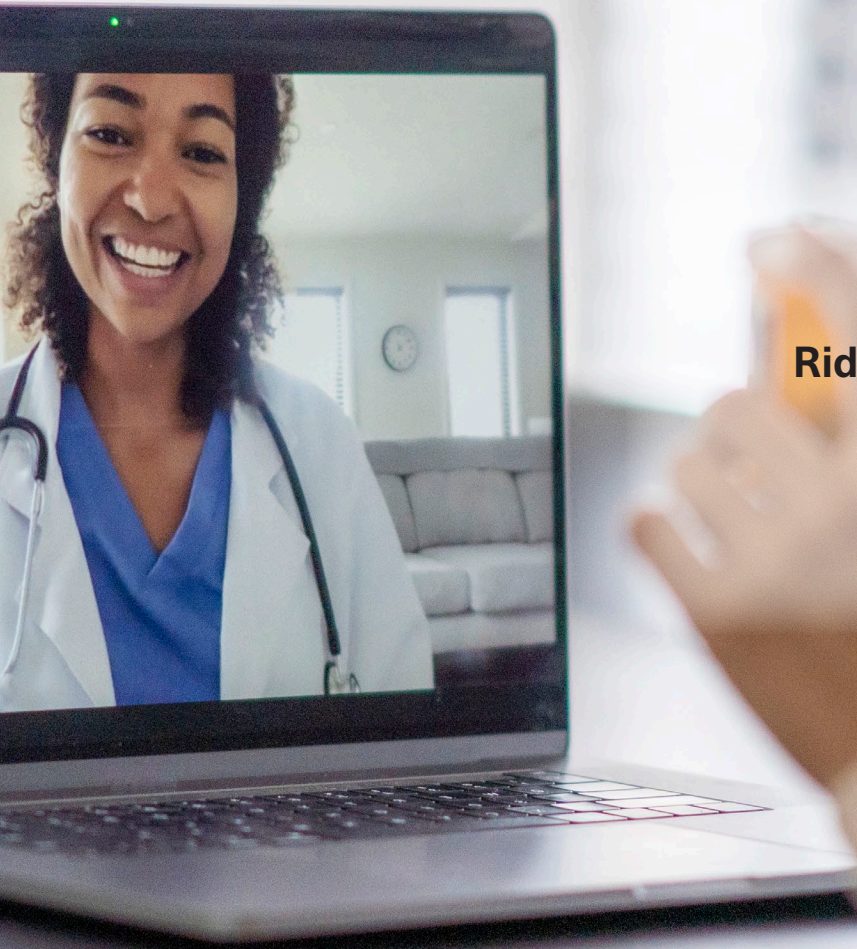




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# Table of Contents

## ARTICLES

- 02** Innovative Approaches in the Post-Covid Era: The Emerging Role of Nurse Practitioner-Led Virtual Care in a Changing Healthcare Landscape  
Sukhdip Grewal, Katey Peirson,  
Rachel Ekeanyanwu
- 10** Riddle Me Out: Emerging Utilization of Escape Rooms as a NoVel Approach to NP Student EducAtion and Learning, The “REVEAL – NP Curriculum Project”  
Dr. Nicole Gorman, Jaime Gallaher,  
Dr. Lisa Creelman
- 19** Screening Practices of Healthcare Providers for Patients' Social Determinants of Health  
Dr. Tia Cooney, Dr. Miranda Bevilacqua,  
Lindsay Inkila, Jacob Gazzola, Emma Hay

# Innovative Approaches in the Post-Covid Era: The Emerging Role of Nurse Practitioner-Led Virtual Care in a Changing Healthcare Landscape

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**Acknowledgments:** We would like to extend our heartfelt gratitude to the following individuals for their invaluable support and contributions: Shafrina Tarani RN (EC), MN, NP, CACCN, Susan Chernenko RN (EC), MN, NP, Jill Quance RN (EC), NP, Teresa Sobhy RN(EC) MN, NP, Tania Carlyle, Cécile Raymond, MHSc, Lori Seeton, B.Sc., MHA, Shiran Isaacksz, BSc, BA, MHSc, Dr. Christopher T Chan MD FRCPC, Helen Kelly RN, MScN, Shirley Scopacasa, Jennifer Lim, Danielle Kinahan, Tim Sukhu, Stephanie Ong, BScPHM RPh ACPR, MSc, Louise Won, RN and Jessica Thunderblum, RN, MPH. Their expertise, dedication and guidance were instrumental in the successful completion of this paper.

## ABSTRACT

In 2020, the global COVID-19 pandemic profoundly disrupted healthcare systems, overwhelming hospital capacities, straining emergency departments and exposing longstanding gaps in primary care access. These challenges necessitated a rapid transformation of care delivery models, with virtual care emerging as a pivotal solution. In Canada, healthcare organizations and clinicians responded by embracing innovation to maintain the quality and integrity of patient care.

As leaders in this transformation, the University Health Network developed the “Connected Care Hub (CCH),” a transitional Nurse Practitioner (NP)-led virtual clinic, designed to deliver comprehensive, safe, timely, and accessible care. Initially focused on the management of COVID-19 patients, the CCH has since evolved into an integrated model addressing a broad spectrum of acute and chronic conditions through comprehensive virtual assessments, diagnoses, treatments and structured follow-ups. The CCH collaborates closely with providers in the home, community pharmacies, specialists, and primary care providers to bridge critical gaps in transitional care. Its core achievements include enhancing care quality, preventing unnecessary emergency visits, expediting hospital discharges, and reducing readmissions.

These outcomes highlight the transformative potential of transitional NP-led virtual care in improving access, outcomes, and system efficiency. In this paper, we explore the successes, challenges, and future implications of the CCH model, offering valuable insights for health systems navigating a new era of care.

## Introduction

Canada’s healthcare system is at a critical juncture, facing persistent challenges in primary and acute care access (Canadian Institute for Health Information (CIHI), 2023b). Even prior to the COVID-19 pandemic, one in six Canadians lacked a regular primary care provider (PCP), and fewer than half could access same-day appointments (Canadian Medical Association, 2018). These systemic barriers contributed to heightened patient stress, delayed

diagnoses and a surge in Emergency Department (ED) visits for conditions better managed in a community-based setting (CIHI, 2023a; Commonwealth Fund, 2020). The pandemic further intensified these challenges, with an alarming 39% of Canadians visiting the ED in 2020 for concerns typically managed in primary care settings (Commonwealth Fund, 2020). These disruptions disproportionately affected racialized and low-income communities, deepening existing health inequities across the nation (CIHI, 2021, 2023a).

The growing strain on Canada's primary care system has led to a shift in the burden of care to the acute care sector, leading to overcrowded EDs and inpatient wards (Jeyaraman et al., 2021). These pressures are further exacerbated by the rising prevalence of chronic disease, increasing illness complexity, and limited healthcare resources (Steffler et al., 2021). Virtual care integration in acute care pathways presents opportunities to enhance continuity of care, optimize chronic disease management and prevent hospital readmissions (Chauhan and McAlister, 2022).

Virtual care encompasses any interaction, whether synchronous or asynchronous, that occurs between patients and any member of the care team without direct physical contact (Digital Health Canada, 2025). While virtual care was largely confined to remote and underserved areas prior to the pandemic, its adoption surged during the pandemic as a strategic response to mitigate viral transmission and reduce strain on healthcare facilities (Bhatia et al., 2021). In Ontario, virtual care accounted for a mere 1.6% of ambulatory visits in the second quarter of 2019 but increased to 70.6% by the second quarter of 2020 (Bhatia et al., 2021). Although COVID-19 is no longer a public health emergency, virtual care remains an essential mechanism for delivering quality care that is timely, safe, accessible and cost effective (Haleem et al., 2021; Lam et al., 2020; Agarwal et al., 2021).

University Health Network (UHN), recognized as a leading research hospital, aims to drive change and transform lives through bold, visionary steps (University Health Network, 2025). The "Connected Care Hub" (CCH) at UHN reflects this mission by integrating virtual care into acute care models, to improve patient transitions,

continuity of care, and access for vulnerable populations. Specifically, the CCH provides transitional care to patients following hospital discharges or ED visits for common respiratory infections, acute medical exacerbations, or chronic disease complications. It also accepts referrals from PCPs for community-based patients with similar conditions who require enhanced support. In this evolving landscape, Nurse Practitioner (NP)-led virtual care has emerged as a compelling model for addressing challenges across the continuum of healthcare. With advanced education, clinical expertise, and a patient-centered approach, NPs are uniquely positioned to lead these initiatives and bridge gaps in traditional models of care (Charalambous, Hollingdrake, & Currie, 2024). In this paper we examine the impact of NP-led virtual transitional care on Canada's healthcare system in the post-COVID era. By advocating for broader integration, we highlight its potential as a strategic solution to advance equity and improve health outcomes.

## Connected Care Hub Clinic Overview

The CCH was established in April 2020 in response to the COVID-19 pandemic, with the goal of reducing nonessential ED visits and minimizing risks associated with in-person care. Rapidly deployed during a period of significant system strain, it operated as a virtual team to sustain continuity of care amid limited access to primary care. At the height of the pandemic, the CCH managed over 1,000 virtual visits per week, supported by a collaborative network of physicians and NPs. Since its inception, the program has delivered an estimated 66,650 virtual visits and supported approximately

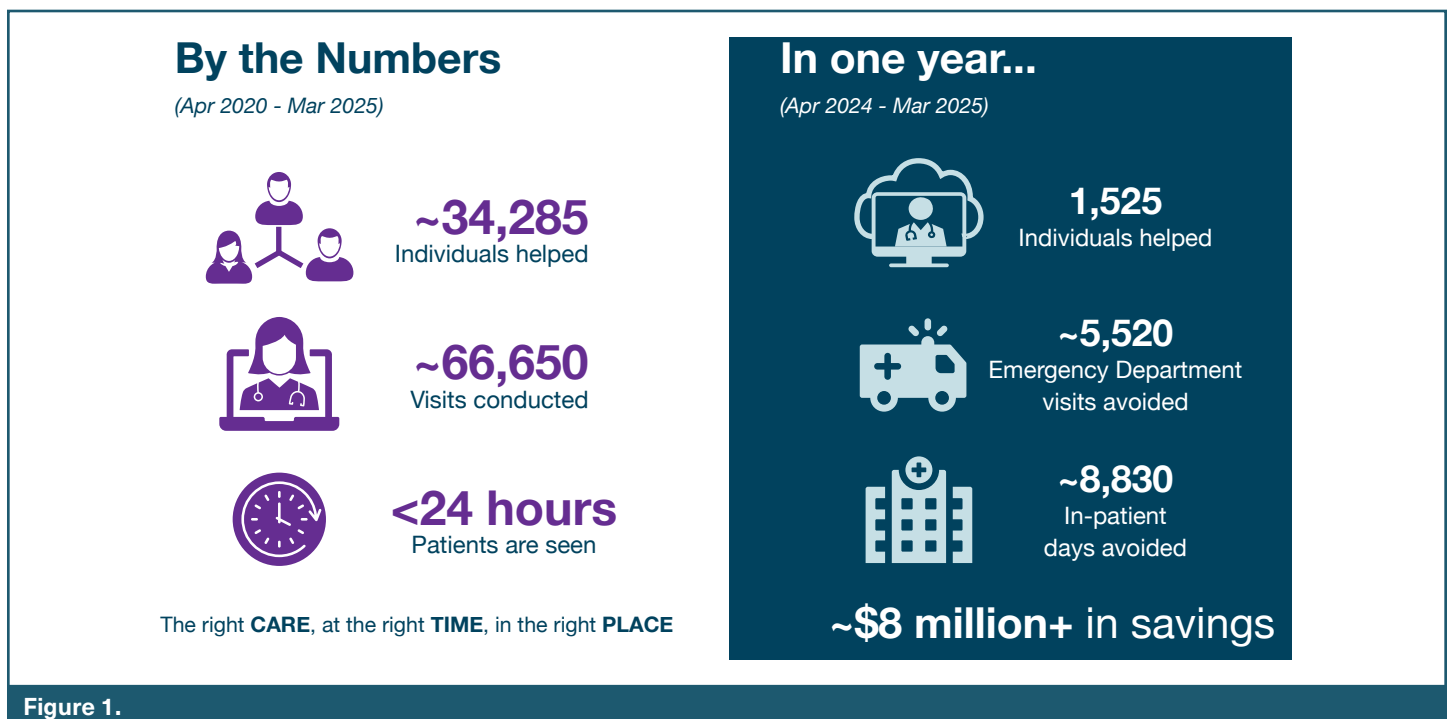


Figure 1.

34,285 individuals, while ensuring patients are seen within 24 hours of referral. In the past year alone, the program is estimated to have helped 1,525 individuals, avoided around 5,520 emergency department visits and 8,830 in-patient days, and generated over \$8 million in system savings (Figure 1).

## Program Model

The CCH provides short-term, transitional virtual care for high-risk patients with complex medical needs. Its core services include comprehensive assessments, diagnostic investigations, evidence-based treatments, and structured follow-ups. The hub collaborates with interdisciplinary partners such as Ontario Health (OH) atHome, community pharmacies, specialists, and PCPs. Referrals are received from various UHN departments including ED, General Internal Medicine, Transplant, and Oncology, as well as from community-based programs and PCPs. To support continuity, the CCH facilitates safe and coordinated transitions from the hospital to the community, bridging critical gaps in follow-up care and post-discharge support.

## Clinical Pathways

The CCH was initially established to manage acute respiratory conditions in populations impacted by COVID-19, pneumonia, RSV, and influenza. Within this respiratory pathway, NPs assess high-risk patients presenting with respiratory symptoms and oversee their management by ordering respiratory viral panel testing, blood work, and chest X-rays. They prescribe treatments including antivirals, antibiotics, corticosteroids, and inhalers, while coordinating short term community nursing care to administer intravenous antiviral therapy to support recovery and prevent deterioration. Building on this foundation, the CCH has since expanded to include a broader spectrum of chronic and complex conditions through structured, condition-specific clinical pathways.

The Chronic Obstructive Pulmonary Disease (COPD) pathway supports clinically stable patients at risk of progressive deterioration and adverse outcomes without prompt intervention. It prioritizes early identification, timely diagnostic evaluation, and prompt initiation of care. NPs order diagnostic spirometry and work collaboratively with Respiriologists for patients with confirmed COPD. Patients receive individualized care plans aimed at optimizing symptom control, improving disease self-management, and reducing preventable ED visits and hospitalizations.

The Diabetes pathway, developed in collaboration with Discovery Pharmacy at the University of Toronto, supports patients recently discharged following complications related to newly diagnosed or poorly controlled diabetes. The pathway facilitates early discharge and ensures comprehensive post-acute follow-up. Pharmacists provide targeted education focused on lifestyle modification, while NPs perform clinical assessments, optimize medications including insulin, and deliver personalized support to

achieve glycemic stabilization. Patients are followed for a minimum of 14 days, with the duration extended based on clinical necessity and the timely availability of PCPs or specialists to ensure safe and coordinated transitions of care. This model promotes seamless care transitions, enhances patient capacity for diabetes self-management, and reduces reliance on acute care services.

## Interdisciplinary Team

The CCH was initially shaped by two part-time NPs with ED physicians providing a majority of the initial patient assessments. Over the past three years, the program has since evolved into a comprehensive interdisciplinary team composed of six full-time NPs, two casual NPs, two full-time Registered Nurses, two part-time Pharmacists, three full-time Administrative Assistants, and a part-time Chiropodist. Within this model, NPs serve as the most responsible providers, working to their full scope of practice and leading patient care across the continuum. This growth has been further bolstered by strategic partnerships with UHN Integrated Care Program, OH atHome, Discovery Pharmacy, Toronto Paramedic Service (TPS), Telemedicine Impact Plus (TIP), Seamless Care Optimizing the Patient Experience (SCOPE) team, Naturally Occurring Retirement Community (NORC) program, and UHN Social Medicine. For example, collaboration with the TPS' Community Paramedicine program has enabled NPs to refer patients for in-home wellness checks, chronic disease assessments and treatments, point-of-care testing, remote monitoring, and connections to essential community resources. By reducing emergency calls, ED visits, and avoidable hospital admissions, this partnership enhances patient outcomes, improves system efficiency, and strengthens rapid response for patients requiring urgent interventions. The CCH has also demonstrated leadership in managing complex COVID-19 cases through province-wide home care partnerships, facilitating the timely delivery of intravenous antivirals and showcasing the hub's capacity for adaptive, scalable care models in response to evolving patient needs. Through interdisciplinary collaboration and organizational adaptability, the CCH has strengthened its capacity to meet the evolving and complex demands of contemporary healthcare, within a post-COVID landscape marked by sustained high demand for virtual care.

## Benefits and Limitations of the CCH

### Benefits

The CCH offers key advantages over conventional models of care by improving healthcare access through a centralized virtual model that integrates specialty services, streamlines referral pathways, and utilizes advanced technologies. Strengthened by strong community partnerships and an interdisciplinary team, the CCH delivers timely, coordinated, and patient-centered care. A core strength of the CCH is the integration of virtual care to address geographic, logistical, and systemic

“  
 This clinic is an incredible resource that’s helping to keep patients at home and to **keep our inpatient system afloat**.  
 Physician

“  
 Thank you! **This program saved my life**.  
 Patient

“  
 5 star program. Great to have the clinical team **educating you and working with you to get better**. I can’t say enough how awesome it was.  
 Patient

“  
 It was a great relief to know that he was well cared for. I’m very happy with the way things went. **Our story has a happy ending**.  
 Caregiver

“  
 I am very grateful for the care that I received. All of the nurse practitioners were knowledgeable and reassuring. I was so excited to hear the clinic includes **follow up for other medical conditions afflicting people who are lost within the healthcare system**.  
 Patient

**Figure 2.** Anonymous testimonials from patients, caregivers and clinicians collected by the Connected Care Hub (internal data, 2024).

barriers, particularly for underserved and vulnerable populations. By reducing in-person visits, the model improves access for individuals facing transportation, mobility, or complex caregiving challenges. It also reduces indirect costs such as travel and lost wages, improving affordability for individuals with limited financial resources. To ensure inclusivity, the CCH offers both video and telephone consultations, along with translation services to accommodate patients across diverse languages, varying levels of digital access and health literacy. These strategies promote health equity and align with patient preferences, as 79–98% of Canadian patients report virtual care to be comparable to in-person visits (Canada Health Infoway, 2020) (Figure 2).

Beyond individual outcomes, virtual care has broader systemic benefits. National estimates suggest that shifting 50% of primary care visits to virtual platforms could save 103 million work hours annually, reduce patient travel costs by \$770 million, and prevent 325,000 metric tonnes of CO<sub>2</sub> emissions (Canada Health Infoway, 2020). These outcomes reinforce the CCH’s role in advancing sustainability, equity, and efficiency, while setting a national benchmark for innovative, patient-centered care delivery.

### Limitations and Mitigation Strategies

While the CCH model offers significant benefits, it also presents inherent limitations common to virtual and transitional care approaches. Technological barriers disproportionately affect older adults and socioeconomically disadvantaged populations, particularly those without access to a phone, reliable

internet access, or with low digital literacy (Yang, Gao & Jiang, 2024). Additionally, the appropriateness of virtual care varies based on factors such as patient acuity, illness type, individual preferences, and privacy concerns (Gajarawala & Pelkowski, 2020).

Transitional care models present additional challenges, including the risk of care fragmentation, particularly in resource-limited communities facing PCP shortages. Over-reliance on virtual care may also diminish the essential role of in-person services, while its convenience can contribute to over-utilization. From a systems perspective, dependence on a limited workforce may increase the risk of burnout and staff retention as demand continues to grow (West et al., 2016). Finally, the long-term sustainability of such programs relies heavily on stable funding and ongoing stakeholder engagement.

In response to these limitations, the CCH has implemented targeted strategies to maintain high standards of care while supporting system capacity. Standardized clinical protocols support the delivery of care that is both efficient and comprehensive, while risk stratification tools aid in prioritizing high-needs patients and streamlining services for those at lower risk. Patient education initiatives encourage appropriate use of virtual care, helping to minimize fragmentation and reduce unnecessary utilization. For patients requiring in-person assessment, referrals to partners such as community paramedicine help to prevent avoidable ED visits. Virtual care is positioned as a supportive component, particularly during acute episodes or chronic disease exacerbations, rather than a replacement for in-person care.

Looking ahead, the CCH remains committed to refining integrated models that combine virtual and in-person services. These hybrid approaches may enhance diagnostic accuracy, preserve continuity, and support comprehensive, patient-centered care. Continued efforts to diversify the clinical workforce and invest in professional development are also key to improving staff retention and ensuring long-term sustainability.

## Future Planning

### Advancing Community Partnerships

Building on the success of its collaborative model, the CCH plans to strengthen its partnerships to enhance transitional care beyond the virtual clinic. Upcoming initiatives include partnering with community pharmacies to pilot a transitional diabetes program, bridging critical gaps in diabetes management through innovative, community-based approaches. The CCH is also working to expand its collaboration with the SCOPE program, a virtual interdisciplinary team connecting unaffiliated PCPs to specialists, hospitals, and community services. These initiatives aim to advance integrated care, extending advanced diabetes support beyond UHN while improving service coordination across care settings. Additionally, the CCH anticipates leveraging a broader spectrum of home care resources, using its experience in managing complex COVID-19 cases as a foundation for scalable, adaptive care models to address evolving healthcare needs.

### Team Expansion

As the CCH continues to expand, building a dynamic, interdisciplinary team will be essential. The CCH envisions integration of social workers, dietitians, physiotherapists, and occupational therapists as instrumental in cultivating a holistic model of care that is better equipped to address the multifaceted and complex needs of patients. Many individuals referred to the CCH face complex challenges shaped by social determinants of health, including financial insecurity, unstable housing, and difficulty navigating the healthcare system. By incorporating other allied health professionals, the hub aims to enhance capacity to provide comprehensive, patient-centered care that addresses medical concerns while mitigating broader socioeconomic factors impacting health outcomes.

### Enhancing Accessibility

Residents in remote and rural communities frequently encounter significant barriers to care, including provider shortages, transportation challenges, and long travel distances, which contribute to poor health outcomes (Sapru et al., 2014). While the CCH currently operates within an urban setting, its model offers insights that may be valuable to geographically underserved regions. Potential strategies may include establishing partnerships with local care providers and sharing best practices to

support the development of scalable, adaptable models. Through this continued evolution, the CCH remains committed to expanding access, promoting equity, and supporting broader health system integration.

## Expansion of Clinical Pathways

The CCH has led the delivery of timely, coordinated services while bridging geographic and systemic barriers to access. Supported by strong partnerships and established referral pathways, the model effectively serves patients in a fully virtual environment. When in-person evaluation is clinically indicated, the CCH ensures prompt referral to appropriate community or hospital services to maintain continuity and quality of care. Recognizing that some cases require in-person assessment, the CCH is exploring hybrid care options, including extended hours and dedicated clinic space. This approach would preserve the strengths of virtual care while enhancing flexibility to address complex needs. To ensure care remains responsive and targeted, the CCH regularly analyzes utilization patterns, particularly among patient populations with high rates of ED visits, hospitalizations, and readmissions. These insights inform the ongoing development and refinement of clinical pathways, enabling more timely and proactive interventions for high-risk and vulnerable individuals.

## Research, Evaluation and Scalability

As the CCH continues to evolve, strengthening its evaluation framework will be essential to understanding its impact and informing future improvements. Early findings indicate clear benefits, including reduced ED visits, decreased inpatient days, timely post-discharge follow-up, and lower inpatient readmission rates. Notably, an initial review showed inpatient readmission rates to be lower among CCH patients, with an overall rate of 8.2% compared to the UHN average of 13.9% (internal data, 2024). To build on this progress, further research, including a propensity matching study, is needed to assess long-term effectiveness, optimize clinical pathways, and gain a better understanding of patient and provider experiences. Evaluating the model's scalability across care settings, coupled with systematic data collection and analysis, will support continuous quality improvement. Disseminating findings through academic channels will enable effective knowledge translation and support broader system adoption.

## Conclusion

The Canadian healthcare system relies on innovation to address persistent gaps in primary and acute care, ensuring that high-quality, patient-centered care remains both equitable and accessible. The CCH exemplifies this approach through its predominantly virtual, NP-led transitional care model. By supporting

timely interventions, enhancing continuity, and fostering community partnerships, this initiative has contributed to measurable system improvements, including reduced ED visits, fewer hospital admissions, and earlier discharges. In this paper, we examined the evolving role of the CCH in the post-COVID era, highlighting NP-led virtual care as a scalable, sustainable model. As Canada's healthcare landscape continues to evolve, this model is well-positioned to serve as a national benchmark for accessible, efficient, and equitable care delivery.

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### REFERENCES:

1. DAYVIGO Product Monograph, Eisai Limited, January 30, 2025.
2. Data on file, Eisai Limited.

\* Comparative clinical significance unknown.

† A 12-month multicentre, randomized, double-blind, Phase III study in 959 patients, 18 years and older with insomnia disorder, using patient sleep diaries, comprising a 6-month placebo-controlled treatment period followed by 6 months of active treatment. *Primary efficacy endpoint*: mean change from baseline in sSOL at the end of month 6. *Key secondary efficacy endpoints*: mean changes from baseline in sSE and sWASO during 12 month treatment period.

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DAYV-CAN/E-208.1

# Riddle Me Out: Emerging Utilization of Escape Rooms as a NoVel Approach to NP Student EducAtion and Learning, The “REVEAL – NP Curriculum Project”

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## ABSTRACT

**Introduction:** This study explores the use of a virtual escape room to enhance clinical reasoning (CR) skills in Nurse Practitioner (NP) students, specifically in the diagnosis and management of headaches in primary care. With increasing demand for NP education and faculty shortages, innovative teaching methods are needed. Virtual escape rooms, a gamified learning approach, provide an interactive, engaging way to develop CR skills.

**Methods:** A mixed-methods design was used to assess the perceptions of 12 NP students from two cohorts at Thompson Rivers University.

**Results:** All 12 students participated in the virtual escape room experience and the virtual debriefing session. Only 7 of the 12 students completed the post-simulation survey, accounting for a 58% return.

**Discussion:** Tenants of the escape room emerged, such as enjoyment, versatility, and transferability of this learning modality to other topics, summarized within the theme of satisfaction. Much of the commentary was positive and participants expressed gratitude for being part of the experience.

**Conclusion:** The study supports virtual escape rooms as a promising educational tool for NP programs and suggests further research with larger samples and improvements in the platform's usability.

Nearly one-third of nursing schools in Canada offer Nurse Practitioner (NP) programs. Distance education (DE) and virtual modalities are embedded within approximately 56% of all NP programs (Canadian Association of Schools of Nursing, 2022). Virtual modalities rely on technological advances including, but not limited to, simulation. Replicating real-world encounters as a learning modality offers meaningful virtual interactions, encouraging engagement and demonstrating advanced knowledge and skill acquisition while challenging the landscape of traditional NP education delivery.

Nurse practitioner students favour DE's flexible educational delivery model and virtual means (Luimes,

2021). Nation-wide, challenges in NP faculty recruitment and retention persist. The literature reveals that around 40% of NP schools have a shortage of qualified NP faculty (Canadian Association of Schools of Nursing, 2022). Despite this shortage, the NP designation has increased significantly and is one of the fastest-growing healthcare professions since 2020, with a reported growth of nearly 11% (Canadian Nurses Association, 2024).

Given educational institutions' challenges in meeting the continued projected growth, novel approaches to educating NP students are necessary to meet the mounting demands, irrespective of the shortages in NP faculty. Furthermore, students have identified their

preference for more enjoyable and engaging learning modalities, suggesting a need to diverge from traditional, didactic learning styles (Bass et al., 2024). Escape rooms are an emerging approach for NP education delivery, mitigating gaps in instructional resources while capturing student-preferred delivery modes of knowledge acquisition. Virtual strategies are relevant and versatile in a multitude of settings, including in-class or via DE.

## Background and Significance

The undertaking of game thinking using technology and game mechanics to solve problems in non-game contexts is the foundation for a movement in learning referred to as, Gamification (Mackavery & Cron, 2019). Gamification is the genesis for escape rooms and is gaining traction in revamping NP learning modules. While novel, the gamification of learning strategies in healthcare has yet to see the breadth of research to infer its benefits.

However, recent literature is revealing the innovative ways of caring, redesigning, and reinventing practices through gamification, wherein the data gleaned (datafication) forges personal insights for long-lasting self-improvement, ultimately enhancing care (Krishnamurthy et al., 2022; Wallenburg & Bal, 2018). Gamification provides the overarching umbrella for simulation, making escape rooms an enjoyable and relatable endeavour, bringing real-world scenarios to life in a risk-free learning space. In a culture of risk aversion, the emerging utilization of escape rooms as a novel approach to NP student learning has merit in revealing the benefits of a just culture of learning and healthcare delivery.

Escape rooms represent a novel active learning strategy, providing an interactive instructional method which promotes collaboration, empowerment, clinical reasoning, and critical inquiry (Mullen et al., 2019). Gaming principles are employed to actively engage learners who must complete puzzles or riddles to master a scenario, escaping the room when the problem is solved (Iverson et al., 2022). Moreover, game-based learning enables problem-based learning principles utilizing technology that promotes immersive learning virtually, a concept and study method familiar and widely used by Millennial and Generation Z students (Hebert, 2023). The Canadian Nurses Association (2024) reports that the nursing workforce (including NPs) is becoming younger, with many falling categorically within the Millennial generation. While escape rooms have been developed for use in undergraduate nursing and medical programs, further literature examining the utility of and outcomes for NP student delegations is needed (Iverson et al., 2022).

NPs care for diverse populations across a lifespan, often with increasingly complex care needs in various practice settings. NP scope of practice has broadened; thus, NP education must shift to meet the myriads of educational needs. With the projected growth of NPs to

meet Canadian healthcare needs, NP education delivery must supersede growth predictions. However, meeting this demand is limited by the requisite number of NP faculty, with many NP faculty positions presently unfilled (Canadian Association of Schools of Nursing, 2022). Despite these vacancies, NP educational institutions must ensure students have the skills outlined by deliverable core competencies set out by national and provincial governing bodies. Clinical reasoning (CR) is foundational to safe practice, encompassing the cognitive knowledge and decision-making abilities to diagnose and prioritize care plans (Cantero et al., 2024). CR is the fulcrum of NP education, necessitating NP faculty expertise to solidify this core competence skill in NP education. While not a replacement for qualified NP faculty, existing NP faculties can utilize immersive education techniques, such as escape rooms, to address the complexities and time constraints of delivering comprehensive NP education (Koelewijn et al., 2024).

## Headaches in Primary Care: Topic of Interest

Our study proposed an inquiry into the utility of a virtual escape room simulation to support NP students' development of CR skills in diagnosing and managing headaches in a primary care setting. The common chief complaint of headache was chosen as the topic of interest given its clinical relevancy for NP students. Canadian primary care practitioners will encounter headaches, one of the most common chief complaints, with a predicted lifetime prevalence of around 66%, accounting for 20% of workforce absenteeism (Becker et al., 2015). These prevalence rates are consistent with the findings globally that headache disorders produce a high ill-health burden and loss of productivity. Headaches are listed among the top three causes of disability across the lifespan, given both the chronic and episodic nature of these disorders (Steiner et al., 2021).

Despite the frequency of headaches seen in primary care, diagnosis and treatments could be improved, with a lack of formal education on headache management cited as a root cause for provider shortcomings in the area (Minen et al., 2020). Thus, clinical decision-making and reasoning for managing headaches in NP programs is a vital topic for instruction. Little is known about the utility of escape rooms in enhancing NP students' knowledge of headache management. As such, a virtual escape room activity was created to promote NP student knowledge and CR skills for the management of headaches at a regional NP program in British Columbia. This research aimed to evaluate NP student's perception of the use of a virtual escape room simulation in solidifying their knowledge of headaches and developing clinical reasoning skills in headache management.

# Methods

This study used a mixed methodology approach using quantitative and qualitative data to understand NP students' perception of the utility of the headache virtual escape room to solidify knowledge and build clinical reasoning skills.

## Escape Room Development

The content for the virtual escape room was developed by NP faculty with knowledge and experience in primary care and headache management. The escape room itself was developed by a computer science student using Google Pages. The NP faculty and the computer science student worked collaboratively to ensure the educational content and clinical decision-making points were intentionally placed to allow the introduction of gamification techniques to solidify learning. This approach is consistent with the literature findings for gamification in education to build clinical reasoning skills (Koelewijn et al., 2024). Simulation expertise was provided by faculty specializing in this area of education delivery for nursing, shaping the delivery of the content. The content and functionality were vetted by other allied health professionals and faculty, who provided feedback on the useability of the intervention.

## Participants

The NP virtual escape room simulation experience was offered to two groups of NP students: NP students in either the first year (two year stream) or second year (3 year stream) of the NP program who were enrolled in pharmacology (cohort 1) and NP students in the second year (2 year stream) of the NP program who were enrolled in the second of three clinical courses (cohort 2).

## Ethical Considerations

Thompson Rivers University Review Ethics Board approval was obtained. Participation in the escape room was voluntary and was not considered part of their existing courses or course marks. Written consent for participation was obtained. As the virtual escape room simulation experience was completed with students from different cohorts with different trajectories of their NP learning, two separate debriefs were conducted to maintain psychological safety.

## Implementation

The virtual escape room simulation experience consisted of participation in the virtual escape room platform, a post-simulation survey, and a virtual debriefing session.

## Escape Room Simulation Experience

The timing of the escape room simulation experiences was intentional. The first cohort of NP students had completed pathophysiology and were subsequently enrolled in their pharmacology course. The escape room simulation coincided with the week students were scheduled to learn pharmacological approaches to headache management. The timing was meant to solidify the students' knowledge of headache pathophysiology and build on CR skills to incorporate appropriate management planning, including pharmacological and non-pharmacological treatment selection, into the decision-making process. The second cohort of students, were offered the simulation experience to solidify their knowledge as they are nearing entry-level NP competencies, having completed courses in CR, health assessment, and clinical placements.

Participants were emailed with the relevant assigned readings to support their successful completion of the virtual escape room simulation. Within the email, participants were pre-briefed on how to prepare for the escape room simulation experience, including having a pen and paper handy to write down 'codes' that would be needed to advance through the escape room, and how to navigate the technology being used.

## Post-Simulation Survey

Participants were emailed a post-simulation survey to elicit their perceptions of the utility of the headache virtual escape room to solidify knowledge and build CR skills. Survey Monkey was used to collect both quantitative and qualitative data. Our survey questions were guided by the Levett-Jones Clinical Reasoning Cycle to assess student perceptions of clinical reasoning skill development (Levett-Jones et al., 2010).

## Virtual Debriefing Session

Students participated in a live virtual debriefing session using Microsoft Teams with NP faculty and the Simulation Educator. The literature supports timely virtual debriefing based on an established framework that promotes learning (Verkuyl & Atack, 2024). Best practices for virtual debriefing were followed, including setting ground rules such as keeping cameras on, actively engaging in discussions, and using the "raise hand" feature before unmuting (Verkuyl et al., 2022). The PEARLS Healthcare Debriefing Tool was implemented (Baja et al., 2018), which is evidence-based, and a blended debriefing model from the original PEARLS framework (Eppich & Cheng, 2015). This model integrates learner self-assessment, guided discussion, and feedback/teaching. Additionally, we aimed to capture students' initial reactions to the

escape room experience, assessing their feelings toward this innovative learning approach. The time allotted for the debriefing was one hour at the end of their virtual classroom education session, with permission from the lead faculty instructor.

### Data Analysis

Post-simulation surveys were utilized to gather quantitative and qualitative data, and two separate debriefing sessions were held to gather qualitative data from each cohort. The debriefing sessions were conducted within 3-5 days from the student’s completion of the escape room as per best practice principles on debriefing (Verkuyl et al., 2022). Qualitative data was collected and organized using thematic analysis.

## Results

This study had a total of 12 participants: 7 students from the first cohort and 5 students from the second cohort. All 12 students participated in the virtual escape room experience and the virtual debriefing session. Only 7 of the 12 students completed the post-simulation survey, accounting for a 58% return.

### Post-Simulation Survey

Seven participants completed the post-simulation survey. The survey used a 5-point Likert scale with response options ranging from strongly disagree to strongly to measure students’ perceptions of the virtual escape room. Most participants either agreed or strongly agreed that the escape room simulation helped with their capabilities. Three responses indicated neutral perceptions regarding the impact on their clinical decision-making in a particular area, and no responses indicating, “strongly disagree” or “disagree.” See Table 1 for quantitative survey results.

There were three qualitative post-simulation survey questions. Six of the seven students completed questions 11 and 12, and five of the seven students responded to question 13. See Table 2 for qualitative survey findings.

### Virtual Debriefing Session

The PEARLS Healthcare Debriefing Tool was used, and several themes emerged from the debriefing sessions. Through thematic review, themes revealed benefits of the escape room modality of education on headaches, supporting the intent of providing learning through gamification, which offered additional and alternative learning to enhance and consolidate knowledge.

**Table 1: Post-Simulation Survey – Quantitative Findings**

Survey Question	Neutral	Agree	Strongly Agree
1. Overall, I enjoyed this escape room?	0.00%	42.86%	57.14%
2. In regards to clinical reasoning, this escape room helped my capability to consider the patient situation.	0.00%	57.14%	42.86%
3. In regards to clinical reasoning, this escape room helped my capability to collect cues/information.	0.00%	57.14%	42.86%
4. In regards to clinical reasoning, this escape room helped my capability to process information.	14.29%	42.86%	42.86%
5. In regards to clinical reasoning, this escape room helped my capability to identify key problems/issues.	0.00%	57.14%	42.86%
6. In regards to clinical reasoning, this escape room helped my capability to establish patient goals.	0.00%	57.14%	42.86%
7. In regards to clinical reasoning, this escape room helped my capability to take action.	0.00%	57.14%	42.86%
8. In regards to clinical reasoning, this escape room helped my capability to evaluate outcomes.	0.00%	57.14%	42.86%
9. In regards to clinical reasoning, this escape room helped my capability to reflect and process new learning.	14.29%	42.86%	42.86%
10. This escape room activity helped me to identify my knowledge gaps related to assessment and management of headaches in primary care?	14.29%	42.86%	42.86%

**Table 2: Table 1: Post-Simulation Survey – Qualitative Findings**

Survey Question	Survey Response
11. Would you like to see other escape rooms or methods of gamification in your NP education (yes/no). If so, do you have any ideas of what type of scenarios would be beneficial for your learning?	1. Yes. "Anything diagnostic that is a common issue seen in primary care. Similar to our presentations for pathophysiology (i.e.: approach to fatigue, approach to amenorrhea, etc)"
	2. Yes – No comment
	3. Yes. "I think an escape room with multiple systems would be helpful. And then the final should be a complex patient without any hints as to the diagnosis"
	4. Yes. "Chest pain, MSK – knee, wrist, elbow, shoulder, Mental Health – Anxiety, Depression, ADHD, Bipolar, PTSD, Shortness of breath, Infections"
	5. Yes. "It can be incorporated into every aspect of learning, i.e., a systematic way of HPI, physical assessment, and exam review. It is such a fun way of learning. It is so interactive, helps you problem-solve, and uses critical thinking"
	6. Yes. "Newborn visit, PV bleeding"
12. Do you have any feedback or recommendations for improving the escape room experience?	1. "Felt a bit clunky having to go to so many different websites, more flow and integration? The jeopardy game would have been better if participant could actually type in the answer (although this would be time consuming)"
	2. "The use of different videos and games was helpful. I left like I had really learned a lot by the last scenario"
	3. "I mentioned them in the debrief"
	4. "Making embedded videos into full screen without having to go to another page. I liked all the games and quizzes, but keeping it within one site would be nice, although maybe not possible. Could be done individually or together, I think. I liked you could go back"
	5. "I like to see more graphics"
	6. "Can the video screen be a little bigger?"
13. Thank you so much for participating. Please leave any thoughts or questions below.	1. "Really enjoyed this, Thank you"
	2. "Thank you for allowing us to participate"
	3. "Change MVA to MVI or MVC"
	4. "Such a unique way of learning. Very creative. Enjoyable"
	5. "This could potentially replace traditional evaluation tools for students"

## Discussion

The notion of competition, or competitiveness as a trait emerged as a driver behind the satisfaction gained from participating in the escape room, yet also as an impetus for growing RNs to NPs. Louwen et al. (2023) noted that competitiveness is a type A behaviour exhibited by nurses who are most likely to seek out challenging tasks to influence satisfaction and is associated with an elevated

level of performance. The benefits of real-time feedback and reward systems on learning were other notable themes gleaned from this study.

Stemming from the theme of **competition**, students identified that to satisfy this innate trait, a recommendation was to have more immediate feedback and rewards. Students commented, "I was unclear if I made it through," and "I would like to know my time," elaborating that rewards for best time and a certificate

of completion would appease the need for positive feedback. Students explained that this competitive nature compelled them to persevere through stages of the escape room at times when they felt “stuck” or “frustrated,” yet this competitive nature was also a source of joy and accomplishment, pushing them to want to excel and do well.

While competing against the clock provided some participants with motivation and drive, others did comment that the race against time was distracting. One comment revealed that “time was a bit stressful,” highlighting that what propels some to success, may stifle others.

The importance of acknowledging **varied learning styles** was a prominent theme. Students affirmed that the escape room provided consolidation and assimilation of their knowledge on headaches. Students enjoyed the varied delivery of information. Students stated:

“Consolidated information, multiple ways to intake knowledge”; “Such a good way to learn and consolidate information”; “Really good for consolidating my knowledge. Trying to frame my lens differently for the possible differentials. Instead of narrowing it down right away”; “Enjoyed active component, using different parts of my brain.”

Notwithstanding learning at the individual level, **fit into curriculum mapping** surfaced as a tangible consideration at the macro level of education delivery. Students in the first cohort acknowledged the timing of when the escape room was placed within their program to be helpful. Discussions were held around the utility of having had the pathophysiology course first and then the pharmacological content building on prior knowledge. The addition of the escape room to solidify the two components of learning was deemed meaningful. This was particularly affirming for the research team as the timing and placement of the escape room content was intentional. One participant remarked, “I loved it! It was fantastic. Was a great time within the program. Super helpful for consolidating.”

Tenants of the escape room emerged, such as enjoyment, versatility, and transferability of this learning modality to other topics, summarized within the theme of **satisfaction**. Much of the commentary was positive and participants expressed gratitude for being part of the experience.

Furthermore, consolidating knowledge through the escape room highlighted the learning journey from RN knowledge and CR pathways, transitioning to NP CR pathways as a provider. One participant commented, “Format compared to shadow health, as we flip from RN to NP brain, I liked how the information was incorporated. Shadow health is more about ticking a box. How it was

presented helped flip to new lens.” The other participants echoed these sentiments, highlighting that from a provider perspective, there is a better understanding of relevant diagnostics and treatment options and acknowledging the pathway to CR for diagnosing and recognizing pertinent positives and negative findings. **Cultivating the transition from RN to NP** is a notable theme in the learning journey.

Themes on improvements included **technical recommendations**, such as building in a means to recall the prior historical information provided and feedback on the wording of some questions for clarity. For example, “Code came up before being finished, could have been clearer, wasn’t sure what to do with it,” and “Some things were clunky.” Some students were unable to navigate certain areas of the escape room, increasing frustration.

## Limitations

Sample size limited the generalizability of the study findings. There were also limitations in the quantitative data collection as only 7 of the 12 participants completed the post-simulation survey. The approach to the escape room development was strongly influenced by the capabilities and limitations of the chosen platform which required a reliance on external sites for gamification components.

While not considered a limitation of the study, the time it took to develop the content for three scenarios, including correct answers and wrong answer justifications, create the escape room platform, and source and integrate complementary gamification content might be considered a limitation for further use. It was estimated that roughly 80-100 hours over 2-3 months between both the faculty and the computer science student was needed to create this escape room virtual simulation experience. This estimation does not include the time needed for vetting and editing to ensure it was ready for launch.

## Conclusion

The goal of this research was to evaluate NP student application of clinical reasoning via a virtual gamification platform, while understanding students’ preferences for learning modalities. The findings of this study suggest that escape rooms as a platform for NP education have merit and are endorsed as a useful tool for consolidating knowledge by the NP students involved. Themes revealed information on student traits, preferences, and enhancements to technology that should be considered when developing future escape rooms for NP education. Further studies are needed with higher numbers of participants to confirm these inferences. Dedicated time and resources are needed in NP programs to design, refine, and implement the technological requirements of future escape rooms.

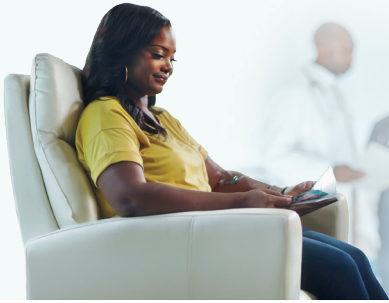
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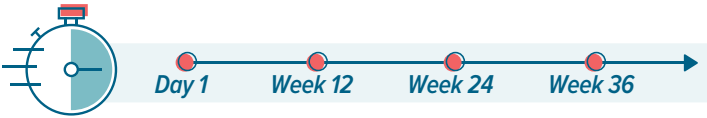
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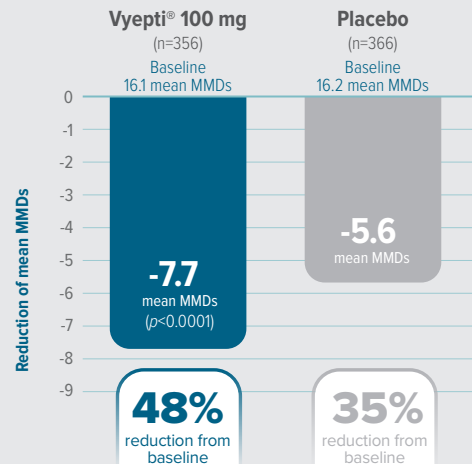
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### Reduction of mean MMDs<sup>2,3†</sup> Weeks 1-12



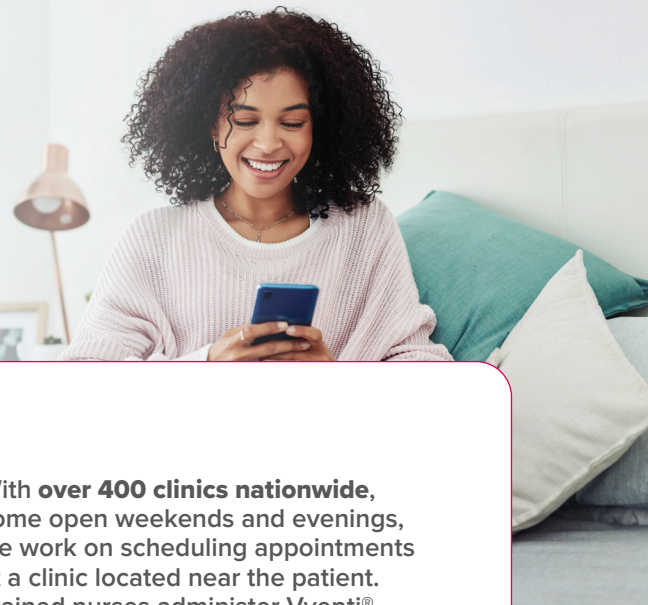
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IV=intravenous; MMDs=monthly migraine days

\*Comparative clinical significance is unknown.

†Baseline was the average over the 28-day screening period prior to receiving treatment. The change from baseline in MMDs (weeks 1-12) was analyzed using ANCOVA with baseline MMDs as covariate and treatment and prophylactic medication use (Yes/No) as fixed effects.

‡PROMISE-2: A parallel-group, double-blind, placebo-controlled global trial to evaluate the efficacy and safety of Vyepti® for the preventive treatment of chronic migraine in adults (defined as ≥15 to ≤26 headache days, of which ≥8 were assessed as migraine days). A total of 1,072 patients were randomized and received placebo (n=366), Vyepti® 100 mg (n=356), or Vyepti® 300 mg (n=350) every 12 weeks for 24 weeks (2 infusions). During the trial, patients were allowed to use acute or preventive medication for migraine or headache on an established stable regimen (except for onabotulinumtoxinA). Patients with a dual diagnosis of chronic migraine and medication overuse headache (associated with the overuse of triptans, ergotamine, or combination analgesics >10 days/month, or acetaminophen, acetylsalicylic acid, or non-steroidal anti-inflammatory drugs ≥15 days/month) were included in the study population. Patients using opioids or butalbital-containing products >4 days/month were excluded.

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## Acknowledgement:

The authors thank the invaluable assistance of  
Brady Creelman for building the web platform for  
the virtual gamification simulation.

## Source of Funding and Support:

This research received no specific grant from any  
funding agency in the public, commercial, or not-for-  
profit sectors.

## Conflict of Interest:

No conflict of interest has been declared by the  
authors.

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# Screening Practices of Healthcare Providers for Patients' Social Determinants of Health

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## ABSTRACT

**Background:** Numerous studies have demonstrated the link between inequities in social determinants of health (SDoH) and poor health outcomes. Healthcare providers are integral to the identification of SDoH-related risks and serve as key contributors to both health protection and promotion.

**Objective:** To examine healthcare providers' SDoH-related screening practices and potential barriers and facilitators to effective screening.

**Methods:** We analyzed survey data from 70 healthcare providers across Northern Ontario on their screening practices of their patient's SDoH using a Likert-style survey with optional comments on Qualtrics.

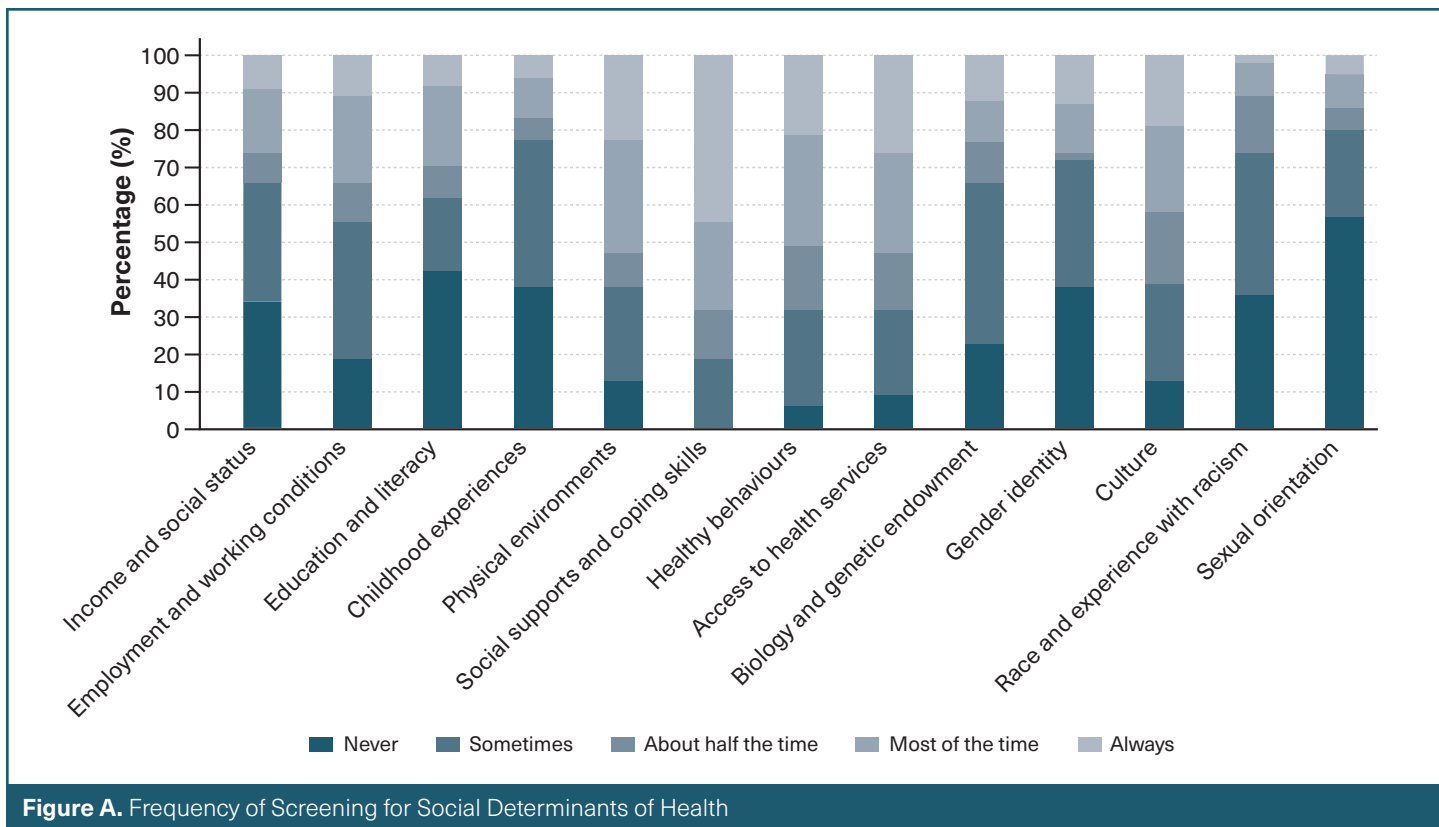
**Results:** Seventy-three percent of participants were nurses, with the majority working in acute care (25%) in the North West Local Health Integration Network (95%). Overall, 75% of participants stated they were taught about SDoH in their education; however, they did not necessarily know where to refer patients for assistance should there be a need, nor how to screen. Fifty-eight percent said screening for SDoH was part of their employment, however only 57% felt they had enough time to complete the screening. Twenty-one percent stated they did not have a standardized assessment tool to use nor a specific time to complete the assessment. Sixty-eight percent said they feel moral distress over screening for SDoH, given the lack of resources or time to complete the assessment. The majority (82%) of referrals for SDoH were to Social Work.

**Conclusion:** Healthcare providers recognize that screening for SDoH is crucial. However, participants felt there was insufficient time to screen and lacked a streamlined way to assess and document the screening. Our results suggest the need for standardized ways to assess for SDoH, such as on admission and using electronic health records.

## Introduction

Inequities in social determinants of health (SDoH)—the conditions that shape where people are born, live, work, and age—are widely recognized as major contributors to health disparities (Braveman, 2023). Factors such as income, education, housing, food security, employment, and social support networks play a crucial role in an individual's ability to access healthcare, follow treatment

plans, and achieve favourable health outcomes (Braveman, 2023). There is growing awareness of the need to address these factors within healthcare systems to reduce health inequities (Artiga & Hinton, 2018). However, challenges remain in effectively screening for and addressing SDoH within clinical practice (Johnson et al., 2022). The primary goal of this study was to examine healthcare providers' current practices in screening for SDoH. Specifically, the study sought to identify barriers,



**Figure A.** Frequency of Screening for Social Determinants of Health

facilitators, and gaps related to training, resources, and the implementation of SDoH screening processes. By exploring these factors, the study aimed to shed light on the challenges and opportunities for better integrating SDoH screening into routine patient care.

## Significance

Inequities in social determinants of health (SDoH) play a critical role in shaping individual and community health outcomes. Social determinants, such as socioeconomic status, education, employment, access to healthcare, housing stability, food security, and social support networks, are known to have a profound impact on overall health. Disparities in these factors can lead to chronic conditions, increased hospitalizations, and premature deaths, disproportionately affecting marginalized populations (Commission on Social Determinants of Health, 2008). In recent years, there has been growing recognition that addressing SDoH is essential for improving health outcomes, reducing health disparities, and promoting health equity (Chelak & Chakole, 2023).

The purpose of this study was to assess the current practices regarding the screening and identification of social determinants of health during patient interactions. While healthcare systems have traditionally focused on diagnosing and treating clinical conditions, there is an increasing shift toward a more holistic approach to patient care. By understanding the broader context of patients' lives—including their social and economic conditions—

healthcare providers can better address the root causes of health disparities.

This study aimed to explore whether healthcare professionals routinely screen for SDoH as part of the patient intake process and how these factors are integrated into clinical decision-making. Screening for social determinants during patient contact can uncover underlying barriers to health, such as lack of access to nutritious food, unstable housing, or insufficient transportation to medical appointments. Identifying these factors early in the care process allows healthcare teams to intervene appropriately, offering resources, referrals, or support services that can help mitigate these challenges and improve patient outcomes.

## Approach

The study was approved by Confederation Colleges Ethics Board #0118. The study itself was quantitative with primarily closed-ended questions with occasional ability to elaborate on the response selected. Using a descriptive approach, we sought to understand the current practices screening for SDoH in healthcare professionals. The study aimed to examine healthcare providers' practices in screening for social determinants of health (SDoH) among patients. A flyer was distributed via social media and through healthcare agencies. Once the participants self-screened and consented to join, they clicked on a link (or scanned a QR code). That brought them to the Qualtrics Survey Platform, in which they read over the

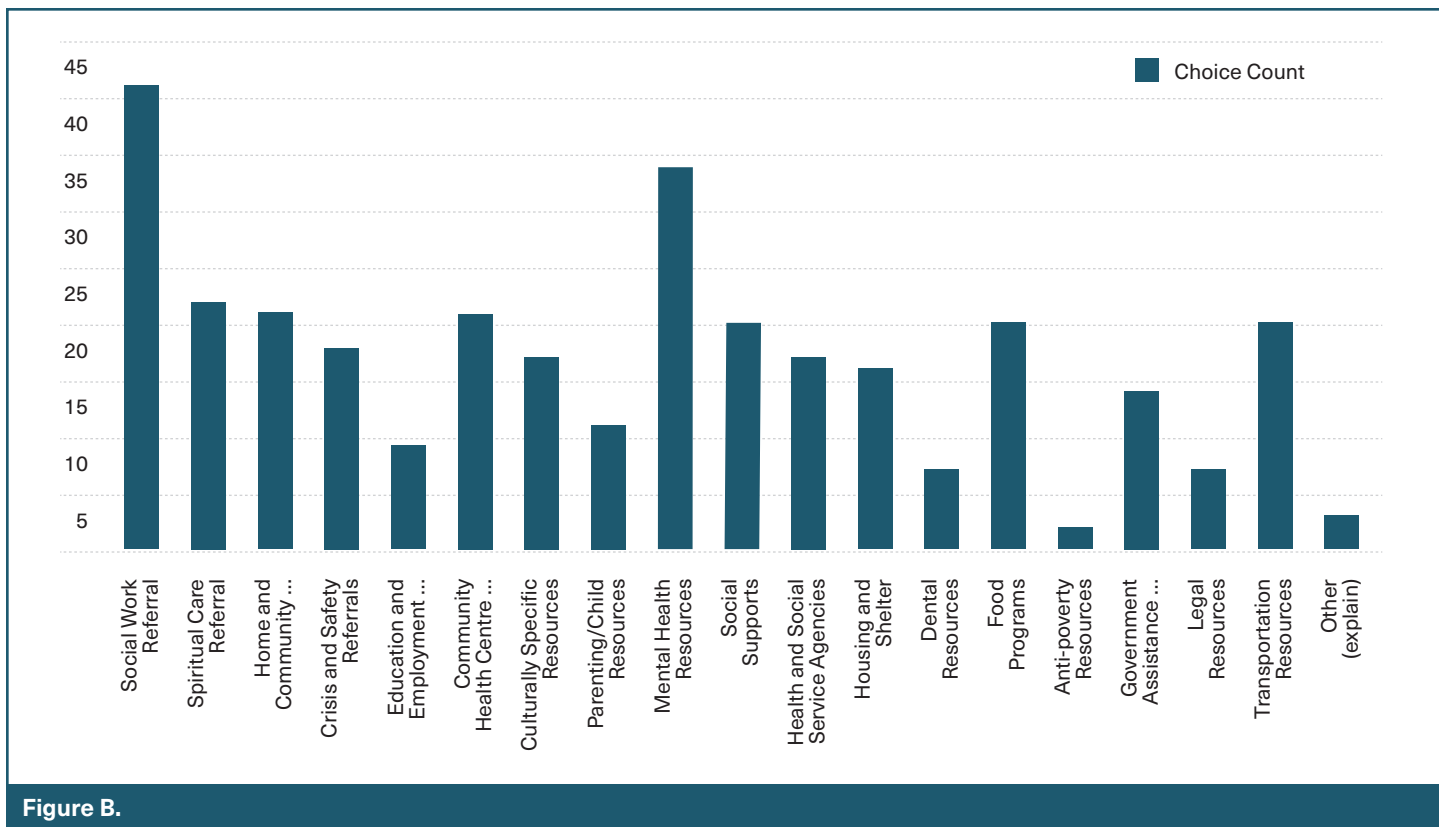


Figure B.

consent and chose to participate or not. The inclusion criteria consisted of being a healthcare professional, including medical doctors, nurse practitioners, midwives, and nurses, who worked in various healthcare sectors across Northern Ontario. The survey, hosted on Qualtrics, used a Likert scale and included optional comment sections. Only responses from individuals located within the Northwest and Northeast Local Health Integration areas were included, while those outside these regions were excluded from the study.

The survey was open for responses from April 18th, 2024, to June 11th, 2024, and a total of 56 responses were collected during this timeframe. To encourage participation, respondents had the opportunity to enter a draw for an AirTag at the end of the survey. Providing personal information for the draw was voluntary, and the winner was drawn on September 17th, 2024. The collection of personal details was solely for the prize draw, and participant confidentiality was maintained throughout.

Participants were informed that the study posed no foreseeable risks, and that their responses would remain confidential and reported in aggregate. They were also made aware that participation was voluntary, with the option to withdraw at any point without consequences. Consent was implied when respondents proceeded to the first question of the survey after being provided with background information about the study, which was not funded by any external sources. Qualtrics was used to collect and analyze the data.

## Results

A total of 56 healthcare providers responded to the survey, most of whom were nurses (73.2%), midwives (7.1%) and nurse practitioners (3.6%). Of the respondents who completed the survey, there was a range of professional experience: 0 to 5 years (17.9%), 5 to 10 years (14.3%), 10 to 15 years (33.9%), and greater than 15 years of experience (33.9%). Survey respondents came from diverse sectors of healthcare, such as acute care (25.0%), chronic care (16.1%), community care (23.2%), and primary care (12.5%), while some worked in multiple sectors (16.1%). Nearly all survey respondents fell under the North West Local Health Integration Network (96.4%), while two (3.6%) fell under the North East Local Health Integration Network.

The survey asked participants how often they inquire about a patient's SDoH (see Figure A). Results demonstrated that practitioners' likelihood to screen for SDoH varied across determinants. For example, when asked about how frequently they screen for income and social status, 34.0% of providers reportedly never asked about it, 32.1% sometimes asked, 7.5% asked about half the time, 17.0% asked most of the time, and 9.4% asked always. In terms of education and literacy, 41.5% of providers never asked, 20.8% asked sometimes, 9.4% asked about half the time, 20.8% asked most of the time, and 7.5% asked always. Providers were least likely to ask about childhood experiences, as 37.7% never asked, 39.6% asked sometimes, 5.7% asked about half the time, 11.3% asked most of the time, and 5.7% asked always.

Most providers (58.5%) reported that they are expected to screen for SDoH as part of their employment. Another respondent explained that they have no expectations as part of their employment, but they expect themselves to assess for SDoH. Similarly, one healthcare professional answered, “Not as a condition of employment, but as a regular part of my practice because I understand the interplay of these variables on people’s lives, health and wellbeing.” Despite these expectations, 66.0% of providers reported experiencing moral distress in addressing their patients’ SDoH, knowing what should be done but being unable to act due to systemic barriers and limited resources.

To better understand the screening patterns identified in the study, participants were asked to specify the barriers they face in practice. Time was the most significant barrier, as 56.6% of respondents cited a lack of time. Additionally, 52.8% felt that screening for SDoH was irrelevant to their practice. Uncertainty also played a role, with 35.8% unsure what to ask and 30.2% unsure when to ask. Another 18.9% felt uncomfortable with the content of SDoH discussions. Some selected “Other” and suggested that a lack of standardized tools, insufficient follow-up resources for patients, and a fear of triggering negative experiences were substantial barriers.

Finally, healthcare professionals who assess their patients for SDoH were asked to select all the types of referrals that they generally make or resources they commonly provide their patients to assist them with their SDoH. Figure B demonstrates common referrals and resources provided to patients. The 6.0% of respondents who listed “Other” referrals listed community paramedicine resources, addiction supports, peer support groups, and connection with other practitioners well-informed on local resources.

## Discussion

This study highlights that while healthcare providers acknowledge the importance of screening for social determinants of health (SDoH), several significant barriers hinder the integration of these assessments into routine clinical practice. Key obstacles include the lack of standardized screening tools, insufficient training on how to conduct screenings and make referrals, time limitations, and moral distress stemming from inadequate resources to address identified needs. These challenges may lead to missed opportunities for addressing the underlying causes of health inequities during patient encounters.

The findings emphasize the need for healthcare organizations to adopt standardized SDoH screening tools such as the SPARK tool (Akl et al., 2017) that can be easily integrated into existing workflows, such as during patient admissions or routine visits. Incorporating SDoH screening into electronic health records (EHR)

systems could help streamline documentation, improve the referral process, and ensure that SDoH data is consistently captured and acted upon. Furthermore, providing healthcare providers with targeted training on how to conduct effective screenings and navigate referral processes could help alleviate uncertainty and improve the quality of SDoH interventions.

## Conclusion

Future research should investigate the impact of standardized SDoH screening tools on patient outcomes and provider satisfaction, as well as assess the effectiveness of system-level interventions designed to streamline referrals and ensure the availability of resources to meet identified needs. Ultimately, addressing the social determinants of health within healthcare settings is crucial for reducing health disparities and improving the overall health and well-being of populations.

### Source of Funding and Support:

No funding was provided; however, this study was supported by Confederation College.

### Conflict of Interest:

No conflicts to disclose.

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# RSV Vaccinations

## Insight into the disease, treatments, and vaccines in Canada

This column offers insight into what your patients are seeing and reading about disease, treatments, and vaccines in Canada. With RSV season currently happening as well as an increase in advertising, RSV vaccinations have been widely internet-searched and advertised.

A recently released AREXVY ad starring Wayne Gretzky features the hockey legend bringing awareness to the fact that not only infants can be affected with RSV, but that older adults such as himself are also at risk.

### What Are They?

Three RSV Vaccinations are currently available in Canada:

ABRYSVO (RSVpreF): administered during pregnancy to protect against RSV through the passive transfer of maternal antibodies. The vaccination is also available to adults 60 years of age and above.

AREXVY (RSVPreF3): is available to adults 50 years of age and above.

mRESVIA RSV mRNA vaccine: is available to adults 60 years of age and above.

### How Are They Given?

ABRYSVO (RSVpreF) is administered IM to pregnant people between 32 and 36 weeks gestation to allow time for the protective efficacy of the vaccine to develop before birth. ABRYSVO is administered as a single 0.5 mL dose.

AREXVY (RSVPreF3) or ABRYSVO (RSVpreF) or mRESVIA is administered IM as a single 0.5 mL dose.

In general, RSV vaccinations are ideally administered just before the start of RSV season.

### How Efficacious Are They?

ABRYSVO (RSVpreF) administered to pregnant people results in a reduction of RSV associated hospitalization of their infants by 57% and reduces medically attended RSV respiratory tract infections by 51% during the infants first RSV season. Due to the waning of passively transferred antibodies over time, the protective effect from the

RSVpreF vaccine for the infant may not exceed 6 months of age.

ABRYSVO (RSVpreF) and AREXVY (RSVPreF3) vaccines for older adults appear to result in similar reductions of RSV associated hospitalization and medically attended RSV respiratory tract infections. Although the data is not yet clear, early data suggests that efficacy against RSV may be maintained through 2 RSV seasons.

The primary analysis of mRESVIA found the vaccines efficacy against RSV lower respiratory tract disease (LRTD) to be 83%, with longer-term analysis showing continued protection over the following 8.6 months median follow-up.

### What Are the Recommendations for RSV Vaccination?

RSV immunization is recommended for infants born during, or entering their first RSV season as well as for infants entering their second RSV season who are at an increased risk.

RSV immunization is recommended for adults 75 years of age and older and especially for those identified to be at a higher risk of severe RSV. RSV immunization is also recommended to adults who are living in chronic care facilities or nursing homes who are 60 years of age and older.

### Where Can I Get More Information?

#### Respiratory syncytial virus (RSV) vaccines: Canadian Immunization Guide

<https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-4-active-vaccines/respiratory-syncytial-virus.html#a3>



#### Respiratory syncytial virus (RSV) prevention strategies:

<https://cps.ca/documents/position/rsv-prevention-2024-2025>





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CGRP: calcitonin gene-related peptide; mAb: monoclonal antibody

\*Based on TRx from August 2024 to July 2025.<sup>2</sup>

†Comparative clinical significance has not been established.

‡Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, Nova Scotia, Ontario, Prince Edward Island, Quebec, Saskatchewan, Non-Insured Health Benefits (NIHB), and Veterans Affairs Canada (VAC).

**References:** 1. AJOVY<sup>®</sup> Product Monograph. Teva Canada. January 19, 2022.  
2. Data on file. AJOVY<sup>®</sup> coverage Canada. Teva. September 2, 2025.

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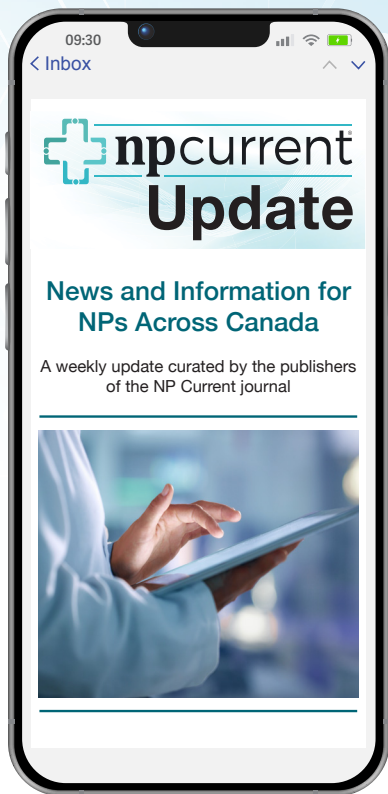
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