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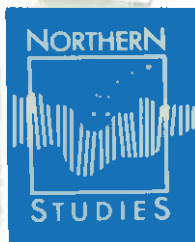
**Human Resources
Development Canada**

Nursing Human Resources Demand and Options for Supply

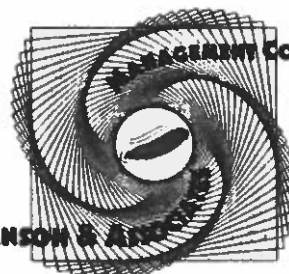
Phase One

Nursing Labour Market Survey

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**MALLOCH GRAHAM + ASSOCIATES
MANAGEMENT CONSULTANTS**

**Nursing Human Resources
Demand and Options for Supply**

Phase One

Nursing Labour Market Survey

**Study funded by
Human Resources Development Canada
and produced in partnership with
Yukon College
under the guidance of the
President's Committee for Health Programming**

May 2001

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- Stu Mackay, Yukon College
- Patricia McGarr, Yukon Registered Nurses Association
- Fran Curran, Department of Health and Social Services, Yukon Government
- Kim Diamond, Yukon College
- Elvira Knaack, Whitehorse General Hospital
- Carol Leef, Advanced Education, Department of Education, Yukon Government

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1.0 Introduction

This report is the result of a study commissioned by the Yukon College President's Committee (PCOP) for Health Programs. The purpose of the study was two-fold:

- to clearly define the labour market need in the Yukon for Registered Nurses (RNs) and Licensed Practical Nurses (LPNs); and
- to determine the feasibility and extent to which local education should be provided to potential students.

As a result of a public tender late in the year 2000, a contract was awarded to a joint venture formed by Hanson and Associates and Malloch Graham + Associates Management Consultants to carry out the study.

2.0 Process

Phase 1 of the study was the assessment of the Yukon Labour market for nursing personnel. Guided by a Steering Committee, which is a sub-committee of PCOP for Health Programs, the consultants undertook several activities to define the nature and extent of the problem. The consultants reviewed an extensive collection of literature relating to the nursing labour market on the local, national and international levels. They also reviewed previous studies and recommendations regarding nursing education in the Yukon and elsewhere in the North, and other factors and issues regarding the employment of nurses. Members of the Steering Committee provided much of the material. Additional material was obtained directly by the consultants from other sources.

The consultants obtained statistical data and other information as well as opinions and suggestions from a wide range of stakeholders. This was done by personal interviews, focus group sessions and telephone interviews.

Based on the literature review and the interviews, the consultants drafted a problem statement to describe the current situation and project the future situation. The focus in that statement is on the gap between the nursing resources required and those available. The Steering Committee reviewed the draft and the consultants made changes based on the input. The problem statement was then given to those who had been interviewed. They were asked to review it and provide feedback to the consultants. The consultants then revised the problem statement further, based on that feedback. The problem statement is found in a subsequent section of this report.

The next task was to define the results that must be achieved to solve the problem. The primary focus of this project is on local education initiatives and that was a major theme of the results described. In addition, other important considerations came to light in the research in Phase 1. These other considerations are addressed as well. This is in the interests of completeness, but also to ensure that consideration of any education initiatives is done in light of the full range of factors affecting the nurses' labour market in the Yukon.

The consultants developed a list of outcomes (desired results) that must occur (success factors). For each success factor, the consultants developed a set of objectives.

After the Steering Committee reviewed a draft, the consultants revised the report and then contacted the stakeholders to enable them to provide additional feedback from their perspectives. The feedback is reflected in this report.

3.0 Findings

The literature review confirmed that there was a shortage of nurses in the Yukon, elsewhere in Canada, and internationally. All indications are that the shortage will get much worse before it gets any better. The numbers of seats in nursing education across Canada are being increased. However, it will be four to five years before graduates are available in increased numbers.

Interviews and focus groups confirmed these findings and presented a variety of perspectives on the reasons for the problem and the factors that would drive the search for solutions.

On the international level, the World Health Organization recently released a report stating that the growing shortage of nurses and midwives in many countries is placing the nursing profession in a state of crisis that is jeopardizing health care in many countries. The report indicates that poor working conditions, poor pay and poor career prospects contribute to attrition of nurses and difficulty in attracting new entrants to the profession.

Nationally, the Canadian Nurses Association predicts a shortage of at least 59,000 nurses in Canada by the year 2011. That is based on a total requirement of 290,000 nurses and a supply of 231,000. That is described as the best-case scenario. The more realistic estimate places the demand figure at 344,000 and the size of the shortage at almost twice the best-case number, or 113,000 nurses. This is due mainly to two factors. An aging population in the country is expected to put increasing demands on the health care system. Also, insufficient new nurses are entering the profession to replace the many nurses in Canada who are approaching retirement over the coming decade.

Here in the Yukon, the present situation is not yet at crisis point, with one exception. For community outpost nurses, the vacancy rate ranges between 18% and 23%, in spite of extensive recruitment efforts. Active staffing efforts currently underway are expected to fill the vacancies. Most other permanent, full-time nursing positions are filled. Temporary positions are often more difficult to fill. For the future, most stakeholders warn of increasing problems in the recruitment of outpost nurses and similar problems for many other nursing specialties over the next several years. The increasing demand for home care may prove to be another factor leading to recruitment challenges in future as well.

Stakeholders were asked to rate an extensive list of factors that might have an impact now or in the future. The consultants developed the list of factors with input from the Steering Committee. From that list, those factors assessed as having the most impact currently include national shortages of nurses and physicians, increasing demand for home and community care and the aging population.

In the near future, Yukon stakeholders see those factors continuing to have a major impact. In addition, they feel three other factors will have a major impact, namely the aging nursing labour force, decreasing numbers of new entrants to the profession and increasing demand for extended care. More detail can be found in the appendices on the factors and how the stakeholders perceived them.

In addition to those factors, stakeholders mentioned several others. Some of those that stakeholders mentioned most often were:

- Education: Basic education opportunities, “next level opportunities” (paraprofessional to Licensed Practical Nurse (LPN), LPN to Diploma nurse and/or Bachelor of Science in Nursing (B.Sc.N.) and so on), opportunities for broad professional experience in the area(s) of choice, and opportunities for continuing education.
- Yukon lifestyle – the attraction of the place and access to outdoor opportunities.
- Availability of jobs – the right job, at the right time and in the right place.
- Recruitment issues – the need to remain competitive for all categories of nurses in response to other jurisdictions improving salary levels, benefits, bonuses, promotion activities, other incentives and special perquisites to attract new nurses.
- Retention issues – competitive salary levels, retention bonuses, quality of work life, opportunities for professional development and advancement, reasonable workload, flexibility and rest time, lack of respect, relief nurses to back up permanent staff for sick leave, holidays and education, availability and employer support of continuing education.
- Personal issues – work/home balance, health promotion and injury prevention and stress management.

4.0 Problem Statement

4.1 Two levels of analysis

At the highest level, the problem can be defined as the gap between the supply of nurses and the demand for nurses in the Yukon currently and in the future. All indications are that the gap is widening into the future and that there are problems related to the number of nurses available to meet the demand and the requirements of employers related to both general and specific nursing qualifications. The health care context includes growing international demand for Canadian nurses, a potential shortage of physicians and the increasing demand in the Yukon for nursing and related paraprofessionals to staff home and community care programs in all communities.

At the second, more detailed level of analysis, the factors that contribute to the size and nature of the current and future gap are identified. This second level analysis follows the first. Research points to a complex and inter-related set of contributing factors and the need for comprehensive solutions. Action taken to affect one contributing factor in the absence of a comprehensive strategy is unlikely to achieve a lasting solution.

4.2 Current Labour Force

At this time in the Yukon, there is a varied workforce made up of LPNs, Diploma nurses, Degree nurses (B.Sc.Ns) and both diploma and degree nurses with advanced education in a variety of areas, including advanced clinical skills and other postgraduate nursing-specialty qualifications. Diploma and Degree nurses are both registered nurses (R.N.s). These nurses are employed in a wide variety of jobs in the hospital, private clinics, public health, nurse practitioner roles in the communities and programs of the Yukon, Federal and First Nation governments. Speciality areas include OR, ICU, public health, epidemiology, mental health and others. LPNs are certified under legislation in the provinces and in the Yukon and their scope of practice is determined by that legislation. Although the scope of practice for LPNs varies somewhat from place to place within Canada, efforts are currently being made to bring all of these into one national standard.

Currently, there are insufficient nurses in the Yukon to fill all the jobs in the system. Experienced nurses are leaving and new ones are proving increasingly difficult to recruit and retain. Recruitment efforts outside of the territory are taking place in a very competitive international market.

4.3 Future Labour Force

A number of factors are at work to increase the demand for nurses in the Yukon over the next five to ten years. These include:

- Expansion of existing programs, in particular home care, facility-based continuing care and the home and community care programs in First Nation communities.
- Addition of a new continuing-care facility in Whitehorse.
- High proportion in the Yukon (as compared to other places) of specialized nursing positions or those requiring advanced clinical education.
- The projected changes in how health care services may be provided in the future with the possibility of increased use of urban nurse practitioners, particularly in light of the potential physician shortage.
- The need for experienced nurses in many jobs rather than new graduates may require a collaboration between the education institutions and employers to provide orientation and mentorship to new graduates.
- An aging population that will require more care.

Other factors limit the **supply** of qualified nurses to meet these new demands:

- Relatively small pool of nurses and a limited population.
- Academic qualifications and standards of Yukon high school graduates – lack of a large enough pool of graduates with full university-entrance prerequisites, including all of the necessary math and science courses.
- Lack of positive presentation in Yukon high schools of nursing as a career option, which does not encourage students to choose nursing.
- Nurses leaving the territory to practise elsewhere.
- Nurses leaving the profession to retire or to engage in other work.
- Insufficient numbers of new nurses entering the Yukon nursing labour force to:
 - a) replace the ones who leave; and
 - b) meet new requirements.
- Lack of competitive salary and benefit packages to support recruitment and retention of community nurse practitioners.
- Lack of suitable employment opportunities for spouses/partners of nurses who move to the Yukon from elsewhere.
- Lack of employer-funded education opportunities for nurses with basic education to gain specialized skills for the institutional health care environment.
- Lack of annual delivery of the LPN program in Yukon.

4.4 Gap

Based on the analysis completed to date and national trends, it is estimated that as many as one third of the jobs required in five to ten years may remain vacant if current practices are not changed. The following charts summarize demand and supply factors contributing to widening the gap.

4.5 DEMAND		
Contributing factor	How the factor acts to widen the gap	
Program expansion	Expanded programs require additional staff.	Increasing demand and internal competition among facilities and programs for staff – more requirements to recruit out of the territory and or/ increase local supply of appropriately educated nurses.
Addition of new continuing care facility in Whitehorse	New programs require new staff.	
High proportion of specialized nurses or those with advanced clinical education required in Yukon	The specialized nurses required in the Yukon are some of the same nurses that are in the highest demand elsewhere.	
Projected changes in health-care services provision, e.g.: increased use of urban nurse practitioners	Rural Yukon and other locations in Canada and the States provide acute care through a health-care delivery system in which nurses provide many types of care traditionally provided by doctors. As this trend increases, it will drive an increasing demand for more nurse practitioners.	
An aging population that will require more care by RNs and LPNs.	As the population ages, the number of patients needing community-based and institutional continuing care increases. Fewer older people are leaving the Yukon, partly due to the pressure on health care resources in the south. Older patients develop more involved and complex needs over time, which drives an increased demand for more intensive nursing services by nurses with higher skill levels.	

4.6 SUPPLY

Contributing factor	How the factor acts to widen the gap
Relatively small local pool of nurses	Limited local supply creates competition between employers as the expense of recruiting and relocating nurses from outside the territory is high.
A limited population of interested students	Lack of critical mass of students interested in studying nursing in the past – this trend is reversing.
Academic qualifications and standards of Yukon high school graduates	Many graduates lack the basic university entrance requirements in the sciences to enter a nursing program.
Negative presentation in Yukon high schools of nursing as a career option	Potential nursing students choose not to pursue a career in the profession.
Nurses leaving the territory to practise elsewhere	Shortages in the rest of the country and elsewhere, particularly the U.S., offer very attractive opportunities for well-qualified Canadian nurses.
Nurses leaving the profession	Aging nursing labour force means increasing numbers of nurses lost to illness, injury and retirement. Historically, low salaries and increasing workloads, along with unresolved quality-of-work-life issues, lead qualified nurses to abandon the profession.
Insufficient numbers of new nurses entering the Yukon nursing workforce	Lack of seats in nursing education limits the numbers of new nurses produced. The number of nursing seats available is expanding in the south currently. The perception and realities of working conditions, compensation and job satisfaction are barriers to recruiting nursing students.
Lack of competitive salary and benefit packages to support recruitment and retention of community nurse practitioners	Competition for qualified nurses is fierce, nationally and internationally. Supply is very limited. Yukon employers will be unable to attract and retain the right kinds of nurses in the required numbers if they do not offer competitive compensation, benefits and incentives.
Lack of suitable employment opportunities for spouses/partners	Nurses who would otherwise move to the Yukon to fill a vacancy choose not to relocate, or nurses who do come choose not to stay due to limited opportunities for their spouses.

Lack of employer-funded education opportunities for nurses with basic education to gain specialized skills for the institutional and non-institutional health-care environments	Many nurses would like to gain additional skills, knowledge and certification, but are unable or unwilling to do so without support in the form of tuition and books, travel and accommodation, time off with pay or extended leave without pay with guaranteed re-entry to the employer's work force
Lack of local nursing education programs (gap in training LPNs and no RN programs) in the Yukon	Interested individuals were not able to pursue nursing education without leaving the territory.
Lack of certainty of LPN jobs for 2001 graduates	Seven graduates of the Yukon College LPN program are uncertain of their employment future even though the LPN program was employer requested.
Lack of employer flexibility in hiring Registered Psychiatric Nurses (RPNs) due to the law requiring nurses to be RNs	Individuals with RPN qualifications living in the territory or willing to relocate to the territory are not able to work in nursing jobs.

4.7 Finding solutions

Solutions will be effective to the extent that they address the factors and the ways in which those factors affect the problem. Accordingly, the process of finding solutions begins with the identification of those factors where Yukon decision makers can have an influence, versus those that cannot be influenced through local initiatives. Then, the challenge is how to influence the factors in order to reduce or eliminate the gap.

5.0 Analysis of Data

Stakeholders did identify a number of areas where the number of nursing positions will likely increase. One area where significant increases are expected is home care. In continuing care, a modest increase is expected when the new extended-care facility in Copper Ridge opens next year. Of considerably more significance is the predicted increase in the number of nurses required to replace those leaving the workforce due to retirement or leaving the Yukon to take opportunities elsewhere.

Another factor that is increasing the demand for nurses relates to the very high levels of care required by persons with severe disabilities who experience much longer life expectancy than in the past.

With regard to current educational opportunities, concerns were expressed on several fronts. The PSAC collective agreements are seen as too rigid to enable creative solutions to the need for time off and other arrangements that might support continuing education. Many reported that financial support from employers or other sources just is not available. Although some sources of financial assistance do exist, they are insufficient and are hard to access by working-level nurses wanting to upgrade their qualifications. The lack of local nursing-education options increases the cost of accessing appropriate programs and courses.

Another problem mentioned by many is the difficulty of getting time off. Ideally, nurses would like to have time off with pay to further their studies. To provide this time off requires additional staff resources. This need serves to heighten the problem of shortages in nursing staff. Even if staff cannot have paid time off, many would be happy to use vacation leave or other opportunities if only they could get approval to be absent. The inability to staff behind them in many cases makes it next to impossible for most nurses to attend education that is offered. One of the many constraints is the small number of staff members in the rural and remote communities. When one of three nurses is out of the community that is a 33% reduction in capacity for service delivery. The travel costs and backfill costs are also high due to the remoteness of the Yukon and the communities.

For many needed courses, the only option is to go outside. The costs and inconvenience, combined with the difficulty of getting the time off, make this option almost never possible for most nurses.

Many said that employers should provide more support, both in terms of paid or even unpaid leave and paying for tuition. There was also concern expressed by many stakeholders that the courses that are put on locally are few and far between. For anything specialized, it is often not possible to find the education here even if the other barriers to attending education could be overcome. One major factor in this regard is the lack of a critical mass of local nurses requiring the specific specialized educational offering.

Many people stated that upgrading programs would be a good idea. The options fell into three categories: from LPN to diploma or degree nurse, and possibly on to Nurse Practitioner or another specialty.

With regard to hiring, there were several recurring themes. One was that the administrative systems in Yukon government are cumbersome and difficult, resulting in long delays and sometime failing to fill the positions in the end. Another concern is the perception that all nurses newly hired to the Yukon government must start at the minimum of the salary range. Although this is a very widely-held view, it is not strictly true. There is no recognition in the Yukon government nurses' salary scale for the years of experience. Some nurses in hard-to-fill specialties are able to negotiate starting salaries above the minimum of the range.

Several stakeholders suggested targeting students for recruitment to the Yukon. One suggestion was that we track all Yukoners who go outside for nursing education and we find a way to entice them back to the Yukon for summer employment (clinical placements) as well as for jobs when they graduate. Another idea that was suggested frequently is to market the Yukon as an excellent place for student nurses to come for their clinical education practicums. The thought there was that many might stay once they saw the place and got to know the people and the programs. Care needs to be taken in fully assessing the cost of possible initiatives and the limits on the ability to absorb student nurses into organizations that may be fully taxed due to staff shortages. Clinical instructors and preceptors would need to be readily available to students.

There are some very difficult issues to consider with regard to the idea of giving signing bonuses or retention bonuses or other incentives to support efforts in recruitment and retention. Would they be given to all new nurses, or just to those in specialty areas where staffing is difficult? Would they apply to current staff as well? How could equity be assured? Would there be backlash from other professional groups? These are issues where very strong feelings and opinions were expressed. Any decisions with regard to these approaches are bound to be controversial at best and, at worst, could backfire and worsen the problem.

Almost everyone interviewed stated that the qualifications needed by nurses today are far greater than in the past. The main reasons include increased acuity (increased number and complexity of health problems), older patients with more complex constellations of illnesses and significantly increased technology used in the profession.

There is an opportunity to make better use of LPNs to ease the burden of the current shortage of RNs. One way would be to use more LPNs in certain areas, particularly in the areas of home and community care and extended care. This would likely involve an increase in the complexity of work done by LPNs up to the full extent of their scope of practice.

Another possibility raised was that employers could increase their success at both recruitment and retention by addressing non-monetary issues that affect nurses' job satisfaction. Active measures to show nurses they are valued might make a big difference to their perception of being respected by their employers. Measures that may contribute to this effort include helping spouses of new nurses find work in the Yukon, inviting nurses to play a more active role in decisions affecting the programs in which they work, providing increased professional development opportunities and providing additional mentors to assist nurses to develop their clinical skills and knowledge on the job. Many other opportunities could be explored to increase job satisfaction among current nurses and to attract outside nurses to the Yukon and Yukon youth to the profession.

The point was made several times that increased efforts at recruitment, retention and education were doomed to failure unless serious progress was made at improving the quality of work life for nurses in the Yukon. As one nurse put it: "Nurses are like customers; it takes a lot more time, effort, and money to create/attract a new one than it does to keep a current one."

The PSAC/Yukon government collective agreement which covers employees working in areas outside of the hospital, states that an auxiliary who is unavailable for a call in three times in a row is automatically removed from the roster and can no longer be invited to come to work. Rigid adherence in some Yukon government programs to this "three-strikes-and-you're-out" rule for on-call auxiliaries aggravates the staffing problem considerably.

6.0 Success Factors and Objectives for each

Success Factor	Objective
Yukon residence priority:	Many stakeholders said that if a degree program is put in place it should allow Yukon residents to remain here for at least the first two years.
Mentorship and preceptorship:	There was much emphasis on the importance of good quality mentorship for new nurses and good quality preceptorships in a variety of clinical settings for student nurses. Both are seen as major drawing cards for nurses considering employment in the Yukon. Both also present challenges. Successful mentoring and preceptoring takes available, capable and dedicated people. When there are insufficient nurses available to cover all the direct-care duties, it is difficult to find nurses to carry out the mentoring and preceptor responsibilities. Clinical instructors, mentors and student nurses must be supernumerary to staffing requirements in order to maintain the priority as education, not patient care.
Part-time / retired / experienced nurses:	It was suggested on a few occasions that qualified nurses with flexibility in their schedules and experience might be agreeable to increasing their engagement in the workforce as mentors or preceptors. The nature of the work might lend itself to part-time work and fit well with other professional or personal commitments.
Education support workload:	Many stakeholders stressed that it takes time and energy to provide support for educating students or professionally developing graduate nurses. Accordingly, it is not something that can just be added into the responsibilities of a program or institution with no increase in resources. To do so is unfair to the mentors and preceptors as well as to the new nurses and students.
Local buy-in and support:	For any educational option to succeed, there must be total buy-in and support from all local participants. Partnerships must be developed and the commitments required of each partner to make the program a success must be confirmed at the outset.

Timeliness:	The elapsed time between a decision by the college to build a local educational program for nurses and the graduation of the first group of students needs to be seriously considered.
Cost per graduate:	Also, the cost per capita for educating nurses through a locally-developed, made-in-Yukon educational option needs to be compared to the costs of sending Yukon residents outside to get their education. This is particularly relevant given the small numbers of students expected to be recruited to such a program. Also, the limited clinical placements may require additional clinical supervisory staff and several "streams" operating at once (students in the classroom at the same time as others are on clinical placements). These arrangements increase the cost of instruction.
Popularity of local education option:	There is a range of views regarding the likely popularity of a local diploma or degree program for nurses. Some believe there is considerable interest and pent-up demand. Others believe that an ever-decreasing proportion of the high-school population have any interest in entering the profession. Clearly, more data need to be collected on this question to provide useful information on the feasibility of local educational options.
Marketing to high school students:	A related question concerns the messages that high-school students hear in school about the benefits and costs of becoming a nurse. Some stakeholders are convinced that guidance counsellors and others tend to be silent, or even negative toward the profession much more often than they promote it as a career choice.
Right number of right kinds of nurses at right time:	To be successful, any local educational option would have to produce the right kinds of nurses in the right numbers to address local needs. There is no point in producing nurses here who will be unable to find nursing jobs in the Yukon, either because there is a glut or because they lack the qualifications employers require.
Human resource planning context:	Any solution to the current problem, whether or not it includes a local education option, should be conceived, developed and delivered within the context of a comprehensive human resource plan for the entire nursing labour force in the Yukon.
Local employer commitment:	For upgrading and other local professional development options, viability might be assured through the commitment of local employers to buy a certain minimum number of seats for their staff.

Further education / professional development options:	One option to be considered for local education is the upgrading of newly graduated nurses to the level and nature of qualifications needed for employment in specialized Yukon nursing jobs. This, combined with other initiatives already mentioned, could serve to attract new grads who within a relatively short period and at relatively little cost could be developed into the well-qualified specialized nurses we require. Compared with the time and money required to operate a program locally aimed at developing high-school graduates into fully-qualified nurses, this option may be much faster and less costly.
Diploma nurse option:	Despite the overall trend nationally away from diploma programs, that option should not be rejected out of hand. Recent initiatives in Alberta and Manitoba have resulted in new diploma-level programs. First of all, it could produce RNs faster, sooner and with less tuition cost to the student than a degree program. Furthermore, it might be the first step for many people who would return to school after a few years to upgrade to a degree in nursing, either locally or through distance education.
Degree nurse option:	The standard of practice nationally is moving toward a degree as entry to practice. The majority of nursing students in Canada are in degree programs and there is a reduced demand for diploma programs. The demands on nurses in today's health-care environment require a solid theoretical and experiential base in order to provide the highest quality of nursing care.
Increased scopes of practice for LPNs:	As the trend continues towards increases in territorial/provincial scopes of practice and higher standards across the country for LPNs, demand will surface for education to enable Yukon's LPNs to meet these new demands.
Health care and educational funding:	The role that is played by strategic decisions regarding the funding of health-care programs, and the effects of those decisions, need to be considered when proposing to allocate significant funding to nursing education.
Cost to the student:	The observation was made that the tuition and living costs to complete a two-to three-year program are considerably less than those for a four-year program. Similarly, tuition costs at colleges are generally much lower than those at universities.
Unique Yukon requirements:	Any local nursing-education option needs to include components relating to the unique demands of nursing in the Yukon. Education in such things as cross-cultural awareness, community development and other related areas should be included so that graduates really do have the range of skills and knowledge required to be effective in this environment.

Critical numbers of interested and qualified students:	A sufficient number of qualified students would need to be interested in beginning a program at the same time to ensure a high enough intake to accommodate the expected drop-out rate and to support the cost-effectiveness of the program on a cost-per-graduate basis.
Sustainability:	The program would require at least a five-year funding commitment to support a four-year program in order to ensure that there is no break in the continuous delivery of a program. If the program were to be delivered more than once, a further commitment would be required as subsequent groups of students are admitted.
Quality of education – theory and clinical practice:	The availability of qualified faculty, laboratory facilities and clinical placements is critical to the delivery of a high quality program that would ensure that Yukon graduates would be credible, employable, mobile and have future career-advancement opportunities.
Nursing graduate fit with employer requirements and employer commitment to hire grads:	The type of graduate produced must meet the requirements of the employer and sufficient job opportunities need to be available to provide a reasonable assurance of employment.

7.0 Conclusion

The work to date confirms there is good reason to be concerned about the nurses' labour market in the Yukon. Like the rest of the country, and in fact most other countries as well, the Yukon is likely to experience a serious shortage of nurses for the foreseeable future. Shortages are already apparent in some specialty areas.

Consultation with the various stakeholders yielded a surprisingly consistent picture of what the issues are and how they affect the labour market. The majority have also validated the problem statement. The next steps in the process include the following tasks:

- Develop an accurate description of the situation in terms of an overview of each of the major organizations affected, their structure and purpose, and the resources available including people, tools and funds;
- Assess whether local education is possible and if so, in what form;
- List practical local education approaches; and
- Describe impacts of any recommended approaches.

This constitutes Phase 2 of the study. Additional work should also be done to ensure a full and accurate understanding of the issues and concerns of First Nations with regard to the nursing labour force and local education options.

8.0 Notes on the Tables and the Projections

Table 1: Responses Regarding Trends summarises the responses from stakeholders regarding trends.

Table 2: Age of Yukon RNs shows the age profile of current Yukon nurses. It divides the total RN population by 5-year age bands.

The rest of the tables include projections of the various factors determining overall need for replacement nurses in the Yukon over the next ten years. Generally the tables examine three scenarios— worst case, best case and most likely case. The assumptions used for each of these cases are explained in the notes for the respective tables.

The Yukon's nursing labour force is made up of regular, full-time jobs plus a large proportion of part-time or temporary or on-call jobs. Also, many nurses hold more than one nursing job. As such, it is not possible to arrive at a precise measure of the number of jobs in the system. Instead, based on the data we collected, we used 200 as the number to represent the total positions currently making up the total Yukon RN labour force.

Table 3: New Jobs Created In The System Over Time shows three scenarios for the growth of the system in terms of the addition of new positions. The worst case reflects work done by Eva Ryton for the Canadian Nurses' Association in 1997. That report, entitled "A Statistical Picture of the Past, Present and Future of Registered Nurses in Canada", projected as a worst case a 46% increase in the number of nurses required in the country between 1993 and 2011. The main factor in the projection is the demands to be felt by the system resulting from an aging population. For the purpose of this report, that was converted to an annual growth rate of 2.5% in nursing positions in the Yukon.

The best case was based on a study conducted by Denton Gafni and Spencer in 2000 entitled "Population Change And The Requirements For Physicians: The Case Of Ontario". That report concludes that the effects of an aging population on the number of health-care professionals required in the system are minimal. They project a growth of only 3.6% over the next ten years due to population aging. For the purpose of this case, we convert that to .36% per annum. Rather than show numbers that reflect parts of people, we have included one new position each three years and no growth in the other two years. We also assume zero population growth for the Yukon over the next ten years in this best case.

For the third case, the most likely case, we simply took a path half way between the other two scenarios.

In all the scenarios in that table, we include four new positions in each of 2002 and 2003 representing an estimate of the new demands from the opening of the new extended-care facility.

Table 4: Retirements of Current RNs Over Time presents scenarios for how many of the current nurses will retire each year between now and 2010. Since the age data we have are in five-year bands, we made the assumption that the numbers in each band were evenly distributed across the band. For example, of the 55 nurses in the 50-54 year age band, we assumed 11 were 50 years old, 11 were 51 years old and so on. The worst case assumes all nurses will retire as soon as they reach age 55. In that scenario, the nurses who are currently 55 or older are shown retiring in 2001 or 2002.

The best case assumes all nurses retire at age 65. The most-likely case shows retirement levels half way between the other two scenarios.

Although we did not obtain any hard data on retirement age, anecdotal reports suggest that age 55 is likely a closer estimate than age 65.

Table 5: Nurses Resigning Over Time projects the numbers of nurses who will leave their jobs and the Yukon nursing labour force for reasons other than retirement. The worst case is based on a 15% attrition rate. The best case is based on a rate of 5% and the most likely case is based on the middle of that spread, or 10%. Again, hard data were not available. Nevertheless, these numbers are fairly standard turnover rates for public sector jobs in the Yukon.

Table 6: Attrition of Current RNs Over Time shows in three columns for each factor the worst, best and most-likely cases and then rolls those numbers together into three cases for the total number of new nurses required in the Yukon.

Table 7: Attrition of Current RNs— Most-Likely Case extracts from Table 6 the most-likely case for each component and for the total.

Validation of conclusions in the tables. The worst case projects the level of need to be in the range of 50-75 nurses per annum for a total need of 550 nurses over the next ten years. The best case projects 14-18 per annum for a total of 151 over ten years. The most-likely case puts the annual number at 29-43 for an overall total of 323 over ten years.

Precise data are not available on many of the specific components of these calculations. Where data are available, they tend to vary greatly from year to year. To try to validate the numbers projected in the model, we have looked at a number of related measures and considered the actual numbers in recent years. This is not an absolute test of the exact validity of the projections, but rather an indication of whether or not the projections would seem to fall in the right ballpark.

YRNA statistics indicate that most years there are dozens of Yukon nurses who leave the territory to practise nursing elsewhere. The YRNA numbers for new registrants each year indicate three to four dozen new nurses coming to the Yukon each year. Many of these nurses come to the Yukon on a temporary basis, only to leave after several months to return to their permanent homes outside.

Yukon government figures reveal upwards of 90 recruitment actions for nurses each year. Of these, many are term extensions and other minor actions, but several represent positions filled with nurses from outside. The number of outside hires for nurses varies greatly year to year, but the average over the past three years is in the high teens. In addition, there has been a shift in the past year to more long-term and permanent hires versus auxiliary hires.

Whitehorse General Hospital posted vacancies for 17 positions in 2000, plus actively recruited casual nurses.

Based on what we have been able to determine about actual experience in the Yukon over recent years in nurse recruitment and attrition, we are able to confirm that the projections do appear to reflect the right range of numbers. If anything, the most-likely case may be slightly conservative.

Table 8: Attrition of Current LPNs— Most-Likely Case projects the needs for new LPNs over the next ten years. These projections are limited by several factors. The YRNA was the source of much of the data used in the analysis of RN numbers. There is currently no active LPN association in the Yukon and so corresponding numbers for LPNs are not available to us. In addition, there seems to be much speculation as to the nature and extent of the role LPNs will play in the health-care system in the future— in the Yukon and elsewhere. This adds to the difficulty of making projections. Finally, we were able to find much published material on history, trends and predictions of RNs' employment in Canada and the Yukon. We were not able to obtain corresponding published material for LPNs.

Despite those limitations, our view was that to include some projections for this very important sector, along with indications of the limitations of the data, was better than leaving them out of the analysis. To do this, we substituted the current LPN total (which we estimated at 60 jobs) and used the same percentages as the most likely case for the RNs. The exception pertains to the new jobs resulting from the new extended care facility. We substituted a best guess of the LPN impacts for the projected RN increases included in Tables 3, 6 and 7. We have no way of knowing whether the rest of the new jobs numbers are in the right range. Neither do we have any useful data on retirement or resignation trends for LPNs. In all of these cases, we have made the assumption that the forces at work for the LPNs are similar to those we postulate for the RN labour force.

As in some of the RN tables, when the projections are very small, we avoided showing parts of people by adding up the small numbers over more than one year until the total was approximately one person. For example, if the model showed 0.2 LPNs or jobs each year, we would show zero for four years and then one in the fifth year.

We stress that this approach encompasses several assumptions that we cannot confidently validate. Nevertheless, the projections may provide some measure of insight into where this part of the health-care workforce may be going in the next ten years.

Table 1: Responses Regarding Trends

To date, what impact has your organization felt related to the following trends and what impacts do you anticipate your organization feeling in the future?	To date			Anticipated		
	None	Minor	Major	None	Minor	Major
a) decreasing numbers of people entering the profession;	2	4	12	0	5	17
b) the expanding role of nurses (e.g.: in emergency rooms, or as nurse practitioners);	5	8	8	4	4	13
c) the aging nursing workforce;	1	10	11	0	2	20
d) the trend towards all-RN staffing in hospitals;	5	8	6	5	7	7
e) the trend towards increased staffing with nursing casuals;	5	9	7	6	6	9
f) staffing only with experienced nurses (i.e.: no opportunities for new grads);	4	9	9	4	10	8
g) 12-hour shift patterns;	10	7	6	8	7	6
h) increasing specialization in nursing;	1	9	12	1	8	13
i) increasing need for cross-training to be qualified to move from one specialty area to another with little or no advance warning;	5	12	6	3	2	14
j) increasing emphasis on administrative qualifications and less on nursing qualifications for senior nursing positions (and the consequent loss of easy access by working-level nurses to senior clinical advice);	2	12	7	1	7	15
k) national shortages of physicians and nurses;	0	3	20	0	2	21
l) increasing demand for home and community care;	0	4	20	0	4	21
m) increasing demand for extended care;	2	6	14	2	3	14
n) increasing needs for support to persons with disabilities;	0	6	10	0	9	14
o) increasing acuity;	1	10	12	1	5	16
p) decreasing paediatric admissions in hospitals;	4	11	5	4	10	7
q) the aging population;	0	5	18	0	0	22
r) the transfer of health care delivery to First Nation governments;	7	12	3	3	6	11

Table 2: Age of Yukon RNs

Age Range	Number
20-24	2
25-29	27
30-34	31
35-39	58
40-44	63
45-49	67
50-54	55
55+	39
Total	344

Table 3: New Jobs Created In The System Over Time

Year	Case in terms of annual growth rate		
	Worst: 2.5%	Best: 0.36%	Most likely: 1%
2001	9	1	2
2002	13*	4*	6*
2003	13*	4*	6*
2004	9	1	2
2005	9	0	2
2006	9	0	2
2007	9	1	2
2008	9	0	2
2009	9	0	2
2010	9	1	2
Total	96	12	28

* Includes projected increases relating to the new extended-care facility.

Table 4: Retirements of Current RNs Over Time

Year	Case		
	Worst: Retire @ 55	Best: Retire @ 65	Most likely: Average
2001	19	4	12
2002	32	4	17
2003	11	4	8
2004	11	4	7
2005	11	4	8
2006	11	4	7
2007	14	4	9
2008	14	4	9
2009	14	4	9
2010	15	3	9
Total	152	39	95

Table 5: Nurses Resigning Over Time

Year	Case in terms of annual loss rate		
	Worst: 15%	Best: 5%	Most likely: 10%
2001	30	10	20
2002	30	10	20
2003	30	10	20
2004	30	10	20
2005	30	10	20
2006	30	10	20
2007	30	10	20
2008	30	10	20
2009	30	10	20
2010	30	10	20
Total	300	100	200

Table 6: Attrition of Current RNs Over Time

Year	New jobs			Retirements			Resignations			Replacements Needed		
	W	B	ML	W	B	ML	W	B	ML	W	B	ML
2001	9	1	2	19	4	12	30	10	20	58	15	34
2002	13*	4*	6*	32	4	17	30	10	20	75*	18*	43*
2003	13*	4*	6*	11	4	8	30	10	20	54*	18*	34*
2004	9	1	2	11	4	7	30	10	20	50	15	29
2005	9	0	2	11	4	8	30	10	20	50	14	30
2006	9	0	2	11	4	7	30	10	20	50	14	29
2007	9	1	2	14	4	9	30	10	20	53	15	31
2008	9	0	2	14	4	9	30	10	20	53	14	31
2009	9	0	2	14	4	9	30	10	20	53	14	31
2010	9	1	2	15	3	9	30	10	20	54	14	31
Total	96	12	28	152	39	95	300	100	200	550	151	323

* Includes projected increases relating to the new extended-care facility.

Table 7: Attrition of Current RNs— Most-Likely Case

Year	New jobs	Retirements	Resignations	Replacements Needed
2001	2	12	20	34
2002	6*	17	20	43*
2003	6*	8	20	34*
2004	2	7	20	29
2005	2	8	20	30
2006	2	7	20	29
2007	2	9	20	31
2008	2	9	20	31
2009	2	9	20	31
2010	2	9	20	31
Total	28	95	200	323

* Includes projected increases relating to the new extended-care facility.

Table 8: Attrition of Current LPNs— Most-Likely Case

Year	New jobs	Retirements	Resignations	Replacements Needed
2001	2*	3	6	11*
2002	2*	3	6	11*
2003	5*	3	6	14*
2004	2	3	6	11
2005	1	3	6	10
2006	1	3	6	10
2007	2	3	6	11
2008	1	3	6	10
2009	2	3	6	11
2010	1	2	6	10
Total	19	29	60	109

* Includes projected increases relating to the new extended-care facility.

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