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STAFFING FOR SAFETY:
A SYNTHESIS OF THE EVIDENCE ON NURSE STAFFING AND PATIENT SAFETY

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A joint initiative between the Canadian Health Services Research Foundation, the Ministry of Health and Long-Term Care's Nursing Secretariat, and the Canadian Nurses Association. Report based on a synthesis of the research led by Amy Sanchez McCutcheon and Maura MacPhee and expert deliberations.

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MAIN MESSAGES

- Safe and appropriate nurse staffing is critical to patient health, safety, and well-being, as nurses deliver more individual healthcare than any other healthcare provider.
- Current nurse staffing conditions demand immediate attention, as they have become increasingly inadequate and can result in unacceptable compromises to patients as well as nurses. Creating and maintaining a work environment that supports and retains nurses is key to improving the quality of healthcare, including patient safety.
- One of the most important predictors of patient well-being is the amount of direct nursing care patients receive per day.
- Nurses are only one of many care providers. Efforts to improve patient safety should be led in tandem with other quality improvement initiatives involving other healthcare providers.
- Improving patient outcomes through nurse staffing is really about improving the organization, delivery, and management of healthcare services.
- Nurse staffing is a complex process. An effective and formalized staffing plan requires an understanding of the complexity involved in patient care and in matching human resources (skills, number of staff, education, and experience) to patient needs. Only those qualified to do this task should create these plans.
- Five recommendations are presented in this report. They are:

  1. Effective, formal staffing plans should be implemented in all organizations employing nurses.
  2. Patients should be cared for by highly educated regulated nurses.
  3. Patients should be cared for by experienced nurses.
  4. Workplaces should encourage and sustain improved patient, nurse, and system outcomes.
  5. Standard nurse staffing definitions need to be created and used to ease comparison of research findings and to build stronger evidence for policy and practice.

- These five recommendations can be incorporated into formal staffing plans. Such plans should be specific to the unit, ward, or program; address staffing needs required for quality healthcare delivery; and be formed in consultation with staff nurses, using a shared governance model. The plans should spell out options, repercussions, and alternatives when staffing goals are not met.

EXECUTIVE SUMMARY

Nurse staffing makes a critical difference to patients. Research reveals a close link between inappropriate nurse staffing levels and higher rates of unwanted outcomes for patients. This report highlights evidence-informed recommendations for improvements in patient outcomes through advancements in nurse staffing. It blends findings from a decision-maker roundtable with the research report *Evaluation of Patient Safety and Nurse Staffing*, led by Amy Sanchez McCutcheon.[i]

Patients are sicker today than in the past and need more specialized and acute care. Nurse staffing has not kept pace with this greater patient need, and in effect, due to the restructuring era of the 1990s, nurse staffing has deteriorated. Heavy workloads and stressful working conditions are affecting nurses' ability to provide quality healthcare. Rather than thinking of nurse staffing as a management concern or an expense, it is time to recognize it as a key intervention that affects all other healthcare interventions. Therapies such as drugs, medical procedures, and health education cannot be effective if nurses are not there to provide them at the right time, in the right way, or at all. If the well-being of Canadians is a priority, then appropriate nurse staffing must be seen not as an onerous expense but as a cost-effective quality and safety intervention worthy of investment.

Notably, improved nurse staffing has multiple beneficiaries: it benefits the patients through better health outcomes, and it supports nurses by increasing job satisfaction, reducing absenteeism, and encouraging retention.[1] It also benefits hospitals and the healthcare system by reducing patients' lengths of stay and therefore costs. One study concluded the savings from reduced lengths of stay would offset almost half of any increased labour costs.[2] In this publicly funded system, advancements, efficiencies, and cost savings from improvements in the quality of care will benefit all Canadians.

Appropriate nurse staffing involves more than just the number of nurses on duty. Education, experience, skill mix, and leadership qualities have an enormous impact on the quality of nurse staffing. For example, studies show that the risk of people dying in hospitals decreases with the presence of highly educated nurses.[3] Similarly, a Canadian study concluded that increased nursing experience is associated with fewer patient deaths.[4]

This report encourages evidence-informed decision-making around nurse staffing that will result in better patient outcomes. The available evidence on nurse staffing and patient outcomes focuses almost entirely on hospital and acute care settings. As of yet, there is little research on this topic in the community setting or in long-term care. Also, the research focuses mainly on registered nurses, with little focus on registered psychiatric nurses, licensed practical nurses, and advanced practice nurses such as nurse practitioners and clinical nurse specialists. To ensure inclusion of the spectrum of regulated nurses and sectors of public and community healthcare, this synthesis approach relied on evidence-informed recommendations from decision makers with expertise on nurse staffing and patient safety. In addition to providing their expertise, decision makers helped identify specific areas for action, which are captured in this report's recommendations.

This timely report is written for discussion and action. It is a celebration of the extensive work and collaboration from a number of groups and individuals involved in this synthesis endeavour.

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[i] A detailed description of the approach used in this synthesis can be found in appendix 1.

DEFINITION OF KEY TERMS

Quality of healthcare is defined as the degree to which health services increase the likelihood of desired health outcomes and are consistent with current professional knowledge.[5]

Patient safety is freedom from accidental injury, or more broadly, freedom from harm from the healthcare that is intended to help.[6]

Patient outcomes are the observable effects and/or results of nursing interventions or care environments on patients.[7]

Adverse events are unexpected, undesirable incidents resulting in injury or death that are directly associated with the process of providing healthcare to a client.[8]

Nurse staffing is the process used to determine and deploy the acceptable number and skill mix of personnel needed to meet the care needs of patients in a program, unit, or healthcare setting.[9]

THE ISSUE OF NURSE STAFFING AND PATIENT SAFETY

Patients are sicker today than they were in the past and require more specialized and intensive care. However, nurse staffing has not kept pace with this greater patient need. For example, in the U.S., although Pennsylvania hospitals saw a 21-percent increase in patient acuity between 1991 and 1996, nurse staffing remained the same.[10] More troubling is evidence that nurse staffing conditions have actually deteriorated. Spurred by efforts to be more efficient and less costly, Canadian hospitals went through major restructuring processes in the 1990s. Nurses make up the largest group of healthcare providers and so represent a large cost for government and employers. Consequently, nurses were a primary target for staff reductions. The goal of this restructuring was to curb spending while maintaining quality of healthcare. However, the result was significant changes in the way units were designed, managed, and staffed.

Throughout the past decade nurse staffing declined through replacement of registered nurses with non-registered nurses and nurse aides; reductions of licensed practical nurses;[11] early retirement of experienced, senior nurses;[12] and younger nurses leaving the profession.[13] The subsequent decline in the quality of healthcare (as a result of poor nurse staffing) has not gone unnoticed in Canada. Concerns for patient safety were expressed as early as 2001.[14] Pressures to improve the system are ongoing. Because nurses are at the core of healthcare delivery, they are critical to patients' well-being and safety. Nurses are "the front line staff in most health systems and their contribution is recognized as essential to delivering an adequate quality of care."[15] This point is acknowledged internationally.

Decisions about nurse staffing make a critical difference to patients. Numerous studies reveal a close link between nurse staffing levels and rates of adverse events for patients. Five major studies found that reduced nurse staffing levels were associated with higher patient death rates.[16] Other studies examined non-fatal adverse events and found that as nurse staffing levels decrease adverse events such as heart attacks, shock, medication errors, falls, pressure sores, ulcers, blood clots, upper gastrointestinal bleeds, and respiratory and urinary tract infections increase. Clearly, nurse staffing decisions must be addressed within the context of patient safety as well as cost.

But what does "nurse staffing" mean? Merely having a certain number of nurses on a ward or unit barely scratches the surface of the nurse staffing issue. Equally important are having nurses with the right kind of skills, the right experience, the appropriate education, and who are working within the right type of staffing model with the right mix of other healthcare providers. Also necessary is the right kind of support and leadership to ensure nurses are able to provide the care patients need. Obviously, matching nurse staffing patterns to patients' needs is complex – anyone tackling this topic must consider all of the elements mentioned and more. The "Evaluation Framework to Determine the Impact of Nursing Staff Mix Decisions" published by the Canadian Nurses Association provides an excellent overview of the factors affecting nurse staffing.[17]

There is a need to do something now to change the state of nurse staffing. Research has shown that when the quality of nurse staffing levels suffers, so do patient outcomes. But what exactly must be done? And how best to do it? First, new and effective ways to raise the issue of nurse staffing and recognize the condition it is in now must be found. The impact nurse staffing has on patients, on front-line nurses, on management, and on senior administrators of all organizations employing nurses as well as the health system must be acknowledged. Second, the expectations and requirements for effective nurse staffing, as well as options and alternative courses of action available when staffing resources are less than optimal, must be identified. Employers must act on what the evidence on nurse staffing and patient safety says because better nurse staffing benefits patients, nurses, and the system itself.

A synthesis of the research evidence, *Evaluation of Patient Safety and Nurse Staffing*, was prepared by a research team led by Amy Sanchez McCutcheon as one component of this synthesis process (see appendix 1). In this report, as well as in other recent reports, there is a great deal of discussion and debate about mandatory or legislated nurse-patient ratios. Ratios have advantages and disadvantages and are often confusing and controversial. A fixed nurse-patient ratio (such

as one nurse for every four patients) does not necessarily account for the acuity, complexity, and variability of a particular patient population. Similarly, it does not necessarily address different nurse skill, education, or experience levels or individual unit characteristics that should be considered in nurse staffing. However, ratios do provide direction on the expectations and requirements for the number of nurses needed to provide care. It is uncertain whether nurse staffing ratios should or will be mandated. However, there are effective, practical, and cost-effective ways to improve nurse staffing and patient outcomes *right now*. One promising practice is the formalized nurse staffing plan, which addresses all of the above aspects of nurse staffing within the context of an individual care-providing unit.

Regardless of what initiatives are taken to improve nurse staffing, two things are clear: 1) something needs to be done now; and 2) this "something" must be informed by evidence. This report identifies areas and opportunities for action that were identified by expert decision makers in nurse staffing and patient safety and informed by research evidence.

SYNTHESIS OBJECTIVES

This synthesis aims to:

- describe the state of evidence on the relationship between nurse staffing and patient safety;
- develop specific and applicable evidence-informed recommendations for future action on nurse staffing and patient safety issues; and
- provide tools and resources for those wanting to improve nurse staffing conditions.

This synthesis integrates the findings from a 2006 research report *Evaluation of Patient Safety and Nurse Staffing* by Amy Sanchez McCutcheon et al.[18] with a February 2006 decision-maker roundtable hosted by the Canadian Health Services Research Foundation. This roundtable meeting was attended by healthcare decision makers and nurse staffing and patient safety experts from regional, provincial, and federal organizations. The research report can be found at www.chsrf.ca. A more detailed description of the synthesis process and a list of roundtable participants are provided in the appendices of this report.

The five recommendations in this synthesis are supported by evidence and based on the guidance of experts who seek to improve the quality of healthcare (including patient safety) through improved nurse staffing. Aimed at encouraging evidence-informed decision-making around nurse staffing issues, this report is written for action.

RECOMMENDATION #1: EFFECTIVE, FORMAL STAFFING PLANS SHOULD BE IMPLEMENTED IN ALL ORGANIZATIONS EMPLOYING NURSES.

Specifically:

1. Staffing plans should be developed at the organization and unit levels in consultation with front-line nurses, using a shared governance model. Shared governance is an organizational process through which nurses control their practice as well as influence administrative decisions.
2. Staffing plans should provide options for nurses when staffing arrangements are inadequate, such as authorization to call agency nurses if needed. Similarly, they should identify corrective actions employers can implement when plans are not followed.
3. Staffing plans should identify expected nurse-patient ratios; skill requirements; scopes of practice; staffing models; and resources required for quality of care.
4. Staffing plans should recognize the complexity involved with the appropriate matching of nurses' and other care providers' skills, education, and experience with patients' needs.
5. Nurse staffing plans should be created by individuals trained for and capable of making these complex decisions.

Evidence and Rationale

There has been a lot of discussion lately about implementing mandatory nurse-patient ratios in Canada – and for good reason. Decisions about nurse staffing make a critical difference to patients. Research shows that reduced nurse staffing levels influence everything from rates of heart attacks, medication errors, respiratory infections, and falls to rates of patient deaths.[19] The research provides compelling evidence that when nurse staffing levels go down, the number of adverse events goes up.

In addition to benefiting patients, improved staffing levels also benefit nurses and hospital administrators. Nurses who are part of an effectively staffed team enjoy greater job satisfaction, are more committed to their workplace, and stay longer with their employers.[20] Administrators save costs as patients experience fewer and less serious adverse events and shorter lengths of stay.[21] One study concluded that the savings from reduced lengths of stay would offset almost half of any increased labour costs.[22]

Clearly, something must be done. But are mandatory nurse-patient ratios the best solution? Some feel that mandatory ratios would allow nurses to "close the flood gates" on increasingly unsafe and dangerous workloads. Others feel there is an advantage to presenting beleaguered staff with a solid, fixed number. Reality demands that staffing plans must be open to an array of diverse models, especially given the existing nurse shortage and the real possibility of being unable to fill fixed ratios. What is more, a lack of strong evidence for the effectiveness and practicality of mandatory ratios leaves the issue open to debate. Of particular concern is the inflexibility of a firm nurse-patient ratio and the fact that it fails to account for variables such as patient acuity, staff skill mix, and individual unit characteristics.

While research on ratios continues, formalized staffing plans are an attainable, practical approach to address nurse staffing. Formalized staffing plans are more than accounting formulae used by managers to budget and line up staff. They are organization-specific and take into account the unique needs of the patient as well as competencies of the nurses and other care providers.[23, 24] A review of nurse patient ratios by Gail Tomblin Murphy for the Canadian Federation of Nurses Unions and Health Canada describes the objectives of staffing plans as "to ensure congruency among available nurse staffing, projected patient workload and organizational features."[25]

Although formalized staffing plans take into account nurse-patient ratios, they differ considerably. In some areas of the United States, staffing plans, like ratios, are mandated. Cox et al. (2005)[26] explain that mandatory staffing plans "typically require the development of a predetermined strategy to address staff shortages as they occur." In contrast to mandatory ratios, mandatory staffing plans are as individual and unique as the units or wards to which they apply. What is more, they are a means to initiate discussion between nurses, other healthcare providers, and their managers and administrators – all of whom must take into account the particular needs and resources of their unit. Staffing plans are argued to be as effective, if not more, in improving work environments.[27] They are less effective, however, in ensuring employers keep their end of the bargain. Mandatory ratios also face this challenge. While much work needs to be done before mandatory ratios can be implemented – if they should be at all – staffing plans are a feasible and appropriate option.

Although formalized staffing plans, as recommended here, are a new idea, there are examples of organizations that have implemented or are considering implementing these arrangements. For example, formalized staffing plans operate in a number of American states. In Canada, British Columbia has recognized the value of nurse staffing plans to address nurse workloads. In fact, the province is currently working on ways to implement nurse staffing plans.[28]

Fortunately, there are practical tools and resources for those wanting to improve nurse staffing conditions. One comes from the American state of Ohio. The Ohio Hospital Association's "Safe Nurse Staffing" document identifies 17 principles to which effective nurse staffing plans should adhere.[29]

Some of these principles are:

- staffing plans should consider the needs of individuals, including the specific needs of patients, and competencies of nurses and other staff members;
- each hospital should create a staffing plan with the involvement of relevant stakeholders;
- the staffing plan should reflect the volumes, needs, and acuities of the targeted patient population, environmental resources, human resources, and staff competence;

- the staffing plan should optimize the productivity of staff, be re-evaluated on a periodic basis, and be modified if needed to ensure relevance;
- the staffing plan should reflect current standards, including those issued by accrediting bodies and other regulatory authorities;
- the staffing plan should address the use of overtime and supplemental staff; and
- nurse staffing plans should be developed using an evidence-based method.

ADDITIONAL RESOURCES:

Canadian Nurses Association. 2005. Evaluation Framework to Determine the Impact of Nursing Staff Mix Decisions. www.cna-nurses.ca/CNA/documents/ pdf/publications/Evaluation_Framework_2005_e.pdf

International Council of Nurses. 2006. Safe staffing saves lives: Information and action tool kit. www.icn.ch/indkit2006.pdf

Canadian Federation of Nurses Unions. 2005. Enhancement of patient safety through formal nurse-patient ratios: A discussion paper. www.nursesunions.ca/cms/updir/2005-10-03-Nurse-Patient-Ratio-EN.pdf

Canadian Nurses Association. 2004. Nursing staff mix: A literature review. http://cna-aiic.ca/CNA/documents/pdf/publications/Final_Staf_Mix_Literature_Review_e.pdf

RECOMMENDATION #2: PATIENTS SHOULD BE CARED FOR BY HIGHLY EDUCATED REGULATED NURSES.

Specifically:

1. Employers and governments should promote the highest nursing education base required for patient needs. For example, registered nurses should be encouraged and supported to have a university education at the bachelor's level.
2. Employers need to provide continuing education and training opportunities for all licensed practical nurses, registered psychiatric nurses, registered nurses, and advanced practice nurses.
3. Employers should strive to have as many baccalaureate-prepared registered nurses in their staff as possible and, where appropriate, should provide practice opportunities for advanced practice nurses such as nurse practitioners and clinical nurse specialists.

Evidence and Rationale

Research shows that a highly educated nursing staff equates to better patient outcomes. More specifically, several studies suggest baccalaureate-prepared nurses are more likely to solve problems, perform complex functions, communicate effectively, and demonstrate other professional behaviours critical to patient safety.[30,31] Canadian research shows patients in hospital are less likely to die when highly educated nurses are present.[32, 33] That is why the Canadian Association of Schools of Nursing and the Canadian Nurses Association state that the educational entry-to-practice standard for nurses should be a bachelor's degree.[34]

The advantages of having a highly educated staff extend beyond patients. A recent Canadian study[35] demonstrated that nurse job satisfaction improves significantly as the number of nurses with degree preparation increases. Governments and employers also benefit. While those who fund nurses' higher or continuing education pay upfront costs, they save in the long run as improved patient and system outcomes result in shorter hospital stays and lower costs to the whole system.

ADDITIONAL RESOURCES:

Canadian Nurses Association. 2005. Nurse staffing: Baccalaureate or higher nurse education related to fewer surgical patient deaths. www.cna-nurses.ca/CNA/documents/pdf/publications/RS_Baccalaureate_or_Higher_e.pdf

Nursing Health Services Research Unit. 2006. Educated and underemployed: The paradox for nursing graduands. www.nhsru.com/documents/Series%202%20Educated%20and%20Underemployed%20Final%20Report.pdf

Canadian Association of Schools of Nursing. 2006. Accessible Canadian health care system = Supply of qualified nurses; Supply of qualified nurses = Schools of nursing. www.casn.ca/Newsletter/press_releases/CFNU%20Support%20-%20March%2020,%202006.pdf

RECOMMENDATION #3: PATIENTS SHOULD BE CARED FOR BY EXPERIENCED NURSES.

Specifically:

1. Nurses should have experience and be familiar with the needs of the specific patient population with which they work.
2. Nurses should be familiar and have experience with the policies and procedures of their place of employment.
3. Employers should strive for a nursing staff with an appropriate mix of experienced and novice nurses.

Evidence and Rationale

Although nursing experience means different things to different people, it is an essential element in any discussion touching on nurse staffing and patient safety. Experience can be viewed as the number of years a nurse has been in practice; the familiarity a nurse has with a particular care setting or with a specific patient population; or the particular expertise or knowledge a nurse has acquired.

Regardless of how it is defined, nursing experience, like nurse education, influences patient outcomes. Research confirms what many nurses, physicians, managers, and hospital administrators know – greater nursing staff experience results in fewer adverse events. With this in mind, employers should not rely on nurses or other staff who are unfamiliar with either the patient population or the organizational practices of their place of employment.

Research on patient safety in intensive care units found that inexperience among nursing staff directly caused or contributed to a portion of all adverse events. Significantly, errors were more likely to occur when inexperienced staff was combined with staff shortages, inadequate supervision, and sicker patients.[36] Most significantly, a Canadian study found that as years of nursing unit experience increased, the numbers of patient deaths decreased.[37]

ADDITIONAL RESOURCES:

Canadian Federation of Nurses Unions. 2005. Taking steps forward: Retaining and valuing experienced nurses. www.nursesunions.ca/cms/updir/2006-01-26-Experienced-Nurses-Brochure-En.pdf

RECOMMENDATION #4: WORKPLACES SHOULD ENCOURAGE AND SUSTAIN IMPROVED PATIENT, NURSE, AND SYSTEM OUTCOMES.

Specifically:

1. Employers should ensure strong nursing leadership exists at all levels of the organization, from front-line staff to senior administration.
2. Nurses, physicians, and other healthcare team members should work collaboratively.
3. Administrators and managers should promote professional nursing autonomy and allow nurses control over their practice.
4. Employers should facilitate the use of technology and innovation to improve quality of healthcare.
5. Governments should promote nursing research to generate evidence for best practices to improve quality of care.

Evidence and Rationale

Quality work environments are key to patient safety. Research on what are known as "magnet hospitals" suggests this. Twenty-five years ago – when many hospitals were experiencing nurse shortages – certain hospitals were designated magnet hospitals based on their success in attracting and retaining nurses.[38] Magnet hospitals offer several things other hospitals do not. They provide nurses with strong leadership, voice, and decision-making authority at all levels of the organization. They report better relations with physicians and give nurses greater autonomy and control over their professional practice. Nurses working in these hospitals report higher job satisfaction and greater autonomy and control over resources required for quality of care. Other research shows that patients also profit from quality practice environments such as those found in hospitals with magnet characteristics.[39, 40, 41, 42]

Strong leadership and supportive management activities are linked with successful nurse staffing and play an integral role in quality work environments.[43] Numerous studies conclude that nurses have higher job satisfaction and lower turnover rates on units with managers who employ what is called a "transformational leadership style."[44] Transformational leaders can support needed health system and organizational change through encouragement, positive feedback, and individual consideration, and they promote open communication. These leaders can generate a climate of increased co-operation and teamwork with few interpersonal conflicts – all of which are important in ensuring quality and safe patient care. Organizations need to recruit and train managers in these supportive and participative leadership styles.[45]

Another element of quality workplaces is a high degree of collaboration between nurses, physicians, and other healthcare team members. Caregiver interaction – communication, co-ordination, and problem-solving/conflict management – significantly affects patients, with more co-operation associated with greater patient well-being. Several studies have looked at the influence of the nurse-physician relationship on patient outcomes.[46] One study found that better nurse-physician relationships decreased patients' risk of dying within 30 days by more than 25 percent.[47]

Research shows patients and nurses also benefit when nurses are allowed to make decisions that influence quality of care.[48] Practices such as shared governance, continuous learning, opportunities for promotion and advancement, and flexible scheduling increase nurses' professional autonomy and thus create a culture of respect. One study detailed the successful development of a nurse staffing process called the Work Complexity Assessment tool.[49] In particular, the study profiled a team of registered nurses, licensed practical nurses, and other staff who used the tool to match work activity with six knowledge/skill levels required to provide safe and effective healthcare. This collaboration gave staff the authority to make decisions about patient assignments that coincided with their perspectives on best practices.

Another nurse staffing tool described in the research literature improved patient flow and nurse staffing based on a traffic light concept of green, yellow, and red.[50] Nurses assigned the appropriate colour to their workload and then managers used this information to determine the status of units when making staffing decisions. However, nurses had the authority to "cap" unit numbers when they determined it would be unsafe to allow more patient admissions. Both of these instances demonstrate that improved nursing outcomes depend on allowing nurses to find a "fit" between their practice and patient needs.

Technology offers another way to improve the nursing and healthcare work environment. A systematic review of research on healthcare working conditions recommends that organizations establish technological innovations as a way to reduce distractions and interruptions and improve information exchange.[51] As well, technology and innovation can reduce the demand for services, which can reduce the demand for nursing care – not a bad thing in an era of staff shortages.

A final way to enhance the quality of work environments is to promote nursing research to generate evidence for best practices. Organizations intent on improving nurse satisfaction, nurse retention, and patient safety would do well to implement the recommendations herein.

ADDITIONAL RESOURCES:

Canadian Nurses Association. 2006. Better health care, better patient outcomes: The promise of e-nursing. www.cna-aiic.ca/CNA/documents/pdf/publications/Enursing_June_2006_e.pdf

Registered Nurses' Association of Ontario. 2006. Healthy work environments best practice guidelines: Developing and sustaining nursing leadership. www.rnao.org/Storage/16/1067_BPG_Sustain_Leadership.pdf

Registered Nurses' Association of Ontario. 2006. Nursing best practice guidelines. www.rnao.org/Page.asp?PageID=861&SiteNodeID=133

RECOMMENDATION #5: STANDARD NURSE STAFFING DEFINITIONS NEED TO BE CREATED AND USED TO EASE COMPARISON OF RESEARCH FINDINGS AND TO BUILD STRONGER EVIDENCE FOR POLICY AND PRACTICE.

Specifically:

1. Common language, definitions, and measurements should be used when describing or measuring nurse staffing.
2. Practice, management, and research communities must work together to ensure that administrative and practice data are consistent with research.

Evidence and Rationale

In their efforts to synthesize the best available evidence on nurse staffing and patient safety, the Sanchez McCutcheon research team repeatedly encountered different terminology between countries and even between provinces. These differences made the task of directly comparing research results more difficult.[52]

The differing terminology is not surprising as, at the national level, difficulties defining, reporting, and measuring staffing or human resource indicators persists. For example, the Canadian Institute for Health Information (CIHI) identified challenges faced in collecting data on the employment status and registration of licensed practical nurses and registered nurses. In "Workforce Trends of Registered Nurses in Canada," CIHI explains "that something as seemingly

black-and-white as the number of registered nurses can vary by definition can be difficult for those not used to working with data and statistics."[53] There remains a need for consistency in describing general concepts such as "staffing vacancies," "casual staff," and "part-time staff" across different jurisdictions, healthcare settings, and facilities. Much of the work to improve this is being led by CIHI. In its RN Database – a pan-Canadian database that contains demographic, education, and employment information on registered nurses – CIHI is making progress on ways to allow data on full-time, part-time, and casual employment status to be accurately combined in a single table, thus greatly increasing its usefulness for analytical purposes.

The need remains for finding consistent ways to describe and measure nurse staffing as well. This consistency is necessary to justify the value, cost-effectiveness, and outcomes of nursing human resource use. Although this need was identified in the early 1990s, a greater number of Canadian nursing initiatives has begun to tackle it in the last six years. For example, in a 2000 study researchers examined a core set of nursing management data elements related to nursing and financial resource use among a group of 10 hospitals.[54] The researchers wanted to ensure that staffing and compensation data were valid, reliable, and comparable across hospitals. They concluded that to make valid comparisons between data, nurse executives need to have consistent financial reports and standardized occupational titles. Since then, much work has been done by researchers, administrators, and policy makers to identify ways to measure and benchmark nursing services, its measurements, resource requirements, outcomes, and impacts.

It is expected that the widely anticipated *Health Outcomes for Better Information and Care (HOBIC)* project, formerly known as the *Nursing and Health Outcomes Project (NHOP)*, will lead the way in this area with its collection and analysis of information on staffing indicators and health outcome measures.[55] This initiative – begun in 1999 and on the verge of implementation – is expected to identify province-wide, standardized collection of patient health outcomes, staffing, and quality of worklife information reflecting a variety of disciplines, including nursing. The goal of the project is to provide valid, reliable, patient-centred, evidence-based, outcome-focused, and comparable information across all sectors.

ADDITIONAL RESOURCES:

Ontario Ministry of Health and Long-term Care. Health Outcomes for Better Information and Care.
www.health.gov.on.ca/english/providers/project/nursing/nursing_mn.html

CONCLUSION

This report is written for discussion and action. Heavy workloads and stressful working conditions are affecting nurses' ability to provide quality healthcare. Patient safety and quality of care must not be compromised. It is time to learn from research and experience and to strategically attempt to improve the current state of nurse staffing. Formalized nurse staffing plans are presented here as a pragmatic approach to drive evidence-informed advancements in how we staff our healthcare organizations. Staffing plans allow us to integrate recommendations into an actionable strategy.

Nurse staffing must be recognized as a key intervention that affects all other healthcare interventions. Therapies such as drugs, medical procedures, and health education cannot be effective if nurses are not there to provide them at the right time, in the right way, or at all. If the well-being of Canadians is a priority, then appropriate nurse staffing must be seen not as an onerous expense but as a cost-effective safety intervention worthy of investment.[56] When nurse staffing levels improve, so too will the quality of healthcare provided to patients.

APPENDIX 1: OUR SYNTHESIS APPROACH

HOW DO YOU COMBINE RESEARCH AND EXPERT OPINION TO PROVIDE DIRECTION FOR SAFE AND EFFECTIVE NURSE STAFFING?

This synthesis brings together the best available evidence, practical experience of decision makers, and expert knowledge of researchers to provide evidence-informed policy guidance. The aim of this synthesis is to make "best practice" recommendations for a specific area of policy development. Before this report could emerge into its present state, a number of steps had to be taken.

Integral to this synthesis was use of a "deliberative process."[57] The Canadian Health Services Research Foundation describes this process as a "tool for producing guidance based on heterogeneous evidence."[58] The deliberative process is participatory and involves obtaining and combining various types of evidence to create options for action. A key challenge of a deliberative process is managing the inclusion, engagement, and appropriate balancing of differing groups and stakeholders. A chairperson is required in this process to lead and co-ordinate the synthesis activities. The chairperson for this document was the nursing leadership, organization, and policy theme officer for the Canadian Health Services Research Foundation, supported by a strong advisory group.

The deliberative process for this synthesis began in 2004 with a consultation to define the synthesis topic. In February 2005, a roundtable meeting with decision makers and researchers from across Canada was held with funding partners to further define the research questions. Immediately following this roundtable, a call for proposals for a synthesis of the research evidence was launched. A merit review panel met in March 2005, and a research team led by Amy Sanchez McCutcheon was awarded this research grant. In November 2005, the research team submitted its synthesis report, which was peer reviewed the following month to ensure it was of high quality and rigour. The report was sent to nurse staffing and patient safety experts and decision makers for a February 2006 decision-maker roundtable meeting to create recommendations. Individuals were invited to review the research report and make recommendations to deliberate and contextualize the information. Specifically, individuals were asked to assess whether the research findings were relevant and applicable to their context; identify and, where appropriate, fill gaps where research was lacking; and affirm and/or refine the recommendations to create direction for guidance for individual decision makers. The results from that meeting were then used along with the research team's report to create this final synthesis report.

The final synthesis report contains recommendations that are based on scientific evidence and expert opinion. This report should be shared with those who can and will make the required changes to improve the quality of patient care through effective nurse staffing.

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