Canadian Nurses Association

Patient Safety: Developing the Right Staff Mix

Report of

Think Tank

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50 Driveway
Ottawa ON K2P 1E2

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Tel: (613) 237-2133 or 1-800-361-8404
Fax: (613) 237-3520
E-mail: pubs@cna-aiic.ca
Web site: www.cna-aiic.ca
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Executive Summary

The Canadian Nurses Association (CNA) convened an invitational Think Tank entitled *Patient Safety: Developing the Right Staff Mix* in Ottawa on 3 December 2003. Participants included over 70 clinical nurses,[1] educators, researchers, government representatives and policy-makers, nurse administrators, employers and union representatives. Registered nurses (RNs), licensed/ registered practical nurses and registered psychiatric nurses from almost all the provinces and territories were represented.

The purpose of the Think Tank was to review the increasingly difficult context in which staff mix decisions for RNs and licensed/registered practical nurses (LPNs)[2] are made, describe related policy and research initiatives and identify gaps and challenges.

Presenters and participants discussed many important research findings as well as significant policy and regulatory issues during the Think Tank. General agreement emerged on the following points:

- Errors in nursing staff mix can lead to clinical errors that may result in adverse patient and organizational outcomes;
- Decisions about nursing staff mix must be evidence-based;
- Decisions about nursing staff mix must consider the core competencies of RNs and LPNs, the acuity and complexity of patient care needs and the available environmental supports; and
- Many RNs and LPNs are concerned that the increased use of unregulated health care workers, without appropriate role definition threatens, patient outcomes.

There was also general agreement on several issues related to research and knowledge transfer.

Research

- There is now strong research evidence supporting the relationship between nursing staff mix and patient safety outcomes, especially in acute care settings.
    - The higher the proportion of regulated nursing staff, the better the patient outcomes and
    - The higher the proportion of RNs, the better the patient outcomes.
- Research is needed on the link between staff mix and patient outcomes in long-term care, mental health, home and community settings.
- Research is needed on the impact of LPN practice on patient outcomes in all settings.
- Decision-making tools are required to assist with determining the right nursing staff mix to promote patient safety and the appropriate utilization of nursing human resources.

Knowledge Transfer

- Research findings have been underutilized, because they have not always been accessible to those who need them;

[1] In this document, nurse means both RN and LPN.

[2] Depending on where they are located in Canada, licensed practical nurses (LPNs) are also known as registered practical nurses (RPNs). In general, in this document, they are referred to as LPNs.

- Nurses in research and practice must ensure that research findings are made accessible to decision-makers at provincial/territorial governments and to administrators and managers at the level of practice; and
- More collaboration is needed at the local, provincial/territorial and national levels to increase understanding of RN and LPN scopes of practice and agreement on the tools needed for nursing staff mix decision-making.

Since the Think Tank in December 2003, CNA has continued with a number of related policy initiatives. Position statements and a discussion paper give the nursing perspective on patient safety, including the impact of staffing levels and staff mix. A significant collaboration is underway with several partners to develop a joint evaluation framework for RNs, LPNs and registered psychiatric nurses for staff mix decision-making.

Forward

This document brings together materials prepared for and resulting from the CNA Think Tank entitled, Patient Safety: Developing the Right Staff Mix. This invitational meeting was held 3 December 2003 in Ottawa. Participants included over 70 clinical nurses, educators, researchers, government representatives and policy-makers, nurse administrators, employers and union representatives. RNs, LPNs and registered psychiatric nurses were all represented (see list of participants in Appendix A).

The nature of the meeting was participative; the format included both presentations and small group discussions. The agenda and format were designed to maximize personal interaction, clarify the content of presentations and, most importantly, encourage participants to discuss and provide feedback on key issues (see Appendix B).

CNA has prepared this document as a summary for those who attended the Think Tank and to bring others up-to-date on developments related to patient safety and nursing staff mix. Summaries of the presentations and group discussions are included, as well as key points of the general agreement that emerged from the Think Tank. It also outlines CNA's further initiatives and next steps in moving this work forward.

Think Tank: Summary of Presentations and Group Discussions

This section includes summaries of the speakers' presentations as well as key points from discussions that took place in small groups. Each group was composed of a mix of participants representing the various sectors in attendance at the meeting.

Welcome

Robert Calnan, Chair
President
Canadian Nurses Association

The purpose of the Think Tank is to review the context in which staff mix decisions for RNs and LPNs are made, describe related policy and research initiatives and identify gaps and challenges.

This gathering has drawn upon a wide range of individuals who bring their experience and expertise to this work. The caliber of participants attests to the importance and timeliness of this subject. There are educators, researchers, clinical nurses, government representatives and policy-makers, nurse administrators, employers and union representatives. There are LPNs, registered psychiatric nurses and RNs. Almost all provinces and territories are represented.

The focus of the Think Tank is on patient safety, with respect to a staff mix of RNs and LPNs. Staff mix concerns related to nurse practitioners, registered psychiatric nurses, unregulated health care workers or other health disciplines will not be addressed. These issues will be saved for another day, as today's focus is indeed timely and complex and requires our full attention and concentration.

Opening Remarks

Lucille Auffrey
Executive Director
Canadian Nurses Association

The timeliness of CNA's initiative to convene this Think Tank was confirmed last month when the Institute of Medicine Report, *Keeping Patients Safe – Transforming the Work Environment of Nurses* (2004) was released. It deals with issues of who delivers nursing care, in what settings and how to maximize this workforce to keep patients safe.

Patient safety is an issue of urgency and importance, one that can drive and move forward the agenda for health care system change and renewal. The focus today is on RN and LPN staff mix as it touches on patient safety:

- Patient safety and the appropriate delivery of nursing care are interconnected;
- It is important to have staff with the right combination of competencies delivering the right care that is appropriate to each particular patient to attain the best patient outcomes possible; and
- In terms of staff mix, an evidence-based approach must be central to decisions on the nursing competencies required for a specific patient grouping in a particular setting.

The "best" outcome must be emphasized, because patient safety must not become associated with a "minimum" value. The first and foremost principle of the *Code of Ethics for Registered Nurses* is safe, competent, ethical care. Providing safe, quality care without undue delay or cost to the system requires well advised planning of health human resources.

In some institutional settings, so-called cost reductions have contributed to situations where RNs and LPNs have been pitted against each other. Discussion about scope of practice, even under the best conditions, can be delicate. Cutbacks, economic pressures and other stressors have created divisions that are not only hurtful but also counter-productive. Thus the need to collaborate emerges from our professional concerns for patient safety.

The landmark policy synthesis by Canadian authors Baumann, O'Brien-Pallas, Armstrong-Stassen, Blythe, Bourbonnais, Cameron et al., *Commitment and Care* (2001), pointed out "new technologies and organizational change have led to confusion between the roles of registered nurses and registered practical nurses and the allocation of responsibilities varies even within institutions. This causes tension in the nursing team, making it less efficient" (p. 9).

Efficiency is only one of the policy implications for nurse staffing. Research on staffing impacts many areas. These range from the health and illness of nurses, to absenteeism, to hospital department structuring, to initial and continuing education, to salary levels, and even to effectiveness of models of care, adverse events, patient safety and overall quality of care.

Current research has emphasized the difficulty of determining mandatory numbers of combinations for staffing ratios. The issues involved are complex. A World Health Organization (2000) study suggests that it is difficult to control adequately for all the variables (related to patients, staff, interventions and the environment) that are likely to influence patient outcomes. It describes variations of how staff mix changes are undertaken, each with its strengths and weaknesses.

RNs and LPNs have a significant contribution to make to the patient safety agenda on staff mix and many other questions, but resolving the issues is a system-wide challenge. We need to develop, maintain and nurture a culture of safety with work environments that support all health care providers. This means shifting from a "name, blame and shame" culture.

We at CNA agree that "if better patient outcomes are to be attained, governments, employers, educators and nurses must work together to create a healthy nursing work environment" (Baumann et al., 2001, Executive Summary). If we are to advance real change, the first step must come from partnerships that are strong in resources, powerful in numbers, solid in their research and open to working collaboratively with others to advance a nursing perspective on patient safety.

Federal/Provincial/Territorial Advisory Committee on Health Delivery and Human Resources and Health Human Resource Strategy

Robert Shearer
Director, Health Human Resources Strategies Division
Health Canada

The Advisory Committee on Health Delivery and Human Resources (ACHDHR) is one of four standing advisory committees that report to the Federal/Provincial/Territorial (FPT) Conference of Deputy Ministers of Health. Its mandate is to develop policy and provide strategic advice on the planning, organization and delivery of health services including health human resources (HHR) issues.

ACHDHR has established four working groups.

1) HHR Planning Working Group to provide strategic evidence-based advice, policy and planning support on HHR planning matters to ACHDHR.

2) Entry-to-Practice Credentials Working Group to address requests for changes in entry-to-practice credentials for health professions and to ensure that these credentials are reflective of good public policy and responsive to the needs of the population and the health care system.

3) International Medical Graduates (IMG) Taskforce to develop recommendations to address:
    a. Integration of qualified foreign trained physicians into physician supply strategies;
    b. Adoption of a fair, equitable and transparent process for licensure of qualified foreign trained physicians seeking medical licensure in Canada;
    c. Promotion of common guidelines for assessment of credentials and competencies of IMGs seeking medical licensure in Canada; and
    d. A proposal to address international nursing graduates in a similar way is under consideration.

4) Joint Review Committee (Human Resources Development Canada − Health Canada − ACHDHR) to support, through the selection of quality and relevant research, the continued development of a HHR knowledge base to enhance the capacity of the health workforce to effectively respond to the changing needs of the health care system. Six sector studies are under way, including one in nursing.

ACHDHR also has responsibility for the follow-up and reporting on the Nursing Strategy for Canada.

The First Ministers' Accord on Health Care Renewal on 5 February 2003 recommended collaborative strategies to strengthen the evidence base for national planning, promote interdisciplinary provider education, improve recruitment and retention and ensure the supply of

needed health providers. The federal budget of 18 February 2003 provided $90 million over five years to:

- Improve national HHR planning and coordination, including better forecasting of HHR needs; and
- Support the expansion of professional development programs to ensure that health professionals have the necessary knowledge and training to work effectively in multidisciplinary primary health care teams.

Three HHR initiatives are currently under development through separate working groups (their respective agenda items appear as bullet points):

1) HHR Planning
   - Pan-Canadian Planning Framework to identify shared objectives, a broad road map and "rules of engagement" for collaborative HHR planning
   - Ongoing capacity for data and modeling

2) Interdisciplinary Education for Collaborative Patient-Centred Practice (IECPCP)
   - Promote benefits of IECPCP
   - Increase the number of health care providers training at the entry-to-practice and continuing education level
   - Stimulate networking and sharing of best practices around IECPCP

   The co-chairs of this working group are Dr. Judith Shamian, Executive Director, Office of Nursing Policy, Health Canada and Dr. Carol Herbert, Dean of Medicine and Dentistry, University of Western Ontario.

3) Recruitment and Retention
   - Entry-to-practice – undertake activities to collaborate on and develop multimedia marketing campaigns for careers in the health system
   - Deployment and shortages – undertake activities to support the development and implementation of strategies to address shortages or mal-distribution of health professionals
   - Retention – undertake activities to support the retention of existing health care providers and thereby attract new recruits

Panel: Research Findings and Challenges

Objectives
- To present nursing research on patient safety and staff mix issues
- To identify policy, regulatory, educational and other gaps that research should address

A Systematic Approach to Maximizing Nursing Scopes of Practice

Dr. Jeanne Besner
Director, Research Initiatives in Nursing and Health
Calgary Health Region

This study, funded by the Canadian Health Services Research Foundation, is the first in a planned program of research. The principal investigators are Dr. Jeanne Besner and Dr. Diane Doran. The research will be conducted in acute care facilities in three health regions: Calgary, Edmonton and Saskatoon.

Recent federal and provincial reports have highlighted the need to address the underutilization of professional skills and knowledge and to move toward optimizing the utilization of all members of the multidisciplinary team. It is necessary to understand the uniqueness and overlap in scope of practice, as well as the context of practice, to design work in a way that best utilizes professional knowledge and skills, while maintaining and improving provider satisfaction and patient outcomes.

The purpose of the research is to:
- Examine the scope, boundaries and overlap in roles for nurses (RNs, LPNs and Registered psychiatric nurses);
- Understand the potential influence of the environment on the extent to which nursing skills and knowledge are fully utilized; and
- Lay the foundation for future research on impact of role changes.

The research questions are:
1. To what extent are nurses perceived to be working to their full scope?
2. What are the personal, professional and organizational barriers/facilitators that block/allow nurses to work to full scope of practice?
3. To what extent do contextual factors influence enactment of scope?
4. What opportunities exist for redesigning roles to optimize enactment of scope? (To be addressed in subsequent research)
5. How feasible is it to collect comparable indicators across settings/sites?

Questions 1 and 2 will be answered through interviews with nurses and other personnel. The interview questionnaire will be guided by the *Nursing Role Effectiveness Model* (D. Doran, 2003). Data will be analyzed using qualitative techniques.

For Question 3, the contextual factors will be described using a number of approaches including indicators available from corporate data sources, a measure of environmental complexity (unit activity and unanticipated workload), Nursing Workload Index-Revised (NWI-R) scale, a staff satisfaction measure and interviews with unit personnel such as physicians and unit clerks.

Question 5, which will be answered in the first three months of the study, will involve development of a common database across the three sites to provide the basis from which to draw for interviews a sample of nurses and others practising in settings that reflect variation in patient and environmental complexity.

An advisory committee has been constituted for the study that comprises representatives from the three professional associations, educators of the three categories of regulated nurses, health care practitioners, managers and provincial government representatives. Findings will be disseminated as they become available.

Linking Nurse Staffing to Patient Safety Outcomes: State of the Evidence

Dr. Linda McGillis Hall
Assistant Professor and Canadian Institutes of Health Research New Investigator
Faculty of Nursing, University of Toronto

Staff mix refers to "the combination or grouping of different categories of workers that is employed for the provision of care to patients" (McGillis Hall, 1997, p. 31).

There is a great deal of evidence in acute care linking nurse staffing to patient safety outcomes. The American Nurses Association Report Card (1997) presented the findings of one of the earliest studies in this area. The results indicated that shorter lengths of stay are related to high nurse staffing per acuity-adjusted day and that patient outcomes (pressure ulcers, pneumonia, postoperative infections, urinary tract infections) are related to RN skill mix (statistically significant).

Since then, findings from a number of studies have been published, not only in the nursing literature, but also in medical and health care literature. (See Appendix C for references to studies) Key studies include those by Aiken, Clarke and Sloane (2002); Blegen and Vaughn (1998); Kovner and Gergen (1998); Kovner, Jones, Zhan, Gergen and Basu (2002); McGillis, Hall, Baker, Pink, Sidani, and O'Brien-Pallas et al. (2003); Needleman, Buerhaus, Mattke, Stewart and Zelevinsky (2002); and Sovie and Jawad (2001).

Findings from these studies:

Sovie and Jawad (2001) found that fall rates declined and patient satisfaction with pain management increased as the number of RN hours per patient day increased. In the study by McGillis Hall and colleagues (2003), the higher the proportion of regulated nursing staff, the lower the unit rates of medication errors and wound infections. As well, higher proportions of regulated nursing staff were associated with better patient self care, mobility and social functioning at hospital discharge.

The findings from these key studies are consistent. Nurse staffing models have been linked to:

- Secondary patient safety outcomes in a number of studies
- Patient outcomes such as functional status and pain that were obtained in primary data in two studies.

Recent research findings link patient outcomes and level of nurses' experience (McGillis Hall, Doran & Pink, 2004; Tourangeau, Giovannetti, Tu and Wood et al., 2002), educational preparation at the baccalaureate level (Aiken, Clarke , Cheung, Sloane, & Silbur, 2003; Doran, Sidani, McGillis Hall, O'Brien-Pallas, Pestryshen, Hawkins, et al., n.d.; O'Brien-Pallas, Doran, Murray, Cockerill, Sidani, Laurie-Shaw, et al., 2001, 2002). There is a gap in research about the impact of nursing work environment factors on patient outcomes.

The accumulating evidence on the link between nurse staffing and patient safety outcomes has implications for policy, regulation and education and involves such issues as baccalaureate as entry to practice, scope of practice of nursing care providers and role of the unregulated worker.

Research Panel Discussant

Roxanne Tarjan
Executive Director
Nurses Association of New Brunswick

Researchers are to be congratulated on providing the knowledge and evidence nurses need for nursing staff mix and patient safety decisions. It is important to focus on the strength of the evidence that has been accumulating. It is my perception that there is a far greater affinity for identifying flaws or gaps in the research than support for the evidence that is accumulating.

The examination of nursing skill mix is taking place in a health care system that is facing many human resource challenges. As well, the tools nursing has to measure its contribution to patient care are very task oriented and fail to capture the true contribution of nurses.

Dr. Sean Clarke (2003) addressed the significant challenge of balancing nurse staffing and patient safety. He noted that there now seems to be clear evidence linking staffing (especially RNs) with patient safety. However, there are ongoing challenges for regulators in terms of decision-making on appropriate staffing. The context and environment must be taken into consideration.

The Nurses Association of New Brunswick believes that knowledge and educational preparation make a difference to patient outcomes as well as other factors such as workload and the use of unregulated workers. While recognizing that scopes of practice evolve, regulators must ensure that their members are not put in unsafe situations. Striking a balance is a challenge for regulators.

Decision-making about nursing staff mix is very complex and involves a great deal of variability. Research is needed on different categories of provider. As well, research must be broadened from the acute care setting to include long-term, mental health, home and community care. Studies are also needed on the impact of the model of care and specialty practice on patient outcomes. There is new evidence on the importance of teamwork, in terms of both nursing and multidisciplinary teams, on patient outcomes.

Case Study − Using Evidence to Support Changes in Staff Mix

Objectives
- To discuss the case study from conception to implementation
- To discuss the evaluation framework as a key component of the case study

Using Evidence to Support Changes in Staff Mix − Part 1

Jean Holmes
Vice President, Human Resources
Winchester District Memorial Hospital, Ontario

The Winchester District Memorial Hospital (WDMH) is a 70-bed community hospital approximately 50 kilometres south of Ottawa. In 2001, a hospital-wide Nursing Advisory Committee (NAC) was constituted to address issues of professional nursing practice, including facilitating nurses to work to their full scope of practice, where possible. The committee is composed of RNs and RPNs. Guided by the Quality Practice Settings Attributes Model of the College of Nurses of Ontario, the committee focused on care delivery processes.

The goal of the Care Delivery Model Project is to enhance the working environment and increase recruitment and retention of nurses. Care delivery processes are defined as processes that "support the delivery of nursing care to clients. They include planning and providing clinical care with other health professionals to meet client needs" (Mackay & Risk, 2001).

The elements of the care delivery processes include: care delivery model, staffing ratios, staffing mix, standards of care, accountability, autonomous practice and continuous quality improvement. The committee began by examining the Care Delivery Model Project, which had been a hybrid model combining team and functional nursing. The aim is to move to a total patient care model. As well, the committee wants to increase the scope of practice of both RNs and RPNs. Unregulated health care providers were eliminated in 2001.

Before changes in scope of practice can be made, several preliminary steps are necessary. In August 2003, all RNs and RPNs were required to complete a nursing competency tool (Competency Review Tool for Nurses in Direct Practice from the College of Nurses of Ontario). As part of this survey, they were asked to identify their learning gaps and their preferred learning methods. On the basis of the analysis of survey findings, WDMH has entered into a partnership with a community college for the provision of educational programs that will assist nurses to meet identified learning needs (e.g., medication course for RPNs).

The NAC has been working with CNA to develop an evaluation framework to evaluate the impact of changes to scope of practice and staff mix. Nurse sensitive outcome indicators such as job satisfaction and patient outcomes were measured at the beginning of the project and will be repeated after changes in scope of practice and staff mix have been implemented.

Using Evidence to Support Changes in Staff Mix − Part 2

Lisa Little
Health Human Resources Consultant
CNA

When the NAC at the WDMH was beginning its Care Delivery Model Project, it approached the CNA to discuss ideas on how it might proceed. CNA was interested in becoming involved because of the project's comprehensiveness, its support for nurses practising at their full scope of practice, its objective of promoting efficient use of nursing resources and its link to patient safety (protection of the public). Collaboration with WDMH would assist both organizations in learning if changes to scope of practice and staff mix are the right changes and contribute to evidence-based decision-making in this area.

CNA and NAC at WDMH developed a framework to evaluate the impact of the scope of practice and staff mix changes from three different perspectives: the nurse, the patient and the health care team. Data are being captured using a series of tools before and after scope of practice and staff mix changes are implemented.

The tools are based on the work of Dr. Diane Doran and colleagues on Nursing Sensitive Outcomes Indicators. Nurse indicators include: perceptions of quality practice, job satisfaction, perceptions of working to full scope of practice, absenteeism rates and Workplace Safety and Insurance Board (WSIB) rates. Patient indicators include: nosocomial infection rates, re-admission rates, length of stay, patient satisfaction, fall rates and medication error rates. Health care team indicators include other health care professionals' perceptions of the effects of changing scope of practice as it relates to interdisciplinary collaboration.

A number of challenges related to data collection have been identified. The indicators are not always a perfect fit with the data that are available in the health care facility. As well, a number of confounding variables have been identified and will be accounted for. For example, changes in the restraint policy that occur during the data collection period could influence the fall rates of patients.

For CNA, this project is an opportunity to:
- Collaborate with employers of nurses;
- Extend the scope of the evaluation to the Northwest Territories;
- Promote information sharing, discussion and sharing of resources between two employers undergoing similar changes;
- Support a comprehensive, responsible approach to change in staff mix; and
- Examine the impact of changes to staff mix at both the individual and system level.

Using Evidence to Support Changes in Staff Mix − Part 3

Madge Applin
Director of Nursing
Hay River Community Hospital, Northwest Territories

The Hay River and Social Services Authority is responsible for acute care (16 beds), long-term care (23 beds), public health and home care, mental health and addictions, medical care and social services. The staffing mix includes six physicians, one nurse practitioner, 20 RNs, 15 LPNs and five long-term care aides, who work primarily in the long-term care sector. The authority is moving toward a primary health care focused delivery of services.

A recent examination of the nursing practice environment identified a number of issues. A task-oriented functional approach is the current model of care delivery. LPNs are underutilized in all divisions, and there is inconsistency in their scope of practice. Both written and unwritten policies about scope of practice are unclear. There is evidence of interdisciplinary conflict between RNs and LPNs that is rooted in a lack of understanding of the legitimate scope of practice of each group. There is also fragmented interdisciplinary communication.

The director of nursing has implemented a process to move forward to a common understanding of scope of practice and to develop mechanisms for RNs and LPNs to work effectively together. The goal of this process is improved patient outcomes, staff satisfaction, collaboration and communication.

The elements of the process are:
- Establishing support for the project;
- Surveying RNs and LPNs;
- Revising policies, especially those related to scope of practice;
- Assessing educational needs;
- Developing an action plan; and
- Developing an evaluation plan.

To date, there has been agreement from the nurses to proceed with the project. The survey has been completed and the analysis is pending. Policy development work related to scope of practice has been completed. The evaluation tool developed by CNA and used at WDMH is being used as one component of the evaluation plan under development.

Research Panel and Case Study Group Discussion

Participants identified several key messages that were raised by the research panel and case study presentations.

- There is now strong evidence supporting the relationship between nursing staffing and patient outcomes, especially in acute care;
- Research findings have been underutilized, because they have not always been accessible to those who need them, including administrators and decision-makers;
- Mechanisms, such as summaries, syntheses of findings, best practice guidelines, speaking points are needed to promote knowledge transfer;
- There is a need for more nurses who understand research findings connected to the practice area;
- Leaders in universities and health care facilities must think creatively and collaboratively about new staffing models and seek funding to evaluate the models; and
- Tools are needed to assist managers with decision-making about nursing staff mix.

Further research is required on the impact on patient outcomes of nursing staff mix in long-term care, mental health, home and community settings, of the context and practice environment and of team work among nurses and the multidisciplinary team. Cost/benefit analyses of nurse staffing decisions are also required. Participants identified the need for collaboration and involvement of RNs, LPNs and other health care providers in research and the dissemination of results. More clarity is needed in definitions such as scope of practice, full scope of practice, patient safety, acuity and complexity.

Participants expressed concern that both RNs and LPNs are underutilized. Despite this, "turf" protection persists. Strategies are needed to assist RNs and LPNs to talk together about best practices that lead to best outcomes. Some nurses are concerned that the increased use of unregulated health care workers is associated with a decrease in patient safety and increased tension with regulated staff.

Panel: Regulatory Issues and Challenges

Objectives
- To discuss key regulatory issues related to patient safety and staff mix
- To identify gaps and how to address these gaps

Regulatory Issues and Challenges

Ann Mann
Executive Director/Registrar
College of Licensed Practical Nurses of Nova Scotia

Of the many regulatory issues related to staff mix, three are highlighted.

1. **Nursing shortage**
   If nursing does not take steps to address the shortage, substitutes will replace regulated professional nurses and the boundary lines of nursing will become further blurred. In Nova Scotia, a pilot project is underway to introduce unregulated care providers into the hospital setting. RNs and LPNs are being asked to provide in-house education and supervision to enable these providers to work in the acute care setting. Decisions to employ unregulated health care providers must be based on more than fiscal economies. It is necessary to change the way nurses work; they are spending 30 per cent of their time nursing the system, not the patient.

2. **Scope of practice versus scope of employment**
   In most jurisdictions, LPNs are underutilized and work to a scope of employment determined by the facility rather than a scope of practice related to the activities they are educated and authorized to perform. Both RN and LPN educational standards and entry-level competencies have changed over the past few years; however, changes to clinical practice competencies and the right to work to full scope of practice have not kept up. What a LPN can do is open to the interpretation of the facility manager and appears to be based on factors such as whether the facility is urban or rural and how many RNs there are. Decisions about staff mix must be evidence-based and consider core competencies of the nurse, complexity of care needs and environmental supports available.

3. **System issues impacting on appropriate staff mix**
   Decisions may be made in the practice environment based on financial requirements and not on how the decision impacts the practice environment and patient safety. These decisions include freezes in overtime, no replacements for sick calls and a reduction in the use of resident attendants. It is becoming more difficult for nurses to meet their standards of practice to provide safe, competent and ethical nursing care.

   RNs and LPNs must work together to improve professional practice relationships. In Nova Scotia, there is strong collaboration between regulatory nursing organizations for both groups.

Research related to staff mix must include LPNs, identify barriers associated with the underutilization of LPNs, address the relationship between patient outcomes and the skill mix of both RNs and LPNs, as well as quality practice and collaborative work environments, and recognize that a standardized skill mix may not be in the best interest of the patient.

Regulatory bodies for LPNs are concerned that there is a lack of recognition that LPNs:

- Are the second largest professional nursing group in Canada:
- Are a valuable asset to the nursing workforce;
- Have the right to be consulted;
- May bring a fresh perspective to staff mix issues; and
- Could improve patient safety and outcomes if they are able to work to full scope and in collaborative environments.

A further challenge is accessing funds to research issues initiated by LPNs and/or their regulatory bodies.

Regulation: A Social Contract

Donna Brunskill
Executive Director
Saskatchewan Registered Nurses' Association

Nurses need to focus on vision and values. RNs and LPNs both want quality care. In the past, these two groups were collaborating well. It is necessary to look back at the root causes of the tension that they are experiencing in working together today. What changed? One factor is that money began to take precedence over quality. Today there is a shortage of both RNs and LPNs. It is important to learn how to best utilize the competencies of each group to achieve good outcomes and safe patient care. There must also be a focus on patient and citizen empowerment. Why argue whether RNs or LPNs should be giving oral medications in hospitals? Maybe patients should be responsible for their own medications as they would in the community.

According to the Institute of Medicine, the 4th leading cause of death is hospitalization. Nursing can learn from the airline industry about measures to increase safety. For example, do nurses know about the safety records of their practice setting such as the number of medication errors, number of assaults in home care and how much education each staff member receives? Have nurses examined the rules and regulations in their facilities that have an impact on patient safety?

Safety and quality may be perceived differently; safety may be thought of as "minimum" and quality as "optimum". Components of quality nursing include: leadership (vision, mission and goals), standards, nursing and interdisciplinary model, quality improvement agenda, decision-making/resource allocation, staff and skill mix, knowledge management and technology and communication support.

The regulatory role related to staffing encompasses: advocacy in accordance with the code of ethics, standards of nursing practice for the domains of practice, education, research, education and administration, best practice guidelines, quality workplaces, interdisciplinary guidelines, innovation and autonomy and continuing competence.

A major factor threatening safe, quality care is the shortage of nurses stemming from the large number of nurses who are retiring or will retire in the next 10 years and from the inability to educate sufficient numbers of nurses to replace them. In Saskatchewan, the single most important issue is how to reform nursing education to end up with an adequate number of nurses.

There are many gaps in knowledge about factors related to patient safety, including:
- Overtime;
- Best practice;
- Model of care delivery;
- Student assist role, nurse practitioners and pharmacists;
- Planning for needed future staff and skill mix;
- Contingency modeling (e.g., what impact will a storm, SARS outbreak have on staffing); and
- Innovation and accountability culture.

Nursing must look to the future and consider staff mix issues both within and beyond nursing (e.g., RN/nurse practitioner, clinical nurse specialist, care extenders, nursing student apprentices, expansion of the clinical pharmacist role). Now there is evidence available linking staff mix and patient outcomes. Nurses need to use this evidence and move forward.

Regulatory Panel Discussant

Dr. Ann Tourangeau
Assistant Professor, Faculty of Nursing, University of Toronto
Adjunct Scientist, Institute for Clinical Evaluative Sciences in Ontario

Key issues have been raised including:
- Blurring of RN and LPN roles;
- Availability of adequate numbers and categories of nursing human capital;
- Lack of knowledge of the relationships between staff mix and patient outcomes that reflect patient safety;
- Lack of processes/protocols to determine right staff mix to promote patient safety;
- Research focusing on acute care settings;
- Perceived discrepancies between scope of practice and scope of employment – underutilization of LPNs;
- Lack of research that includes LPNs;
- Could a standardized ‘best staff mix’ ever be determined; and
- Fiscal pressures.

Additional issues
- What does the term patient safety mean? Are all patient outcomes indicators of patient safety? Which patient safety indicators are affected by nursing staff mix?
- Lengthy cycle of research from ideas to practice
- Challenges translating findings to practice
- Staff mix often confused with nursing dose indicators (amount of nursing staff)

A key message is that staff mix errors can lead to clinical errors that may result in adverse patient and organization outcomes.

Effective nursing care involves the nurse synthesizing several components: nursing knowledge, knowledge of patient expectations and preferences, other knowledge (e.g., medicine, sociology, pharmacology), patient condition/history/capacity and nurse ability. When nurses focus on teaching and learning skills, they may fall into the rut of assuming that once the skill or task is mastered, the learner has the capacity to synthesize all the other pre-conditions that lead to effective care and the best possible outcomes for that patient in that context. This is the challenge when responding to concerns that nurses are underutilized.

There have been many studies addressing patient safety issues (see Appendix C). In summary, evidence suggests that nursing staff mix makes a difference in acute care patient outcomes *but* most research fails to offer guidance regarding the most effective staff mix for given patient populations in specific care settings. There is no best staff mix for all patient subpopulations across all settings.

A number of strategies are needed to overcome weaknesses in current research on nursing staff mix. These include:

- Researchers and decision-makers should partner to identify priority patient populations in specific care settings that require evidence and theory needed to guide staff mix decisions
- Clarify what outcomes reflect patient safety and are most important
- Use effective risk-adjustment techniques in outcomes research
- Develop theory about relationships between staff mix and patient safety outcomes by listening to stories, seeking expert opinion and researching literature. Design and implement studies to test and refine theory
- Include LPNs in outcomes studies
- Develop decision-assisting tools

Current research initiatives of Dr. Tourangeau include further study of determinants of 30-day mortality and unplanned readmission and survey of RNs and LPNs to measure care processes, work environments and responses to these environments.

Regulatory Panel Group Discussion

Participants identified several issues of importance following the presentation of the regulatory panel. Included were the following.

- Nursing regulatory bodies need to speak to issues surrounding staff mix and scope of practice, emphasizing the importance of these issues for protection of the public.
- It is important to examine scope of practice versus scope of employment. Regulators do not regulate nursing staff mix. Best evidence for nursing staff mix is needed in the health care facility.
- The role of regulatory bodies concerning the increased use of unregulated health care workers must be clarified. If unregulated health care workers continue to be part of the workforce in some settings, it is important that their role be defined in the best interest of the patient.

- More collaboration is needed between regulatory bodies for RNs and LPNs and between regulatory bodies and unions about staff mix and scope of practice.
- Regulatory bodies for RNs and LPNs can educate nurses and administrators about regulated scope of practice through collaborative presentations.

Participants expressed concern that there may be conflicts between scope of practice, codes of ethics and institutional policies and practices. It may be unclear how standards of nursing practice get translated into scope of practice at the bedside. Participants also believe that the impact of broader issues on staff mix and patient safety need to be addressed Particular items referenced included the nursing shortage, increased percentage of nurses working part time, heavy workloads and privatization. Leadership is needed to increase nurses' knowledge about regulation in general and scope of practice in particular.

Challenges and Opportunities

Objectives
- To summarize the major points that have been raised during the presentations and the groups sessions
- To discuss how these issues are important for healthcare employers
- To summarize challenges and opportunities that employers, as well as other key stakeholders, face in addressing the critical question of "how to develop the right staff mix"

Sharon Sholzberg-Gray
President and CEO
Canadian Healthcare Association

The Canadian Hospital Association was founded in 1931. In 1995, it was renamed the Canadian Healthcare Association (CHA) to reflect that its members represent health care facilities and agencies across the continuum of care. The members of CHA's member associations are employers who understand that nurses are the essence of the health care system in Canada.

The current health care system is a multiplicity of solitudes. On the one hand, governments make funding decisions that tie the hands of administrators. Physicians are seen as separate from the system and need to be integrated into it. How can quality of care be provided when the focus is on staff as cost centres?

The emphasis on reducing health care costs is short-term thinking. The public does not want access cut. However, there are pressures to reduce quality in order to increase access, such as the hiring of workers who can provide the same service at lower cost. But, what does it cost to treat an adverse event?

To date, most attention has been focused on waiting lists and little on adverse events or near misses. This will change with the release of the Canadian Institutes of Health Research (CIHR) and Canadian Institute for Health Information (CIHI) report in 2004.

Health facility trustees and administrators constitute other solitudes. For example, boards may not be reflective of the communities they serve. Sometimes, facilities have decision-makers with little expertise in the health care sector. This is a sector that has been identified as being 20 times more complex than other sectors. Other industries, like banking, have extra resources to be deployed in case of emergencies. The health care sector is always expected to "make do" but it cannot delay providing service until the economy is better. The complexity of the system must be communicated more effectively to others in the health care system. For example, it is too simple to say that every nurse should work to full scope.

There are also three solitudes within nursing, RNs, LPNs and registered psychiatric nurses. Decisions about staffing must be evidence-based. However, the message to date appears to be contradictory. On the one side, there is evidence of quality care when all nurses provide care within their scope of practice. On the other hand, there is research showing better outcomes with increased RN staffing. Are outcomes adversely affected in long-term and home care where there is less RN staffing? Moving to unregulated health care providers might be the real danger.

Underlying these multiple solitudes is the issue of cost versus quality. Is high quality affordable? The alternative, that is, lack of attention to quality, is too expensive. Communication is crucial. Nurses must speak up when they have research evidence that supports quality of care.

Honesty and transparency in the system is needed to diminish the prevailing culture of blame and move forward to a culture of safety as recommended by the Institute of Medicine. Lawsuits are not the answer.

Finally, funders, administrators, trustees, employers, researchers and practitioners must get together more. The solitudes within the Canadian health care system cannot continue.

Epilogue

Take Home Messages

As the preceding sections reveal, the presenters and participants discussed many important research findings and significant policy and regulatory issues during the Think Tank. General agreement emerged on the following points.

- Errors in nursing staff mix can lead to clinical errors that may result in adverse patient and organizational outcomes.
- Decisions about nursing staff mix must be evidence-based.
- Decisions about nursing staff mix must consider the core competencies of RNs and LPNs, the acuity and complexity of care needs and the available environmental supports.
- Many RNs and LPNs are concerned that the increased use of unregulated health care workers without appropriate role definition threatens patient outcomes.

There was also general agreement on several issues related to research and knowledge transfer.

Research

- There is now strong research evidence supporting the relationship between nursing staff mix and patient safety outcomes, especially in acute care settings:
    - The higher the proportion of regulated nursing staff, the better the patient outcomes and
    - The higher the proportion of RNs, the better the patient outcomes.
- Research is needed on the link between staff mix and patient outcomes in long-term care, mental health, home and community settings.
- Research is needed on the impact of LPN practice on patient outcomes in all settings.
- Decision-making tools are required to assist with determining the right nursing staff mix to promote patient safety and the appropriate utilization of nursing human resources.

Knowledge Transfer

- Research findings have been underutilized, because they have not always been accessible to those who need them.
- Nurses in research and practice must ensure that research findings are made accessible to decision-makers at provincial/territorial governments as well as to administrators and managers at the level of practice.
- More collaboration is needed at the local, provincial/territorial and national levels to increase understanding of RN and LPN scopes of practice and agreement on the tools needed for nursing staff mix decision-making.

Further Initiatives

An evaluation of the Think Tank indicates that, in general, most participants concluded that their expectations for the day had been met, citing opportunities to clarify the issues, learn about current research and network with colleagues representing a wide range of areas of practice as some of the most important benefits. Concern was expressed that the next steps in moving this work forward were not addressed. CNA concurs with this assessment and would like to provide

the readers of this document with a brief overview of its recent and future activities concerning nursing staff mix and patient safety.

Policy Documents

Since the Think Tank, CNA has published a position statement on patient safety. The statement articulates, among other considerations, CNA's belief that an evidence-based approach must be central to decisions about nursing competencies and, accordingly, the level and mix of nursing staff required for a particular patient population in a particular setting. CNA has also released a policy paper entitled *Nurses and Patient Safety: A Discussion Paper* (2004). This document was written in partnership with the University of Toronto, Research Cluster on Patient Safety. Its purpose is to stimulate discussion among nurses, other health care providers, employers, the public and policy-makers about issues surrounding nurses and patient safety. Both publications are available on CNA's web site (www.cna-aiic.ca).

Resource Guide

CNA has prepared a Patient Safety Resource Guide to assist RNs in all domains of practice to navigate through the copious amount of literature addressing patient safety. This tool should benefit nurses as they strive to make the organizational changes needed to promote patient safety and reduce risk and errors in the health care system. The guide contains over 350 references classified into 11 categories. One of the categories is nurse staffing and skill mix. This will be available on CNA's web site in the near future.

Evaluation Framework

CNA is collaborating with the Canadian Practical Nurses Association (CPNA) and the Registered Psychiatric Nurses of Canada (RPNC) on the development of an evaluation framework for staff mix decisions. The impetus for this project is to improve nurses' work life by developing a joint evaluation framework for RNs, LPNs and Registered Psychiatric Nurses for staff mix decision-making. This project is part of a larger CNA project, funded by Health Canada, to support the recommendations of the report *Our Health, Our Future – Creating Quality Workplaces for Canadian Nurses* (2002). Results are expected in the spring of 2004.

The Project Steering Committee includes representatives from the Academy of Canadian Executive Nurses, Canadian Association of Schools of Nursing, Canadian Federation of Nurses Unions, CHA, CNA, CPNA and RPNC.

Next Steps

The Canadian Patient Safety Institute has recently been created and the findings of the first CIHR-CIHI adverse events study are expected soon. Given the current climate for change, CNA believes it is the appropriate time to move the patient safety agenda forward. Patient safety and quality of care must be put back into health care budgets.

CNA looks forward to collaborating with health care partners from nursing, other disciplines and the public. CNA and its partners must work together to promote a research agenda for patient safety. A national health human resource strategy must be created. Health human resource planning and staffing decisions must be evidence-based. Patient safety indicators affected by nursing and nursing

staff mix must be identified. Priority patient populations and settings most in need of evidence to support staff mix decisions must be determined. Research findings must be translated into the language and tools of policy-makers, health care administrators and practitioners.

CNA challenges its partners to view questions of health human resources through a patient safety lens to ensure that patients receive safe and effective care and that our limited health human resources are utilized appropriately.

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Appendix A: Think Tank Participants

Name	Organization
Ann Mann	College of Licensed Practical Nurses of Nova Scotia
Ann Sprague	Association of Women's Health and Obstetric and Neonatal Nurses − Canada
Ann Tourangeau	University of Toronto
Anne Sutherland Boal	British Columbia Ministry of Health/RNABC
Audrey Danaher	Registered Nurses Association of Ontario
Barbara Davies	Canadian Association of Schools of Nursing
Barbara Lowe	Registered Psychiatric Nurses Association of Alberta
Barb Oke	Nova Scotia Department of Health
Beth Sparks	Nurses Association of New Brunswick
Bonnie Hall	Canadian Gerontological Nursing Association
Carolyn Hoffman	Saskatchewan Health
Chris Bailey	Saskatchewan Association of Licensed Practical Nurses
Diane Wilson Maté	College of Registered Nurses of Manitoba
Donna Brunskill	Saskatchewan Registered Nurses' Association
Donna Higenbottam	College of Registered Psychiatric Nurses of British Columbia
Donna Hutton	Alberta Association of Registered Nurses
Elizabeth Bidfell	College of Nurses of Ontario
Gabrielle Bridle	Canadian Practical Nurses Association
Gail Fones	College of Registered Nurses of Manitoba
Gilles Lanteigne	Canadian Council on Health Services Accreditation
Heather Sherrard	University of Ottawa Heart Institute
Irmajean Bajnok	Registered Nurses Association of Ontario
Jean Holmes	Winchester District Memorial Hospital
Jean Morrison	Saskatoon Health Region
Jeanne Besner	Calgary Health Region
Joan Sawatzky	University of Saskatchewan
Joan Toms	College of Registered Nurses of Manitoba
Jocelyn Bennett	Mount Sinai Hospital
Judith Buchanan	University of New Brunswick
Judith Shamian	Office of Nursing Policy, Health Canada
Judy Costello	Canadian Critical Care Nurses
Karen McCarthy	Canadian Nurses Association
Lianne Jeffs	University of Toronto
Linda Hamilton	College of Registered Nurses of Nova Scotia
Linda McGillis Hall	University of Toronto
Lisa Little	Canadian Nurses Association
Lorraine Brake	Canadian Association of Practical Nurse Educators
Louise Jones	Academy of Canadian Executive Nurses
Louise Sweatman	Canadian Nurses Association
Lucille Auffrey	Canadian Nurses Association
Lynn Redfern	Alberta Association of Registered Nurses
Madge Applin	Hay River Community Hospital

Marg Synyshyn	Registered Psychiatric Nurses of Canada
Maria MacNaughton	First Nations and Inuit Health Branch
Nancy Fram	Hamilton Health Sciences
Noreen Richard	Nurses Association of New Brunswick
Pat Fredrickson	College of Licensed Practical Nurses of Alberta
Patricia Marck	Capital Health
Patricia McLean	Canadian Nurses Protective Society
Paul D. Fisher	Council for Licensed Practical Nurses, Newfoundland
Paula Greco	Canadian Council on Health Services Accreditation
Pauline Worsfold	Canadian Federation of Nurses Unions
Robert Calnan	Canadian Nurses Association
Robert Shearer	Health Human Resources Strategies Division, Health Canada
Roxanne Tarjan	Nurses Association of New Brunswick
Sharon Chow	Saskatchewan Registered Nurses' Association
Sharon Sholzberg-Gray	Canadian Healthcare Association
Sheryl Boblin	McMaster University School of Nursing
Sue Beardall	Canadian Health Services Research Fund
Sue Matthews	Chief Nursing Officer − Ontario
Sue Neilson	College of Registered Nurses of Manitoba
Sylvia Ptashnik	Assiniboine Community College
Verna Holgate	College of Licensed Practical Nurses of Manitoba
Wendy Winslow	Registered Nurses Association of British Columbia

Appendix B: Think Tank Agenda

PATIENT SAFETY: DEVELOPING THE RIGHT STAFF MIX

3 December 2003

8:30 – Welcome
Robert Calnan, President, CNA

Review of Agenda and Approach
Participant Introductions and Expectations
Marc Valois, Facilitator

Opening Remarks
Lucille Auffrey, Executive Director, CNA

9:00 – Advisory Committee on Health Delivery and Human Resources: Perspective and Challenges on Nursing Staff Mix
Robert Shearer, Director, Health Human Resources Strategies Division, Health Canada

9:30 – Panel: Research Findings and Challenges
Dr. Jeanne Besner, Director, Research Initiatives in Nursing and Health, Calgary Health Region
Dr. Linda McGillis Hall, Assistant Professor & CIHR New Investigator, Faculty of Nursing, University of Toronto
Discussant
Roxanne Tarjan, Executive Director, Nurses Association of New Brunswick

10:30 – Stretch Break

10:45 – Case Study: Using Evidence to Support Changes in Staff Mix
Jean Holmes, Vice President, Human Resources, Winchester District Memorial Hospital, Ontario
Lisa Little, Health Human Resources Consultant, CNA
Madge Applin, Director of Nursing, Hay River Community Hospital, Northwest Territories

11:45 – Group Discussion

12:30 – Lunch

13:30 – Group Discussion Report Back

13:45 – Panel: Regulatory Issues and Challenges
Ann Mann, Executive Director/Registrar, College of Licensed Practical Nurses of Nova Scotia
Donna Brunskill, Executive Director, Saskatchewan Registered Nurses' Association

Discussant:
Dr. Ann Tourangeau, Assistant Professor, Faculty of Nursing, University of Toronto and Adjunct Scientist, Institute for Clinical Evaluative Sciences in Ontario

14:45 – Stretch Break

15:00 – Group Discussion with Report Back

16:00 – Challenges and Opportunities
Sharon Sholzberg-Gray, President and CEO, Canadian Healthcare Association

Plenary Discussion
Marc Valois, Facilitator

16:30 – Closing
Robert Calnan, President, CNA

Appendix C: Nurse Staffing and Patient Outcomes References
(Provided by Dr. Linda McGillis Hall)

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Appendix D:
Background Paper prepared for the CNA Think Tank

Patient Safety − Developing the Right Staff Mix

Background Paper prepared for the

CNA Think Tank

3 December 2003

CANADIAN NURSES ASSOCIATION
ASSOCIATION DES INFIRMIÈRES ET INFIRMIERS DU CANADA

50 Driveway
Ottawa ON K2P 1E2

May 2004

Tel: (613) 237-2133 or 1-800-361-8404
Fax: (613) 237-3520
E-mail: pubs@cna-aiic.ca
Web site: www.cna-aiic.ca

Table of Contents

Introduction

Health care restructuring, budget cuts and the shortage of health professionals have caused health care organizations to take action in using their human resources most efficiently. One strategy for achieving this end is to change the mix of registered nurses (RNs) and licensed practical nurses (LPNs)[1,2] working in the facility or agency. Changes in nursing staff mix[3] have, in some situations, led to blurring of RN and LPN roles with governments, employers and both groups of nurses[4] being unclear about their responsibilities in specific work environments. This uncertainty potentially threatens quality of care.

Decision-making about how best to match the needs of patients with the appropriate care provider is complex. While recognizing that cost-efficiency is an important element of decision-making, the Canadian Nurses Association[5] (CNA) believes the need to ensure positive client outcomes and patient safety through an evidence-based approach is central to making staffing decisions (Canadian Nurses Association, 2003). Evaluation of the impact of staffing decisions on client outcomes is essential.

This document has been prepared to review the context in which staff mix decisions are made, describe related policy and research initiatives and identify gaps and challenges. It is anticipated that this document will serve as a basis for practitioners, researchers, educators, administrators, employers and policy-makers in identifying the steps needed to move this work forward. The paper focuses on staff mix decisions related only to RNs and LPNs; it does not address nurse practitioners, registered psychiatric nurses, unregulated health care workers or other health disciplines.

[1] Depending on where they are located in Canada, licensed practical nurses (LPNs) are also known as registered practical nurses (RPNs).

[2] In Canada in 2002, there were 230,957 RNs employed in nursing (Canadian Institute for Health Information, 2003). In 2002, there were 60,123 LPNs (CIHI, 2003) working in practical nursing in Canada.

[3] In this paper, staff mix refers to the combination and number of RNs and LPNs providing direct and indirect nursing care to clients.

[4] In this paper, nurse means both RN and LPN.

[5] The Canadian Nurses Association (CNA) is a federation of 11 provincial and territorial professional nurses associations representing more than 117,000 RNs.

Context

Two concepts particularly relevant to the discussion of decision-making about staff mix are introduced here: patient safety and scope of practice.

Patient Safety

In the last decade, several countries including Canada began to focus on issues of patient safety, acknowledging that their health care systems are prone to error and that strategies must be developed to reduce the risk to patients. In Canada, a steering committee was created to develop an integrated national strategy for patient safety. In its report, the committee viewed safety as a fundamental aspect of quality health care and recommended that the health care system develop, maintain and nurture a culture of safety (National Steering Committee on Patient Safety, 2002).

In a survey of Canadian nurses' perceptions of patient safety in hospitals, nurses overwhelmingly responded that the environment in which they provide care is presenting increasing risk to their patients (Nicklin & McVeety, 2002). Among the themes that were identified most frequently as contributing to that risk were workload/pace of work, nursing shortage/staffing and human resource issues such as shortage of support staff and other health care disciplines (Nicklin & McVeety, 2002). Each of these themes is linked to decisions about staff mix.

The current approach to investigating errors is to seek out root causes. While there is an extensive body of literature concerning the multiple causes of medical error, this paper focuses on recent literature that has identified factors potentially related to nursing staff mix decision-making. These include insufficient staffing levels, inadequate orientation and training, failure to monitor competency on an ongoing basis and failure to create an environment of respect, shared responsibility and open communication among staff from various disciplines (Clarke, 2003).

CNA believes one way to address areas of risk and promote a culture of safety is to foster a collaborative approach to decision-making about staff mix and evaluate the relationship between staff mix and patient outcomes.

Scope of Practice

At the same time that changes are being made to the mix of RNs and LPNs working in various health care settings, several national nursing reports have emphasized the need to allow nurses to work to their full potential, both as a means to achieve efficiency in the health care system in terms of human resources and as a retention strategy (Advisory Committee on Health Human Resources [ACHHR], 2000, 2002). Decisions about staff mix cannot be made until the scope of RN and LPN practice is clearly understood.

In discussions about RN and LPN utilization, there is frequently lack of clarity in the concepts of staff mix and scope of practice. Nursing staff mix refers to the combination and number of health care personnel providing direct and indirect nursing care to clients. Changes in staff mix occur when the complement of RNs and LPNs on a particular unit is altered either through hiring more of one particular category of nurse or replacing one category of nurse with another.

Scope of practice is the range of roles, functions, responsibilities and activities nurses are educated and authorized to perform (Association of Registered Nurses of Newfoundland and Labrador, 2000). The scope of practice of regulated health care providers such as RNs and LPNs is determined by: a) provincial or territorial legislation, b) standards of nursing practice and ethical guidelines established by provincial or territorial nursing regulatory bodies, c) employer policy and d) individual nurse competencies.[6] The overall scope of practice for the profession, as determined by legislation and regulatory standards, sets the outer limits for the practice of all nurses. The actual scope of practice of an individual RN or LPN is generally narrower than the scope of practice of the profession itself. In addition to being determined by legislation and standards, the individual nurse's scope of practice is influenced by: the nurse's knowledge base, the practice setting (including available supports), the requirements of the employer and the needs of the client (ARNNL, 2003).

Full scope of practice

Given the various factors influencing an individual nurse's scope of practice, it is essential for the provision of safe and accessible health care to clarify what is intended in recommendations stating that nurses should work to their full scope of practice. All nurses cannot work to the full legislated scope of practice; instead, working to full scope of practice means that nurses work fully within their legislated scope of practice to their individual level of competency based on their education and experience. In other words, the fact that health profession legislation permits regulated providers to perform particular services "does not mean that every provider should provide every service allowed by legislation in all settings, or for all patients/clients" (AARN, 2003, p. 6). A flexible approach to scope of practice is required that "enables health care providers to practise to the extent of their education, training, skills, knowledge, experience, competence and judgment while being responsive to the needs of patients and the public" (Canadian Medical Association, CNA, & Canadian Pharmacists Association, 2003, p. 1).

The availability of adequate support systems such as orientation programs and professional development also has an impact of nurses' scope of practice. For example, a RN or LPN may have been educated to perform a certain activity but may not have had the opportunity to carry it out in a number of years. In the absence of adequate support and supervision, the scope of practice of that nurse should not include that activity.

Evolving scope of practice

In recent years, nurses, regulators, policy-makers and others have been speaking about the evolving scopes of practice of both RNs and LPNs. Scope of practice may be altered over time in response to changes in the health care system (e.g., increased emphasis of primary health care, new models of collaborative practice, shift from institutional to community care, new developments in technology, supply and demand for various health providers with particular skills) (CNA, 2002).

[6] Competencies are the specific knowledge, skills, judgment and personal attributes required for a nurse to practise safely and ethically in a designated role and setting (CNA, 2002).

While there may be changes from time to time in the legislated scope of practice or regulatory standards, more frequently the evolution in scope of practice takes place at the level of the employment setting. For example, an employer may decide that LPNs who have been educated in administration of medication will have this new responsibility added to their practice.

Overlapping **scopes of practice**

Although RNs and LPNs study from the same body of nursing theory, differences in basic nursing education lead to a different foundational knowledge base (College of Nurses of Ontario, 2002). As a result of differences in the breadth, depth and length of educational programs, the legislated scopes of practice of RNs and LPNs are different (ARNNL, 2000). There are, however, areas in which the boundaries are blurred, and the scopes of practice of RNs and LPNs overlap. Within the areas of overlap are competencies shared by RNs and LPNs.

Most provincial and territorial governments are moving toward a shared scope of practice model rather than retaining exclusive scopes of practice for each regulated health care provider. For clients, this development potentially increases access to health services. With the elimination of exclusive scopes of practice, the focus for health care delivery is on choosing the health care worker who can provide the most effective care for the lowest cost. It is easy to determine the lowest cost but more difficult to assess the effectiveness and safety of care.

IN SUMMARY

- To improve patient safety, the health care system must develop, maintain and nurture a culture of safety.
- Canadian nurses are concerned that today's health care environment is presenting an increasing risk for their clients.
- A collaborative approach and evaluation of the relationship between staff mix and client outcomes will contribute to a culture of safety.
- Scope of practice is determined by: a) provincial or territorial legislation, b) standards of nursing practice and ethical guidelines established by provincial or territorial nursing regulatory bodies, c) employer policy and d) individual nurse competencies.
- Working to full scope of practice means that RNs and LPNs work fully within their legislated scope of practice to their individual level of competency based on their education and experience.
- Decisions about staff mix cannot be made until the scope of RN and LPN practice is clearly understood.

Staff Mix Policy and Staff Mix Research

Following a brief exploration of patient safety and scope of practice, two contextual factors that pose challenges for decision-making about nurse staffing, this section reviews several policy and research initiatives in this area. Not surprisingly, scope of practice is frequently included in policy and research discussions of staff mix, given the interrelatedness of the two topics.

Staff Mix Policy

The Nursing Strategy for Canada report (Advisory Committee on Health Human Resources [ACHHR], 2000) recommended maximizing the utilization and capacity of all nurses as an important strategy for meeting the health needs of Canadians while encouraging the retention of nurses. It reported that employers have difficulty establishing the appropriate balance of RNs and LPNs, that LPNs are not utilized consistently across Canada and that LPNs report that they frequently work below their trained competency level (ACHHR, 2000). Issues pertaining to underutilization of RNs have also been raised but they are not the focus of this paper. The report emphasized that there is a lack of definitive research on optimal staff mix (see next section on research).

In Baumann et al. (2001), a major policy synthesis, the benefits of a healthy workplace for nurses, patients and the health care system were examined. One recommendation for creating healthy nursing work environments that will in turn promote patient welfare is for employers to attend to staffing concerns by hiring sufficient nurses to ensure a reasonable workload and addressing issues of staff mix and full and part-time employment.

The final report of the Canadian Nursing Advisory Committee recommended that regulatory bodies work with nurses, employers, unions, educators and governments to maximize the scope of practice of all nurses (ACHHR, 2002). It also proposed that employers should no longer define nursing practice but rather put policies in place that allow each nurse to function at the maximum of her or his professional practice abilities according to the respective provincial/territorial licensing body. Both CNA and the Canadian Practical Nurses Association (CPNA)[7] support the recommendations of the Canadian Nursing Advisory Committee.

CNA, CPNA and others have addressed the particular role of RNs or LPNs in the Canadian health system.

CNA's *Discussion Guide on the Unique Contribution of the Registered Nurse* helped lay the groundwork for future initiatives on staff mix. Many reviewers of the paper agreed that it was timely and important to clearly differentiate between RN and other nursing roles and to achieve more clarity on scope of practice (National Consultation on the Unique Role of the Registered Nurses [NCURRN], personal communication, March 2002). The following critical descriptors for RN practice were identified: assessment and health promotion; critical thinking and decision-making; leadership; and research utilization and involvement (CNA, 2002). Other reviewers indicated that CNA should focus on a collaborative practice model in which all nursing care providers work together to improve the health status of the population and the efficiency of the health care system (NCURRN, personal communication, March 2002).

[7] The Canadian Practical Nurses Association (CPNA) is the national association representing provincial/territorial licensed practical nurse organizations and affiliated individuals from across Canada.

CPNA's discussion paper, *Facing Forward* examined current and future health care trends and issues and the implications for Canada's practical nurses. Among the issues identified were underutilization, desire for collaborative interdisciplinary focus in care delivery, changing roles and responsibilities, continuing competency programs, fostering professional identity, shortage of providers, recruitment and retention, increased use of unregulated care providers and continued support for research (Canadian Practical Nurses Association, 1999). A second paper, *Primary Health Care: What It Is and Where Do Licensed Practical Nurses (LPNs) Fit?* explored the role of LPNs in a primary health care model and provided examples of how LPN roles in primary care can be enhanced through the evolving competencies of the LPN.

Underutilization of LPNs has been explored in some detail. A series of discussion papers in Alberta addressed increased integration of LPNs into regional health authority employment settings. A number of impediments to greater utilization of LPNs were identified including: nursing union grievances, attitudes and values of nurse managers, misperceptions about LPNs' current scope of practice, attitudes of nursing colleagues and other health professionals, unclear communication and resistance on the part of some LPNs (Health Authorities Health Professions Act Regulations Review Committee [HAHPARRC], 2002). Implementation guidelines for deploying LPNs to their full scope of practice were proposed, including clarifying the definition and importance of using all health professionals to their "full scope of practice"; promoting a greater understanding of LPN educational preparation and competencies; and developing, approving and implementing comprehensive descriptions of required competencies and skills for RNs, LPNs and registered psychiatric nurses (HAHPARRC, 2002).

Supports for Decision-Making

Recognizing that there can be no simple formula for determining staff mix, CNA, CPNA and provincial and territorial professional and regulatory bodies have developed a number of policy documents that aim to support nurses and others in making appropriate decisions on staff mix and scope of practice. For example, CNA endorsed a joint position statement on scopes of practice with the Canadian Medical Association and the Canadian Pharmacists Association that outlines principles and criteria for the determination of scopes of practice. The three national organizations believe that policy decisions in this area must put patients first, be grounded in principles that reflect commitment to professionalism, life-long learning and patient safety, take into account the need for legislative and regulatory changes to support evolving scopes of practice and involve health professionals in decision-making processes (CMA, CNA, & CPHA, 2003). Similar principles are included in a position statement from CPNA on the *Role and Scope of Practice of the Practical Nurse*.

In 2003, CNA developed a position statement on *Staffing Decisions for the Delivery of Safe Nursing Care* that addresses the key principles and criteria on which decision-making related to the delivery of safe nursing care must be based. The principles include a focus on safety and evidence-based client outcomes, recognition of the unique and shared competencies of each care provider group and the leadership role of RNs in implementing collaborative practice.

Provincial and territorial nursing professional and regulatory bodies for both RNs and LPNs across Canada have developed position statements, practice expectations and guidelines to assist nurses, employers and others in making effective decisions regarding the utilization of RNs and LPNs. Common to these documents is a focus on patient outcomes, evidence-based solutions and collaborative approaches.

Decision-Making Framework

Increasingly, the concept of frameworks for decision-making has been introduced. CNA's position statement on staffing decisions incorporates a framework that builds on the work of several provincial and territorial nursing regulatory bodies. The framework comprises three components to be taken into consideration when making staff mix decisions: the client, care provider competencies and the practice environment. Criteria related to each component are proposed (see Table 1).

Table 1
Framework for Staff Mix Decision Making: Components and Selected Criteria

Component	Selected Criteria
Client	Complexity of care needs Predictability of outcomes Risks of negative outcomes
Care provider competencies	Education Experience Expertise
Practice environments	Availability of and access to resources including support for nurses, policies, procedures, medical directives and protocols to guide decision-making

Note: Adapted from *Collaborative Nursing Practice in Alberta,* by the Alberta Association of Registered Nurses, College of Licensed Practical Nurses of Alberta, & Registered Psychiatric Nurses Association of Alberta, 2003, Edmonton: Authors; *Position Statement: Staffing Decisions for the Delivery of Safe Nursing Care*, by CNA, 2003, Ottawa: Author; & *Practice expectations: A guide for utilization of RNs and RPNs*, by CNO, 2002, Toronto: Author.

Responding to the identified need for a research-based approach to determine the optimum deployment of nurses in a given practice environments, the Alberta Association of Registered Nurses took the framework concept a step further when it developed a framework of key questions, based on current research, to support best staffing practices. Examples of questions that could be used to assess the adequacy of staffing decisions related to the three components identified earlier (client, care provider competencies, practice environments) include:

- Who are your patients/clients/residents, and what are their needs for care? What are the relative acuity, risks and vulnerabilities of your care recipients and what health outcomes are you trying to achieve?
- What are your available resources, including the preparation, competencies, supervisory requirements, nursing staff's legislated scopes of practice and the environmental supports and systems affecting the delivery of care?
- What checks and balances (consultation and involvement, education and training, monitoring and reporting mechanisms) can you put in place to identify, report and manage the risks for patients and staff?

- What clinical indicators will you monitor on an ongoing basis to assess the outcomes of care, so that you can evaluate the effectiveness of your staffing choices and make adjustments as needed?

Responses to questions such as these will help identify staffing requirements and guide patient/client care assignments.

Collaborative Decision-Making Models

Appropriate staffing decisions can best be made when everyone involved understands the roles and responsibilities of all members of the nursing team. Consequently, regulatory bodies for RNs and LPNs have been working together to articulate collaborative decision-making models and to develop related resources. To date, there has been limited evaluation of the impact of collaborative models. Three examples of collaborative models are briefly described here.

The Association of Registered Nurses of Newfoundland and Labrador and the Council for Licensed Practical Nurses developed guiding principles to facilitate collaborative practice environments as part of their Learning Circles Project. Two-day training sessions were held for direct care RNs and LPNs who learned specific skills to enable them to respond more effectively to scope of practice issues and work toward more collaborative relationships. Pre/post session evaluation results indicated increases in new learning, skills development and changes in beliefs and attitudes that were sustained over the three-month evaluation period (ARNNL, 2002).

The Alberta Association of Registered Nurses, the College of Licensed Practical Nurses of Alberta and the Registered Psychiatric Nurses Association of Alberta jointly prepared a document to provide information to their members, employers, colleagues and the public regarding the roles and responsibilities of nurses. It includes a chart outlining client, nurse and environmental factors to consider when making decisions about RN, RPN or LPN utilization (AARN et al., 2003).

The Registered Nurses Association of British Columbia has worked with the British Columbia Nurses' Union, the College of Licensed Practical Nurses and the Hospital Employees Union to develop a protocol setting out the key principles and guidelines that are the prerequisite steps to safely implementing any changes in the practice roles or responsibilities for RNs and LPNs (British Columbia Nurses' Union, College of Licensed Practical Nurses of British Columbia, Hospital Employees Union, & Registered Nurses Association of British Columbia, 2003).

A number of principles are emerging from collaborative models.

RNs and LPNs

- Work collaboratively to provide safe, quality care that maximizes the benefits to clients
- Are responsible and accountable for their own practice and are expected to function within their approved scope of practice and within applicable legislation
- Work to their own level of competence and seek additional information and guidance when required
- Recognize that within the nursing team there are areas of shared competencies and overlapping roles and that scopes of practice evolve in response to changing health needs
- Have a responsibility to maintain their competence and participate in life-long learning
- Must advocate for practice environments that support the provision of safe, competent, ethical, cost effective and cost efficient care (AARN et al., 2003; ARNNL, 2002)

As more collaborative models are implemented, it will be important to evaluate the impact of the models on both client and nurse outcomes.

IN SUMMARY

- The utilization and capacity of RNs and LPNs must be maximized to meet the health needs of Canadians.
- Decision-making about the appropriate mix of RNs and LPNs is complex.
- RN and LPN policy documents support the principle of evidence-based decisions for positive client outcomes.
- Collaborative models are being developed to enhance the working relationship between RNs and LPNs.

Staff Mix Research

The amount of research on the impact of nursing staff mix on both client and nurse outcomes is limited but growing. A small selection of findings focusing on client outcomes is reported here.

The results of a study by McGillis Hall & Doran (2001) revealed that a higher proportion of RNs and RPNs on inpatient medical/surgical and obstetrical units are associated with increased functional independence, social functioning satisfaction with obstetrical care and decreased pain at discharge. Research in hospitals has demonstrated that higher overall number of nursing hours per client and a higher proportion of RNs in the staff mix were associated, in medical patients, with a shorter length of stay, lower rates of urinary tract infection and upper gastrointestinal bleeding (Needleman, Buerhaus, Mattke, Stewart, & Zelevinsky, 2002). A higher proportion of hours of care provided by RNs were also associated with lower rates of pneumonia, shock or cardiac arrest and "failure to rescue"[8] (Needleman, Buerhaus, Mattke, Stewart, & Zelevinsky, 2002). Other researchers found that a higher proportion of RNs in the staff mix was associated with a lower 30-day mortality (Tourangeau, Giovannetti, Tu, & Wood, 2002). A recent study concluded that surgical patients in hospitals with higher proportions of nurses educated at the baccalaureate level, or higher, experienced lower mortality and failure-to-rescue rates (Aiken, Clarke, Cheung, Sloane, & Silber, 2003). In the area of community home nursing, studies have demonstrated that care by baccalaureate-prepared RNs was associated with the need for fewer visits (O'Brien-Pallas et al., 2001) and improved knowledge and behaviour scores in clients related to their health condition (O'Brien-Pallas et al., 2002).

The CUPE/OCHU[9] RPN[10] Committee (2002) stated in a discussion paper on *RPN Scope of Practice* that "more effective use of RPNs is key to finding sustainable solutions for Ontario hospitals" (p. 14). The committee's proposal to increase the number and scope of practice of RPNs in Ontario hospitals was based on the experience at Arnprior and District Memorial Hospital (ADMH) where several changes were made with respect to RPN jobs. These changes included an increase in the number of RPNs in the RN to RPN staffing ratio, performance of additional tasks by RPNs such as administering medications to acute, medical/surgical or chronic patients and provision of care for surgical, obstetrical, newborn and emergency patients; and contribution to the care plan and patient education. According to the report of the ADMH experience, full utilization of RPNs' scope of practice benefited employers (e.g., a balance of

[8] Failure to rescue is defined as mortality following complications (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002).
[9] Canadian Union of Public Employees/Ontario Council of Hospital Unions
[10] In Ontario, the title RPN is used rather than LPN.

registered staff for quality care, fiscal responsibility), employees (e.g., increased worker satisfaction, job security) and patients (Canadian Union of Public Employees/Ontario Council of Hospital Unions Registered Practical Nurses Committee, 2002). Although benefits for patient outcomes were noted, the outcomes were not specified. The paper calls for more research on appropriate mixes of regulated nursing staff in acute care hospitals.

CUPE recently reported the results of a study that examined how well LPNs were being utilized by health care employers in five health regions in Saskatchewan. A survey of nearly 400 LPNs revealed that 60 per cent perceived that their skills were not being fully utilized, that LPNs in long-term care facilities were more likely to be fully utilized and that almost 90 per cent of LPNs reported feeling frustrated when they could not use their skills (Canadian Union of Public Employees, 2003). Five case studies were described in which employers had taken the initiative to use LPNs to their fullest. In each situation, LPNs and managers believed they were providing better health care to their clients although no formal evaluation of patient outcomes was conducted (CUPE, 2003). Recommendations for other regions and employers seeking to more fully utilize LPNs included development of clear policies, training for managers on issues such as scope of practice, regulatory frameworks and teambuilding, funding and support for refresher courses, orientation programs, education for RNs on LPN competencies and documentation of the benefits of LPNs working to full scope of practice (CUPE, 2003).

A pilot study in Ontario by Bergeron, Seeley and Spadoni (2002) examined the perceptions and attitudes of a small group of managers to determine how presently RPNs are being utilized and to predict how the RPN will be utilized in the future, in the acute care setting. Among the findings was the suggestion that "organizational leadership is required to define and implement the expanded RPN role" (p. 13). Further research is required to validate the findings of this pilot study. Most studies evaluating the impact of staff mix on patient outcomes have addressed either the ratio of regulated to unregulated health care workers or overall levels of nurse staffing. There has been a general lack of research examining the optimal staff mix of RNs and LPNs for achieving the best client outcomes (Clarke, 2003), the specific impact of LPN practice on client outcomes or the impact of having nurses work at full scope of practice. Concern has been expressed regarding the generalizability of current research findings about staff mix because of the importance of context and practice settings and the influence of non-nursing staff on outcomes (Hailey & Harstall, 2001; Spilsbury & Meyers, 2001). Another identified weakness of current research is that evaluation may consider only the category (level) of worker (e.g., RN or LPN) when skill is a function not only of qualifications but also of experience and competencies (Spilsbury & Meyers, 2001). Finally, there has been limited evaluation of the impact of staff mix decisions from the patient perspective (Spilsbury & Meyers, 2001).

Several research studies are underway across the country to begin to address some of these deficiencies.

A recently funded project titled A Systematic Approach to Maximizing Nursing Scopes of Practice[11] will examine the scope and boundaries of various categories of nursing personnel simultaneously in three health regions of Alberta and Saskatchewan. For example, LPN roles will be examined jointly with those of RNs, as a means of maximizing the scope of practice of

[11] The Canadian Health Services Research Foundation funded this research by Besner and Doran in 2003.

both provider groups and informing the potential redesign of nursing roles to achieve an optimal nursing staff mix.

CNA has initiated a study to evaluate the outcomes of RNs and LPNs working at full scope of practice. Evaluation indicators include nursing sensitive patient outcomes, job satisfaction rates, absenteeism rates, etc. Research sites include a community hospital in Ontario and the Northwest Territories.

Boblin and her colleagues are undertaking a study of nursing decision-making that aims to differentiate RN and RPN decision-making by describing their similarities and differences. This study builds on previous investigations and is described in more detail in the following section.

IN SUMMARY

- There is a limited but growing body of research about the relationship between nurse staffing and client outcomes.
- There is little research on the optimal mix of RNs and LPNs to achieve positive client outcomes, the specific impact of LPN practice or the impact of having RNs and LPNs work to their full scopes of practice.
- Methodological factors limit the generalizability of findings about nursing staff mix.

Challenges in Making Appropriate Nursing Staff Mix Decisions

A focus on tasks, uncertainty about roles and concerns about the liability and risk management implications of delegation and supervision are among the challenges in making appropriate nursing staff mix decisions.

Focus on Tasks
Decision-making regarding the appropriate utilization of RNs and LPNs is complicated by the focus on the activities or tasks they carry out. RNs express concern that focusing on the task makes it difficult to capture the complexity of nursing practice.

An example from an RN illustrates this concern.

> Taking the psychiatric patient for a walk allows the nurse to complete a physical and mental assessment including ability to focus on a task, interpretation of the individual's environment and orientation in all spheres. This 'walk' may look like something anyone could perform; however, it is only the vehicle through which the nurse establishes the nurse-client therapeutic relationship and completes the nursing (bio-psycho-social-spiritual) assessment (NCURRN, personal communication, March 2002).

Assigning staff based on tasks to be done may also lead to heavy workloads that do not allow time for other important aspects of nursing care such as surveillance for complications that may have an impact on patient safety (failure to rescue) (Clarke, 2003).

A focus on tasks is inconsistent with the competency-based approach used by RN and LPN regulatory bodies. Addressing the competencies required by nurses provides more direction for making staffing decisions in the best interest of the patient. Competencies refer to the specific knowledge, skills, judgment and personal attributes required for regulated health professionals to practise safely and ethically in a designated role and setting (CNA, 2002). An emphasis on competencies rather than tasks is congruent with the view that that "the technical and cognitive aspects of nursing practice are integrally related and cannot be separated" (CNO, 2002, p. 6). When assigning clinical responsibilities, the technical skill of the provider cannot be the only deciding factor (AARN, 2003). The cognitive aspects of nursing practice include assessing, critical thinking, decision-making, evaluating, teaching, involving patients/clients in making decisions, providing emotional support and coordinating patient/client care.

Some of the research on two cognitive dimensions, decision-making and critical thinking, is briefly described here.

Boblin-Cummings, Baumann and Deber (1999) identified critical and complex components of the decision-making process. Building on this work, Royle, DiCenso, Baumann, Boblin-Cummings, Blythe, & Mallette (2000) revealed that there are measurable differences in the way RNs and RPNs make decisions. Both RNs and RPNs reported making decisions frequently and having little difficulty in making them. However, there were statistically significant differences in the frequency with which RNs and RPNs made decisions and the difficulty they found in making them. Additional research to investigate the reasons behind the differences revealed in

these findings was recommended. A further study[12] is underway to identify and describe nursing decision-making and how decision-making is influenced by variables such as education, experience and setting. The intent is to differentiate between RN and RPN decision-making through describing their similarities and differences. The differentiation will be used to explore policy, research and educational issues.

Other research has examined critical thinking and its relationship to clinical competence (May, Edell, Butell, Doughty, & Langford, 1999). Research findings related to cognitive aspects of nursing practice such as decision-making and critical thinking are of assistance when deciding how best to match the competencies of the care provider with the needs of the client.

Uncertainty about Roles

Successful collaboration in providing nursing care depends on care providers having a clear understanding of their own roles, responsibilities and scopes of practice as well as those of their colleagues. Some RNs have identified the expanding scope of practice of LPNs and how this effects the provision of care within the nursing care team as the most pressing issue in terms of nursing staff mix. They have reported to CNA that they feel they are losing control of their practice and that they are concerned for the safety of their patients. LPNs have expressed concern about barriers preventing them from working to their full scope of practice leading to their underutilization in the Canadian health care facilities. Although LPNs may be able to care for some patients on a unit, some employers prefer the flexibility of staffing with RNs who can provide all the care. LPNs have also reported that managers in health care facilities may not be familiar with changes in LPN education and opportunities for them to maintain their knowledge and skills.

Using legislated scope of practice statements and definitions of nursing practice to determine whether an RN or LPN is needed in a certain situation is difficult, because these statements tend to be quite general and may lead to inconsistent application in health care settings. Nurses have found that the scopes of practice spelled out in legislation do not provide all the answers needed to determine appropriate staffing that supports good patient outcomes.

The roles and functions expected of RNs and LPNs may also be set out by employers in job descriptions, policies and procedures. Here too there is often a lack of consistency with nurses in some health care organizations and provinces or territories being able to undertake a wider range of nursing care activities than in others. For example, the scope of practice of LPNs working in long-term care facilities may include administering medications and managing intravenous therapy. In acute care hospitals, their scope of practice may be more limited in terms of these activities.

Uncertainty about roles creates tension in working relationships that has implications for patients as well as nurses. Research has demonstrated that the quality of communication among nurses is positively associated with patient outcomes (McGillis Hall and Doran, 2001). Learning how to communicate and collaborate is essential for reducing tension. RNs and LPNs need to have a clear understanding about each other's roles, responsibilities and scopes of practice.

[12] The Ontario Ministry of Health and Long-Term Care, Nursing Secretariat are funding this research by Boblin, Baxter, Alvarado, Baumann and Akhtar-Danesh.

Concerns about Delegation, Supervision and Liability

RNs have questions about their responsibilities for delegation and supervision as well as their liabilities with respect to implementation of an expanded scope of practice for LPNs. For example, they are concerned that they will be found liable if a LPN, acting within her or his legislated scope of practice, makes a medication error. LPNs identified misconceptions held by RNs that they are responsible for the actions of LPNs or that they had to directly supervise LPN work as barriers to moving to full scope of practice (CUPE, 2003).

Variation in models of care has led to confusion about delegation, supervision and liability. In general, RNs and LPNs work together as part of a team and are responsible and accountable for their own practice. When LPNs have the required competencies to undertake care that is within their legislated scope of practice and employer policy, they are able to practise autonomously. If the care required exceeds their level of competency, LPNs are expected to seek additional information and guidance. In most situations, the RN is accountable for the decision to assign patient care. Setting expectations for communication and supervision between the RN who assigns patient care and the LPN who accepts the assignment is integral to the safe assignment of care (AARN, 2003). For example, how will communication be maintained between the RN and LPN and what supervision will be available if, for example, the care requirements of an assigned patient change and are beyond the competencies of the LPN?

In some models, RNs delegate tasks within their own scope of practice to other health care providers such as LPNs in selected situations. Responsibility for delegation is shared among the employer, RN and LPN. Provincial and territorial nursing and regulatory bodies and others such as the Canadian Nurses Protective Society have prepared guidelines outlining the responsibilities of each party. The question of responsibilities and liabilities is complex detailed discussion that is beyond the scope of this paper. Because of the concerns expressed by RNs and LPNs, these issues must be included in basic and continuing education programs.

Other Challenges

Other challenges affecting decision-making about nursing staff mix have been identified through anecdotal reports from nurses, as well as other documents (e.g., HAHPARRC, 2002). Some challenges are related to resistance to change. Factors related to the work environment have been noted including a generally low staff morale due to being overworked and power struggles between individuals rather than an emphasis on teamwork (HAHPARRC, 2002). There are also challenges related to education such as competition between RN and LPN students for clinical placements, unavailability of discipline-specific preceptors and lack of programs that enable nursing care providers to move from one category to another and that incorporate prior learning assessment.

IN SUMMARY

- The complexity of nursing care is not captured when the focus is on tasks.
- Technical and cognitive aspects of nursing practice cannot be separated.
- Taking into consideration the nursing competencies required for client care provides better direction for staffing decision-making rather than focusing on tasks.
- Tension in working relationships is created when RN and LPN roles are unclear.
- RNs and LPNs need to understand each other's roles, scopes of practice, liabilities and risk management implications of delegation and supervision.

Moving Forward

Addressing the challenges outlined in this paper is necessary to ensure that decisions about the most appropriate mix of RNs and LPNs in all health care setting are evidence-based and have a positive impact on patient safety. Consideration of the nursing competencies required for client care is an essential element of planning health human resources and setting policies for changes in the health care system. To date, much of the discussion on nursing staff mix has centred on the acute care hospital setting. Matching the competencies of nurses with the needs of patients and clients is important in long-term care, home care and other community-based health care settings. Effective nurse staffing decision-making supports the primary health care approach that has, as one of its tenets, that clients will receive appropriate care from the appropriate health care professional within a time frame that is appropriate.

To ensure that Canadians receive safe and effective care, we must work collaboratively to move forward on these issues. Practitioners, researchers, educators, regulators, administrators, employers and policy-makers are invited to consider the following questions.

QUESTIONS FOR CONSIDERATION

1. What are the research gaps in the area of patient safety RN/LPN staffing mix?
2. What are the policy gaps?
3. What educational strategies are needed to improve patient safety as it relates to nursing staff mix?
4. What resources and tools are required to support evidence-based decision-making by health care organizations with respect to staff mix?
5. How can a collaborative approach to these issues be promoted and sustained?
6. What are the priorities for collaboration?

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