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Investing in Canada's nursing workforce post-pandemic: A call to action

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Abstract

Nurses represent the highest proportion of healthcare workers globally and have played a vital role during the COVID-19 pandemic. The pandemic has shed light on multiple vulnerabilities that have impacted the nursing workforce including critical levels of staffing shortages in Canada. A review sponsored by the Royal Society of Canada investigated the impact of the pandemic on the nursing workforce in Canada to inform planning and implementation of sustainable nursing workforce strategies. The review methods included a trend analysis of peer-reviewed articles, a jurisdictional scan of policies and strategies, analyses of published surveys and interviews of nurses in Canada, and a targeted case study from Nova Scotia and Saskatchewan. Findings from the review have identified longstanding and COVID-specific impacts, gaps, and opportunities to strengthen the nursing workforce. These findings were integrated with expert perspectives from national nursing leaders involved in guiding the review to arrive at recommendations and actions that are presented in this policy brief. The findings and recommendations from this policy brief are meant to inform a national and sustained focus on retention and recruitment efforts in Canada.

Key words: Impact of COVID-19 pandemic, nursing workforce, shortages, recruitment and retention strategies, workforce strengthening and enhancement strategies

Mandate and scope

This report aims to identify and better understand factors that have contributed to longstanding nursing shortages in Canada and worldwide, and to develop recommendations to aid in preventing further attrition of Canadian nurses from point of care roles in the wake of the COVID-19 crisis.

Nurses represent the highest proportion of healthcare workers globally and play an instrumental role in healthcare which has been heightened in the ongoing fight against COVID-19. Health workforce data from 2020 indicates that there are upwards of 448,000 nurses across four roles: registered nurses, registered psychiatric nurses, licensed practical nurses/registered practical nurses, and nurse practitioners (Canadian Institute for Health Information (CIHI) 2021b, 2021a). The response of nurses to the pandemic has been tremendous, with nurses taking on increased workloads, changing roles as necessary, and coming out of retirement to navigate an ever-changing and polarizing landscape. The pandemic has shed light on many vulnerabilities within the Canadian healthcare system. According to *a Canadian Medical Association Journal* news article published in 2021 (Varner 2021), health job vacancies in Canada were at a record high of 100,300—up 56.9% from 2019 and with Canadian hospitals having the highest vacancy rate of any sector. In particular, the vulnerabilities, ineffectiveness and transient nature of policies and solutions of the past in addressing long-standing issues of nursing shortages in Canada have come to light during the COVID-19 pandemic. This has prompted our examination of what policy responses are urgently needed to support and retain our vital nursing resource moving forward.

High workload and stress are common themes associated with nursing profession and healthcare work in general. However, the COVID-19 pandemic has created such a substantial increase in workload and chronic stress that we are at a tipping point of systemic burnout. This could result in a mass departure of nurses from the profession if we fail to look for new solutions now. Available evidence indicates nurses are leaving their positions or intending to leave the profession entirely post-pandemic. Critically low nurse staffing levels are seen across the country, most notably in acute service areas, resulting in bed and service closures. Challenges with representation and diversity within the nursing profession continue to be magnified during the COVID-19 pandemic whereby underserved populations are disproportionately impacted; for example, racialized populations and populations in rural and remote regions have higher morbidity and mortality rates from COVID-19 (Webb Hooper et al. 2020; Wang and Tang 2020). Issues pertaining to representation and diversity have implications for (1) the nursing profession, (2) patient care, and (3) overall systemic operations including policies. These issues, combined with a projected global nursing workforce shortage, present serious concerns for healthcare systems already experiencing severe pressures.

This report examines the impact of COVID-19 on the nursing workforce and identifies factors influencing nurse turnover and shortages prior to and during COVID-19 especially with a lens on factors that are long-standing issues. To accomplish this, we have integrated various data, both primary and secondary sources, to explore the factors affecting nursing retention and turnover. We reviewed the following questions: (1) Why do nurses leave the profession and (2) What approaches have been recommended or implemented to support and retain the nursing workforce? Our policy brief considers the profession of nursing to include Registered Nurses (RNs), Nurse Practitioners (NPs), Licensed Practical Nurses (LPNs)/Registered Practical Nurses, Registered Psychiatric Nurses, and we have sought input from all nursing practice areas.

As described throughout this report, factors affecting nursing workforce retention and turnover are interrelated and complex, transcending multiple levels of influence—individual, relational, historical, organizational, cultural, and political. The authors acknowledge that the findings and recommendations presented in this review are within the defined scope, objectives, and methodology. This review is not meant to be a comprehensive assessment of all issues and considerations related to nursing workforce.

The intent of this work is to highlight key long-standing challenges and issues affecting the nursing workforce in Canada and including those that have emerged during the pandemic. This is an urgent call to action, as nursing is central to the health system's capacity to respond to the COVID-19 pandemic, and more broadly to high quality and safe patient care. This call to action is also to support the wellbeing of all nurses in Canada for decades to come.

Key messages from the chair and expert group members on the status of COVID-19 and the nursing workforce and the RSC opportunity

Message from working group chair

"While the nursing labour market in Canada has been under stress for decades, the COVID-19 pandemic highlights critical areas within our health systems that continue to contribute to our inability to adequately plan for, recruit, retain and protect a pillar of our health system—our nursing workforce. Despite many ongoing challenges, nurses have demonstrated dedicated leadership in the pandemic response and many lessons have been learned.

In this report, our esteemed panel of nursing experts in Canada has brought together many provincial, national, and international learnings to identify key areas we must consider for building a strong, national nursing workforce, as well as areas of weakness that have been highlighted by the COVID-19 pandemic. Addressing the gaps in systematic integrated planning and systemic issues that have chronically yielded nursing shortages and (or) an environment in which nurses end up leaving, requires us to act in four policy areas, consistent with the WHO's [World Health Organization] Strategic Directions for Nursing and Midwifery 2021–2025, namely, education, jobs, leadership, and service delivery.

Advancing Canada's response to ensuring a strong nursing workforce, can greatly benefit from recognizing the importance of global and regional strategies for strengthening our nursing workforce, the role nursing leaders play in leading quality improvement, utilizing the evidence and lessons from research and innovation for removing barriers, and how the health system benefits from strong nurse leaders, particularly when dealing with surges in health care, such as during the COVID pandemic.

Establishing an integrated approach to planning for health care delivery and a health workforce that fully accounts for nursing, enables the system to better identify key strategies to address current and future nursing requirements.

We would like to thank the Royal Society of Canada for this important opportunity, for their great support and guidance. We would also like to convey our sincere thanks to Dr. Tom Marrie for his incredible guidance, ongoing support, and coaching. His partnership has been important to our success."**—Dr. Gail Tomblin Murphy**

Messages from Expert Group Members

"Distinction-based health care recognizes the rights, nature, and lived experience of First Nations, Inuit, and Métis peoples (Government of Canada 2021). Nurses in Canada recognize the challenge and barriers in accessing health care services and there is a need to reorient their focus on equity

outcomes like authentic partnership with Indigenous leaders, organization, and communities to address anti-Indigenous racism in the healthcare system."—**Dr. Lisa Bourque Bearskin**

"Our society has a moral obligation to care for those who care for all of us in our weakest and most vulnerable moments—when our health or that of our loved ones is threatened or fails. The call to action to support our nurses has never been clearer. While nurses are highly trained and skilled professionals whose knowledge, skill and caring are vital to our individual, community, and public health; especially now, these professionals need opportunities for mental health supports, rejuvenation, reasonable workloads and schedules, collaborative work environments, and time/resources to obtain advanced education. We must continue to grow our nursing leaders of tomorrow for clinical excellence, knowledge development and application, and for every health policy table and boardroom."—**Dr. Greta Cummings**

"For decades, we've analyzed, hypothesized and strategized on how best to respond to nursing shortages in Canada and globally, but widespread systemic change has not occurred. The COVID-19 pandemic has uncovered many seemingly startling but well-known factors impelling nurses to leave the profession—workload, burnout, lack of structural value, the need for leadership and mentorship, and lack of flexibility, autonomy and voice laced with overt racism, discrimination, and gendered inequities. With more than 400,000 nurses in Canada, health care in all its many forms is supported on the backs of nurses—those backs are tired and breaking. We are at a crisis point—nurses are re-evaluating meaning, purpose and how they are valued (or not) in the Canadian health care system. Without focused action at multiple levels, nurses will continue to leave the profession and the future of Canadian health care will be unstable and uncertain."—**Dr. Annette Elliott Rose**

"It has been an honor to work with such accomplished nursing leaders, and I am hopeful that this report will contribute to the transformation necessary to foster and sustain an inclusive, socially just, and equitable Canadian nursing."—**Dr. Josephine Etowa**

"Nursing human resources and staffing issues are not new; the COVID-19 pandemic has deepened and underscored a long-standing set of problems in the nursing workplace and nursing education. Past solutions to these issues, however, have generally fallen short. At least since the key formative periods of Medicare policy in Canada after World War II, nursing has lacked clear access to decision-making in the health care system. Unlike physician services, nursing under Medicare has been subsumed within institutional and provincial budgets. Without a clear voice in health system planning dedicated to ensuring good nursing policy, the profession has lacked the influence and authority needed to effectively problem solve in the interests of the public and patients. Nursing as a profession is a choice for the individual women and men who make up the nursing workforce. Nursing shortages during the pandemic reveal more clearly than ever the short and long-term consequences of a system that does not structurally value, measure, or prioritize nursing.

On EDI [Equity, Diversity, and Inclusion]: Policy interventions must begin with an integral focus on research and planning that will address EDI concerns, identify concrete recruitment, retention policies, and programs for affected groups, magnify voices and recruit new nursing leaders who can speak to diverse experiences, and rebuild relationships between Indigenous families, healers, and the health care system."—**Dr. Esyllt Jones**

"11 March 2020 marks the beginning of a long and challenging pandemic—COVID-19—that has stretched the nursing workforce to the limit. The shortage of nurses in Canada, which preceded the pandemic, has reached a crisis that is spiraling out of control. Throughout the past 23 months of this pandemic, healthcare workers across Ontario—especially nurses—have selflessly cared for Canadians while confronting fears for their own health and safety and that of their loved ones. They are

exhausted and they are burnt out. They are leaving their jobs, and many have gone to work in the US, while some have left the profession altogether. This report is a call to action for all levels of governments, employers, associations, unions, educators, the media, and the public—invest in nurses to secure safe and quality patient care. Invest in nurses—and in particular on increasing the RN and NP workforce—to prevent a health system collapse."—**Dr. Doris Grinspun**

"This report demonstrates the urgent need for action to attract and retain nurses through investment and nursing leadership to ensure patient safety. Nurses must influence policy and key decisions in our health care system."—**Dr. Mélanie Lavoie-Tremblay**

"This is a nursing human resource crisis unlike any that we have experienced in my long career. The pre-existing stressors on nurses and other healthcare professionals were made worse by the pandemic because the system failed to listen to the workforce and apply the evidence available to create more humane and satisfying work environments. People choose to work in the health professions to be of human service and they seek to find meaning in their work. When the work becomes dehumanizing because of unrealistic workloads and lack of value and support, the meaning and professional satisfaction derived from the work are lost. No amount of money can make up for the anomie and moral distress experienced in these contexts.

We are on the cusp of a significant post pandemic shift in how people view and value work and its place in their lives—one that we have not seen for about a century. To successfully address the HHR challenge, leaders and employers must be able to re-envision and re-design the workplace to meet the needs of the people who provide service, as well as those who receive their care. Healthcare is a human service, a human resource intense activity. It stands or falls on its people."—**Dr. Kathleen MacMillan**

"The RSC Report summarizes the research and evaluation that documents the longstanding recruitment and retention challenges that have relentlessly beleaguered the nursing profession for more than 20 years. It draws on international, national, and provincial evidence to paint a picture of the nursing profession that remains following the latest wave of the COVID-19 pandemic. The picture it portrays is one of exhaustion, fear, anger and demoralization. But there is also hope, splashes of light, optimism, resilience, and new ideas for a better future for healthcare in this province and country. The report is an inspiration and I look forward to collaborating with partners to build a better health care system for the people of this province and beyond. Nurses have always been essential to innovation and, discovery—but they have not always been welcomed to the tables where these transformations are created. The RSC Report makes it clear that needs to change—now." —**Dr. Ruth Martin-Misener**

"If we in Canada want to return to our global reputation for excellence in health care, we need to cease treating nurses as commodities, embrace the abundance of literature showing the benefits of employing and supporting sufficient numbers of well-prepared nurses, and permit them to work to their full scope of practice."—**Dr. Judith Oulton**

"Thousands of pages will be written about Canada's health human resources crisis following the COVID-19 pandemic. To strengthen our health workforce, including the nurses that are its backbone, governments will need to swiftly collaborate to build an aggressive retention and recruitment plan. Saying you support the research is not enough—nurses need action in every workplace."—**Linda Silas**

"The COVID-19 pandemic experience has highlighted both the strength of Canada's nursing workforce and also its fragility, in that for far too long it has been managed as if it is an unskilled workforce and an easily renewable resource. Nurses have played an enormous role in bringing the country through this difficult time, but at great cost, and we now see the impact of corporate health care

management philosophies that undervalue the nursing contribution, and governments that fail to include a nursing perspective in their strategic priority planning. We need Pan-Canadian leadership, strategic partnerships, and coherent approaches to ensuing that high quality health care is available to all Canadians who need it, that we promote and protect the health of our society through a strong workforce of nursing professionals, and that the expert knowledge embedded in the nursing discipline finds its rightful place in health system decision making throughout our country."—**Dr. Sally Thorne**

"If Canadian nursing today were a patient, then it would be like a trauma patient in trouble. One of the first things we do in emergency rooms is stop the bleeding. So, metaphorically yes, we need some stopgap, emergency interventions to stabilize nursing. You need to plug things up as best you can to lose as little blood as possible on the one hand, while at the same time pouring a lot more fuel into the body. But to extend the metaphor, there is no fridge full of packed cells – there is no nursing cavalry coming over the hill. The situation is grave, and we need to act fast. And as soon as we can build in at least some stability, it's off to the operating room to fix the underlying causes of the bleeding. We *know* how to fix these problems; we've spent decades and hundreds of millions of dollars globally to amass evidence and solutions; what governments and employers must do is pay for the surgery and act! Act now! Phase three, recovery and rehabilitation, will be slow and tough. Nurses—mostly women of course—have been badly treated and nursing has been badly damaged by years of neglect. It's going to take time to right-size that workforce and deploy Canada's nurses, the best educated in the world, to deliver a 21st century scope of practice in modern, attractive practice settings that meet the needs of people, nurses, and health systems. We must intervene now, deeply, and over the long term."—**Michael Villeneuve**

Executive summary

This rapid review investigated the evidence of nursing shortages and their causes in Canada during the pandemic and sought to identify effective policy and strategic solutions to address these shortages in the future. Nurses (Registered Nurses, Nurse Practitioners, Licensed and Registered Practical Nurses, and Registered Psychiatric Nurses) represent the highest proportion of healthcare workers globally and play an essential role in the ongoing fight against COVID-19. The response of nurses to the pandemic has been unprecedented. However, as the pandemic has shed light on multiple vulnerabilities within the Canadian healthcare system, it also has laid bare a range of nursing workforce issues that are longstanding and severe, and that they contribute to the critical nursing shortages impacting access for care.

The forthcoming review generates important evidence to support key recommendations to address current and longstanding nursing shortages and the growing nursing exodus in Canada. In brief, we have completed:

- A trend analysis of peer-reviewed articles and identified conditions that exacerbate leaving the profession, as well as factors which support retention of nurses.
- A scan of jurisdictional policies and strategies in Canada, Australia, the United States, and the United Kingdom that have been implemented or recommended for implementation.
- Qualitative analyses of surveys and interviews with frontline nurses pre and during COVID-19, including a targeted case study from Nova Scotia and Saskatchewan.

We examined the following questions:

- Why are nurses leaving the profession?
- What approaches have been recommended or implemented to support and retain the nursing workforce?

The factors affecting nursing workforce retention are complex and multi-level in origin. This review was conducted to highlight recommendations to sustain the nursing workforce in Canada and to identify actionable strategies and policies that need immediate attention and action. This is an extraordinarily urgent issue for Canada's healthcare system and the Canadian population facing delays in their access to care.

1. **A document analysis of academic literature and jurisdictional scan**
   Objective I: Identify evidence outlining the nursing exodus in Canada and internationally, during, and pre-pandemic. Include evidence from surveys and qualitative interviews that have highlighted perspectives of nurses on this matter.

2. **Key informant Interviews**
   Objective II: Identify policies and strategies that have been implemented and (or) recommended to address nursing shortages and the nursing exodus in Canada

3. **Case Study: Interviews with nurses in Nova Scotia and Saskatchewan**
   Objective III: Examine the effectiveness of policies and strategies (as identified in method component 2) and report the experiences of nurses with policies and strategies, shortages, and the exodus from the profession.

Recommendations and actions

The main objective of the review was to identify long-standing factors or issues affecting nursing shortages, retention and turnover including emerging issues related to the COVID-19 pandemic. They are not meant to be comprehensive and address all issues related to the nursing workforce.

Key actions presented below outline foundational and essential structures needed to implement and action the recommendations stemming from this report. Recommendations made in this review have been drawn from the findings of this review, which are bound by the stated scope, objectives and methodology adopted in this exercise.

Key actions

- **Establish a Pan-Canadian Nursing Human Resources Strategy**, with associated leadership to guide sustained efforts toward the recruitment and retention of a diverse nursing workforce.
- **Establish a National Nurse Engagement Taskforce** to engage point-of-care nurses in the development of planning and policy measures to enhance high-quality and safe working environments for nurses, and to mitigate impacts of current and future pandemics on the nursing workforce.
- **Establish a National Coalition of Nursing Experts and Leaders** to guide the production of rapid reviews and policy briefs to inform key nursing policy, planning and management actions, and to inform the development of a sustainable strategy to address ongoing needs related to recruitment, retention, and enhanced work environments for nurses.
- **Establish a distinction-based approach** to align nursing services with the United Nations Declaration on the Rights of Indigenous Peoples and Human Health Rights.

Recommendations

Recommendation 1: Develop a pan-Canadian nursing human resources strategy with a sustained focus on strengthening recruitment and retention of the nursing workforce.

Our review has shown that factors affecting recruitment and retention of nurses, such as job dissatisfaction, job strain, burnout, and ability to provide quality care, are longstanding and have been

exacerbated by the pandemic. Increasing demands that have emerged because of the COVID-19 pandemic, and the associated strain on resources, have contributed to increased pressure on nurses, with many leaving or intending to leave their roles within health systems. Sustained and integrated efforts to support the recruitment and retention of nurses must be coordinated at a national level working in partnership with provinces and territories to identify a suitable venue to support these efforts. Such a venue would leverage the benefits of coordinated knowledge mobilization and action, while ensuring the direct engagement with the provincial and territorial governments who would have jurisdiction over the implementation of the resulting strategy. Steps to fulfill this recommendation include the following: (*i*) the development of an inclusive Pan-Canadian Nursing Human Resources Strategy; (*ii*) the appointment of a Senior Nurse Leader to lead the development, operationalization and evaluation of the strategy; (*iii*) the development of timely, comprehensive, and accessible nursing workforce data to support evidence-informed Health Human Resource planning and decision-making; and (*iv*) the identification of a team of diverse nurses—with representation across all jurisdictions, roles, and sectors—to participate in developing and implementing such a strategy in consultation with Indigenous, Black, Asian, and other communities, and in partnership with relevant provincial and territorial stakeholders.

We think recommendation 1 is foundational as a centralized structure is essential to sustain efforts working closely with provincial and territorial partners leverage existing structures such as the Provincial Nursing Network in Nova Scotia and similar councils/networks in other provinces and territories.

Recommendation 2: Address workload, staffing and skill mix, and payment models

Our synthesis of jurisdictional surveys of Canadian nursing perspectives revealed high rates of *intentions to leave* that predate COVID-19 and have been exacerbated by the demands of the pandemic response. There is evidence that a high level of education and skill within the nursing team and safe staffing models are directly linked with safety and quality of patient care. Staffing, skill mix, and care delivery models must be designed based on patient complexity, acuity, stability, and predictability of outcomes, and flexible staffing models should be implemented where possible. Employers should also favour permanent employment relations and strive to provide nurses with competitive payment models that enable cross-country and cross-sectoral equity of salaries and benefits, while accounting for differences in cost of living across jurisdictions. EDI key performance indicators must be integrated at all levels of organizational planning, implementation, and evaluation. We recommend that a national strategy working in partnership with relevant provincial and territorial partners needs to be in place to ensure the success of sustained national efforts to retain nurses in Canada including the recruitment of Internationally Educated Nurses.

Recommendation 3: Strengthen the voice of nurses in policy and planning at multiple levels to promote the valuation of the nursing workforce

A key finding of our review was the overwhelming perspective of nurses that they are undervalued. Nurses are remarkably underrepresented in planning and policy decisions. Nursing perspectives and expertise are critically important and need to be represented at planning and decision-making tables, spanning both clinical and policy spaces. We recommend systemic actions that ensure a robust nursing perspective is present at critical tables. This includes creating opportunities for front-line nurses to interact and voice their needs and concerns to organizational management and system stakeholders. We recommend the appointment of a Chief Nurse Officer at the federal level, and that structures and processes for nursing input into policy development be established at federal, provincial, and territorial levels. We recommend implementing collaborative mechanisms with federal and local

union leadership, and nursing councils. Systemic efforts should also be made to bolster nurses' capacity to engage in these spaces by establishing processes for mentorship and supporting enhanced professional development of nurses across career stages. Efforts to increase nursing engagement in planning and decision-making processes should aim to recognize and value nurses' critical contribution to care delivery, leverage nurses' wealth of knowledge and expertise to develop solutions that address the key challenges they face at the point-of-care, support the overall well-being of nurses, and establish policies that adopt Indigenous and EDI lenses. The immediate resumption of conversations with First Nations, Inuit, and Metis organizations, and emphasizing racial equity and justice in strengthening the voice of nursing is also needed.

Recommendation 4: Enhance authentic intersectoral partnerships.

Strengthening the nursing workforce requires intersectoral partnerships, especially given the gaps in the availability of preceptors and mentors and retirement trends within nursing faculty. Partnerships and collaborative strategies that will advance education and professional development with employment focus are important. Key actions should include improved engagement between academic, health system, and government partners with the Canadian Association of Schools of Nursing. A distinction-based and EDI lens, adopted in consultation with Indigenous, Black, Asian, and other communities, should guide partnership development.

Recommendation 5: Address EDI, gender equity, and systemic racism and their impact on the workforce.

Our findings highlight the need to address equity, diversity, and inclusion in the workplace, in consultation with Indigenous, Black, Asian, and other communities. These efforts will require the development and implementation of key actions to address persistent sources of inequity within the nursing workforce, including gender inequity in healthcare and among all levels of nursing, inequities in compensation and ability to achieve work-life balance, and structural racism in the healthcare workplace. The development of policies to improve these conditions should be led by affected groups and individuals.

Recommendation 6: Implement safe workplace wellness strategies for our nurses

COVID-19 has revealed many vulnerabilities in Canadian health systems that constrain the way we have supported and continue to support the nursing workforce. To stabilize the staffing crisis unfolding around us, we recommend urgent implementation of strategies to achieve safe staffing levels, enable flexible work arrangements, and establish safe and supportive working environments for nurses. Attending to the need to enhance the psychological safety of nursing work environments, we recommend nurses have better access to mental healthcare and supports.

Next steps for the review team

A coalition of nursing leaders that came together to support this review will continue to lead and guide rapid reviews and policy briefs to inform planning, key policies, and actions and as a sustained strategy to address ongoing needs related to recruitment and retention, and enhanced work environments for nurses.

Summary of key findings

Directed Literature Review and Jurisdictional Scan Findings

- Government action tends to focus on education and recruitment and retention efforts and not on system-level changes or workplace reform.

- Based on a network meta-analysis, a supportive work environment is the optimal recommendation to reduce voluntary turnover.
- A modification of nurses' workloads that creates a more realistic workload will boost job satisfaction and lessen fatigue, encouraging nurses to stay in the profession longer.
- Evidence strongly suggests highly developed leaders are needed to support nurses in the workforce, indicating a more stringent selection process should be employed when recruiting leaders and managers, including a focused attention to the development and support of new nursing leadership from lower-income, newcomer, racialized, and Indigenous populations.
- The provision and retention of more experienced nurses is needed to provide more opportunities for junior and novice nurses to have more options in finding effective mentors (within and external to formal mentorship programs) that may in turn, support retention.
- Reviews of interventions indicate that a multi-pronged approach is more effective than single interventions and policies.
- Prior to COVID-19, the most frequently cited reasons for nursing shortages were job strain, role tension, work–family conflict, low job control, complexity, and quality of work environments. Factors that reduced nursing shortages and turnover included supportive and communicative leaders, team cohesiveness, positive organizational climate, organizational support/fit, job security, job satisfaction, individual commitment, and motivation.
- **COVID-19 Impact**: Recent literature which examines nursing shortages during COVID-19 found that existing factors that affected retention and recruitment of nurses (e.g., job dissatisfaction, job strain, burnout, ability to provide quality care) were exacerbated during the pandemic. Increasing demand during COVID-19 and strain on resources contributed to the increased pressure on nurses and the health system.

Expert group interviews

- Valuing the nursing workforce within the health system was important to key stakeholders. This may include recognizing the importance of nurse knowledge, skills, and expertise to both the clinical environment and to policy development and health system operation. Structural valuing on nurses also involves investment in the advancement of nurses in higher education and clinical and professional development opportunities.
- The following Pan-Canadian nursing and leadership strategies were also recommended: a) the need for objective, accurate health human resource data, and b) input and cooperation from key stakeholder groups including nurses to make a difference in policy and practice.

Case study (Nova Scotia and Saskatchewan)

- Reasons for turnover as indicated by frontline nurses included mental and emotional wellbeing (high stress, workload, job strain), safety concerns due to staff and resource issues, poor work–life balance (vacation time not granted), and lack of manager support.
- Nurses indicated that external turnover of nurse colleagues included movement to less physically and emotionally demanding roles, early retirement, and travel nursing. Nurses indicated that internal movement of nurse colleagues included involuntary reassignment to high demand and short-staffed areas, and voluntary movement away from demanding specialties—long-term care (LTC), operating room (OR)—or to casual roles with better working conditions and ability to take time off.
- Nurses had concerns about organizational policies and changes to policies were communicated.
- **COVID-19 Impact**: Nurses in Nova Scotia and Saskatchewan confirmed that turnover of nurses at their organizations is occurring during the COVID-19 pandemic.

Definitions

BPSO Program: The Best Practice Spotlight Organization Program (BPSO®) designates organizations worldwide where frontline and executive nursing leaders successfully align their nursing strategic goals to improve the organization's patient outcomes, through evidence-based practices and robust staff engagement. The BPSO® Program provides a roadmap to nursing excellence that benefits the whole of an organization. To nurses and the interprofessional team, BPSO® designation means education and development through every career stage, using best practice guidelines and implementation science. BPSO champions lead change through social movement and knowledge to action approaches, driving with autonomy, positive work environments, and outcomes for staff, patients, organizations, and integrated health system of care (Registered Nurses' Association of Ontario (RNAO) n.d.-d, n.d.-g)

Distinction-based healthcare is a relational, rights-based approach that leverages the rights, nature, and lived experience of First Nations, Inuit, and Métis peoples. This approach recognizes the complex jurisdictional concerns to cocreate innovative health and wellness strategies that address anti-Indigenous racism in the healthcare system. A key principle of the Truth and Reconciliation Commission of Canada is co-developing distinctions-based Indigenous health legislation (Government of Canada 2021).

Licensed Practical Nurse (LPN): Licensed practical nurses (LPNs) are healthcare professionals who work independently or in collaboration with other members of a healthcare team. LPNs assess clients and work in health promotion and illness prevention. They assess, plan, implement and evaluate care for clients. (CIHI 2021a). Note: in Ontario, RPN refers to "Registered Practical Nurse," a term synonymous with LPN or "Licensed Practical Nurse" elsewhere in Canada.

Nurse: For this brief, the term nurse encompasses the regulated professions of registered nurses (RNs), nurse practitioners (NPs), licensed practical nurses (LPNs), and registered psychiatric nurses (RPNs).

Nurse Practitioner (NP): NPs are registered nurses who have additional education and nursing experience, which enables them to autonomously diagnose and treat illnesses, order, and interpret tests, prescribe medications, and perform medical procedures. NPs are also educators and researchers who can be consulted by other healthcare team members. (Canadian Nurses Association n.d.-a)

Nursing shortage: In economic terms, a shortage occurs when there is a labor imbalance between the quantity of a skill (nursing) supplied to the workforce and the quantity demanded by users. Many indicators may be used to indicate a shortage such as vacancies, growth of workforce, turnover rates, population-based indicators, and overtime measures. It is suggested that a range of indicators are used to measure possible shortages (Zurn et al. 2004). Non-economic measures of shortages are often normative, such as a value judgement or professional determinations.

Registered Nurse (RN): RNs are self-regulated healthcare professionals who work autonomously and in collaboration with others to enable individuals, families, groups, communities, and populations to achieve their optimal levels of health. At all stages of life, in situations of health, illness, injury and disability, RNs deliver direct healthcare services, coordinate care and support clients in managing their own health. RNs contribute to the healthcare system through their leadership across a wide range of settings in practice, education, administration, research, and policy (Canadian Nurses Association n.d.-b).

Registered Psychiatric Nurse (RPN): RPNs are autonomous professionals. They work collaboratively with clients and other healthcare team members to coordinate healthcare and provide client-centered

services to individuals, families, groups, and communities. RPNs focus on mental developmental health and mental illness and addictions while integrating physical healthcare and utilizing bio–psycho–social and spiritual models for a holistic approach to care. The practice of psychiatric nursing occurs within the domains of direct practice, education, administration, and research. Currently in Canada the provinces of British Columbia, Alberta, Saskatchewan, and Manitoba regulate and educate psychiatric nurses as a profession distinct from RNs, LPNs and NPs. Yukon Territory also regulates RPNs. (Registered Psychiatric Nurse Regulators of Canada n.d.).

Introduction

An ongoing crisis in nursing

Long-standing issues within the nursing profession in Canada have led to shortages and turnover of nurses for several decades. For example, nurses in Canada report experiencing high stress and burnout on the job due to long hours and excessive overtime, ever-increasing workloads, workplace violence and harassment, and exposure to potentially traumatic events (McGillis Hall and Reichert 2020). Nurses report exposures to potentially psychologically traumatic events in the workplace, including severe human suffering, life-threatening illness or injury, and physical assault (Stelnicki et al. 2021). An online survey of 4267 Canadian nurses found that nearly half of respondents screened positive for a mental disorder (RNAO 2017; RNAO 2021d; Stelnicki and Carleton 2021). Similarly, an online survey of 3969 Canadian nurses reported suicidal ideation (lifetime and in the previous 12 months) and suicide attempts higher than estimates in the general population (Stelnicki et al. 2020). In both surveys, more than 90% of respondents were women, reflecting the gender distribution of the Canadian nursing workforce and the gender disparity of mental health issues caused by nursing. Importantly, nurses who are Black, Indigenous, People of Colour (BIPOC) and 2S LGBTQIA+ are exposed to racism and discrimination in the workplace, as well as facing systemic discrimination and policies, which exclude or discourage their participation in positions of healthcare leadership. Such discrimination causes mental stress and psychological trauma for nurses, negatively impacting mental health (Baptiste 2015; Eliason et al. 2011; Etowa et al. 2009; Jefferies et al. 2022; Likupe and Archibong 2013). There are limited statistics about race and ethnicity collected by Canadian organizations and nursing colleges, which would provide necessary evidence about the nursing profession and inform anti-racist policies (Cooper-Brathwaite et al. 2022a, 2022b; Etowa et al. 2021; Oudshoorn 2020; RNAO 2020b; RNAO 2022).

There is emerging evidence that substantially higher numbers of nurses than usual are leaving the profession or expressing an intent to leave or take early retirement post-pandemic. Various Canadian jurisdictions are reporting critically low nursing staffing levels resulting in bed and service closures and many are currently in crises planning mode to address these shortages. Combined with the pre-pandemic projected global nursing workforce shortage, this poses a serious concern for the Canadian healthcare system. In the fourth quarter of 2020, health sector job vacancies in Canada were at a record high of 100,300—up 56.9% from 2019. Canadian Hospitals had the highest job vacancy rate of any sector, with 15,700 more vacancies than in 2019. In Quebec, approximately 4000 nurses quit their role during the pandemic, a 43% increase from 2019 (Varner 2021).

COVID-19 tested the capacity of our healthcare systems and put immense pressure on individual health professionals; pre-pandemic policies and organizational structures may have contributed to the current shortages and exodus of nurses from the profession—the exact scale and impact of which is not yet known. There is an urgent need to understand the factors contributing to longstanding nursing shortages in Canada and past waves of departure, to ensure the healthcare system can continue to respond effectively through the remainder of the pandemic and prevent a predicted mass exodus of nurses from the system post-pandemic.

COVID-19 and the nursing exodus

Along with inspiring stories of successful response through collaboration and innovation, the COVID-19 pandemic has exposed many vulnerabilities within our healthcare system. Morbidity and mortality rates are higher amongst marginalized and underserved populations (Abrams and Szefler 2020; Burstrom and Tao 2020; McNeely et al. 2020), exacerbated by discriminatory policies and structures, making racism a public health issue (Godlee 2020; Laurencin and Walker 2020). Health professionals, including nurses, are experiencing crisis-levels of burnout and stress in unpredictable and unsatisfactory working conditions. There is a high risk of a post-pandemic mass exodus of nurses from point-of-care roles. Emerging evidence indicates that substantively higher numbers than usual are leaving the profession or expressing an intent to leave or take early retirement post-pandemic. Various Canadian jurisdictions are reporting critically low staffing levels resulting in bed and service closures, with many in crisis-planning mode to address these shortages (Canadian Federation of Nurses Unions 2021; RNAO 2021g; Rusnell 2021). Combined with the projected global nursing workforce shortage, this is a serious concern (International Council of Nurses 2021).

This impending crisis is evidenced from Canadian nurses' response to a survey by The Canadian Federation of Nurses Union (2020). The survey of 7153 nursing professionals across Canada found that intent to leave was substantially higher in the current study with over half of participants planning to leave their position in the next year. Of these, the majority plan to seek another nursing role, while a quarter intend to seek work outside of the nursing profession completely. Similarly, a survey of over 2000 Ontario nurses found that 13% of RNs aged 26–35, and nearly 1 in 20 nurses overall, reported they were very likely to leave the profession after the pandemic (RNAO 2021d). We do not know what percentage of nurses who were likely to leave the profession are BIPOC as data in this area is limited. Comparing these findings to a previous international study, which reported that less than 20% of the Canadian nurse respondents were planning to leave work in the upcoming year, the effects of the pandemic are clear.

Internationally, evidence briefs from the International Council of Nurses (2020) reported that approximately 90% of nurses are somewhat or extremely concerned with their burnout, resourcing, and stress related to the pandemic. The evidence brief showed an increase in intention to leave the workforce after this year compared to previous years. Additionally, 20% of national nursing associations worldwide reported an increase in nurses leaving the profession in 2020 as well as an increase in intention to leave. Given that over 90% of nurses in Canada are women, it is important to review this rising trend with a lens of gender equity. To address the shortage by 2030 in all countries, the World Health Organization suggests the total number of nurse graduates would need to increase by 8% per year on average, alongside an improved capacity to employ and retain these graduates. A key limiting factor that needs to be considered concurrently is the increasing shortage of faculty, supervisors, mentors, and preceptors to support clinical placements and supervision.

Current state of the nursing workforce in Canada

Health workforce data from 2020 indicates there are over 448,000 nurses in Canada across four roles: registered nurses, registered psychiatric nurses, licensed practical nurses, and nurse practitioners (CIHI 2021b). There is strong evidence to show nurses in many roles are contributing to a high quality and safe patient care environment.

Table 1 reflects the skill mix of the nursing workforce across these roles.

As of 2020, 6,661 nurse practitioners licensed to practice in Canada. Nurse practitioner practice plays a critical role in care delivery across sectors, and has been associated with improved access to care, improved health outcomes, decreased healthcare costs, and the provision of comprehensive care to

Table 1. The skill mix of the nursing workforce in 2020 across roles (CIHI 2020).

Role	Headcount	Proportion of nursing workforce
Registered Nurse	304,558	67.98%
Registered Psychiatric Nurse	6,115	1.36%
Licensed Practical Nurse	130,710	29.17%
Nurse Practitioner	6,661	1.49%

vulnerable and underserviced populations (RNAO 2021a). This profession has seen considerable growth over the last decade, displaying an average yearly growth rate of 9.7% between 2011 and 2020 (CIHI 2021b). This level of growth is significantly higher than all other nursing roles, with the registered nurse workforce growing by 0.6% per year, the licensed practical nurse workforce growing by 3.7% per year, and the registered psychiatric nurse workforce growing by 1.3% per year over the same time (CIHI 2021b). Despite this growth, nurse practitioners are underutilized. Work is required to optimize nurse practitioner skills and expand their scope of practice across sectors and jurisdictions to meet the health system's need (RNAO 2021a) Notably, there is considerable variation in the use and scope of practice of nurse practitioners across Canadian provinces and territories (CIHI 2020). At the national level, Canada displays a nurse practitioner to population ratio of 15.5 nurse practitioners per 100,000 population at the provincial level; this ratio varies from a maximum of 47.8 nurse practitioners per 100,000 in the Northwest Territories and Nunavut, to a minimum of 7.7 nurse practitioners per 100,000 in Quebec (see Table 2 for full provincial breakdown). Furthermore, CIHI data also reveals that the scope of practice of nurse practitioners varies across jurisdictions (CIHI 2020).

CIHI data shows there are approximately 300,000 RNs working in Canada. Evidence suggests that RN care is linked to enhanced patient, organizational and fiscal outcomes. The province of Ontario has the highest LPN/RPN mix in Canada at 32.6 percent, while the rest of Canada has an LPN/RPN

Table 2. The geographic distribution of the Nurse Practitioner (NP) workforce in 2020 (CIHI 2021b).

Jurisdiction	Number of NPs	NP per 100,000 population
Canada	6,661	15.5
Newfoundland and Labrador	191	34.5
Prince Edward Island	49	26.8
Nova Scotia	220	20.5
New Brunswick	148	17.9
Quebec	686	7.7
Ontario	3,681	22.9
Manitoba	233	No data
Saskatchewan	240	16.7
Alberta	602	12.6
British Columbia	540	9.6
Yukon	14	34.3
Northwest Territories/Nunavut	57	47.8

Table 3. The geographic distribution of the Registered Nurse (RN) workforce in 2020 (CIHI 2021b).

Jurisdiction	RN Headcount	RN per 100,000 Population
Canada	304,558	661.6
Newfoundland and Labrador	5,835	981.5
Prince Edward Island	1,707	890.8
Nova Scotia	9,783	869.0
New Brunswick	7,974	889.8
Quebec	73,337	728.5
Ontario	104,976	609.3
Manitoba	12,856	—
Saskatchewan	11,182	824.9
Alberta	36,394	739.0
British Columbia	38,863	650.3
Yukon	529	1103.9
Northwest Territories/Nunavut	1,122	1007.1

mix at 27.8 percent. Tables 3 and 4 describe the geographic distribution of Canada RN and LPN workforce, respectively.

The size of the nursing workforce is shaped by a number of key factors, including: (1) the rate of entry of new nurses into the workforce through the education pipeline, immigration, and return to practice; (2) the rate of attrition from the workforce as a result of death, retirement, emigration, and voluntary

Table 4. The geographic distribution of the Licensed Practical Nurse (LPN) workforce in 2020 (CIHI 2021b).

Jurisdiction	LPN Headcount	LPN per 100,000 Population
Canada	130,710	301.7
Newfoundland and Labrador	2,391	422
Prince Edward Island	770	449.2
Nova Scotia	4,439	419.1
New Brunswick	3,076	343.8
Quebec	29,398	299.3
Ontario	54,103	324.1
Manitoba	3,562	237.1
Saskatchewan	3,770	278.9
Alberta	15,902	298.8
British Columbia	12,769	221.4
Yukon	227	—
Northwest Territories	126	263.2
Nunavut	177	—

attrition; and (3) the practice patterns of the active workforce, including nurses' levels of activity, the sectors of care within which they participate, and the types of services they provide. Quantifying these trends through robust nursing workforce planning exercises, and understanding the underlying factors shaping these trends, are fundamental to designing evidence-informed solutions to the challenges described in this report and developing a nursing workforce that is equipped and supported to meet the needs of patients and healthcare systems.

As highlighted in RNAO's "70 years of RN effectiveness" database, studies have demonstrated significant direct links between RN care and positive patient, organizational, and financial outcomes (RNAO n.d.-a). Decreased RN staffing was associated with increased patient mortality in academic hospital settings, with increased inpatient mortality being associated with shifts toward lower RN staffing (Needleman et al. 2020). Similarly, a higher percentage of direct care provided by RNs with BSN, MSN, or doctoral degrees was associated with lower occurrences of healthcare-acquired, catheter-associated urinary tract infections in U.S. hospital settings (Park et al. 2018). In the long-term care sector, recent U.S. evidence has linked increased RN care hours (to 0.8 RN hours per resident per day) to a 22% reduction of inappropriate antipsychotic medication use among dementia residents and a 25% reduction in non-dementia residents (Phillips et al. 2018). Given the strong evidence on the impact of nurses and skills mix on patient care, quality, and safety, these and care delivery models must be designed based on patient complexity, acuity, stability, and predictability of outcomes.

Where to from here?

Nurses (Registered Nurses, Nurse Practitioners, Licensed and Registered Practical Nurses, Registered Psychiatric Nurses) represent the highest proportion of healthcare workers globally with nearly 450,000 nurses working in Canadian health systems (CIHI 2021b). The impact of nurses and the key roles they played in managing the COVID-19 pandemic has been evident not only across Canada but around the world. However, this is not new information about the nursing workforce and the positive impact they have in many roles including leadership and direct care across a variety of settings.

The pandemic has highlighted yet again the urgency that is needed to address these alarming trends of nurses leaving the profession and nursing shortages that have created critical gaps in care across care settings (Rosa et al. 2020). These issues have continued to remain despite numerous reviews, reports, and efforts to address this ongoing crisis.

The RSC review has provided an opportunity during yet another crisis in nursing workforce to bring together a coalition of nursing leaders and experts across Canada to provide key recommendations and actions drawing from their experience and expertise, and from findings from this review.

Review objectives

1. Conduct a review and trending analysis of evidence outlining the nursing exodus in Canada and Internationally pre-COVID and during COVID: issues and considerations.
    a. Review of conditions and considerations for nurses who continue to stay in the workforce: positive and negative impacts of staying.
2. Examine effective policies and strategies that have been implemented and/or recommended.
    b. Effectiveness will be determined based on reported impact on quality and outcomes of care and from feedback from nurses.
3. Drawing from findings regarding objectives 1 and 2, provide recommendations for key actionable strategies and policies that need to be implemented.

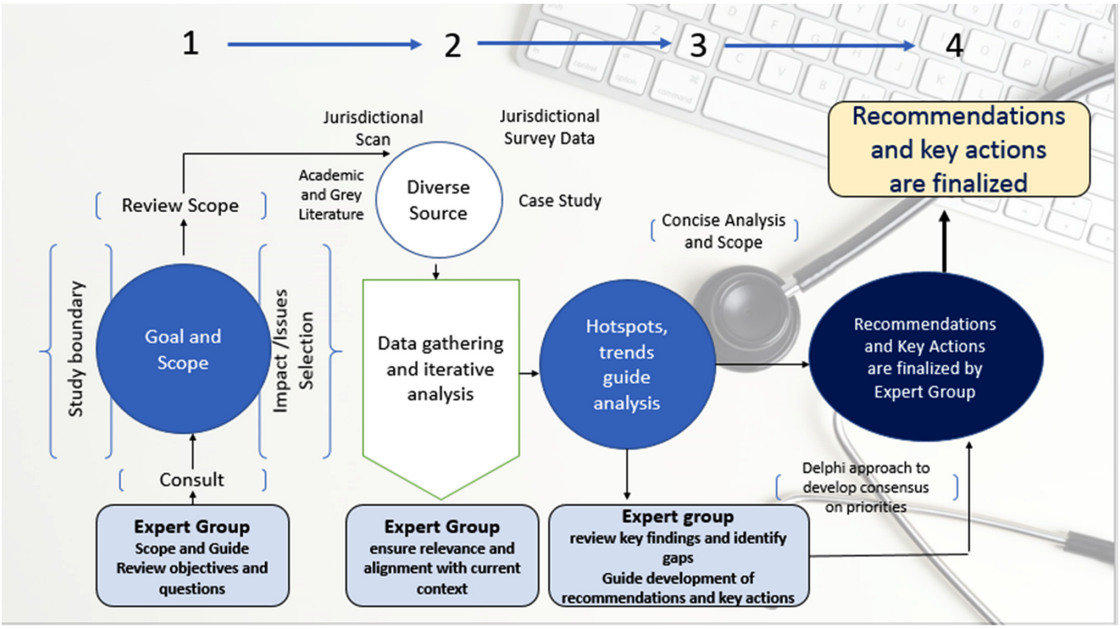

Fig. 1. Mixed methods approach (adapted from Barthel et al. 2014).

Review approach

This review was completed by the Nova Scotia (NS) team through the participation of diverse experts and academic scholars in the province. We used an iterative approach in this review as outlined in **Figure 1** which involved a mixed-methods approach to data collection (directed literature review, jurisdictional scan, and interviews with nurses and stakeholders) and assessment of initial, developing, and final key messages alongside the Working Group to ensure relevance and alignment with current nursing context. As part of this review, we engaged over 17 leading national nursing experts, analyzed over 40 academic documents and over 45 jurisdictional sources, and completed a case study in two provinces with 42 participants (31 in NS, 11 in Saskatchewan (SK)).

The following sections describe each of the review methods used, including their key objectives and methods.

Review component 1: Directed literature review and jurisdictional scan

Search overview

Our approach included 2 separate search strategies: a directed academic and grey literature search and a directed search of the jurisdictions.

Objectives—Directed literature review and jurisdictional scan

The specific objectives of the directed literature search and jurisdictional scan were to identify:

- the antecedent conditions that have led to a shortage of nurses in select health systems (Canada, United Kingdom, Australia, and United States),
- how and if conditions leading to shortages of nurses have changed over time,

- the interventions/policies that health systems have recommended to address shortages,
- the interventions/policies health systems have *implemented* to address shortages and their outcomes, and
- the interventions/policies that have not been implemented.

Methods—Directed literature review

A directed literature search was conducted to identify relevant articles from time periods where there was an identified higher-than-normal front-facing nurse exodus from the health system.

Academic literature was limited to systematic reviews and meta-analyses focused on nurses leaving or exoduses in Canada and worldwide. A literature review was conducted to identify what has been written about nursing shortages and exoduses using a targeted approach (Paré et al. 2015). This method was determined to best fit the context of a rapid review timeline, while also achieving its objectives. Although many literature reviews are selective in identifying literature (Davies 2000), a systematic approach to searching and identifying academic literature within SCOPUS (Burnham 2006) was used (see **Supplementary Material 1** for more details).

This review of key issues and considerations over time within this literature helped us include diverse topics such as education and training, work–life balance and value, as well as racial and EDI considerations. We compared findings with literature during COVID-19. Literature recommended by Working Group members were also included in the analysis.

Inclusion criteria: To be included in the review, sources had to have been published since 2020 (onset of pandemic) or in one of the time periods identified in **Table 5**. Articles had to focus on nursing shortages, including reasons such as turnover and attrition, and include either policy recommendations or implemented policies intended to address nursing shortages. Policy documents and health reports in the grey literature were also included. The review began with priority documents identified by the field experts in the working group. Additional documents were identified based on recommendations from the working group and other experts.

A directed literature search was done in the chosen countries' nursing workforce history to identify relevant articles within these identified timeframes of higher-than-normal nurse exoduses. Academic literature was limited to reviews with a specific method section (i.e., systematic review, network-meta-analysis). These periods were guided by the expert working group. Two time points were chosen for each jurisdiction, plus the current time of the pandemic. Time points were chosen based on identification of an identified crisis regarding nursing shortages or an exodus in the select countries were identified by reviewing histories of the nursing workforce.

To gather an understanding of nursing shortages across health systems, a health system conceptual framework (Böhm et al. 2013) was used to choose a diverse set of health systems. Three broad

Table 5. Countries and time periods of eligibility.

Region	Time period 1 (literature timeline)	Time period 2 (literature timeline)
Canada	1996 (1996–1998)	2006 (2006–2008)
England NHS	1999 (1999–2001)	2015 (2015–2017)
Australia	2002 (2002–2004)	2016 (2016–2018)
United States	2000 (2000–2002)	2010 (2010–2012)

categories of health systems have been used for categorization: National Health Service, National / Social Health Insurance, and Private Health Insurance (Böhm et al. 2013; Burau and Blank 2006). According to this organizing framework, Canada has national health insurance. One country with a similar health system and one health system from each of the other categories was chosen. Additionally, to keep non-health related differences to a minimum, we selected countries with similar cultures, language, and demographics. These included:

- Australia (National Health Insurance)
- United Kingdom (National health system)
- United States (Private health system)

Data extraction: Eligible articles were reviewed using an extraction template (**Supplementary Material 1**) designed for this project. Data were extracted as summaries or quotes of text strings and tabulated in an Excel spreadsheet with columns organized in relation to the data points. After populating the spreadsheet, data were compared across documents. Team members met weekly, at a minimum, to review and discuss progress and findings.

Methods—Jurisdictional Scan

We performed a jurisdictional scan of key policies and relevant documents in Canada.

Inclusion Criteria: The Jurisdictional scan included releases/reports from nursing organizations (2020–present) or reports/news releases with information from government officials (2000–present). The 20-year period was selected as it would capture recommendations and actions from before and after the nursing shortage of 2006. There was interest in also identifying recommendations from the 1996 to 1998 shortage, but the nursing organization websites, as a rule, did not have data from that period. The same time frames as the academic and grey literature were chosen.

To determine how COVID-19 had impacted nurses' experiences, we also summarized surveys from various jurisdictions that involved nurses' views/opinions on their profession at various points during the pandemic (including its impact on intention to leave, work environment, satisfaction, etc.). Surveys found in both searches and ones identified by the working group were included.

Search strategy: These documents were identified using two main approaches. In the first approach, a targeted search of the websites of select nursing organizations in Canada was undertaken. These were identified as key nursing organizations in Canada by members of the Working Group. Organizations are listed in **Table 6**. In the second approach, we conducted a series of Google searches. The following phrases were used in the Google search bar ("Place") and (short*) and (nurs*). The search was replicated for each "place" of interest, and the specific search terms used for each place are listed in **Table 7**. For each search, only the hits identified on the first page of the Google generated results were reviewed. Google searches were date restricted coincident with periods of nursing crisis ± 2 years: 2002–2008; 2020–present. Additional date restricted Google searches were conducted for the time periods between 2000 and 2002 and 2008 and 2019 to ensure coverage from 2000 to present.

Data extraction: Specific recommendations and policies were extracted as quoted text strings and placed on a data extraction template. Recommendations and policies were then categorized as targeting one of six policy categories: Macroeconomic Policies, Workforce Policies and Planning, Positive Practice Environments, Leadership, Recruitment and Retention, and Education and Training (Oulton 2006).

Table 6. List of Canadian Nursing Organizations whose websites were searched for recommendations for the jurisdictional scan.

Targeted jurisdiction	Nursing organization websites searched
Canadian	Canadian Nurses Association; Canadian Nurses Foundation; Canadian Federation of Nurse Unions; Canadian Association of Schools of Nursing; Canadian Nurses Protective Society
British Columbia	Nurses and Nurse Practitioners of BC; BC Nurses Union
Alberta	College and Association of Registered Nurses of Alberta; United Nurses of Alberta
Saskatchewan	Saskatchewan Association of Licensed Practical Nurses; Saskatchewan Union of Nurses; Saskatchewan Registered Nurses Association
Manitoba	College of Registered Nurses of Manitoba; Manitoba Nurses Union
Ontario	Registered Nurses Association of Ontario; College of Nurses of Ontario; Ontario Nurses Association
Quebec	Ordre des Infirmières et Infirmiers du Québec; Fédération Interprofessionelle de la Santé du Québec
New Brunswick	Nurses Association of New Brunswick; New Brunswick Nurses Union
Nova Scotia	Nova Scotia College of Nursing; Nova Scotia Nurses' Union
PEI	College of Registered Nurse of PEI; PEI Nurses Union
Newfoundland	College of Registered Nurses of NFLD; Registered Nurses' Union Newfoundland and Labrador
Northwest Territories	Registered Nurses Association of Northwest territories and Nunavut
Yukon	Yukon Registered Nurses Association
Nunavut	Registered Nurses Association of Northwest territories and Nunavut

Table 7. List of place names used in Google search.

Targeted jurisdiction	Place names used
Canadian	Canada or CAN
British Columbia	British Columbia or BC
Alberta	Alberta or AB or ALTA
Saskatchewan	Saskatchewan or Sask or SK
Manitoba	Manitoba or MN or Man
Ontario	Ontario or ON or Ont
Quebec	Quebec or QC
New Brunswick	New Brunswick or NB
Nova Scotia	Nova Scotia or NS
Prince Edward Island	Prince Edward Island or PEI
Newfoundland	Newfoundland or NFLD or NF
Northwest Territories	Northwest Tterritories or NWT
Yukon	Yukon or YK
Nunavut	Nunavut or NU

Review component 2 national key informant interviews

Nursing leaders from across Canada provided their perspectives on issues surrounding nurse shortages, migration, or turnover in Canadian healthcare systems. Input from these stakeholders was received through 1:1 interviews or email exchanges between July and August 2021. Documents (interview notes and email correspondence) were reviewed for common themes.

A working group of nurse leaders from across Canada was established to guide the activities described in this report. The key informants and research team leads met several times and key informants were also invited to participate in interviews to provide insight on nursing shortages from a high-level health system and policy perspective. The findings from these interviews are described below.

Objectives

- To identify policy levers, directions, and strategies of Canadian jurisdictions that were used during the pandemic to help stem the migration of nurses.
- To describe nationwide strategies and (or) policies that aimed to inform future actions regarding the migration of nurses.

Methods

National Nursing Executives and leaders from across Canada provided their perspectives on nursing issues surrounding shortages, migration, and turnover in Canadian healthcare systems, with a focus on identifying similarities and differences between pre-pandemic and pandemic timeframes. These leaders were approached by the Chair and the RSC leads to ensure cross jurisdictional perspectives, and diverse expertise and experiences. Leaders who accepted the invitation participated as expert team members in this review.

Input from these stakeholders was received either through one-on-one interviews (documented through observer notes) or through email exchanges (July through August 2021). Questions included, "What are the reasons nurses are staying?", "What are key policies and strategies that need to be implemented or have been implemented to keep nurses from leaving?", and "Have any of these reasons differed since the onset of the pandemic?"

Documents (interview notes and email correspondence) were reviewed for common themes.

In addition to lending their expert view through interviews, these members participated in the design and conduct of the review including write-up of the final report.

Review component 3 case study (Nova Scotia and Saskatchewan)

The "case" for this study is nursing perspectives of the exodus. The main objective was to explore nurse migration in two jurisdictions in Canada (Nova Scotia and Saskatchewan). The rationale for choosing Nova Scotia and Saskatchewan was the location of case study leads and access to networks in these two jurisdictions for recruitment. Case boundaries focused on nurses' perceptions of the reasons for leaving and for staying in the profession or nursing position. The case study identified key influences that impacted nurses' reasons to leave or stay during the COVID-19 pandemic.

Nurse interview data

Case study methods included open-ended interviews with nurses in two provinces ($n = 31$ in Nova Scotia, $n = 11$ in Saskatchewan) and an analysis of available exit survey data findings from each province. Sociodemographic information was collected via survey in relation to key nurse descriptors including role, age, gender, race, years of experience, and practice setting.

Nurses working in several areas within the health system across two provinces, Nova Scotia and Saskatchewan, were interviewed.

Data from nurse exit interviews at two organizations in Nova Scotia (Nova Scotia Health and IWK) were collected. Exit interview data was retrieved from either a short survey or a phone interview offered to nurses after they had resigned from the organization. We were granted permission from these organizations to view de-identified data from exit interviews conducted over a 14-month period, from June 2020 through August 2021. Exit interview data was analyzed to identify factors that led to nurse migration during the COVID-19 pandemic.

Objectives

- To understand the outmigration or movement of nurses outside of or within healthcare organizations during and before the pandemic.
- To explore the reasons for the migration; for example, policy or system-level decisions that have contributed to the migration.
- To examine recruitment and retention strategies before and during the pandemic that aimed to reduce or minimize the migration of nurses.

Methods

A call for participants was made through the Research Innovation and Discovery team at Nova Scotia Health and the Nursing and Interprofessional Practice team at the IWK Health Centre. An introductory email was sent to the Provincial Nursing Network. Recommendations from the Key Informant Working Group were also taken into consideration.

Participants

Profile of Nova Scotia Nurses

Licensed nurses from Nova Scotia were situated in either an urban ($n = 16$) or rural ($n = 15$) area of the province. At the time of participation, ages ranged from 22 to 63 years and represented a variety of nursing roles within the healthcare system. Nurses were all women and worked in their area of practice for over 6 months up to 20 years. Figure 2 provides data of the participant's nursing role. Figure 3 provides data on nursing practice area.

Profile of Saskatchewan Nurses

Nurses from Saskatchewan were situated in either an urban ($n = 6$) or rural ($n = 5$) area of the province. At the time of participation, ages ranged from 31 to 60 years and represented a variety of nursing roles within the healthcare system. Nurses were all women and worked in their area of practice for over 1 year up to 24 years. Figure 4 provides data of the participant's nursing role. Figure 5 provides data on nursing practice area.

Most respondents who were interviewed observed migration of their nursing colleagues. Explanations as to why there were high numbers of nurses leaving their organization or moving from one department to another were variable and appeared to be dependent on multiple factors (level of nursing experience, age/cohort, specialty, region, and rural vs. urban). This suggests that in addition to a pan-Canadian nursing strategy that focuses on broad recruitment and retention plans, a regional approach should be considered also.

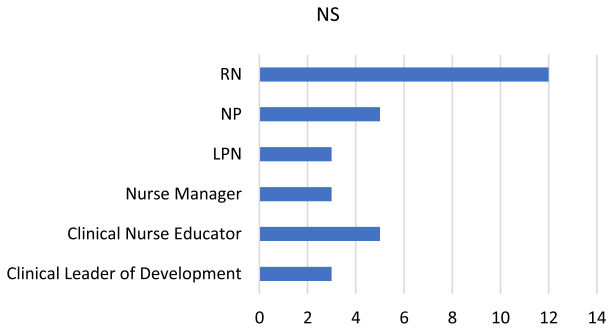

Fig. 2. Nursing profile of Nova Scotia participants.

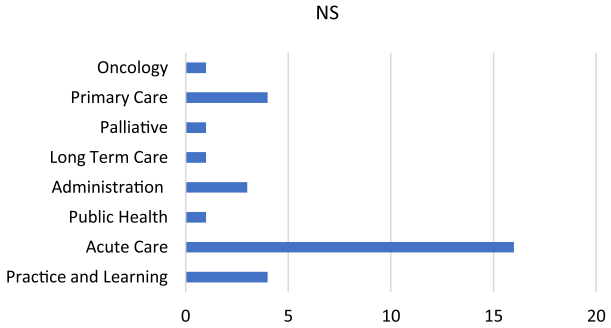

Fig. 3. Place of nurse employment in Nova Scotia (NS).

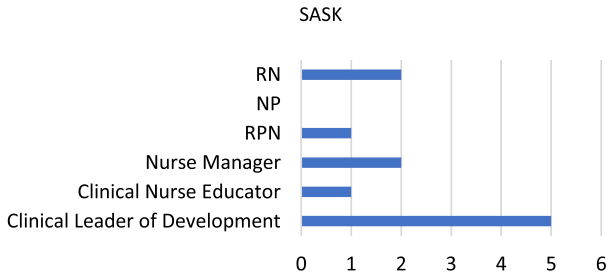

Fig. 4. Nursing profile of Saskatchewan participants.

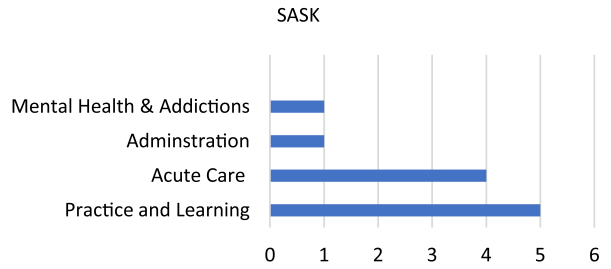

Fig. 5. Place of nurse employment in Saskatchewan (SK).

In addition to issues regarding migration, there were common themes across all responses that related to workload and overall working conditions that need drastic improvement to prevent further burnout, turnover, and migration.

Review Findings

Objective 1: Evidence for nursing shortages in Canada and internationally, during and pre-pandemic

Findings from Directed Literature Review

Causes and conditions for nursing shortages and how and if they have changed over time

> ***Key findings (pre-COVID-19):*** There are various overlapping and interconnected environmental, organizational, team, and individual factors influencing nurses' decisions to leave point-of-care positions. A better understanding of the interaction of these factors across settings is needed to better promote positive factors and reduce/remove negative factors. **Table 8** provides and overview of pre-COVID-19 factors. **Table 9** provides factors that arose during the pandemic. **Table 10** provides a complete list of factors from both pre-pandemic and during the pandemic.

Table 8. Factors contributing to increases in nursing workforce shortages (pre-COVID-19).

Factors	Causes
Demand on services	• An aging population as well as a rise in chronic disease means acute care patients are higher acuity, requiring more assistance than a generation ago (Chenoweth et al. 2010; Flinkman et al. 2010; Goodare 2017; Haddad et al. 2020; Hutchinson et al. 2012; Lu et al. 2012; Park and Yu 2019; US General Accounting Office 2001, McDonald and Ward-Smith 2012; Schluter et al. 2008).
Job dissatisfaction and burnout	• The pressures faced by nurses contribute to job dissatisfaction, which is highly correlated with burnout and intention to leave, including lack of opportunities or support to work to full scope of practice (Littlejohn et al. 2012; Marufu et al. 2020; McDonald and Ward-Smith 2012; Schluter et al. 2008). • Nurses who feel unable to deliver quality care because of external pressures, like working short-staffed, are at risk of burnout (Goodare 2017; Haddad et al. 2020; Murray 2017). • Other characteristics of nursing like shift work and risk of abusive workplace violence and harassment also play a role (Haddad et al. 2020; Marufu et al. 2020).
Insufficient supply of new nurses	• Education and clinical practice application of new nurses is outpaced by the demand for nursing services. This is partially due to drops in applicants as other careers are more appealing, and in part because programs are limited by the number of students they can accept. This also requires an exploration of the capacity in the education sector working with key partners (Janiszewski 2003; Adams et al. 2021; Finlayson et al. 2002; World Health Organization (WHO) 2020).
Unsupportive work environment	• The challenge of managing highly acute patients is compounded by physically and emotionally unsupportive work environments, requiring nurses to work harder with fewer resources (Cowden et al. 2011; Marufu et al. 2020; Schulter et al. 2008). • Nurses feel unsupported by management and undervalued for the services they provide (Cowden et al. 2011; Cummings et al. 2010; McDonald and Ward-Smith 2012).
Retention and turnover	• Retaining the nursing workforce is needed, as hiring more is insufficient to meet demands for nursing services. • New nurses are particularly at risk of feeling overwhelmed in stressful environments, while hospitals lack resources to adequately train new nurses, particularly in times of stress. • Generational differences need to be considered in retention strategies, as more experienced nurses respond to different incentives than those new to the profession.
Lack of funding	• Both chronic and acute gaps in funding have affected the development of nursing education and clinical practice programs as well as the financial value placed on the design of high quality and safe nursing programs and service (Finlayson et al. 2002; WHO 2020; Duffield and O'Brien-Pallas 2003; Adams et al. 2021).

Table 9. Factors contributing to increases in nursing workforce shortages (during COVID-19).

Factors	Causes
Demand on services	• Patient volumes increased due to COVID-19. • Higher admissions to ICU and higher acuity patients.
Job dissatisfaction and burnout	• The COVID-19 pandemic has exacerbated existing pressures on nurses. • Job dissatisfaction remains and workload, burnout, stress, fatigued have increased due to the overwhelming pressure on the health system during COVID-19.
Insufficient supply of new nurses	• Nursing students indicating regret for entering the program and expressing potential to leave the profession upon graduation. • Increased risk of student nurses quitting their programs.
Fear	• During the first wave(s) of the pandemic, nurses were fearful of spreading the virus to their family members and catching the virus themselves and potentially dying, as well as working around the clock.
Scarce resources	• COVID-19 has intensified competition for scarce nursing resources. • Redeployment of nurses to other areas of the health system impacted other areas of care.
Changing protocols	• Rapidly changing protocols to respond to COVID-19 put pressure on nurses and on the health system. (e.g., the use of personal protective equipment (PPE), public health and organizational protocols).

Included network meta-analyses and literature reviews found that the factors most positively correlated with nurse turnover included higher job strain, role tension, work–family conflict, lower job control, complexity, and recognition. Factors most negatively correlated with nurse turnover included more supportive and communicative leaders, higher team cohesion, more positive organization climate and greater organizational support, better fit with the organization, less job insecurity, fewer perceived job alternatives, and nurses higher in commitment, job involvement, intrinsic and extrinsic motivation, and job satisfaction.

Key findings (during COVID-19): Studies that focused on the impact of COVID-19 on nurses revealed that existing factors affecting retention and recruitment of nurses (as above) continue during the pandemic. Factors such as job dissatisfaction due to job strain, burnout, and ability to provide quality care were exacerbated. Increasing demands unique to COVID-19 that exacerbated these issues included the use of personal protective equipment (PPE), changing COVID-19 protocols, higher patient volumes and admissions to ICU, high acuity patients, and redeployment to other areas of the health system.

Pre-COVID-19

Based on the factors identified in the literature, six categories of factors have led to nursing shortages pre-COVID-19 (See Table 8).

During COVID-19

Factors that have led to nursing shortages during COVID-19 are described in Table 9. Table 10 highlights the summary categories from literature of factors affecting the nursing shortage.

Table 10. Factors affecting nursing shortages—summary categories from literature.

Factors	Causes
Demand on services	• Aging population (Chenoweth et al. 2010; Flinkman et al. 2010; Goodare 2017; Haddad et al. 2020; Hutchinson et al. 2012; Lu et al. 2012; Park and Yu 2019; US General Accounting Office 2001) • Changing demographics (including chronic diseases) (Cowden et al. 2011; Littlejohn et al. 2012; Oliver et al. 2019) • Rise in hospital patient acuity (McDonald and Ward-Smith 2012; Schluter et al. 2008; US General Accounting Office 2001)
Job dissatisfaction and burnout	• Insufficient and unsafe staffing (Littlejohn et al. 2012; Marufu et al. 2020; McDonald and Ward-Smith 2012; Schluter et al. 2008) • Not feeling fairly paid for qualifications and workload (Bimpong et al. 2020; Goodare 2017) • Work-life balance (Goodare 2017; Haddad et al. 2020; Murray 2017) • Risk of abuse (Haddad et al. 2020; Marufu et al. 2020)
Insufficient supply of new nurses	• Underfunding and underinvestment (Adams et al. 2021; Finlayson et al. 2002; WHO 2020) • Insufficient faculty and clinical and classroom space (Conway 2001; Littlejohn et al. 2012; RNAO 2016; 2021e; 2021f) • Low enrolment in nursing programs (Duffield and O'Brien-Pallas 2003; Janiszewski 2003) • Shrinking applicant pool (Littlejohn et al. 2012; Murray 2017), possibly caused by increasing opportunities for working women and students (Conway 2001; Duffield and O'Brien-Pallas 2003) • Poor image of nursing (Janiszewski 2003)
Unsupportive work environment	• Poor staff–patient ratios (Cowden et al. 2011; Marufu et al. 2020; Schluter et al. 2008) • Problems with organizational support (e.g., lack of support, inconsistent culture, organizational not living to its values, poor teamwork, feeling deprioritized) (Goodare 2017; Marufu et al. 2020; RNAO 2016; RNAO 2020b, RNAO 2021e) • Unsupportive leadership (Cowden et al. 2011; Cummings, Hutchinson, et al. 2010; McDonald and Ward-Smith 2012) • Lack of autonomy, recognition (for work done, financial remuneration) and safety issues (e.g., bullying and harassment) (Duffield and O'Brien-Pallas 2003)
Retention and turnover	• Age of nursing workforce (Adams et al. 2021; Duffield and O'Brien-Pallas 2003; Flinkman et al. 2010; Janiszewski 2003; Littlejohn et al. 2012a; Lu et al. 2012; Nevidjon and Erikson 2001; US General Accounting Office 2001) • Poor working conditions (e.g., high stress, unsupportive leadership; see factors 2 and 3) (Cowden et al. 2011; Marufu et al. 2020; McClain et al. 2020) • Newer nurses not staying (Church et al. 2018; Eckerson 2018; McDonald and Ward-Smith 2012; Mooring 2016; Nei et al. 2015); transitioning from student nurse to practicing nurse is stressful and challenging (Eckerson 2018), and faculty may have not intervened to mitigate student issues (Mooring 2016) • Hospitals lack resources to adequately train new nurses (Grimm 2021) • Lack of professional advancement opportunities (Flinkman et al. 2010; Marufu et al. 2020) • Burnout, chronic fatigue, anxiety, mood issues (Goodare 2017)
Lack of funding	• Resource constraints (Duffield and O'Brien-Pallas 2003) • Economic downturns or recessions lead to layoffs and hiring freezes (Alameddine et al. 2012) • Decline in investment in nursing training (Finlayson et al. 2002; WHO 2020) • Years of underinvestment and funding cuts to nurses' pay and training bursaries (Adams et al. 2021) • Limited workforce planning policies (Adams et al. 2021)
COVID-19 Pandemic	• Amplification of job demands and increased hours worked while requiring nurses to adapt to changing guidelines and redeploy to new areas of new work has affected nurses' mental and physical health as well as their ability to deliver quality patient care (Grimm 2021; Lavoie-Tremblay et al. 2021) • While some services return to "normal", those still working under COVID conditions feel a loss of teamwork (Grimm 2021) • Increased staffing competition due to COVID-inspired turnover; also includes greater financial pressure as hospitals compete to recruit staff (Grimm 2021)

Findings from Jurisdictional Scan

Causes and conditions for nursing shortages and how and if they have changed over time

Key findings: Our synthesis of key findings from jurisdictional surveys revealed several cross-cutting challenges. High rates of intentions to leave within the nursing profession that predate COVID-19 have been exacerbated by the demands of the pandemic response. The demands associated with COVID-19, meeting increasing patient needs, and inadequate staffing levels, have led to excessive workloads and high levels of stress and burnout among nurses. These strains are compounded by the precarious working conditions faced by nurses who are increasingly experiencing verbal and physical abuse in the workplace. Early to mid-career nurses appear to be particularly hard-hit by these challenges.

A review of existing survey data was conducted. Eleven surveys were identified through the jurisdictional scan. While some of these surveys described the distribution of respondents across nursing roles, only one survey reported on disaggregated and comparative findings across these roles. Document analysis of the surveys was conducted to extract key methodological and contextual information, key survey findings, and resulting recommendations. Key survey findings and recommendations were then analysed thematically to identify cross-cutting challenges and promising practices (Table 11).

Table 11. Key findings from surveys of nursing perspectives included in jurisdictional scan ($n = 7$).

Source	Key survey findings	Survey recommendations
Registered Nurses' Association of Ontario (RNAO 2021d); Work and Wellbeing Survey Results **Jurisdiction:** Ontario **Data Collection:** January–February 2021 **Participation:** 2102 respondents, including 1910 registered nurses (91%), 93 nurse practitioners (4.4%), and 96 nursing students (4.6%)	• 95.7% of nurses surveyed indicated their work had been impacted by the pandemic • 60.3% of nurses rated the level of stress they experience in their job as a result of the pandemic as either high or extremely high • Most nurses (79.2%) reported substantial concerns about work related risks associated with the pandemic • Almost all nurses (97.4%) reported that the pandemic had affected their work–life balance • High levels of stress were most pronounced among early to mid-career nurses and nurses who worked full-time • Over one-third (37.4%) of nurses reported wanting to work fewer hours post-pandemic • 22.2% of nurses were eligible to retire, with 16.3% planning to retire within the next two years • 16.4% of nurses were likely or very likely to leave nursing post-pandemic • 1 in 5 nurses (26.2%) took time off to manage stress, anxiety, or other mental health issues due to the pandemic • Intentions to leave the profession were stronger amongst those with lower coping and adjustment scores, lower assessments of employer, and government support • Survey results indicate that younger nurses, staff nurses, student nurses, nurses working full-time, and nurses working over 40 hours per week displayed lower coping and adjustment scores • Nurse practitioners displayed higher coping and adjustment scores • Nurses who reported feeling supported by their employer and government were less likely to report intentions to leave the profession	• Increase support for early to mid-career nurses • Increase staffing levels • Bolster admissions to baccalaureate programs by 10% in each of the next 4 years • Increase NP supply • Implement succession planning for management, senior management, and faculty positions

(*continued*)

Table 11. (*continued*)

Source	Key survey findings	Survey recommendations
Saskatchewan Union of Nurses (2021), 2021 Member Survey—Base Report. **Jurisdiction:** Saskatchewan **Data Collection:** February–March 2021 **Participation:** 2240 members of the Saskatchewan Union of Nurses, including registered nurses, nurse practitioners, and registered psychiatric nurses	• As a result of the pandemic, 78.8% of nurses reported greater pressure on their work–life balance, 78.0% of nurses reported a greater sense of tension, and 67.2% reported a greater sense of anxiety and hopelessness • Only 23.5% of nurses rated existing workplace supports to manage their well-being during the pandemic as being adequate • 74.1% of nurses reported having experienced physical violence in the workplace, of which 60.2% had occurred within the past year • 90.7% of nurses reported having experienced verbal abuse in the workplace, of which 83.0% had occurred within the past year • 73.9% of nurses reported working some level of overtime in a typical week, with 30% of nurses working 5+ hours of overtime in a typical week • 45.7% of nurses reported having considered leaving nursing within the previous year • 66.9% of nurses reported having seriously considered applying for a different position within the previous year • The most important drivers shaping nurses' decisions to either leave or remain in their current position are staffing levels and workload, and work schedules or environment • Supportive and proactive unit management, and professional satisfaction and development opportunities also appear to contribute to retention • 20.4% of nurses reported being eligible to retire by the end of 2021, with declining numbers of eligible nurses reporting intentions to remain in practice • Nursing working conditions represent the key driver of intention to retire	N/A
Havaei et al. (2019). Effect of Nursing Care Delivery Models on Registered Nurse Outcomes **Jurisdiction:** British Columbia **Data Collection:** n/a **Participation:** 416 medical–surgical nurses who are members of the BCNU	• Skill mix moderated the relationships between patient acuity and heavy workloads, and emotional exhaustion. • RNs working in models of nursing care that included LPNs displayed lower levels of emotional exhaustion when caring for more acute patients, as compared to RNs working in models that did not include LPNs • Work environment factors, including staffing and resource adequacy and skill mix, were the strongest predictors of emotional exhaustion, all displaying negative relationships with levels of emotional exhaustion • Work environment factors, including staffing and resource adequacy, and participation in hospital factors, were also the strongest predictors of job satisfaction, all displaying positive relationships with levels of job satisfaction. • Mode of nursing care delivery was not found to be directly related to nurses' levels of emotional exhaustion or job satisfaction.	• Invest in workplace conditions to improve nurse outcomes including adequate staffing and resources and opportunities for nurse participation in organizational affairs • Investigate adherence to LPN scope of practice within modes of nursing care delivery
Havaei et al. (2020). A provincial study of nurses' COVID-19 experiences and psychological health and safety in British Columbia, Canada: Final report **Jurisdiction:** British Columbia **Data Collection:** October–December 2019 June–July 2020 **Participation:** 3676 active nurses who are members of the BCNU	• 80% of respondents reported being somewhat to extremely concerned about contracting COVID-19 at work • 86% of respondents reported being somewhat to extremely concerned about bringing COVID-19 home • 52% of respondents reported inadequate staffing • 49% of respondents disagreed that PPE is high quality • 42% of respondents disagreed that there was sufficient PPE access to perform work safely • 41% of respondents rated transparency on organizational pandemic decisions as poor or failing • The prevalence rate for lifetime suicidal thoughts, plans and attempts, and for suicidal thoughts within the past year was 2 to 3 times the national average • During the pandemic, nurses reported higher levels of poor mental health, general negative treatment in the workplace, and lower quality of nursing care than before the pandemic • During the pandemic, a number of indicators improved, including a decrease in the number of nurses displaying high depersonalization scores, rating patient safety as poor, and who would not recommend their workplace to a friend or colleague. The prevalence of exposure to workplace violence also decreased	N/A

(*continued*)

Table 11. (*continued*)

Source	Key survey findings	Survey recommendations
Havaei et al. (2021b). The impact of the COVID-19 pandemic on mental health of nurses in British Columbia, Canada using trends analysis across three time points **Jurisdiction:** British Columbia **Data Collection:** September–December 2019, April–May 2020, and June–July 2020 **Participation:** 10117 nurse respondents who are members of the BCNU (5034 at time 1, 1234 at time 2, and 3849 at time 3)	• The prevalence of anxiety and depression symptoms amongst nurses significantly increased between the prepandemic period and early pandemic period (April–May 2020), from 30.8% to 44.7% and 20.3 to 30.9%, respectively • The prevalence of anxiety and depression symptoms amongst nurses remained stable between April–May 2020 and June–July 2020. • Nurses working in long-term care displayed a much greater increase in the prevalence of anxiety symptoms between the pre-pandemic period and early pandemic period (April–May 2020), from 29.6% to 61.2%, with these levels lowering to 36.8% between April and May 2020 and June and July 2020, while still remaining above prepandemic levels	Conduct a comparative evaluation of the impact of COVID-19 on the mental health of health workers across contexts
Havaei et al. (2021b). Nurses' Workplace Conditions Impacting Their Mental Health during COVID-19: A Cross-Sectional Survey Study **Jurisdiction:** British Columbia **Data Collection:** June-July 2020 **Participation:** 3676 active nurses, including 2735 registered nurses (74.4%), 200 Registered Psychiatric Nurses (5.4%), 15 dually registered RN/RPNs (0.4%), and 714 licensed practical nurses (19.4%)	• 47% of nurses met the diagnostic cut-off of potential post-traumatic stress disorder • 38% of nurses met criteria for anxiety • 41% of nurses met criteria for major depression • 60% of nurses met criteria for high emotional exhaustion • Perceptions of workplace conditions during COVID-19, including workplace relations, organizational support, organizational preparedness, workplace safety, and access to supplies and resources were negatively associated with adverse mental health outcomes • See Havaei et al. (2020) for additional descriptive results	Implement better workplace policies and practices to address nurses' suboptimal working conditions, and improve their mental health
Registered Nurses' Union Newfoundland and Labrador (2021b). Registered Nurses' Union Calls on Parties to Address Growing Shortage of Registered Nurses. **Jurisdiction:** Newfoundland and Labrador **Data Collection:** Fall 2021 **Participation:** The Registered Nurses' Union of Newfoundland and Labrador's membership includes registered nurses and nurse practitioners (sample size not reported)	• More than half of nurses reported their workplace being understaffed • Increased workload, short-staffing, and excessive overtime are impacting the mental health of nurses, leading to burnout and exhaustion • These strains are exacerbated by increased patient complexity and incidence of workplace violence	• Recruit and retain RNs and NPs • Establish appropriate facility staffing and nursing workloads

(*continued*)

Table 11. (*continued*)

Source	Key survey findings	Survey recommendations
McGillis Hall and Visekruna (2020). Outlook on Nursing – A snapshot from Canadian nurses on work environments pre-COVID-19. Canadian Federation of Nurses Unions. **Jurisdiction:** Canada **Data Collection:** October 2019–March 2020 **Participation:** 7153 respondents, including 5994 registered nurses (83.8%), 916 licensed practical nurses (12.8%), 107 nurse practitioners (1.5%), and 136 registered psychiatric nurses (1.9%)	• 27.3% of nurses rated the quality of the work environment as poor, with an additional 38.9% rating it as fair • 67.2% of nurses reported experiencing verbal abuse from patients and (or) families at least a few times a month, with 21.2% experiencing verbal abuse daily • 39.3% of nurses reported experiencing physical abuse from patients and (or) families at least a few times a month • 35.1% of nurses reported experiencing work-related injuries at least a few times a month • Nurses provided favourable ratings for the following dimensions of their work environments: nurse–physician relations and nursing foundations of quality care • Nurses provided unfavourable ratings for the following dimensions of their work environments: staffing and resource adequacy, nurse participation in hospital affairs, and nurse manager ability, leadership, and support for nurses • Just over half (52.4%) of nurses reported dissatisfaction with their current work • 59.7% of nurses reported intentions to leave their roles within the next year as a result of job dissatisfaction, of which 27.1% intended to fully exit the nursing profession • Nurses were least satisfied with their education leave, educational opportunities, and opportunities for advancement • Nurses were most satisfied with their level of independence at work and their professional status • Nurses displayed high degrees of burnout across all its constituent dimensions, with 65.3% displaying high levels of emotional exhaustion, 50.2% displaying high levels of depersonalization, and 42.5% displaying high levels of decreased personal achievement	• Establish a permanent national nursing bureau/office and appoint a nurse leader to advise the federal government, liaise with the provinces and territories, and plan for Canada's nursing workforce needs • Conduct annual standardized assessments of the quality and safety of nursing work environments to develop strategies to support the physical, mental, and social health of nurses; mitigate the impact of COVID-19 on the nursing workforce; and invest in equipping nurses to meet the emerging needs of Canadians through ongoing educational development
Australian Nursing and Midwifery Federation (2021). The ANMSF (SA Branch) Nurses and Midwives Fatigue Survey 2021 – Interim Report. **Jurisdiction:** Australia **Data Collection:** May–June 2021 **Participation:** 2843 nurses and midwives	• Nurses and midwives reported higher levels of fatigue and burnout that in previous years • Respondents were experiencing decreases in staff resourcing and support, which led to levels of burnout and fatigue that presented risks to the safety • Over two-thirds (68.2%) of respondents worked unpaid overtime • 1 in 4 respondents reported working double shifts • Approximately half of respondents (49.7%) reported having schedules that did not allow for sufficient time away from work, and 44.6% reported being called in on their days off. • Just under two-thirds of respondents frequently encountered challenging behaviours at work, combined with increasing workloads • Workplace demands and fatigue amongst respondents were becoming more pronounced, particularly among those who 1) had worked double shifts, 2) were under 30 years old, 3) occupied a patient or client facing role, 4) perceived a change in the quality of care, and 5) were planning to exit their role • Over half of respondents (56.1%) intended to leave their role within the next 5 years • Younger nurses and midwives were exiting the workforce due to the heavy demands and pressures of their work environment	• Ensure enforcement of occupational health and safety standards

(*continued*)

Table 11. (*concluded*)

Source	Key survey findings	Survey recommendations
Fish et al. (2020) Nursing and Midwifery Workforce Climate Survey 2019: Full Report. Rosemary Bryant AO Research Centre. **Jurisdiction:** Australia **Data Collection:** August-September 2019 **Participation:** 1559 respondents, including 1053 registered nurses (68.6%), 312 enrolled nurses (20.3%), and 169 registered midwives (11%)	• Nurses and midwives displayed worsening of status across facets of occupational burnout, including personal accomplishment, depersonalization, and emotional exhaustion • Respondents reported high levels of emotional exhaustion, particularly among young nurses and nurses who had worked double shifts • Depersonalization was also worsening, particularly among those who 1) had worked double shifts, 2) were under 30 years, 3) had 1-10 years' professional experience, and 4) who reported intentions to exit their roles within 12 months • Just under half (49.1%) of respondents intended to leave their roles within the next 5 years, with 16% indicating that they intended to leave their profession altogether • Drivers of workforce exits included low staffing levels, challenging working conditions, high workloads and non-clinical duties, poor well-being and safety among staff, and unsupportive management and leadership	• Review and adjust nursing staffing levels and workload • Provide education, training, and professional development opportunities • Develop better relationships between managers/leaders and nurses • Facilitate nurse participation in hospital affairs and governance • Introduce mentorship and peer support programs
International Council of Nurses (2021). International Council of Nurses Policy Brief – The Global Nursing Shortage and Nurse Retention. **Jurisdiction:** Global **Data Collection:** December 2020 **Participation:** National Nursing Associations	• 20% of associations reported an increase in nurses leaving the profession, and increased rates of intention to leave as a result of the pandemic • In UK, in addition to 40,000 existing nursing vacancies, 36% of the current workforce considered leaving in 2021 • Drivers of workforce strain and exits included: heavy workloads and insufficient resourcing, burnout and stress related to the pandemic response, the emergence of increasing needs without commensurate workforce increases, redeployments, and longer/additional shifts	• Invest in long-term strategies to increase number of nurses through domestic training • Prioritize retention of the active workforce • Implement policies to improve wages, working conditions and career prospects • Protect safety and wellbeing of nurses • Provide adequate psychosocial support

Survey findings suggests that health systems should prioritize (1) long-term recruitment of new nurses through domestic education programs and (2) retention of the active workforce. These surveys suggest that retention of the existing workforce can be promoted through investment in:

- Establishing **safe staffing levels**,
- Developing policies and programs designed to protect the physical and psychological safety of nurses,
- Adopting supportive management and leadership practices, including engagement of nurses in policy and decision-making,
- Offering desirable and competitive working contracts,
- Providing education, and professional development opportunities, and
- Coordinating mentorship and peer support programs.

Findings from key informant interviews

Causes and conditions for nursing shortages: Structural valuing of nursing skills and expertise

According to key informants, "valuing" nursing perspectives and expertise means ensuring nurses are represented at planning and decision-making tables (both at a clinical and policy-level). Nurses are highly educated professionals and enabling them to actively pursue continuing education and professional development opportunities also signals value. Acknowledging and supporting nurses as leaders within the healthcare system was seen as vital to a sustainable system and quality care.

Prior to the pandemic, research found many nurses experienced moral, professional, and ethical injury due to their occupational responsibilities (e.g., the conflict between the care they have the ability to provide in their current work environments and what they deem best practice). According to one key informant**: "The same issues have been issues for 30 years; however, when there is a surge, these issues become a crisis"**. These factors can create a lack of agency for nurses and thus an inability for them to demonstrate their value. This was commonly described as a reason why nurses consider leaving patient-facing roles or the profession altogether. Several of the leaders reflected that the historical social positioning of nursing, it being a female gender-dominant profession and the systemic issues of equity, diversity, and inclusion inherent in that, may play a role in the culture of nursing (e.g., **"[Healthcare burnout] disproportionally affects women because nurses are mostly women"**). It likely also impacts their representation both within respective organizations and among the public thus impacting the value of nursing across the system.

Currently, according to many of the key informants, there are few professional development opportunities and if there are, nurses are unable to take advantage of them due to work schedules and no allotment of time for continued education (e.g., **"Excessive overtime; even pre-pandemic, asking nurses to work 12–14 hr days with no breaks and overtime on their days off"**). This is not exclusive to clinical professional development but extends to leadership development opportunities as well as opportunities to innovate and contribute through academic and research work. This also impacts on the time that allows experienced clinical nurses to develop their own skills to provide mentorship to early career nurses.

The perception (both at an organizational and public level) must be that the role of the nurse is more than a commodity to fill a shift or move around floors and units, but rather a deliberate acknowledgement of their knowledge, skills, and expertise. Ensuring nurses are adequately compensated for knowledge, skills and accountability, and that nursing in particular service areas (e.g., rural or remote areas, where it is harder to attract and retain nurses) is incentivized. Strengthening supports offered for nurses' mental health and resilience were also mentioned as a means of supporting the workforce and demonstrating value for nurses' work. Reducing the stigma toward mental health and barriers inhibiting treatment seeking/resource access is essential to support the mental health and well-being of nurses.

Findings from Case Study (Nova Scotia and Saskatchewan)

Migration of nurses outside of health organization (Nova Scotia and Saskatchewan)

> ***Key findings:*** Most interview respondents had observed out-migration of their nursing colleagues; however, this did seem to be dependent on region, role/specialty and (or) where the nurse was in their personal life (e.g., raising a family, near retirement-age, etc.). Out-migrations were noted by nurses working in long-term care, ER, ICU, acute, and critical care.

Respondents specifically mentioned the following issues that have impacted the migration of the nursing workforce.

- Mental and emotional well-being:
  - increase in anxiety and stress,
  - increase in workload and strain;
- Safety concerns:
  - short staffed and few resources;
- Lack of work-life balance:
  - scheduling issues, lack of flexibility;
- Other opportunities:
  - promotions, return to school, retirements;
- Expansion in public health positions:
  - less physically demanding;
- Lack of manager support:
  - lack of trust and recognition;
- Cancelled vacations or having to "give back five days";
- An abundance of new nurses who were not prepared for their roles (e.g., in complex care situations);
- Senior nurses making lateral moves into specialties with 9–5 schedules;
- Higher turnover in younger nurses and/or not sticking with a particular specialty leading to knowledge gaps later;
- High workloads resulting in a lack of time for senior nurses to mentor new nurses;
- Senior nurses retiring early;
- Burnout leading to self-focus and lack of teamwork;
- Some nurses do not want to get vaccinated or to work with COVID patients which may cause some to retire early;
- The nursing culture needs to shift its focus from recruitment to retention and quality of life for nurses; and
- A lack of regular feedback on performance is resulting in a culture of apathy with nurses not even keeping up standards of practice.

Movement of nurses within the health organization (Nova Scotia and Saskatchewan)

Key finding: Internal movement of the nursing workforce mentioned by respondents included reassignments to units with shortages or high demand (e.g., COVID units), voluntary movement away from more demanding specialties (e.g., OR or LTC) to other areas with better working conditions, and movement to casual roles so nurses would be guaranteed to

Table 12. Contributing factors to nurses leaving their positions or organizations in Nova Scotia.

Exit Interviews from Nova Scotia Health (2021) and IWK Health Centre (2021)
• Mental and emotional well-being - increase in anxiety and stress - increase workload and strain • Safety concerns - short staffed and few resources • Lack of work-life balance - scheduling issues, lack of flexibility • Other opportunities - promotions, return to school, retirements • Expansion in public health positions - less physically demanding • Lack of manager support - lack of trust and recognition

have time off and more control over their hours. This internal movement was not always supported by management.

Respondents specifically mentioned the following detailed dynamics connected to internal movement:

- Certain specialties or units are undesirable and avoided due to high workload,
- Senior nurses facing transfer to COVID units during the pandemic opted to retire early instead,
- There has been an unusually high amount of disability leaves during the pandemic,
- Nurses who were floated to other units outside of their specialty were not given proper orientation and instead opted to call in sick from of fear of losing their licenses,
- The reasoning behind reassignments were not communicated to nurses leading to speculation,
- Some supports were promised during the first wave (e.g., nurse advocates) but were never delivered, and
- Where clinical trainers were present on units, movement was less.

Contributing factors to nurses leaving their positions or organizations (Nova Scotia)

Nurses' responses to exit interviews from Nova Scotia were analysed using a descriptive approach to highlight key factors affecting nurse wellness and retention. Several factors are noted in **Table 12**.

Objective 2: Identify policies and strategies that have been implemented or recommended to address nursing shortages and exoduses in Canada

Findings from Directed Literature Review

Policy recommendations and strategies to address nursing shortages

Key findings: A wide variety of interventions were recommended in the literature to address nursing shortages and causes. Commonly, interventions within the literature were aimed at

improving support for new nurses, either through internship/residency programmes or orientation/transition to practice programmes that last between 27 and 52 weeks, with a teaching and mentorship component.

Studies suggest better intersectoral cooperation among governments healthcare institutions and nurses to create consistent policies and regulations across the country, which may reduce nurses moving between jurisdictions for better pay or incentives.

Systematic reviews recommend that the design of a family friendly, supportive learning environment that values and nurtures its nursing staff is critical to improve nurse retention and improved patient outcomes.

Based on a network meta-analysis, work environment and organizational commitment were recommended to reduce voluntary turnover.

Policy recommendations made by authors of the scholarly and grey literature were organized into five key domains for policy interventions to improve nursing shortages (International Council of Nurses 2006; Oulton 2006), including:

1. Funding policies;
2. Workforce policy and planning, including regulation;
3. Work environments;
4. Retention and recruitment;
5. Leadership; and
6. Education and Training

During analysis, an additional category was developed to increase sensitivity of categorization (i.e., to be more specific with organizing recommendations). Education and training was added for recommendations that addressed the education of trainee nurses, the transition of new nurses from training to practice, and educational initiative intended for skill development. See **Table 13** for a summary of recommendations from articles.

Funding policies

Seven articles were found that included macroeconomic (provides a stable economic environment to foster sustainable economic growth) and health sector funding policy recommendations. Most focused on increasing nursing remuneration to better reflect the workload, accountability, and responsibility of nurses. Other articles included recommendations that targeted increased funding for nurse education and support for nurses transitioning from education to practice. Park and Yu (2019) recommended better cooperation between governments and healthcare institutions such that policies are consistent across the country, and this may reduce nurses moving between jurisdictions for better pay or incentives.

Workforce policy and planning, including regulation

Workforce policy and planning was the most cited policy category. This category focused on improving the staffing and scheduling of nurses through various approaches which ranged from fixed staffing ratios (Borneo et al. 2017) to adopting a self-scheduling strategy such as those found in Magnet hospitals that are designed to empower nurses to take the lead on patient care and be an institutional driver for change (Chan et al. 2013). Policies that promote standardization of

Table 13. Select policy categories and recommendations.

Policy category	Examples
Funding	• Better remuneration (to accurately reflect workload, accountability and responsibility (Chan et al. 2013; Littlejohn et al. 2012; Park and Yu 2019; Bimpong et al. 2020; Jacobs 2021) • Increase funding for nurse education, transition, and additional funding for employing and supporting nurses (Australian College of Nursing 2021; Lavoie-Tremblay et al. 2021) • Cooperation between governments and institutions (Park and Yu 2019) • New pay agreement implemented at national level • New pay rewards
Workforce policy and planning, including regulation	• Modernize professional nursing regulation (e.g., harmonize nursing education and credentialing standards, interoperable systems for regulators) (WHO 2020) • Create a unified workforce across occupation and disciplines to identify the skills and roles needed to meet identify services (Park and Yu 2019; Littlejohn et al. 2012) • Staffing levels should not be considered as a fixed ratio, rather a systematic approach which triangulates a planning tool, guidance for different settings, and the professional judgement of nurses (Bimpong et al. 2020; Borneo et al. 2017) • Self-scheduling strategy (Magnet hospitals – USA and Taiwan) as a means of reducing staff turnover and supporting retention(Chan et al. 2013) • Mandated nursing staff ratios, including one nurse to three patients (1:3) in emergency departments and 1:4 on other wards (NSW Nurses and Mid Wives Association n.d.) • Increasing funding for new nurse transition to practice (Australian College of Nursing 2021) • Avoid layoffs as a strategy to balance budgets (Alameddine et al. 2012) • Policies promoting nurse control and autonomy (Meadows et al. 2000) • Leaders and policy makers need to develop and apply a better understanding of nursing labour market dynamics to inform their decision making during economic downturns to protect the long-term interests of the healthcare system (Alameddine et al. 2012) • Nurse managers should regularly monitor leaving intention in their organizations, for example with survey questionnaires or as a part of developmental discussions (Xu et al. 2021) • Human resources managers can identify reasons for turnover intention, thus allowing the development of context-specific interventions to prevent actual turnover • Exit interviews should be performed to help managers understand the causes of nurse turnover • Good data collection to monitor the policies, and tailoring policies to the local context (Park and Yu 2019)
Work environments	• Improving job satisfaction through various measures (Han et al. 2018; Hutchinson et al. 2012; Xu et al. 2021) • Valuing and empowering staff: appreciating and rewarding individuals to eliminate feeling taken for granted (Bimpong et al. 2020; Moseley et al. 2008) • Flexible working and a family friendly, supportive, and safe working environment (Meadows et al. 2000; Nevidjon and Erickson 2001) • Ensuring staff are ethically supported and able to take control of the care they provide (Schluter et al. 2008) • Flexibility and family friendly policies, social hours, and professional autonomy helped retention of higher qualified nurses (Chenoweth et al. 2010) • Change the name of the occupation to emphasize the professional and technical nature of the work (Conaway 2001) • Create stable work groups for nurses newer to the organization can allow for faster transition to practice (Nei et al. 2015) • Managers and peers willing to advocate for each other in ethically difficult situations (Schluter et al. 2008)

(*continued*)

Table 13. (*concluded*)

Policy category	Examples
Retention and recruitment	• Adapt existing evidence-based transition programs to account for the context within the healthcare organizations and meet the needs of new graduates (McDonald and Ward-Smith 2012) • Use the EB-BMP framework (evidence-Based Best practice Medicine Framework) for clinical placement resources (Chenoweth et al. 2010) • Preceptor program models focused on New Graduate Nurses that are 3-6 months long (Salt et al. 2008) • Retention should start at the admissions process and extend throughout the curriculum (Mooring 2016) • Recruitment of more qualified applicants: entrance exams; increased GPA and minimum math and science scores (Mooring 2016)
Leadership	• Hire leaders who possess relational skills or provide training to existing leaders (Cowden et al. 2011; Australian Government 2014; Cummings, Lee et al. 2021) • Healthcare organizations need to ensure they are led by individuals and teams who display relational skills, concern for their employees as persons, and who can work collaboratively (Cummings, MacGregor, et al. 2010; Cummings, Tate, et al. 2018) • Transformational leadership; motivate, mentor, encourage, and promote your staff's wellbeing (Rolle Sands et al. 2020) • Emphasis on the mission and values from the nursing (Grimm 2021)
Education and training	• Education, training, and development: Equal access to high quality training and development at all levels (Meadows et al. 2000; McDonald and Ward-Smith 2012). • Preceptor program models focused on New Graduate Nurses that are 3–6 months long (Salt et al. 2008) Key features of successful transition/orientation programs include (McDonald and Ward-Smith 2012): • Evaluation of baseline knowledge and program outcomes • Slow introduction to high-acuity patients and high-stress situations, • Gradual build up to full caseload • Positive direct support from an experienced nurse mentor and colleagues • Opportunities to clarify and expand knowledge Educational infrastructure to produce enough quality nurses, make nurses more effective (e.g., through residency programs), and have good working conditions (Park and Yu 2019)

nursing regulations and education across settings and jurisdictions, increase nursing autonomy, and improve the transition from trainee to practicing nurse were also suggested. This category also focused on policies that involved collecting and analyzing data to better understand why nurses are leaving the profession. It highlights the role of nurse managers as monitors of nurses' intentions to leave and monitor how changes in the workplace may influence these intentions (Duffield and O'Brien-Pallas 2003). Monitoring may be done through regular surveys, questionnaires or exit interviews.

Work environments

Work environments category mostly included recommendations to improve job satisfaction of nurses in the workforce by better valuing nurses and their roles (Bimpong et al. 2020), empower them in decision-making (Flinkman et al. 2010), and generally make the workplace more friendly (less competitive) and supportive (Moseley et al. 2008).

Retention and recruitment

Retention and recruitment recommendations were focused on retaining new nurses through the use of evidence-based transition programs or preceptor programs (Salt et al. 2008) for trainee nurses when being placed in a practicing nurse role. These approaches should account for the specific role and context they are transitioning to (McDonald and Ward-Smith 2012). Additional recommendations include implementing retention strategies during admissions process, continuing them throughout the training, and increasing the requisite qualifications of nurses entering training (Mooring 2016).

Leadership

The category of leadership focused on educating leaders in emotional intelligence to ensure leaders have the relational skills to be supportive, encouraging, and focused on well-being of nurses (Cowden et al. 2011). Leadership capacity building and sustainability to advance leadership practices that result in healthy outcomes for patients/clients, organizations, and systems; the system resources that support effective leadership practices; the necessary organizational culture, values and resources that support effective leadership practices; and the policy changes at both the organizational and system levels needed to support and sustain leadership practices (RNAO 2013).

Healthcare organizations are suggested to hire leaders that emphasize the mission and values of the nursing role (Grimm 2021).

Education and training

Education and training emphasized equitable access to high quality education and development throughout nursing careers and at all nursing levels (Meadows et al. 2000; McDonald and Ward-Smith 2012). Education during the transition from trainee to practicing nurses was highlighted, including 3–6 month long preceptor programs (Salt et al. 2008) with features such as slow transition to high severity patients, positive feedback and support, opportunities to expand knowledge, and an evaluative approach to monitor progress (McDonald and Ward-Smith 2012). There is a great need to have educational infrastructure to produce enough quality nurses, make nurses more effective (e.g., through residency programs), and have good working conditions (Park and Yu 2019).

Implemented health system strategies to address nurse shortages

> ***Key findings:*** Current evidence shows that policy effectiveness varies greatly, highlighting the need for more evidence. Results indicate that policy assessments should focus on the effectiveness of qualitative as well as quantitative aspects of the nursing workforce. Studies suggest it is necessary to selectively invest in rural areas where shortage of nurses is most prevalent.

Here we present examples of government-led initiatives to address nursing shortages found in the literature of select countries. This is not a comprehensive set of implemented initiatives. Four initiatives addressing recruitment and retention found that promoting supportive work environments as well as financial incentives were effective in increasing recruitment. Three initiatives that focused on education found that mentorship programs were effective in supporting nurses who are entering the workforce. One initiative that focused on workforce planning in the United Kingdom demonstrated that a minimum overall nurse-to-patient ratio of 1:2 for HDU patients and 1:1 for ICU on all shifts helped reduce workloads. Appendices C-F (available from rsc-src.ca/sites/default/files/Nursing%20PB_EN_0.pdf) describes these initiatives in more detail.

Strategies pending implementation

> ***Key findings:*** Despite being highly recommended, macroeconomic and health sector funding policies as well as leadership policies were not found amongst literature of implemented strategies to address nurse shortages.

Recommendations from the findings propose that macroeconomic and health sector funding and leadership policies could increase supply to the workplace and improve retention in the workplace, respectively.

Findings from Jurisdictional Scan

Policy recommendations and strategies to address nursing shortages

> ***Key findings:*** Nursing organizations in Canada have made several recommendations since 2000 to address nursing shortages. Creating policies in the workplace have been most commonly recommended and include limiting overtime, reducing workload, and creating mentorship programs. Recommendations also tended to include strategies to educate/recruit/retain nurses and to create positive practice environments.

The jurisdictional scan identified 46 key documents that were produced by national, provincial, and territorial nursing organizations across Canada to address nursing shortages (between 1 January 2000 and August 2021). There was a noted increase in key documents produced in the 2005–2009 period and the 2020–present period. These increases coincide with times of nursing shortages in Canada. There were 18 key documents in the current time period, the highest of any investigated. Ontario put forth the largest number of key documents ($n = 14$), followed by Canadian organizations ($n = 9$), British Columbia ($n = 5$), and Quebec ($n = 4$).

Policies to target the workplace were the most recommended overall ($n = 28$), most commonly in the 2000–2009 and 2020–present time. Policies to target recruitment and retention were the next most frequently recommended in 22 key documents; policies to target education and training were recommended in 19 key documents, and policies to target positive practice environments were recommended in 18 key documents. Policies related to nurse leadership were less frequently recommended ($n = 8$).

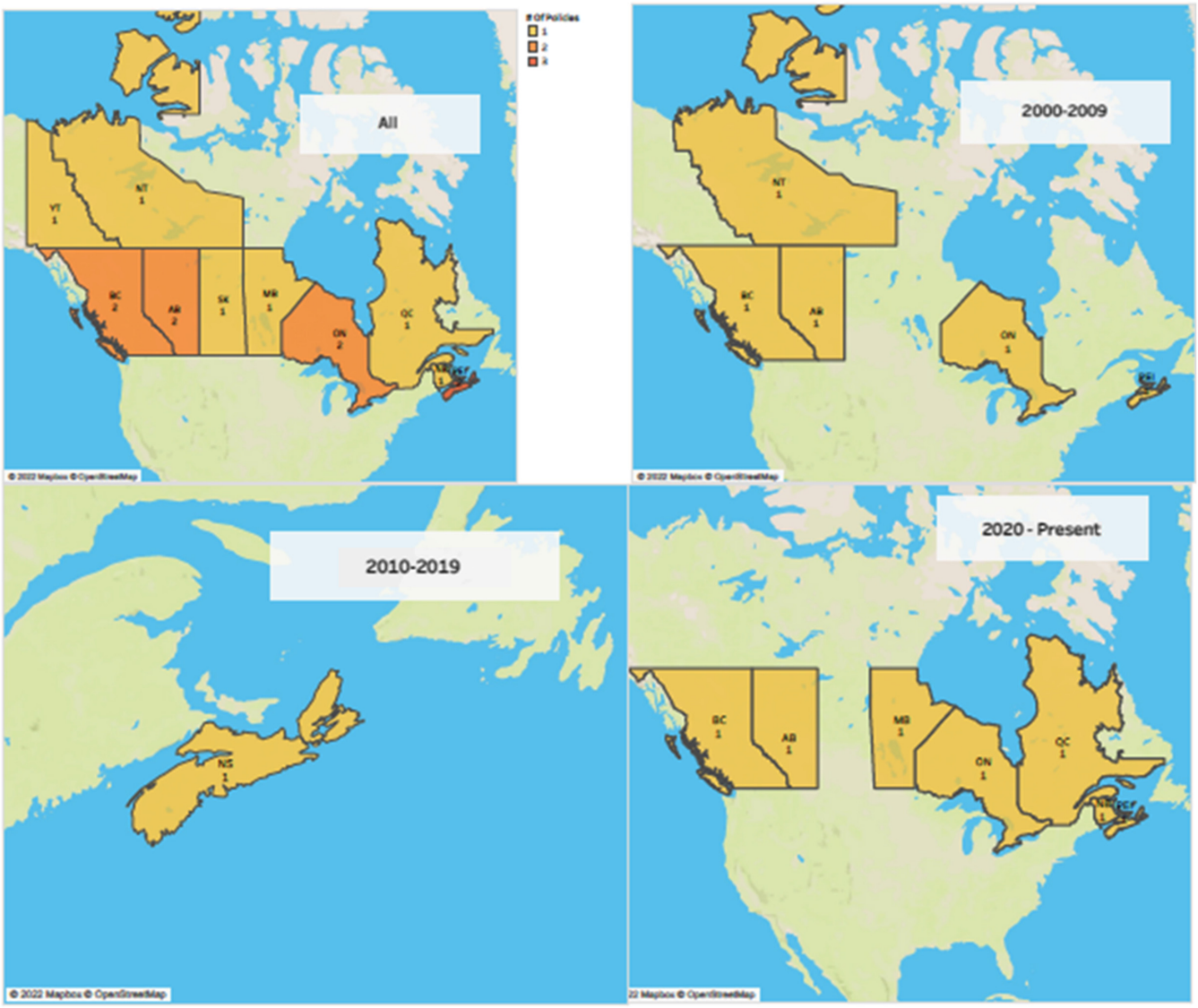

Fig. 6. Distribution of actions over time periods in Canada. Source: openstreetmap.org/. Yellow = 1 policy; orange = 2 policies; red = 3+ policies.

Figure 6 illustrates the distribution of actions over time periods in Canada. If a government had at least one policy in the time frame of interest, they are marked as having policies to address nursing shortages in that period.

Trends over time

Workforce policy and planning

In all time periods, there has been

- A call to reduce workload, reduce overtime, and ensure nurses are given the holidays they have earned.

- An emphasis on making internships or mentorships available to new nursing graduates to support their learning and ease their transition to practice.

In the 2005–2009 period

- Much of the discussion centered around improving efficiencies (e.g., reducing absenteeism; allowing nurses to focus on nursing tasks and reduce time on non-nursing duties; offering full time employment to all nurses who wanted full time employment; discouraging casual employment).

More recently

- There has been an interest in creating databases to facilitate evidence policy and planning of human resources.
- There has also been an interest in offering childcare.

Work environments

In all time periods, recommendations have focused on

- Supporting health and wellness,
- Addressing workplace violence and harassment, and
- Creating safety policies.

Between 2000–2009:

- There were calls to deliver care in team-based environments (e.g., collaborative care models).
- There were also calls related to increasing the scope of practice for certain nurse specialties (e.g., nurse practitioners).

Recruitment and retention

In all time periods

- The two most common recruitment and retention strategies relate to the recruitment of internationally educated nurses and the provision of incentives.
- With regards to international nurses, there was a focus on the ethical recruitment of international nurses. There were also suggestions to build capacity within Canada instead of relying on international nurses.
- Incentives typically involve financial rewards for nurses who work in hard to staff places and units, and communities (e.g., relocation bonuses, tuition re-imbursement for recent graduates, extra pay).
- Removing barriers to practice (e.g., accelerating the process of credentialing, processing work permits and placements for nurses trained in Canada and internationally educated nurses).

Leadership

In all time periods

- The recommendations around leadership have tended to be non-specific.

- Training and senior mentorship support related to quality and safety, risk assessment, and informatics.
- There have been suggestions that clear succession plans need to be in place to allow the next generation of nurse leaders to develop.

More recently:

- There have been calls to establish a Chief Nursing Officer in Canada.
- There have also been calls to create federal agencies that can support nurses (e.g., health workforce agency).

Education and training

In all time periods

- Nurse organizations have recommended that enrollments increase in baccalaureate programs and specialty programs. Long term care has been specifically targeted as an area where nurses need to be trained.
- Enrollments also should look at:
- Increasing graduate degrees for nurses,
- Increasing the number of nurse practitioners trained, and
- Supporting the continued education for nurses.
- There has also been an interest in building capacity in certain communities (e.g., Canada's north).

Implemented approaches to address nursing shortages in Canada

Workforce policies and planning

- Developing mentorship programs for nurses
- Alberta has mandated no overtime and the cancellation of holiday during periods of crisis

Recruitment and retention

- Providing financial incentives for nurses to relocate to hard-to-staff areas
- Increasing the number of full-time positions at hospitals
- Recruitment programs for international nurses

Education

- Creating more nursing programs
- Increasing the number of seats in nursing programs
- Improving educational opportunities for nurses in specific specialties (e.g., long term care)
- Developing bridging courses for nurses who want to work towards advancing their education/training

Findings from Key Informant interviews

Findings from key informants indicate that factors affecting nursing shortages, turnover, and internal movement within organizations have multiple and intersecting issues that have contributed to overall burnout and eventual migration of the nursing workforce at large.

Recommendations to address nursing shortages: Pan-Canadian Leadership and Data Collection

Key findings: According to key informants, a pan-Canadian nursing strategy and leadership as well as current and relevant data can support a better understanding of the challenges currently facing the nursing workforce and ways in which nursing can continue to be valued as a key member of the healthcare system.

Re-establishing a federal nursing office (with a chief nurse executive role) was mentioned as an approach to influence a national strategy on nursing workforce planning, workforce development, and related actions; this was acknowledged as an approach used in other jurisdictions.

Per the key informants, many organizations and planners relying on CIHI data to understand the workforce in their jurisdiction may have difficulty applying it because this data is often skewed to full-time equivalents, and not actual nurses needed to fill roles, leading to poor planning resulting in chronic shortages across the board. Due to this lack of data or inadequacy of existing data forms, the staffing ratios, qualifications, and skills required to meet the needs of patients and their families are difficult to project, and planning errors directly impact patient care and provider outcomes.

Findings from Case Study: Interviews with Nurses in Nova Scotia and Saskatchewan

Policy recommendations and strategies to address the nurse exodus in Canada

Key findings: Recommendations regarding strategies to help stem migration varied widely amongst respondents. Most respondents pointed to improving nurse–patient ratios, skill mix, and workloads. Additional recommendations mentioned were: reinstating a Chief Nursing Officer (CNO) for Canada and CNOs across the country for consistent with regional consistency in leadership; improved mentorships for new nurses; involving nurses directly in planning and strategy; improving skill sets for nurse leaders and managers; and increasing collaboration within the profession at all levels.

Notable responses include:

- Many respondents urged a pan-Canadian implementation of the Best Practice Organization[@] (BPSO[@]) Program.
- Repeal Ontario's wage suppression legislation (bill 124) as a damaging pre-pandemic government policy affecting retention of nurses during the pandemic.
- Focus on BIPOC within nursing and nursing leadership.

Findings from Case Study: Exit Interviews in Nova Scotia

Policy recommendation and strategies to address the nurse exodus in Canada

The experiences described by nurses during exit interviews in Nova Scotia point to several promising practices that could serve to promote nurse wellbeing and retention, including:

- ***Engaging patients and staff in point-of-care roles in policy and decision-making*** to ensure the prioritization of person-centered care in health system administration
- Deploying ***supportive managers*** who are present within units, attentive and responsive to nurses' needs and concerns, and capable of encouraging their staff to attain their best performance. This speaks to the need for clinical leader roles that are permanent and are familiar about the practice and patients and the needs of the community.
- Fostering ***positive work environments*** characterized by strong leadership and inter/intra-professional communication and collaboration
- Ensuring that nurses' contribution to care delivery is ***respected and recognized*** by their colleagues, their organizations, and system administrators
- ***Increasing staffing levels*** to moderate workloads and enable nurses to provide care that meets their personal and professional care standards
- Acknowledging and addressing nurses' ***increasingly complex working conditions,*** characterized by high patient acuity, the demands of pandemic response, and incidents of workplace violence
- Supporting nurses' ***work/life balance and wellness*** by allocating appropriate workloads, limiting overtime, ensuring access to adequate time off, and offering flexible work hours and schedules
- Offering desirable ***work contracts***, including job security, competitive remuneration and benefits, and flexible work arrangements
- Investing in the ***mentorship and orientation*** of new staff to confer the knowledge and experience required to successfully execute their position
- Providing nurses with opportunities for ***training, professional development, and career advancement***
- Enabling nurses to benefit from the ***job rewards and satisfaction*** associated with providing high quality care to their community

Objective 3: Examine the effectiveness of policies and strategies to address nursing shortages and exoduses in Canada, including the experiences of nurses with policies and strategies, shortages, and the exodus from the profession.

Findings from Directed Literature Review

Effectiveness of Implemented health system strategies to address nurse shortages

> ***Key findings:*** Current evidence shows that policy effectiveness varies greatly, highlighting the need for more evidence. Results indicate that policy assessments should focus on the effectiveness of qualitative as well as quantitative aspects of the nursing workforce. Studies suggest it is necessary to selectively invest in rural areas where shortage of nurses is most prevalent.

As described previously, four initiatives address recruitment and retention and found that promoting supportive work environments, as well as financial incentives were effective in increasing recruitment. Three initiatives that focused on education found that mentorship programs were effective in

supporting nurses who are entering the workforce. One initiative focused on provided a supportive work environment by using the "magnet model" of workforce design which resulted in increased self-efficacy, and organizational commitment. One initiative that focused on workforce planning in the United Kingdom demonstrated that a minimum overall nurse-to-patient ratio of 1:2 for HDU patients and 1:1 for ICU on all shifts helped reduce workloads. **Supplementaary Material 2** describes these initiatives in more detail.

Findings from Case Study: Interviews with Nurses in Nova Scotia and Saskatchewan

The impact of policies and strategies on migration and movement

> ***Key findings:*** Policies regarding wage cuts, techniques used for workload measurement, applications of interdisciplinary, and interprofessional care that increased nurses' workloads were cited as influencing migration. Responses varied by individual respondent, role, specialty, and region; however, there were more consistent concerns voiced regarding policies for reassigning nurses to other units and how, particularly during COVID, these reassignments were implemented and communicated.

Policies and directions that have impacted the migration of nursing include:

- Plans to increase the number of nursing positions through a combination of upping international licensing recognition and increasing seats in nursing degree programs and elsewhere has an impact on clinical educators and mentors across organizations. Many of those who teach nurses are exploited. They are often kept at instructor rank and employed through a series of limited terms, meaning they have no access, for example, to research/study leave. They are overworked and poorly paid.
- There is a lack of understanding by government and other stakeholders regarding workload and how to measure it. One respondent stated that SBAR tool (situation, background, assessment, recommendation) are currently used within Nova Scotia Health, but they are not a good indicator of workload.
- Interdisciplinary care is not as effective as it should be. For example, initial physiotherapy/occupational therapy (OT) assessments happen, but burden is on nurses to follow up on action. Nurses must cover for physician shortages which can force them to act outside of their scope of practice.
- Clinical nurse manager roles have changed with the addition of new responsibilities (multiple units, budgets, etc.) making them less available for ground level support when needed.
- Nurses are floated to units with staff shortages. Some call in sick as they are not ready or prepared to work in another unit.
- Many respondents reflected on the imposed shifting of nurses from one unit to another and stated that when a nurse is floated to another unit, they are not given adequate orientation (if any) for the new role. This creates concern for their license because the shift is often to a unit with high acuity patients (e.g., pulling nurses into critical care despite limited experience). Respondents concerns regarding their ethical and moral obligation to provide care they are trained to do is challenging to many.
- Respondents in several surveys raised the concerns with skill-mix, indicating that not having adequate RN staffing affects their workload, capacity to provide safe and quality care, and adds stress (RNAO 2021d; Sharplin et al. 2022; Sharplin et al. 2022).

Summary of findings

Directed literature review and jurisdictional scan

- The nursing shortages in the selected countries are different but share underlying factors influencing shortages. Differences in health system arrangements in each country may necessitate tailored policy options for each. Results did show that recommendations to address shortages have been similar among the selected countries since 2000.
- This review has highlighted the need to make nurses a central focus in the health system, as the care of nurses as individuals and as a group appears to have been deprioritized (indicated by the lack of policies intended to address the needs of this workforce).
- Government action tends to focus on education and recruitment and retention efforts, and not on system-level changes or workplace reform.
- Based on a network meta-analysis a supportive and communicative leadership and organizational commitment are the best recommendation to reduce voluntary turnover.
- A reduction in nurses' workloads that creates a more realistic workload may boost job satisfaction, and lessen fatigue, encouraging nurses to stay in the profession longer.
- A great deal of research suggests more developed leaders are needed to support nurses in the workforce, indicating a more stringent selection process should be employed when recruiting leaders and managers.
- The provision and retention of more experienced nurses may provide more opportunities for junior and novice nurses to have more options in finding effective mentors that may in-turn support retention.
- Reviews of multiple interventions indicate that a multi-pronged approach is more effective than single interventions and policies.

Key informant interviews

According to key informants, "valuing" nursing perspectives and expertise means ensuring nurses are represented at planning and decision-making tables (both at a clinical and policy level). Nurses are highly educated professionals and enabling them to actively pursue continuing education and professional development opportunities also signals value. Acknowledging and supporting nurses as leaders within the healthcare system was seen as vital to a sustainable system and quality care.

Re-establishing a federal nursing office (with a chief nurse executive role) was mentioned as an approach to influence a national strategy on nursing workforce planning, workforce development and related actions; this was acknowledged as an approach used in other jurisdictions.

Per the key informants, many organizations and planners relying on CIHI data to understand the workforce in their jurisdiction may have difficulty applying it because this data is often skewed to full-time equivalents, and not actual nurses needed to fill roles, leading to poor planning resulting in chronic shortages across the board. Due to this lack of data or inadequacy of existing data forms, the staffing ratios, qualifications, and skills required to meet the needs of patients and their families are difficult to project, and ideal full-time equivalency to accomplish this is unknown. The creates planning errors that directly impact patient care and provider outcomes.

Case study (Nova Scotia and Saskatchewan)

Many respondents in the interviews with nurses in Nova Scotia and Saskatchewan observed significant enough migrations to cite multiple migration paths and drivers. Where migration was observed

it was either to other units, other regions (within our outside of Canada) or outside of the profession (retirement, other career paths, etc.). Positively associated with migration were burnout, poor work-life balance, inadequate support or training, negative culture, lack of autonomy and nurse opinions not being valued by management. Negatively associated with migration were better pay, more desirable working conditions, high demand elsewhere (e.g., COVID testing units), commitment to co-workers, supportive nurse management and higher workplace satisfaction. Respondent's comments point towards pay disparities across provinces / jurisdictions which would influence these dynamics and movement patterns.

The analysis of nurse exit interview data from Nova Scotia supports that migration of nurses has changed during the COVID-19 pandemic.

Nurses described movement within their workplace as being higher resulting in suboptimal personal and professional outcomes. This is of major concern given the mental and emotional strain they describe and their perception of a lack of organizational readiness to meet ongoing healthcare demands of the pandemic. Their motivation to "leave" was multifactorial:

- The most frequently cited motives to "leave" were a lack of emotional wellbeing, staffing shortages causing an increased workload, skill-mix concerns adding workload and patient safety concerns, and a lack of presence from nurse managers.
- Some nurses described the examples as impacting their reason to stay in the profession.

Review Considerations

Directed Literature Review and Jurisdictional Scan

1. Systemic changes to the conditions in which nurses work and policies related to remuneration and structural valuing of the workforce may help prevent future nursing shortages. Making improvements in interdepartmental and intersectoral policies that support the nursing workforce, ensuring greater interdisciplinary education and smoothing the transition of new nurses into practice could help mitigate the harmful impacts of nursing shortages during times of crisis.
2. Future nursing-related policy developments should include nurses in the formulation.
3. A nurse retention strategy should ensures ongoing and targeted efforts to recruit and retain. Policies that focus on new nurses entering practice, retention strategies for experienced nurses, and older nurses considering early retirement are considered important.
4. An identified gap in document analysis but an area of need is to develop/strengthen existing strategies and policies that can focus on recruitment and retention processes to address racialization and include EDI considerations.

Key informant interviews

1. Structural valuing of the nursing workforce within the healthcare system: in clinical expertise and policy development, by enabling active pursuit of clinical and professional development opportunities, and as a critical component in the quality and sustainability of our healthcare system.
2. Supporting a pan-Canadian data repository that collects relevant and contemporaneous data to support the nursing workforce. CIHI was universally mentioned as an important stakeholder in nursing workforce development to support a better understanding of the issues facing the nurse workforce through access to better, timely data and nursing sensitive metric.

Case Study (Nova Scotia and Saskatchewan)

1. Coordinated national and regional approaches to recruitment and retention of nurses
2. Strengthen here-and-now relevant training and professional development on-site for nursing
3. Support a policy to replace the first nurse who misses work due to illness on units to prevent unnecessary overtime

The salient points arising from this analysis are centered on creating new strategies and how they link to interpandemic nurse experiences. Given the significance of the nursing agenda, the following considerations will help to shape future research, policy and (or) practice.

1. Variation exists on how provinces define and track nurse migration nationally and at local level.
    a. Strengthen the national definition of nurse migration and the metrics associated with it.
    b. Apply a national definition and metrics locally to inform decisions and actions.
2. The calls to act and address the global nursing workforce shortage made prior to 2020 have been addressed with band-aid solutions. Additionally, any momentum gained has been lost due to the pandemic.
    c. Create a national repository of nursing workforce-related solutions that come from a nurse advisory council which includes key partners (i.e., service providers, government, unions, academia, associations, colleges, nurses, patient/family/community representation).
    d. Ensure the advisory council is nimble and adaptable to act quickly on key issues for nurses.
3. Nurses require better work–life balance now, more than ever.
    e. Prioritize key nursing issues, related to well-being and the mental health of our nursing workforce.
    f. Dedicate attention on entry level nursing workforce to improve the transition from training to practice.
4. Nurses require solutions to their housing challenges, childcare issues, access to healthcare for their themselves and their family, and flexible work situations, more than financial incentives.
    g. Identify the many factors combined to affect the health of nurses and design better recruitment and retention strategies.

Limitations

Directed literature review and jurisdictional scan

- Both searches are limited by the search strategy and time.
- Due to the context of a rapid review, the search is not comprehensive and is not intended to represent the entire body of literature on the topic of nursing shortages. There likely are articles in additional databases that were not included. Additionally, the use of single reviewers for title and abstract reviews, full-text reviews and data extractions increases the probability that articles may have mistakenly screened, and data points may be missed or inaccurately reported. No quality appraisal of the articles was completed; therefore, caution should be used when interpreting and applying the review findings.

- While the issues of racism, equity, diversity, and inclusion were not explicitly identified as a major theme within this review, ongoing dialogue on inequities in health and healthcare points to them as being key contributing factors requiring immediate attention.
- The jurisdictional scan looked at websites of specific nursing organizations in Canada. Although at least two prominent organizations in all provinces and one in each territory were targeted we recognize we may have missed some important recommendations from Canadian nursing organizations. Our complementary Google search was designed to mitigate this and identify any missing documents, but this was limited to the first page of hits only. We also acknowledge the inherent limitations of using google to search for key documents.
- Moreover, even the organizations where we performed a targeted search may not all have recommendations proposed between 2000–present available. Information may not have been publicly available on the websites or available at all (e.g., may have been in a report that was not uploaded, or it may have been archived and not found by searching).
- Similarly, we may not have been able to identify all the policies that governments implemented.
- The recommendations presented in this paper are not all inclusive and may exceed limitations of this paper. Further research in nursing workforce planning is required to enhance the profession of nursing in Canada.

Key informant interviews

- Limited research is available on the perception of value for nursing across the healthcare system.
- Perspectives were received from 15 leaders across Canada with not all providing feedback.

Case study

Nurse interviews (Nova Scotia and Saskatchewan):

- Public health nursing workforce and relevant policies during the pandemic were not explored fully.
- The perspectives of patients and family members regarding nursing shortage was not explored in this report. Findings will reflect the relative heterogeneity of participants in terms of diversity and practice characteristics.
- The effects of the healthcare strain, for example, interpandemic difference in Nova Scotia versus Saskatchewan.
- The short timeline for the interviews impacted the depth of analysis and data collection strategies (for example, interviews were not recorded).
- Exit Interviews (Nova Scotia):
- Exit interviews were not collected by our research team; thus, specific questions were not designed for the purposes of this study (COVID-19 and nursing shortage).
- Comparable exit interview data were not available from Saskatchewan; findings are specific to Nova Scotia.
- The exit survey findings were generated using a small sample of 30 nursing exit surveys and may not reflect the experiences of all nurses working within or outside Nova Scotia Health. More comprehensive research examining the experiences of nurses who have left their positions, or the profession, could serve to enrich our understanding of challenges driving turnover.
- Exit surveys do not reflect the experiences of those nurses who remain active within the workforce. Additional research examining the experiences of nurses who choose to remain within

the workforce could serve to enrich our understanding of factors facilitating nurse wellness and retention.

Discussion

Evidence from this rapid review reinforces long-standing health system issues that have impacted the nursing workforce and are leading to the major crisis we are witnessing today—almost two years into the COVID-19 pandemic. Specifically, problems with recruitment and retention of nurses are a long-term issue, facilitated by job dissatisfaction that is often attributed to heavy workloads, lack of autonomy in nursing roles, and the psychological burden and moral distress nurses are experiencing. While these factors are well-documented in the academic literature dating back to the 1990s, few policies or interventions have been described that effectively address the nursing workforce crisis. This review has highlighted that although these issues are heightened during a crisis, a sustained attention is required to address the magnitude of what is an ongoing issue.

Several jurisdictional interventions are targeted at nursing recruitment and retention which included, for example:

- "The Nursing Graduate Guarantee" in Ontario, which offers employers financial incentives to hire RNs in temporary full-time positions (Ministry of Health 2021);
- the "Rural Health Professionals Program" in Australia aimed at recruitment more nurses to rural areas (Morell et al. 2014);
- The Best Practice Spotlight Organization[@] (BPSO[@]) Program is a Canadian designation that empowers nurses and interprofessional teams to be change agents in their organization and across integrated system of care (RNAO n.d.-d). BPSO[@] champions lead the implementation of evidence-based practices through robust staff engagement using implementation science (RNAO n.d.-g). The BPSO[@] program provides – free of charge – all the materials, continuous coaching and evaluation through an international data system;
- NQuIRE (RNAO n.d.-h) delivering outstanding results since 2003 in Canada and in over 20 countries (RNAO n.d.-b);
- Best Practice Guidelines Program includes clinical (RNAO n.d.-e) and healthy work environment (RNAO n.d.-c) evidence-based guidelines available free of charge on-line.

The COVID-19 Context

To help with the initial COVID-19 response, retired nurses in Nova Scotia were relicensed to work in testing or immunization clinics rather than in areas of acute care with complex patients. As the demand for nurses for the COVID-19 response has weaned, there are nurses who are leaving the workforce *again* to return to retirement. Others are choosing early retirement after the immense stress of the pandemic, which exacerbated long-standing working conditions and health system issues that contributed to nurse job dissatisfaction and poor mental health. Specifically, nurses were frustrated and stressed by the rigidity of their work life (e.g., vacation time not being honoured/little time off and few people to cover workload which led to poor nurse–patient ratios and morale). Increasing pay during COVID-19 seemed to have little impact of the satisfaction of nurses we spoke with for this review—what nurses said they needed was time off for quality of life and mental health. Additionally, this rapid review affirmed that there is internal movement of nurses within healthcare organizations because they are seeking a more manageable role with more collegiality between staff, supportive leaders/managers, and the ability to serve their patients well by, for example, having adequate physical and staff resources. Nurses may choose to move internally within their organizations to maintain their pension and benefits (if available), others, choose to leave their organizations or the nursing profession entirely. The prepandemic literature confirms that retention issues of newly licensed nurses is a

longstanding issue, as well as generational differences in the needs and turnover behaviours of nurses (McClain et al. 2020; Hayes et al. 2012). Post-pandemic, nurses re-evaluated what they are seeking from the profession and their work–life balance. As such, there are nurses (especially younger nurses) who have chosen travel nursing because it offers a lot of flexibility in terms of hours, location, length of contract, and the ability to travel to different places in Canada and with good compensation. These types of roles are more and more enticing for nurses who are able to move locations, at least temporarily.

National nurse professional leadership

Countries such as England and Australia have deployed national nurse-led strategies to support the nursing workforce by, for example, appointing a Chief Nursing Officer (CNO) for the country. In Australia, the national nursing and midwifery approach includes strengthening rural health strategy and nursing presence in rural communities and the development of national advanced practice nursing guidelines (Australian Government 2021). Office of the Chief Nurse and Midwifery Officer n.d.). In England, CNO Ruth May, expressed concern about the inequalities Black and racialized minority nurses confront, raised by a report from the NHS Workforce Race Equality Standard programme (NHS 2019; NHS 2021). Canada does not collect comparable race and ethnicity-based data about the nursing profession. These examples provide insight into how a national nursing strategy could be implemented in Canada. Currently, the provinces and territories each adopt their own approach to supporting the nursing profession, e.g., by way of provincial/territorial CNOs.

Specialized skills training and advanced practice nursing

A key concern for nurses in this rapid review was the lack of preparation, especially amongst newly certified nurse graduates, to work in specialty areas of medicine and (or) to manage complex patient scenarios. This general preparation meant that newly licensed nurses, or those new to specific areas of care, felt unprepared to take on these roles and lacked confidence to do their job well. This could potentially lead such nurses to move departments within the organization where they feel better prepared to do their jobs, or there is potential for nurses who stay in these roles to have increased stress and a higher risk to patient safety. It is important not only to have nurses trained in specialty areas, but to also have advanced practice or specialized nurses with graduate-level preparation, who can provide mentorship and guidance to nursing staff in specialty and complex areas of care.

The goal of the specialized nurse practitioner (SNP) role is to improve quality of care for specific patient populations, from clinical care to follow-up and patient teaching (McNamara et al. 2009). Clarity regarding nurse specialty certification and contributions to clinical practice areas is needed to optimize advanced or specialty nursing roles within complex and collaborative health systems; there is mixed and inconclusive evidence about the impact of specialty nurse certification on patient outcomes and nurse retention (Whitehead et al. 2019). In Quebec, The PEPPA (participatory, evidence-based, patient-focused process for guiding the development, implementation, and evaluation of advanced practice nursing) framework was developed to support the implementation of the SNP role within the health system (McNamara et al. 2009). A national nursing strategy (as above), as well as at the provincial and territorial levels, may benefit optimization of nurses, from RNs to APNs (DiCenso et al. 2010).

A major report produced by RNAO in 2021 highlights that although NPs are the fastest growing classification of nursing in Canada, we lag far behind the United States (RNAO 2021a). The number of NPs in Canada increased 8.1% from 2018 to 2019 compared to a 1.1% growth for RNs)and 3.6% for RPNs during the same time frame. Still, NPs account for only 1.43% of Canada's nursing workforce.

In 2019, Ontario had the highest percentage share at 2.2%, translating into one NP for every 4,444 residents or 22.5 NPs for every 100,000 residents.

The urgent focus on role optimization and scope expansion for NPs follows consistent and increasing evidence of NP effectiveness. As RNAO's political action briefing (RNAO n.d.-i) indicates NP contributions to health and healthcare include:

- improved access to primary care and acute care;
- comprehensive care for vulnerable, marginalized and underserviced populations;
- improved health and health-care cost outcomes across all sectors; and
- increased access to care, particularly in rural and remote areas.

NPs have proven indispensable during this pandemic, providing comprehensive assessments including diagnostic testing and the formation of a diagnosis, treatment plans including palliative care and, when necessary, referrals. NPs in an expanded role are working with greater independence and serving as attending NPs, clinical and medical directors in long-term care, and as most responsible providers in hospitals, with beneficial results (RNAO n.d.-i).

The significance of RNAO's report extends beyond Ontario and Canada. With a framework grounded in the Quadruple Aim concept and the report's attention to the United Nations' Sustainable Development Goals, which strive to end poverty and ensure people's well-being, it serves to anchor the NP role as a champion for health and equity (RNAO 2021a).

Supporting a diverse nursing workforce

Supporting diversity within the nursing workforce was a recommendation for better recruitment and retention in the literature and interviews within this review. For example, this review highlights the need for better recruitment of internationally educated nurses (IENs) already living in Canada. Ongoing barriers impact the recruitment and integration of IENs in the Canadian nursing workforce, such as difficult and costly licensing applications. Educational institutions are challenged with creating appropriate bridging programs for such students that are affordable and educationally sound (Canadian Immigrant 2014; McMaster University n.d.). Further, faculty are needed to support such bridging programs to help educate and do clinical placements for IENs who want to be certified in Canada. A national nursing leadership strategy may focus on recruitment and retention of IENs, as well as nurses from equity-seeking groups (BIPOC, 2SLGBTQIA+).

Limitations

The rapid review which informed this policy brief was completed during August and September 2021; due to the rapid nature of this review, this should not be interpreted as a comprehensive assessment of the issues that are impacting the nursing workforce. Rather, this review provides a snapshot of the nursing workforce challenges at a critical point in time during the COVID-19 pandemic and offers considerations that merit both immediate and further exploration. Another limitation is the lack of consensus in the language describing nursing shortage—what constitutes a nursing shortage and related terms such as nurse migration and nursing turnover or recruitment and retention of nurses is not well described in the literature, which impacts interpretation of findings and comparisons across jurisdictions. Similarly, nursing is often categorized into one large profession (within the documents analyzed for this review), rather than a distinction made amongst the various specialties within nursing (e.g., RNs, NPs, LPNs, or specialty nurse roles such as mental health nurses), between the different educational backgrounds present within the nursing workforce (e.g., internationally versus

domestically educated nurses), and across the various sectors of care to which nurses contribute. While representation within the nursing profession was attempted for the additional components of this work, we are limited in our ability to interpret issues that may impact on specific specialties of nurses, on nurses with specific educational backgrounds, or on specific sectors of care. An EDI lens was applied to a literature search. Demographic data was not collected for qualitative interviews with nurses and stakeholders; future initiatives by this group will include a call for diverse participants and will collect demographic information, including age, race and ethnicity, gender, Indigenous identity, and other social identities. The application of a gendered lens on the nursing profession, retention, and shortage is necessary as the majority of nurses are women; not only did nurses experience burnout and stress during COVID-19, but international data also shows that COVID-19 exacerbated pre-existing inequities. Economic impacts of the pandemic affected women and girls earning less, caretaking needs of children and older adults increased of which women are predominantly responsible, and women and girls experienced higher rates of intimate partner violence during stay-at-home orders (United Nations 2020).

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Author contributions

GTM, TS, LBB, NC, GC, AER, JE, DG, EWJ, ML-T, KM, CM, RM-M, JO, RR, LS, ST, and MV conceived and designed the study. GTM, TS, LBB, NC, GC, AER, JE, DG, EWJ, ML-T, KM, CM, RM-M, JO, RR, LS, ST, and MV performed the experiments/collected the data. GTM, TS, LBB, NC, GC, AER, JE, DG, EWJ, ML-T, KM, CM, RM-M, JO, RR, LS, ST, and MV analyzed and interpreted the data. GTM, TS, LBB, NC, GC, AER, JE, DG, EWJ, ML-T, KM, CM, RM-M, JO, RR, LS, ST, and MV contributed resources. GTM, TS, LBB, NC, GC, AER, JE, DG, EWJ, ML-T, KM, CM, RM-M, JO, RR, LS, ST, and MV drafted or revised the manuscript.

Competing interests

The authors have declared that no competing interests exist.

Supplementary material

The following Supplementary Material is available with the article through the journal website at doi:10.1139/facets-2022-0002.

Supplementary Material 1

Supplementary Material 2

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Appendix A
About the Authors

Policy Report Leads

Chair: *Dr. Gail Tomblin Murphy*, VP Research, Innovation and Discovery and Chief Nurse Executive, Nova Scotia Health

Co-Chair: *Dr. Tara Sampalli*, Senior Scientific Director, Research, Innovation and Discovery, Nova Scotia Health

National Expert Group

Dr. Lisa Bourque Bearskin, Associate Professor, and Researcher, Thompson Rivers University, School of Nursing.

Nancy Cashen, Interim Director, Nursing and Professional Practice, IWK Health

Dr. Greta Cummings, Dean, College of Health Sciences, and Professor, Faculty of Nursing, University of Alberta

Dr. *Annette Elliott Rose*, VP Clinical Care and Chief Nurse Executive, IWK Health

Dr. Josephine Etowa, Professor at the University of Ottawa's Faculty of Health Sciences, School of Nursing

Dr. Doris Grinspun, Chief Executive Officer of the Registered Nurses' Association of Ontario

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Dr. Cindy MacQuarrie, Senior Director, Interprofessional Practice and Learning, Nova Scotia Health

Dr. Ruth Martin-Misener, Professor and the Director of the School of Nursing and Assistant Dean, Research, at the Faculty of Health, Dalhousie University

Dr. Judith Oulton, Former Executive Director, Canadian Nurses Association

Dr. Rosemary Ricciardelli, Research Chair, Safety, Security, and Wellness and Professor of Criminology and Sociology, Memorial University of Newfoundland.

Linda Silas, President of Canadian Federation of Nurses Unions

Dr. Sally Thorne, Professor, School of Nursing and Associate Dean, Faculty of Applied Science, University of British Columbia.

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