Knowledge and Education at Entry to Nursing Practice in Alberta
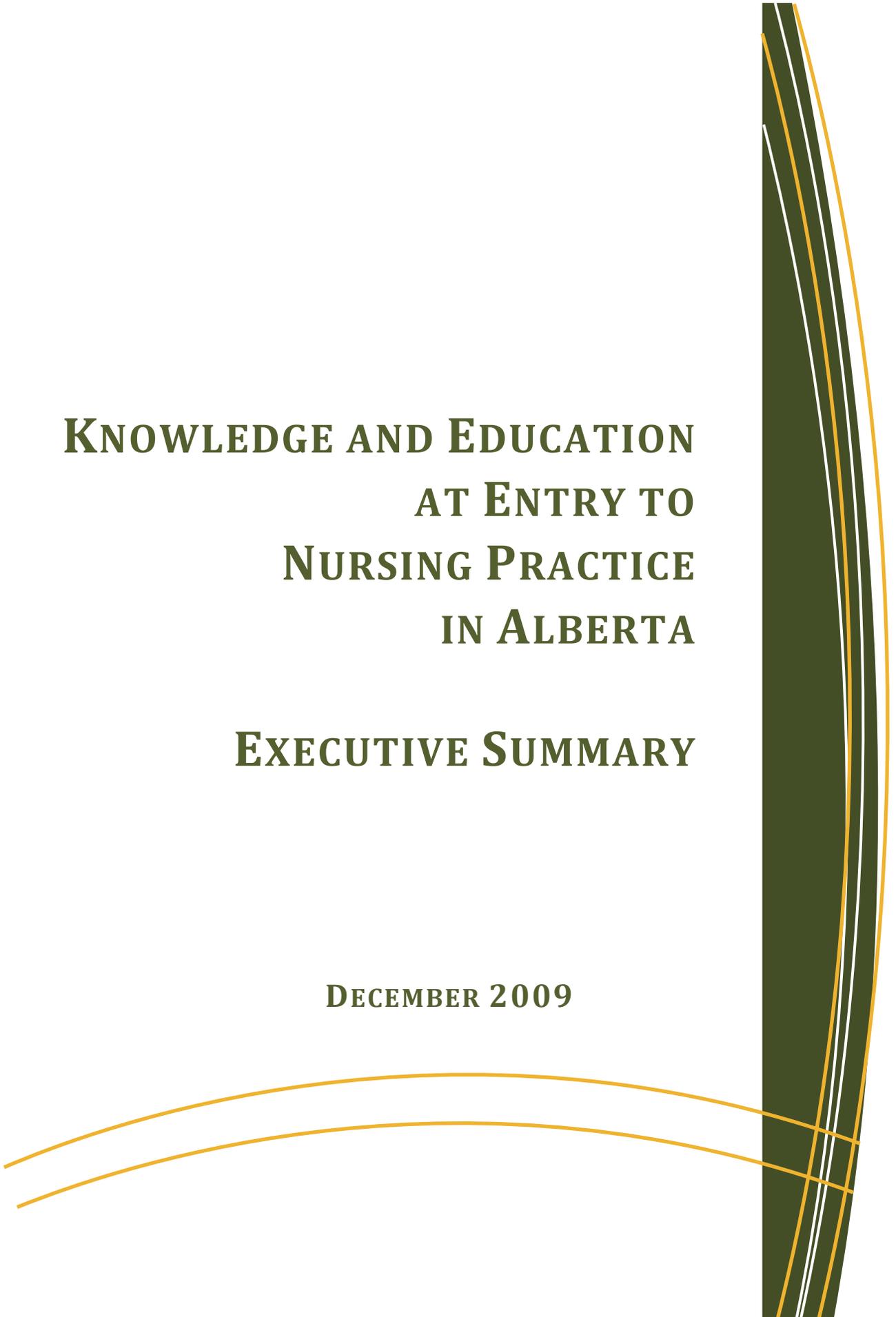
Executive Summary

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Knowledge and Education Project Steering Committee

The Steering Committee directing this project was made up of representatives from:
- College and Association of Registered Nurses of Alberta (CARNA)
- College of Licensed Practical Nurses of Alberta (CLPNA)
- College of Registered Psychiatric Nurses of Alberta (CRPNA)
- Alberta Health and Wellness, Government of Alberta
- Office of Nursing Policy, Health Canada
- Alberta Nursing Education Administrators
- Clinical and Practice Nurse Leaders Network
- Alberta College of Pharmacists
- Research representative
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KNOWLEDGE AND EDUCATION AT ENTRY TO NURSING PRACTICE IN ALBERTA

EXECUTIVE SUMMARY

The Knowledge and Education Project (KEP) was undertaken to probe the knowledge bases of Licensed Practical Nurses (LPN), Registered Nurses (RN), and Registered Psychiatric Nurses (RPN), as these three designations are applied in the Health Professions Act of the Province of Alberta. It was hoped that this research might extend beyond increasing understanding of the relationship among the three knowledge bases to provide useful information to decision makers. Three goals guided the research:

1. To develop a replicable model and tools to analyze and describe educational program content and types and levels of knowledge acquired, across the professions.

2. To use the model and tools to analyze and describe the educational program content and depth and breadth of knowledge across the three nursing groups.

3. To determine the relationship between the information learned and how that can contribute to effective decision-making relative to optimal workforce utilization.

A fourth goal, to expand the project to incorporate other professional groups if resources permitted, was not pursued because of the need to devote the research team's efforts to the three named above.

There was also considerable interest in developing a *meta-model*, a replicable research methodology or model which could be extrapolated to make comparisons between the knowledge bases of various other health care professionals. The development of the meta-model proceeded as an iterative process in concert with the rest of the study.

The Steering Committee chose to restrict the study to the knowledge held by novice nurses, defined as student nurses within sight of graduation. Five relevant sources of information were identified: (1) academic and professional literature relevant to the knowledge and education of nurses, (2) documents describing the scope of practice and expected competencies of the three nursing bodies, (3) documents pertaining to the academic programs which prepare the three types of nurses, (4) insights into preparation programs provided by program instructors who brought to bear their experiences as nurses and nurse educators, and (5) information provided by student nurses at the point of their induction into nursing.

The methodology applied in this study was qualitative in nature and guided by the concept of *congruence*. It was assumed that within each type of nurse there ought to be a "chain of congruence" leading from the legislation authorizing the existence of the type of nurse, through its scope of practice and competency statements, then to the curriculum documents which guide the academic programs and finally into the knowledge of the student nurses. It was further assumed that exploring the degree of congruence between knowledge instantiated across types of nurse would result in a comparative analysis of the underlying knowledge bases.

Ethics approval for the study was acquired from the Community Research Ethics Board of Alberta (CREBA) and the ethics committees of those participating institutions which required their own approval in addition to that of CREBA. The participating institutions included the three nursing colleges noted above, together with academic programs which prepare LPNs, RNs and RPNs. Data from the schools were gathered in four forms: (1) program documentation, (2) faculty interviews, (3) student interviews, and (4) focus group discussions of scenarios involving hypothetical patients.

The research team was led by two researchers with doctorates in education, one with a focus on curriculum studies and qualitative research, the other expert in instructional design and quantitative research. Depth of knowledge in nursing theory and practice was provided by two research assistants, both of whom hold earned doctorates and are knowledgeable about the spectrum of nursing. A team of one researcher and one assistant conducted site visits.

Data were examined qualitatively with a focus on exploring the breadth and depth of knowledge nursing students held, how they thought about themselves on the cusp of becoming credentialed nurses, and how they spoke of going about a particular nursing assignment. The transcripts were coded in two ways: for content knowledge demonstrated and for thinking patterns revealed. In keeping with best practice in qualitative research, the data were triangulated for congruency.

Document comparisons within the study proved more difficult and less useful than anticipated. Scopes of practice and competency statements among the three types of nurse are not organized according to a common framework, and this made comparison difficult. Similarly the surface differences among academic curricula mask what may or may not be real differences in terms of the breadth and depth in which a topic is covered, the level of detail, and the extent to which it is free-standing or connected to other topics.

Some general inferences could be drawn. The mental health emphasis in the RPN program is a key contributor to RPN students' stronger mental health knowledge. LPN programs focus on giving students a sound foundational grounding in the theory and practice of nursing within the time available. The greater length and breadth of study in RN programs likely contributes to the larger amount of nurse-thinking demonstrated by RN students.

In the interviews, both instructors and students responded to questions which probed understandings of the knowledge bases of other types of nurse in relation to their own; this yielded a sense they partially understood each other and had some common understandings. However there were also some notable differences of perception and a general sense that they were not familiar with each other's scope of practice.

When the focus group work was analyzed, it became apparent that in the work of the novice nurses in the study there were differences amongst types of nurse in the knowledge and understanding demonstrated. Comparisons between the data gathered in the interviews and the performance in the focus groups revealed both areas of congruence and of incongruence on the part of all three types of nurse. Interestingly, in some cases students demonstrated in the scenarios knowledge that in the interviews they indicated they did not have.

Five large categories proved useful in segmenting the data from the scenarios for analysis:
- Approach -- how students went about the task of preparing a plan of care;
- Thinking patterns – the kind of thinking the students appeared to be doing;

- Understanding the case – how students talked their way through and made sense of the various factors noted about a patient's condition and their interactive effects;
- Reading lab reports – how students made use of, or struggled to understand, the information coming back from lab tests;
- Actions – what students proposed to do for a particular patient.

The following types of thinking emerged from the data and were applied in the micro-analysis of the scenarios: reading or referring to information given, looking up, recall, nurse-thinking, generative thinking, and speculation. Of the categories listed, "nurse-thinking" warrants explanation in that it was a term coined for a particular phenomenon that was found present in the scenario discussions of each type of nurse. It describes reasoning or responding as a nurse would; drawing upon patient information, learned knowledge and prior experience (whether stated or unstated); and thinking as nurses about the patient's situation and possibilities. Of particular interest were the conditions under which it appeared and disappeared.

A tentative meta-model for conducting research of this nature was developed in an iterative fashion from the process used to conduct the comparative analysis of the knowledge bases of the three types of nurses. Because such research is exploratory in nature, the meta-model also leans toward qualitative methodology which allows some fluidity in the evolution of the criteria for comparison. Among the issues it addresses is the notion of *useful granularity* in the level of analysis that is planned and undertaken, and this also needs some degree of fluidity in the implementation of the research. It presents a 7-step general process for conducting research of this nature from which a particular model for any specific set of comparisons can be derived. Particular attention is paid to the development of scenarios for use with focus groups.

The study supports the present wisdom which argues that it is critical to use nurses' abilities, skills and potential as fully and strategically as possible, and offers a number of observations arising from this work.

Confusion occurs around the use of *the term 'nurse,'* and to which health care workers it properly applies. The issue appears to be reinforced by the existence of three different types of credentials backed by three different knowledge bases, which have amongst them both significantly overlapping and significantly different responsibilities. With regard to the regulatory and practice documents for the three types of nurse, they appear to have been written in isolation from each other, using very different structuring, organization and level of detail, and without any reference to each other's scope of practice.

It appeared in this study that nurses are being prepared to their scope of practice, and therefore all three should work to their full scope, with the present limits in the scope statements being reasonable in accordance with their nursing education. The study found that significant distinctions among different types of nurse appear to lie partly in major topics studied, but much more in the *depth and detail in which topics are studied*.

"Nurse-thinking" as a concept appears to be relevant in a variety of ways: (1) in understanding the necessary knowledge base for all nurses and for particular types of nurses, and for clarifying why a knowledge base is not just a list of topics studied or skills learned; (2) in considering implications for the quality of patient care; (3) in considering nursing education; (4) for employment and administration interests; and (5) for further research on its nature and how it can best be fostered. Attention to support for teaching may

be a related topic of such an effort. When asked about teaching, instructors often indicated that they had to learn by trial and error how to teach.

Appropriate utilization of nursing professionals is of obvious interest to employers and administrators. It was apparent that individual knowledge and experience matter, so this is not as simple as specifying credentials. Results of the data analysis argue that, for recent graduates, RPNs are well positioned for mental health work and to some extent beyond that; LPNs are best suited to dealing with stable patients; RNs are prepared to deal with the full range of patient conditions, including critical and rapidly changing patients and case management. This point, frequently made by instructors, was evident in the scenario data which showed that LPNs proposed appropriate actions on basic care but were hesitant or unable to do so with more complex situations, and that RPNs gave appropriate responses to mental illness but were less effective with a medical surgical situation.

The three factors of stability, nursing experience, and system support are each, separately and interactively, vital in staffing decisions. For anyone responsible for deploying nurses, these three areas and their interaction seem absolutely critical.

All three types of nurses engaged to some extent in nurse-thinking, although to varying degrees and depth. It appears that there is a strong relationship among three factors: the foundational knowledge of the nurse, the complexity of the task and the extent of the nurse-thinking. The better the knowledge base, the greater the amount of nurse-thinking; the more complex the task, the greater the nurse-thinking—provided the knowledge held is sufficient; the less knowledge, the more limited the nurse-thinking. Since all three types of nurses displayed this capability, though the amount and degree of sophistication varied considerably, it seems likely that there is a relationship to studying nursing and to how nursing is taught.

Beyond delineating commonalities and differences among the knowledge bases of the three types of nurse which formed the focus of this study, the study developed a way of examining the kinds of thinking which nurses appear to do when considering the care of particular patients. More broadly the study also demonstrated an approach to examining cognitive activities as a dimension of professional knowledge, and it did so through a research model that is transferable to other combinations of professionals. To this end it also developed a tentative meta-model that can provide guidance in developing the methodology to make those future comparisons.