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System and Healthy Work Environment Best Practice Guidelines

FEBRUARY 2017

Developing and Sustaining Safe, Effective Staffing and Workload Practices

Second Edition

RNAO
Registered Nurses' Association of Ontario
L'Association des infirmières et infirmiers autorisés de l'Ontario

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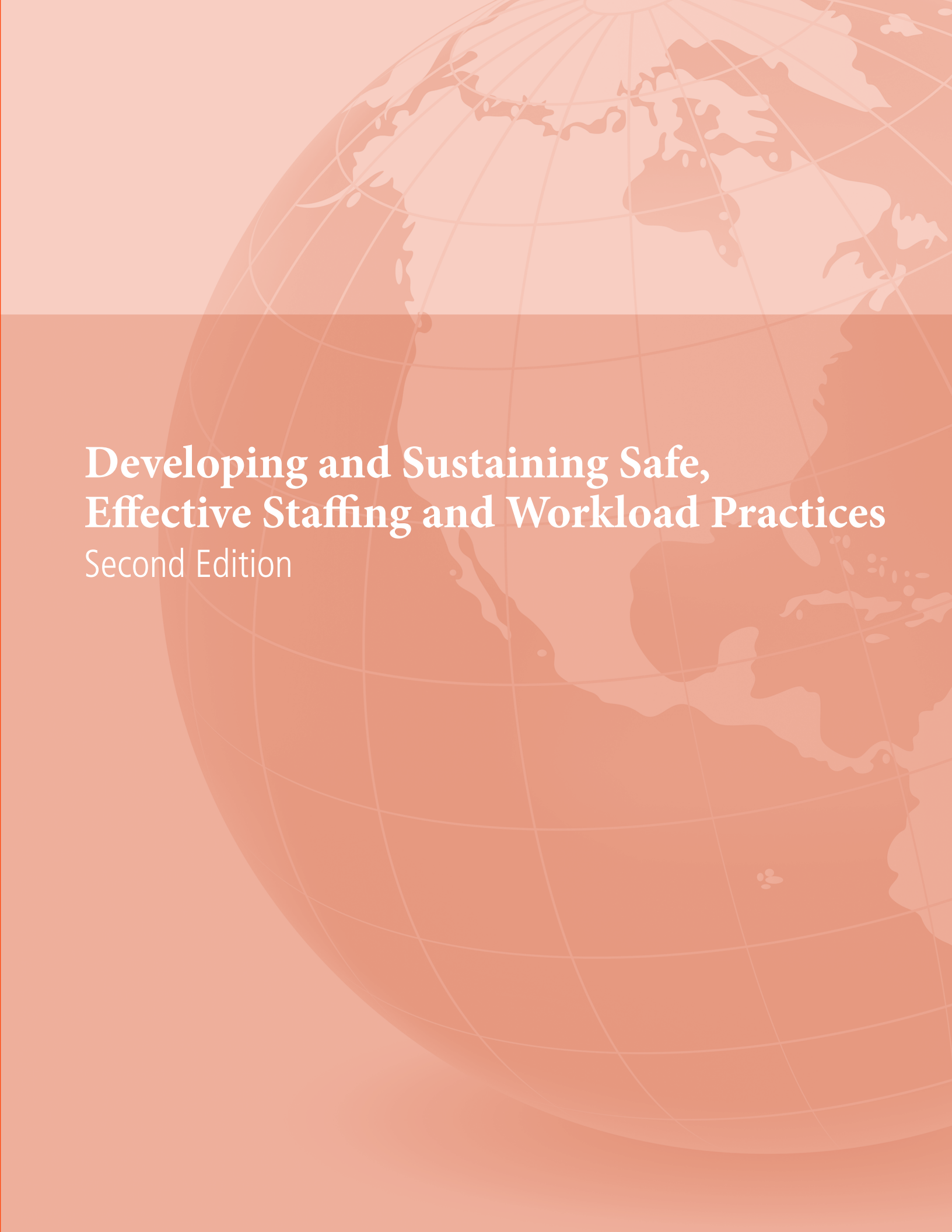

Developing and Sustaining Safe, Effective Staffing and Workload Practices

Second Edition

Greetings from Doris Grinspun,

Chief Executive Officer, Registered Nurses' Association of Ontario

The Registered Nurses' Association of Ontario (RNAO) is delighted to present the second edition of the System and Healthy Work Environment Best Practice Guideline *Developing and Sustaining Safe, Effective Staffing and Workload Practices*. Evidence-based practice supports the excellence in service that health professionals are committed to delivering every day. RNAO is delighted to provide this key resource.

We offer our heartfelt thanks to the many stakeholders who are making our vision for best practice guidelines a reality, starting with Government of Ontario, for recognizing RNAO's ability to lead the program and for providing multi-year funding. For their invaluable expertise and leadership, I wish to thank Dr. Irmajean Bajnok, outgoing director of the RNAO International Affairs and Best Practice Guidelines Centre, Michelle Rey, the Associate Director, and Althea Stewart-Pyne, Program Manager. I also want to thank the co-chairs of the expert panel, Linda Silas (President of the Canadian Federation of Nurses Unions) and Tracy Kitch (President and CEO of the IWK Health Centre), for their expertise and stewardship of this Guideline. Thanks also to RNAO staff Anastasia Harripaul, Tasha Penney, Oliwia Klej, and Patti Hogg for their intense work in the production of this new Guideline. Special thanks to the members of the RNAO expert panel for generously contributing their time and expertise to deliver a rigorous and robust clinical resource. We couldn't have done it without you!

Successful uptake of best practice guidelines requires a concerted effort from educators, clinicians, employers, policy-makers, and researchers. The nursing and health-care communities, with their unwavering commitment and passion for excellence in patient care, have provided the expertise and countless hours of volunteer work essential to the development and revision of each best practice guideline. Employers have responded enthusiastically by nominating best practice champions, implementing guidelines, and evaluating their impact on patients and organizations. Governments at home and abroad have joined in this journey. Together, we are building a culture of evidence-based practice.

We ask you to be sure to share this Guideline with colleagues from other professions, because we have so much to learn from one another. Together, we must ensure that the public receives the best possible care every time they come into contact with us making them the real winners in this important effort!

Doris Grinspun, RN, MSN, PhD, LLD (Hon), O. ONT.
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How to Use This Document

This system and healthy work environment[G]* best practice guideline (BPG)[G] is an evidence[G]-based document that describes strategies for developing and sustaining safe, effective staffing and workload practices for nurses. It is not intended to be a manual or "how to" guide, but rather a tool to guide best practices associated with safe, effective staffing for nurses. The Guideline should be reviewed and applied in accordance with the needs of organizations, practice settings, and individual nurses providing care and services within the health-care system.

Nurses[G], other health-care providers[G], and administrators will find this document valuable for developing policies and tools to support safe, effective staffing within the context of health-care settings. Nurses and other health-care providers at the point-of-care will benefit from reviewing the recommendations and the evidence that supports them.

If your organization is adopting this Guideline, we recommend you follow these steps:

1. Read the Organizing Framework section;
2. Assess your organization's staffing needs, staffing practices, and staffing models;
3. Identify which recommendations will address needs or gaps in staffing; and
4. Develop a plan for implementing the recommendations.

Implementation resources, including the RNAO Toolkit: Implementation of Best Practice Guidelines (2012), are available at www.RNAO.ca. We are interested in hearing how you have implemented this Guideline. Please contact us to share your story.

* Terms in this document that are marked with a superscript G ([G]) can be found in the Glossary of Terms (Appendix A).

Purpose and Scope

Purpose

A healthy work environment for nurses is a practice setting that maximizes the health and well-being of nurses while ensuring improved organizational performance and the best possible outcomes for patients, their families, and the community. This Best Practice Guideline (BPG) focuses on evidence-informed staffing and workload recommendations that can be implemented to benefit patients, nurses and other health-care providers, and organizations, as well as research, education, health-care policy, and systems. The goal of this Guideline is to assist nurses, nursing leaders, and senior management groups across practice domains and settings to create healthy work environments through safe, effective staffing and workload practices. Such practices are essential for health-care organizations, as they support continuity of care[G] and caregivers for patients and can ultimately improve patient experiences and outcomes.

Scope

This Guideline addresses the following:

- Knowledge, competencies, and behaviours that support safe, effective staffing and workload practices;
- Educational requirements and strategies that support safe, effective staffing and workload practices;
- Funding for organizational, operational, and system policies that support safe, effective staffing and workload practices; and
- Future research opportunities.

The recommendations in the Guideline are based on the best available evidence. Where evidence was limited, the recommendations were based on the consensus of expert opinion.

This Guideline is aimed at all categories of nurses in all roles and practice settings, including: administrators at the unit, organizational, and system levels; clinical nurses; students; educators; researchers; and members of the inter-professional team. It may also be used by policy-makers; patient groups; governments; professional organizations; employers; labour groups; and federal, provincial, and territorial standard-setting bodies and policy organizations, such as Accreditation Canada.

Use of the Term "Patient" in This Guideline

In this Guideline, the term patient[G] is used instead of other terms (such as "person," "client," "consumer," or "resident") to refer to individuals and their families who are accessing care in all sectors of the health-care system.

For more information about this Guideline, including the Guideline development process and the systematic review[G] and search strategy, refer to **Appendices B and C**.

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Declarations of interest that might be construed as constituting an actual, potential, or apparent conflict were made by all members of the Registered Nurses' Association of Ontario expert panel, and members were asked to update their disclosures regularly throughout the Guideline development process. Information was requested about financial, intellectual, personal, and other interests, and was documented for future reference. No limiting conflicts were identified.

Further details are available from the Registered Nurses' Association of Ontario.

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Summary of Recommendations

This Guideline replaces the RNAO BPG *Developing and Sustaining Effective Staffing and Workload Practices* (2007).

We have organized these recommendations according to the key concepts of the Healthy Work Environments Framework:

- Organization recommendations
- Individual recommendations
- External/ System recommendations

We have used these symbols for the recommendations:

✓ No change was made to the recommendation as a result of the systematic review evidence.

✚ The recommendation and supporting evidence were updated with systematic review evidence.

NEW A new recommendation was developed based on evidence from the systematic review.

RECOMMENDATIONS		LEVEL OF EVIDENCE	
Organization Recommendations	Recommendation 1.0: Organizations develop a workforce plan in order to ensure staffing that facilitates the delivery of safe, competent, culturally sensitive, and ethical care, and positive patient outcomes.	IV	✚
	Recommendation 1.1: Safe nursing staffing processes are conducted by unit/operational nurse leaders who possess the requisite knowledge, professional judgment, skills, and authority, in collaboration with nursing staff at the point-of-care.	IV, V	✚
	Recommendation 1.2: The board, administrative leadership, and human resources work collaboratively with point-of-care leaders to ensure that effective staffing processes, appropriate models of care delivery, and sufficient nurses in appropriate categories are in place in order to provide safe, quality, patient-centred care.	IV	✚

RECOMMENDATIONS		LEVEL OF EVIDENCE	
Organization Recommendations (Cont.)	Recommendation 1.3: Organizations budget to provide sufficient nurses in appropriate categories to support the delivery of quality, safe patient care and positive patient outcomes, and to reduce the financial costs associated with overtime.	IV	NEW
	Recommendation 1.4: Organizations and those responsible for staffing create and employ a clear communication strategy to address staffing needs in unplanned situations, such as pandemics; code whites, browns, and blacks; and other situational disasters.	V	NEW
	Recommendation 1.5: Organizations develop a comprehensive framework, such as the patient care delivery systems model (PCDSM), to help them understand staffing needs and their impact on intermediate and distal outputs.	IV, V	✚
	Recommendation 2.0: Organizations utilize reliable and valid tools to help determine patient needs and workload in order to support personalized care and provide sufficient numbers of nurses in appropriate categories to provide safe, quality patient care.	Ia, V	NEW
	Recommendation 2.1: Organizations use electronic health records (EHRs) and other integrated systems as appropriate to support safe, effective workload processes.	V	NEW
	Recommendation 3.0: Nursing leaders make evidence-based decisions when conducting nurse staffing planning to provide sufficient numbers of nurses in appropriate categories required to safely and effectively meet patients' needs.	IV, V	✚

RECOMMENDATIONS		TYPE OF EVIDENCE	
Individual Recommendations	Recommendation 4.0 Nurses, including charge nurses, responsible for day-to-day staffing decisions for their unit or team demonstrate skills and knowledge that support a comprehensive approach to staffing, including the following: knowledge of patient needs; knowledge of the team, including an understanding of individual skill levels, communication skills, flexibility, competencies, and scopes of practice; and an understanding of the organization.	IV	NEW
	Recommendation 4.1: All nurses understand and apply the processes for reporting and documenting unsafe staffing practices as per the requirements of regulatory bodies and organizational policies.	V	NEW
	Recommendation 4.2: Point-of-care-nurses participate in staffing decisions at the strategic, operational, and day-to-day levels utilizing processes of shared governance.	V	NEW
	Recommendation 4.3: Point-of-care nurses demonstrate an understanding of organization and unit staffing policies and processes through the following: regular attendance, proactive vacation planning, appropriate sick time notification, and knowledge of interprofessional and intra-professional team members' roles.	IV, V	NEW
	Recommendation 4.4: Nursing leaders support the development and operation of a staffing committee with representation from all units/teams/areas, including administration, and with a majority of members consisting of point-of-care registered nurses.	V	NEW
External/System Recommendations	Recommendation 5.0: Accreditation and approval bodies incorporate evidence-based indicators that reflect best practices in patient experience and safe, ethical, and high quality of care related to nurse staffing.	IV	✚

RECOMMENDATIONS		TYPE OF EVIDENCE	
Government Recommendations	Recommendation 6.0: Governments commit to developing legislative protection for nurses and other health-care staff who report staffing practices that compromise the safety and quality of care.	V	✚
	Recommendation 6.1: Governments commit to providing financial resources and leadership specifically earmarked to create healthy work environments that support safe staffing practices, promote nurse retention, and contribute to positive patient outcomes.	IV	✚
Research Recommendations	Recommendation 7.0: Funding agencies actively support nurse researchers to continue to study the impact and outcomes of staffing on nurses, patients, organizations, and systems.	V	✚

Interpretation of Evidence

Levels of evidence are assigned to study designs to rank how well particular designs are able to eliminate alternate explanations of the phenomena under study. The higher the level of evidence, the greater the likelihood that the relationships presented between the variables are true. Levels of evidence do not reflect the merit or quality of individual studies.

LEVEL	SOURCE OF EVIDENCE
Ia	Evidence obtained from meta-analysis[G] or systematic reviews[G] of randomized controlled trials, and/or synthesis of multiple studies primarily of quantitative research.
Ib	Evidence obtained from at least one randomized controlled trial[G].
IIa	Evidence obtained from at least one well-designed controlled study[G] without randomization.
IIb	Evidence obtained from at least one other type of well-designed quasi-experimental study[G], without randomization.
III	Synthesis of multiple studies primarily of qualitative research[G].
IV	Evidence obtained from well-designed, non-experimental, observational studies, such as analytical studies[G] or descriptive studies[G], and/or qualitative studies.
V	Evidence obtained from expert opinion or committee reports, and/or clinical experiences of respected authorities.

Adapted from the Scottish Intercollegiate Guidelines Network (Scottish Intercollegiate Guidelines Network [SIGN], 2015) and Pati (2011).

Stakeholder Acknowledgment

As a component of the development process for Best Practice Guidelines, RNAO is committed to obtaining feedback from nurses and other health-care professionals from a wide range of practice settings and roles, from knowledgeable administrators and funders of health-care services, and from stakeholder[G] associations. Stakeholders representing diverse perspectives were solicited* for their feedback, and RNAO wishes to acknowledge the following individuals for their contribution in reviewing this Best Practice Guideline:

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*Stakeholder reviewers are individuals who have expertise in the subject matter of the Guideline, or are representatives of organizations that will implement the Guideline, or will be affected by its implementation. Reviewers may be nurses and other point-of-care health-care providers, nurse executives, administrators, research experts, members of the interprofessional team, educators, nursing students, or patients. RNAO aims to solicit stakeholder expertise and perspectives representing diverse health-care sectors, roles within nursing and other professions (e.g., clinical practice, research, education, and policy), and geographic locations.

Stakeholder reviewers for RNAO BPGs are identified in two ways. First, stakeholders are recruited through a public call issued on the RNAO website (www.RNAO.ca/bpg/get-involved/stakeholder). Second, individuals and organizations with expertise in the Guideline topic area are identified by the RNAO Guideline development team and expert panel, and are directly invited to participate in the review. Reviewers are asked to read a full draft of the Guideline and participate in the review prior to its publication.

Stakeholders submit their feedback online by completing a survey questionnaire. They are asked the following questions about each recommendation:

- Is this recommendation clear?
- Do you agree with this recommendation?
- Does the evidence support this recommendation?

The survey also includes an opportunity for stakeholders to include comments and feedback related to each section of the Guideline.

The RNAO Guideline development team compiles the survey submissions and prepares a summary of the feedback received. The RNAO expert panel reviews and considers all feedback and, if necessary, modifies the Guideline content and recommendations prior to publication, in order to address the feedback received.

Stakeholder reviewers have consented to the publication of their names and relevant professional information in this Guideline.

Background of the System and Healthy Work Environments Best Practice Guidelines Project

Healthy work environments that maximize nurses' health and well-being are essential to achieving the best outcomes for nurses and their patients, and for health-care organizations and the health-care system as a whole. Nurses are essential for achieving and sustaining affordable access to high-quality, timely health care for Canadians and the quality of nurses' work environments affects nurses' physical and psychological health, patient outcomes, and the wider health system.

There is an increasing need in the health-care environment for cost-effective measures that produce positive outcomes for patients, nurses, and health-care organizations alike (Joanna Briggs Institute, 2006), and various factors—including rising costs, pressures to increase productivity, and an aging population—can undermine the creation of healthy work environments. Therefore, particular attention must be paid to this critical aspect of achieving clinical excellence in health care.

The idea of developing and widely distributing a guide for creating healthy work environments for nurses was first proposed by RNAO in its 2000 report *Ensuring the Care Will Be There: Report on Nursing Recruitment and Retention in Ontario*. RNAO submitted the report to the Ontario Ministry of Health and Long-Term Care (MOHLTC), and it was subsequently approved by the Joint Provincial Nursing Committee (JPNC). The resulting Healthy Work Environments Best Practice Guidelines Project was based on the need to stabilize and strengthen the nursing profession in Ontario, as identified by the JPNC and the Canadian Nursing Advisory Committee. Work on the project began in July 2003, when RNAO, with funding from the MOHLTC, began a partnership with Health Canada's Office of Nursing Policy. At the time of writing, RNAO has published 11 BPGs in its System and Healthy Work Environments Guidelines series. The collection consists of the following BPGs:

- *Developing and Sustaining Inter-professional Health Care: Optimizing Patient, Organizational and System Outcomes*
- *Developing and Sustaining Nursing Leadership*
- *Developing and Sustaining Safe, Effective Staffing and Workload Practices*
- *Embracing Cultural Diversity in Health Care: Developing Cultural Competence*
- *Intra-professional Collaborative Practice Among Nurses*
- *Managing and Mitigating Conflict in Health-Care Teams*
- *Practice Education in Nursing*
- *Preventing and Mitigating Nurse Fatigue in Health Care*
- *Preventing and Managing Violence in the Workplace*
- *Professionalism in Nursing*
- *Workplace Health, Safety and Well-being of the Nurse*

A healthy work environment for nurses recognizes their professionalism and their ability to work autonomously and to lead. Healthy work environments are safe, collaborative, and diverse, and facilitate the delivery of quality, person-centred care.

> A healthy work environment maximizes the health and well-being of nurses and other healthcare professionals, improves patient outcomes, increases organizational performance, and benefits society.

Considerable evidence demonstrates the relationship between nurses, work environments, patient outcomes, and organizational and system performance (Dugan et al., 1996; Estabrooks, Midodzi, Cummings, Ricker, & Giovannetti, 2005; Lundstrom, Pugliese, Bartley, Cox, & Guither, 2002). Evidence shows that healthy work environments yield financial benefits to organizations by reducing absenteeism, lost productivity, health-care costs for workers, and costs arising from adverse outcomes (Aldana, 2001). There may also be wider implications for nursing retention: some have suggested that the nursing shortage was a result of unhealthy work environments (Dunleavy, Shamian, & Thomson, 2003; Grinspun, 2010; Shindul-Rothschild, Berry, & Long-Middleton, 1996), while others have documented the challenges of recruiting and retaining a healthy nursing workforce (Bauman et al., 2001; Berry & Curry, 2012; MacPhee, 2014).

Achieving healthy work environments for nurses requires interventions aimed at underlying workplace and organizational factors (Lowe, 2004) (see the Organizing Framework section). Interventions may aim to improve communication, collaboration[G], decision-making, recognition, and leadership[G], and ensure safe staffing levels and workload practices that support continuity of care and caregivers.

The Guidelines in RNAO's System and Healthy Work Environments Best Practice Guidelines series are designed to help ensure that nurses' work environments enable quality, evidence-based care. Creating healthy work environments will benefit patients, nurses, and all members of the health-care team.

Organizing Framework for the System and Healthy Work Environments Best Practice Guidelines Project

Healthy work environments are practice settings that maximize the health and well-being of nurses and other health-care-team members to improve patient outcomes, organizational performance, and societal outcomes. They comprise numerous components—including policy, physical demands, and organizational design—and the relationships among them, making them complex and multidimensional.

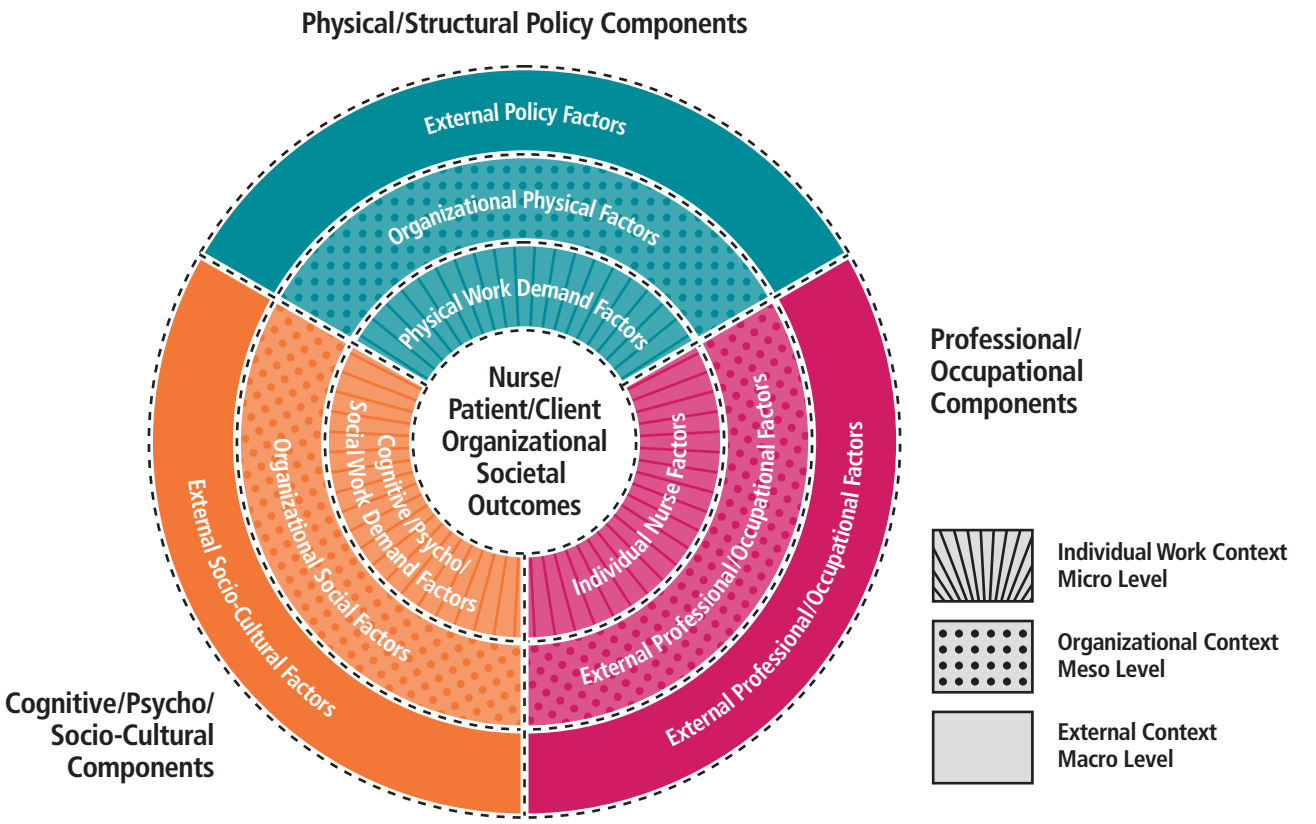
Figure 1 represents a conceptual model for healthy work environments for nurses, including the components, factors, and outcomes. Three coloured divisions are used to represent the components (e.g., policy components; see **Figures** 1A, 1B**, and** 1C). Three concentric circles represent the three contexts, or levels: the individual (micro), organizational (meso), and external (macro) contexts. The dotted lines within the model indicate the interdependence among the various components. At the centre of the model are those who benefit from healthy work environments—nurses, patients, organizations, systems, and society as a whole.[iv]

The following assumptions underlie the model:

- Healthy work environments are essential for high quality, safe patient care.
- Individual, organizational, and system-level factors determine whether a work environment is healthy.
- Factors at all three levels (individually or in combination) affect the health and well-being of nurses, the quality of patient outcomes, organizational and system performance, and societal outcomes. At each level, there are policy components, cognitive/psycho/social/cultural components, and professional/occupational components.
- Professional/occupational factors are unique to each profession, while the remaining factors are generic and apply to all professions/occupations.

Because it is the combination of factors and components that determines the nature of the work environment and influences individual experience, interventions to promote healthy work environments must target multiple levels and components of the system—and, indeed, the system itself[v, vi].

Figure 1. Conceptual Model for Healthy Work Environments for Nurses - Components, Factors & Outcomes[i-iii]



i. Adapted from DeJoy, D. M., & Southern, D. J. (1993). An Integrative perspective on work-site health promotion. *Journal of Medicine*, 35(12), 1221–1230; modified by Lashinger, MacDonald, & Shamian (2001), and further modified by Griffin, El-Jardali, Tucker, Grinspun, Bajnok, & Shamian (2003).

ii. Baumann, A., O'Brien-Pallas, L., Armstrong-Stassen, M., Blythe, J., Bourbonnais, R., Cameron, S., ... Ryan, L. (2001). *Commitment and care: The benefits of a healthy workplace for nurses, their patient, and the system*. Ottawa, ON: Canadian Health Services Research Foundation and The Challenge Foundation.

iii. O'Brien-Pallas, L., & Baumann, A. (1992). Quality of nursing worklife issues: A unifying framework. *Canadian Journal of Nursing Administration, 5*(2), 12–16.

iv. Hancock, T. (2000). The healthy communities vs. "health." *Canadian Health Care Management, 100*(2), 21–23.

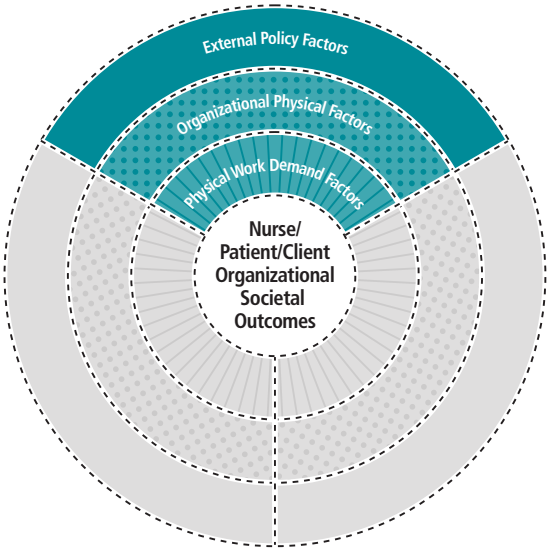
v. Green, L.W., Richard, L., & Potvin, L. (1996). Ecological foundation of health promotion. *American Journal of Health Promotion, 10*(4), 270–281.

vi. Grinspun, D. (2000). *Taking care of the bottom line: Shifting paradigms in hospital management*. In Diana L. Gustafson (ed.), *Care and consequence: Health care reform and its impact on Canadian women*. Halifax, NS: Fernwood Publishing.

vii. Grinspun, D. (2010). *The social construction of nursing caring*. (Doctoral dissertation). York University, Toronto.

Physical/Structural Policy Components

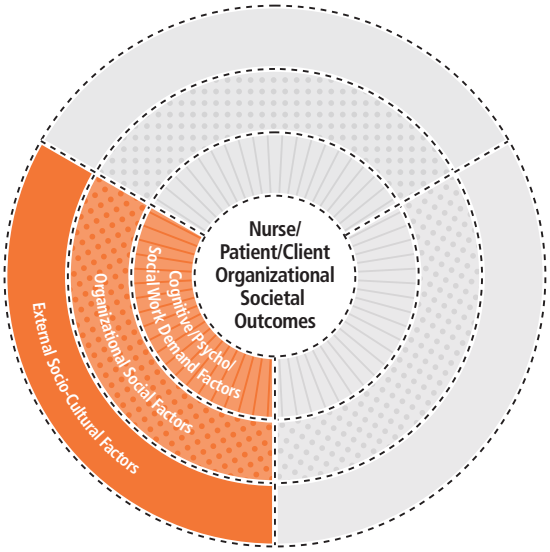
Figure 1A. Physical/Structural Policy Components



- For individuals (inner circle), physical work demands include any requirement for physical capability and effort, such as workload, changing schedules and shifts, heavy lifting, exposure to hazardous or infectious substances, and threats to personal safety.
- An organization's physical environment (middle circle) includes both built and natural characteristics and structures, and the processes surrounding the physical demands of the work. This includes staffing practices, flexible or self-scheduling, lifting equipment, occupational health and safety policies, and security personnel.
- External policy factors (outer circle) include everything from the local health-care delivery model to funding, and the legislative, trade, economic and political frameworks that shape society.

Cognitive/Psycho/Socio-Cultural Components

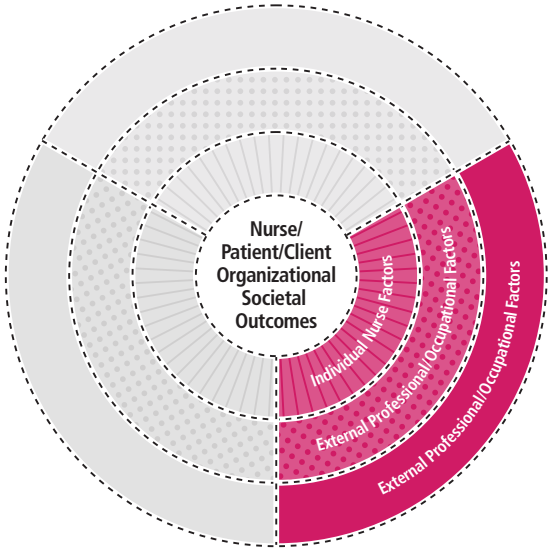
Figure 1B. Cognitive/Psycho/Socio-Cultural Components



- Individual cognitive and psychosocial work demand factors include clinical knowledge, coping and communication skills, clinical complexity, job security, team relationships, emotional demands, and role clarity and role strain.
- An organization's social factors are related to its climate, culture, and values. They include organizational stability, communication practices and structures, labour management relations, and a culture of continuous learning and support.
- External socio-cultural factors influence how organizations and individuals operate. They include consumer trends, changing care preferences, changing roles in families, the diversity of the population and of providers, and changing demographics.

Professional/Occupational Components

Figure 1C. Professional/Occupational Components



- Individual nurse factors include the personal attributes, knowledge, and skills that determine how nurses respond to the physical, cognitive, and psychosocial demands of their work[vii]. Personal attributes include the nurse's commitment to his/her patients, organization, and profession, as well as resilience, adaptability, self-confidence, and the ability to maintain work/life balance. Knowledge and skills include the nurse's values and ethics, and reflective practice.
- The organizational professional/occupational factors that shape a healthy work environment are derived from the nature and role of the profession/occupation. For nurses, these include their scope of practice, the level of autonomy over their practice, and the nature of their inter-professional relationships.
- External professional/occupational factors include policies and regulations at the provincial/territorial, national, and international levels that influence health and social policy and role socialization within and across disciplines and domains.

Background Context

Appropriate nurse staffing and workloads are fundamental to the efficient operation of health-care organizations and to the delivery of safe care to patients. They are also important for nurses' quality of life and for their leaders, who are under pressure by organizations to control costs. Safe, effective staffing[G] and workload practices are critical components of a healthy work environment for nurses. Developing and sustaining such practices can improve nurses' well-being and retention, improve the quality of patient care, and yield financial benefits for organizations.

Questions surrounding the optimal number of nursing personnel required to meet the needs of patients in a safe, competent, and ethical manner are not new. Determining optimal staffing requirements is a complex issue, and the debate on the most effective strategies for managing nursing workloads is ongoing. Because nursing is not defined by the number of tasks that nurses complete, managing nursing staffing and nursing workload[G] is not as simple as finding the "right" numbers; rather, it is about aligning the right caregivers and resources with the needs of patients (Bylone, 2010; RNAO, 2016). This is essential to the ability of nurses to deliver appropriate and effective person- and family-centred care, which includes holistic care for the person and his/her family through shared decision-making, continuity of care, respect, communication, collaboration, and engagement (RNAO, 2015).

The effects of inadequate staffing and workload practices on nurses, administration, and patients are clear from the research. According to Baumann and colleagues, "research has made it clear that problems with nurses' work and work environments, including stress, heavy workloads, long hours, injury and poor relations with other professions, can alter their physical and psychological health" (Baumann et al., 2001). A number of studies have demonstrated strong links between insufficient nurse staffing and adverse patient outcomes (American Nurses Association, 2000; Blegen & Vaughn, 1998; Cho, Ketefian, Barkauskas, & Smith, 2003; Kovner & Gergen, 1998; Needleman, Buerhaus, Mattke, Stewart, & Zelevinsky, 2002; Pearson et al., 2004; Sasichay-Akkadechanunt, Scalzi, & Jawad, 2003; Sovie & Jawad, 2001; Tourangeau, Giovannetti, Tu, & Wood, 2002; Yang, 2003). With regard to administration and nursing staff, one report noted that the result is "moral distress when they cannot find adequate numbers of qualified staff to deliver safe care" (Marck, Allen, & Phillipchuck, 2001).

The literature, and nurses themselves, have described their working environments as chaotic, stressful, and fast-paced (Stokowski, 2014). Nursing, technical, and support staff working in the health-care profession have the highest number of days lost due to illness or injury of any occupation, at double or greater than the national average of 7.4 days in Canada (Statistics Canada, 2016). Overtime is an important indicator of a healthy work environment, as excessive overtime can lead to nurse fatigue and may have negative effects for nurses, their colleagues, and their patients. The negative effects of overtime have been known to contribute to health problems among nurses, which often translate to absences and shortages of nurses (Group, 2010). The Canadian Federation of Nurses Unions (CFNU, 2015) reported that paid and unpaid overtime was estimated to be $871.8 million nationally in 2014.Of the 871 million, overtime costs were $679.4 million. An equivalent calculation of unpaid overtime borne by nurses was $192.5 million. In 2014, Quebec (32.5 percent) and Manitoba (30.5 percent) had the highest overtime rates, while Ontario (22.6 percent) and Saskatchewan (22.9 percent) had the lowest rates (CFNU, 2015).

Since the first edition of this Guideline was published, the international body of knowledge related to quality of work life for nurses has continued to grow. Numerous reports and articles document the challenges of recruiting and retaining a nursing workforce in the midst of health-system changes to ensure an effective system and the provision of safe, quality care. Reports retrieved from the literature between 2000 and 2014 fell into two broad categories: improving

nurses' workload and improving nurses' work life. Most reports provided recommendations with respect to appropriate staffing, matching scope of practice to patient needs, addressing the increasing pace and complexity of work, reducing absenteeism and nurse fatigue, and improving the integration of patient care within health-care institutions, and between institutions and the community. Ultimately, the recommendations were aimed at creating healthy work environments where nurses would experience respect, where they would be involved in decision-making related to patient care, and where increased funds would be provided for nurses' education and professional development.

Selected Canadian reports include:

- *A Nursing Call to Action: The Health of Our Nation, the Future of Our Health System* (Canadian Nurses Association, 2012).
- *Commitment and Care: The Benefits of a Healthy Workplace for Nurses, Their Patients and the System* (2001).
- *Mind the Safety Gap in Health System Transformation: Reclaiming the Role of the RN* (RNAO, 2016).
- *Nurse Fatigue and Patient Safety* (Canadian Nurses Association and RNAO, 2010).
- *Nursing Workload and Patient Care* (Berry & Curry, 2012).
- *Our Health, Our Future: Creating Quality Workplaces for Canadian Nurses—Final Report of the Canadian Nursing Advisory Committee* (Advisory Committee on Health Human Resources, 2002).
- *RNAO Position Statement: Strengthening Client Centred Care in Home Care* (RNAO, 2011).
- *RNAO Position Statement: Strengthening Client Centred Care in Hospitals* (RNAO, 2010).
- *RNAO Position Statement: Strengthening Client Centred Care in Long Term Care* (RNAO, 2010).
- *RNAO's 70 Percent Full-Time Employment for Nurses Survey: Hospital and Long-Term Care Sectors* (RNAO, 2014).
- *Valuing Patient Safety: Responsible Workforce Design* (MacPhee, 2014).

This Guideline focuses on the changes needed in practice, education, and policy in order to create healthy working environments that provide:

- effective and collaborative workload planning and management strategies;
- valid and reliable tools and methodologies to predict, measure, and validate nursing workload;
- appropriate nursing productivity indicators;
- reasonable work assignments, to help ensure that nurses are not functioning beyond their individual productivity capacity;
- appropriate resources for nurses to carry out their work;
- adequate staff to perform all of the required elements of care;
- an appropriate mix of professional[G] nursing staff practicing to their full scope; and
- development and education opportunities to maintain and enhance professional competencies.

Organization Recommendations

RECOMMENDATION 1.0:

Organizations develop a workforce plan in order to ensure staffing that facilitates the delivery of safe, competent, culturally sensitive, and ethical care, and positive patient outcomes.

Level of Evidence = IV

Discussion of Evidence:

Workforce planning in health-care organizations requires decision-making driven by indicators that showcase data on patient outcomes and financial efficiencies (Bloor & Maynard, 2003). There are typically three levels of decision-making within organizations: (1) executive level, (2) program (e.g., medical, surgical, ambulatory, home care) level, and (3) operational (local or unit) level.

The executive level is responsible for strategic decision-making, the program level is responsible for logistical decision-making, and the local or operational level is responsible for day-to-day decision-making. (For more information on decision-making at each level, see Appendix E.)

Within health-care organizations, executive-level leadership is responsible for developing an organization-wide health human resource/workforce plan with an accompanying budget. The primary goal of health-care organizations is to meet patient needs, and provide patient-centered, safe, quality[G] care. This includes the use and analysis of systems-wide data collection and management to guide workforce planning (Twigg, Duffield, Bremner, Rapley, & Finn, 2011). Sources for this information include data from indicators on worked hours per patient day[G] (each patient day represents a unit of time during which the patient uses the services of the organization or facility—for example, 12 patients in a facility for 1 day would equal 12 patient days); staff turnover[G]; patient outcome measures[G]; patient acuity[G]; diagnosis-related group[G] (e.g., surgical, palliative, labour and delivery); types of patients treated; length of patient stays[G]; readmission rates; patient experience surveys[G]; case mix group[G]; missed nursing care[G]; and financial staffing costs (e.g., planned, budgeted staffing versus actual staffing, overtime, sick time, and agency use) (Twigg et al. 2011).

This data can be used to establish strategic nursing staffing processes to support the delivery of safe, competent, culturally sensitive and ethical care for each patient care setting. These staffing processes include flexibility to accommodate changes in patient acuity, including intensity of patient needs, the number of admissions, discharges and transfers during a shift; the level of experience of nursing staff; the layout of the unit; and the availability of resources (Needleman et al., 2011).

RECOMMENDATION 1.1:

Safe nursing staffing processes are conducted by unit/operational nurse leaders who possess the requisite knowledge, professional judgment, skills, and authority, in collaboration with nursing staff at the point-of-care.

Level of Evidence = IV, V

Discussion of Evidence:

In order to successfully staff patient care units/settings, a process must be in place that results in a schedule that achieves an optimal balance between nurses' scheduling preferences and the coverage required to meet patient care needs, as well the requirements of contractual obligations and human resources policies. In addition to the nurse leaders, staffing processes by unit/operational nurse leaders, staffing processes are conducted at the point-of-care[G] by qualified staff as required, in response to patients' changing needs. Nurse leaders at the point-of-care require appropriate skill sets in order to assign nursing staff to patients across settings (Twigg et al, 2011).

The involvement of nurse leaders in staffing processes has been shown to have a positive effect in the areas of care delivery, nurse productivity, and the appropriate utilization of staff (Twigg et al., 2011). When formal nurse leaders were involved in decision-making about the impact of changes to the patient care delivery systems on nursing staffing and workload, care delivery was more efficient (Twigg et al., 2011). In addition, nurses were more productive when formal nurse leaders felt supported by their organization in achieving their responsibilities and the required financial and human resources were present (Twigg et al., 2011). With these logistical pieces in place, the formal nurse leaders identified that nursing personnel were utilized appropriately (Twigg et al, 2011).

At the program level, logistical decision-making involves how managers/directors allocate their staff and budgets to meet the needs of units within their programs. These operational leaders must have the requisite knowledge, judgment, skills, and formal authority to plan, implement, and evaluate nurse staffing processes and workload management. Moreover, they must work in collaboration with front-line nurse leaders, point-of-care staff, and relevant committees through shared governance. Nursing staffing decision-making results in balancing the required and actual nursing staff on each nursing unit[G] at each shift or timeframe of care, and is carried out by nurses at the point-of-care who possess the requisite knowledge and skills (Bae, Mark, & Fried, 2010).

The existence of mechanisms for adjusting to changes in patient acuity facilitates operational staff-decision making. These may include an internal resource pool, pre-scheduling of replacement staff, and nurse empowerment in all roles to make appropriate staffing decisions that result in safe, competent, ethical care.

By determining the exact numbers, skills, and competencies that a unit requires to deliver safe, optimal care, the team will lay the foundation for safe staffing. Yet, these processes on their own do not create safe staffing. Those responsible must know how to utilize relevant metrics when making decisions to ensure safe staffing.

RECOMMENDATION 1.2:

The board, administrative leadership, and human resources work collaboratively with point-of-care leaders to ensure that effective staffing processes, appropriate models of care delivery, and sufficient nurses in appropriate categories are in place in order to provide safe, quality, patient-centred care.

Level of Evidence = IV

Discussion of Evidence:

It is important for collaboration to occur between administrative leadership, senior management (including a senior nurse executive), and point-of-care leaders when planning for effective nurse-based staffing. A study by Needleman et al. (2011) found that nurse staffing below target levels was associated with increased patient mortality, which reinforces the need to match staffing with patients' needs for nursing care. The study also suggested that workforce planning should consider patient needs first, and that point-of-care staff should use real-time staffing tools to assist in determining patient needs. West et al. (2012) found that having standardized processes in place is essential to guiding base staffing, replacing staff, and having the flexibility to accommodate changes in patient acuity that affect nursing intensity[G]. Tools such as the "patient characteristic" synergy tool can assist point-of-care leaders to staff for patient complexity[G].

Health-care systems and organizations are complex, and undergo continuous change to improve outcomes for the populations they serve. Nurses must maintain competencies and specific knowledge for the area they work in to manage their patients. Various studies have shown an association between point-of-care nurses with a bachelor's degree and improved patient outcomes. A retrospective observational study conducted in Europe (Aiken et al., 2014) found that an increase in a nurses' workload by one patient increased the likelihood of an in-patient dying within 30 days of admission by 7 percent. However, the study also found that for each 10 percent increase in nurses on staff holding a bachelor's degree, the likelihood of an in-patient dying decreased by 7 percent. These associations imply that patients in hospitals in which 60 percent of nurses have bachelor's degrees and nurses care for an average of six patients would have almost 30 percent lower mortality than patients in hospitals in which only 30 percent of nurses have bachelor's degrees and nurses care for an average of eight patients (Aiken et al., 2014). Based on findings such as these, increasing the number of nurses with bachelor's degrees on their staff is important for hospitals that wish to improve patient care.

RECOMMENDATION 1.3:

Organizations budget to provide sufficient nurses in appropriate categories to support the delivery of quality, safe patient care and positive patient outcomes, and to reduce the financial costs associated with overtime.

Level of Evidence = IV

Discussion of Evidence:

Research points to the need for organizations to provide sufficient numbers of nurses in appropriate categories (e.g., RNs, full-time permanent, versus temporary, part-time, and/or casual) in order to support the delivery of safe, quality care for patients, enhance nurse health and retention, and provide financial benefits for organizations. Organizations

must work with their own human resources and administration to provide the required category and number of nurses (Alenius, Tishelman, Runesdotter, & Lindqvist, 2014).

Increasing the number of professional, full-time staff that provides continuity of care, in comparison to utilizing casual or temporary staff, has been associated with increased quality of care (Frith, Anderson, Fan, & Fong, 2012). A strong cross-sectional study (Frith et al., 2012), found that patient care is most safely delivered when there are enough nursing care hours, and another study (Trinkoff et al., 2011) suggests a correlation between positive patient outcomes and sufficient nurse staffing.

The investment associated with nursing hours[G] must be balanced against the cost of errors or complications associated with ineffective staff mix/skill mix[G] utilizations. Nurse staffing, inclusive of staff mix, is effective when it is planned on a unit/program basis and reflects individual and collective patient, nurse, and system characteristics (Canadian Nurses Association, 2012).

A moderately rated systematic review found that higher RN nurse staffing per shift was associated with decreases in hospital-related mortality, failures to rescue[G], cardiac arrest, hospital-acquired pneumonia, and other adverse events, with strong consistent evidence that patient safety increased for ICU and surgical patients (Kane, Shamliyan, Mueller, Duval, & Wilt, 2007). Studies have also found that RNs increased their assessment and direct care involvement with patients when they perceived there were sufficient RN staff on the unit to provide quality nursing care (Alenius et al., 2014; MacPhee, 2014).

The literature demonstrates an association between increases in full-time nurse staffing and a number of positive outcomes. For example:

- A moderate cross-sectional study found that increases in full-time staff were associated with decreases in missed care (Zhu et al., 2012).
- A weak longitudinal regression analysis found that increases in full-time staff were associated with decreased mortality and failures to rescue (Harless & Mark, 2010).
- A moderate cross-sectional study found that increases in full-time staff were associated with decreased unassisted falls, depending on the unit type (Staggs & Dunton, 2014).

In addition to the number of RNs and full-time staff, studies have found the following associations between overtime and patient outcomes:

- Increases in overtime hours were associated with an increase in hospital-related mortality, nosocomial infections, shock, and bloodstream infections (Kane et al., 2007).
- A cross-sectional study found that when nurses worked long hours and did not have sufficient time away from work, the result was an increase in patient mortality in pneumonia from abdominal aortic aneurysm, and acute myocardial infarction (Trinkoff et al., 2011).
- A strong-cross sectional study associated an increase in RN overtime staffing with higher emergency room visits (Weiss, Yakusheva, & Bobay, 2011).
- A moderate cross-sectional study found an association between working hours and nurse-sensitive patient outcomes, such as pneumonia, falls, and increased length of hospital stays. These outcome indicators reflect patient outcomes that either improve or decline depending on the quantity and quality of nursing care provided (Liu, Lee, Chia, Chi, & Yin, 2012).
- In a cross-sectional study, patient mortalities were linked to nurses working beyond their scheduled hours (Weiss et al., 2011).

The financial costs of overtime to organizations and to the health-care system in general must also be considered. A study conducted in acute care settings within one health region in British Columbia (Drebit, Ngan, Hay, & Alamgir 2010) examined the relationship between regular and overtime working hours of RNs and found that overtime hours presented a large economic burden on the health-care system in that region. In light of the number of overtime hours worked, the study suggested that an increase in the number of full-time positions could create net savings, and that positions could be differentially offered to the units using the most overtime hours.

In terms of the type of staff, a cohort study points to the financial benefits of employing permanent rather than temporary staff (Hurst & Smith, 2011). The study found that employing temporary staff is more expensive than employing permanent staff, as less time is spent with patients and more unproductive time is generated. In addition, the study found that employing temporary staff results in increased workload, poor morale, retraining, and the expense of turnover at the hospital administration level. Areas that employed more temporary staff reported higher absences of permanent staff and conflict due to different working styles (Hurst & Smith, 2011). In light of these findings, managers should monitor the use of temporary staff and the effect of this on quality of care and nurse work life.

Overburdening existing staff with increased workloads and demands that may bring about further staff turnover must be avoided. Recruiting and attracting quality RNs to fill vacancies while retaining adequate numbers of RNs to appropriately provide safe care to patients should be a focus for health-care organizations (Alenius, 2014; Macphee, 2014). Staff turnover has a financial impact, and decreased turnover rates can contribute to further savings.

RECOMMENDATION 1.4:

Organizations and those responsible for staffing create and employ a clear communication strategy to address staffing needs in unplanned situations, such as pandemics; code whites, browns, and blacks; and other situational disasters.

Level of Evidence = V

Discussion of Evidence:

Competent, effective communication enhances working relationships, and therefore, the care of patients, as well as enhancing other work-related activities. Communication must always be a component of the staffing process. Team communication is critical in day-to-day operations and crucial in times of situational disasters.

The expert panel has identified the following examples of situations that may require enhanced communications:

- pandemics;
- code whites, browns, and blacks;
- influenza;
- natural disasters; and
- environmental accidents (e.g., flooding of hospital, power outages, etc.).

Enhanced communications for organizations should include contact lists, information that is relevant to the specific situation, instructions for individual nurses and education for staff regarding proper procedures, and recommendations for delivering and receiving information for health-care providers during situational disasters that may affect staffing.

RECOMMENDATION 1.5:

Organizations develop a comprehensive framework, such as the patient care delivery systems model (PCDSM), to help them understand staffing needs and their impact on intermediate and distal outputs.

Level of Evidence = IV, V

Discussion of Evidence:

The development of a comprehensive framework for understanding staffing needs is an important step for organizations to take in order to be able to provide health-care managers with evidence-based management tools with which to make effective staffing decisions. One such framework is the Patient Care Delivery Systems Model (PCDSM)[G]. This model provides a map of the how inputs (i.e., patient, nurse, and system characteristics) interact with throughputs (e.g., nursing interventions, work environments, and environmental complexity) to produce intermediate (e.g., staffing levels) and distal (patient, nurse, and staffing) outputs.

An understanding of the relationships between system inputs, throughputs, and outputs can lead to a better understanding of how factors in the work environment affect clinical outcomes on nursing units—and ultimately, to better staffing decision-making.

For an in-depth look at the PCDSM, please see Appendix D.

RECOMMENDATION 2.0:

Organizations utilize reliable and valid tools to help determine patient needs and workload in order to support personalized care and provide sufficient numbers of nurses in appropriate categories to provide safe, quality patient care.

Level of Evidence = Ia, IV

Discussion of Evidence:

Ensuring effective nursing workload management with appropriate point-of-care staff is essential for patient safety and the day-to-day operations of in-patient units. Organizations can support safe staffing by keeping nursing utilization[G] rates at a level that balances patients' needs and the nursing effort[G]; the experience, educational preparation, and scope of practice of nursing staff; and organizational demands (Needleman et al., 2011).

A 2007 report, Measuring Nursing Work in Ontario, prepared by the Nursing Workload Task Committee (which was established by the Ontario Nursing Secretariat, part of the Ministry of Health and Long-Term Care), found that there is no consensus on how to define or measure the work of nursing. The report also noted that many complex factors must be considered in determining patient requirements.

A systematic review (Gabbay & Bukchin, 2009) reports that the use of tools to assist in determining patient needs and workload is essential to supporting personalized care and providing appropriate staffing. The expert panel recommends that organizations do the following (and recognize that these actions are not intended to introduce fragmentation of day-to-day staffing.):

- Use staffing tools to communicate and provide current information on patient needs;
- Once patient needs have been determined, use staffing guidelines/frameworks to match patient needs to nurse competencies and experience;
- Publicly post unit-level staffing plans with structures and processes in place to address unit-level staffing fluctuations (e.g., internal resource pools); and
- Authorize clinical nurse leaders to make staffing decisions based on patient needs (e.g., workload request for additional nurses).

Evidence-based tools should be used to support the assessment of patient acuity in each specific area (e.g., intensive care, surgical, medical), thereby allowing those responsible for daily staffing to determine the need for additional nursing and staff, and identify and utilize the appropriate process to ensure a sufficient number of nurses in appropriate categories to deliver safe, effective care. Real-time staffing tools, such as the patient characteristics synergy tool, are used at the point of care to help nurses determine patient needs (Bloor & Maynard, 2003). Some tools, such as the scorecard[G], allow for data to be organized for internal and external benchmarking (Bloor & Maynard, 2003).

In a moderately rated cohort study by Gabbay and Bukchin (2009), the use of admission, discharge, and transfer tools (ADT), information systems, attendance control systems (ACS), and the salary system provided relevant information to support decisions regarding daily staffing requirements. The ADT tools can help those responsible for staffing decisions to identify patient turnover by unit and ensure that staffing decisions take into account patient acuity. The study also

found that the use of tools to monitor daily staffing requirements provided better staffing decisions than use of anecdotal evidence without tools. The expert panel supports the view that anecdotal evidence may be unreliable without the use of tools and may not be verifiable, as information can be lost from person to person and shift to shift.

Baernholdt, Cox, & Scully (2010) reported that consideration be given to creating linkages between hospital clinical and administrative data, and utilizing ADT and the unit activity index (UAI) to supplement other traditional measures to make decisions related to staffing needs. The UAI is used to measure patient turnover, and can be used to calculate the individual nursing unit activities that affect nurses' workloads.

Baernholdt et al. (2010) also note that, while significant improvements have been made in capturing patient acuity, staffing management systems often underestimate workload in terms of patient volume. The sum of admissions, discharges, and patients admitted and discharged within the same day, and patients on the unit for 24 hours more accurately reflects the workload on a given unit. This measure helps capture the focused work required (at least 30 minutes) for admissions or discharges. More sensitive measures like these support better allocation of staff across the 24-hour clock in shifts that may be different in length and start time than traditional shifts (Baernholdt et al., 2010).

RECOMMENDATION 2.1:

Organizations use electronic health records (EHRs) and other integrated systems as appropriate to support safe, effective workload processes.

Level of Evidence = V

Discussion of Evidence:

An element that may help navigate the challenges of staffing health-care organizations is the increased use of health-care information technology. At the time of writing, many organizations have integrated their systems to include staffing practices and electronic health records. The electronic health record (EHR) is a documentation tool that yields data that can be used to enhance patient safety, evaluate care quality, maximize efficiency, and measure staffing needs (Lavin, Harper, & Barr, 2015). In clinical settings where there are a number of doctors, nurses, dietitians, pharmacists, and other health-care professionals, EHRs can improve communication among health-care professionals and support productivity. EHRs can also improve communication between health-care providers and patients to positively affect health outcomes and patient safety (Canada Health Infoway, 2016).

A moderately rated longitudinal analysis (Furukawa, Raghu, & Shao, 2011) examined the association between EHR implementation and nurse staffing and nurse-sensitive patient outcomes. There was strong evidence that EHR implementation was significantly associated with lower total nurse hours per patient day, and areas staffed with a higher percentage of registered nurses tended to have EHRs implemented. In another study (Rantz et al., 2010), which looked at the impact of bedside EHRs in nursing homes, EHRs were found to contribute to the quality of care provided. Workload efficiency, including the efficient capture of meaningful data, helps with the communication of information and nursing-based knowledge among members of the health-care team, thus improving patient safety and the quality of care.

RECOMMENDATION 3.0:

Nursing leaders make evidence-based decisions when conducting nurse staffing planning to provide sufficient numbers of nurses in appropriate categories required to safely and effectively meet patients' needs.

Level of Evidence = IV, V

Discussion of Evidence:

Safe staffing requires an understanding of appropriate staffing levels, which can be attained only through ongoing monitoring of staffing and outcomes evidence at the organizational level (Patrician et al., 2011). Examples of evidence that leaders may use to support their staffing decisions are research studies, benchmarking from other similar organizations or units that reflects the highest quality of care, internal quality indicators, patient outcomes, and staff and/or patient satisfaction surveys.

Nursing leaders have a professional responsibility to ensure that staffing plans include categories of nurses with the required knowledge and skill set to deliver safe care. It is critical that decisions related to skill mix are informed by evidence in order to support the best patient outcomes. Additional information for nurse leaders can be found in the RNAO BPG *Developing and Sustaining Nursing Leadership Best Practice Guideline* (2013b).

Generally, the studies used in this Guideline indicated that an increase in RN skill mix in staffing models was associated with positive patient outcomes (Shin & Bae, 2012; Staggs & Dunton, 2014; Tubbs-Cooley, Cimiotti, Silber, Sloane, & Aiken, 2013). A weak integrative review suggests that higher nurse staffing levels and a richer RN skill mix are associated with an increase in the quality of patient care (Chin, 2013). A moderately rated retrospective analysis found that increases in skill mix were associated with decreases in pressure ulcers, pneumonia, deep vein thrombosis, ulcers, gastritis and upper gastrointestinal bleeds, sepsis, shock/cardiac arrest, mortality, and failure to rescue (Twigg et al., 2012). Furthermore, a moderately rated cross-sectional study in a critical care setting that examined whether nurse staffing levels and nursing skill mix were associated with trauma patient outcomes concluded that higher hospital licensed practical nurse staffing levels were independently associated with slightly higher rates of mortality and sepsis in trauma patients admitted to Level I or Level II trauma centers (Glance et al., 2012).

Individual Recommendations

RECOMMENDATION 4.0:

Nurses, including charge nurses, responsible for day-to-day staffing decisions for their unit or team demonstrate skills and knowledge that support a comprehensive approach to staffing, including the following: knowledge of patient needs; knowledge of the team, including an understanding of individual skill levels, communication skills, flexibility, competencies, and scopes of practice; and an understanding of the organization.

Level of Evidence = IV

Discussion of Evidence:

Determining optimal staffing requirements to ensure safe appropriate nursing workload is a complex issue. In the 1960's, researchers demonstrated scientifically what nurses had known experientially and intuitively for years—that some patients require more nursing care than others, that the demand for nursing care is not a function of patient census alone, and that the variation in nursing workload[G] is independent of the ward or nursing unit (Connor, 1961; Wolf & Young, 1965a, 1965b). A simple, three-category patient classification system based on patients' physical (i.e., activities of daily living), emotional, and treatment needs (e.g., oxygen therapy, suctioning) was developed (Connor, 1961), and served as a template for the creation of a number of staffing models.

The three main models of nurse staffing are as follows:

1. **Budget based, in which nursing staff is allocated according to nursing hours per patient day.**

   The number of nursing hours per patient day (HPPD) or nursing hours is divided by total patient days and used to determine staffing levels based on hospital or other identified regional or provincial benchmarks. For example, on a medical unit the total patient days reflects the average number of patients for a 24-hour period. Nursing hours refers to the total number of hours worked by all nurses on a unit for a given time period (e.g., a 12-hour shift).

2. **Nurse–patient ratio, in which the number of nurses per number of patients or patient days determines staffing levels.**

   The nurse-patient ratio model is based solely on the number of patients on a unit. A pure nurse–patient ratio approach to staffing might not take into account individual patient needs or nursing judgment.

3. **Patient acuity, in which patient characteristics are used to determine a shift's staffing needs.**

   Acuity-based staffing considers the level of care, time, scope of nursing, and the patients' complexity in order to determine staffing needs while maintaining nursing standards of practice. In this model, the nurse providing direct patient care should consider each element of care within his/her scope and plan appropriately for the time needed to perform each element for each patient.

While all nurses have a professional duty to be knowledgeable about staffing as part of their responsibility to patients, it is the charge or lead nurse who is responsible for determining the level of staffing required before and during the shift, based on multiple factors (Mensik, 2014). The staffing role of charge nurses is critical to the safety of all nurses and patients in the health-care environment. Factors that a charge nurse must take into account include patient acuity, the availability of nurse personnel, nursing knowledge and skills, the characteristic of individual nurses, the complexity of the environment, and the budget of the organization and/or unit (Mensik, 2014).

Several studies point to specific patient factors—such as patient complexity, dependency, and presentation—that influence how a unit is staffed (Cucolo & Perroca, 2010; Imlach Gunasekara et al., 2011; Rudd, Jenkinson, Grant, & Hoffman, 2009). Patient complexity refers to patients' medical needs, while dependency considers patients' care needs and presentation describes the state that patients are in when they seek health care (Cucolo & Perroca, 2010; Imlach Gunasekara et al., 2011; Rudd et al., 2009).

In addition to the factors described above, the expert panel recommends that nurses consider the full extent of the nursing care required—taking into consideration both nurse and patient characteristics—when making staffing decisions that go beyond working with an identified nurse-to-patient ratio. This includes consideration of nurses' full scope of practice, the nursing complement currently in place, nursing experience, knowledge and expertise, skill mix, the time required for each element of care the nurse is expected to deliver for that shift, the individual characteristics and variables of each patient and family, and the availability of the interprofessional team members required to fully support the care required by the particular patient population. These variables can have a significant effect on the resources required.

It is essential that the nurse who is responsible for staffing decisions at the unit or team level consider and integrate all relevant factors into the staffing decision-making framework. As well, the expert panel recommends that charge nurses adopt the following five decision-making behaviours, set out in a qualitative descriptive study and referred to as "mindful staffing" (Wilson, Talsma, & Martyn, 2011):

(a) Resourcefulness. Nurses demonstrate this by knowledge of the system, experience in operations, organizational awareness, and familiarity with the process for obtaining required support.

(b) Tactful communication. Nurses demonstrate this by engaging in accurate, timely, clear, and respectful communication with members of the team.

(c) Flexibility. Nurses demonstrate this through resilience when faced with day-to-day stress. Resilience can be achieved by maintaining good relationships, accepting circumstances that cannot be changed, keeping a long-term perspective, and remaining hopeful while visualizing the achievement of goals (Sieg, 2015).

(d) Decisiveness, with deference to expertise. The expert panel identifies deference to expertise as nurses engaging in appropriate consultations with colleagues, and valuing the expertise of the patient or family member who possesses intimate information about the patient's health and medical history.

(e) Constant awareness of the "big picture." Nurses demonstrate this by communicating with other departments, organizations, and team members.

A 2011 Cochrane systematic review suggests that interventions related to hospital nurse staffing models—particularly, the addition of specialist nursing and specialist support roles to the nursing workforce—may improve some patient outcomes (Butler et al., 2011). Interventions may also improve staff-related outcomes—particularly, the introduction of primary nursing[G] (Butler et al., 2011). A moderate qualitative study proposed using staffing models as a way to consolidate patient and nurse factors in order to determine appropriate staffing levels (Butler et al., 2011). However, one literature

review (O'Brien-Pallas, Meyer, Hayes, & Wang, 2011) and a moderate cohort study (Tierney, Seymour-Route, & Crawford, 2013) found staffing models to be highly complex, and suggested that further understanding of the work environment is required in order to gain a better understanding of how factors in the work environment affect clinical outcomes.

While those in charge of staffing decisions have a responsibility to access resources to enhance their knowledge of staffing and their ability to make effective staffing decisions (see Recommendation 3.0), organizations have a corresponding responsibility to invest in processes that will enhance the development of their decision-makers' knowledge and their abilities to make safe, intra-shift staffing decisions (Wilson et al. 2011).

RECOMMENDATION 4.1:

All nurses understand and apply the processes for reporting and documenting unsafe staffing practices as per the requirements of regulatory bodies and organizational policies.

Level of Evidence = V

Discussion of Evidence:

Consistent with the RNAO's and the College of Nurses of Ontario's (CNO) position on safe staffing practices, health-care organizations have a responsibility to ensure that sufficient numbers of the most appropriate nurses for each specific setting are present at all times in order to provide safe, continuous care to patients. At the same time, nurses' professional responsibility to provide their patients with the best possible care includes advocating for safe staffing by reporting any unsafe staffing situations to the appropriate manager/supervisor/administrator at the time the situation occurs (CNO, 2002).

In recruitment and retention surveys, as well as research studies, nurses have indicated that they are unable to provide the required care elements consistent with standards defined by professional and regulatory bodies because of ineffective staffing. Studies have noted that characteristics of individual nurses, such as their daily attendance and reasons for working overtime, also affect staffing (Bae, 2012; Gabbay & Bukchin, 2009). Daily nurse attendance affects variability in individual workloads, while nurses who volunteer to work overtime for financial reasons or other pressures may be too fatigued to perform. Nurse fatigue as a result of ineffective scheduling is one example of a safety risk for nurses and patients that should be documented, reported, and discussed at the appropriate committees within an organization (Bae, 2012; Gabbay & Bukchin, 2009). Additional information on nurse fatigue can be found in the RNAO BPG *Preventing and Mitigating Nurse Fatigue in Health Care* (2011).

The expert panel recommends that nurses who identify unsafe staffing situations follow the organizational policy and/or submit a detailed documentation of the workload and practice concerns, and/or any workload forms supported in the collective agreement (if applicable), to the most responsible person in the management team or quality assurance department, as applicable, as soon as possible. A timely review and response/follow-up regarding workload forms is essential in order to maintain trust and determine resolutions for workload issues.

To encourage the reporting of unsafe staffing situations, organizations should support reporting, conduct regular reviews of the reporting process, and promote a culture[G] of "no blame" and "no fear." The resulting documentation can assist administrators to track and identify trends related to unsafe staffing that affect patient and nurse safety. Linking this data to quality reports may assist hospital administrators to advocate for additional resources in order to ensure safe staffing.

RECOMMENDATION 4.2:

Point-of-care-nurses participate in staffing decisions at the strategic, operational, and day-to-day levels utilizing processes of shared governance.

Level of Evidence = V

Discussion of Evidence:

Research shows that nurses want to provide more input into assessing patient acuity, changes in patient needs, and staffing requirements (Kramer & Schmalenberg, 2003; Laschinger, Almost, & Tuer-Hodes, 2003), and studies identify the value of nurses at all levels contributing to staffing decisions (Cho et al., 2003; Needleman & Buerhaus, 2003; Needleman et al., 2002; Person et al., 2004; Tourangeau et al., 2002; Yang, 2003).

One study (Burston, Chaboyer, Wallis, & Stanfield, 2011) identified various approaches of point-of-care nurses participating in decision-making to positively influence quality improvement, safety, nurse retention, effectiveness of care, and patient satisfaction. The contribution of these nurses supported approaches to transform the way nurses do their work and how they work with others. Fray (2011) concluded that giving frontline staff power and control over their clinical practice through a shared governance model benefits nurses, patients, and organizations in the areas of collegiality, staff retention, autonomy and empowerment, morale, and patient and nurse satisfaction.

Shared governance[G] is a working model of participatory decision-making in which nurses are organized to make decisions, whether in scheduling staff, educating new staff, or implementing evidence-based practices about clinical practice standards, quality improvement, staff and professional development, and research. It provides nurses across care settings with a voice to influence their own practice and the care they provide to patients (Church, Baker, & Berry, 2008). Examples of shared governance "vehicles" are committees, councils, task forces, and surveys seeking nurses' input. Shared governance activities may include participatory scheduling, joint staffing decisions, and/or shared unit responsibilities (e.g., every RN is trained to be "in charge" of his/her unit or area, and shares that role with other professional team members, perhaps on a rotating schedule) to achieve the best patient care outcomes. Nurses may also participate in setting goals and negotiating conflict (Taylor, 2016).

The expert panel notes that shared governance may look different in different settings, but that the outcomes are the same: a feeling of having been heard and included in decisions that directly affect the work life of nurses. Researchers have documented the value of the staffing process and the contributions that each category of nursing care provider (RN, RPN, NP) brings to the staffing process based on safety, competence, and ethical care (O'Brien-Pallas et al., 2004). With regard to staffing plans, the expert panel recommends that such plans

- be developed at the organization and unit levels in consultation with front-line nurses using a shared governance model;
- provide options for nurses when staffing arrangements are inadequate;
- identify expected nurse-to-patient ratios, skill requirements, scopes of practice, staffing models, and resources required for quality care;

- recognize the complexity involved in appropriately matching nurses' and other care providers' skills, education, and experience with patients' needs; and
- be created by individuals who have been trained for and are capable of making these complex decisions.

Further, the expert panel recommends that point-of-care nurses play a greater role in the development of staffing plans at the various levels in organizations. Being at the point-of-care gives these nurses a unique perspective on the variations in staffing needs throughout the day and night. They experience and are able to report on gaps, and have an understanding of where improvements are needed in order to coordinate and improve the quality of care, and maintain a healthy work environment.

RECOMMENDATION 4.3:

Point-of-care nurses demonstrate an understanding of organization and unit staffing policies and processes through the following: regular attendance, proactive vacation planning, appropriate sick time notification, and knowledge of interprofessional and intra-professional team members' roles.

Level of Evidence = IV, V

Discussion of Evidence:

The most appropriate principal registered nurse (or registered practical nurse) is assigned at the point of care to a patient based on the patient's complexity and care needs and the degree to which the patient's outcomes are predictable (RNAO, 2010). The organization and the patient rely on this nurse to be present for the delivery of care. All nurses have a professional responsibility to report for their scheduled shifts and if unavailable, utilize the processes outlined by their organization to inform their workplace (CNO, 2002).

Point-of-care nurses have a responsibility to acquire an understanding of patient flow and acuity relevant to their working setting, and provide sufficient notification of planned (e.g., vacation) and unplanned (e.g., sick time) absences to their managers/employers in accordance with organizational policies. Attending education sessions and accessing organizational policies that outline the standards and expectations for attendance is helpful in this regard.

While fluctuations in staffing needs are not always predictable, point-of-care nurses are in a unique position to contribute by identifying day-to-day factors that affect appropriate staffing of the unit and making suggestions for improved processes (Mensik, 2014). The expert panel has identified the following day-to-day factors that may affect staffing: an increase in patient census, an unexpected increase in patient acuity and needs, and unplanned staff absences.

The RNAO Best Practice Guidelines *Developing and Sustaining Inter-professional Health Care: Optimizing Patient, Organizational and System Outcomes* (2013a) and *Intra-professional Collaborative Practice among Nurses* (2016) highlighted the importance of understanding and practising as an intra-professional and as an inter-professional. When all members of the interprofessional team work to their full scope of practice and understand the other members' roles and scopes of practice, this contributes to the best outcomes for patients. Such understanding and collaboration among members of the interprofessional team with regard to patient needs and care plans can improve the quality of care and reduce workload issues among professionals (RNAO, 2013a).

RECOMMENDATION 4.4:

Nursing leaders support the development and operation of a staffing committee with representation from all units/teams/areas, including administration, and with a majority of members consisting of point-of-care registered nurses.

Level of Evidence = V

Discussion of Evidence:

A staffing committee oversees the processes required to ensure safe, adequate staffing for a particular health-care environment. Responsibilities of this committee may include unit scheduling[G], staffing policies, procedures, and the development of monthly staffing rotations (Mensik, 2014). Staffing committees support the development of an appropriate staffing plan to guide the needs of nursing units. A clear plan that considers skill set, experience, and the availability of nurses in appropriate categories will support appropriate staffing levels that promote continuity and standardization of care. Components of a staffing plan include processes for staff input on unit scheduling, policies, procedures, technology, care delivery model, holiday schedules, vacations, trading shifts, low census, and flexible shifts (Mensik, 2014).

Although the financial aspects of staffing are relevant to all staffing decisions, the expert panel recommends that the staffing committee's responsibilities should not include budget decisions or responsibilities, but should remain focused on the needs of nurses and patients.

The staffing committee provides an opportunity for nursing professionals and the organization's administrators to collaborate in determining staffing needs and studying the relationship between staffing and patient outcomes in the organization. It provides nurses, who are the primary caregivers in health-care organizations, with a voice, and may support greater retention of nurses while promoting evidence-based nurse staffing.

The operation and composition of staffing committees will vary among organizations, but should include representatives from all areas or units that deliver patient care. Moreover, organizations should employ an evidence-based mechanism whereby point-of-care nurses can advocate for sufficient nurse staffing based on the needs of specific patient populations, and can participate in a joint process regarding decisions on nurse staffing for each patient care area. In light of this, the expert panel recommends that at least 50 percent of the members of nurse staffing committees be point-of-care RNs.

All staffing committees should have a charter that sets out the purpose, structure, functions/tasks, and duties and responsibilities of the committee. For an example of a nurse staffing committee charter, see Appendix G.

External/System Recommendations

RECOMMENDATION 5.0:

Accreditation and approval bodies incorporate evidence-based indicators that reflect best practices in patient experience and safe, ethical, and high quality of care related to nurse staffing.

Level of Evidence = IV

Discussion of Evidence:

Incorporating indicators that have been demonstrated to provide accurate measurements of patient, nurse, and organization outcomes will assist accreditation bodies to determine whether or not standards of care are being met and maintained. Kutney-Lee et al. (2009) conducted a moderately rated study that reported an increase in patient satisfaction, as a widely used indicator, in hospitals with a more favourable patient-to-nurse ratio (i.e., more nurses). This study suggests that improving nurse work environments, which includes sufficient nurse staffing, may improve the patient experience and quality of care.

The literature has indicated that the use of evidence-based practices in staffing has resulted in more positive outcomes for patients and safer working environments for staff.

Government Recommendations

RECOMMENDATION 6.0:

Governments commit to developing legislative protection for nurses and other health-care staff who report staffing practices that compromise the safety and quality of care.

Level of Evidence = V

Discussion of Evidence:

All nurses have a professional responsibility to advocate for patients in their care and to report unsafe practices to the appropriate authorities (CNO, 2013), whether these are related to insufficient staff, inappropriate care, or any other issue. Patient advocacy is part of the nursing profession and part of the therapeutic relationship[G] directed at advancing outcomes in the best interests of the patient (RNAO, 2006).

There is often a stigma associated with speaking out, and doing so can cause considerable stress for those involved and have negative consequences for both individuals and organizations. Although in theory speaking out to help ensure quality care should not cause stress, in practice it often does. When nurses and other health-care providers have exhausted the internal procedures and channels (e.g., incident reports, verbal reports, etc.) to no avail, or if this is not sufficient, additional reporting avenues are necessary.

Having protective legislation in place that preserves individuals' anonymity and provides protection against retaliation and reprisals from employers would provide an important framework within which nurses and other health-care providers could express their concerns. Protective legislation has the potential to empower nurses and other health-care staff by exposing organizational cultures that stay silent on issues of patient safety (Jackson et al., 2010). Such legislation may provide opportunities for investigation and disclosure of information in good faith without targeting individuals, and may support organizations to address concerns through open critique and discussion when such concerns do arise (Berry, 2004).

RECOMMENDATION 6.1:

Governments commit to providing financial resources and leadership specifically earmarked to create healthy work environments that support safe nursing staffing practices, promote nurse retention, and contribute to positive patient outcomes.

Level of Evidence = IV

Discussion of Evidence:

Research has established that healthy work environments contribute to nurse retention. Findings in the literature search indicated that nurse turnover is embedded in staffing levels and practices, with cost attributable to both.

Investments in education and practices that facilitate healthy work environments have been identified as having positive financial outcomes for organizations. A study from New Zealand (North et al., 2013) found that the cost associated with each nurse turnover represented half of an average nursing salary. The savings that would result from a reduction in nurse turnover (as a result of a focus on creating healthier work environments) could be allocated to hiring additional nursing staff, and to other initiatives that influence nursing staff retention.

The literature suggests that the following practices influence nursing staff retention and may help prevent nurse turnover:

1. Managers ensuring that the intrinsic value of and the challenges faced by nurses—such as the emotional and physical challenges of their work, their morale, and associated stress—is acknowledged (Sellgren, Kajermo, Ekvall, & Tomson, 2009);
2. The use of self-scheduling (Butler et al., 2011);
3. Appropriate nurse staffing levels, health insurance, and work support programs for nurses (Luo, Lin, & Castle, 2013);
4. Appropriate working conditions (e.g., manageable workloads, a safe environment, the ability to take scheduled breaks, access to supplies and equipment) and an effective management approach (e.g., supportive leaders who demonstrate trust, are accessible, and who provide mentorship and share relevant information with their team) (Nakamura et al., 2010); and
5. Staffing within budgeted levels and avoidance of the use of temporary agency nurses (North et al., 2013).

Research Recommendations

RECOMMENDATION 7.0:

Funding agencies actively support nurse researchers to continue to study the impact and outcomes of staffing on nurses, patients, organizations, and systems.

Level of Evidence = V

Discussion of Evidence:

The expert panel has identified the importance of research funding earmarked for the area of nurse staffing. Research on nurse staffing is integrated with health services delivery, quality of care, and outcomes for both patients and nurses. Nurses play an integral role in designing better care for patients, and such funding will help evaluate both the services provided and the systematic structure within which the services are delivered. This includes identifying the appropriate number and type of nursing personnel required to provide effective and efficient care while controlling health-care costs. Funding for research on nurse staffing will encourage the development and involvement in research for all nurses, and contribute to the advancement of nursing science and the enhancement of patient and nurse outcomes.

The expert panel notes that, despite past efforts and previous research, staffing and staff mix remains a challenging operational aspect for health-care organizations. Considerable ethical implications exist with regard to conducting experimental research in the area of nurse staffing (e.g., randomizing patients to receive care through delivery models that have not been evaluated for safety), and researchers in this area must devise creative research designs that balance the need for experimental quantitative data while maintaining strong ethical values.

Having access to current research on the impact of staffing processes and staff mix will provide important evidence to nurse administrators who are responsible for ensuring safe, adequate staffing and help guide their decision-making. Refer to the Research Gaps and Future Implications section for more information about the research that is necessary to enhance the evidence base related to nurse staffing and workload practices.

Research Gaps and Future Implications

The RNAO expert panel, in reviewing the evidence for this Guideline, identified the priority areas for research set out in Table 1. They are broadly categorized into practice, outcome, and health-system research.

Table 1: Priority Practice, Outcome, and Health-System Research Areas

CATEGORY	PRIORITY RESEARCH AREA
Practice research	■ Additional studies that examine staffing models that are dynamic and that are based on patient acuity, staff mix, self-scheduling, and the utilization of specialty nurses
	■ Additional studies that look at the use of qualitative and quantitative tools to enhance staffing practices
	■ Additional studies that explore staff mix models on in-patient units and patient and nurse outcomes
Outcomes research	■ The effects of all scheduled shifts, sleep breaks, working status, patient safety, environment, quality of work life, and continuity of care and caregivers on nurse and patient satisfaction
	■ The impact of staff mix models on the length of patient stays
Health-system research	■ Health economic evaluations of staffing models and strategies in diverse settings (e.g., long-term care, home care)
	■ Return on investment, cost benefit
	■ Additional studies on the need for legislative amendments to support nurses who report unsafe working conditions

The above table, though not exhaustive, is an attempt to identify and prioritize the research needed with respect to safe, effective staffing and workload practices. Many of the recommendations in the Guideline are based on quantitative and qualitative research evidence; others are based on consensus[G] or expert opinion. Further substantive research is required to validate the expert opinion. Better evidence will lead to improved staffing and workload practices and, ultimately, to improved patient outcomes.

Implementation Strategies

Implementing guidelines at the point of care is multi-faceted and challenging; it takes more than awareness and distribution of guidelines for practice to change. Guidelines must be adapted for each practice setting in a systematic and participatory way, to ensure the recommendations fit the local context (Harrison, Graham, Fervers, & van den Hoek, 2013). The RNAO (2012) Toolkit: Implementation of Best Practice Guidelines provides an evidence-informed process for doing this (see Appendix F).

The Toolkit is based on emerging evidence that successful uptake of best practices in health care is more likely when:

- Leaders at all levels are committed to supporting guideline implementation;
- Guidelines are selected for implementation through a systematic, participatory process;
- Stakeholders for whom the guidelines are relevant are identified and engaged in the implementation;
- Environmental readiness for implementing guidelines is assessed;
- The guideline is tailored to the local context;
- Barriers and facilitators to using the guideline are assessed and addressed;
- Interventions to promote use of the guideline are selected;
- Use of the guideline is systematically monitored and sustained;
- Evaluation of the guideline's impact is embedded in the process; and
- There are adequate resources to complete all aspects of the implementation.

The Toolkit uses the "Knowledge-to-Action" framework (Strauss, Tetroe, Graham, Zwarenstein, & Bhattacharyya, 2009) to demonstrate the process required for knowledge inquiry and synthesis. It also guides the adaptation of the new knowledge to the local context and implementation. This framework suggests identifying and using knowledge tools, such as guidelines, to identify gaps and begin the process of tailoring the new knowledge to local settings.

RNAO is committed to widespread deployment and implementation of our Best Practice Guidelines (BPGs). We use a coordinated approach to dissemination, incorporating a variety of strategies, including:

1. the Nursing Best Practice Champion Network®, which develops the capacity of individual nurses to foster awareness, engagement, and adoption of BPGs;
2. nursing order sets[G], which provide clear, concise, actionable intervention statements derived from the BPGs practice recommendations that can be readily embedded within electronic medical records, but may also be used in paper-based or hybrid environments; and
3. the Best Practice Spotlight Organization® (BPSO®) designation, which supports implementation at the organization and system levels. BPSOs® focus on developing evidence-based cultures with the specific mandate to implement, evaluate, and sustain multiple RNAO BPGs.

In addition, we offer annual capacity-building learning institutes on specific BPGs and their implementation.

Information about our implementation strategies can be found at:

- RNAO Best Practice Champions Network®: http://RNAO.ca/bpg/get-involved/champions
- RNAO Nursing Order Sets: www.RNAO.ca/bpg/initiatives/nursing-order-sets
- RNAO Best Practice Spotlight Organizations®: http://RNAO.ca/bpg/bpso
- RNAO capacity-building learning institutes and other professional development opportunities: http://RNAO.ca/events

Evaluating and Monitoring This Guideline

As you implement the recommendations in this Guideline, we ask you to consider how you will monitor and evaluate its implementation and impact.

Table 2 is based on a framework outlined in RNAO's (2012) *Toolkit: Implementation of Best Practice Guidelines* and illustrates some specific indicators for monitoring and evaluating implementation of this Guideline.

Table 2: Structure, Process, and Outcome Indicators

TYPE OF INDICATOR			
Level of Indicator	**Structure**	**Process**	**Outcome**
Objectives	These indicators evaluate the supports in the organization that allow nurses and other health-care professionals to integrate best practices in their staffing models.	These indicators evaluate implementation of this Guideline and changes in staffing practices via indicators and outcomes for nurses and patients.	These indicators provide data that reflects the impact of implementing the Guideline recommendations that lead to improved outcomes for nurses.
Organization Level	System structures are in place to support organizations and health-care providers to promote safe and effective staffing and workload practices within, between, and across settings	System-wide processes are implemented to support safe staffing within, between, and across settings and health-care providers Score cards are reviewed regularly by executive leadership and representatives from key stakeholder groups (including patient representatives, nurse leaders, and point-of-care practitioners) to assist with workforce planning Score cards are part of the organizational annual review, which includes performance trends, and budget/resource allocation for the next fiscal year	Percentage of unit/operational nurse leaders(s) who conduct safe nursing processes Percentage of adverse events related to insufficient nurses on shift Percentage of costs associated with alternate staffing model Percentage of readmission rates due to insufficient supply of full-time nurses Percentage of organizations using data reporting tools for internal and external benchmarking

Level of Indicator	Structure	Process	Outcome
Organization Level	Organization structures support continuity of care, and safe staffing of nurses within, between, or across settings or health-care providers, as demonstrated through: ■ Communication and information flow mechanisms, and ■ availability of personnel designated to assist with contingent plans that affect staff availability	Organization has adopted and implemented policies and procedures to guide staffing Organization provides appropriate in-service training and education programs for those responsible for developing staffing models and day-to-day scheduling Organization utilizes or provides standardized technology to support staffing systems	Decrease of costs associated with staffing (e.g., overtime, agency use) Decrease of adverse events (e.g., delayed care, readmissions, insufficient care) All staff receive training or education regarding technology, staffing models, and staff mix Monitoring and reporting of critical incidents related to insufficient staffing in terms of category and numbers Full-time/part-time ratios of 70/30
	Structures are in place for the submission of official complaints in the areas of nurse communication, clinical nurse care, and nurse attitude	Organization evaluates official complaints and staffing practices	
Individual Level	Educational in-services are in place to support best staffing practices	Nursing staff and staff designated as responsible for staffing receive appropriate education and training Nurses in all roles and other health-care providers report unsafe situations	Percentage of nurses educated and trained on policy and procedures for staffing Percentage of nurses satisfied with the staffing model, processes, and availability of nurses to staff the unit

Level of Indicator	Structure	Process	Outcome
Individual Level	Staffing models are in place to support adequate care for patients	Patients and families receive verbal information regarding who is scheduled to deliver their care during each shift	Percentage of patients satisfied with the category, continuity, and number of staff delivering their care
System Level	Availability of adequate financial resources to support technology and human resources to achieve safe staffing Budget is aligned with an evidence-based organizational model of nursing care delivery	Yearly budget costs for: ■ staffing of the appropriate category and numbers of nurses, inter-professionals, and support staff; and ■ tools for enabling communication and staffing scheduling	Demonstrated cost efficiency and effectiveness through: ■ recruitment and retention cost savings, ■ sick time cost savings, and ■ overtime cost savings Required staffing levels available to: ■ meet patient needs, ■ accommodate fluctuating patient needs, and ■ accommodate fluctuating staffing needs (e.g., replacement staff for orientation, professional development, etc.)

Process for Update and Review of the Guideline

The Registered Nurses' Association of Ontario (RNAO) commits to updating its BPGs as follows:

1. Each BPG will be reviewed by a group of specialists in the topic area every five years following publication of the previous edition.
2. The International Affairs and Best Practice Guidelines (IaBPG) Centre staff monitor regularly for new systematic reviews, randomized controlled trials, and other relevant literature in the field.
3. Based on that monitoring, staff may recommend an earlier revision period. Appropriate consultation with members of the original expert panel and other specialists and experts in the field will help inform the decision to review and revise the guidelines earlier than planned.
4. Three months prior to the review milestone, the staff commences planning of review by:
   a) Inviting specialists in the field to participate on the expert panel. It will be comprised of members from the original expert panel as well as other recommended specialists and experts.
   b) Compiling feedback received and questions encountered during the implementation, including comments and experiences of Best Practice Spotlight Organizations® and other implementation sites regarding their experience.
   c) Compiling new system and healthy work environment guidelines in the field and conducting a systematic review of the evidence.
   d) Developing a detailed work plan with target dates and deliverables for developing a new edition of the Guideline.
5. New editions of guidelines will be disseminated based on established structures and processes.

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Appendix A: Glossary of Terms

Best practice guidelines: Systematically developed statements to assist practitioner and client decisions about appropriate health care for specific clinical (practice) circumstances (Field & Lohr, 1990).

Case mix group: A patient classification system based on the most responsible diagnosis to group together in-patients with similar characteristics that have been discharged from an acute-care setting.

Collaboration: One or more members of the health-care team working together, with each making a unique contribution toward achieving a common goal; an ongoing process that requires effective communication between the members of the health-care team and a clear understanding of the roles of the individuals involved in the collaboration process (CNO, 2014).

Complexity: Complexity is concerned with the amount and diversity of factors that are affecting the patient's condition. Complexity of care increases when patients' care needs are fluctuating or are not well established, when multiple health problems are present, or when interventions may affect multiple systems or conditions (CNO, 2014).

Consensus: A process for making policy decisions, not a scientific method for creating new knowledge. Consensus development makes the best use of available information, be that scientific data or the collective wisdom of the participants (Black et al., 1999).

Contingency staffing: Term used to describe work arrangements that differ from regular/permanent, direct wage, and salary employment. Contingent workers most often include temporary employees provided by an outside staffing agency and independent contractors/consultants. Contingent workers may also include temporary workers from an internal pool, and others (such as summer interns) employed directly by an organization for an intentionally limited time period. They do not include work done by consulting firms or by part-time regular employees, and are primarily distinguished by an explicitly defined tenure (Protocall Group, 2016).

Continuity of care: A seamless, continuous implementation of a plan of care that is reviewed and revised to meet the changing needs of the patient. The care may be provided by various care providers, at various times, and in various settings.

Culture: Culture refers to the shared and learned values, beliefs, norms, and ways of life of an individual or a group. It influences thinking, decisions, and actions (CNO, 2013).

Diagnosis-related group: A classification of patients by diagnosis or surgical procedure (sometimes including age) into major diagnostic categories (each containing specific diseases, disorders, or procedures) for the purpose of determining payment of hospitalization charges, based on the premise that treatment of similar medical diagnoses generates similar costs ("Diagnosis-related group," 2012).

Evidence: Information that comes closest to the facts of a matter. The form it takes depends on context. The findings of high-quality, methodologically appropriate research provide the most accurate evidence. Because research is often incomplete and sometimes contradictory or unavailable, other kinds of information are necessary supplements to, or stand-ins for, research. The evidence base for a decision is the multiple forms of evidence combined to balance rigour with expedience while privileging the former over the latter (Canadian Health Services Research Foundation, 2005).

Failure to rescue: The inability of health-care providers to save a hospitalized patient's life when he/she experiences a complication.

Healthy work environment: A healthy work environment for nurses is a practice setting that maximizes the health and well-being of nurses, quality patient outcomes, and organizational performance.

Leadership: A relational process in which an individual seeks to influence others toward a mutually desirable goal.

Length of patient stays: The length of an inpatient episode of care, calculated from the day of admission to day of discharge, and based on the number of nights spent in hospital. Patients admitted and discharged on the same day have a length of stay of less than one day. ("Length of stay," 2012.)

Logistical nursing staffing decision-making: Those decisions and judgments that result in overall staffing directions at the unit level related to baseline staffing levels, replacement staffing methods (e.g., float pools), and scheduling approaches and methods (e.g., self-scheduling, master rotation, 12-hour shifts, 8-hour shift) to meet nursing care and management objectives.

Logistical patient flow decision-making: Those decisions and judgments that result in overall approaches to the intake or admission of patients in order to meet patient care and management objectives.

Missed nursing care: Refers to any aspect of required patient care that is omitted (either in part or in whole) or delayed; an error of omission (Kalisch, Landstrom, & Hinshaw, 2009).

Nursing effort: The cognitive, emotional, physical, and social effort involved in caring for, responding to, and supporting others in a manner that diminishes vulnerability, protects dignity, and promotes well-being.

Nursing hours: The total number of hours worked by all nurses on a unit over a given time period (Mensik, 2014).

Nursing order set: A group of evidence-based interventions specific to a domain of nursing. Nursing order sets are ordered independently by nurses (i.e., without a physician's signature) to standardize the care provided for a specific clinical condition or situation.

Nursing intensity: A term in the nursing minimum data set, defined as the total time and staff mix of nursing personnel resources consumed by an individual patient or during the episode of care under review ("Nursing intensity," 2005).

Nursing workload: The amount and type of nursing resources required by a nurse to care for an individual patient on a daily basis.

Patient: In this Guideline, the term "patient" is used to encompass everyone who receives health services across the continuum of care. It is used instead of other terms such as "person," "individual," "user," "beneficiary," "client," "customer," and "resident."

Patient Care Delivery Systems Model (PCDSM): The patterns by which health-care services are made available to people in different settings ("Patient care delivery systems model," 2013).

Patient day: "A unit in a system of accounting used by health-care facilities and health-care planners. Each day represents a unit of time during which the services of the institution or facility are used by a patient; thus 50 patients in a hospital for 1 day would represent 50 patient days." ("Patient day," 2009.)

Patient experience survey: Patient care experience surveys evaluate the degree to which care is patient-centered and aim to stimulate, guide, and monitor quality improvement efforts targeting patients' experiences of care (Anhang Price et al., 2014).

Patient outcome measures: The patient's perspective and reported outcomes that provide information as to whether the health-care services and procedures made a difference to the patient's health status and quality of life (Canadian Institute for Health Information, 2016).

Point-of-care: The location and time at which health-care providers deliver health-care products and services to patients.

Point-of-care nursing staffing decision-making: Those decisions and judgments made on a day-to-day and/or shift-to-shift basis that result in necessary staffing adjustments to safely meet the needs of patients on a consistent basis, in light of changes of staff availability and/or patient needs.

Point-of-care patient flow decision-making: Those decisions and judgments made on a day-to-day and/or shift-to-shift basis that result in changes in requirements for nursing care due to rescheduling of admissions, programs, or visits, and/or transferring of patients.

Primary nursing: A system in which one nurse is caring for all of the needs of a patient within a 24-hour period from admission to discharge. The nurse is responsible for coordinating and implementing all of the necessary nursing care that must be given to the patient during the shift. (RNAO, 2010.)

Professional: In health care, refers to those who provide the patient with preventative, curative, and rehabilitative care, and who have undergone education in a program of study accredited by a governing body and who are required to maintain ongoing competence through their relevant regulatory body (D'Amour & Oandasan, 2005).

Quality: The degree to which health-care services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge (WHO, 2009).

Randomized controlled trial: An experiment in which the investigator assigns an intervention, exposure, or treatment to participants who are randomly allocated to either the experimental group (receives intervention) and the comparison (conventional treatment) or control group (no intervention or placebo) (The Cochrane Collaboration, 2005). The participants are followed and assessed to determine the efficacy of the intervention. Includes double-blind, single-blind, and non-blind trials.

Scheduling: Determines a set number and type of staff for a future time period based on such factors as historical census numbers and anticipated surgical volumes. Schedules may range from one month to three month, and include holiday schedules and vacations (Mensik, 2014).

Scorecard: A scorecard focuses on the patient perspective of the hospital—in other words, what patients want and how well the hospital is serving them. The scorecard can articulate what the hospital must do to satisfy its patients so as to achieve its financial objectives. To answer this question, managers must initially identify the firm's target market and clarify its patient care objectives using their critical success factors.

Shared governance: A model through which nurses can work together and manage themselves using a system of rules and policies that engage individuals and groups to participate in decision-making; members of the group share responsibility and accountability for decisions (Church, Baker, & Berry, 2008).

Staff mix/skill mix: The combination of different categories of health-care personnel employed for the provision of direct care in the context of a nursing care delivery model (Harris & McGillis Hall, 2012).

Staff turnover: The rate at which employees leave a place of employment and are replaced by other employees. Nurse turnover may be voluntary (e.g., retirement) or involuntary (e.g., as a result of health issues), depending on whether the nurse chooses or is forced to leave (Stokowski, 2014).

Staffing: A match of registered nurse expertise with the needs of the recipient of nursing care services in the context of the practice setting and the situation from shift to shift (Mensik, 2014).

Stakeholder: An individual, group, or organization that has a vested interest in the decisions and actions of organizations, and may attempt to influence decisions and actions (Baker et al., 1999). Stakeholders include all of the individuals and groups who will be directly or indirectly affected by the change or solution to the problem.

Strategic nursing staffing decision-making: Those decisions and judgments that result in overall approaches to nursing care delivery, such as staff skill mix (RN, RPN), staff status mix, (full-time, part-time) staffing levels, and model of care delivery.

Strategic patient flow decision-making: Decisions and judgments made for patient placement that are based on patient type, acuity, numbers, and available nurses to provide care on an in-patient unit.

Systematic review: A review that "attempts to collate all empirical evidence that fits pre-specified eligibility criteria in order to answer a specific research question" (The Cochrane Collaboration, 2011). A systematic review uses systematic, explicit, and reproducible methods to identify, select, and critically appraise relevant research, and to collect and analyze data from the studies that are included in the review (The Cochrane Collaboration, 2005, 2011).

Therapeutic relationship: The therapeutic relationship is grounded in an interpersonal process that occurs between the nurse and the patient(s). It is a purposeful, goal-directed relationship that is directed at advancing the best interest and outcome of the patient (CNO, 2013; RNAO, 2006).

Utilization: Reflects the actual number of nursing hours adjusted to reflect the complexity of patients on a unit.

Appendix B: Guideline Development Process

The Registered Nurses' Association of Ontario (RNAO) has made a commitment to ensure that every BPG is based on best available evidence. To meet this commitment, a monitoring and revision process has been established for each Guideline every five years.

For this Guideline, RNAO assembled an expert panel of health-care professionals with particular expertise in this practice area. A systematic review of the evidence was based on the purpose and scope, and was supported by the four clinical research questions listed below. The systematic review captured relevant literature and guidelines published between January 2006 and June 2016. The following research questions were established to guide the systematic review:

1. What individual-level factors affect the development and sustainability of effective, safe staffing and workload practices?
2. What organization-level factors affect the development and sustainability of effective, safe staffing and workload practices?
3. What system-level factors affect the development and sustainability of effective, safe staffing and workload practices?
4. What are the client, staff, and organizational outcomes of effective, safe staffing and workload practices?

This Guideline is the result of the RNAO Guideline development team and expert panel's work to integrate the most current and best evidence, and ensure the validity, appropriateness, and safety of the Guideline recommendations with supporting evidence and/or expert panel consensus.

Appendix C: Process for Systematic Review and Search Strategy

Guideline Review

The RNAO Guideline development team's project coordinator searched an established list of websites for guidelines and other relevant content published between January 2006 and January 2016. A comprehensive guideline search was conducted and did not identify any guidelines relevant to the scope of this BPG.

Systematic Review

A comprehensive search strategy was developed by RNAO's research team and a health sciences librarian, based on inclusion and exclusion criteria created with the RNAO expert panel. A search for relevant articles published between January 2006 and June 2016 was applied to the following databases: Cumulative Index to Nursing and Allied Health Literature (CINAHL), MEDLINE, MEDLINE in Process, Cochrane Library (Cochrane Database of Systematic Reviews and Cochrane Central Register of Controlled Trials), EMBASE, and PsychINFO. In addition to this systematic search, panel members were asked to review personal libraries for key articles not found through the above search strategies. Results were exported into Reference Manager Software and merged; duplicate citations were removed.

Detailed information about the search strategy for the systematic reviews is available online at www.RNAO.ca/hwe/staffing-workload.

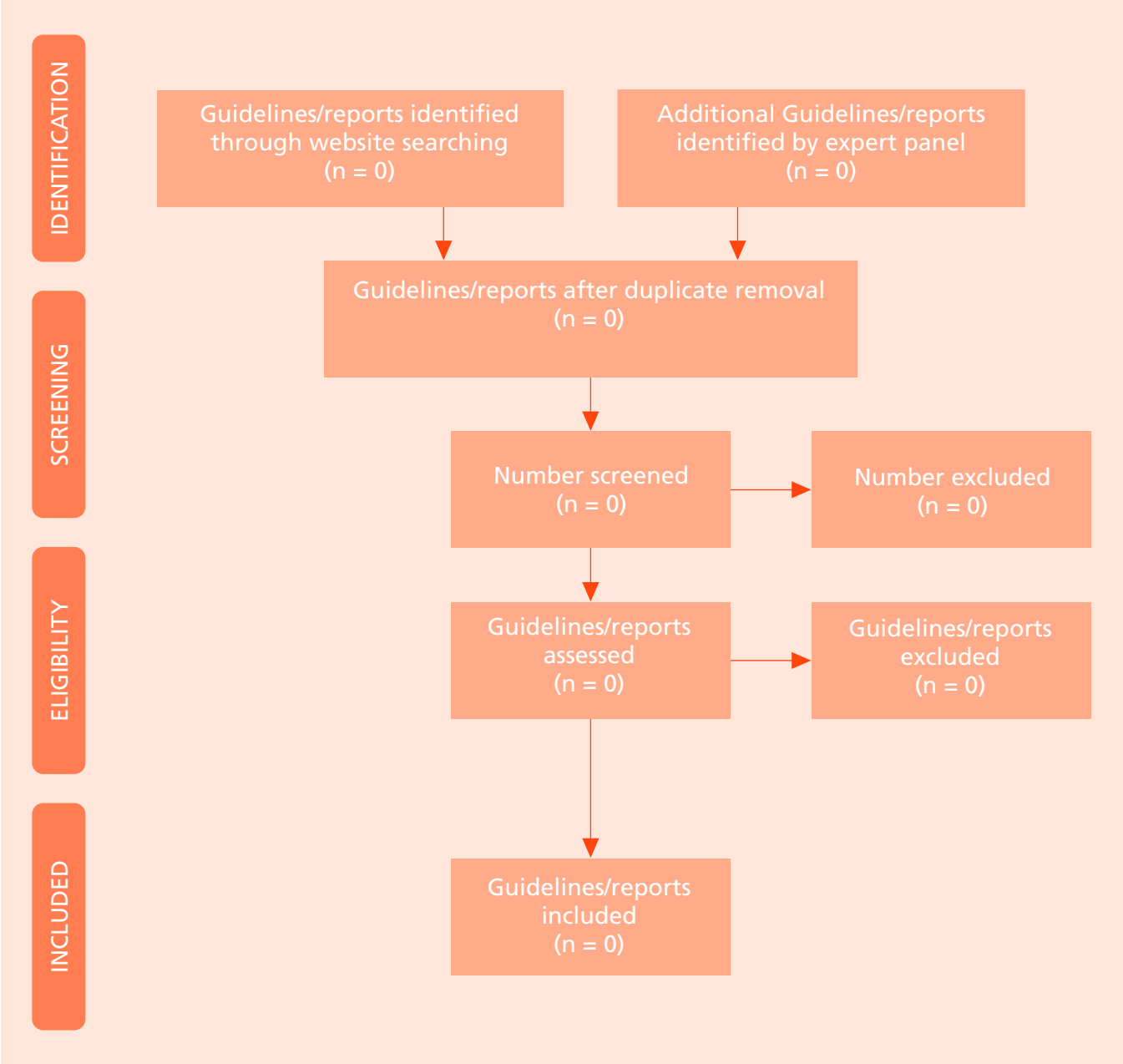
General inclusion criteria included: (a) primary focus on nurse staffing and workload practices, (b) published in English, (c) published in a peer-reviewed journal, (d) any study types, and (e) published between 2007 and 2014. Records were excluded if they were: (a) commentaries, dissertations, letters to the editor, and editorials, (b) ≤ 1 page, and (c) protocols on study designs.

Once articles were retrieved, two RNAO nursing research associates (NRAs) (nurses holding master's degrees) independently assessed the eligibility of the studies according to established inclusion/exclusion criteria. Any disagreements at this stage were resolved through tie-breaking by the project manager.

The two NRAs independently appraised 18 percent of the articles and achieved an inter-rater reliability score of 75 percent (0.75 weighted kappa). Individual studies were matched with the most appropriate quality appraisal tool (e.g., AMSTAR, CASP, Cochrane Public Health, etc.) and given a raw score. The raw score was converted to an overall quality score based on the percentage: strong (>82.5%), moderate (62.5–82.4%), or weak (<62.4%). Each study was assigned a quality rating, and relevant data (e.g., purpose, methods, results, conclusions, etc.) were extracted into tables.

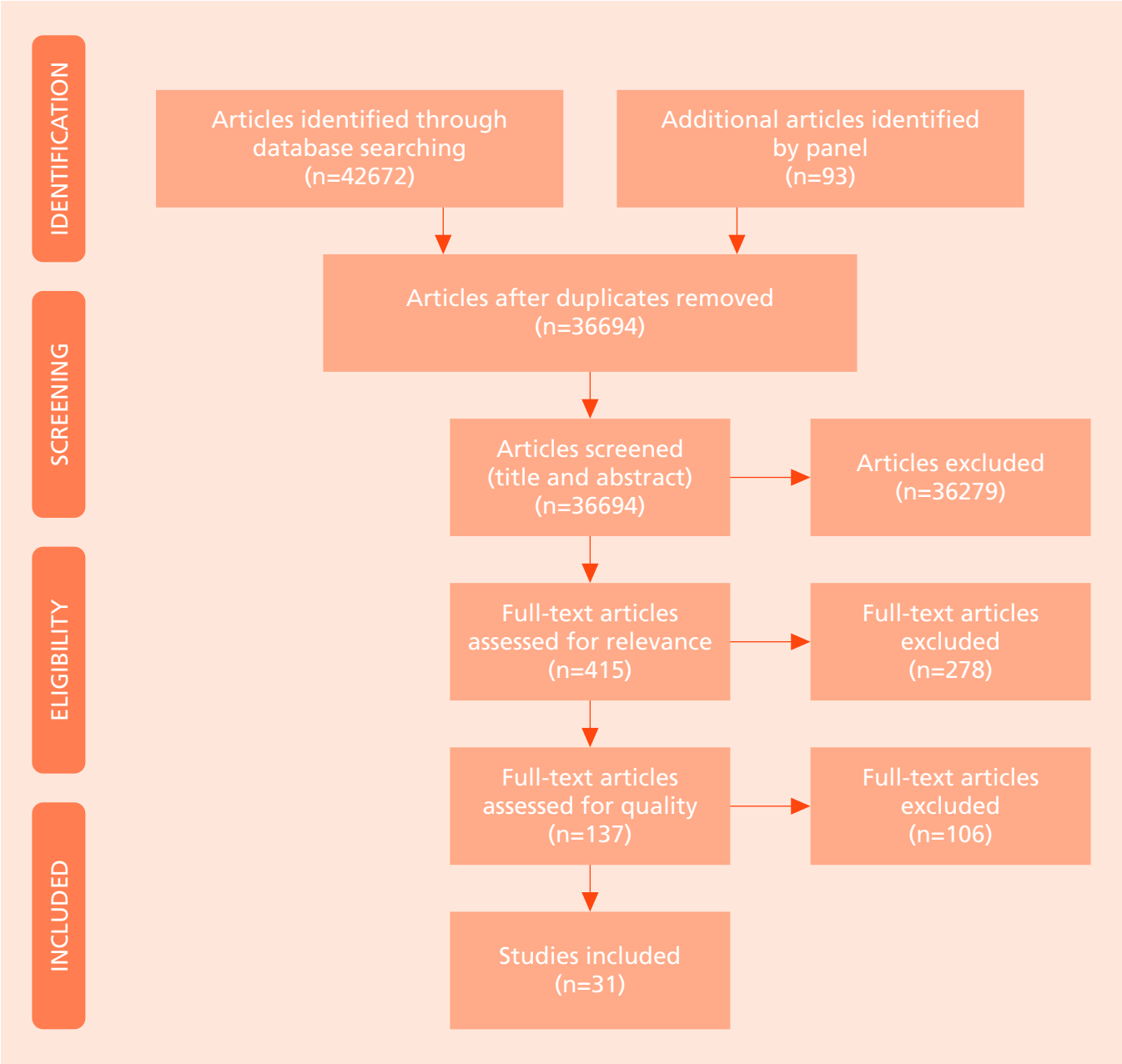
Prior to publication, the systematic review was updated, and a search for relevant articles published in English between May 2014 and June 2016 was applied to MEDLINE. The purpose of this systematic review update was to capture any relevant research that would prompt an update to the current recommendations. A total of 2,462 records were retrieved, and one NRA assessed the eligibility of the records according to established inclusion/exclusion criteria. Any uncertainties were resolved by the BPG nurse program manager. In total, 43 research articles were included in the update and continue to support the current recommendations in this Guideline.

Guideline Review Process Flow Diagram



Flow diagram adapted from D. Moher, A. Liberati, J. Tetzlaff, D. G. Altman, and The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *BMJ 339*, b2535, doi: 10.1136/bmj.b2535

Article Review Process Flow Diagram



Flow diagram adapted from D. Moher, A. Liberati, J. Tetzlaff, D. G. Altman, and The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *BMJ 339*, b2535, doi: 10.1136/bmj.b2535

Appendix D: Overview of the Patient Care Delivery Systems Model Related to Promoting Safe, Effective Staffing and Workload Practices

The Patient Care Delivery Systems Model related to promoting safe, effective staffing and workload practices (shown on page 71) is an open-system model based on more than 15 years of research. It was developed to support safe, effective staffing decision-making, and was tested in the hospital setting in 2003. Consistent with systems theory, it reflects dynamic interaction with the constantly changing work environment of practice.

Patient care delivery systems are highly complex. They include a variety of **inputs** incorporating patient, provider (nurse), and system characteristics, as well as the multiple interactions among these components. These inputs—coupled with **throughputs**, such as models of care, nursing leadership [G], nursing infrastructures, and environmental complexity factors—result in a range of **outcomes** for patients, providers, and systems, as shown in the diagram on page 71.

In open systems, theory inputs interact with each other then travel to throughputs. The interaction of inputs and throughputs transforms the system and leads to patient, provider, and system outcomes. These outputs then serve as inputs to the system, and an iterative process begins; at each iteration, the system interacts with the environment. Staffing decisions are made when outcomes are best and the price is reasonable.

Factors

The staffing decision-making process based on this model incorporates the following factors:

- The individual workload planning and management competencies of nurses vary between nurses and across categories of nursing professionals [G] (e.g., RNs and RPNs/LPNs), as well as across nursing leadership functions (e.g., resource nurses, nurse managers, and nursing executives).
- Competencies are based on knowledge, skills, attitudes, critical analysis, and decision-making, which are enhanced throughout an individual's professional career by experience and education.
- Workload equilibrium depends on an appropriate patient care delivery system. Such a system reflects a coordinated interdisciplinary approach incorporating ongoing communication between health professionals and patients, with consideration given to the personal preferences and unique needs of each individual patient, and the individual and collective capacity of the nursing personnel.

Staffing and Decision-Making Principles

The model is informed by the following principles:

- Individual nurses will perform within their competencies.
- All nurses will seek appropriate consultation with senior management in instances where nurse staffing and performance are incongruent with patient needs and with desired patient, nurse, and organizational outcomes.

Budget and Workforce Planning Principles

The staffing decision-making process based on this model incorporates the following principles with respect to budget and workforce:

- Budgetary support for evidence-based staffing complement to meet patient population needs that are aligned with the organizational needs.
- Provide supports for staff replacement, orientation, and professional development.
- Support for continuity of care for the patient.
- Avoid the use of overtime.
- Decrease agency nurse utilization.
- Decrease over-reliance on casual nurse staffing for planned staffing needs.
- Shifts exceeding 12 hours should be avoided.
- Employ a 70/30 ratio of full-time to part-time nurses.
- Use flexible work practices associated with work–life balance (e.g., self-scheduling).
- Ensure that skill mix for each clinical area is based on patient acuity, predictability, and patient needs.
- Monitor the proportions of experienced to new nurses.
- Ensure that adequate support mechanisms are in place for inexperienced nurses (e.g., unit-based resource nurses).
- Include succession planning with respect to nurse leadership (e.g., educators, administrators).
- Account for unplanned changes (internal or external).

Patient Care Delivery Systems Model

INPUTS

Patient Characteristics
- Demographics
- Family support
- Health history (complexity)
- Functional/cognitive status
- Determinants of health
- Health knowledge and health behaviours
- Admission entry point
- Perceived quality of life
- Care goals/expectations
- Care needs

Provider Characteristics—Nurse
- Age, gender
- Determinants of health
- Work/life balance
- Professional status
- Employment status
- Education
- Experience (practice, practice environment)
- Competence level
- Health status
- Work goals/expectations
  - Professional identity
  - Leadership accountability
  - Intergenerational practices

System Characteristics
- Geographic location
- Availability and accessibility
- Level of integration
- Organizational size and scope
- Population density
- Population characteristics
- Supply-Demand ratio of nurses
- Resource availability
- Technology
- Change management—continuity of care, work planning/management
- Leadership
- Workplace stability
- Legislation and regulation
- Resource allocation—scheduling practice, skill mix, overtime utilization, replacement staffing, availability and accessibility of clinical/non-clinical staff
- Continuity of caregiver
- Consistency of care
- Engagement in decision-making
- Human resource practices

THROUGHPUTS

Nursing Care Processes
- Model of care
- Leadership behaviours
- Nursing interventions
- Non-nursing work completed
- Work environment

Environmental Complexity Factors
- Re-sequencing of work in response to others
- Unanticipated delays due to changes in patient acuity
- Characteristics and composition of caregiving team
- Predictability and stability
- Patient experience of care
- Transfer of accountability
- Technology

OUTPUTS

Patient Outcomes
- Readmission rates
- Patient safety
- Patient satisfaction
- Goal achievement
- Morbidity/mortality
- Optimized quality of life

Provider Outcomes—Nursing
- Quality of nursing care and outcomes as input in nursing welfare
- Effort and reward balance
- Autonomy
- Control
- Job satisfaction
- Collaborative relationships
- Optimal health and safety
- Perceived value

System Outcomes
- Patient outcomes
- Nurse retention rates
- Length of stay
- Cost per resource intensity weight
- Quality of patient care
- Quality of nursing care
- Interventions delayed
- Interventions not done
- Absenteeism
- Error rates

Adapted from O'Brien-Pallas

Appendix E: Levels of Decision-Making Related to Promoting Safe, Effective Staffing and Workload Practices

The goal of the staffing process is the efficient and effective utilization of nursing human resources. The Patient Care Delivery Systems Model (O'Brien-Pallas et al., 2004) isolates the variables that must be considered to promote such utilization. This in turn leads to a healthy work environment, which results in the best patient, nurse, and system outcomes. To ensure that these outcomes occur, information systems and measures must be utilized at all three levels of decision-making to guide the decision processes.

The mission of all nurse staffing decision-making (strategic, logistical, and point-of-care) is to align the appropriate numbers of required nurses with the needs of patient to ensure the delivery of safe, competent, cost-effective, ethical care. Nursing staff must not work beyond capacity (i.e., understaffing must not occur), and all staff must work to the full scope of their practice to enable healthy work environments.

Nurses are a regulated profession, and have a professional responsibility to complete an assessment of staffing needs, and document and communicate these to those who are responsible for making decisions about staffing. Such decisions are made on an ongoing basis, and include nurse staffing decision-making and patient flow decision-making. These decisions occur at the strategic planning level, the logistical level, and the point-of-care level, and are characterized as follows:

STRATEGIC PLANNING LEVEL	LOGISTICAL LEVEL	POINT OF CARE LEVEL
Strategic nursing staffing decision-making[G] (guidelines on nurse utilization rates, staff mix, and staffing levels)	Logistical nursing staffing decision-making[G] (nursing staff scheduling for a fixed period)	Point-of-care nursing staffing decision-making[G] (last-minute adjustments)
Strategic patient flow decision-making[G] (policies on nursing units related to the types of patients admitted)	Logistical patient flow decision-making[G] (patient admission scheduling, etc.)	Point-of-care patient flow decision-making[G] (transfer of patients from one unit or another, cancellation of scheduled admissions)

As part of the staffing process, there must always be a clear communication process and system analysis component. This provides an appropriate feedback mechanism that can result in adjustments to either the nurse staffing or patient flow decision-making processes, as necessary. Nursing staff supply is a complex process that is equally important for nurse staffing and patient flow decision-making. Various ratios and mix indicators are pertinent to nursing staffing, including the following:

- **Nursing staff skill mix:** This refers to actual staff skill categories and skill levels, (e.g., RN, RPN/LPN, etc).
- **Nursing staff status mix:** This refers to the full-time, part-time, casual, or agency employment status of actual staff; and
- **Contingency staffing[G]:** This refers to staffing needed in addition to baseline staff in order to maintain an appropriate workload for staff while meeting patient needs.

Appendix F: Description of the Toolkit

Best practice guidelines can only be successfully implemented if planning, resources, organizational, and administrative supports are adequate and there is appropriate facilitation. To encourage successful implementation, an RNAO expert panel of nurses, researchers, and administrators has developed the *Toolkit: Implementation of Best Practice Guidelines* (2012). The *Toolkit* is based on available evidence, theoretical perspectives, and consensus. We recommend the *Toolkit* for guiding the implementation of any clinical practice guideline in a health-care organization.

The *Toolkit* provides step-by-step directions for the individuals and groups involved in planning, coordinating, and facilitating the guideline implementation. These steps reflect a process that is dynamic and iterative rather than linear. Therefore, at each phase, preparation for the next phases and reflection on the previous phase is essential. Specifically, the *Toolkit* addresses the following key steps, as illustrated in the "Knowledge to Action" framework (RNAO, 2012; Straus et al., 2009):

1. Identify the problem: Identify, review, and select knowledge (best practice guideline).
2. Adapt knowledge to the local context:
   - Assess barriers and facilitators to knowledge use, and
   - Identify resources.
3. Select, tailor, and implement interventions.
4. Monitor knowledge use.
5. Evaluate outcomes.
6. Sustain knowledge use.

Implementing guidelines to effect successful practice changes and positive clinical impact is a complex undertaking. The *Toolkit* is one key resource for managing this process. It can be downloaded at http://RNAO.ca/bpg/resources/toolkit-implementation-best-practice-guidelines-second-edition.

Appendix G: Sample Nurse Staffing Committee Charter

Nurse Staffing Committee Charter

Purpose: The Nurse Staffing Committee is to provide a collaborative effort for establishing minimum staffing practices to meet patient needs and to provide a healthy work environment for all nurses. These guidelines should recognize evidence-based standards.

Each area where nursing care is provided will have the opportunity to provide advice to the Nurse Staffing Committee. These areas will be called to meetings when their attendance is required. Committee meetings are open and any interested Registered Nurse employed by the organization may attend, but only committee members will have a vote.

The Nurse Staffing Committee will be co-chaired by one staff Registered Nurse and one management representative. Co-chairs will be selected every two years by the Nurse Staffing Committee.

Structure: Nurse Staffing Committee structure should:

- Have at least 50% staff/point-of-care RNs
- Have not more than 15 members
- Have a mechanism to ensure representation of shifts
- Have a mechanism to ensure representation of nursing specialties
- Have a designated term of service for members
- Be provided time and resources to participate
- Incorporate periodic quality evaluation tools
- Have minutes that are accessible to all staff
- Be led by the chief nurse executive or designee

Function/Tasks: The function of the Staffing Committee is to establish nurse staffing guidelines that take into consideration:

- Individual and aggregate patient needs and requirements for nursing care
- Specialized qualifications and competencies of nurses and support staff
- Availability and requirements for specialized equipment and technology
- The geographic environment of the facility
- Patient safety as paramount when planning nurse work hours
- Evidence-based standards and guidelines
- Evaluate care delivery system based on resources
- Provision of safe patient care and adequate nurse staffing with emphasis on care delivery models based on available resources
- Availability of resources during emergencies

Sample Committee Duties & Responsibilities

The role of the Nurse Staffing Committee is to:

- Review existing, and/or develop new, staffing plans and guidelines for all patient units
- Review current recognized evidence-based standards and guidelines as these relate to staffing recommendations
- Offer recommendations for a nursing services staffing plan that is cost effective and that ensures that the organization has a staff of competent nurses with the specialized skills needed to meet patient needs, and addresses the following:
  - The complexity of care, patient assessment, volume of patient admissions, discharge, and transfer;
  - Patient acuity and the number of patients for whom care is being provided
  - Adjustment of nursing staff levels based on patient needs
  - At least annually, review the effectiveness of the staffing plan using indicators such as patient satisfaction, nurse satisfaction, quality indicators, and fiscal management
  - Make recommendations for revisions to the staffing plan based upon this annual review, if appropriate.

Source: Reprinted from *New Hampshire Nurse Staffing Toolkit*, by New Hampshire Nurses Association. Copyright 2009 by New Hampshire Nurses Association. Reprinted with permission.

Endorsements

ONA
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December 13, 2016

Doris Grinspun RN, MSN, PhD, LLD(hon), O.ONT.
Chief Executive Officer
Registered Nurses' Association of Ontario (RNAO)
158 Pearl Street
Toronto, ON
M5H 1L3

Dear Doris,

The Ontario Nurses' Association (ONA) is proud to endorse the Registered Nurses' Association of Ontario (RNAO) evidence-based Healthy Work Environment Best Practice Guideline *Developing and Sustaining Safe, Effective Staffing and Workload Practices, Second Edition.*

ONA is a proactive union which represents 62,000 registered nurses and allied health professionals and 14,000 nursing student affiliates. We are committed to providing high-quality health care through improving the quality of work-life for our members and promoting effective communication with employers and unity within the nursing profession. This guideline is directly related to our objectives and commitment to our members and the nursing profession.

With its evidence-based focus on improving workload practices, we believe this best practice guideline will greatly strengthen the outcomes for clients and for all members. The recommendations addressing team and individual practice, the organization, and system will enable us to work towards creating an even healthier work environment. This guideline will support our members to meet these commitments and continue to make positive changes.

We thank the Registered Nurses' Association of Ontario for its rigorous process of guideline development and support the implementation of this guideline across all organizations as together we work towards having the healthiest clients/ patients and the best healthcare system in Canada.

Sincerely,

ONTARIO NURSES' ASSOCIATION

Linda Haslam-Stroud

Linda Haslam-Stroud, RN
President

LHS/ar

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20 January, 2017

Doris Grinspun
Chief Executive Officer
Registered Nurse' Association of Ontario (RNAO)
158 Pearl Street
Toronto, ON
M5H 1L3

Dear Doris,

The Honor Society of Nursing, Sigma Theta Tau International (STTI) is pleased to support the Registered Nurses' Association of Ontario (RNAO), through endorsement of its new System and Healthy Work Environment Best Practice Guideline – *Developing and Sustaining Safe, Effective Staffing and Workload Practices, Second Edition.* Since our establishment in 1922, STTI has recognized the value of scholarship and excellence in nursing practice. In addition to our own wide array of professional development products and services, we promote nursing and healthcare resources such as this guideline, which advance the learning and leadership of nurses working to improve the health of people worldwide.

RNAO's guideline is related to our goals of improving world health and celebrating nursing excellence in scholarship, leadership, and service. Its evidence-based recommendations on staffing and workload practices can be implemented to benefit patients, nurses, and other healthcare providers, as well as organizations and health systems. STTI recognizes the value of safe, effective practices that will not only create and sustain healthy work environments but will ultimately improve patient experience and outcomes.

We believe RNAO's *Developing and Sustaining Safe, Effective Staffing and Workload Practices, Second Edition* guideline will help move the health system forward and improve the quality of care experienced by all who use healthcare services.

Best regards,

Patricia E. Thompson

Patricia E. Thompson, EdD, RN, FAAN
Chief Executive Officer
Honor Society of Nursing
Sigma Theta Tau International

Notes

Notes

ia BPG

INTERNATIONAL
AFFAIRS & BEST PRACTICE
GUIDELINES

TRANSFORMING
NURSING THROUGH
KNOWLEDGE

System and Healthy Work Environment Best Practice Guidelines

FEBRUARY 2017

Developing and Sustaining Safe, Effective Staffing and Workload Practices

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RNAO
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L'Association des infirmières et infirmiers autorisés de l'Ontario

Ontario