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A Systematic Approach to Maximizing Nursing Scopes of Practice

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Key Implications for Decision Makers

- **Regulatory bodies** must work together to harmonize existing competency frameworks and consult with each other in the future development of their respective regulatory documents. **Regulatory bodies and unions** representing the three categories of nurses must work together to help their respective members become more informed about their own and their colleagues' roles in the health system.
- **Policy makers** must address the role ambiguity that currently exists across the health professions. A clear understanding of professional roles and contributions is essential to appropriate health human resources planning, including planning for the right number and type of education seats.
- **Employers and managers** must engage health professionals in discussion of distinct and shared responsibilities among team members to promote effective collaborative practice, improve role clarity, and enhance quality of care. Continuing education of the current workforce will be an important strategy in moving toward more effective teamwork in healthcare.
- **Educators** have an important role to play in preparing future health professionals for collaborative practice. It will require they have, and are able to transmit, accurate knowledge to their students about the roles and responsibilities of nurses and other providers in the health system.
- **Employers, regulatory bodies, educators, practitioners, unions, and policy makers** must engage in dialogue about strategies for improving the utilization of all health professionals. **Employers and managers** must employ effective change management strategies when introducing new staff mix models.
- **Healthcare organizations, policy makers, and agencies** responsible for monitoring and reporting on health system performance must collaborate in addressing the current inadequacy of databases that allow linkage of unit or program level staff mix and contextual data to patient, provider, and system outcomes.

Executive Summary

The term "scope of practice" has been widely used in a number of recent healthcare reports [1, 2, 3] and professional documents. [4, 22] It is seldom clearly defined, although a thorough understanding of the concept is obviously essential to effective utilization of the health workforce. In this study of nursing scopes of practice, differentiation was made between nursing roles (pre-defined expectations of nurses' contribution based on professional education and role) and role enactment (actual practice as delimited by legislation, employer policies, experience, context of practice, etc.).

The primary purpose in this study was to elicit nurses' (licensed practical nurses, registered nurses, and registered psychiatric nurses) perceptions of the extent to which they are able to work to full scope and to identify perceived barriers and facilitators to optimizing their roles. Literature searches conducted prior to the study revealed no consistent use of the term, and it was therefore considered important to understand how nurses themselves describe what it means to work to full scope and what strategies they recommend that will enable them to be better utilized. Other members of the healthcare team were also interviewed to elicit their perceptions of nurses' roles and of similarities and differences between their roles and those of nurses.

The study was conducted in three health regions — Calgary Health Region and Capital Health in Alberta, and Saskatoon Health Region in Saskatchewan. Patient health needs and the practice environment are known to significantly influence role enactment. [4, 22] Considerable efforts were thus made to collect descriptive data about population and contextual factors across the three

sites, to examine their effect on descriptions of scope enactment, and to assess the practicality of collecting outcome data relevant to measurement of the impact of work redesign in subsequent research.

Quantitative data collection for this study proved to be a considerable challenge. Measuring the impact of staff mix changes or of changes in interprofessional roles requires the availability of patient and provider data at a unit or program level, where most staffing decisions are made. The difficulties encountered in achieving data comparability across the three sites on a number of the variables selected for this study highlighted substantial deficits in the databases currently available to inform unit or program level measurement of the impact of current and emerging models of collaborative practice on provider, patient, and system outcomes.

More importantly, this research revealed substantial role confusion within nursing and between nursing and other professional groups employed in acute care settings. Further, it appears that role clarification and redesign of the work of health professionals, certainly within acute care but most likely across all care delivery settings, might well provide an opportunity to mitigate some of the workload pressures that are inhibiting professionals from working to their full scope of practice.

Clarifying roles will require a strong commitment to interprofessional and cross-sector (that is, practice, education, unions, regulatory bodies, and policy makers) collaboration in redefining the “unique” and “shared” contributions of each professional group, recognizing that substantial

overlap exists in many of the activities they perform. Staff-mix decision-making for a specific unit, program, or setting and effective long-term health human resources planning are difficult to achieve if based simply on a review of the "competencies" or clinical skills shared among so many health professionals. In this research, nursing practice tended to be described more often on the basis of "functional tasks" than "functional roles." The distinct differences that exist in the education, knowledge, and skill base of the three regulated nursing groups should distinguish the roles they are expected to perform in providing nursing care. Those differences were not clearly articulated by participants in this study.

Health human resources planning should begin with an assessment of the most appropriate type of provider needed to carry out particular roles, given the current and emerging needs of the population and predicted changes that will occur in healthcare and in the external environment influencing healthcare delivery. The question that must be asked is not "who *can* perform this set of tasks or activities?" but rather "who *should* and why?" given the context and population.

It would appear that role clarification should begin with examining commonalities and differences in the education of health professionals and determining the relevance of that education to employers responsible for appropriate utilization of health professionals and policy makers who fund the delivery of healthcare. Ultimately, the focus must be on ensuring that we prepare the right number and type of health professionals needed to meet emerging population health needs and achieve intended patient, provider, and system outcomes.

CONTEXT

Numerous reports have highlighted the need to address the under-utilization of health human resources. [1-4] Ensuring that nurses and other health providers are able to work to their full scope of practice is an important retention strategy, which is crucial to resolving workforce shortages. Achieving role optimization requires a clear understanding of the scope/roles of health providers as well as attention to the environment in which care is provided. Factors such as setting (for example, acute care), context (such as leadership, complexity of the unit), and provider characteristics (for example, staff mix, education, experience) influence the extent to which health professionals are able to fully enact their roles. [5, 6]

The primary purpose in this study was to elicit nurses' (licensed practical nurses, registered nurses, and registered psychiatric nurses) perceptions of the extent to which they are able to work to full scope of practice and to identify perceived barriers and facilitators to optimizing nurses' roles. Although the term "scope of practice" is often referred to in policy and professional documents, it is difficult to find a consistent definition of the concept. It is therefore important to understand how nurses themselves describe what it means to work to full scope of practice and what they recommend as strategies that will enable them to be better utilized.

This research drew primarily on qualitative data obtained from interviews, although considerable quantitative data were also collected to describe the patient care units from which nurses and other providers were sampled. This health human resources research project is the first in a program of research that will continue to involve stakeholders in a number of health regions. The project lays the foundation for redesigning the work of nurses and other health professionals and for measuring the impact of job redesign on patient, provider, and system outcomes. It was therefore important to examine the practicality of collecting some data related to outcome measurement across the three regions participating in the study.

Research Objectives

- To examine scope of practice enactment by different categories of regulated nurses
- To identify barriers and facilitators to maximizing nursing scopes of practice
- To assess the potential influence of the work environment on role enactment
- To identify opportunities for redesigning work and optimizing role enactment
- To document the practicability of collecting comparable data related to patient, provider, and organizational variables known to influence role enactment and selected outcomes across settings

Contribution of this Research

The literature search that preceded this study and the subsequent review of the literature (2002 to 2005) revealed that there has in fact been relatively little research on "scope of practice" as a general concept. We found no evidence of prior research simultaneously examining and contrasting the roles of registered nurses, licensed practical nurses, and registered psychiatric nurses. Research on scope of practice has primarily involved registered nurses and has tended to address specialist nursing roles, such as in oncology, [7] acute care, [8] pediatrics, [9] pain management, [10] sexual health, [11] heart failure clinics, [12] diabetes, [13] or outpost settings. [14]

Much of the research on nursing practice has focused on job satisfaction, burnout, and the working conditions of nurses, but there is little evidence of prior research that has explicitly linked these factors to the underutilization of nurses. Although there has been a significant amount of research on nursing staff mix and patient outcomes in recent years,[15-18] researchers in these studies have not addressed the utilization of nurses and appear to have simply taken as a given that nursing staff was appropriately utilized. The findings from the research reported herein would suggest that assumption is perhaps not always valid.

Key Messages and Implications (not listed in order of priority)

1) Limited consultation among regulatory bodies when addressing professional roles and developing competency frameworks and practice standards has resulted in substantial similarity in descriptions of professional competencies without clarifying whether differences in educational preparation actually translate into differences in competence or ability to meet particular role expectations.

- **Regulatory bodies** must work together in harmonizing existing competency frameworks and consult with each other in the future development of their respective regulatory documents.

2) There is substantial overlap in activities/tasks performed by nurses and other health professionals but little concrete evidence that similarities and differences in the knowledge base (that is, the professional role) and expertise of members of the health team are explicitly factored into decision-making about the most appropriate staff mix model, given the population served and the context of practice.

- **Managers** may benefit from more information about professional education and complementary roles of various health professionals, to help them make evidence-based staffing decisions.

- **Policy makers** must address the role ambiguity that currently exists across the health professions. A clear understanding of professional roles and contributions is essential to appropriate health human resources planning, including planning for the right number and type of education seats.

3) Nurses and other health professionals have poor understanding of the similarities or differences that exist in the preparation of the three groups of nurses and are relatively unaware of changes that have occurred in nursing education over the past several years. This leads to misinterpretation of the capabilities of professional colleagues and contributes to overall underutilization of the nursing workforce.

- **Regulatory bodies** and unions representing the three categories of nurses must work together to help their respective members become more informed about their own and their colleagues' roles in the health system.
- **Employers** must engage health professionals in discussion of distinct and shared responsibilities among team members to promote effective collaborative practice, improve role clarity, and enhance quality of care. Continuing education of the current workforce will be an important strategy in moving toward more effective teamwork in healthcare.
- **Educators** have an important role to play in preparing future health professionals for collaborative practice. That will require that they have and are able to transmit accurate knowledge to their students about the roles and responsibilities of nurses and other providers in the health system.

4) There is considerable role confusion among the three groups of nurses and between nurses and other health professionals, which results in unnecessary overlap in task performance and introduces inefficiency in healthcare delivery. Clarification of roles should begin by examining the similarities and differences in the educational content of the various health professional programs.

- **Employers, regulatory bodies, educators, practitioners, unions, and policy makers** must engage in dialogue about strategies for improving the utilization of all health professionals.

5) Substituting one provider for another (for example, replacing registered nurses with licensed practical nurses) may be occurring inappropriately in some situations.

- **Employers and policy makers** must focus on quality of care and patient safety in addition to cost when making staff mix decisions.

6) When introducing staff mix changes, it is important to consider what service delivery model is most likely to maximize the complementary roles of health professionals. Staff must be encouraged to refocus their activities as necessary to engage in collaborative patient-centred practice.

- **Employers and managers** must employ effective change management strategies when introducing new staff-mix models.

7) As the focus of health human resources management shifts increasingly toward interprofessional practice, more attention must be paid to developing databases that permit unit- or program-level measurement of the impact of new models of collaborative practice on provider, patient, and system outcomes.

- **Healthcare organizations, policy makers, and agencies** responsible for monitoring and reporting on health system performance must collaborate in addressing the current inadequacy of databases.

APPROACH

Methods

A descriptive-comparative exploratory design was used in this cross-sectional research study. Ethical approval for the study was obtained from the research ethics board at each of the three participating sites (Calgary Health Region, Capital Health (Alberta), and Saskatoon Health Region).

Study Setting: The study was conducted in acute care facilities. A total of 14 patient care units representing variability in the mix of nursing providers (registered nurses, licensed practical nurses, and/or registered psychiatric nurses) were included in the study — four units in Capital Health, four in Saskatoon Health Region, and six in Calgary Health Region. Over-sampling was done in Calgary to ensure an adequate representation of registered psychiatric nurses, since it was not possible to recruit nursing units with a registered psychiatric nurse staff mix from Capital Health at the time of the study.

Data Sources: Information about perceived ability to work to scope and barriers and facilitators to role optimization was obtained through face-to-face, semi-structured interviews conducted with nurses and other members of the health team. The Nursing Role Effectiveness Model [19] guided development of questionnaires. Nursing managers were interviewed to identify factors that inform their decisions regarding work assignment among nurses and their perspectives about what facilitates or hinders maximizing the roles of nursing personnel. Selected members of the interdisciplinary team were interviewed to elicit their perspectives about the roles of

nurses and overlap of those roles with theirs. Telephone interviews were also conducted with a small sample of volunteer patients to examine the extent to which the experiences of patients appeared to reflect the expected focus of nursing (Appendix A).

Information from corporate and administrative databases was collected to facilitate description of contextual factors that might influence enactment of nursing roles, as well as patient and provider outcomes. To augment description of the units and enrich analysis of interview data, all nursing personnel on the study units were invited to complete three validated instruments (Job Descriptive Index, Nursing Workload Index — Revised, and the Daily Environmental Complexity Scale). These instruments captured such elements of the environment as role ambiguity and tension, autonomy, job satisfaction, and other factors known to influence role enactment. The overall questionnaire response rate by nurses in the study was 45.3 percent, with unit response rates ranging from 14 to 70 percent.

Finally, a thematic analysis was conducted of competency frameworks and other practice documents relevant to three regulated nursing groups, to provide an objective examination of commonalities and differences that should be anticipated in the practice of the three categories of nurses. A theoretical statement of nursing roles was developed to guide the document review and act as a screen against which to compare “expected” with “actual” nursing practice (Appendix B).

Sample: A total of 167 interviews were conducted with staff registered nurses (85), licensed practical nurses (31), registered psychiatric nurses (11), patient care managers/assistant patient care managers (19), and nurses in specialized roles (21). Although the proportion of registered psychiatric nurses recruited into this study was small, they were proportionately well-represented, as were all three nursing groups, relative to the overall number of each category of regulated nurses that make up the total nursing workforce. The mean age of nurse participants was 42.1 years with an average of 16.4 years of nursing experience. About 39 percent of the respondents had a bachelor’s degree in nursing; four percent had a master’s degree. Most (57 percent) participants had a registered nurse or registered psychiatric nurse diploma or licensed practical nurse certificate. Most participants were employed in permanent full-time (59 percent) or part-time positions (31 percent), while about 10 percent were in temporary or casual positions. More than 90 percent of respondents were female. A total of 53 interviews were conducted with members of the interdisciplinary health team (social workers, physical/ occupational/recreational therapists, speech pathologists, pharmacists, dieticians, and respiratory technicians) and other team members (healthcare aides, unit clerks, pastoral care, and a physician). Interdisciplinary

team members also completed the Job Description Index questionnaire. Although telephone interviews were conducted with a small sample of patients (n=14), they were neither asked nor expected to comment on differences or similarities in the roles of the three occupational nursing groups. Data from patient interviews are therefore not referenced in this report.

Analysis

Given the large number of interviews conducted, a framework for coding was initially developed by three members of the research team, from a thematic analysis of a small sample of interviews. The framework served as the initial coding structure used for analysis. N6™ computer software was used to facilitate analysis of the large volume of data collected through interviews. Consistent with qualitative methods, several iterations of the categories evolved over the period of analysis. Documentation of the coding process was maintained to establish an audit trail. [20] Bi-weekly meetings involving coders and members of the research team provided an opportunity to discuss emergence of themes and to compare and contrast new themes against the prior thematic structure. An internal audit of coders was completed on three occasions to assure quality and integrity of the data analysis process. An expert in qualitative data analysis conducted an external audit of the qualitative component of the study (Appendix C). Quantitative data were cleaned and then entered into SPSS (11.0). Descriptive statistics were used in analysing these data.

RESULTS

Research Question 1: To what extent are nurses (licensed practical nurses, registered nurses, and registered psychiatric nurses) in three health regions perceived to be working to scope?

Defining Scope of Practice

Clearly, many nurses and other health professionals in this study understand “scope of practice” to mean what they actually **do** in performing their daily work and recognize that education, experience, and competence influence scope enactment. None of the respondents, however, appeared to differentiate between the meaning of “full scope of practice” (a role that is reflected in the knowledge base of the profession) and “enactment” of scope (the application of knowledge within parameters defined by legislation, experience, competence, and contextual factors in the environment). There was a general tendency to describe scope of practice from the perspective of a series of tasks or activities performed in care delivery.

> *"It [full scope of practice] means doing what I feel competent in doing. If I haven't done something for a while, I usually ask for the educator to be there or the RN [registered nurse] or somebody who has practice in it."* (Licensed Practical Nurse)

> *"It means delivering a certain quality of care . . . within my realm, within my knowledge base, within my education."* (Registered Nurse)

It was generally less clear to nurses how professional roles evolve. For some, scope of practice was defined through a combination of education — *"what you learn in school"* (Registered Nurse) — and experience — *"what you learn from just working and gaining experience"* (Registered Nurse). Several participants believed that their professional association ultimately determined the scope and boundaries of nursing practice. Many felt that scope of practice was highly influenced by employer practices and policies, which were often inconsistent and perceived to be unnecessarily limiting. Colleagues were often seen to limit others' scope of practice.

> *"It means what you're able to do and what you're allowed to do. What we are allowed to do and what we are able to do are two different things."* (Registered Psychiatric Nurse)

> *"In terms of working as a LPN [licensed practical nurse], they teach us at school a really wide scope of practice, but your hands are really tied once you get into the actual hospital setting."* (Licensed Practical Nurse)

> *"Well, I think we have a lot of skills and knowledge and many times you can't use them. Even though many times you're the one telling the doctors we can do this [i.e. give Maalox or Tylenol]… and they say yes …but it has to be specifically ordered."* (Registered Nurse)

Many respondents reported overlap in roles within nursing — *"between the [registered nurses] and the [licensed practical nurses] things are pretty much identical. The expectations and the role [are] treated the same"* (Registered Psychiatric Nurse) — and between nursing and other health professionals — *"I think there is overlap with social work. They deal with families in crisis … but they also pick up more patients with emotional or spiritual distress. In my mind, that is very much our role"* (Registered Nurse). Some expressed frustration at the breadth of overlap with other health professionals, believing it to result in confusion and tension in the

workplace. With few exceptions, the overlap was described in terms of a variety of specific activities that are shared among health professionals.

> *"[Occupational therapy, physical therapy, recreation therapy], they all do group therapy. … I'm capable of doing those things, but it's a matter of who can get it done the quickest."*
> (Registered Psychiatric Nurse)

> *"I also do a lot of the swallowing assessments, so I overlap quite a bit with the respiratory therapist, looking at if patients are managing their secretions, if they are ready to progress to a diet. I work very, very [closely] with the physiotherapist, looking again at mobility range. So it's very much a team approach."*
> (Rehabilitation Team Leader)

There was relatively little discussion by participants of the differences that exist in the educational preparation, knowledge base, and expertise of various professional colleagues, which account for variations in how health professionals are utilized. It was also evident that many nurses have little understanding of similarities or differences that exist in educational content among the three nursing groups — *"We take pharmacology and I don't think [registered nurses] take pharmacology"* (Registered Psychiatric Nurse) — and changes that have occurred in nursing education over the past several years — "*[Licensed practical nurses] are task oriented mainly… that is what they are taught"* (Registered Nurse).

It is clear that the lack of role differentiation within and among professional groups results in some nurses devaluing their own contribution — *"I have my degree in nursing. I feel I could be doing more. I feel that I'm doing essentially the same tasks as the [licensed practical nurse]"* (Registered Nurse) — or that of other colleagues — *"the [licensed practical nurses] do a lot of the grunt work*" (Registered Psychiatric Nurse); *"[Licensed practical nurses are trained specifically to do task work"* (Registered Nurse Clinical Educator).

Although several respondents perceived roles among the nursing groups as complementary, there was a tendency to describe that in terms of specific skill sets rather than as differences in depth or breadth of knowledge and hence in roles — *"[Registered nurses have the medical background. They would be more comfortable working with people with medical problems. Suicide assessment — that might be an area where the [registered psychiatric nurses] are more comfortable"* (Patient Care Manager). Overall, there was a general sense that little difference existed between registered nurses and registered psychiatric nurses and, in many cases, between

registered nurses/registered psychiatric nurses and licensed practical nurses — *"I know a [registered nurse] because they usually have one of those pins, but I usually don't know if somebody is a [registered psychiatric nurse] or a [licensed practical nurse]"* (Occupational Therapist). Some of the registered psychiatric nurse participants resented the failure to recognize that while their knowledge base is perceived to be at least equal if not superior to that of registered nurses — *"[Registered nurses] I'm sure don't have as in-depth a study in psychiatric medicine"* (Registered Psychiatric Nurse) — they are not treated equally.

> *"A [registered nurse] can walk into psych no problem, but a psych nurse can't walk onto a medical unit, yet we do medical/surgical all the way through for four years. [Registered nurses] do six to eight weeks of psych but they can walk into psych, no questions asked."* (Registered Psychiatric Nurse, bachelor's degree in nursing)

There was considerable role confusion among the three groups of nurses and between nurses and other health professionals. Differences in roles were certainly not clearly articulated by respondents in this study. That being said, it was nonetheless possible to delineate variation in practice among the three groups, in relation to key aspects of role enactment such as nursing assessment and co-ordination of care.

Assessment

The impression that nurses define themselves at least in part by the nature of their assessments was clearly borne out in this study and was one key element that differentiated the three nursing roles.

> *"My core practice is my assessment. That is where I notice everything that is right or wrong with my patient. And from that I start to pick out things that need some sort of intervention and from that ... I make a plan."* (Registered Nurse)

> *"My role is to assess the patient and to use my knowledge and skills ...to address the needs of the patient."* (Registered Nurse)

> *"As a [registered psychiatric nurse], our first priority is to do a mental assessment and see how stable they are. We assess them for hallucinations, delusions, their emotional state, their suicidal risk . . . And then we also go into their social, cultural background, their development . . . and then we also do the physical assessment."*
> (Registered Psychiatric Nurse)

> *"I listen to your chest, I ask if you're coughing. I ask if you're short of breath, I can see if you're on oxygen or not, so just by talking to people you can assess."*
> (Licensed Practical Nurse)

> *"And we just go in and assess them and basically see if they are alert and orientated and check the colour of their skin and see if they are perspiring or not."* (Licensed Practical Nurse)

Other health professionals also perceived assessment to be a primary role of nurses — *"The key role of the nurse is an awareness of the total patient care picture"* (Respiratory Therapist); *"[The] nursing role is to identify problems [the] patient has and initiate a referral ... hence they need to know what a problem looks like and they don't always"* (Speech-Language Pathologist). Some expressed the view that employers, professional colleagues, and sometimes nurses themselves failed to acknowledge that nursing was grounded in a broad theoretical knowledge base.

> *"I think there is a strong theoretical base that backs nursing. But I don't think we see that. I don't think it's visible. .... As an organization, we don't value the theoretical foundation of nursing. But I don't think nurses also promote themselves. ... I don't think that they see their assessment role very clearly. And I think they are the ideal people to be doing a lot of the assessment because they are the ones that have the daily contact."* (Social Worker)

All three categories of nurses commented that their confidence and assessment skills improved with experience. There were, however, some clear differences among nurses in the nature of the activities described as assessment. Licensed practical nurses tended to speak about assessing vital signs, hydration/elimination, glucose levels, etc. Registered psychiatric nurses spoke more holistically about patient assessment than did a number of registered nurses, although what comprised physical assessment by registered psychiatric nurses was rarely described — *"Because they [patients] are psychiatric, we tend to stick more to the psychological, but I don't think we ever forget about the physical"* (Registered Psychiatric Nurse). Registered nurses were more likely to speak of assessment in terms such as neurological, respiratory, cardiovascular, wound, GI, urinary, IV, pain assessment, and determination of the effects and side effects of medications. Registered nurses and registered psychiatric nurses also commented that one component of assessment was determining the need for involvement of other disciplines such as physicians, occupational and physical therapists, social workers, or respiratory therapists, whereas licensed practical nurses more often made reference to involving registered nurses or registered psychiatric nurses in helping them respond to patient needs. Other health

professionals identified the role of nurses in relation to assessment of vital signs, determining the need for involvement of other health professionals, and monitoring and reporting changes in patients' conditions to others.

Co-ordination of Care

The notion of nurse as the "intermediary" between the patient/family and other healthcare providers was a recurring element in health professionals and nurses' descriptions of their roles, but it was also one of the factors that differentiated the three groups of nurses. Although some licensed practical nurses did not perceive they had a role in co-ordinating care, for others that involved reporting changes in patients' status to the registered nurse or others and organizing the care of particular patients around scheduled treatments and services — *"If the [physiotherapist] is coming at a certain time … that means I have to make sure that …the tube feed has run through … It takes a lot of co-ordinating … to make sure everything goes step by step"* (Licensed Practical Nurse). Registered nurses and registered psychiatric nurses also referred to co-ordination in the context of setting priorities for care around others' involvement, but they were much more likely than licensed practical nurses to speak of referrals made to ensure that patient needs were met by appropriate members of the health team, including physicians. This involved co-ordinating service delivery across departments within the facility or agencies/services outside the hospital — *"We are the ones who need to follow up overall. Nursing is absolutely responsible for the co-ordination of patient care"* (Registered Nurse). Other professionals also recognized nurses' roles in overseeing the care of patients and ensuring that patient needs were met — *"They kind of keep order … making sure there are no inconsistencies in doc's orders, meds, counselling, etc. [They] should know the overall picture, talk to docs most, making recommendations for care, overseeing everything."* (Occupational Therapist)

Co-ordination was linked with advocacy on behalf of patients, updating physicians and others on the patients' status but also having input into formulating care plans. Other professionals also commented on advocacy as an important element of nurses' roles — *"I think they do a very good job of dealing with very sensitive patient populations"* (Speech-Language Pathologist).

While all nurses spoke of their role in managing or supervising other personnel (such as healthcare aides, new staff, students), only registered nurses and registered psychiatric nurses addressed the co-ordinating functions involved with being in charge of the unit. While registered nurses and to a lesser extent registered psychiatric nurses discussed discharge planning as an important component of care co-ordination, licensed practical nurses spoke

mainly of their role in getting everything ready that the patient needed before leaving hospital (such as medications, oxygen) and making sure that charting was up to date.

Working to Full Scope and Issues Related to Scope Enactment

Registered Nurses: There were differences among registered nurses in their interpretation of what it meant to work to full scope of practice. They were, however, the only nursing provider to state that whether or not they could apply the full range of their knowledge and skill depended on the type of unit on which they worked and on the range, acuity, or complexity of the patient population. They were more likely to report "working to full scope" in highly technical areas such as intensive care — *"Since I am in critical care, I am practicing [to] my scope*" (Registered Nurse). They commented that specialization in particular areas of practice led to a loss of some skills over time, but they also noted that as confidence increased with experience, there was less focus on skilled performance of tasks and more on noticing the big picture. Some, but by no means all, registered nurses spoke about their practice encompassing such activities as holistic assessment (bio-psycho-social-spiritual), collaborative practice, working with families, patient teaching and advocacy, discharge planning, and co-ordination of care.

> *"I guess every time a patient is admitted . . . we have to employ our full range of skills to assess them physically, mentally, emotionally, spiritually — the whole deal — and then use that information to determine what needs the patient has."*
> (Registered Nurse with degree)

Although it appeared that degree-prepared registered nurses were more likely to discuss their practice in holistic terms (as in the quote above), it was difficult to detect any other consistent pattern that clearly differentiated degree- from diploma-prepared registered nurses in this study. It was not uncommon for registered nurses to report that being in charge of the unit and mentoring other nurses and students challenged their thinking and made them feel more fulfilled in their work.

Overall, about half of the registered nurses (n= 85) reported that they were appropriately utilized, although it is noteworthy that most patient care managers and nurses in specialized roles felt that registered nurses were overly task-focused and not working to full capability. They identified systemic (such as pace of work and high patient turnover) and personal reasons (such as not wanting to attend in-services) as to why registered nurses did not respond to the challenge of working to full scope. Other professional colleagues also commented on workload as a factor influencing the optimization of nursing roles.

> *"The expectation is not there from the organization … if you're not expected and you're not challenged, often you don't do it. I don't think we foster that in them. The staff on the unit, they are still doing the task-oriented things, trying to look at the big picture, but they don't have the time. I think the unit manager works to her full scope of practice. I don't think any of the other [registered nurses] do."* (Patient Care Manager)

> *"Over the last several years, we've had many changes and it's … worn people out and they become laissez-faire and just do what they can to get through their eight-hour shift. We need to raise the bar on that and start challenging them."*
> (Registered Nurse — Clinical Educator)

Registered Psychiatric Nurses: Of the three groups of nurses, registered psychiatric nurses were most likely to report working to full scope, although most (n=8; 73 percent) reported not being fully utilized at least some of the time — *"Well, I'm using some skills all the time."* Registered psychiatric nurses believed they were best utilized when they worked as part of an extended treatment team; were able to provide holistic care, patient and family education, counselling, and psychotherapy; and engage in goal-setting with patients. They identified a number of factors that limited their sense of being well utilized, including differences in approach to management of patients between physicians and registered psychiatric nurses — *"A doctor doesn't like to recommend counselling when actually, counselling and medication work best"* (Registered Psychiatric Nurse) — and the overlap of their role with that of other professionals.

> *"We have a [respiratory therapist] and [occupational therapist] that take them [patients] off the unit for close to three or four hours a day, and it's really limiting what we could do. On the one hand, the [licensed practical nurses] are doing one thing and the [respiratory therapist] and [occupational therapist] are doing another and we're kind of sitting here looking for patients sometimes."* (Registered Psychiatric Nurse)

A few registered psychiatric nurses indicated they were too busy with physical care of patients to have time to address psychosocial issues. As well, the perceived overlap in roles with other professionals left many feeling they were little more than custodians, while other team members "treated" the patients.

Patient care managers and nurses in specialized roles generally felt that, like registered nurses, the registered psychiatric nurses were not fully utilized, and that both system factors (such as no differentiation between registered nurses and registered psychiatric nurses in union contracts)

and personal factors (such as not keeping knowledge and skills current) prevented them from having a more meaningful role. Patient care managers and nurses in specialized roles tended to see registered psychiatric nurses as *“experts in or more knowledgeable or sensitive to human behaviour”* (Clinical Nurse Educator) and therefore more appropriate than either registered nurses or licensed practical nurses in dealing with mental health issues. In reality, the only differentiation made by patient care managers and nurses in specialized roles between registered nurses and registered psychiatric nurses was that *“[registered nurses] have the medical background”* (Patient Care Manager) and therefore both registered nurses and registered psychiatric nurses were needed in areas where patients had concurrent medical and psychological issues.

Licensed Practical Nurses: Of the 31 licensed practical nurses participating in this study, fewer than 20 percent (n=6) reported working to full scope, and among those there was a tendency to make reference to what they were allowed to do when explaining whether or not they felt well utilized. *“I believe I am doing everything on the unit that I am allowed to do”* (Licensed Practical Nurse). It is certainly fair to say that licensed practical nurses expressed the least satisfaction with the manner in which they were utilized. Working to full scope was most often described as *“just total care”* (Licensed Practical Nurse), meaning basic care of the patient, deciding what patients needed in terms of comfort, measuring vital signs, getting patients settled, taking notes, filling out forms, doing transfers, and *“reinforcing to the patients that it’s not a problem when they ring and I don’t mind answering the light”* (Licensed Practical Nurse). Some licensed practical nurses reported feeling more fulfilled in their work when they were involved in decision-making with physicians or other team members. Many felt their work was more meaningful if they could do such activities as changing catheters, NG tubes, and dressings, assessing pain control, and monitoring IVs. Use of those skills was, however, highly dependent on other team members’ perceptions of the licensed practical nurse’s expertise. Many licensed practical nurses reported having to upgrade their skills to meet licensing requirements, only to find they were prohibited from utilizing these skills in many settings. Being unable to give medications was the most common restriction reported.

> *“All the [licensed practical nurses] had to upgrade to a certain level. We had to take a med course. So as I’m working on this unit, I have not used all that stuff I learned. … But I had to take them to remain a [licensed practical nurse]. … I’m not giving meds … I’m not changing dressings.”* (Licensed Practical Nurse)

Although most patient care managers and nurses in specialized roles felt that licensed practical nurses were underutilized, it appeared that resistance or stereotyping on their part were major factors in limiting full implementation of licensed practical nurses' skills.

> *"Honestly, I just don't think they have the education to do the job."* (Patient Care Manger)

> *"Is there room for [licensed practical nurses] on this unit? Potentially — to a really limited degree. I mean help physically getting patients up in chairs. Help delivering laundry bags ... those sorts of things probably. Would I give up a [registered nurse full-time equivalent] to bring in [licensed practical nurses] or [nursing assistants]? Not given a choice, I think."* (Patient Care Manager)

A few of the other health professionals also perceived a difference in the knowledge base of licensed practical nurses and were concerned about their ability to adequately meet the safety needs of patients, although it was impossible to determine whether their views were grounded in factual information. *"Sometimes I can see the lack of knowledge in the [licensed practical nurses] ...And I think sometimes the [licensed practical nurses] compromise safety, thinking the patient is able to walk safely."* (Therapy Assistant)

Research Question 2: What are the personal, professional, and organizational barriers/facilitators to maximizing nursing scopes of practice?

Barriers and Facilitators to Practice

There was a general tendency on the part of participants to make reference to facilitators to working to scope by giving examples of conditions in the work environment that could be improved (that is, barriers). The data on barriers and facilitators are therefore not presented separately in this report.

Interprofessional Relationships

It was evident from this research that the quality of interprofessional relationships influenced nurses' perceptions of autonomy, of being valued for their knowledge and skills, and of being able to work to the full extent of their capability. Participants reported feeling valued as members of the health team when they were asked to provide input into patient care plans and were listened to when they expressed concern about their patients. Unfortunately, it was not uncommon for nurses to report they did not feel particularly respected by other team members — *"Some of the people, they figure if you're not a [registered nurse], you're not a nurse sort*

of thing" (Licensed Practical Nurse). Lack of respect from colleagues and poor interprofessional interactions, as well as lack of recognition for what nurses do were identified as contributing to failure to recognize others' capabilities and competence. Tension between registered nurses and licensed practical nurses appeared to be fairly common — *"Even though they [licensed practical nurses] say you're not responsible for [me], I will be, because I'm the [registered nurse]. And I don't care what anybody says"* (Registered Nurse); *"I know the [registered nurses] and [licensed practical nurses] are having a real battle"* (Healthcare Aide). Lack of trust in others' competence was sometimes cited as a reason for limiting the activities they were allowed to perform — *"The [licensed practical nurse] wanted to give the medication because they couldn't contact the [doctor]. And the proper course of action is to withhold it ... The level of judgment . . . was inadequate in my opinion"* (Registered Nurse).

Although several registered nurses, registered psychiatric nurses, and licensed practical nurses said they worked effectively together, "power struggles" were also reported — "Within the roles, especially in psychiatry, there is some jealousy … some protecting of different roles and therefore, protecting of jobs" (Registered Nurse). Tension between younger and older staff was also noted — "Politics on the unit … there's niches of the older nurses who don't like us younger nurses" (Registered Psychiatric Nurses).

Although nurses reported generally positive relationships with physicians, a number of them perceived significant room for improvement — *"When it comes to doctors and nurses, there's good times and there's bad times"* (Registered Nurse); *"A doctor who is going to snap at you because of what you're going to tell them, although you're responsible for giving that information"* (Licensed Practical Nurse). Registered psychiatric nurses more than the other two groups of nurses reported that communication was often strained between themselves and other professional staff — *"What gets in the way is what they [rehabilitation staff] believe is their role and what they believe they should be doing and they're going to protect their turf and we're going to protect ours"* (Registered Psychiatric Nurse).

Work Environment

Although ineffective communication and poor interpersonal relationships were identified by all groups of nurses as limiting their ability to fulfill their roles adequately, other features of work environments were also identified. Time, workload, and patient acuity were by far the factors most commonly reported as limiting nurses' ability to perform the full range of activities they perceived were necessary to respond to patient needs. It was often reported that workloads were

so heavy that people simply did not have the time to consult with each other on patient issues, causing unsafe conditions for patients in many instances.

> *"Because of time constraints, it's very hard to actually sit and have conversations with your patients. ... If someone was to do some good ... intense work with the patient, time factor is a barrier."* (Registered Psychiatric Nurse)

> *"It's very rushed and sometimes you may miss things ... your daily assessments might not be as good as they were if you had more time to spend with that patient."* (Licensed Practical Nurse)

> *"So ... you're focusing more on the physical aspects of things and you're not really, I mean it comes into play, but you don't often have time to focus on psychosocial."* (Registered Nurse)

> *"A lot of stuff I learned in school, I'm sure I apply it to some degree, but I would like to do it more, but we just don't have time."* (Registered Nurse)

It was obvious that nurses regretted the inability to find more meaning in their work — *"I feel like I've not done my job and haven't done [for] my patient the best I could ... I'm not maximizing much of my education"* (Registered Nurse).

Patient care managers, nurses in specialized roles, and several staff nurses commented on the importance of organizational resources (for example, adequate amount of well-functioning equipment, funding for in-service education, opportunities to participate in rounds, access to clinical educators and best practice information, etc.) and supportive management as key elements in enabling staff to work to the full extent of their capabilities.

> *"I think as managers, we need to spark that enthusiasm to get people working to full scope and challenging them to do that. And involve them in decision-making."* (Patient Care Manager)

> *"I've been asking [for equipment] for so long, I don't even ask anymore. If they had the right environment and the right stuff to work with, maybe they would actually get some valid work done."* (Patient Care Manager)

Many participants recognized the importance of continuing education in maintaining up-to-date knowledge and competence. However, staffing ratios and lack of permanent staff, time, and funding to back-fill positions were cited as obstacles to undertaking continuing education and to optimum utilization of professional resources.

> *"Scheduling education days is always a problem. ... To get all staff off to a program and work within the collective agreement . . . to make a . . . schedule that's suitable for everybody to go is always a challenge."* (Patient Care Manager)

> *"Even shift work becomes a huge issue of trying to have staff go off and do workshops. And you have to replace them by a casual."* (Patient Care Manager)

> *"If you want to do anything beyond crisis intervention, the workload would not be manageable. If you really want to do full scope of practice, looking at research ... at team-building ... at organization ... at leadership, there's no way. There is not enough continuity of full-time nurses that build the capacity of doing that."* (Patient Care Manager)

Research Question 3: To what extent do contextual factors such as patient complexity, provider characteristics, workload, and organizational supports appear to influence enactment of scope of practice?

Quality of Databases

Data were collected from corporate and administrative databases to describe contextual factors that might influence enactment of nursing roles. In addition, all nurses on the study units were asked to complete questionnaires addressing such issues as satisfaction, autonomy, and role tension to augment description of the units and determine to what extent these factors appeared to influence role enactment.

One aim related to quantitative data collection was the intended identification of "like" and "unlike" units from which to examine differences and similarities in descriptions of scope enactment. For example, it was expected that units of low, medium, and high complexity (measured using unit activity data and the Daily Environmental Complexity Scale) would "correlate" at least to some degree with the mix of nursing staff across units with similar patient populations (defined by "top 10" CMG/RWI or ICD diagnostic codes). On the basis of the theoretical statement of nursing roles that had been elaborated, it was further assumed that patient acuity and complexity would influence the extent to which nursing roles could be fully

enacted. In the end, it was not possible to analyse descriptions of scope enactment using the contextual indicators selected for this study. Comparisons of patient populations either by diagnostic grouping or acuity/complexity could not be made. Acuity and nursing workload measures were not available in the Saskatoon Health Region. In addition, although the same nursing workload measurement system is used in the Calgary Health Region and Capital Health, different approaches to weighting patient acuity scores made comparisons across the two sites impossible. Many of these data comparability issues did not surface until the data analysis phase, when incongruent findings began to highlight the fact that indicators presumed comparable at the outset were in fact not so.

The data from the Daily Environmental Complexity Scale suggested that all units in the study were generally complex (scores ranging from 6.73- 8.68 on a scale of 0-10). Although units were differentiated to some degree on the basis of higher and lower complexity and organizational attributes, overlapping confidence intervals on both the Daily Environmental Complexity Scale and Nursing Workload Index-Revised indicated that caution was needed when drawing conclusions from the data. Data from the three job-related questionnaires provided some evidence of the importance of factors such as autonomy, control over practice, and nurse-physician relationships in creating satisfying work environments. This was reinforced during analysis of qualitative data. Nurses who participated in interviews expressed discontent when their assessments and other input were not considered in patient care decisions, when they could not practice autonomously despite their level of competence and when their knowledge and abilities were not recognized and acknowledged.

> *"When you actually get into the area and it's so restricted, so limited and so confining. You're really at a loss to find your way for a number of years [after graduation]. And I think lots of people give up and actually they let go of a lot of the stuff that they learned and have knowledge of."* (Registered Nurse)

In summary, it was not possible to use the selected indicators to make useful comparisons of the practice environments across units or sites. Furthermore, interview data revealed few substantive differences across the units enrolled in the study and the presentation of findings therefore does not differentiate among the three regions. On the basis of the interview data in this study, it was concluded that contextual factors either do not play a major role in how nurses describe enactment of their roles, or that the interview questions did not adequately address contextual factors that influence scope enactment.

Research Question 4: What opportunities exist for redesigning roles and optimizing scope enactment (such as enhancing worker contribution to achieving intended outcomes) to make better use of nursing staff?

Differentiating Roles and Clinical Skills/Competencies

In this study, efforts to objectively describe similarities and differences among the roles of the three groups of nurses using their respective competency frameworks and/or practice standards were not successful. Each nursing regulatory body has adopted different approaches in developing its frameworks. All documents reveal similarities in the terms used to describe competencies (for example, knowledge and ability to assess the client). Limited consultation among the nursing groups when addressing the issue of nursing roles has made it difficult to use existing documents to make an objective determination of what might be the most appropriate mix of nursing providers, given the nature of the work to be performed. For example, the competency "demonstrate ability to collaborate with researchers to plan, conduct and evaluate nursing research" [21, p.208] perhaps justifiably applies to all three groups of nurses but does not explicate whether there is any difference in educational content, and hence in expected research competence among the three categories of nurses, that would warrant selecting a licensed practical nurse rather than a registered nurse or registered psychiatric nurse to achieve the most appropriate utilization of nurses in a given context.

The study nonetheless clearly demonstrated that there are substantial opportunities to improve nurses' ability to optimize their skills and knowledge by implementing strategies to overcome the gap that exists between what nurses say they are educated to do and what they perceive they are able to do in practice — *"We learn about group therapy, but we can't run a group. What prevents that? I'm not too sure"* (Registered Psychiatric Nurse). Patient care managers in particular described a number of challenges in enabling nurses to work to full scope.

> *"When you're so busy and you're moving them [patients] in and out, you do retrograde back to that functional thing. I've got to get their meds on time, their vital signs, their discharge teaching, and we all go back to just getting the tasks done on the list, to get them in and out. And I think that inhibits us from going to where we could go."*
> (Patient Care Manager).

The focus on task performance on the part of many registered nurses has narrowed the gap in perceived scopes of practice between the two categories of nurses — *"So basically, if [licensed practical nurses] were working to their full scope of practice, which they don't do at this*

facility, they would be doing exactly the same job" (Registered Nurse). Recent expansions in the licensed practical nurse scope of practice appear to intimidate some registered nurses, who question what that means to their role. It appears that insufficient attention has been paid to redefining the role of registered nurses in concurrence with changes in licensed practical nurse roles — *"The [licensed practical nurses moved to full scope of practice and we needed to move the [registered nurses] ahead at the same time. And that hasn't happened and we continuously define ourselves by the tasks."* (Registered Nurse)

Many comments from participants in this study provide evidence that more effective change management strategies and improvements in the work environment could contribute to more effective utilization of the nursing workforce. It was evident from this study that substantial effort may be required to redesign the work of nurses, at least in some settings. While there may be overlap in some competencies across the three groups of nurses, there needs to be more differentiation than is currently evident in the roles that each occupational group is expected to perform.

Research Question 5: How practicable is it to collect and analyse context and outcome data (that is, indicators) across practice settings and geographic locations, to describe the influence of environment on nursing role enactment and in future research, to measure the impact of job redesign on patient and nurse outcomes?

Comparability of Data across Sites

A major reason for collecting much of the quantitative data in this study was to determine the feasibility of conducting future work redesign research across different health regions. Measuring the impact of role or staff mix changes requires the availability of patient and provider outcome data **at the unit level**, where staffing decisions tend to be made. Given that client needs and the context within which nursing care is delivered are important elements of a staff mix decision-making framework, it is crucial that information about the patient population and the practice environment be available to those making staffing decisions, usually the unit or program manager. As previously noted, patient and contextual data requested for this research were often not available at the unit level, not collected in one or more of the regions at the time of the study, or were not always comparable across the three sites even when available.
For example, administrative databases in two regions did not differentiate between registered nurses and registered psychiatric nurses when reporting staff complement. Structural indicators that provide utilization-related information on acute care patient units (such as the flow of the patients in and out of the unit) were easily accessible and alike across the three regions. Patient

incident data, however, were not uniformly accessible or comparable across the three regions, suggesting it would be difficult to conduct research related to the impact of staff mix changes across the sites, using critical incidents as an outcome measure. Patient falls and medication errors were the only two patient outcome indicators collected in all three regions. Nosocomial infection data were not uniform across the health regions, and as with other patient incident data, a considerable amount of effort would have been required to extract needed information from existing databases.

The challenges involved in trying to achieve data comparability across the sites led us to the conclusion that it would be too difficult at this time to measure the impact of job redesign for research conducted on a variety of units in different regions.

DISCUSSION

This research was aimed at eliciting nurses' perceptions of the extent to which they are able to work to "full scope of practice." Differentiation was made between nursing roles (pre-defined expectations of nurses' contribution based on professional education and role) and role enactment (actual practice as delimited by legislation, employer policies, experience, context of practice, etc.). There was substantial evidence of unmatched expectations between what nurses have been educated to do (full scope of practice) and what they perceive they are "allowed" to do in the practice setting (role enactment). Workload, patient acuity, professional relationships, availability of resources, and supportive management were described among the factors that influence enactment of scope. Nurses, patients, and other health professionals were generally unable to clearly articulate substantive differences in the roles of registered nurses, registered psychiatric nurses, and licensed practical nurses, in spite of significant real differences in the education, knowledge, and skill base of the three occupational nursing groups.

Findings from this research also indicate that considerable role overlap and role ambiguity exists not only within nursing but across other disciplines as well. The lack of clear understanding of differences in health professional roles contributes to considerable overlap in task performance, underutilization of the health professional workforce, tension in the workplace, less than ideal interprofessional relationships, and potentially the establishment of staff mix models that may not always optimize quality of care or patient safety. We can ill afford to continue in this fashion, in view of current and future workforce shortages. [22]

Optimizing the contribution of all health professionals requires that each provider demonstrate clear areas of expertise that complement rather than compete with the activities of others. [23] This

implies that professionals must have a clear sense of their own roles and understand how enactment of those roles is influenced by the population served and the context of practice. The results of this study indicate that substantial work is required to clarify roles and responsibilities, improve understanding of the education, competencies, and skill base of health team members, and provide increased opportunities for meaningful collaboration in delivery of care. It is widely acknowledged that effective interprofessional teamwork is a necessary element of health reform in Canada, particularly in view of looming shortages in the health workforce.[24, 25]

The recent introduction of greater numbers of licensed practical nurses in acute care settings has occurred without a clear articulation of the role they are expected to play relative to that of registered nurses. Research linking the proportion of registered nurses in acute care hospitals to patient outcomes[26, 27] suggests that caution is needed when introducing licensed practical nurses as substitutes for registered nurses in these settings. Resistance to the broader use of licensed practical nurses may stem at least in part from failure to recognize that it may be more suitable in certain settings to consider the complementary (versus replacement) role that they can play as members of the healthcare team. It is possible that some managers interpret "autonomous nursing practice" as meaning that licensed practical nurses must be independently assigned responsibility for total patient care. Rather, it should be recognized that authority can be given to initiate particular nursing actions without specific direction from other providers (such as monitoring IVs) but still within the framework of shared responsibility among team members for meeting the total needs of patients. In some instances where licensed practical nurses have been introduced to replace registered nurses, they report they have been given more responsibility than *they* perceive is appropriate.

The key theme emerging from this research is the need for role clarification and redesign of the work of health professionals. Addressing these issues might well provide substantial opportunity to mitigate some of the workload pressures that are inhibiting professionals from working to their full scope of practice.

GENERALIZABILITY AND LIMITATIONS

When early findings from this research were discussed informally with nurses and other professionals from jurisdictions across Canada, they seemed to resonate with those colleagues. We are therefore reasonably confident that the findings from this research represent a "current state" that potentially characterizes many healthcare settings.

The lack of comparability of quantitative data across sites involved in this research made it impossible to fully answer all of the questions raised at the onset of the study. These findings nonetheless point to the importance of improving healthcare databases to allow measurement of the impact of emerging models of collaborative practice on patient, provider, and system outcomes.

DISSEMINATION OF RESULTS

This study was conducted in collaboration with an advisory committee consisting of policy makers, academics, nurses and allied health practitioners and managers, decision makers, and educators, as well as representatives from regulatory colleges, health human resources, and the public. Throughout the study, progress reports were posted on the web sites of several of the participating organizations and broadly disseminated through a project newsletter. Discussion of early findings occurred at meetings of the Nursing Advisory Council of Alberta and in other settings (such as the Canadian Health Services Research Foundation's workshop on effective teamwork in healthcare). Some of the recommendations from this report will form the basis for developing an action plan to be enacted by the Clinical and Nursing Practice Leaders Network of Alberta, beginning in fall 2005. The results have been or will be presented at a number of conferences over the next several months (Appendix D) and several papers for publication are in progress.

ADDITIONAL RESOURCES

Additional information about this study can be obtained from Dr. Jeanne Besner, director of research initiatives in nursing and health at the Calgary Health Region. The final report and detailed technical reports are available on the department's web site at http://www.calgaryhealthregion.ca/rinh or by request.

FUTURE RESEARCH

The scope of practice research described in this report will contribute substantially to the ongoing development of our program of research, which is aimed at optimizing management of health human resources in the context of emerging models of interprofessional, collaborative patient-centred practice. The study has informed three recently initiated research projects, respectively funded by the Alberta Heritage Foundation for Medical Research, Alberta Health & Wellness, and Health Canada, as well as others currently under development.

This research focused uniquely on the practice of acute care nurses and findings may not apply to the same extent in the community or long-term care sectors. More research is needed to determine whether the issues identified in this study also impede optimum utilization of health

professionals employed in the non-acute care sector. It is likely that role clarification and job redesign among primary care providers are also necessary to achieve optimum utilization of health professionals across the entire continuum of care delivery.

Other questions to be answered through subsequent research include **1)** What do current health professionals need to know about the knowledge, skills, and capabilities of their professional colleagues to support new models of service delivery that promote effective teamwork and improve patient, provider and system outcomes? **2)** What changes are needed in professional education to promote enhanced awareness of interprofessional roles among faculty and students? **3)** What information and other supports do first line managers need to help them make staff mix decisions that optimize professional roles and promote cost-effective delivery of care? **4)** What is the impact of redesigning the work of all health professionals on patient, provider, and system outcomes? What key indicators are needed to measure the impact of staff mix changes at the unit and program levels? and **5)** How does optimization of the roles of all health professionals influence projected health workforce needs for the future?

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