language Pathology and Audiology*, *44*(3). www.cjslpa.ca

Thorne, S. (2016). *Interpretive description: Qualitative research for applied practice* (2nd ed.). Routledge.

Truglio-Londrigan, M., & Slyer, J. T. (2018). Shared decision-making for nursing practice: An integrative review. *The Open Nursing Journal*, *12*(1), 1–14. https://doi.org/10.2174/1874434601812010001

Waddell, A., Lennox, A., Spassova, G., & Bragge, P. (2021). Barriers and facilitators to shared decision-making in hospitals from policy to practice: A systematic review. *Implementation Science*, *16*(74). https://doi.org/10.1186/s13012-021-01142-y

Yu, C. H., Ke, C., Jovicic, A., Hall, S., Straus, S. E., Cantarutti, P., Chu, K., Frydrych, P., Ivers, N., Kaplan, D., Leung, F. H., Maxted, J., Rezmovitz, J., Sodhi, S., Telner, D., Sale, J., Shing, L. K., & Stacey, D. (2019). Beyond pros and cons-developing a patient decision aid to cultivate dialog to build relationships: Insights from a qualitative study and decision aid development. *BMC Medical Informatics and Decision Making*, *19*(1), 1–12. https://doi.org/10.1186/s12911-019-0898-5

Zisman-Ilani, Y., Khaikin, S., Savoy, M. L., Paranjape, A., Rubin, D. J., Jacob, R., Wieringa, T. H., Suarez, J., Liu, J., Gardiner, H., Bass, S. B., Montori, V. M., & Siminoff, L. A. (2023). Disparities in Shared decision-making research and practice: The case for Black American patients. *Annals of Family Medicine*, *21*(2), 112–118. https://doi.org/10.1370/afm.2943

Canadian Journal of Cardiovascular Nursing

Experiences of Decision Makers Establishing a Nurse-Practitioner-Led Cardiac Surgery Follow-up Clinic: A Qualitative Descriptive Study

Sarah A. Lartey[1], RN, PhD(c), Angie Grewal[1], RN, BScN, Matthew J. Douma[2,3], RN, PhD(c), Stephanie Wold[4], RN, NP, MN, Glenda Williams[4], RN, BScN, Colleen M. Norris[1], RN, PhD, Christiane Job McIntosh[5], PhD, Carmel L. Montgomery[1], RN, PhD

[1]Faculty of Nursing, College of Health Sciences, University of Alberta
[2]Department of Critical Care Medicine, Faculty of Medicine & Dentistry, College of Health Sciences, University of Alberta
[3]School of Nursing, Midwifery and Health Systems, University College Medicine
[4]Cardiac Surgery Services, Mazankowski Alberta Heart Institute, Alberta Health Services
[5]Cardiovascular Health & Stroke Strategic Clinical Network, Alberta Health Services

Corresponding author: Sarah A. Lartey; email: slartey@ualberta.ca

---

Abstract

Background: *Advances in cardiovascular surgery, along with early hospital discharges, have created a demand for improved postoperative outpatient support. Nurse practitioner-led (NP-led) outpatient clinics can help address this healthcare challenge.*

Purpose: *To explore the experience of establishing an NP-led follow-up clinic.*

Method: *A qualitative descriptive research methodology was employed, facilitating data collection through indepth semi-structured interviews with four clinic leaders. The data were analyzed using thematic analysis.*

Results: *Participants shared insights about the vision, facilitators, and lessons learned during the development of the clinic. Key findings included the clinic's goal, patient impact, facilitators, barriers, leadership skills, and key learnings.*

Conclusions: *This study deepens the understanding of the elements involved in developing an NP-led clinic for postoperative cardiac surgery patients.*

Implications for Practice: *The findings offer practical implications for healthcare administrators and practitioners regarding the planning and implementation of such clinics, as well as informing future research.*

Keywords: nurse practitioner clinic, nurse-led clinic, clinic evaluation, nurse clinic setup, qualitative

Lartey, S. A., Grewal, A., Douma, M. J., Wold, S., Williams, G., Norris, C. M., Job McIntosh, C., & Montgomery, C. L. (2025). Experiences of decision makers establishing a nurse-practitioner-led cardiac surgery follow-up clinic: A qualitative descriptive study. *Canadian Journal of Cardiovascular Nursing, 34*(1), 33–41. https://doi.org/10.5737/cjcn-35-1-33

Key Highlights

- The paper discusses the challenges, successes, and barriers to initiating and managing an NP-led cardiac surgery follow-up clinic.
- The findings reveal that establishing an NP-led clinic is challenging but rewarding, because it supports patient needs post-discharge.
- The research adds to existing literature on the challenges, successes, and barriers to designing and implementing an NP-led surgery follow-up clinic.
- The paper provides evaluative data that healthcare leaders can use to plan, initiate, and manage similar NP-led clinics.

While global life expectancy has steadily risen (Robine, 2021), increases in chronic diseases and associated mortality and morbidity are leading to more complex patient populations (Bonner et al., 2020; Vos et al., 2020). In Canada, one response to these challenges has been to reform primary healthcare, which includes shifting from patients receiving care solely from physicians to the increasing integration of nurse practitioners (NPs; Heale et al., 2018). Nurse practitioners are registered nurses with additional education and clinical training, enabling them to diagnose and treat illnesses independently (Canty & Kearney, 2018). They operate autonomously, initiating the care process and monitoring health outcomes in collaboration with an interdisciplinary team (Pond et al., 2021; Schlabach et al., 2022). NPs emphasize person-centred care to support patients in both health and illness, helping them lead meaningful and productive lives. In Canada, the scope of practice for NPs allows them to conduct comprehensive assessments and treat various ailments, including chronic diseases, using a holistic approach (Canadian Nurses Association, 2010; Hansen et al., 2017). Thus, NPs are increasingly engaged across the whole continuum of patient care.

Background

Cardiovascular surgeries are effective treatments for relieving symptoms and reducing the risk of death from CVD (Bartlo et al., 2020). The number of cardiac surgery procedures performed in Canada is projected to increase by more than 50% in the next decade (Hassan et al., 2020; Moffatt-Bruce et al., 2018), partly due to the link between advanced age and vascular diseases, as well as the greater prevalence of cardiovascular disease (CVD) that necessitates surgical management (Nicolini et al., 2014). Advances in cardiovascular surgery practices, such as early hospital discharge, are promoted to enhance operative volumes (Sawatzky et al., 2013).

A decrease in the length of hospital stays can result in limited time for comprehensive patient teaching before discharge. Additionally, patients may struggle to comprehend or retain information due to confusion and anxiety post-operatively (Sawatzky et al., 2013). The use of outpatient clinics and programs led by NPs has demonstrated high patient satisfaction and quality health measures. These can help bridge educational and clinical support gaps (Oatley & Fry, 2020; Woo et al., 2017) and support patient needs in the immediate postoperative days, as they transition to primary care. Given the breadth of NPs' scope of practice, they can address many concerns that patients report following cardiac surgery, including fatigue, sleep disturbances, pain, shortness of breath, and decreased bowel function (Sawatzky et al., 2013). A recent systematic review by Smigorowsky et al. (2020) found that NPs can assist with postoperative surgical care in both critical care and ambulatory clinical settings. They concluded that NP-led care was associated with outcomes equal to or better than those of physician-led care, including improved blood pressure and cholesterol control, patient satisfaction, and costs associated with consultations with NPs compared to physicians (Smigorowsky et al., 2020). This qualitative research focuses on the initiation of an NP-led cardiovascular postoperative clinic.

Objective

In this study, we aimed to explore the experiences of core decision-makers, including the NP, during the initiation of an NP-led clinic for cardiac surgery patients post-discharge. We report the findings from the qualitative research, highlighting the team's experiences in establishing and managing the NP-led clinic, and provide insights to support others undertaking similar health system improvements.

Methodology

This research team utilized a pragmatic qualitative approach to collect and analyze data regarding participants' experiences. By doing this, we aimed to build knowledge in the pragmatic tradition by focusing on 'warranted assertions' rather than absolute knowledge or 'truth' (Martela, 2015). This approach was selected due to the study's applied and practical nature. A qualitative approach facilitates the exploration of human experiences, beliefs, and perceptions (Paley, 2017). It is a suitable method for understanding and uncovering values, meanings, motives, and perceptions within a specific context, as well as generating ideas for improvement. Some of the most significant questions in health services research pertain to the organization and leadership of health care, as well as the evolving roles of health professionals, which are well-suited to qualitative approaches (Pope & Mays, 1995).

This study employs a qualitative descriptive research methodology, grounded in a naturalistic approach to understanding the meanings that participants attribute to a particular experience (Bradshaw et al., 2017; Hall & Liebenberg, 2024; Sandelowski, 2000). Qualitative descriptive methodology seeks to uncover the nature of participants' experiences within a specific context (Sandelowski, 2000). In-depth individual or group interviews, employing thoughtfully designed questions, as in this study, are suitable for data collection in qualitative descriptive studies (Sandelowski, 2000; Turale, 2020).

The qualitative description approach enables researchers to identify and interpret common themes that reflect the experiences of multiple participants, thereby enhancing their understanding of the phenomenon of interest (Willis et al., 2016). The ontological position and epistemological assumption of qualitative description suggest that reality is subjective; thus, "no one reality can exist as individuals assign their interpretation and meaning to a phenomenon" (Bradshaw et al., 2017, p. 2). Therefore, findings should be supported by verbatim quotes to illustrate and substantiate interpretations accurately. This approach is well-suited for data collection and analysis when researchers aim to provide a description or summary of experiences.

Settings/Context

The study was conducted in a clinic within a cardiac surgery program in Western Canada. The institution performs approximately 1,500 adult cardiac surgical cases annually, including heart transplants, lung transplants, and mechanical circulatory support (MCS). A cardiovascular intensive care unit (CVICU) accommodates patients in the immediate postoperative period. Following CVICU discharge, a multidisciplinary team – including nurse practitioners, surgeons, nurses, respiratory therapists, physiotherapists, pharmacists, and discharge coordinators – monitors patients for postoperative complications in a postoperative unit, providing essential education as patients recover and prepare for discharge. The NP-led clinic serves as a point of transition for patients referred before discharge. Those living outside the province, being transferred to another acute care facility, receiving MCS, or undergoing congenital heart defect repair, cardiac transplantation, or lung transplantation were excluded from the clinic.

NP-Led Clinic: Structure and Goals

The NP-led clinic was developed with the following goals: 1) reducing the length of stay following cardiac surgery, 2) minimizing hospital readmissions, and 3) decreasing emergency department visits after discharge. Funding for the clinic was secured for an estimated two-year period from a facility innovation grant, which was entirely allocated to the NP's salary. The clinic was located within an outpatient department and staffed by a 0.75 full-time equivalent NP, along with an existing clinic coordinator (unit clerk) who supports all cardiac clinics in the outpatient setting. The outpatient clinic featured a registration desk for all patients accessing the cardiac clinics. The NP utilized one exam room on clinic days and independently performed all required interventions, including vital signs, patient assessments, education, documentation, completing requisitions and prescriptions, and faxing specialist referrals and follow-up notes to primary care providers.

The clinic opened in January 2022, with the NP working 4 days per week. The median (IQR) number of patients seen per month was 81 (range, 59–89). In the first 12 months of operation, the NP saw 910 individual patients. Initial visits were conducted both in person ($n = 450$) and virtually ($n = 460$). Additional visits were necessary for 258 (28.4%) patients, resulting in 431 follow-up phone or in-person appointments. Initial in-person visits were scheduled for either 60 minutes or 30 minutes when conducted over the phone.

Sampling/Recruitment

A purposeful sampling approach was employed to ensure that participants with the most relevant qualities, such as applicable experience and knowledge of the phenomenon of interest, were recruited to provide information-rich content for analysis (Bradshaw et al., 2017; Creswell & Poth, 2018; Sandelowski, 2000; Malterud et al., 2016). The sample for the study comprised individuals from the clinic leadership team, including the nurse practitioner. They were contacted via email and invited to participate in the research study. Recruitment concluded when all clinic leaders agreed to participate.

Data Collection

Four individuals (three clinical leaders and one NP) were interviewed for the study. Data collection was guided by semi-structured, in-depth interviews with focused questions. Individual interviews provided unique perspectives rather than the broader understanding achievable through focus groups (Sandelowski, 2000). The research team developed the interview questions iteratively to reflect the inquiry, incorporating input from clinical staff and leadership familiar with the study (see Box 1: Interview guide; Roberts, 2020). Before administering the questions to participants, the interviewer tested them with another team member. Participants answered a series of focused, open-ended questions regarding the clinic's purpose, barriers and facilitators to establishing the clinic, and factors influencing the timeline for its development. Additional questions explored the leadership and clinical skills necessary for the clinic setup. Interviews typically lasted about 45 minutes in duration.

A secure Zoom platform was used to conduct interviews, utilizing recommendations from similar research teams (Zoom Video Communications, 2023). Zoom is a collaborative, cloud-based videoconferencing service that offers features including online meetings, group messaging, and secure session recording (Archibald et al., 2019). The interview was audio recorded, and artificial intelligence-based audio transcription was employed (Gray et al., 2020), followed by manual review to confirm the transcription's accuracy. Transcripts were then uploaded to the open-source qualitative data analysis software Taguette for review, coding, and qualitative analysis (Rampin & Rampin, 2021). Interviews were conducted between November 9, 2022, and January 6, 2023. All participants joined the interview from a private office while at work, ensuring that no interruptions or distractions affected data collection during the interviews.

Box 1

Interview Guide

I understand that you have been part of the NP-led cardiac surgery follow-up clinic development. Can you describe your experience of developing the clinic?

What were some of the challenges or barriers to starting the clinic?

What were some of the facilitators for starting the clinic?

How long was the clinic in the development phase?

What would you do differently next time you develop a similar clinic?

What clinical and or leadership skills were essential for this clinic?

What specific skills did the NP bring that were essential for the clinic?

Would you like to review the questions at all?

Is there anything else you think we should know about the NP clinic?

Is there anything you would like to add?

Data Analysis

In alignment with the requirements of qualitative descriptive studies, this research adopted a thematic analysis approach, following the phases of familiarization, coding, theme generation, and reporting (Braun & Clarke, 2006). Understanding the data involved repeatedly listening to and reading it while questioning its meanings and relation to the study's objectives. Taguette was then used to highlight relevant and insightful sections of the interview transcript, which were coded, grouped, and organized into hierarchical tag structures within a query language database, facilitating easy exploration (Rampin & Rampin, 2021). Themes were generated by grouping coded and highlighted passages and elevating them to a higher level of abstraction by identifying patterns and key concepts. This inductive approach enabled a deeper understanding of the study's context and the development of a framework applicable in practical settings, benefiting others in similar contexts (Braun & Clarke, 2006; Thorne, 2008). The findings from the thematic content analysis are presented in accordance with the Standards for Reporting of Qualitative Research (SRQR) checklist (O'Brien et al., 2014; see supplementary data).

Ethical Considerations

Each participant received a written study information sheet at the outset. Before collecting data, the interviewer reviewed the contents of the consent form and obtained written consent from the participant before the interview. The researcher informed potential participants that their participation was voluntary and that they could withdraw from the study without negative consequences. All participants were given a copy of the completed consent form immediately after the interview. The study procedures received approval from the University of Alberta's Research Ethics Board (Pro00116155), and no deviations from this protocol occurred.

Researcher Positionality

The interviewer is a second-year PhD student trained in qualitative research methods. She is also a nurse manager with more than 10 years of experience leading frontline nurses and multidisciplinary healthcare teams. She has overseen the establishment of multiple outpatient clinics, including a COVID-19 Immunization Centre. The research team also included members with advanced training and experience in qualitative and mixed-methods research.

Trustworthiness

We adhered to the criteria of credibility, dependability, confirmability, transferability, and authenticity, as described by Lincoln and Guba (1985). Credibility was established through prolonged contact with participants, peer debriefing within the research team, member-checking with participants, and maintaining a reflective journal (MJD). Rigorous data analysis involved multiple iterations of questioning the data and exploring alternative explanations. Dependability was ensured by maintaining an auditable trail of process logs and engaging in peer debriefings within our research team. Confirmability was addressed by keeping an audit trail of analysis and methodological memos. Transferability was supported by providing rich, detailed descriptions of the context, location, and participants studied, as well as by being transparent about the analysis and trustworthiness. Lastly, authenticity was achieved by carefully selecting appropriate participants and offering a rich, detailed description of their experiences.

Findings

In-depth interviews were conducted with four key clinical leaders, each of whom had been directly involved in the development and implementation of the clinic. Table 1 outlines the roles and responsibilities of all participants in this study. The experiences of these participants were notably consistent. Data analysis revealed six key themes: clinic goal, patient impact, facilitators (team collaboration, clinical knowledge, and interest holder involvement), barriers (hiring, the booking process, and the pandemic), leadership skills, and key learnings (effective communication and securing surgeon buy-in).

Goal of the Clinic

Participants indicated that the clinic's goal was to reduce the length of hospital stays post-operatively, lower post-operative readmissions, and decrease emergency visits by providing enhanced post-operative care through an NP. The alignment of the clinic's goal among the participants was

Table 1

Participants Characteristics

Participant	Role	Nursing Experience (Years)	Responsibilities Related to Clinic
1	Clinical leader	20	Developed idea and proposal for NP role
2	Clinical leader	23	Developed idea and proposal for NP role; direct report for NP
3	Clinical leader	20	Developed idea and proposal for NP role; decision-maker for ongoing funding
4	Nurse practitioner	24	Direct patient care, day to day management of clinic

Note. NP = nurse practitioner.

evident. One of the participants noted that the idea for an NP-led cardiac surgery follow-up clinic had been on the minds of nursing leadership for some time. "We identified that one of our issues was the prolonged length of stay within the cardiac surgery wards…There was a call for project ideas for the Innovation Fund, and this idea arose during a meeting" (P3).

The need to decrease the length of stay in the hospital was echoed by other clinical leaders, noting: "We need to support patients after their surgery and, ultimately, that is going to help reduce hospital readmissions and emergency visits afterwards" (P4). Another mentioned, "Length of stay is an organizational priority. We provide patients with a lot of education prior to discharge, but they remain overwhelmed. We had heard from a number of patients that they felt they were told nothing, and they would phone back to the unit for information" (P1).

Patient Impact

Participants reported that the clinic was supporting many patients, particularly those with limited access to primary care practitioners and living in rural areas. One participant said, "There are a lot of patients who don't have access to primary care, which is sad at this point. The clinic is bridging that gap in services for them" (P1). Another stated, "From a patient-satisfaction, provider-satisfaction point of view, the clinic has been a success" (P1). Finally, the NP confirmed that "in many cases, (they are) the first person they have called because (they are) accessible."

Facilitators

Team Collaboration

Participants discussed processes they employed to ensure team collaboration from the project's inception and throughout the planning stages. One clinical leader participant noted that they discussed the clinic with the physician lead "to see if he would be supportive of our application (for funding) … and he was. He thought it was a great idea. So, we put forward the application… and ended up getting funded for two years for an NP" (P2). Participants described at length the collaborative planning that took place as part of clinical planning and development, including having a shared understanding of the purpose of the clinic, its core functions, and plans for hiring and operations. One participant recalled: "After we decided who the successful candidate was, we met as a team and engaged the quality improvement personnel to walk through clinic processes with us. We met with the ambulatory team couple of times to discuss how to do the scheduling of patients and what that looks like" (P1).

The participants acknowledged that "communication and regular meetings were important" from the start to successfully start clinic operations. However, some of the meetings were impeded due to the ongoing COVID-19 surge planning, and many of the meetings and "work were done virtually" (P2).

Clinical Knowledge

The combined cardiac knowledge and clinical experience of the clinical leaders and the NP were seen as crucial in facilitating the design and launch of the NP-led clinic, ensuring it was well-equipped to deliver high-quality care to post-cardiac surgery patients. Notably, participants highlighted that the NP involved in planning the clinic possessed extensive knowledge of cardiac conditions, including the anatomy and physiology of the heart, various types of heart diseases, their symptoms and causes, as well as the available treatments and medications. Participants noted that the NP's prior experience in cardiac care, including bedside practice and clinical education roles, provided a comprehensive understanding of many aspects of the cardiac surgery trajectory. This allowed them to identify the needs of post-cardiac surgical patients and create suitable care plans and interventions. Additionally, their familiarity with cardiac issues enabled them to acquire the necessary equipment and resources to provide effective patient care.

Interest Holder Involvement

In addition to the core planning team, the hospital quality improvement team and IT support services played crucial roles in ensuring that the clinic was appropriately equipped for practice, including supporting the use of the hospital booking system and electronic medical records. For example, one participant (P1) noted that the "Quality Improvement (group) helped with the process development of the clinic, and the IT (team) was essential in helping with developing the clinic within (the electronic medical record)" (P1). In their interviews, clinical leaders similarly reported that they found the NPs on the post-operative cardiac surgery unit to be 'helpful' and 'supportive' in advocating for and promoting the clinic. The "NPs on the unit are instrumental with identifying people for the clinic and getting them to the clinic" (P1). This, along with the support of cardiac medicine NPs, cardiologists, and cardiac surgeons, significantly enhanced the planning process, including referral and operational processes.

Barriers

Participants discovered that, after receiving funding, they faced additional challenges, including hiring a qualified NP and establishing an effective booking process. Key barriers include hiring, the booking process, and the COVID-19 pandemic.

Hiring

The participants agreed that it was essential for the NP hired to practice to their full scope, be clinically strong, and have the ability to manage the day-to-day operations of the clinic. This includes in-depth cardiac assessment, management of postoperative complications, and support for the booking clerks. One of the participants mentioned: "We went through the recruitment process and hired our current

NP, who also worked in CVICU. It was important that the NP have great assessment skills, the ability to critically think, and be able to remotely assess patients. NP recruitment… didn't come without causing some pain in the sense that we recruited internally. The workforce is tenuous right now… so many vacancies across the organization" (P3).

Another participant noted: "It was important the NP have cardiac knowledge and experience with cardiac surgical patients. We needed to hire someone who was willing to learn and build the clinic themselves, with significant cardiac surgery experience. Someone who was understanding, confident, and someone with experience with pleural effusions, sternal infections, and how to assess these patients" (P1).

Booking Process

The participants identified that booking patients for follow-up appointments was challenging. One of the clinical leaders described the entire process as "daunting" since none of the leadership team members at the time had prior experience in ambulatory care. They believed that the clinic should be managed by ambulatory care services rather than acute care leadership, given their direct access to the booking software and human resources. One participant remarked, "I think it was unfortunate that we knew going into the project that we needed some resources allocated to booking, and we did not get them" (P1). Another participant mentioned that the "two biggest challenges were money and bookings" (P2).

All participants expressed frustration with the booking process. They recognized that, aside from funding, the booking process posed a barrier that affected the timely care of patients after their hospital discharge. Consequently, they felt this might have hindered their initial goal of reducing the patients' length of stay in the hospital. One participant recalls, "By using the booking office at the (hospital), we were not able to turn those bookings around quick enough. So booking was our biggest problem, and we ended up moving away from using the booking office and used internal resources on the cardiac surgery ward" (P1).

The challenges with the booking process and resources also caused the NP to take on more administrative work. As noted by one participant, "the NP basically worked a lot on [their] own to assess what she needed in the clinic" (P3), and complete all tasks, including administrative work.

Pandemic

The participants unanimously agreed that despite the clinic receiving funding in January 2021, the COVID-19 pandemic delayed its opening, which eventually occurred in January 2022. Participants reported that it was "quite hard getting the clinic going during the pandemic" (P1), and that "There was a lot of delay experienced… because of COVID" (P3). They suggested that the pandemic may have also affected the allocation of funds and resources, which could have assisted the team in establishing the clinic more timely. One participant commented: "Because COVID hit, we did struggle. We found out that we got the money. Then there was a bit of a delay to make sure the money was actually in the account… allocated for the special purpose of starting the clinic (P2).

The NP recalls starting "the job in January 2022" and having to see her "first patient 10 days after …definitely hit the ground running" (P4).

Leadership Skills

Participants felt that the NP leading the clinic needed to be creative, autonomous, and self-sufficient in understanding and developing the clinic's working processes. Additionally, they indicated a need for strong leadership abilities. One of the managers remarked, "my leadership style is more hands-off. I believe in hiring good people and letting them work, which is exactly what the NP did" (P2). The NP acknowledged the importance of being multi-skilled. She stated, "I am a one-man show. I am the organizer, the planner, and the clinician, and I am my own clerical support."

Learnings

Communication

Similar to other processes in healthcare, one participant felt that enhanced communication was required, noting, "I didn't have a lot of communication as to how things are going, and I was not receiving data that was coming out of the clinic…it would also have been helpful to receive feedback and engagement from the physicians once the clinic was running" (P1).

The same participant also felt that more explicit role definitions within the leadership team from the outset would have benefited their project and acknowledged that the ongoing COVID-19 surges had affected their collaboration. They believed the team "needed to define... roles better from the start" (P1).

Surgeon Buy-in

Furthermore, one participant expressed that the clinic did not achieve its initial goal of reducing patients' length of stay. They noted: "I don't think the clinic has been a success. From a patient-satisfaction, provider-satisfaction point of view, it has been a success, but it has not played out with the length of stay or readmission rates, which was our primary goal" (P1).

Some participants acknowledged that the clinic's outcomes may be linked to a lack of sufficient buy-in from surgeons regarding the early discharge of their patients when it is safe. As one participant notes: "I don't know that we saw the surgeons really pushing the envelope in discharging patients sooner like I had hoped. We still had instances where the patients were medically ready for discharge, and the surgeons would state they feel uncomfortable, and they prefer the patient stay another day. What we needed was the surgeons to tell their patients that when they were medically stable, they would be discharged home, and have their follow-up at the NP clinic" (P1).

The participants also believed that additional time should have been dedicated to promoting the clinic to other members of the cardiac sciences team within the facility. They also felt that a surgeon champion would have been beneficial for advocating the clinic among the surgeons' group. One of the participants found that "In order for it to be a success, we needed to make sure that the residents and the surgeons all knew about the clinic, but they are all busy, and it's a process change. This takes time… reminding the surgeons and residents of what we're doing and what the clinic goals are, and that the clinic is to support their patients" (P4).

Another participant noted that "having a physician champion for the clinic would have been helpful, someone to endorse it with all the cardiac surgeons, to help champion the clinic" (P3).

Discussion

This study examined the experiences of decision-makers in designing and launching an NP-led post-operative care clinic for cardiovascular surgery patients. It sheds light on the establishment of NP-led care and clinic operations, providing qualitative insights that complement existing research on NP-provided care. The findings reveal that designing and implementing an NP-led clinic is a challenging endeavour, as numerous factors must be considered. These results hold clinical and administrative significance as they may inform NPs and leaders when considering similar health system interventions. The decision-makers in this study aimed to decrease hospital length of stay. Previous studies on similar clinics in acute care settings have associated CVD-focused NP-led care with lower 30-day readmission rates (David et al., 2015; Echeverry et al., 2015; Estrella-Holder & Zieroth, 2015). In a retrospective chart review, Meyer and Miers (2005) found a decrease of 1.91 days in the length of stay for postoperative cardiovascular surgery patients with NP-led care. However, concurrent evaluation data collected during this study (unpublished) showed no statistical difference in the length of stay after critical care discharge.

Previous research has demonstrated that patients from diverse backgrounds, including age, ethnicity, and care setting, are generally satisfied with NP care (Hayes, 2007; Oatley & Fry, 2019). Patients found NPs approachable and accessible; they listened intently to patients' experiences, spent sufficient time addressing their concerns, and effectively managed their health issues (Thrasher & Purc-Stephenson, 2008). The results of this study align with prior findings, as participants reported anecdotal evidence of high patient satisfaction. The accessibility of the NP has enabled them to bridge the gap in care access between hospital discharge and the first appointment with the patient's primary healthcare provider. The clinic addressed the post-operative needs immediately after discharge from the hospital until patients can see their primary care providers. This is particularly crucial for patients residing in rural areas. Access to qualified healthcare providers such as NPs via telephone has been characterized as an alternative for patients who might otherwise present to an emergency department for non-urgent care (Oatley & Fry, 2020). Although this study's data show no difference in hospital readmissions, emergency department visits decreased for clinic patients 7 days following discharge.

Furthermore, team collaboration facilitated the smooth initiation of the clinic. Decision-makers worked closely with other departments and hospital leadership to secure funding, hire a qualified NP, and ensure appropriate referrals. They engaged the quality improvement team, the IT team, and the booking department, regularly communicating to ensure a successful launch of the clinic. Nevertheless, participants shared essential insights that healthcare leaders and providers should consider when establishing similar clinics, such as the importance of ongoing collaboration and interest-holder engagement to ensure buy-in both before and after the clinic's initiation. The study findings suggest that the lack of surgeon engagement and buy-in may have contributed to the unchanged length of stay. Patients may have remained in the hospital longer because surgeons were not fully aware of the NP clinic's role in supporting patients post-discharge.

Implications for Practice and Research

Evidence of the value of the NP role is growing, and this study outlines what is needed to broaden the practice settings in which NPs can have a positive impact. While there is substantial research on the NP's role in acute and primary care settings, studies on NP-led clinics in outpatient settings are insufficient. As the number of NPs in this context increases, research must assess their impact on patients, other healthcare providers, and the healthcare sector as a whole. Future studies should investigate the effects of NP-led care in outpatient settings across various patient groups, including those post-transplantation or following critical care stays. There is a significant need for research that investigates the patient experience in NP-led care, as this would provide evidence to inform decision-making regarding the NP role. As the participants in this study noted, NP-led care is crucial to the overall functioning of the healthcare system.

Limitations

While this study provides insights into the experiences and perspectives of a specific group of participants, several limitations should be considered. First, the sample size was small and specific to the practice setting and context, which may have limited the transferability of the findings. Furthermore, the study relied on a single data collection method: semi-structured interviews. While this approach allowed the researcher to gain in-depth insights into the participants' experiences, it may not have captured the full range of their perspectives and experiences. Finally, as with all qualitative studies, the findings are subject to the researchers' subjective interpretation. Although we attempted to minimize personal bias, our perspectives and assumptions may have influenced the data collection and analysis processes. Despite these limitations, the study provides valuable insights for policymakers and administrators seeking to establish similar clinics in similar contexts. Additionally, the data from this study serves as a foundation for future research that could address these methodological considerations and enhance the validity and transferability of findings.

Conclusion

This study revealed that developing and implementing an NP-led follow-up clinic for cardiac surgery patients involved several successes and challenges. Team collaboration, clinical knowledge, and the involvement of key individuals facilitated the smooth and successful implementation of the clinic. Participants suggested that better role definition, improved booking processes, increased engagement from surgeons, and the inclusion of a surgeon champion could contribute to even greater success and support the achievement of the clinic's primary goal – decreasing hospital length of stay. This study provides valuable insights for healthcare professionals and managers seeking to establish similar NP-led clinics to enhance post-cardiac surgery patient care.

Acknowledgement

We are grateful to the clinic's leadership team for their invaluable support in developing the NP-led clinic and their commitment to evaluating the outcomes associated with the clinic.

Conflict of Interest

None of the authors have any conflict of interest to declare.

Funding Statement

Grants from the University of Alberta Hospital Foundation and the Alberta Registered Nurses Educational Trust supported the clinic's broader evaluation.

REFERENCES

Archibald, M. M., Ambagtsheer, R. C., Casey, M. G., & Lawless, M. (2019). Using Zoom Videoconferencing for qualitative data collection: Perceptions and experiences of researchers and participants. *International Journal of Qualitative Methods, 18*, 1609406919874596. https://doi.org/10.1177/1609406919874596

Bartlo, P., Irion, G., & Voorhees, J. (2020). Assessment of the knowledge level regarding cardiovascular disease risk factors: Comparison across age groups. *Journal of Community Health, 45*(5), 1030–1037. https://doi.org/10.1007/s10900-020-00824-w

Bonner, A., Havas, K., Stone, C., Abel, J., Barnes, M., Tam, V., & Douglas, C. (2020). A multimorbidity nurse practitioner-led clinic: Evaluation of health outcomes. *Collegian, 27*(4), 430–436. https://doi.org/10.1016/j.colegn.2019.11.010

Bradshaw, C., Atkinson, S., & Doody, O. (2017). Employing a qualitative description approach in health care research. *Global Qualitative Nursing Research, 4*, 1–8. https://doi.org/10.1177/2333393617742282

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Canadian Nurses Association. (2010). *Canadian Nurse Practitioner core competency framework*. https://www.cno.org/globalassets/for/rnec/pdf/competencyframework_en.pdf

Canty, L., & Kearney, A. (2018). Advanced nurse practitioner scheduled return clinic: A clinical audit of a quality initiative. *Emergency Nurse, 25*(10), 31–34. https://doi.org/10.7748/en.2018.e1787

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry & research design: Choosing among five approaches* (4th ed.). SAGE.

David, D., Britting, L., & Dalton, J. (2015). Cardiac acute care nurse practitioner and 30-day readmission. *Journal of Cardiovascular Nursing, 30*(3), 248. https://doi.org/10.1097/JCN.0000000000000147

Echeverry, L. M., Lamb, K. V., & Miller, J. (2015). Impact of APN home visits in reducing healthcare costs and improving function in homebound heart failure. *Home Healthcare Now, 33*(10), 532. https://doi.org/10.1097/NHH.0000000000000304

Estrella-Holder, E., & Zieroth, S. (2015). Nurse practitioner managed rapid access clinic: A strategy to prevent heart failure readmission. *Canadian Journal of Cardiology, 31*(10), S320. https://doi.org/10.1016/j.cjca.2015.07.667

Gray, L. M., Wong-Wylie, G., Rempel, G. R., & Cook, K. (2020). *Expanding Qualitative Research Interviewing Strategies: Zoom Video Communications*.

Hall, S., & Liebenberg, L. (2024). Qualitative description as an introductory method to qualitative research for master's-level students and research trainees. *International Journal of Qualitative Methods, 23*. https://doi.org/10.1177/16094069241242264

Hansen, K. T., McDonald, C., O'Hara, S., Post, L., Silcox, S., & Gutmanis, I. A. (2017). A formative evaluation of a nurse practitioner-led interprofessional geriatric outpatient clinic. *Journal of Interprofessional Care, 31*(4), 546–549. https://doi.org/10.1080/13561820.2017.1303463

Hassan, A., Arora, R. C., Lother, S. A., Adams, C., Bouchard, D., Cook, R., Gunning, D., Lamarche, Y., Malas, T., Moon, M., Ouzounian, M., Rao, V., Rubens, F., Tremblay, P., Whitlock, R., Moss, E., & Légaré, J.-F. (2020). COVID-19 pandemic: A guidance statement from the Canadian Society of Cardiac Surgeons. *The Canadian Journal of Cardiology, 36*(7), 1139–1143. https://doi.org/10.1016/j.cjca.2020.04.030

Hayes, E. (2007). Nurse practitioners and managed care: Patient satisfaction and intention to adhere to nurse practitioner plan of care. *Journal of the American Academy of Nurse Practitioners, 19*(8), 418–426. https://doi.org/10.1111/j.1745-7599.2007.00245.x

Heale, R., James, S., Wenghofer, E., & Garceau, M.-L. (2018). Nurse practitioner's perceptions of the impact of the nurse practitioner-led clinic model on the quality of care of complex patients. *Primary Health Care Research & Development, 19*(6), 553–560. https://doi.org/10.1017/S1463423617000913

Lincoln, Y. S. & Guba, E. G. (1985). *Naturalistic Inquiry*. Sage Publications.

Malterud, K., Siersma, V. D., & Guassora, A. D. (2016). Sample size in qualitative interview studies: Guided by information power. *Qualitative Health Research, 26*(13), 1753–1760. https://doi.org/10.1177/1049732315617444

Martela, F. (2015). Fallible inquiry with ethical ends-in-view: A pragmatist philosophy of science for organizational research. *Organization Studies, 36*(4), 537–563. https://doi.org/10.1177/0170840614559257

McLachlan, A., Sutton, T., Ding, P., & Kerr, A. (2015). A nurse practitioner clinic: A novel approach to supporting patients following heart valve surgery. *Heart Lung and Circulation, 24*(11), 1126–1133. https://doi.org/10.1016/j.hlc.2015.04.064

Meyer, S. C., & Miers, L. J. (2005). Cardiovascular surgeon and acute care nurse practitioner: Collaboration on postoperative outcomes. *AACN Clinical Issues, 16*(2), 149–158. https://doi.org/10.1097/00044067-200504000-00005

Moffatt-Bruce, S., Crestanello, J., Way, D. P., & Williams, T. E. (2018). Providing cardiothoracic services in 2035: Signs of trouble ahead. *The Journal of Thoracic and Cardiovascular Surgery, 155*(2), 824–829. https://doi.org/10.1016/j.jtcvs.2017.09.135

Nicolini, F., Agostinelli, A., Vezzani, A., Manca, T., Benassi, F., Molardi, A., & Gherli, T. (2014). The evolution of cardiovascular surgery in elderly patient: A review of current options and outcomes. *BioMed Research International, 2014*, 736298. https://doi.org/10.1155/2014/736298

Oatley, M., & Fry, M. (2020). A nurse practitioner–led model of care improves access, early assessment and integration of oncology services: An evaluation study. *Supportive Care in Cancer, 28*, 5023-5029. https://doi.org/10.1007/s00520-019-05292-0

O'Brien, B. C., Harris, I. B., Beckman, T. J., Reed, D. A., & Cook, D. A. (2014). Standards for reporting qualitative research: A synthesis of recommendations. *Academic Medicine*, *89*(9), 1245–1251. https://doi.org/10.1097/ACM.0000000000000388

Paley, J. (2017*). Phenomenology as qualitative research: A critical analysis of meaning attribution*. Routledge, Taylor & Francis Group.

Pond, D., Higgins, I., Mate, K., Merl, H., Mills, D., & McNeil, K. (2021). Mobile memory clinic: Implementing a nurse practitioner-led, collaborative dementia model of care within general practice. *Australian Journal of Primary Health, 27*(1), 6–12. https://doi.org/10.1071/PY20118

Pope, C., & Mays, N. (1995). Qualitative research: Reaching the parts other methods cannot reach: An introduction to qualitative methods in health and health services research. *BMJ, 311*(6996)*,* 42–45. https://doi.org/10.1136/bmj.311.6996.42

Rampin, R. & Rampin, V.(2021). Taguette: Open-source qualitative data analysis. *Journal of Open Source Software, 6*(68), 3522. https://doi.org/10.21105/joss.03522

Roberts, R. (2020). Qualitative interview questions: Guidance for novice researchers. *The Qualitative Report 25*(9), 3185–3203. https://doi.org/10.46743/2160-3715/2020.4640

Robine, J.-M. (2021). *Ageing populations: We are living longer lives, but are we healthier?* United Nations, Department of Economic and Social Affairs.

Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing & Health*, *23*(4), 334–340. https://doi.org/10.1002/1098-240x(200008)23:4%3C334::aid-nur9%3E3.0.co;2-g

Sawatzky, J.-A. V., Christie, S., & Singal, R. K. (2013). Exploring outcomes of a nurse practitioner-managed cardiac surgery follow-up intervention: A randomized trial. *Journal of Advanced Nursing, 69*(9), 2076–2087. https://doi.org/10.1111/jan.12075

Schlabach, T., King, T. S., Browning, K. K., & Kue, J. (2022). Nurse practitioner-led lung cancer screening clinic: An evidence-based quality improvement evaluation. *Worldviews on Evidence-Based Nursing, 19*(3), 227–234. https://doi.org/10.1111/wvn.12578

Smigorowsky, M. J., Sebastianski, M., Sean McMurtry, M., Tsuyuki, R. T., & Norris, C. M. (2020). Outcomes of nurse practitioner-led care in patients with cardiovascular disease: A systematic review and meta-analysis. *Journal of Advanced Nursing*, *76*(1), 81–95. https://doi.org/10.1111/jan.14229

Thorne, S. E. (2008). *Interpretive description*. Left Coast Press.

Thrasher, C., & Purc-Stephenson, R. (2008). Patient satisfaction with nurse practitioner care in emergency departments in Canada. *Journal of the American Academy of Nurse Practitioners*, *20*(5), 231–237. https://doi.org/10.1111/j.1745-7599.2008.00312.x

Turale, S. (2020). A brief introduction to qualitative description: A research design worth using. *Pacific Rim International Journal of Nursing Research, 24*(3), 289–291. https://he02.tci-thaijo.org/index.php/PRIJNR/article/view/243180

Vos, T., Lim, S. S., Abbafati, C., Abbas, K. M., Abbasi, M., Abbasifard, M., Abbasi-Kangevari, M., Abbastabar, H., Abd-Allah, F., Abdelalim, A., Abdollahi, M., Abdollahpour, I., Abolhassani, H., Aboyans, V., Abrams, E. M., Abreu, L. G., Abrigo, M. R. M., Abu-Raddad, L. J., Abushouk, A. I., … Murray, C. J. L. (2020). Global burden of 369 diseases and injuries in 204 countries and territories, 1990–2019: A systematic analysis for the Global Burden of Disease Study 2019. *The Lancet*, *396*(10258), 1204–1222. https://doi.org/10.1016/S0140-6736(20)30925-9

Willis, D. G., Sullivan-Bolyai, S., Knafl, K., & Cohen, M. Z. (2016). Distinguishing features and similarities between descriptive phenomenological and qualitative description research. *Western Journal of Nursing Research, 38*(9), 1185–1204. http://doi.org/10.1177/0193945916645499

Woo, B. F. Y., Lee, J. X. Y., & Tam, W. W. S. (2017). The impact of the advanced practice nursing role on quality of care, clinical outcomes, patient satisfaction, and cost in the emergency and critical care settings: A systematic review. *Human Resources for Health*, *15*(1), 63. https://doi.org/10.1186/s12960-017-0237-9

Zoom Video Communications. (2023, March 17). *Reimagine Learning and Education*. Zoom. https://explore.zoom.us/en/industry/education/

Canadian Council of Cardiovascular Nurses Annual Spring Conference Conference Abstracts

ORAL POSTERS

Decisional Needs of Equity-Deserving Groups Diagnosed with Brain-Heart Conditions: A Mixed-Methods Study

S. Gessese[1], D. Stacey, J. Etowa, R. Blackett, K. B. Lewis
[1] School of Nursing, University of Ottawa, Ottawa, Ontario

Background: Brain and heart health are closely connected, yet equity-deserving groups experience a higher burden of brain-heart conditions. Barriers to equitable healthcare contribute to unmet decisional needs and difficulties in making informed brain-heart health decisions.

Purpose: To determine the decisional needs of equity-deserving patients with brain-heart conditions and the challenges they encounter when making healthcare decisions.

Methods: This explanatory sequential mixed-methods study included adults (≥18 years) diagnosed with, or at risk for a brain-heart condition, had made or were making a health decision within the past year, and self-identified as a member of an equity-deserving group. Participants were recruited from tertiary care hospitals and community organizations in Ottawa through purposive and snowball sampling of an ongoing study. Data were obtained using cross-sectional electronic surveys and semi-structured interviews. Survey data were analyzed using descriptive statistics, interview data underwent thematic analysis, and both were integrated.

Results: Twenty participants were included. Preliminary analysis showed that 12 (60%) participants had a concurrent brain-heart condition and eight (40%) had a heart condition with risk factors for a brain condition. Thirteen (65%) identified as members of an equity-deserving group. The four (20%) participants that reported significant decisional conflict are from an equity-deserving group. Interviews revealed barriers to decision-making such as mistrust, insufficient information on available options, and negative past healthcare experiences.

Conclusion: This study found that equity-deserving groups face unmet decisional needs and barriers to brain-heart decision-making. Future research should develop decision support interventions to promote equitable brain-heart health decision-making practices among patients from equity-deserving groups.

Postural Orthostatic Tachycardia Syndrome: A Challenging Journey of Misdiagnosis to Diagnosis

B. Lanry[1], S. Warren
[1] St. Boniface Hospital, Winnipeg, Manitoba

Postural Orthostatic Tachycardia Syndrome (POTS) is a lesser-known pre-syncope syndrome related to a cardiovascular autonomic disorder that is poorly understood but has been related to viral, neurological, and other causes. It is characterized by an excessive increase in heart rate on standing and symptoms of orthostatic intolerance that pose significant limitations on functional capacity. Though it has been described since the 1800s, it did not receive a consensus statement definition until 2011. Postural Orthostatic Tachycardia Syndrome predominantly affects adolescent or young adult women and is often misdiagnosed or a missed diagnosis. On average, POTS patients wait longer than 4 years for a POTS diagnosis from symptom onset, with 75% of patients experiencing one or more misdiagnoses. We will explore the cardiac and non-cardiac symptoms associated with POTS, sub-types of POTS, the hemodynamic changes that occur with POTS, and the diagnostic criteria. Using a case study, we will highlight the challenges in both getting a diagnosis of POTS and the impacts of living with POTS for a previously healthy young woman. Both the fact that diagnostic criteria focus on the heart rate and fail to capture the variety of other symptoms that are part of this syndrome, plus the lack of physician education, contribute to diagnostic delays. There is a need for increased awareness and algorithms that, in addition to the cardiac features, consider the functional symptoms as well as potential causes of this syndrome.

The Ottawa Mobile Screening Program: Addressing the Unmet Need of Communities

S. Wong[1], C. Cross, R. Beanlands, T. Mesana, E. MacPhee, I. Burwash, V. Chan, H. Emmerson, R. Coulton, R. Gauda, R. Milne, D. Messika-Zeitoun
[1] University of Ottawa Heart Institute, Ottawa, Ontario

Valvular heart disease (VHD) is underdiagnosed, undertreated, and referred too late in its disease course. At the University of Ottawa Heart Institute (UOHI), the Centre for Valvular Heart Disease Mobile Screening Program (MSP) bridges these gaps in care at a primary level, while focusing on Indigenous, rural, and minority communities. Eligible participants are 65 years of age, have no known cardiovascular disease, have no follow-up with a cardiologist, and have not undergone an echocardiogram in the last three years. A sonographer uses a point of care ultrasound (POCUS) to screen for significant VHD and a nurse screens for the five common cardiovascular risk factors (CV-RF). Recommendations are provided to the participant by the nurse based on an algorithm (Figure 1). Results and documentations are subsequently reviewed by a cardiologist specialized in echocardiography. A summary is sent to the primary care provider (PCP) and available to the participant. Over 18 months, 1,389 participants were screened; 7% had significant VHD and were referred for a formal transthoracic echocardiograph (TTE) and a consultation with a VHD-specialized cardiologist, 7% were referred to their PCP or walk-in clinic for a TTE for significant non-valvular POCUS findings, 0.5% were referred to the UOHI Rapid Access Clinic for urgent non-valvular POCUS findings, and 29% were referred to their PCP or walk-in clinic for above target CV-RF (Figure 2). This innovative prevention initiative demonstrates that an MSP is feasible and sustainable with relatively high rates of unidentified abnormalities. The program's impact and cost-effectiveness are currently being assessed.

Figure 1

Algorithm Used in MSP

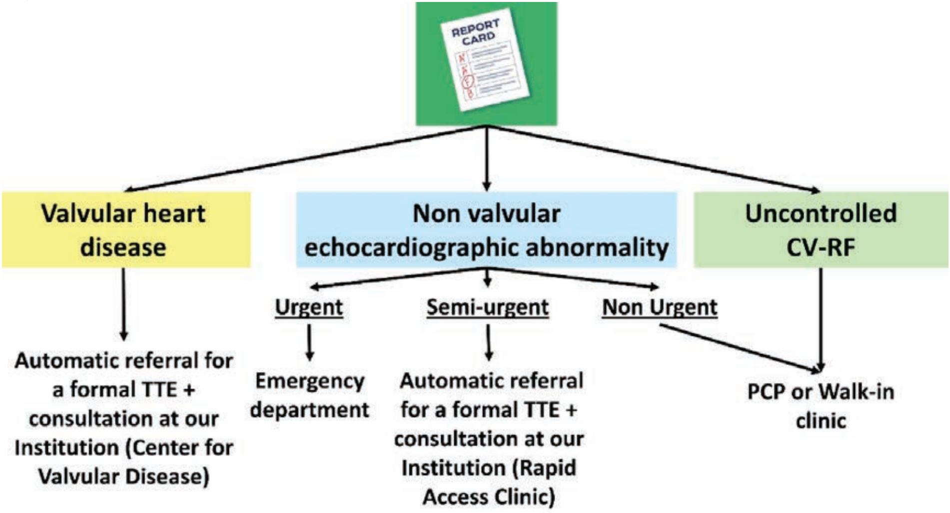
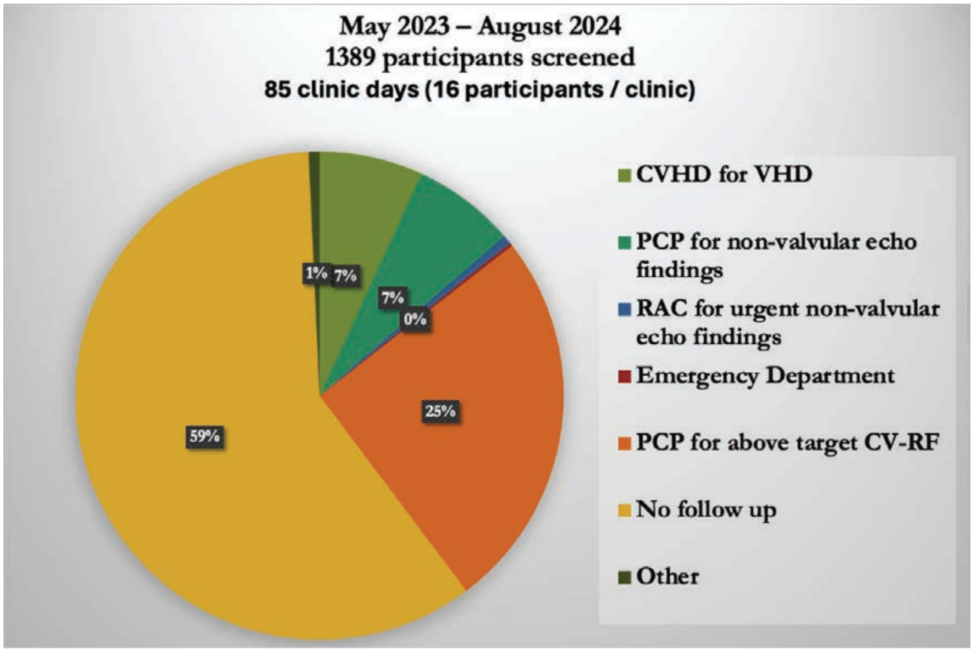


Figure 2

Graphical Abstract



Note. CVHD = carcinoid valvular heart disease; VHD = valvular heart disease; PCP = primary care provider; RAC = ???; CV RF = cardiovascular risk factors.

ORAL PRESENTATIONS

Cancer Survivors' Experiences of Cardiotoxicity-Induced Heart Failure: Living in the In-Between

M. Gholami[1], F. Madhani, M. Alzghoul, S. O'Keefe-McCarthy
[1] Brock University, St. Catharines, Ontario

Cancer treatment methods, particularly chemotherapy and radiation, have significantly increased survival rates. However, chemotherapy has a detrimental impact on survivors' heart health, leading to cardiotoxicity-induced heart failure (CIHF). Cardiotoxicity-induced heart failure post-chemotherapy is a life-threatening condition that impairs survivors' quality of life. Cardiotoxicity occurs in 25% of individuals with cancer. Cardiotoxicity-induced heart failure severity depends on an individual's level of pre-existing risk factors and the chemotherapeutic medications used. There is limited research about how individuals with CIHF cope. This qualitative study explored coping strategies employed by cancer survivors living with CIHF. Semi-structured interviews were conducted with seven individuals (five females; two males; age ranged between 25–70) who developed CIHF after chemotherapy for various cancers. Using interpretive description, guided by the transactional theory of stress and coping, thematic analysis generated the overarching theme of Living in the In-Between. Participants experienced tensions transitioning from surviving cancer to living with CIHF. Sub-themes highlighted the disruptive impact of CIHF symptoms on survivors' lives and the need to form a new identity post-diagnosis. Coping strategies identified were seeking social supports, making lifestyle changes, and use of positive thinking to live within their new identity. This study identified significant implications for CIHF-related healthcare. Patient, health are professional and public education on the cardiotoxic risks of chemotherapy, the incidence, prevalence, and symptoms of CIHF are needed. Cardiovascular nurses are in a pivotal position to advocate for and educate patients with CIHF on how to recognize, manage, and cope with symptoms associated with CIHF.

Connecting Gender to Prompt Help-seeking in Men Experiencing Myocardial Infarction

M. Cho[1], M. Mooney, F. Howard, J, Oliffe, M. Mackay
[1] University of British Columbia, Vancouver, British Columbia

Establishing a Transfer Program in Adult Congenital Heart Disease to Address Risks of Health Decline

C. Brousseau-Whaley[1], J. Morin
[1] University of Ottawa Heart Institute, Ottawa, Ontario

More than 90% of children born with a congenital heart disease (CHD) grow up to adulthood. This patient population requires lifelong follow-up in an Adult Congenital Heart Disease (ACHD) clinic. In a recent retrospective study completed at our centre, one in eight patients had a decline in their health while waiting for an ACHD consultation. In addition, patients with moderate or severe CHD lesions were at greater risk for decline, compared to those with simple CHD lesions. The ACHD clinic at the University of Ottawa Heart Institute (UOHI) developed a multipronged transfer program to aid in minimizing health decline while on the waitlist. First, a nurse-led virtual visit is scheduled within one month of receiving a new referral to the ACHD clinic. These clinic appointments aim to provide patients with education on their specific heart defect, awareness of potential red flag symptoms, and lifestyle recommendations. This enables nursing staff to triage and prioritize consults, and facilitate referrals as needed. Secondly, a concise personalized congenital history document is created for each referral. This is shared with the patient at the time of their nursing visit. This summary includes pertinent cardiac health information, alarm symptoms, and clinic contact information. To date, 51 patients have been included, five of whom were identified as high risk for health decline and were triaged for an urgent visit. These two patient interventions aid in early establishment of therapeutic relationships, detection of those at risk of declining, and dissemination of concise and patient specific information to patients and healthcare providers.

From Knowledge to Action: Improving Nicotine Dependence Screening and Smoking Cessation Support in Cardiac Care

P. Johnson[1], J. Werry, S. Lauck, E. Tang
[1] Providence Health Care/St. Paul's Hospital, Vancouver, British Columbia

Quitting smoking immediately following an acute coronary syndrome event is safe and can substantially reduce future outcomes such as death or re-infarctions. As frontline healthcare providers, the St. Paul's Hospital Cardiac Intensive Care Unit (CICU) nurses play a pivotal role in identifying individuals at risk, offering education on the health risks of smoking, and empowering patients to quit. Canadian tobacco guidelines recommend that all patients in acute care settings are screened for tobacco use and be offered treatment to those who actively smoke. Despite this knowledge, recent health record audits revealed less than 40% of CICU admissions had documented screening of nicotine dependence. We sought to address this gap in care through a knowledge translation (KT) initiative to improve screening of nicotine dependence on patient admission, encouraging nurses in supporting smokers, and creating access to smoking cessation expertise during the patient hospital stay and at discharge. Our pathway to improve care included collaboration across disciplines, streamlining direct nursing consults to smoking cessation experts, dedicated sustainable training, and partnership with patients. Evaluation of this KT initiative is ongoing. Regular health record audits demonstrated that there are areas for improvement; there has not been a significant increase in documentation of nicotine dependence. We conducted nursing surveys exploring barriers to practice revealing discomfort with nurse-initiated referrals and charting 'fatigue' with electronic medical records. Implications include additional work to address local barriers through further engagement with CICU staff and patient partners. We plan to share systems-level barriers with leadership to inform the regional strategy on smoking cessation.

Implementing a Coaching and Mentorship Program to Improve Retention and Well-being of Nurses in an Acute Cardiovascular Centre of a Canadian Quaternary Hospital Network

S. McDermid-Flabbi[1], A. Jelen, L. Graham, S. Alexandre, J. Wong, H. Kelly, P. Hubley, B. Rubin
University Health Network (UHN) – Peter Munk Cardiac Centre, Toronto, Ontario

Hospital nursing shortages remain a challenge impacting well-being of nurses and patient care. Nurses face heavy workloads and resource limitations, contributing to job dissatisfaction, burnout, and high turnover. Educational initiatives, like coaching and mentorship, are shown to be effective retention strategies. This pilot study evaluated the feasibility, acceptability, and impact of developing and implementing a Clinical Coaching and Mentorship program, to retain nurses at all career stages in an acute cardiovascular inpatient setting. Using a pragmatic embedded mixed-methods pre-post design, two professional development streams were assessed: 1) Clinical coaching: Experienced nurses (clinical coaches) released from clinical duties for up to 12-hours per week, for 16 weeks, to support point of care skill and knowledge development of novice nurses (coaches). 2) Mentorship: Experienced nurses (mentors) in advanced practice and leadership roles, guide professional growth and career aspirations of early and mid-career nurses (mentees), who are released from clinical duties for up to 12-hours per week, for 16 weeks, for one-on-one mentoring and self-directed activities. Outcome measures included validated pre- and post-surveys that measured organizational commitment, well-being, job satisfaction, self-efficacy, and retention rates. Focus groups provided qualitative insights into the program's feasibility and impact. Participants report positive impacts and overall satisfaction with the program during focus groups. Validated survey results of the study are currently being assessed. Findings will inform other hospitals on effective strategies to improve the work experiences, well-being and retention of nurses in other specialized acute cardiovascular care settings.

Increasing Access to Heart Failure Education in British Columbia: A Provincial Patient and Family Video Project

V. Barrette[1], F. Munday, T. Radosavljevic, S. Ahuja, K. Redman, K. Mackay, W. Chiu
[1] Cardiac Services BC – Provincial Health Services Authority (PHSA), Vancouver, British Columbia

In British Columbia (B.C.), there is a need for standardized, up-to-date, evidence-based, and accessible heart failure (HF) patient education. A provincial initiative is currently underway to create educational videos for all patients with HF and their families/caregiver(s). The goal is to provide access to high-quality education for patients who are enrolled, or waiting to be enrolled in a specialized heart function clinic, or do not have access to multidisciplinary heart-failure care. With leadership from Cardiac Services B.C. (CSBC), a provincial team of multidisciplinary HF clinicians collaborated to develop eight 10-minute videos that cover the fundamentals of heart failure education. Using the framework for engagement developed by the International Association for Public Participation 2 (IAP2), five people with lived experience provided input on content and co-starred in each video with clinicians. Health literacy experts reviewed the content to ensure it is easy to understand and actionable. Indigenous partners reviewed the content for cultural safety and alignment with Indigenous-specific anti-racism principles. The creation of this provincial video series is an example of innovation to improve access to evidence-based HF education that supports self-care and self-advocacy outside the clinic setting for patients and their families/caregiver(s). Sharing lessons learned and discussing the various barriers to overcome will prove valuable for other teams. Consultation with Indigenous partners and people with lived experience in this provincial project hopefully will lead the way to more opportunities for collaboration.

Mobility in a Cardiac Surgery Intensive Care Unit: A Behaviour Mapping Study

E. Phillips[1], D. M. Ashe, A. Schultz, S. O'Keefe-McCarthy, R. Arora, T. Duhamel
[1] St Boniface Hospital/University of Manitoba, Winnipeg, Manitoba

Mobilization by ambulation or cycling within 24 hours post-cardiac surgery (CS) is associated with improved physical health outcomes, is safe, and is guideline-recommended. Despite these points, no observational studies explore mobility post-CS in the CS intensive care unit (CSICU). This study used behaviour mapping to observe and describe patterns of patients' mobility in one CSICU over 16 hours (0630-2230 hours) on two weekdays and two weekend days. Two observers collected patient mobility mode, location, and support data at 15-minute intervals. Data were aggregated into four-hour time blocks. A total of 1,342 observations were made over 4 days: 487 of mode, 485 of location, and 370 of support. Sitting in a chair was observed 430 of 487 mode observations, 10-fold more than any other mode. Mobility within the CSICU room was observed in 448 of 485 location observations. Bedside nurses were the most common healthcare providers observed supporting mobility with 142 of 370 observations. The prevalence of observations of sitting in a chair, and the lack of observations of ambulation and cycling raises questions about the clinical goals and rationale of early mobility. Reframing early mobility for clinical cardiovascular nurses is one part of shifting clinical practice to move beyond sitting in a chair. This presentation aims to have cardiovascular nurses reflect on their clinical early mobility practices to begin to support practice changes. As the most common healthcare professionals supporting mobility, cardiovascular nurses are the key drivers to operationalizing these changes to mobility and improving patient health outcomes post-CS.

Postoperative Coronary Artery Bypass Graft Readmissions in Rural, Remote, and Northern Communities: Case Control Study Focused on the Social Determinants of Health

M. Alaeddine[1], J. C. Phillips, C. Verschoor, D. Banner-Lukaris, K. B. Lewis
[1] Health Sciences North, Sudbury, ON

People living in rural, remote, and Northern communities (RRNC) are at greater risk for hospital readmissions post-coronary artery bypass graft (CABG). We aimed to identify the contributing factors, including social determinants of health (SDOH) associated with hospital readmission post-CABG in RRNC. In this case-control study from one Northern Ontario hospital, we reviewed 44 patients' charts, all of whom were readmitted within 30 days of CABG between 2021 and 2023. The control group included 44 patients matched by age and sex. Logistic regression analysis revealed that readmission was associated with previous myocardial infarction (OR 2.517; CI 1.493–4.242), wait time for surgery (OR 1.016; CI 1.003–1.030), town of residence (OR 0.183; CI 0.066–0.512), distance from hospital (OR 1.010, CI 1.005 –1.015), and need for community care upon discharge (OR 14.968; CI 4.026–55.645). Therefore, factors for readmission were less associated with patient health-related factors but, rather, related to health services, physical environment, and community-related factors, which all consist within the SDOH. Nursing implications include considering the latter factors within clinical practice, education, research, and health policy. A shift in focus in nursing practice should be to improve care planning and management of patients undergoing CABG during their cardiac health journey from diagnosis to treatment, and to discharge into the community.

Tailoring a Mobile Pain-Management App for Youth Post-Cardiac Surgery

T. Killackey[1], J. O'Hare, F. Campbell, K. Taylor, S. Merklinger, J. Russell, R. Vanderlaan, L. Harris, F. Nishat, N. Drumm, M. Patel, S. Jayawickrema, L. Veloso, M. Marasinghe, J. Stinson
[1] University Health Network/University of Toronto, Toronto, ON

One in five children who undergo cardiac surgery report experiencing pain lasting more than 3 months after surgery. Many of these patients experience moderate to severe pain intensity, which has a significant impact on quality of life. iCanCope with Post-Operative Pain (iCanCope POP) is a smartphone app that provides adolescents with evidence-based strategies to manage post-operative pain. The goal of this study was to explore the unique needs and pain-management experiences of youth undergoing cardiac surgery to inform the development of a tailored iteration of iCanCope POP. A descriptive qualitative design using semi-structured interviews and focus groups was conducted with adolescents ages 12–18 who had received cardiac surgery, caregivers of youths undergoing cardiac surgery, and interdisciplinary healthcare providers. Qualitative data were inductively and deductively coded using a content analysis approach to outline participants' pain management experiences and perspectives on the iCanCope POP app. Fourteen interviews and one focus group were completed with six children, six parents, and 13 healthcare providers. Preliminary analysis highlighted three key themes: 1. Pre-operative expectations and preparation (e.g., timeline, technology versus in-person approaches); 2. Post-operative support and recovery (e.g., pharmacological management, clinical support, unexpected setbacks); and 3. App usefulness and modifications (e.g., visual progress, age appropriateness, timeline). Preliminary analysis identified various aspects of the cardiac surgery journey that could be enhanced by the iCanCope POP app. Future research should use these perspectives to inform the co-design of a new iteration of the iCanCope POP app specifically for youth undergoing cardiac surgery.

The PREVENT Clinic – A Risk-Factor Reduction Program for Primary Prevention of Cardiovascular Disease

S. Beingessner[1], J. Kim
[1] St. Mary's General Hospital, Kitchener, Ontario

Atherosclerotic cardiovascular disease (ASCVD) is the leading cause of mortality in Canada. Modifiable cardiovascular (CV) risk factors, such as smoking, obesity, hypertension, hyperlipidemia and diabetes, are common conditions leading to an increased risk of ASCVD. Evidence-based CV risk reduction models help guide clinicians to estimate ASCVD risk in adults 40–75 years old, and can help guide pharmacological and non-pharmacological management decisions, to lower CV risk. Long-term patient adherence to guideline recommendations are enhanced by shared decision making, and by leveraging support of a multi-disciplinary team. St. Mary's General Hospital Regional Cardiac Care Centre in Kitchener launched a nurse practitioner (NP)-led CV risk factor reduction program, called the PREVENT clinic, where patients receive a clinical assessment with a NP, and have access to the multidisciplinary cardiac rehab team, for guidance on evidence-based heart-healthy diet modifications, exercise therapy with an individualized exercise prescription, smoking cessation and social work support. The purpose of this workshop is to review the Primary Prevention of Cardiovascular Disease Guidelines. We will discuss gaps, and review barriers to ASCVD risk reduction in the high-risk patient. Using a case-based approach, the presenters will discuss how an NP-led PREVENT clinic can reduce common modifiable CV risk factors. Presenters will outline strategies that nurses can apply when educating patients and their families. Case studies will compare and contrast the 2023 PEER simplified lipid guidelines with the 2021 Canadian Cardiovascular Society (CCS) lipid guidelines, as well as highlight limitations of standard CV risk-reduction models.

Why Are We Too Cool for Cooling – Or Were We Always Cooling Too Cool? An Update on Therapeutic Temperature Management

L. Runcie[1]
[1] New Brunswick Heart Centre, Saint John, New Brunswick

Hailed as one of few interventions that improve neurologic outcomes post-out-of-hospital cardiac arrest, therapeutic hypothermia became widespread practice in the early 2000s. Over the last decade, there has been a shift from therapeutic hypothermia to targeted temperature management (TTM); where the goal temperature ranged from as low as 32 to 36 degrees Celsius. Then, in 2021, TTM was dethroned in favour of normothermia; the practice of maintaining body temperature less than 37.8 degrees Celsius for a prolonged period of time post-cardiac arrest. Practitioners were keen to reject hypothermic cooling, as it is complex, time consuming, and challenging to do well. Unfortunately, normothermia may not have been aptly, or formally adopted in substitution. In some instances, cooling policies were abandoned before best practices were formally updated, leaving a gap in evidence-based care. This presentation aims to promote best practices by exploring the evolution of TTM with a focus on the corresponding nursing care. Using a conversational style of presentation, a description and history of cooling will be reviewed, emphasizing hallmark studies that resulted in practice changes. Current guidelines will be highlighted before concluding with a discussion revolving the art of nursing in the realm of TTM. After participating in this workshop, attendees will have a better understanding as to what the current temperature management goals are post cardiac arrest, and why. Participants will be equipped with the knowledge necessary to advocate for their post-cardiac arrest patients, engage in evidence-based care, and facilitate practice updates as needed.

POSTERS

Characterizing Stigma in Congenital Heart Disease: A Scoping Review

M. Sochaniwskyj[1], V. Mohabir, M. Prashar, A. Farrell, T. Killackey
[1] Toronto Metropolitan University, Toronto, ON

Congenital heart disease (CHD) is the most common congenital malformation that affects approximately 1.3% of Canadians. While medical advancements have improved survival rates, individuals with CHD may face enduring stigma that impacts their social, professional, and emotional well-being. Patients with CHD often encounter misconceptions about the nature of their disease and face challenges surrounding disclosure of their condition. Beyond the personal and relational impact of stigma, patients frequently hesitate to disclose their CHD diagnosis at the organizational or institutional level due to fear of discrimination at school or work. Emotionally, stigma contributes to anxiety, depression, and diminished self-esteem, exacerbating feelings of otherness. The purpose of this review is to synthesize evidence on the various manifestations of stigma in CHD patients' lives and explore how stigma is characterized in this population. This scoping review was conducted and reported in accordance with the Joanna Briggs Institute (JBI) scoping review methodology and the Preferred Reporting Items for Systematic and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR), respectively. A scoping review methodology was deemed the most suitable approach to explore the breadth and depth of the literature on stigma in the CHD population as: (a) no previous reviews have been conducted on this topic, and (b) stigma is a concept that has been applied to a broad range of healthcare and academic disciplines. Preliminary results suggested limited research has focused on this issue and, to date, no research has thoroughly examined or documented the experiences of stigma in CHD patients.

Early Discharge, Timely Access to Care: The Role of the Nurse Practitioner in an Outpatient Clinic Post-Adult Congenital Cardiac Surgery

B. Bailey[1], T. Killackey, M. Grylls
[1] University Health Network, Toronto, Ontario

Advanced practice nurses (APNs), including nurse practitioners (NPs), are essential providers within the Canadian healthcare system, and facilitate the delivery of high-quality person-centred care across healthcare settings. Evidence shows that NPs contribute to key outcomes in healthcare delivery, including reduced length of stay, improved access to care, and increased patient satisfaction. The purpose of this presentation is to provide an overview of the impact of developing a unique NP role that addresses the post-operative care needs of adults with congenital heart disease (ACHD). At the University Health Network (UHN), a major academic healthcare organization in Toronto, Canada, NPs are fully integrated across speciality areas within interprofessional teams. This is achieved through the support of the organization's leadership who prioritize the APN role within various teams, most notably in speciality areas, such as ACHD. On average, 100 ACHD patients receive surgery at UHN each year. Often, these surgeries are challenging and patients may experience prolonged recovery that can result in physical and mental health impacts. The role of the NP with the Toronto ACHD program has evolved to meet the unique needs of patients and families; in this context, an outpatient clinic with a specific focus on postoperative ACHD care was developed. This presentation will provide an analysis of relevant healthcare utilization and access outcomes, alongside an overview of the experiences of patients and family members who are served by this clinic to demonstrate the impact of a novel NP-led post-operative ACHD clinic.

Evaluating Nursing Perspectives on the Implementation of a Multidisciplinary Cardiogenic Shock Program Team in a Canadian Heart Centre

D. El-Mughayyar[1], K. D'Souza, A. Beckett, T. Marshall, J. Macleod, O. El-Mugayyar, M. Doshi, K. Brunt, J. F. Legare
[1] New Brunswick Heart Centre, Saint John, New Brunswick

Current evidence highlights improved outcomes in heart centres operating multidisciplinary cardiogenic shock (CS) programs, including dedicated CS-Program Teams (CSPT). Despite its benefits, CSPT implementation across Canada remains limited due to systemic and human factor barriers. We assessed the implementation of a CSPT at the New Brunswick Heart Centre, focusing on early screening, timely activation, and invasive monitoring. A secondary objective was to evaluate the program's impact on nursing practices, workflow integration, and communication within the coronary care unit (CCU). A mixed-methods survey was conducted three years post-implementation, with 38 CCU nurses responding. We revealed that 63% of nurses agreed or strongly agreed with the effectiveness of CS-screening tools, and 82% supported integrating a standard order set. However, only 30% felt comfortable activating the Shock-Team. Our survey highlighted confusion about team composition, inconsistent activation protocols, and concerns about attending availability. Nurses emphasized the need for more education, clearer order sets, and standardized documentation across facilities. Respondents valued Shock-Team communication, with 90% endorsing improved attending feedback on activation decisions and 87% supporting nurse participation in team discussions and family meetings. Themes also included a desire for concrete management guidelines and simplified tools for shock staging. Challenges such as arterial line placement and inconsistent protocol application were noted. Our findings highlight the need for enhanced communication, streamlined processes, and interdisciplinary education. These insights provide actionable strategies to optimize CSPT implementation and expand protocols, with further evaluation recommended to measure impacts on patient outcomes.

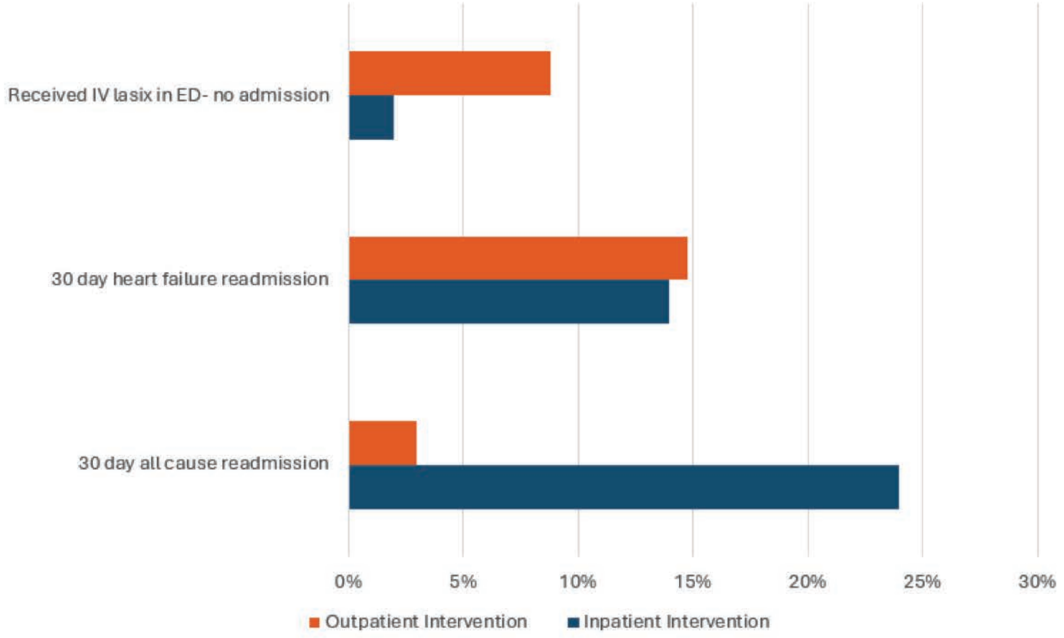
Heart Failure Transitional Care: The Value of an Inpatient Versus Outpatient Intervention

L. MacArthur[1], J. Kearnan, K. Kelemen, J. McLaren, E. Macphee
[1] University of Ottawa Heart Institute, Ottawa, ON

In 2015, a tertiary care facility began the utilization of a heart failure transitional care nurse (HFTCN) to improve outcomes for patients with heart failure (HF). Interventions completed by the nurse include HF self-care education, as well as collaboration with the multidisciplinary team to identify barriers to discharge and potential triggers for readmission. Additionally, the HFTCN ensures follow-up for patients though either telehome monitoring, an interactive voice response system (IVR), or a follow-up call. A quality improvement project was initiated to evaluate whether outcomes vary when a patient receives an in-person intervention while in hospital versus an outpatient intervention when at home. Between January 2023 and January 2024, 222 patients were followed by the HFTCN. However, only 34 patients received an outpatient intervention. To keep sample sizes consistent the first 50 patients who received an inpatient intervention were analyzed. Outcomes assessed included 30-day HF readmission, 30-day all-cause readmission, and those who received intravenous (IV) furosemide in the emergency department (ED), but were not admitted (Figure 1). Data illustrated there was little difference in 30-day HF readmissions between interventions. There were noted variations in the number of 30-day all cause readmission rates and

Figure 1

Patient Outcomes



Note. IV = intravenous; ED = emergency department.

the number of patients who received IV furosemide in the ED without an admission. An inpatient intervention led to higher all-cause readmissions, whereas an outpatient intervention led to more patients visiting the ED for IV furosemide without admission. Further investigation is required to determine the cause of variance with these outcomes and which intervention should become standard of practice.

Implementation of a "Shock First, Code Blue" Strategy on the Cardiac Wards

K. Redman[1], J. Mutch, A. Fong
[1] St. Paul's Hospital, Providence Healthcare, Vancouver, British Columbia

The purpose of our poster presentation is to share an algorithm developed to implement modified basic life support (BLS) on the in-patient cardiac ward for post-sternotomy patients. We will describe an education training program, which includes rapid cycle defibrillation practice, and share results of our quality review. After an in-hospital cardiac arrest, survival to discharge is significantly associated with the time to defibrillation. Delayed defibrillation, defined as greater than two minutes, is associated with increased morbidity and mortality (Chan et al., 2008). Rhythm recognition and access to trained staff are two factors that influence the time to defibrillation (Chan et al., 2008). During the COVID pandemic, non-advanced cardiovascular life support (ACLS)-trained cardiac ward nurses were upskilled to provide early defibrillation while waiting for the arrival of Code Blue team members. Cardiac arrest after cardiac surgery is a rare event and the best practices for code blue management differ for patients after sternotomy compared to the regular population. While modified ACLS for cardiac surgery patients in the intensive care unit (ICU) setting is common, the standard of care differs on the cardiac ward. During the upskilling of ward nurses to defibrillate, we also chose to implement a modified BLS protocol on the cardiac wards to provide a defibrillation-first strategy for shockable rhythm cardiac arrests. The results of 3 years of code blue data and staff satisfaction surveys will inform future recommendations for program development on cardiac wards.

Navigating Vasovagal Syncope: Tools and Strategies for Cardiac Nurses

B. Lezak[1], C. Kuttnig, M. Correia
[1] St. Boniface Hospital, Winnipeg, Manitoba

Vasovagal syncope, a common cause of transient loss of consciousness, is due to a vagal response causing sudden vasodilation, hypotension, bradycardia, and subsequent inadequate cerebral perfusion. This presentation will explore the pathophysiology of vasovagal syncope, including the intertwined roles of the autonomic nervous system and cardiovascular reflexes. We will detail the clinical presentation, including prodromal symptoms like nausea, diaphoresis, and lightheadedness, which are critical for early recognition. This was inspired by a case that presented to our acute coronary care unit (ACCU); a young male with recurrent vasovagal syncope and sinus pause, requiring demand pacing, diagnostic workup, and ongoing treatment. The presentation will also focus on diagnostic strategies such as tilt-table testing, ECG, and echocardiography to confirm the condition while excluding life-threatening arrhythmias and structural heart diseases. Additionally, we will discuss risk stratification and the implications of comorbidities in patient management. Understanding vasovagal syncope is particularly relevant to cardiac nurses, as they often encounter patients presenting with syncope in acute and outpatient settings. Recognizing the clinical patterns and applying appropriate diagnostic tools ensures prompt identification, reduces unnecessary interventions, and alleviates patient anxiety. Moreover, nurses play a vital role in educating patients on symptom management and lifestyle modifications to prevent recurrence. By equipping cardiac nurses with a comprehensive understanding of vasovagal syncope, this presentation aims to enhance patient safety, improve outcomes, and foster confidence in managing this frequently encountered condition that can vary in severity.

Optimizing Patient-Centred Care by Preparing Patients Ahead of their Cardiovascular Consult

J. Silas[1], E. Serano, L. MacArthur, G. Small
[1] University of Ottawa Heart Institute, Ottawa, Ontario

In a specialized tertiary care hospital, 130,000 patients visit annually for cardiac testing and treatment of heart disease. Preparing these patients ahead of their appointments is a key component to providing patient-centred care (Gholamzadeh et al., 2021). Given this, a Quality Improvement Project (QIP) was implemented to address the lack of information and resources provided to patients to prepare them prior to their appointments. The aim of this nurse-led initiative is to empower patients by educating them on necessary testing and providing them with tools and resources for symptom management and modifiable risk factors. Collaboration with both patient partners and members of the multidisciplinary team was an integral component when determining necessary interventions to implement. These interventions include monthly interactive webinars, a checklist for patients to complete prior to their visit and, if appropriate, a referral to a smoking cessation program. Since the implementation of the QIP in August 2024, participation in the monthly webinars continues to increase. By offering resources and structured guidance, this initiative empowers patients to take an active role in managing their health prior to their consultations. This QIP highlights the importance of patient-centred strategies to improve both the patient experience and health outcomes. Furthermore, the QIP encourages a collaborative approach reinforcing the importance of patient input in quality improvement. In the long term, this initiative could lead to increased efficiency within the healthcare system, as better-prepared patients may experience more streamlined consultations.

Reference

Gholamzadeh, M., Abtahi, H. & Ghazisaeeidi, M. (2021). Applied techniques for putting pre-visit planning in clinical practice to empower patient-centered care in the pandemic era: A systematic review and framework suggestion. *BMC Health Services Research, 21*, 458. https://doi.org/10.1186/s12913-021-06456-7

Pre-Admission Unit Appointment Triaging for Electrophysiology Procedures

C. Lewis[1], A. Grenon
[1] The University of Ottawa Heart Institute, Ottawa, Ontario

Pre-surgical assessments and testing can be time consuming for patients and resource intensive to hospitals. Reducing unneeded visits to hospitals increases patient satisfaction and optimizes hospital resources. Historically, electrophysiology (EP) procedures requiring anesthesia support required a pre-admission unit (PAU) appointment for assessment by an anesthesiologist. This blanket requirement can delay access to procedures and reduces efficiency in procedure scheduling. To address this, our institution created a triaging process to determine which patients genuinely benefit from a PAU appointment, and which patients were appropriate to avoid one. A questionnaire was created to score patients on current and past medical history, which assisted in triaging patients. Patients were categorized into two groups: those needing a PAU visit and those who could safely proceed without one. Over six months, 334 patients were triaged, with 140 (42%) identified as candidates to forgo a PAU visit. This resulted in a potential cost reduction of $70,000 over six months with further projected annual savings of $165,000 using current modeling. Most importantly, there were no procedure cancellations or complications attributed to foregoing PAU appointments. This model can significantly reduce costs and improve access to care for those who need it. Furthermore, this model is also highly transferable to other areas, such as cardiac surgery and structural heart programs. Integration of this model into electronic health records systems could streamline the triaging process and further reduce cost.

Reviving the Canadian Nursing Association Cardiovascular Certification Exam: A Scholarship-Based Approach

W. Chiu[1], E. Tang, J. Forman, S. Gilroy, M. Lesage, D. Nordby, S. Lauck, K. Redman
[1] St. Paul's Hospital, Vancouver, British Columbia

The Canadian Nursing Association (CNA) certification exam in cardiovascular nursing is a vital credential for ensuring excellence in specialized nursing care. Despite its importance, interest in the certification has declined in recent years. On September 2022, CNA announced the risk of the exam's retirement in December 2029 if the number of yearly writers does not reach their minimum requirement of 90 new exam writers per year nationwide. Past research has shown that certification improves retention, job satisfaction and patient outcomes. Thus, nursing leadership at the Heart Centre of St. Paul's Hospital in Vancouver, British Columbia, sought to revive interest in the exam. Building on local work to strengthen and sustain professional development of our cardiac nurses, we addressed barriers and enhanced accessibility through a scholarship-based recruitment strategy. The premise behind a scholarship strategy was also to promote the exam's academic association. Scholarships were awarded to eligible applicants to cover exam fees, coupled with mentorship opportunities to support candidates in preparation. At an organizational level, dissemination in the benefits of certification has reinvigorated widespread interest, increased certification uptake, and improved administrative sustainment support with the program. The process of program development, addressing the enablers and barriers, as well as outcomes of application, exam pass rates, and participant feedback will be presented. Sharing this information will hopefully inspire other centres nationally to adopt similar initiatives, promoting widespread participation in certification programs and reinvigorate advancing the standard of cardiovascular nursing care across Canada.

Shaping Postpartum Cardiac Obstetric Nursing Care: How Can the Perspectives of Moderate- and High-Risk Cardiac Obstetric Patients Inform Nursing Practice

A. Graham[1], J. Rider, K. Lecomte, P. VanDijk, P. Menon, S. Lauck, K. Mason
[1] St. Paul's Hospital, Vancouver, British Columbia

The Canadian Cardiovascular Society has acknowledged the growing number of women of childbearing age with cardiovascular disease. There has been an increase in the survivorship of children with congenital heart disease (CHD), with greater numbers reaching reproductive age. Concurrently, advancing maternal age means more patients enter pregnancy with co-morbid conditions and acquired cardiovascular disease. The Cardiac Obstetric (COB) Clinic at St. Paul's provides quaternary cardiac care for pregnant patients with congenital or acquired heart conditions. Our clinic sees 300-350 patients per year who deliver at hospitals across British Columbia. There are well-established medical guidelines for the care of cardiac-obstetric patients, but a paucity of literature on best nursing practice. Cardiac-obstetric patients have a high level of surveillance in pregnancy, which provides opportunity for reassessment. Hemodynamics continue to evolve postpartum, which can impact the patient's cardiac condition and level of risk; yet there is very little guidance on postpartum cardiac nursing intervention. To address this gap, we introduced cardiac-specific discharge teaching and RN telehealth within two weeks after delivery. To support this novel nursing practice, we are conducting a qualitative research project to understand perspectives of moderate- and high-risk COB patients during the interval between hospital discharge and first cardiac postpartum appointment. We have selected interpretive description as our methodology. Using semi-structured phone interviews, preliminary findings suggest that patients' perspectives support more comprehensive postpartum nursing care. Our goal is to utilize this information to plan our cardiac-obstetric nursing care and discharge support for a unique and growing patient population.

WORKSHOPS

"This is Cardiology": Bridging Research and Practice Through Interactive Learning

L. Runcie[1], Joelle Brennan, J. Mulvihill, E. Phillips, L. Runcie
[1] New Brunswick Heart Centre, Saint John, New Brunswick

This dynamic session will connect the latest research findings with real-world clinical practice, highlighting critical updates in treatment guidelines, pharmacology, and emerging study results. The purpose of this workshop is to engage attendees in a Jeopardy-style game show where we will explore a broad spectrum of contemporary cardiac care topics. Three contestants will test their knowledge across key areas, such as echocardiogram (ECG) interpretation ("Is that a STEMI?"), heart failure management ("Broken Heart Club"), arrhythmia and pacer management ("Let the Beat Drop"), and cutting-edge topics like amyloidosis ("Are You a Wild Type?") and advanced hemodynamics ("Need More Data"). The audience will be engaged as rather than Daily Doubles, we will have Open Mic Night, where the answer will be posed to the audience. The person who responds correctly will then select who the points go to. With each category tailored to reflect everyday cardiac nursing scenarios, attendees and contestants will gain insights that bridge hospital care, community health, and home-based cardiac management. Following this workshop, attendees and contestants will be able to walk through the process of assessment, testing, diagnosis, and treatment options to apply knowledge that supports the integration of theoretical knowledge into clinical practice. "This is Cardiology" will offer something for everyone, and the workshop's interactive, competitive, and fun mode will support attendance, interaction, and team building among conference attendees while promoting knowledge exchange and critical thinking.

"The One Where We Explain Why Ross is Fine": An Exploration of Ross Procedures for Nurses

L. Runcie[1], B. McPhee
[1] New Brunswick Heart Centre, Saint John, New Brunswick

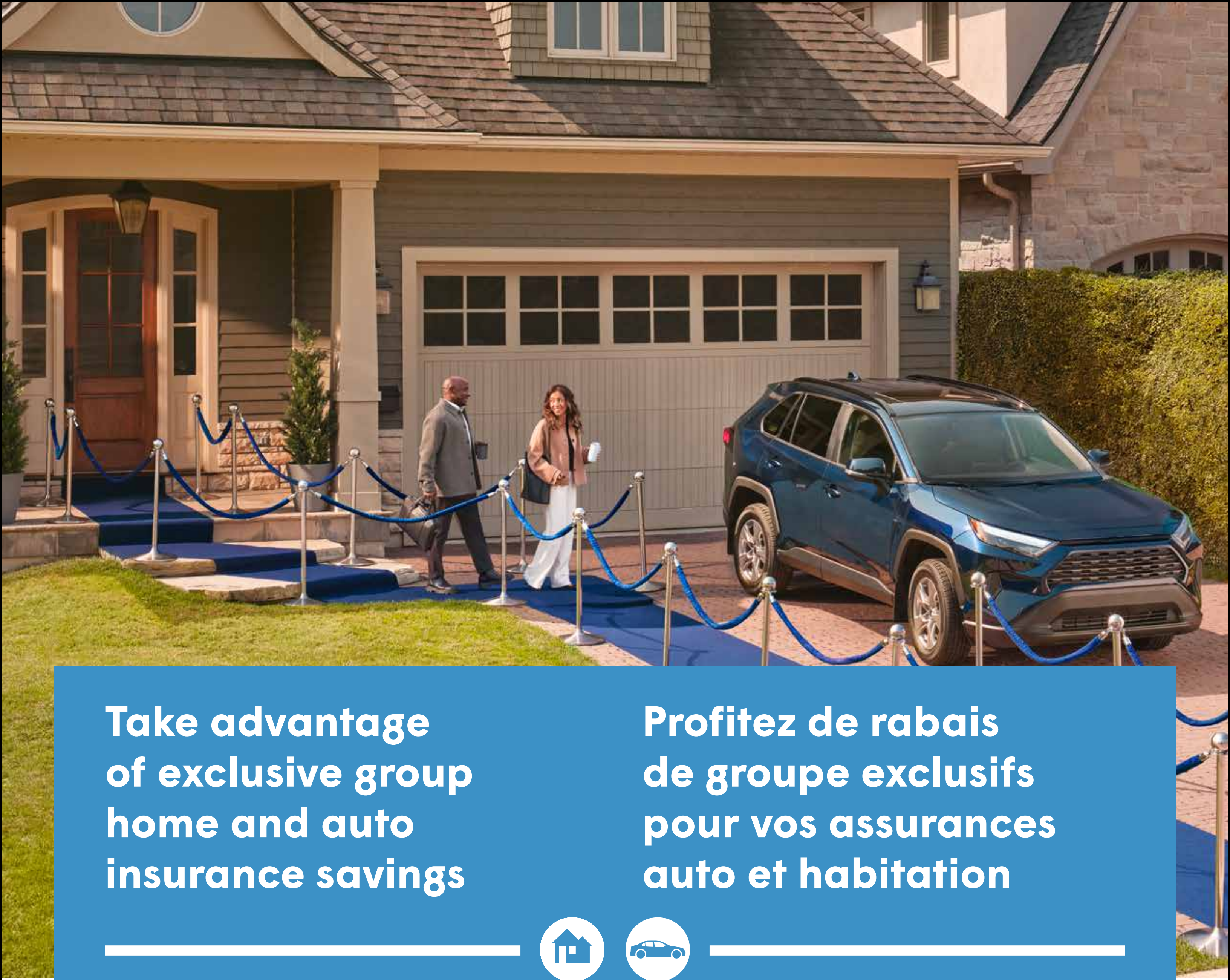
Like many trends that peaked in the 1990s, the Ross procedure is trying to make a comeback. The procedure includes replacing a diseased aortic valve with a healthy native pulmonary valve, which is then replaced with a homograft; it is complex, controversial and uncommon. Due to the decreased risk for thromboembolism, anticoagulation needs, and improved life expectancy, the Ross procedure is becoming an attractive treatment option for specific patient populations. While there has been some research exploring ideal patients, procedural advantages, and surgeon education and training struggles related to pulmonary autograft procedures, there has been little focus on the needs of nurses. The purpose of this presentation will be to help bridge the knowledge gap between what surgeons expect nurses to know, what patients want to know from their nurses, and what nurses need to know to engage in excellent pre- and post-operative care. Through an interactive approach, utilizing Mentimeter, this presentation will answer questions such as: What is a Ross procedure? What are the benefits and risks? Who should get a Ross procedure? What happens after the procedure? Each area will be explored from the lens of what nurses need to know; attempting to unravel some of the surgery's mysteries, while fostering the art of nursing. By the end of the presentation, attendees will have a better understanding of what a pulmonary autograft procedure is, who should get one and why. With this new and/or reinforced knowledge, nurses will be invigorated in their practice and passion for information sharing.

Building Cardiovascular Nurses' Competencies in Decision Coaching: An Equity-Focused, Interactive Workshop Using the Ottawa Personal Decision Guides

K. B. Lewis[1], S. Gessese, J. Armah, D. Stacey
[1] University of Ottawa, Ottawa, Ontario

People affected by cardiovascular disease are faced with difficult health decisions about cardiac screening, investigations, and treatment. These decisions are difficult because they have more than one reasonable option, have uncertain outcomes, or known outcomes that people value differently. Nurses play a crucial role in supporting people to participate in shared decision-making by advocating for their needs and personal preferences, helping them navigate key decisions, and guiding them to implement their preferred option. We propose an interactive workshop designed to enhance cardiovascular nurses' competencies in providing decision coaching. Decision coaching is non-directive support by trained healthcare professionals to prepare people to actively participate in making health decisions. Systematic reviews show it improves patients' knowledge and participation in decision making without causing harms.

Workshop objectives: Enhance participants' knowledge, skills, and confidence providing decision coaching, using the Ottawa Personal Decision Guide(s); appraise quality of decision coaching; explore barriers to decision coaching, including those for equity-seeking groups; discuss strategies for incorporating equitable decision coaching in clinical practice. Activities will include 1) overview of decision coaching, theories, and evidence; 2) introduction to the Ottawa Personal Decision Guides for one or two people making decisions together (e.g., substitute decision-maker and patient); 3) small group role-play exercise, with debriefing to offer participants an opportunity to reflect on their experiences as the patient, decision coach and/or observer; and 4) group discussion on how equitable decision coaching can be incorporated in clinical practice, including strategies to address barriers with its use.



Take advantage of exclusive group home and auto insurance savings

Profitez de rabais de groupe exclusifs pour vos assurances auto et habitation

Enjoy preferred rates on home and auto insurance with The Personal.

Bénéficiez de tarifs avantageux sur vos assurances auto et habitation avec La Personnelle.

Learn more
thepersonal.com/cccn
1-888-476-8737

En savoir plus
lapersonnelle.com/cciisc
1 888 476-8737

thePersonal
Home and Auto Group Insurer
Group rates. Preferred service.

Canadian Council of Cardiovascular Nurses

Conseil canadien des infirmières et infirmiers en soins cardiovasculaires

laPersonnelle
Assureur de groupe auto et habitation
Tarifs de groupe. Service unique.

The Personal refers to The Personal Insurance Company. Certain conditions, limitations and exclusions may apply. Auto insurance is not available in Manitoba, Saskatchewan and British Columbia due to government-run plans. The Personal® and related trademarks are trademarks of The Personal Insurance Company, used under license.

La Personnelle désigne La Personnelle, compagnie d'assurances. Certaines conditions, exclusions et limitations peuvent s'appliquer. L'assurance auto n'est pas offerte au Manitoba, en Saskatchewan ni en Colombie-Britannique, où il existe des régimes d'assurance gouvernementaux. La marque La Personnelle^{MD} et les marques de commerce associées sont des marques de commerce de La Personnelle, compagnie d'assurances, employées sous licence.