
LABOUR MARKET ANALYSIS

SASKATCHEWAN NURSING

2003 Update

July, 2003

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A report for:

Saskatchewan Health and Saskatchewan Learning

prepared by:

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SUMMARY

In 1999, the provincial departments of Health and Post-Secondary Education and Skills Training contracted with QED Information Systems Inc. to prepare a labour market analysis of the nursing profession in Saskatchewan. That report, titled *Labour Market Analysis: Saskatchewan Nursing*, was published in October 1999.

This report is primarily an update of that study extending and expanding on the research. In particular, this report extends the labour market analysis of the nursing profession to 2002 for most data series. It also provides additional information that was not available in the earlier study and focusses more attention on information about the demand for nurses over the medium term.

The research, as with the previous study, was conducted by Doug Elliott from QED Information Systems Inc., a Saskatchewan based consulting firm and the publisher of *Sask Trends Monitor*.

The previous study found that the demographic profile of those in the Saskatchewan nursing profession was such that the supply of nurses would decline in the short to medium term. It also identified ways in which the workplace could change to improve retention and recruitment. Subsequent to that research, the capacity of the province's post-secondary institutions was increased to enable more education of nurses.

This study finds that most of the changes identified in the previous work have taken place. In particular:

- the number of nursing graduates from the Nursing Education Program of Saskatchewan and the number of practical nursing graduates has increased;
- more nurses are working full-time and there is a decline in the proportion who are working part-time because they could not find full-time work;
- the retention rate in the profession has increased, particularly among older nurses; and
- inter-provincial out-migration of nurses has slowed.

The demographics of those working in the profession, however, is a relentless and overwhelming force. The peak of the age distribution for Saskatchewan nurses has moved to the 45 to 49 age group and the bulge in the age distribution is steadily moving toward the average retirement age of 60. Further efforts at retention, recruitment, and education will be required to meet the future demand for nurses in the province.

Although there is a variety of statistics about the nursing profession in this report, the balance of this executive summary deals with the factors described above.

Basic Counts

1. After remaining stable through much of the 1990s, the number of RNs registered and employed in nursing dropped by 300 between 2000 and 2002.

The number of RPNs, in contrast, has been declining throughout the 1990s and the decline continued into 2001 and 2002.

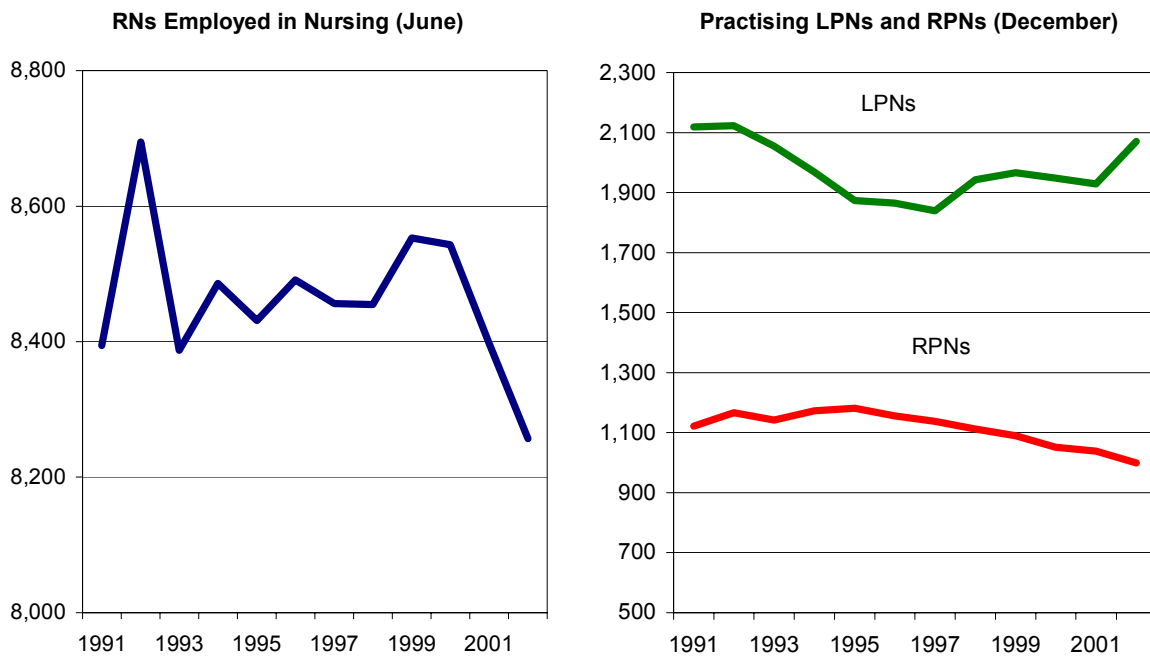
After declining sharply in the early 1990s, the number of LPNs has been increasing since 1997 with a particularly large increase in 2002.

While fluctuating during the 1990s, the mix of RNs, RPNs, and LPNs within the nursing profession has not changed significantly.

2. Compared with the national average, the province has an above-average number of RNs and RPNs per capita and a below-average number of LPNs per capita. Over time, the per capita number of RNs has been relatively stable in Saskatchewan whereas it has dropped in Canada as a whole

(Reference: Section 2.1 through 2.3)

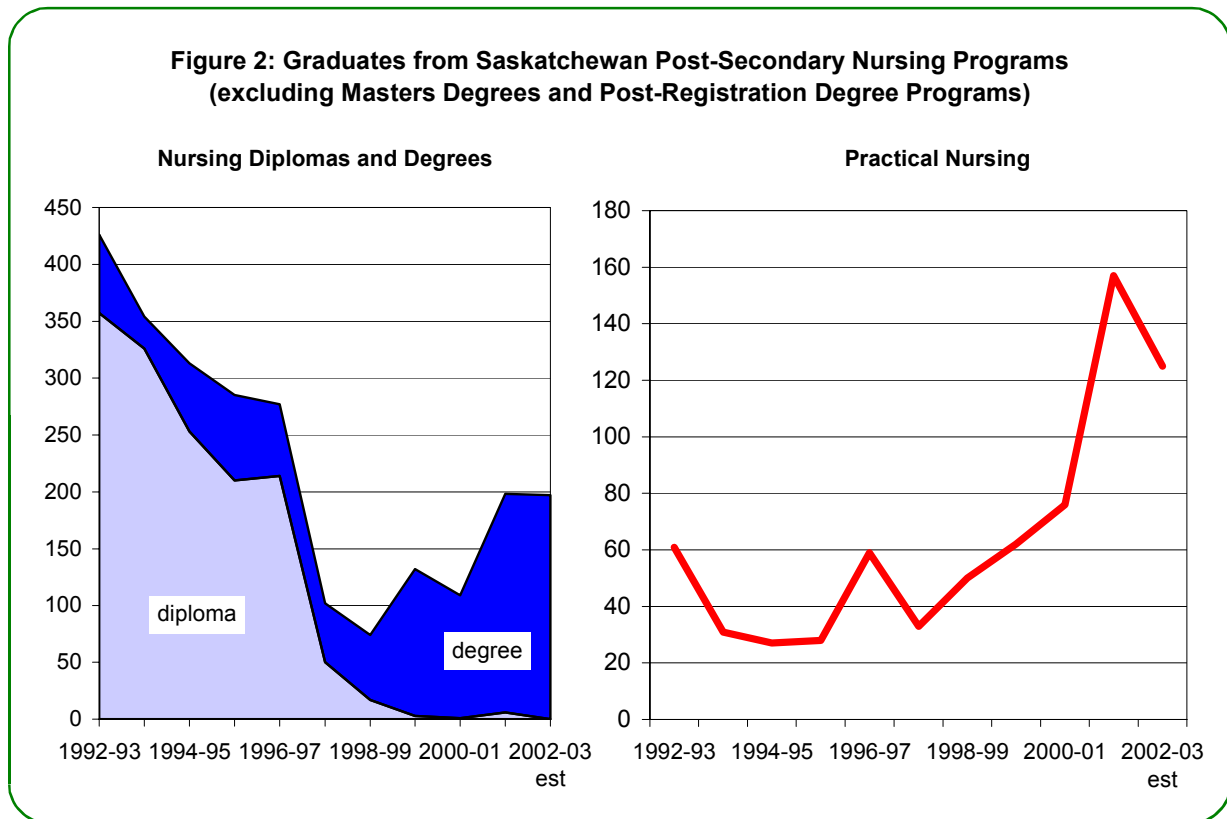
Figure 1: Basic Counts of Nurses Registered and Employed in Nursing, Saskatchewan, 1991 to 2002



Graduates

3. The number of nursing program graduates has recovered from the low reached in the late 1990s. With new capacity in the NEPS program, the number of graduates who immediately enter the labour force is expected to increase to 240 per year over the next five years, returning to the level last seen in 1996-97.
4. The number of practical nursing graduates was less than 50 throughout much of the 1990s but has recently increased with the introduction of brokered programs in regional colleges and the Dumont Technical Institute. The introduction of brokered programs will mean that the education of practical nurses will be more responsive to demand in the coming years.
5. By 2002-03, the total number of nurses (RNs, RPNs, and LPNs) educated in Saskatchewan and adding to the supply is estimated at 322.

(Reference: Section 3.1)



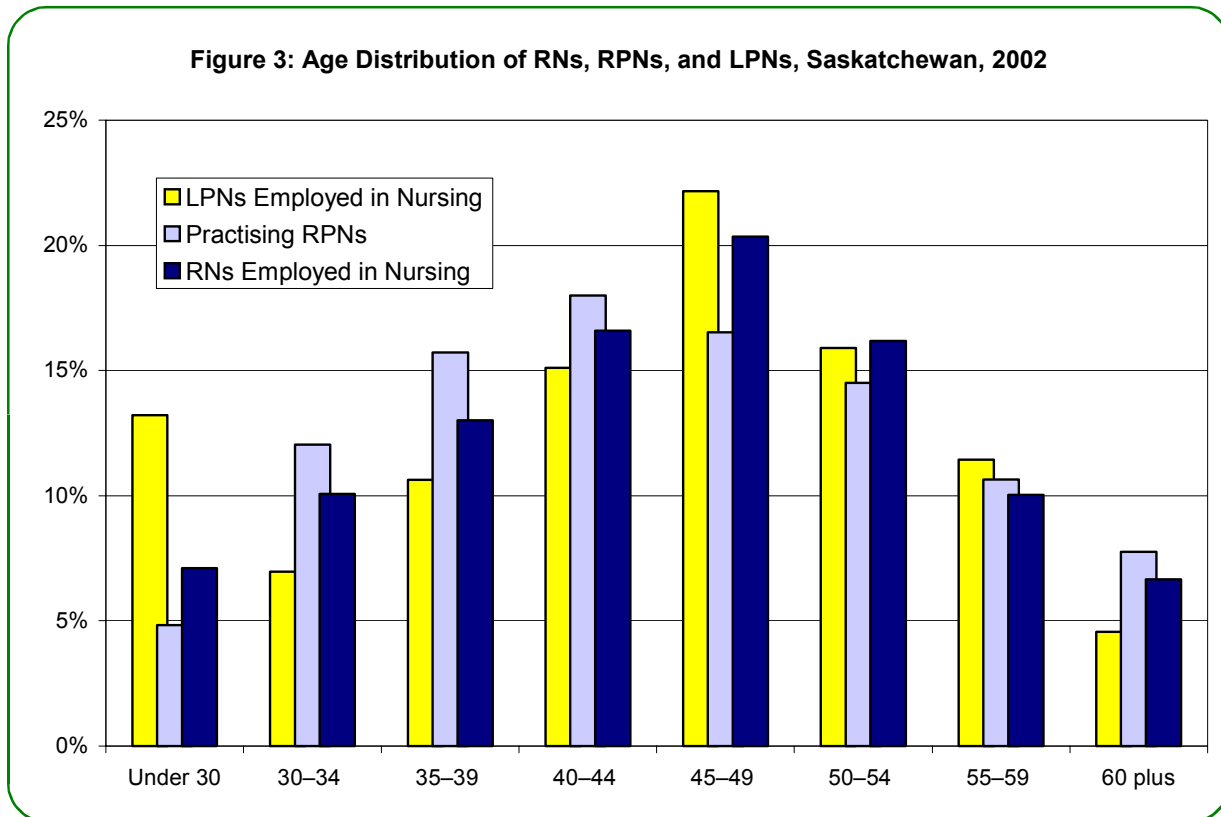
Age Distributions

- The peak of the age distribution for RNs is in the 45 to 49 age group. Over the past ten years, there has been a consistent decline in the proportion of RNs in younger age groups and a consistent increase among those in older age groups. In 2002, 33% of RNs employed in nursing were 50 years of age or older and 17% were under 35 years of age.

RPNs are somewhat younger, on average, than RNs but there is a significant proportion who are 60 years of age or older.

The peak of the age distribution for LPNs is also in the 45 to 49 age group but, compared with RNs and RPNs, more are under 30 years of age and fewer are 60 or older.

(Reference: Section 3.3)

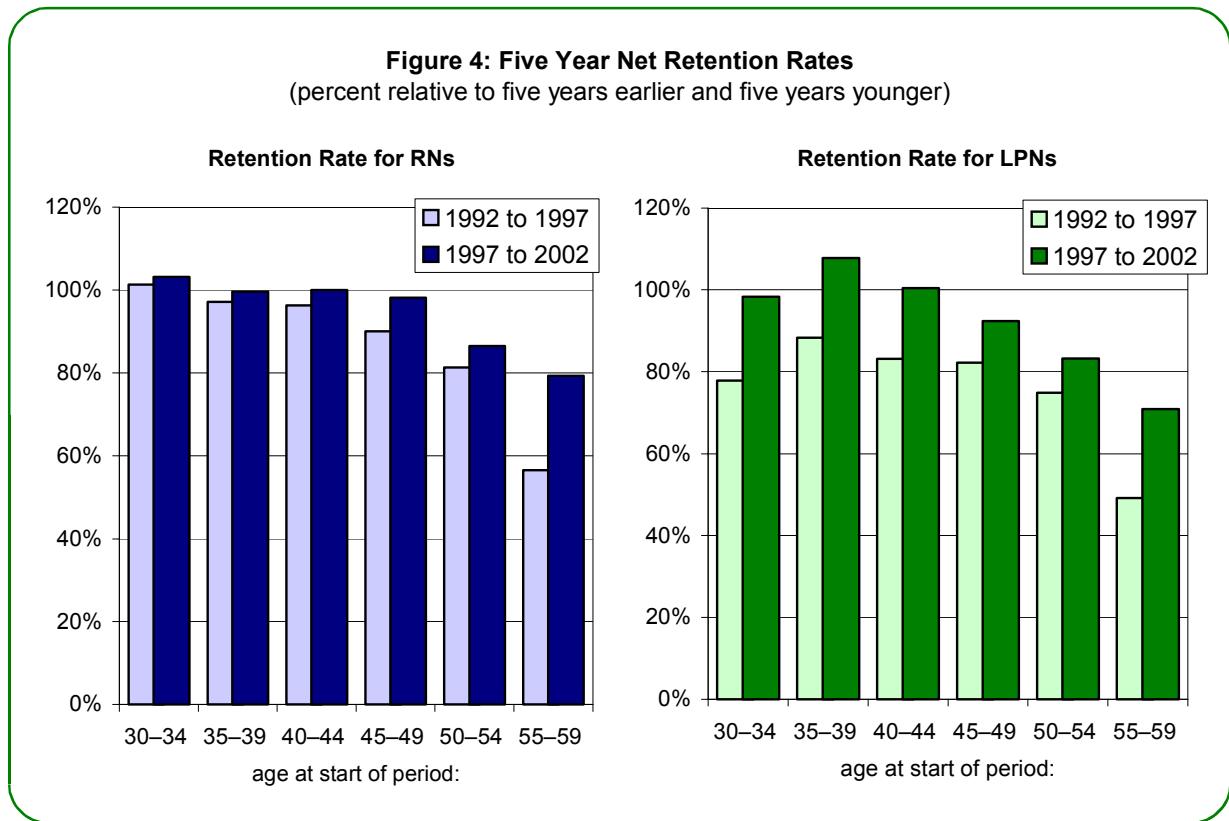


Retention Rates

Retention rates are the key determinant in forecasting the future supply of nurses in the province.

7. In the last five years, there have been steady increase in the retention rates for RNs and LPNs (data not available for RPNs). The increase has occurred in almost all of the age groups but is more pronounced among those over the age of 50. Retention rates for LPNs, while generally lower than for RNs, have increased more substantially.
8. While no reliable historical data are available for retirement ages, the patterns evident in Canada suggest that 58 is the average retirement age for Saskatchewan nurses. The limited information available from SAHO suggests that the average retirement age among Saskatchewan RNs is currently at or near 60 years of age. Both data sources show a decline in the average retirement age over time.

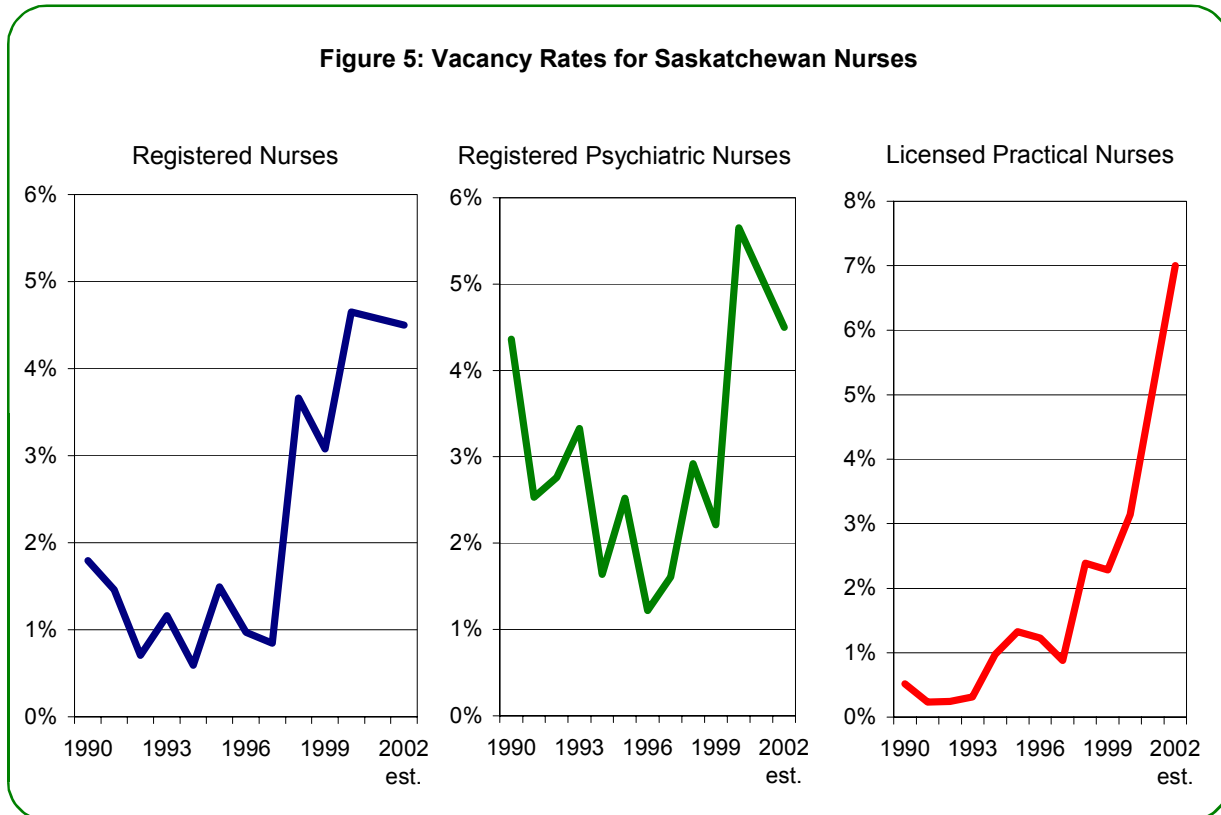
(Reference: Section 3.3)



Unemployment and Vacancy Rates

- Administrative data from the Employment Insurance program indicates that there is virtually no supply of “unemployed” nurses in Saskatchewan.
- Vacancy rates have risen significantly in all three professional groups. There are an estimated 565 vacancies in 2002 of which 370 are for RNs.

(Reference: Sections 3.4 and 4.4)



Hours of Work

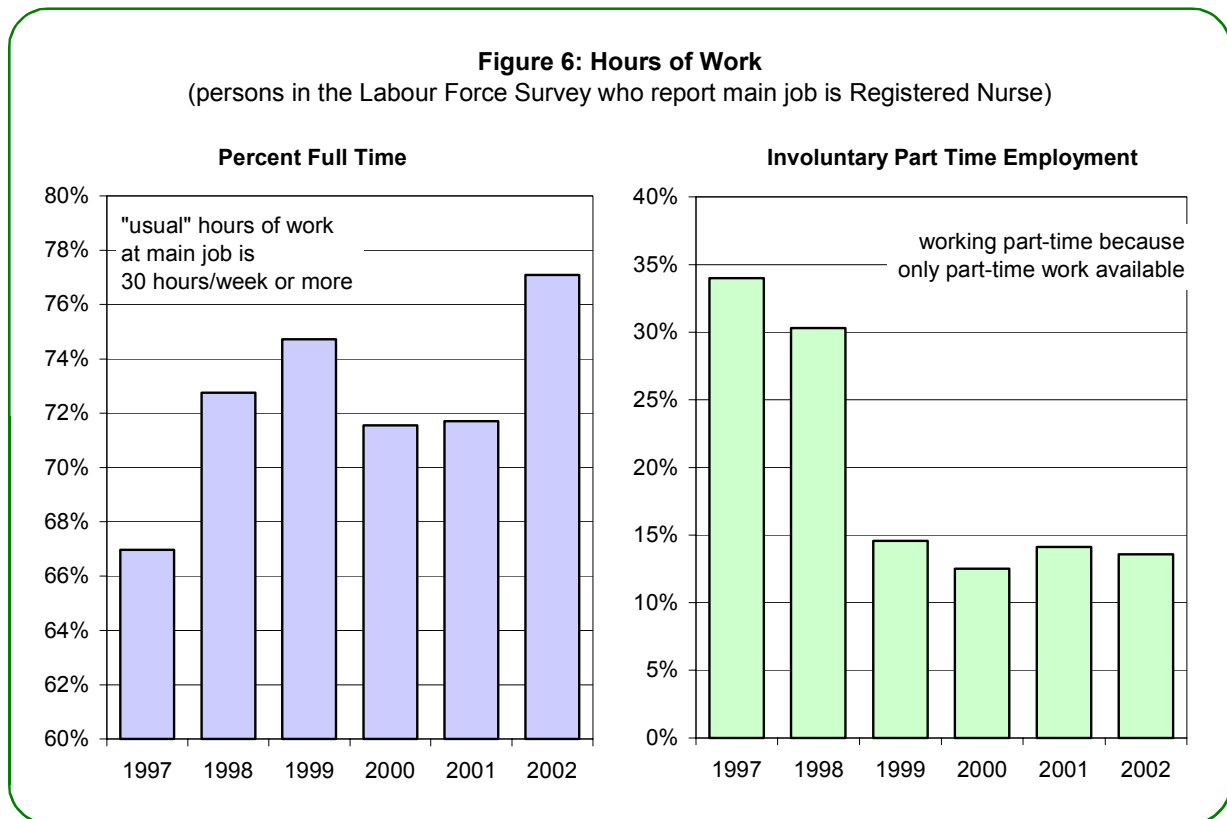
Available data on hours of work varies in quality.

11. According to the Statistics Canada monthly Labour Force Survey, the proportion of RNs/RPNs who are working full time has increased in the past five years. The proportion who report that they are working part-time because they cannot find full-time work has declined.

The same survey found an increasing proportion of RNs/RPNs working long hours (more than 40) and a SUN survey of membership found a general aversion of overtime and extra hours for part-time and casual staff.

12. The 2001 census reported that 59% of RNs/RPNs worked throughout 2000 on a full-time basis compared with 50% in 1995 and 46% in 1990. According to the same source, 52% of LPNs worked throughout 2000 on a full-time basis compared with 54% in 1995 and 44% in 1990.
13. The level of overtime paid (for all staff) has risen to 2.3% of payroll in hospitals and 1.2% of payroll in long term care facilities. Both were under 1% in the early 1990s.

(Reference: Section 3.5)

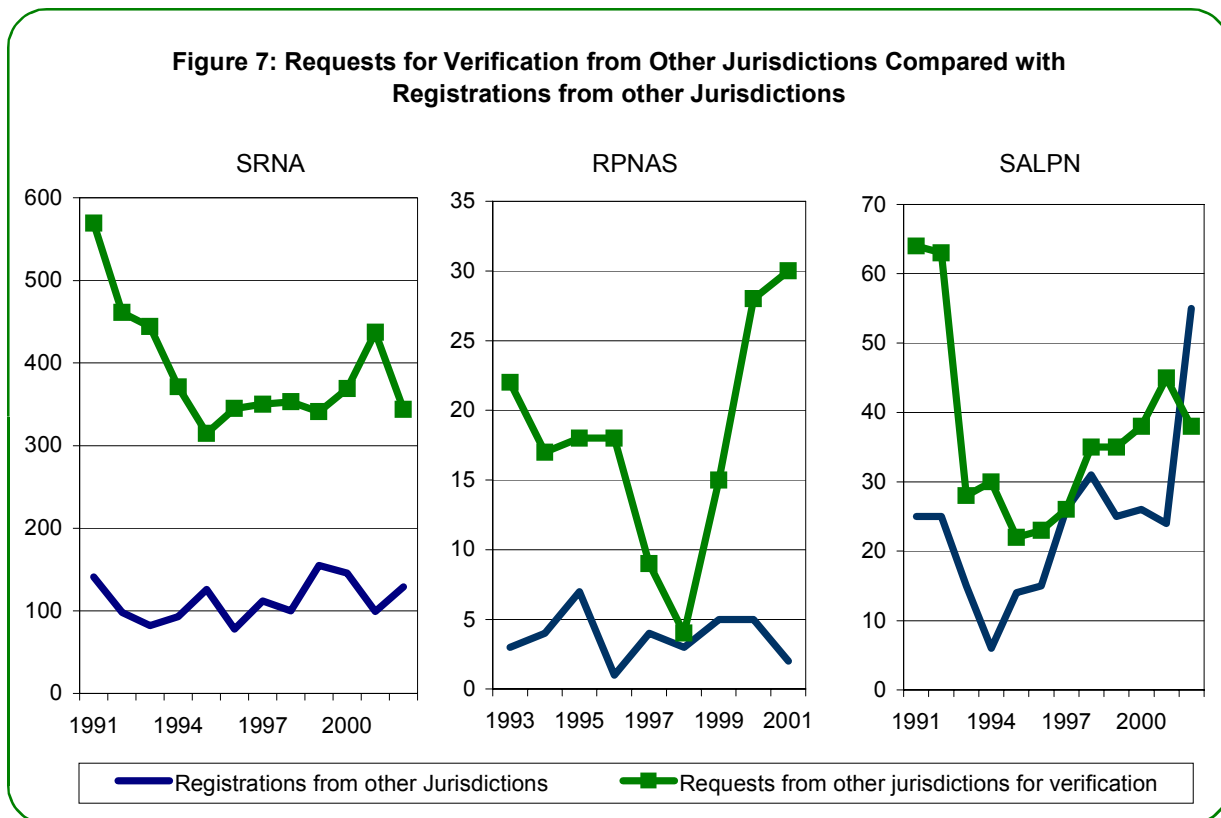


Inter-Provincial Migration

No definitive data on the extent of inter-provincial migration was available for the analysis.

14. Administrative data from the organizations suggest that, among RNs and LPNs, the rate of out-migration to other provinces has dropped from the high levels in the early 1990s and may have stabilized. Among RPNs, it appears to be increasing. SALPN is recording an increasing number of registrations for LPNs from other jurisdictions.
15. There is evidence of a slowdown in the number of Saskatchewan nurses migrating to Alberta. The number of Saskatchewan nursing graduates working in Alberta continues to increase but the growth may be related to the general out migration rather than to a particular propensity among nurses to leave the province.

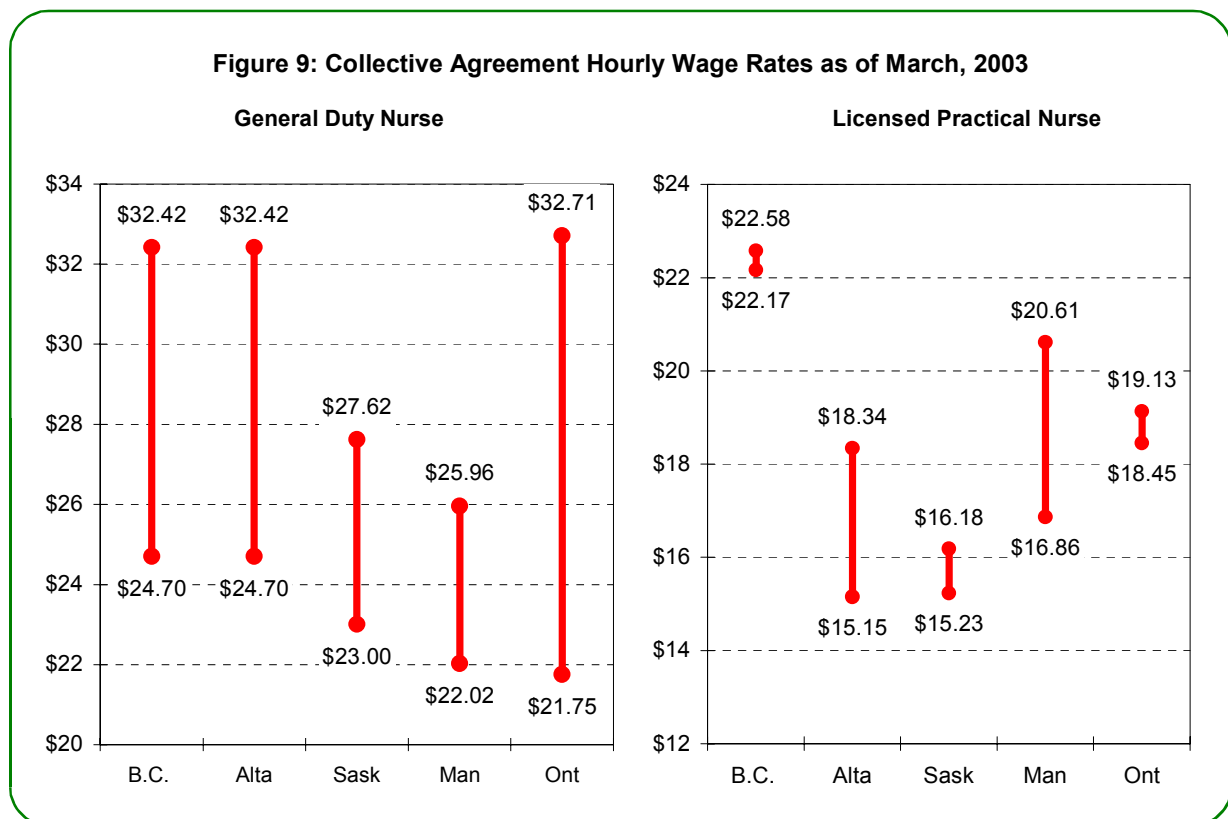
(Reference: Section 3.6)



Wage Rates and Earnings

16. Wage rates and earnings for RNs, RPNs, and LPNs are growing more quickly than the provincial average and more quickly than the rate of inflation.
17. There is still a differential between starting and top rates for unionized RNs in Saskatchewan when compared with Alberta and British Columbia (but not with Manitoba).
18. Total earnings are affected by both the pay rate and the hours worked. Among full-time, full-year workers, Saskatchewan RNs earn 4% less than the national average and 4% less than RNs in Alberta. Because of the prevalence of part-time work in Alberta, however, the average Saskatchewan RNs earned more than the average Alberta RN in 2000.
19. Wage rate scales for in-scope LPNs are higher in Manitoba and B.C. than in Saskatchewan. The differential with Alberta is small.

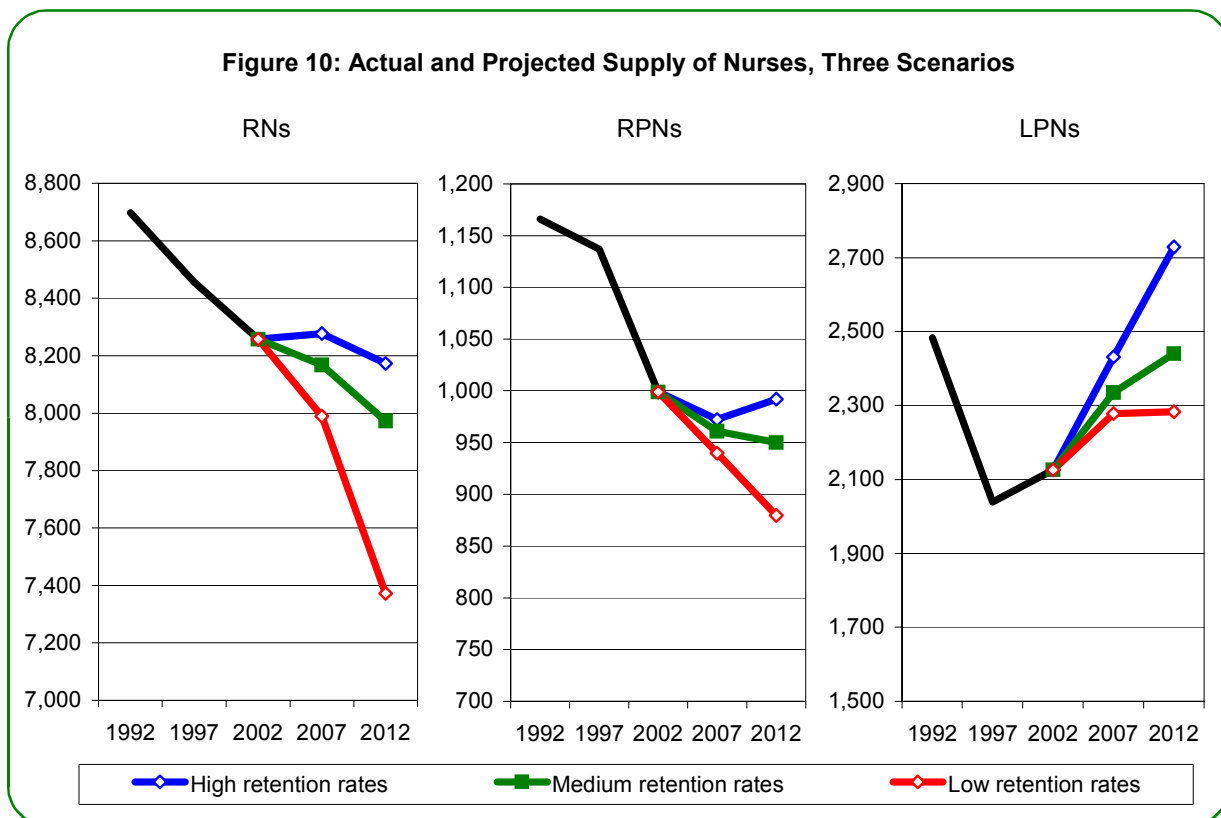
(Reference: Section 4.3)



Projected Supply

20. Three scenarios are developed for each of the three nursing professions based on a predicted number of graduates entering the professions. The scenarios represent three possibilities for how retention rates could unfold in the next ten years. The “medium” retention rate scenario is viewed as the most likely.
21. In two of the three scenarios for RNs, the available supply declines from the 2002 level. In the medium retention scenario, the supply drops by 18 RNs per year for the first five years of the forecast period and by 39 per year for the second five years. In the high retention rate scenario, the supply is effectively constant, dropping by an average of only eight per year. While not formally part of the forecast, the supply will drop quickly after 2012 because of a large number of RNs over the age of sixty.
22. For RPNs, there is also a declining supply in two of the three scenarios. In the medium retention rate scenario, the supply drops by an average of five RPNs per year over the next ten years.
23. For LPNs, there is an increasing supply in all three scenarios. In the medium retention rate scenario, the supply increases by 42 per year for the first five years of the forecast period and by 21 per year for the second five years. The future supply of LPNs is highly influenced by demand because the education of new practical nurses is largely driven by demand.

(Reference: Section 3.7)

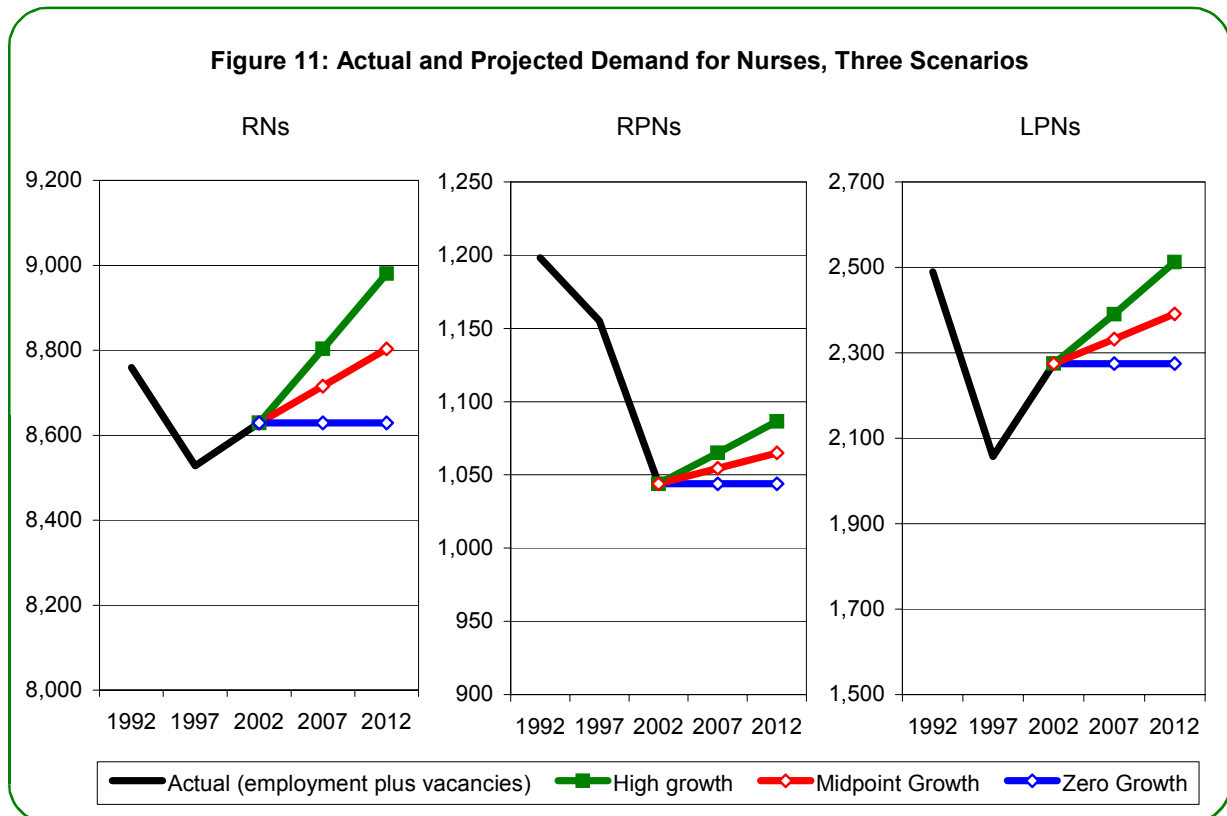


Projected Demand

Projecting demand for nursing services is difficult because the labour market is highly dependent upon the funding of health services, the scope of practise for the professions, and the delivery model for services. These factors are influenced by governments as well as by the labour market.

24. Three plausible scenarios for demand are developed for each of the three professions. They represent one view of how a combination of factors including scope of practise, changes in the province's demographics, the delivery of health services, and changes in health status and patient acuity will unfold in the next ten years. The "midpoint" growth rate is viewed as the most likely.
25. The midpoint growth rate of 0.2% per year for RNs yields a total of 8,800. For RPNs, similar growth in demand would reverse the decline evident in the past ten years.
26. For LPNs, there is an increasing supply in all three scenarios. In the midpoint growth rate scenario, the demand increases to 2,390 in 2012, still below the level in 1992.

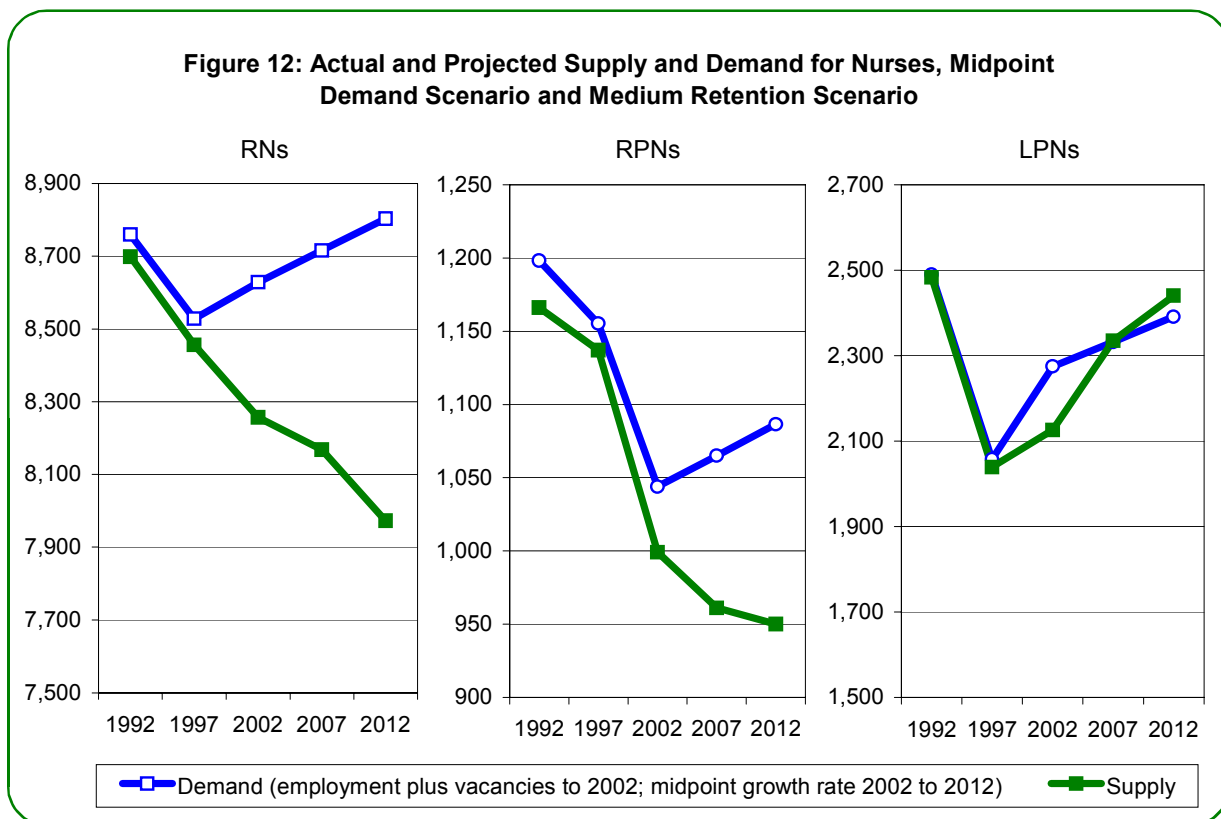
(Reference: Section 4.6)



Gap Between Supply and Demand

27. The difference between supply and demand (currently manifest as vacancies) increases for RNs and RPNs under most combinations of supply and demand scenarios. In particular, the medium retention rate scenario for supply and the midpoint growth rate for demand leads to a gap of 830 RNs by 2012 compared with the current estimate of 370. The gap for RPNs is 140 in 2012 compared with the current level of 45.
28. Under this set of circumstances and depending on the rate of growth in demand, reducing the RN/RPN gap to an assumed level of 170 (150 RNs and 20 RPNs) would require an additional supply (or reduced demand) of 60 to 80 new RNs/RPNs per year for the next ten years.
29. Because of the increasing supply of LPNs and the fact that LPN education is largely driven by demand, no significant widening of the gap between supply and demand is foreseen for LPNs. The forecasted supply under the medium retention scenario is sufficient to meet the anticipated increase in demand.
30. A combination of retention, recruitment, and education strategies will be required to deal with the short and long term aspects of the RN/RPN gap.

(Reference: Section 5)



1.0 INTRODUCTION AND METHODOLOGY

In 1999, the provincial departments of Health and Post-Secondary Education and Skills Training contracted with QED Information Systems Inc. to prepare a labour market analysis of the nursing profession in Saskatchewan. That report, titled *Labour Market Analysis: Saskatchewan Nursing*, was published in October 1999.

Some key findings from that research are listed below.

- In spite of significant changes to the health care system in Saskatchewan, employment of Registered Nurses remained relatively constant over the 1990s. The number of LPNs and RPNs was declining steadily.
- There were a significant and growing number of RNs in the age groups near or past the age of eligibility for early retirement. Relatively few RNs remained in the labour force past the age of 55 and those that did tended to work in occupations not directly involved in patient care; many worked outside the health care system. RPNs were slightly younger, on average. The age distribution of LPNs was more skewed toward the older ages than the distribution for RNs/RPNs. LPNs did not, however, seem to show the same tendency as RNs to leave the profession before they reached normal retirement age.
- During the 1990s there was an increasing proportion of RNs working in research and education and in community health and home care. There were fewer working in other patient care areas such as medical/surgical units, pediatric, and maternal wards. The proportion that work in acute care hospitals had declined from 63% to 54% over the five years from 1993 to 1998 whereas the number working in community and home care services increased from 8% to 17% over the same period.
- The majority of LPNs were working in acute care institutions and the number was increasing. Relatively few (6%) were working in the community health or home care sectors. The number working in long term care facilities was declining.
- Vacancy rates for RNs and LPNs had spiked in 1998.
- The number of RN/RPN graduates from the Saskatchewan post-secondary institutions had declined significantly from the peak of 450 in 1992-93 to less than 100 in 1999-2000. This was caused by a variety of factors including the switch from diploma to degree qualification and the introduction of NEPS.
- Since the mid 1990s when many RN/RPN graduates were not able to find full-time training-related employment immediately after graduation, there was evidence of a steady but slow turnaround.

- The number of RNs/RPNs that would have to be trained/recruited over the short term varied from a high of 331 per year in the worst case scenario to a low of 105 per year with an aggressive retention scheme. The number of LPNs that would have to be trained/recruited over the short term varied from a high of 129 per year in the worst case scenario to a low of 64 per year with an aggressive retention scheme.

This report is primarily an update of that study extending and expanding on that research. In particular, this report extends the labour market analysis of the nursing profession to 2002 for most data series. It provides additional information that was not available in the earlier study and focusses more attention on information about the demand for nurses over the next ten years.

The research, as with the previous study, was conducted by Doug Elliott from QED Information Systems Inc., a Saskatchewan based consulting firm and the publisher of *Sask Trends Monitor*. It was conducted under the direction of a steering committee of officials from the Departments of Health and Learning. Responsibility for the accuracy of the data and any conclusions drawn from the analysis remains with the author.

The project goal was to conduct an analysis of nursing occupations in Saskatchewan to include demographics, relevant trends, and demand and supply issues. The nursing occupations to be examined include:

- Nurse Practitioners (previously known as Advanced Clinical Nurses),
- Registered Nurses,
- Registered Psychiatric Nurses, and
- Licensed Practical Nurses.

This involved identifying and examining appropriate and accessible sources of data and information for conducting the analysis. Using the data, the project included the development of a model or methodology to project health human resource needs for nurses over the next ten years. The projection model will consider the impact of current and future demographics on nursing occupations, current employment levels and future employment trends (including projected retirement trends), population trends, and population health status information.

There are two aspects of the nursing labour market that are not addressed in this study. The first is the requirement that Nurse Practitioners be treated as a separate group for the purposes of the study. This was not possible because there are simply too few statistics available about nurse practitioners at this point; they are combined with RNs in virtually all of the data in this report. The second is an analysis of the nursing labour market in sub-provincial regions. It is well known that the supply and demand of nurses varies dramatically across the province but an analysis at a geographic level was beyond the scope of the project.

The research is intended to develop a common set of understandings about the current situation within which further discussions and policy decisions can be made. No recommendations are made. The information will be used to assist in the development of a long-range Health Human Resources Plan for the province. Specifically, the results will be used by government and the education sector in planning for future nursing resource needs by informing policy direction and decisions regarding student intake and for educational program designs to meet the projected demand for nurses. The findings may also inform government on projected changes to models of care.

1.1 Supply and Demand Approach

This report takes a supply and demand approach to the nursing labour market in Saskatchewan as the conceptual model for the analysis. The terms demand and supply are used throughout the analysis and require clarification.

Traditional economic supply and demand models do not apply very well to the labour market in general and the labour market for nursing in particular¹. Both the supply of and demand for nurses are highly regulated by governments – the supply by registration requirements and the funding of educational institutions and the demand by scope of practise regulations and the funding of the health care delivery system. This makes any forecast of demand or supply difficult because policies can change quickly.

The main statistic about the nursing labour market used is “employment” – the number of persons employed in the nursing profession. Employment figures do not measure demand because they don’t take into account a host of issues that would be necessary for a true picture of employment demand.

- Employers may reduce services (e.g. bed closures) because of an inability to attract employees or fill vacancies. This results in an apparent reduction in demand because either employment declines or the number of vacancies declines.
- Employers may use technology to reduce the demand for workers who are unavailable.
- There may be a demand for full-time work but only part-time or casual workers are available.
- As with all goods and services, demand is strongly influenced by price, in this case by wage rates.

There are as many issues on the supply side of the nursing labour market.

- The measurement of the labour force in a given occupation is often used as a proxy for supply although this measure includes only those who are actively seeking work and doesn’t include the so-called discouraged workers.
- Some persons qualified for positions may be working in different occupations and so are technically part of the supply even though the probability of them returning to the profession is low. Supplementary education would be required in most cases.
- Some persons qualified for positions may be out of the labour market and therefore not part of the labour force. They should be considered as part of the “supply” although the statistics will not capture them.
- Supply will be understated to the extent that some workers may be employed on a part-time basis and willing to work full-time (the so-called underemployed).
- Supply also varies with wage rates – there may be no excess supply for a position at the going rate of pay but excess supply if the wage rate is increased.

It should be clear from the above that the issues of supply and demand in the labour market are extremely complex. Supply and demand factors are interrelated and no static model can capture the dynamic relationship among factors affecting supply and demand. The use of the

¹ The term “nursing” in this report will be used to represent the four nursing professions in Saskatchewan – Registered Nurses (RNs), Nurse Practitioners (NPs), Registered Psychiatric Nurses (RPNs), and Licensed Practical Nurses (LPNs).

terms in this report are simply ways to help organize the statistics and should not be considered as true measures of supply and demand.

Figure 1.1 shows the model upon which the analysis is based and how the various statistics included in this report fit together. The model applies equally well to any of the four professional groups – Registered Nurses, Nurse Practitioners, Registered Psychiatric Nurses, and Licensed Practical Nurses.

The three boxes in the figure represent a snapshot at any point in time. There are the number of nurses – RNs, NPs, RPNs, or LPNs – employed and the number of vacant nursing positions which together make up the demand. The “available supply” is made up of the persons who could be employed but are not. The total supply consists of those currently employed plus those in the available supply. The total demand consists of those currently employed taken together with the number of vacancies.

The arrows represent changes in either the demand or supply with some changes affecting the demand and some affecting the supply. Some but not all of the changes are manifest as a change, temporarily or otherwise, in the number of vacancies. There are other, smaller, changes that can occur in supply or demand such as deregistration, but the major ones are shown in the figure.

A number of factors can influence demand.

- Demographic changes in the population can affect demand for nursing services. An increase in the number of seniors, for example, can increase the need for long term care services; a decline in the number of young adults can reduce demand for obstetric services.
- Changes in the health status of the population – increases or decreases in the incidence of diseases, for example – can change the demand.
- Changes in patient acuity can affect demand, particularly for those working in institutional care settings.
- A reduction in the number of hours worked by the individual nurse can lead to a vacancy or conversely an increase in hours worked can reduce the need for additional employees.
- The shift in service delivery models such as the shift from institutional care to home care can affect the overall demand for nurses and the mix of professions required.
- Changes in the scope of practise – which services are provided by physicians, which by RNs and which by LPNs, for example – can shift demand from one profession to another.

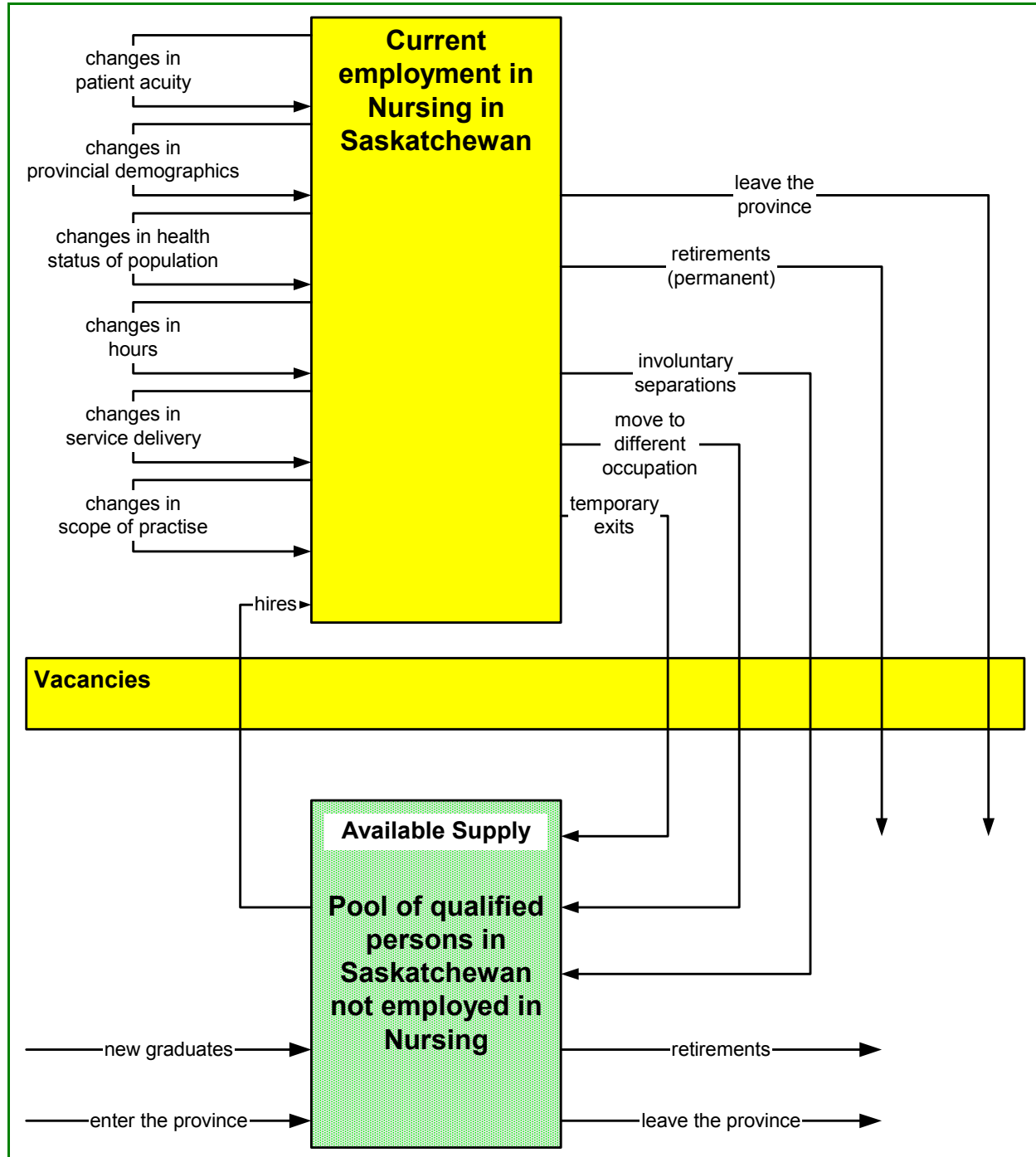
Currently employed persons who leave their jobs will increase the number of vacancies. Some will remain part of the supply including those who leave a position (voluntarily or involuntarily) to take another position or who leave the labour market entirely. Those who leave employment by retiring or moving to another province will increase the number of vacancies and permanently remove themselves from the supply. Retirements and interprovincial migration can remove persons from the supply without affecting vacancies.

The number of new graduates from educational institutions adds to the supply of nurses as does the entry into the province of those already qualified. Note that the movement of nurses from one profession to another, an LPN returning to school to become an RN, for example,

affects the supply in the particular professions but does not add to or subtract from the overall supply of nurses.

Section 2 of the report describes the basic counts used in the analysis. Section 3 deals with the supply side and Section 4 deals with the demand side. Supply and demand are compared in Section 5.

Figure 1.1 Nursing Supply and Demand Model



1.2 Description of Data Sources

A number of different data sources were used in the research. The main sources are described below; other sources are described and identified in the text as they arise. Those that are used extensively are summarized in the appendices.

When the data sources permit, the findings are shown separately for Registered Nurses (RNs), Registered Psychiatric Nurses (RPNs) and Licensed Practical Nurses (LPNs). In some cases, primarily information from Statistics Canada, RNs and RPNs were aggregated because the data sources do not distinguish between the two professions. There is no distinction made in any of the data sources between those who practise nursing in an expanded role – nurse practitioners or clinical specialists, for example.

CIHI database

This database, managed jointly by Statistics Canada and the Canadian Institute for Health Information, is derived from the annual licensing/renewal forms of all Registered Nurses registering in a province or territory in Canada. A procedure used by CIHI/Statistics Canada removes most duplicate records for nurses registered in more than one province, allocating them to their province of residence if multiple registrations are evident. Prior to 2001 reports from this source were published by the Health Statistics Division of Statistics Canada under the title *Registered Nurses Management Data*, Item #83F0005XPB. Starting in 2001, CIHI began publishing the data under the title *Supply and Distribution of Registered Nurses in Canada*.

Data consistent with the CIHI methodology were not available for 2002 when this report was compiled. In its place, estimates for 2002 were obtained from the SRNA.

The counts in the CIHI database are lower than those published by the SRNA as shown in Table 1.1. The difference arises for two reasons. Firstly, the procedure used by CIHI to remove duplicates tends to lower the counts by a small amount – 53 for example, in 2001. The different reference period is the main reason – CIHI reports registrations in June of the year whereas the SRNA reports registrations in December when the number of registrations is higher by several hundred persons. The CIHI database is a rich source of information about RNs and is used, rather than the data in the published SRNA annual reports, exclusively in this

Table 1.1 Comparison of Practising RNs Reported by the SRNA and the CIHI Registration Database used for Analysis

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Practising RNs as of December (SRNA)	9,362	9,336	9,165	9,212	9,162	9,131	9,020	9,035	8,987	8,869	8,815
Practising RNs as of June (CIHI)	9,118	8,826	9,047	8,844	8,955	8,810	8,673	8,778	8,689	8,549	8,405*
Difference	244	510	118	368	207	321	347	257	298	320	410

* estimate provided by the SRNA

report when describing RN registrations in Saskatchewan and other provinces. The differences (typically less than 5%) will not have a significant effect on the statistics or the conclusions drawn in the analysis.

SALPN database

An extract (without individual identifiers) of the computerized registration database maintained by the Saskatchewan Association of Licensed Practical Nurses was obtained for this research. It was combined with information obtained for the previous study to yield a database covering the period from 1991 to 2002.

A change in the application form and the associated database was made in 1998 so some information is only available for recent years and a complete reconciliation for the years prior to 1998 and the published membership statistics was not possible. Beginning in 2002, LPN registrations across Canada will be forwarded to CIHI, processed and distributed in a manner similar to RNs.

Table 1.2 shows the differences between the actual practising membership in the SALPN and the figures used in this report. The discrepancies are small and will not affect any of the conclusions reached in the analysis. In the balance of this report, all of the statistics are derived from the registration database.

Table 1.2 Comparison of Practising LPNs according to SALPN Membership Statistics and the Registration Database used for Analysis

	as of December:											
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Actual (SALPN)	2,520	2,462	2,395	2,352	2,165	2,051	2,027	1,988	2,003	2,059	2,004	2,126
Registration database	2,550	2,483	2,413	2,312	2,186	2,074	2,039	2,028	2,019	2,062	2,008	2,126
Difference	(30)	(21)	(18)	40	(21)	(23)	(12)	(40)	(16)	(3)	(4)	0

RPNAS database

All of the information in this report is obtained from the published statistics including in the RPNAS annual reports supplemented with special tabulations obtained from the association. Beginning in 2002, RPN registrations across Canada will be forwarded to CIHI, processed and distributed in a manner similar to that for RNs and LPNs.

Education data

Applications, enrollments, and graduation statistics from the Nursing Education Program (NEPS) were obtained from the Planning, Research and Development Division of SIAST and include results from Regional College programs. The application, enrollment and graduation data for the degree program at the University of Saskatchewan School of Nursing were

obtained from the Institutional Analysis Division at the University of Saskatchewan and supplemented with current information from the College of Nursing.

Results of the graduate follow-up surveys were obtained from published SIAST reports.

Health Employers Survey

The Health Employers Survey is a survey of private and public sector agencies that employ staff in health-related occupations. Information includes the number of full-time, part-time, and casual positions by occupation, the number of hours worked, and vacancy and turnover rates. The survey was discontinued in 2001.

Statistics Canada Census

The data from the 1991, 1996, and 2001 Census were obtained from various Statistics Canada electronic and paper publications. All of the information concerning nurses is based on information supplied on the "long form" of the census which means that, in effect, this is based on a one-in-five sample of Saskatchewan households.

Occupational data from Statistics Canada uses the National Occupational Classification System (NOC) to classify occupations. The NOC is a 4-digit classification scheme. At the four-digit level, it describes occupational groups at nearly the job level with 520 different NOC codes. Relevant NOC codes for the nursing profession are:

- NOC 3151 Head Nurses and Supervisors
- NOC 3152 Registered Nurses (including RPNs and Nurse Practitioners)
- NOC 3233 Registered Nursing Assistants

Occupation level data from Statistics Canada does not distinguish between RNs and RPNs.

Statistics Canada Labour Force Survey

The LFS is a monthly household survey of a sample of individuals who are representative of the civilian, noninstitutionalized, population 15 years of age or older in Canada's ten provinces. Specifically excluded from the survey coverage are residents of the northern territories and persons living on Indian Reserves. Occupation level data from the LFS also uses the NOC and so does not distinguish between RNs and RPNs.

The sample size in Saskatchewan is approximately 5,000 individuals. This enables relatively detailed analysis of the province's labour force but it is too small to provide reliable information about LPNs.

Saskatchewan Association of Health Organizations (SAHO)

Information from the payroll system at SAHO was provided for this report by special request. The information is restricted to the 2002 calendar year; no comparable data are available for previous years that would enable an analysis of trends. SAHO data used in this report are expressed in full-time-equivalent (FTE) terms rather than as the number of persons.

2.0 BASIC COUNTS

The statistics on the supply of nurses in Section 3 and the demand for nurses in Section 4 all rely on basic information collected either from the professional associations, the Canadian Institute of Health Information (CIHI), the Saskatchewan Association of Health Organizations (SAHO), or Statistics Canada. This section describes and compares the basic counts from these organizations.

The most comprehensive sources of historical information about the absolute number of RNs, RPNs, and LPNs working in the province are the administrative databases for the professional associations — the Saskatchewan Registered Nurses' Association (SRNA), the Registered Psychiatric Nursing Association of Saskatchewan (RPNAS), and the Saskatchewan Association of Licensed Practical Nurses (SALPN). In fact, there is probably more reliable statistical information about the nursing profession than any other single profession in Canada.

Data from the professional associations are compared with information from Statistics Canada where such comparisons are valid and available. CIHI data are essentially derived from the administrative databases of the professional associations and are used whenever possible for consistency and to allow inter-provincial comparisons.

2.1 Registered Nurses (including Nurse Practitioners)

RNs constitute the largest professional nursing group by far; about three in four of those in the nursing profession are Registered Nurses.

In the case of RNs, new and renewal registration data collected by the SRNA is forwarded to the Canadian Institute for Health Information (CIHI) which acts as a clearing house for RN registration data across Canada. A number of edit checks are performed on the data including a procedure that removes most duplicates arising from registrations in more than one province. These data represent the number of RNs in the province during the first six months of the renewal period for the year in question. That is, 2001 data represent the number of RNs registered as of June, 2001. Information from CIHI has been supplemented in the Appendix and in the statistics used in this report with preliminary 2002 data obtained directly from the SRNA. All of the figures from CIHI and the SRNA include Nurse Practitioners.

In June 2002, there were 8,405 RNs registered with the SRNA, a decline of 1.7% from June 2001. Of these, 110 were either not employed at all or employed outside of nursing and 38 did not report an employment status. That leaves 8,257 RNs who were employed in nursing on a regular or casual basis.

Comparisons from the previous year are confounded by the fact that there were a relatively large number of 2001 registrants who did not report their employment status. Not counting those who did not state their employment status, the number of RNs employed in nursing increased by 0.7% from 2001 to 2002. If we assume that most of the 238 (200 say, of the 238, leaving the same number of "not stated" as in 2002) who did not report an employment status were employed in nursing, the most likely scenario, then the number of RNs employed in nursing dropped by 1.7% from 2001 to 2002.

Regardless of the situation in 2001, it is clear that the number of RNs registered in Saskatchewan and working in nursing has started to fall after increasing in the early 1990s (see Figure 2.1)². Starting in 1991, the number of persons employed in nursing increased from 8,394 to 8,491 in 1996 before falling back to 8,257 in 2002.

Information from the Statistics Canada Census and the monthly Labour Force Survey are also available to describe the number of persons working in the nursing profession. Both of these data sources use the NOC to classify the respondent's "main" job.

Table 2.1 RNs Registered in Saskatchewan

	as of June:		
	2000	2001	2002
Total registrations	8,689	8,549	8,405
Employed in nursing	8,543	8,198	8,257
Not employed in nursing	41	29	26
Not employed at all	101	84	84
Not stated	4	238	38

Source: CIHI supplemented with 2002 data from the SRNA

² The sharp increase in 1992 is thought to be an anomaly resulting from a change in the registration procedure.

The 2001 census reported 8,620 persons with an occupation of RN/RPN in May 2001¹, somewhat more than the 8,398 reported by CIHI as registered and employed in nursing. The slightly higher number will be a consequence of the inclusion of RPNs offset by census respondents who report a job in other than nursing as their “main” job.

The aggregate of NOC 3151 and NOC 3152 is also published by the monthly Labour Force Survey. Although the LFS does not survey persons living on Reserve, the employment counts are much higher than in either the census or the CIHI data. The LFS measures average employment throughout the year whereas both CIHI and the census measure employment at a single point in time, the spring of the year.

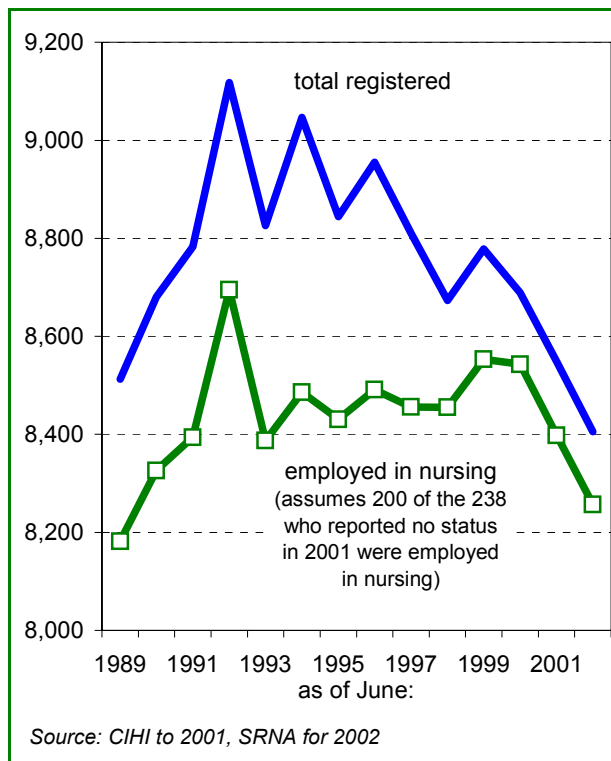
In 2001, there was an average of 12,600 RNs employed according to the LFS, much higher than the 8,398 reported by CIHI or the 8,620 reported in the census. As well, Figure 2.2 shows that the LFS data is consistently higher than the numbers from other sources and is quite volatile from year to year. The absolute number reported is closer to the total of the three professions (RN, RPN, and LPN) than to the RNs/RPNs alone.

The evidence suggests that the LFS is not a reliable measure. This is probably because of the small sample size and the difficulty coding the occupation on the limited information available during the telephone interview. Information from the LFS should therefore be used with caution and only when it provides information not available from other sources. Data from the census, on the other hand, can be used as a reliable source of information about RNs/RPNs.

Nurse Practitioners

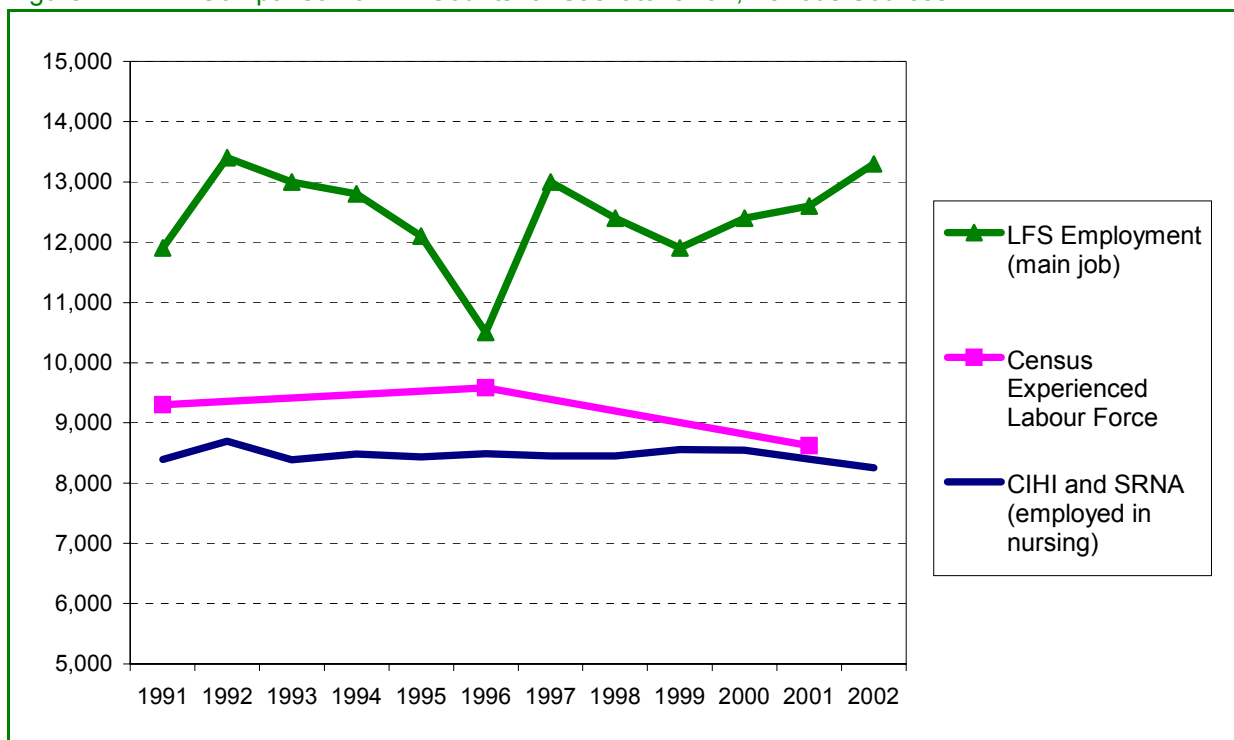
The SRNA data and the CIHI data include Nurse Practitioners (also referred to as a clinical specialist or advanced clinical nurses). Of the 8,257 registrants working in nursing in 2002, 54 reported their position as “clinical specialist”. The Health Employers Survey in 2000 is the only other data source that distinguishes among the categories of RNs. In 2000, there were 79 full-time and part-time “primary care nurses” reported in that survey.

Figure 2.1 Total Number of RNs Registered and Employed in Nursing, Saskatchewan



¹ The census measures the “experienced labour force”, that is, those who are currently employed or who have worked since the start of the year.

Figure 2.2 Comparison of RN Counts for Saskatchewan, Various Sources



Interprovincial Comparison

The number of registrations up to 2001 can be compared with other provinces using information from CIHI. The large number of registrants in Ontario and Quebec not reporting their employment status means that per-capita comparisons need to be made on the total number of registrations rather than those “employed in nursing”. Figure 2.3 shows that Saskatchewan has an “average” number of RNs. In 2001, there were 8.4 RNs registered per 1000 population compared with the national average of 8.1 per 1000 population.

The inter-provincial comparisons suggest that population densities affect the number of RNs. Three of the four most populous provinces – Ontario, British Columbia, and Alberta – have lower per capita levels than other provinces. The Atlantic provinces, the Northern Territories, and Manitoba have higher per capita levels. Saskatchewan and Quebec are exceptions to the rule with, given their population densities, a relatively large number of RNs in Saskatchewan and relatively few in Quebec.

Adjusted for population changes and compared with other provinces, Saskatchewan has had a fairly stable level of RNs throughout the 1990s (see Figure 2.4). Since 1989, the number of RNs registered in Canada has fallen steadily from 9.2 per 1000 population to 8.1 per 1000 population. Over the same period, the number of Saskatchewan RNs increased from 8.4 to 9.0 before gradually falling back to 8.4 in 2001. Although volatile, the number of RNs per capita has also been relatively stable in Manitoba whereas the number in Alberta has declined steadily and more quickly than in Canada as a whole.

Figure 2.3 Number of RN/PN Registrations per Capita, Canada and the Provinces, 2001

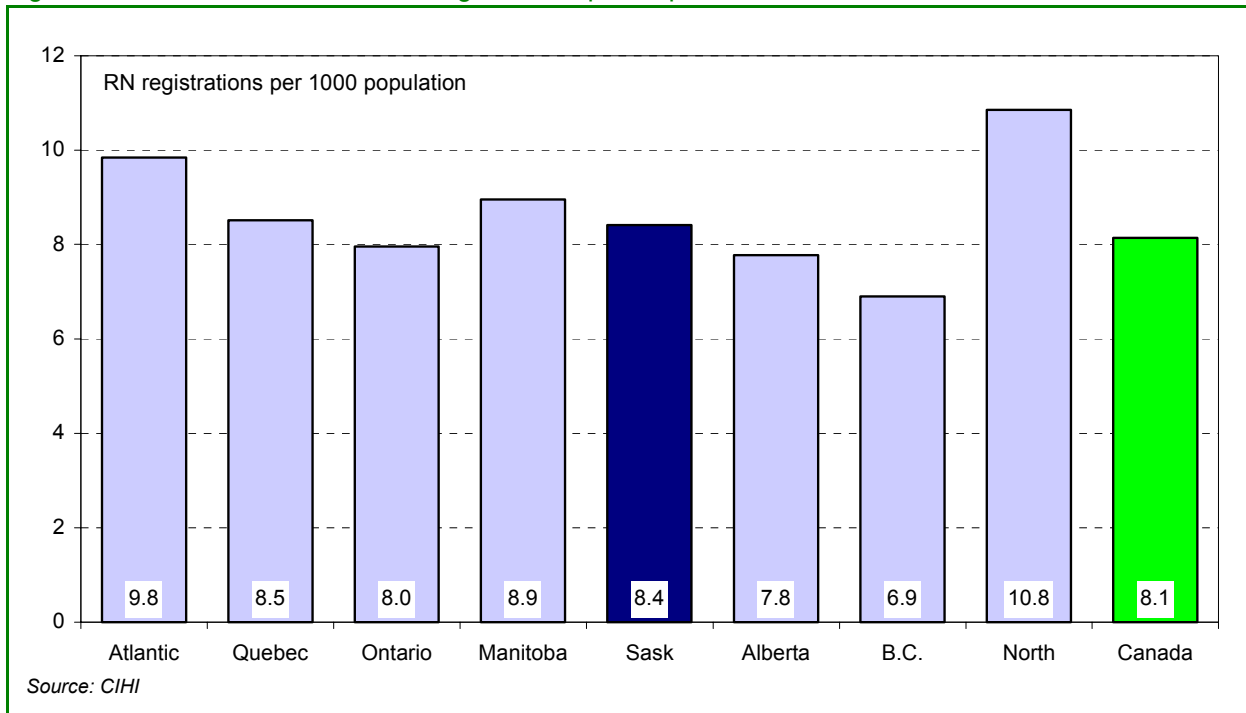
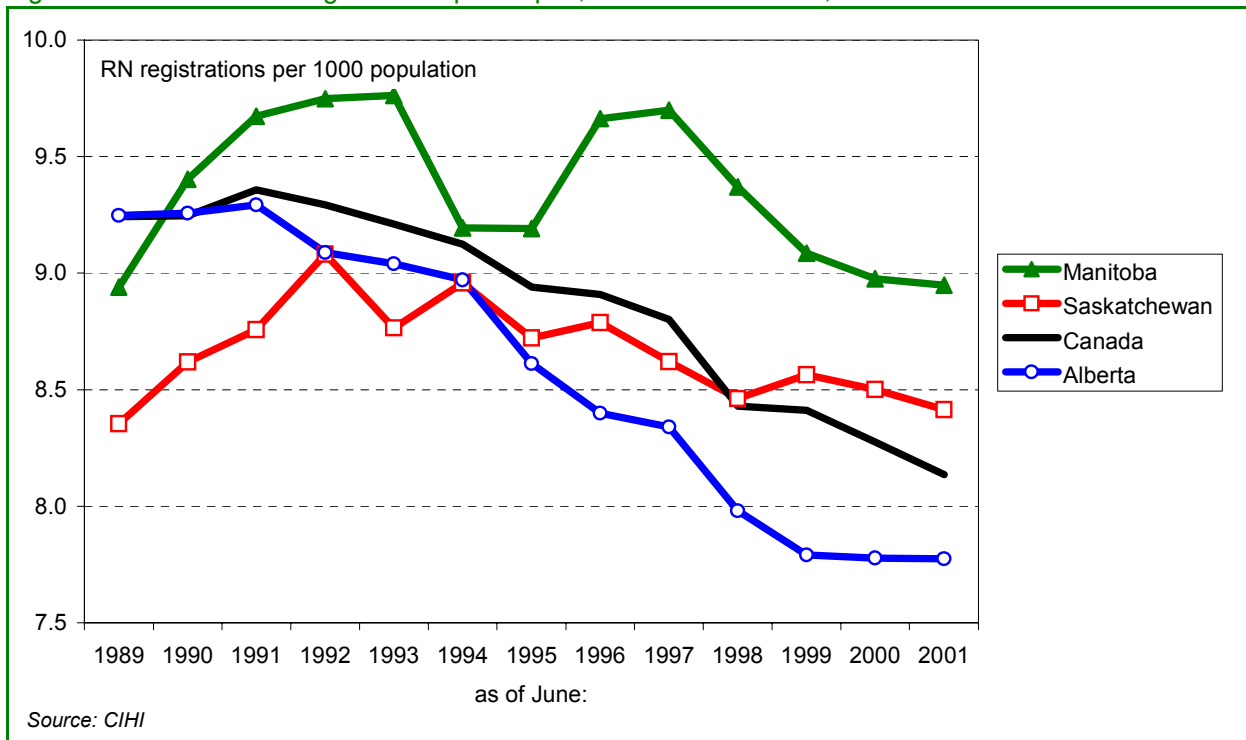


Figure 2.4 RN/PN Registrations per Capita, Selected Provinces, 1989 to 2001



2.2 Registered Psychiatric Nurses

RPNs constitute the smallest of the three professional nursing groups; about one in ten of those in the nursing profession are Registered Psychiatric Nurses.

The data describing the number of RPNs and their associated characteristics are based on the membership database and obtained from annual reports of the Association. Beginning in 2002, RPN registrations across Canada will be forwarded to CIHI, processed and distributed in a manner similar to data for RNs.

A number of RPNAS members are also registered with the SRNA, raising the possibility that we could “double count” those working in the nursing profession by adding the SRNA and RPNAS membership. The number is, however, thought to be small (less than 50) and would not significantly affect the statistics in this report.

As of December 2002, there were 1,111 members of the RPNAS of which 999 were active. Figure 2.5 shows that the number of active members had declined steadily from the peak of 1,182 in 1995 to the current level of 999 in 2002.

Interprovincial Comparison

CIHI also reports the number of RPNs for the period 1991 to 2000 in their publication *Health Personnel in Canada, 1991-2000*. Only the four western provinces have designated RPNs and Figure 2.6 shows that there is a good deal of variation among them in the number of RPNs. Manitoba and Saskatchewan are significant employers of RPNs; Alberta and B.C. are not. In fact, Saskatchewan has the most RPNs among the western provinces if population is taken into account.

The number of RPNs is declining relative to the population in all four jurisdictions with the largest per capita decline in Manitoba.

Table 2.2 RPNs Registered in Saskatchewan

	as of December:		
	2000	2001	2002
Total registrations	1,119	1,098	1,111
Active	1,051	1,038	999
Inactive	68	60	112

Source: RPNAS registration database

Figure 2.5 Active Members in the RPNAS

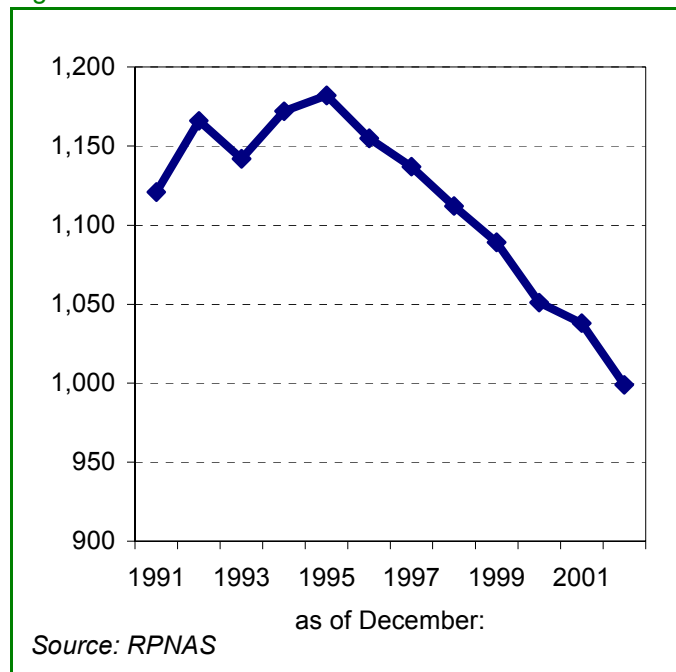


Figure 2.6 RPNs per Capita, Western Provinces, December 2000

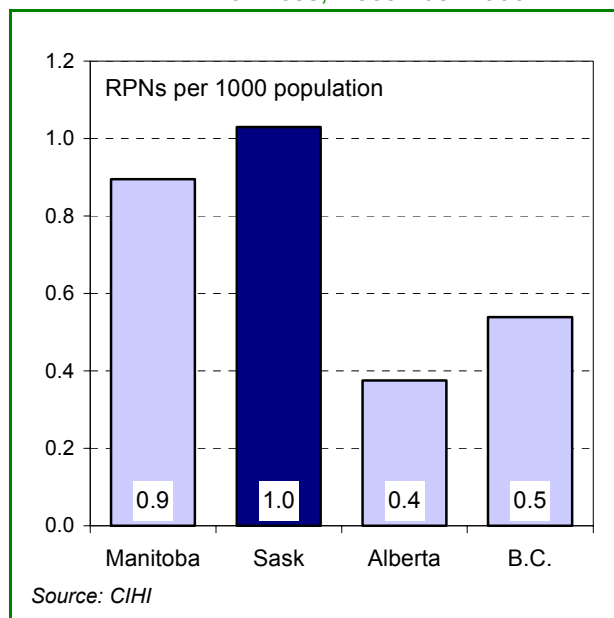
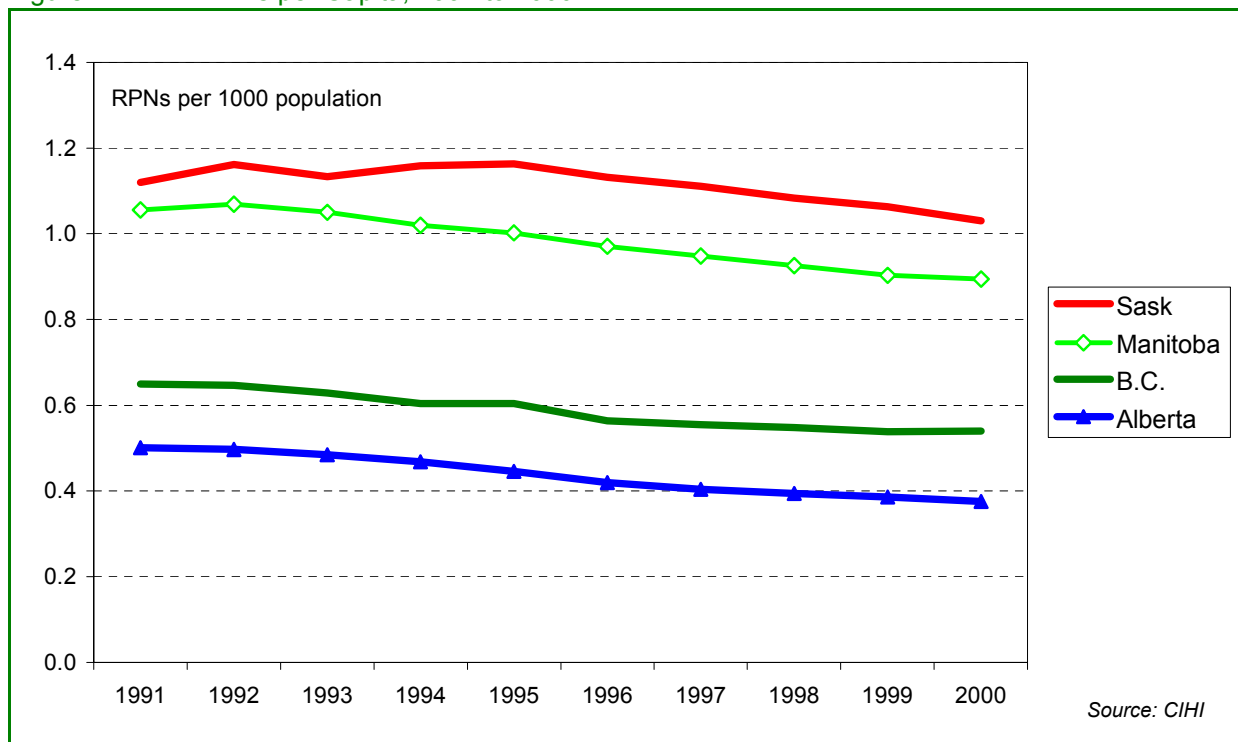


Figure 2.7 RPNs per Capita, 1991 to 2000



2.3 Licensed Practical Nurses

About one in five of those in the nursing profession are Licensed Practical Nurses.

The data describing the number of LPNs and their associated characteristics are derived from the association's membership database which was compiled for this report.

Table 2.3 shows that in 2002 there were 2,236 LPNs registered in the province and 2,126 were practising members, that is, eligible to practise as an LPN. Of the practising members, 2,071 were employed in nursing on a regular or casual basis. Of the remaining 55, most (24 or 44%) were not employed at all and looking for a position in nursing.

After declining during the 1990s, the number of practising LPNs stabilized at just under 1,900 in the three years from 1995 to 1997. Since then, there has been an upward trend with a particularly large increase in 2002 (see Figure 2.8).

Other Sources

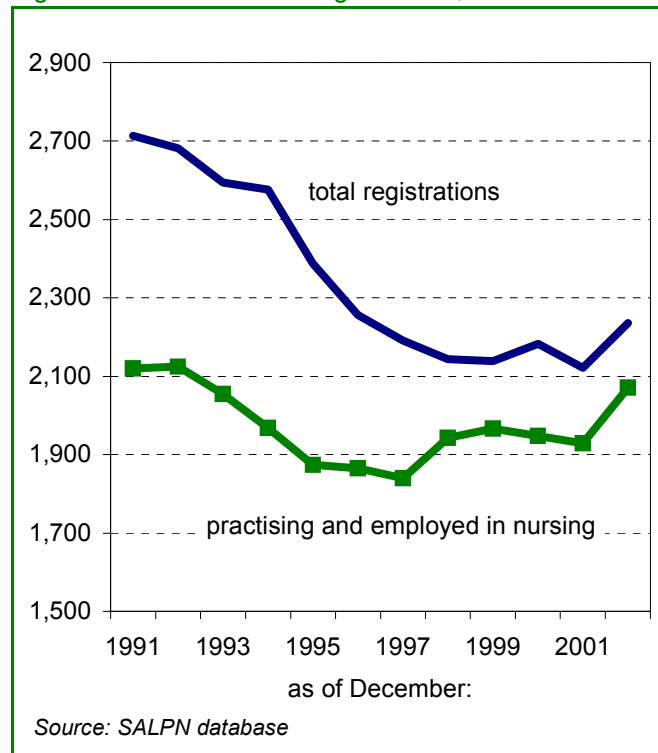
Information from the Statistics Canada Census is also available to describe the number of persons working as "Registered Nursing Assistants", the term used by the National Occupational Classification (NOC = 3233) scheme for Licensed Practical Nurses. The 2001 census reported 1,725 persons with a "main job" as an LPN in May 2001, substantially fewer than 1,929 reported by the SALPN

Table 2.3 LPNs Registered in Saskatchewan

		as of December:		
		2000	2001	2002
Total registrations		2,192	2,128	2,236
Practising	Employed in nursing	1,948	1,929	2,071
	Not employed in nursing	3	5	6
	Not employed at all	41	20	28
	Not stated	70	54	21
	Practising total	2,062	2,008	2,126
Non-Practising		130	120	110

Source: SALPN registration database

Figure 2.8 SALPN Registrations, 1991 to 2002

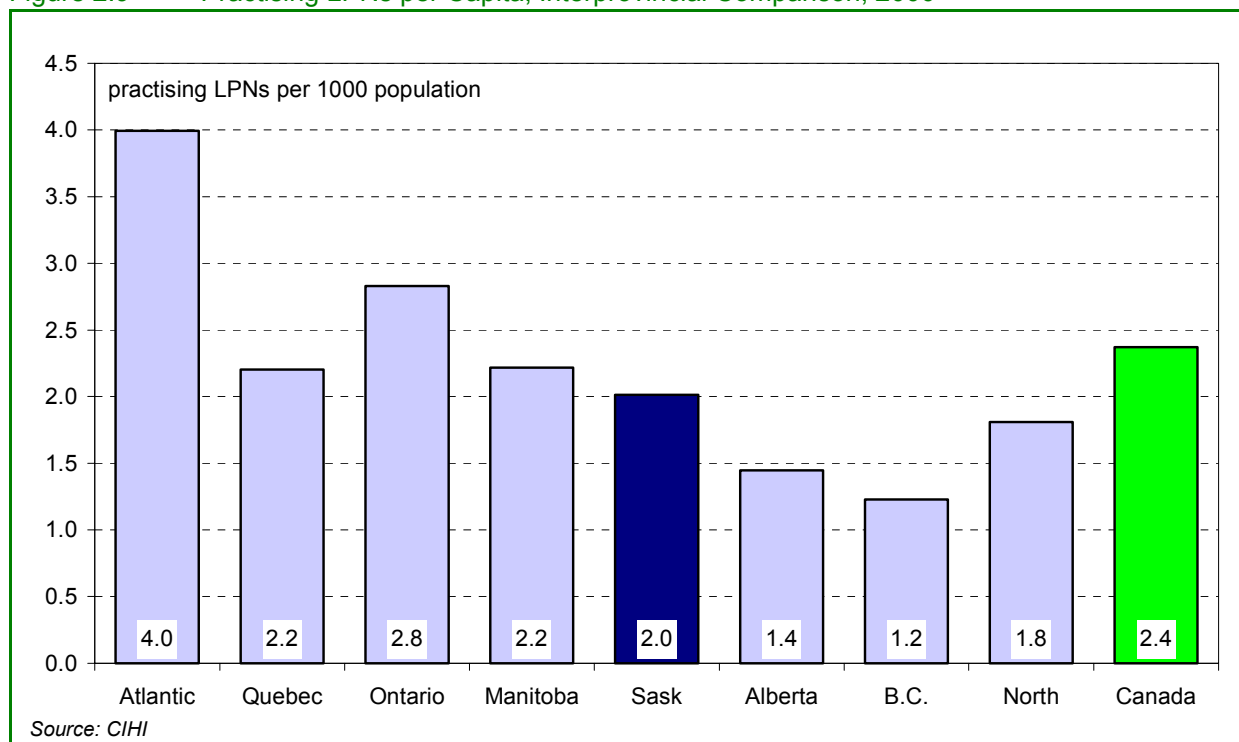


as registered and employed in nursing¹. The lower number could be a consequence of persons working in several jobs and reporting their LPN job as secondary to their main job and it could also be a consequence of coding difficulties in the processing of census forms. Census data will still be useful, however, for describing certain socioeconomic characteristics of those whose main job in 2001 was as an LPN.

CIHI also reports the number of LPNs for the period 1991 to 2000 in their publication *Health Personnel in Canada, 1991-2000*. These figures differ slightly from those published by the SALPN but are useful for inter-provincial comparisons². Figure 2.9 shows that there is significant variation across Canada in the utilization of LPNs. Some of this difference is attributable to the different education requirements and scope of practise for LPNs among the different jurisdictions.

Ontario and the Atlantic provinces utilize a relatively large number of LPNs; Alberta and B.C. relatively few. Saskatchewan is slightly below the national average.

Figure 2.9 Practising LPNs per Capita, Interprovincial Comparison, 2000

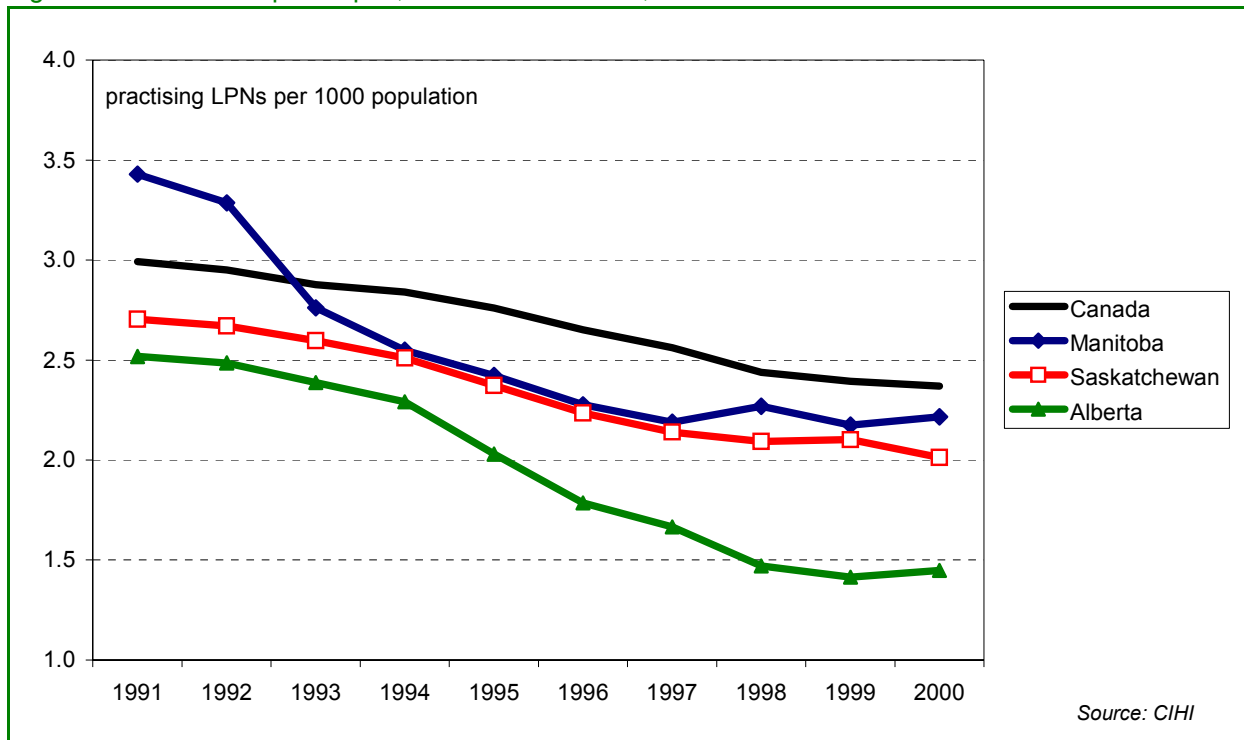


¹ The census measures the “experienced labour force”, that is, those who are currently employed or who have worked since the start of the year.

² CIHI, in the publication “Canada’s Health Care Providers”, reports a 2.0 LPNs per 1000 population in Canada and 1.5 in Saskatchewan. The data in Figure 2.9 are from a 2001 CIHI report “Health Personnel in Canada, 1991 to 2000”. We were unable to reconcile the differences.

The number of LPNs in Canada is declining both in absolute numbers and as a percentage of the population. Figure 2.10 shows that the decline from 1991 to 2000 was similar in Saskatchewan with a drop from 2.7 LPNs per 1000 population to 2.4 per 1000 population. Alberta's decline was more pronounced with a drop from 2.5 LPNs per 1000 population to 1.5 per 1000 population. Manitoba, which employed a relatively large number of LPNs in the early 1990s saw a sharp decline to 1997 and a subsequent levelling off.

Figure 2.10 LPNs per Capita, Selected Provinces, 1991 to 2000



2.4 Saskatchewan Association of Health Organizations

The member organizations of SAHO employ most, but not all of the nurses in Saskatchewan. Information from their payroll system can be used to estimate the number of RNs/RPNs and the number of LPNs employed by SAHO member organizations. (Most employers do not or cannot distinguish between RNs and RPNs in the occupation field of the payroll system.) Payroll records report full-time equivalents (FTEs), rather than the actual number of persons in the positions.

In calendar year 2002, there was the equivalent of 5,222 RNs/RPNs paid and 1,217 LPNs paid over the course of the year by organizations using the SAHO payroll system. The vast majority of these were in permanent positions.

Data in section 3.4 of this report will show that between 50% and 60% of RNs/RPNs work on a full-time basis throughout the year, depending on the type of employer. Assuming these ratios also holds for LPNs and assuming that those working part-time or only for part of the year work one-half of an FTE, then the member organizations using the payroll system employed 70% to 75% of RNs/RPNs in the province during 2002. The 1,217 LPN FTEs represent a similar proportion of LPNs. The inclusion of other members who do not use the payroll system would increase these percentages somewhat.

Table 2.4 Full Time Equivalents, SAHO Member Organizations, 2002

	RNs/RPNs	LPNs
Permanent	4,989	1,141
Temporary	196	73
Unknown	37	4
Total	5,222	1,217

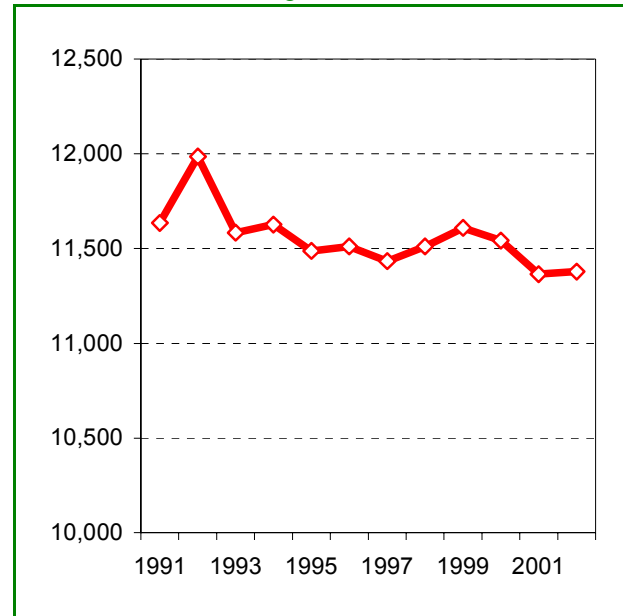
Note: excludes Swift Current Health District, East Central Health District and several affiliate agencies.

2.5 Summary

The membership in the three professional organizations – SRNA, RPNAS, and SALPN – is added together to produce the figures in Figure 2.11 and Table 2.5 to show the total nursing staff employed in nursing in Saskatchewan¹. There is a minor discrepancy in the dates at which membership in the three nursing associations is measured and in what constitutes “employment in nursing”. There is also the possibility of some overlap as some nurses will be registered with more than one association.

Nevertheless, the exercise is instructive as it shows that there is a gradual decline in the number of nurses in Saskatchewan. Except for 1992 which is thought to be a registration anomaly, the number of nurses is declining by an average of 30 per year.

Figure 2.11 Total Number of Persons Registered and Practising in Nursing in Saskatchewan



The mix of professions has not changed significantly over time (see Figure 2.12) although there were fluctuations during the 1990s.

- In 1991, 72% were RNs, 10% were RPNs, and 18% were LPNs.
- In 2002, 73% were RNs, 9% were RPNs, and 18% were LPNs.

Table 2.5 Number of Persons Registered and Practising Nursing in Saskatchewan

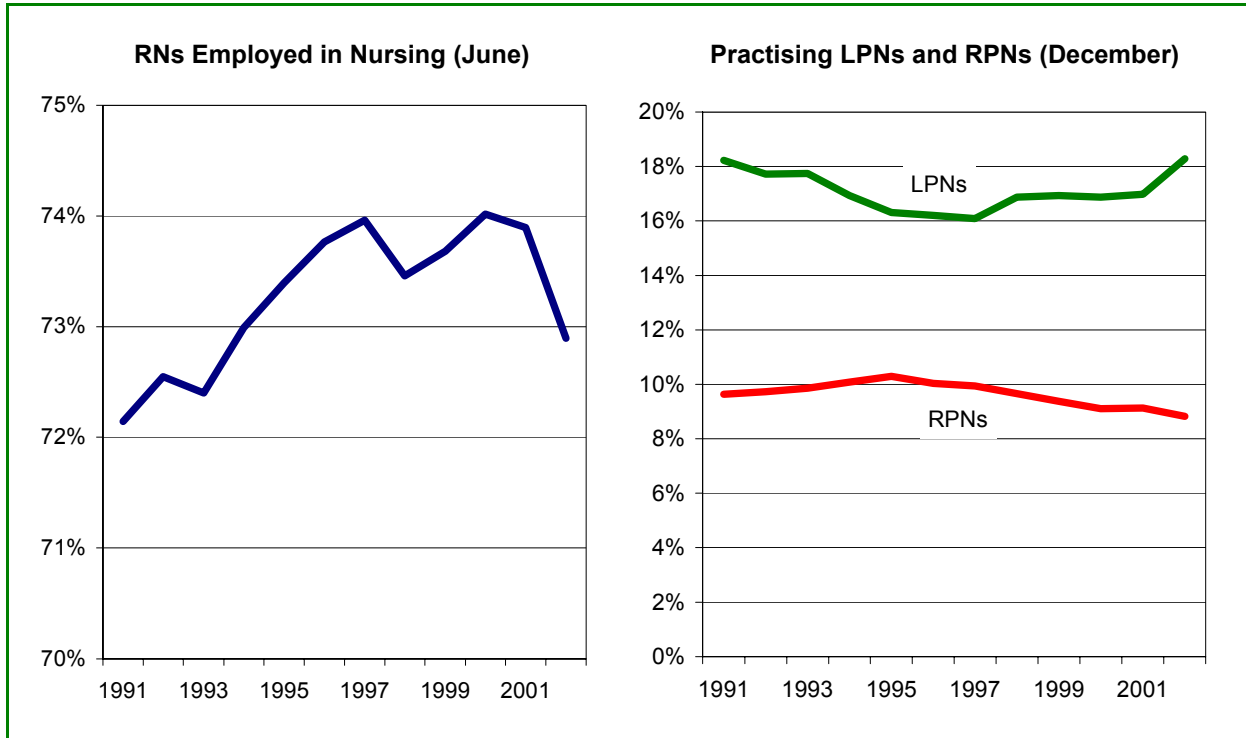
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
RNs (employed in Nursing) as of June**	8,695	8,387	8,486	8,431	8,491	8,456	8,455	8,553	8,543	8,398*	8,257
Active RPNs as of December	1,166	1,142	1,172	1,182	1,155	1,137	1,112	1,089	1,051	1,038	1,051
LPNs (employed in nursing) as of December	2,124	2,055	1,968	1,874	1,865	1,840	1,943	1,966	1,948	1,929	2,071
Total	11,985	11,584	11,626	11,487	11,511	11,433	11,510	11,608	11,542	11,365	11,379

* assumes 200 of those not stating an employment were employed in nursing

** the number of RNs employed in nursing as of December would be higher

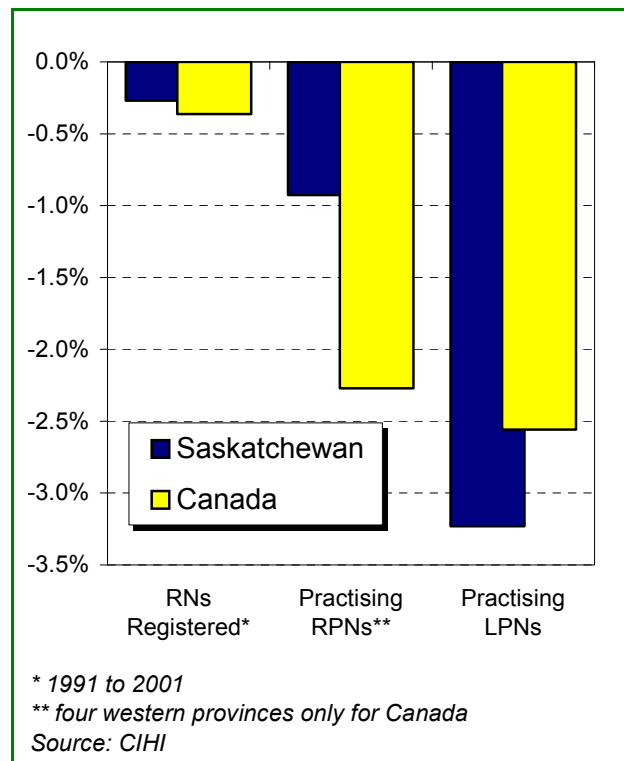
¹ Several times in this report, the figures for the three nursing professions are added together. This is done to get an overview of the professions in the province, not to indicate that the professions are synonymous or interchangeable.

Figure 2.12 Nursing Professions as Percentage of Total Employment in Nursing, 1991 to 2002



Compared with other provinces, the three professional groups show different patterns over time. Adjusted for population, the number of RNs in Saskatchewan has fallen more slowly than in Canada as a whole over the past ten years. LPNs, on the other hand, have witnessed a sharper decline but have recently shown increases that may not be evident in other provinces. And the number of RPNs in Saskatchewan, while dropping, is not doing so as quickly as in the other western provinces.

Figure 2.13 Average Annual Change in the Number of Nurses per Capita, 1991 to 2000



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3.0 SUPPLY OF NURSING STAFF

This section addresses the supply side of the supply and demand equation for Registered Nurses (RNs), Registered Psychiatric Nurses (RPNs) and Licensed Practical Nurses (LPNs). How many Saskatchewan residents are qualified to be RNs, RPNs, or LPNs? How many of them are ready and willing to work? How many are we adding to the pool from post-secondary educational institutions and, conversely, how many are we losing through attrition, retirement, and migration?

Section 3.1 looks at graduations from Saskatchewan's Nursing Education Program (NEPS), and compares them with the number of graduates from SIAST and the College of Nursing before the introduction of NEPS. New graduates do not represent all of the new supply but they are the major source. The other major factor affecting supply is the number of retirements, both in the traditional sense and in the sense of pre-retirement attrition from the professions into non-nursing employment or out of the labour force entirely. Attrition and retirement are addressed in Section 3.3.

Section 3.2 describes the pool of persons who have an education in nursing, according to the Statistics Canada census. Inter-provincial migration is a major factor in the supply of nursing professionals in Saskatchewan and these trends are examined in Section 3.6. A particularly important issue, the trend in part-time/casual work, is addressed as a supply issue in Section 3.5.

3.1 Trends in Graduations

The number of graduates from Saskatchewan's post-secondary institutions are the main source of supply of nurses for Saskatchewan although not the only one¹. This section looks at the number of graduates in the past decade.

Registered Nurses

In 1984, the SRNA passed a resolution adopting the goal of having a baccalaureate rather than a diploma as the entry to practice by the year 2000. The Saskatchewan Department of Health approved the concept in principle in 1993 and the first intake for the new *Nursing Education Program of Saskatchewan* (NEPS) occurred in the Fall of 1996.

Table 3.1 shows the number of RN diploma graduates from the previous program which was offered at the Kelsey and Wascana campuses of SIAST. The number of RN diploma graduates declined quickly from over 300 in 1991-92 to 167 in 1996-97 and 49 in 1997-98 (see Figure 3.1). The relatively few graduating since then were "grandfathered" with the introduction of NEPS.

Table 3.1 Capacity, Enrollments and Diploma Graduates, Saskatchewan Registered Nurses Diploma Program

Academic year	Capacity (funded seats in year 1)	Applications in year 1	Enrollment in year 1	Number of RN diploma graduates			
				Graduates	Diploma exit (NEPS)	Nursing reentry	Diploma total
1991-92	270	1,163	316	309	...	...	309
1992-93	250	870	262	290	...	...	290
1993-94	200	603	221	261	...	...	261
1994-95	160	334	179	197	...	...	197
1995-96	120	202	169	159	...	...	159
1996-97	16	3	15	167	...	...	167
1997-98	...	...	...	49	...	...	49
1998-99	...	...	...	3	14	0	17
1999-00	...	...	...	...	0	3	3
2000-01	...	...	...	...	0	1	1
2001-02	...	...	...	...	3	1	4

Source: SIAST

¹ Section 3.6 contains data showing that 78% of RNs currently practising in Saskatchewan obtained their original education in Saskatchewan.

Figure 3.1 RN Diploma Graduates, 1987-88 to 2002-03

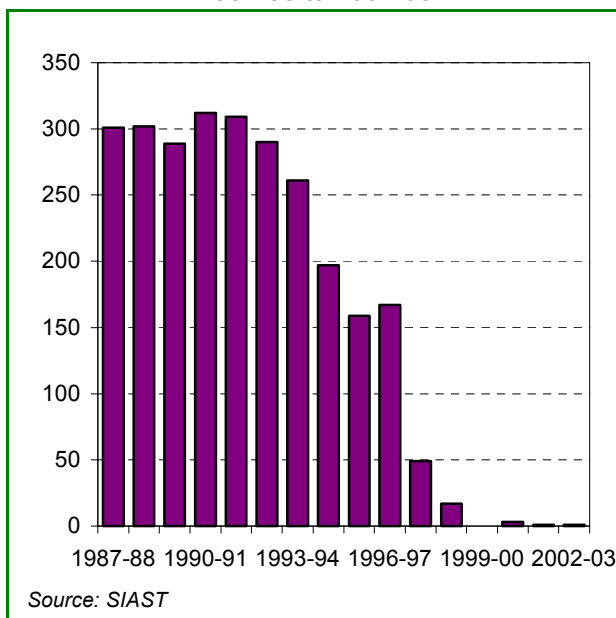
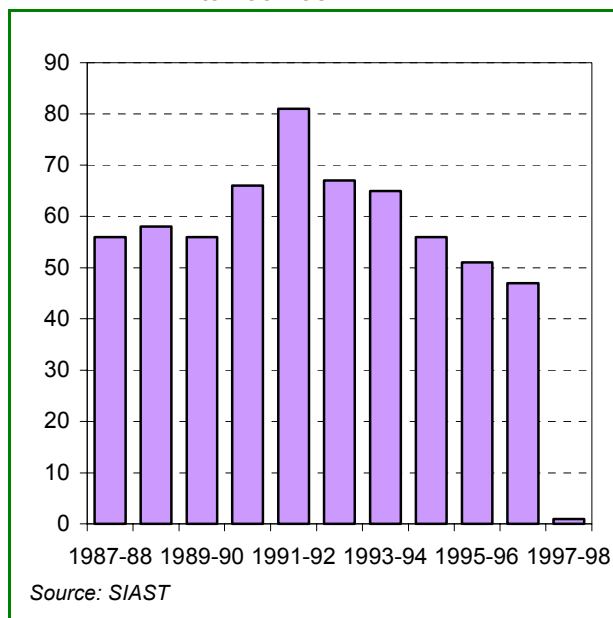


Figure 3.2 RPN Diploma Graduates, 1987-88 to 1997-98



Registered Psychiatric Nurses

Before the Psychiatric Nursing program at SIAST became part of NEPS in the 1996-97 academic year, the number of RPN graduates had declined from a high of 81 in 1991-92 to below 50 in 1996-97 (see Figure 3.2).

The NEPS program has allowed for optional diploma exit at the end of the third year for students choosing to register as RPNs with the RPNAS. This option will not be available beyond the spring of 2003 as the RPNAS is critical of NEPS and has withdrawn approval of the program. Graduates beyond 2003 will not be eligible to write the RPNAS entrance exams. Discussions between the RPNAS, NEPS, and the provincial government are underway to address the issue.

Table 3.2 Capacity, Enrollments, and Graduation, Registered Psychiatric Nursing Diploma Program

Academic year	Capacity	Applications	Enrollment	Graduates	Reentry grads
1991-92	80	211	84	81	0
1992-93	72	157	84	67	0
1993-94	72	139	79	65	0
1994-95	72	140	77	56	0
1995-96	72	17	71	51	0
1996-97	50	4	51	47	0
1997-98	...	...	2	1	0
1998-99	...	...	...	0	0
1999-00	...	...	...	0	0
2000-01	...	...	...	0	0
2001-02	...	...	...	0	2

Source: SIAST

After 1996-97, the capacity, enrollment, and graduate figures are included in NEPS program figures.

Nursing Education Program of Saskatchewan (NEPS)

NEPS is a four-year baccalaureate program offered jointly by SIAST, the University of Saskatchewan, and the First Nations University of Canada. NEPS replaced the SIAST Diploma RN and RPN programs and the University of Saskatchewan College of Nursing Bachelor of Science in Nursing (BSN) degree program.

NEPS is currently offered in three locations: Regina, Saskatoon, and Prince Albert. In Regina and Saskatoon, the first two years of the program are delivered by the Nursing Division of SIAST, while years three and four are delivered by the College of Nursing, University of Saskatchewan. In Prince Albert, the NEPS program is delivered by the First Nations University of Canada for the first two years of the program.

Two advanced completion options enable students to complete the program in either three or three and one-half years. The maximum completion time is seven years.

The Post Registration BSN program is also offered by the College of Nursing, University of Saskatchewan. It is for practising Registered Nurses (RNs) and Registered Psychiatric Nurses (RPNs) who wish to obtain a Bachelor of Science in Nursing degree. Through full-time study, the program can be completed in one year although part-time study is also an option. The graduates from this program are not considered as part of the new supply of nurses in Saskatchewan because they are currently practising nursing.

Table 3.3 Capacity, Enrollments, and Degree Graduation, Saskatchewan RNs and RPNs

Academic years	Admission quota	Full time enrollment (year 1)	BSN graduates (basic)	BSN graduates (post-registration)	Masters graduates
1991-92	80	79	65	34	1
1992-93	80	79	69	26	4
1993-94	80	81	28	44	7
1994-95	80	66	60	46	2
1995-96	80	64	75	25	5
First Intake for NEPS, Fall 1996					
1996-97	80	102	63	30	13
1997-98	180	173	52	37	11
1998-99	180	150	57	42	6
1999-00	180	139	129	24	4
2000-01	260	184	108	25	11
2001-02	260	196	192	17	n/a
2002-03	260	n/a	197	38	n/a

Source: U of S Fact Book and College of Nursing, University of Saskatchewan

Master of Nursing Degree

The Master of Nursing (MN) degree program is a graduate program that leads to specialization in clinical nursing, teaching in nursing, or nursing administration. Graduates from this program are also not considered as part of the new supply based on the assumption that they will already have been counted when they received their BSN. (This will understate the supply to the extent that new graduates received their first degree from other universities.)

Licensed Practical Nurses

Practical Nursing is a Certificate program offered by SIAST at its Regina and Prince Albert campuses. Various regional colleges, as well as Dumont Technical Institute (DTI), also offer the program through a brokerage agreement with SIAST. In 2000, the program was lengthened from 45 to 57 weeks. Graduates of the Practical Nursing program receive a Certificate in Practical Nursing and are eligible to register with the Saskatchewan Association of Licensed Practical Nurses (SALPN).

The reentry program is for individuals who have previously been registered in Canada as LPNs and are eligible for re-registration in Saskatchewan or who are practical nurses who have not been registered in Canada as LPNs and are required to or want to prepare to write the national registration exams. The reentry program allows those whose certification has lapsed to qualify for registration for SALPN. For that reason they are legitimately considered as graduates in the sense that they add to the overall supply of LPNs in the province.

Data on capacity, enrollments, and graduations from the practical nursing program at SIAST were obtained from the Institutions Branch of Saskatchewan Learning and the Planning, Research, and Development Division of SIAST. They include data on core programs operated by SIAST and by extension programs offered by the regional colleges (see Table 3.4).

The programs delivered by SIAST are “core-funded” programs which means that they are funded within the operating budget and are delivered on an ongoing basis. The programs offered through the regional colleges and DTI are delivered through a brokerage arrangement with SIAST and are funded by Saskatchewan Learning through the Saskatchewan Skills Extension Program. Their delivery is generally dependent upon demand.

The 57 week duration of the program means that there will be no graduates from the core program every third year. The regional colleges and DTI programs ensure, however, that there will be a fairly uniform number of graduates in the coming year and, by virtue of the nature of these brokered programs will have a degree of automatic adjustment to the demand for LPNs.

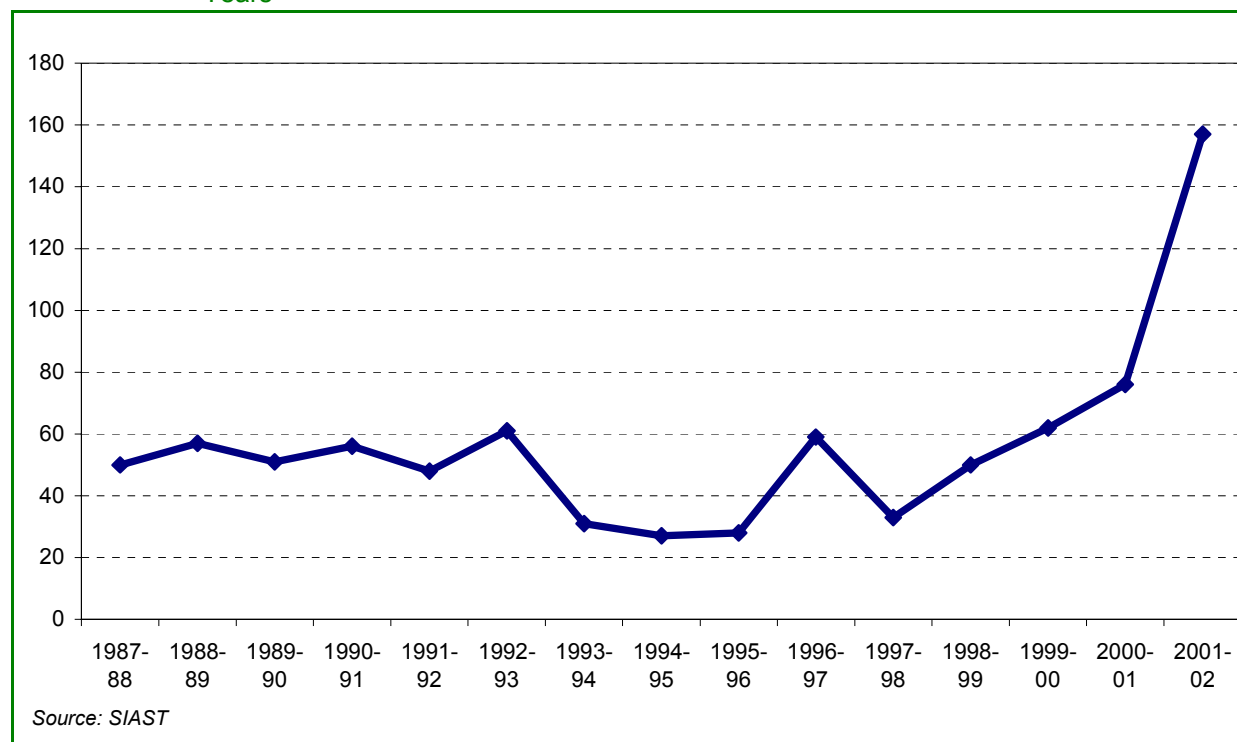
In the past few years, the number of LPNs graduating from Saskatchewan post-secondary institutions has increased in line with increased capacity and enrollments (see Figure 3.3). Part of the reason for the sharp increase in 2001-02 is related to the change in the program length in 2000 so that it now spans two academic years but the number of graduates in the coming years should reflect overall capacity as the number of applications is still well in excess of the program capacity. Demand for the program continues to increase and new capacity is planned at the regional colleges in 2003-04.

Table 3.4 Capacity, Enrollments, and Graduation, Practical Nursing Program

		Academic year									
		1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
Capacity	Reentry Program	...	...	...	...	15	4	4	4	4	0
	Practical Nursing (core funded)	48	40	40	40	40	40	64	64	72	72
	Practical Nursing (extension)	...	...	...	...	...	8	16	72	80	72
Applica-tions	Reentry Program	...	...	...	...	14	16	23	21	31	26
	Practical Nursing	98	70	109	88	84	83	264	184	142	257
Enroll-ment (year 1)	Reentry Program	...	...	...	...	0	0	9	4	9	20
	Practical Nursing	73	48	57	49	44	55	86	136	156	148
Graduates	Reentry Program	...	...	...	...	0	0	9	4	9	17
	Practical Nursing	61	31	27	28	59	33	41	58	67	140
New graduates		61	31	27	28	59	33	50	62	76	157

Source: SIAST

Figure 3.3 Number of Practical Nursing Graduates, Saskatchewan, 1987-88 to 2001-02 Academic Years



Summary

Table 3.5 combines the information for the three nursing professions in Tables 3.1 through 3.4 and provides estimates for 2002-03. The estimates for the NEPS program are based in information from the College of Nursing; those for LPNs are based on information from Saskatchewan Learning. These estimates are, however, the responsibility of the author.

Figures 3.4 and 3.5 show, respectively, the number of RN/RPN graduates and the total number of graduates over time. The number of RN/RPN graduates fell from over 400 per year in the early 1990s to less than 100 in 1998-99 and has been gradually increasing since then to reach 197 in the current academic year. Over the same period, the number of LPN graduates was relatively stable at less than 75 per year until the sharp increase in 2000-01.

The graduate figures will increase in the future because the figures do not yet include the impact of new capacity at NEPS – the forty new seats offered in Prince Albert – or the planned increase in LPN capacity through the regional colleges. But the sharp drop in the number of graduates in the late 1990s will have an impact on the number of nurses for the foreseeable future.

Table 3.5 Number of Graduates, Saskatchewan RNs, RPNs, and LPNs

Academic years	RN Diploma	RPN Diploma	BSN Degree	RN/RPN subtotal	LPNs	Total
1990-91	312	66	61	439	56	495
1991-92	309	81	65	455	48	503
1992-93	290	67	69	426	61	487
1993-94	261	65	28	354	31	385
1994-95	197	56	60	313	27	340
1995-96	159	51	75	285	28	313
1996-97	167	47	63	277	59	336
1997-98	49	1	52	102	33	135
1998-99	17	0	57	74	50	124
1999-00	3	0	129	132	62	194
2000-01	1	0	108	109	76	185
2001-02	4	2	192	198	157	355
2002-03 estimate	0	0	197	197	125	322

Figure 3.4 RN and RPN Graduates in Saskatchewan, 1991-92 to 2002-03 Estimate

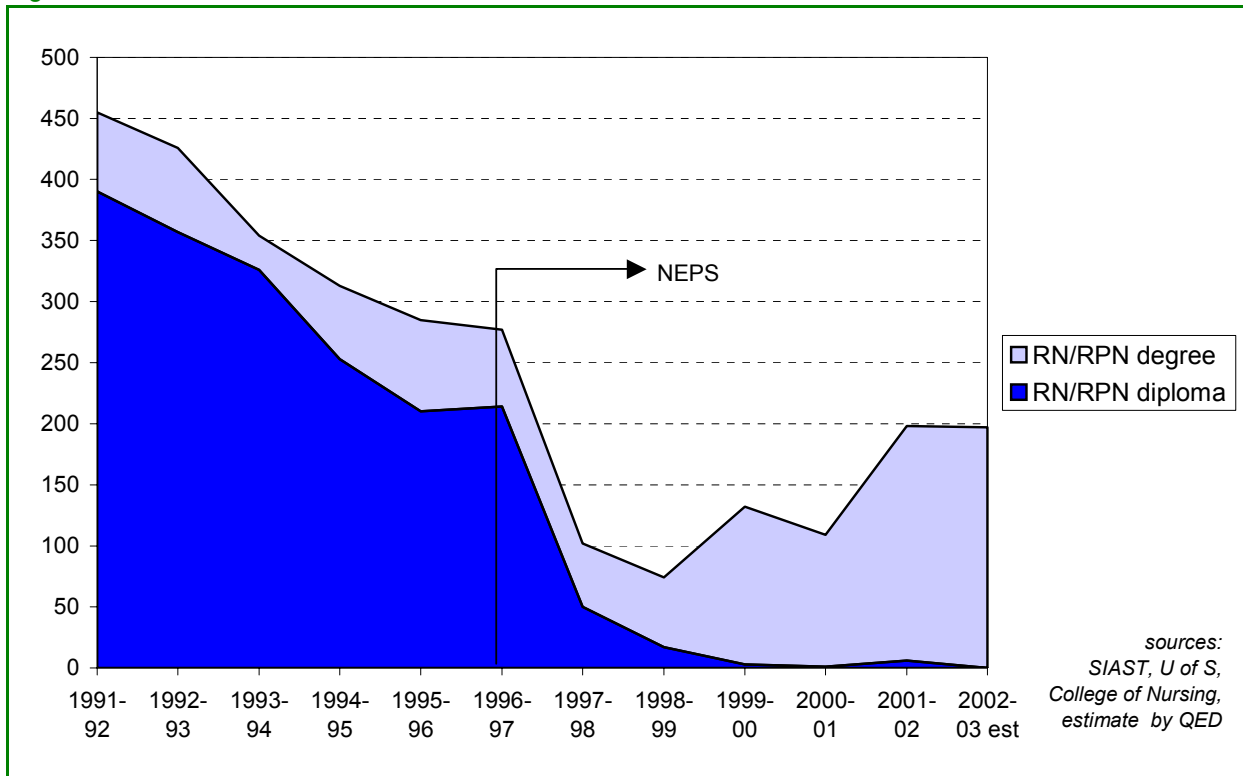
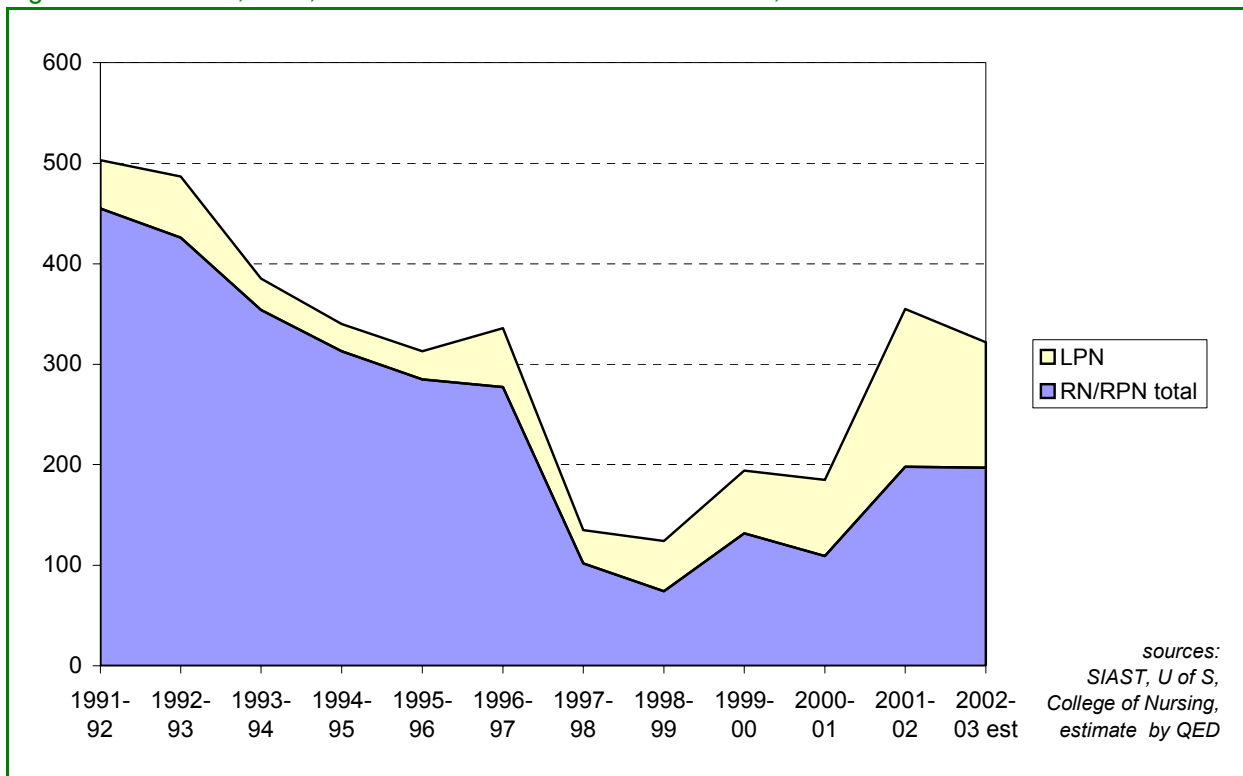


Figure 3.5 RN, RPN, and LPN Graduates in Saskatchewan, 1991-92 to 2002-03 Estimate



3.2 Education and Qualifications

In this section, we document the switch from diploma to degree qualifications for Saskatchewan RNs/RPNs. We also examine the characteristics of those who reported on the census that they had a degree or diploma in nursing but were not working as nurses.

RN Education

In 2001, 23% of Saskatchewan RNs employed in nursing reported their highest level of nursing-related education as a degree in nursing (includes bachelors, masters, or doctorate). Figure 3.6 shows that the proportion is increasing steadily in the province but Figure 3.7 shows that it is still one of the lowest in Canada.

In 2001, RNs working for two kinds of employers are much more likely to have a degree than those working elsewhere. In community health (including home care and nursing stations) 40% of RNs/RPNs have a degree and 60% have a diploma. In the “other”

Figure 3.6 Proportion of Saskatchewan RNs Employed in Nursing with a Nursing Degree, 1989 to 2001

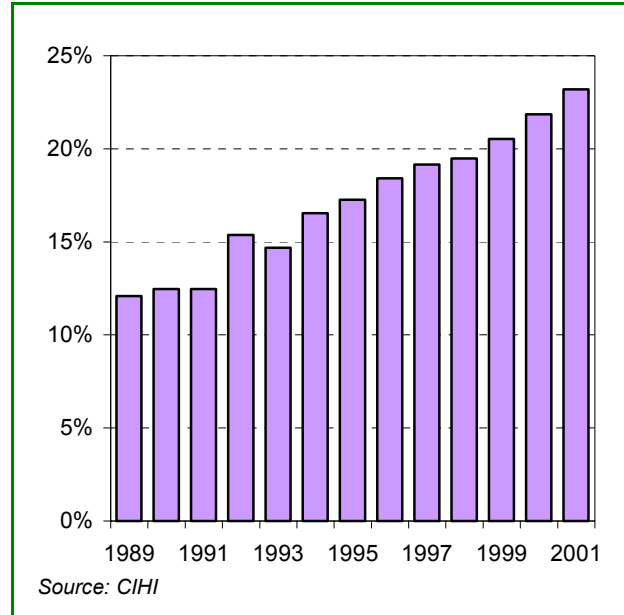
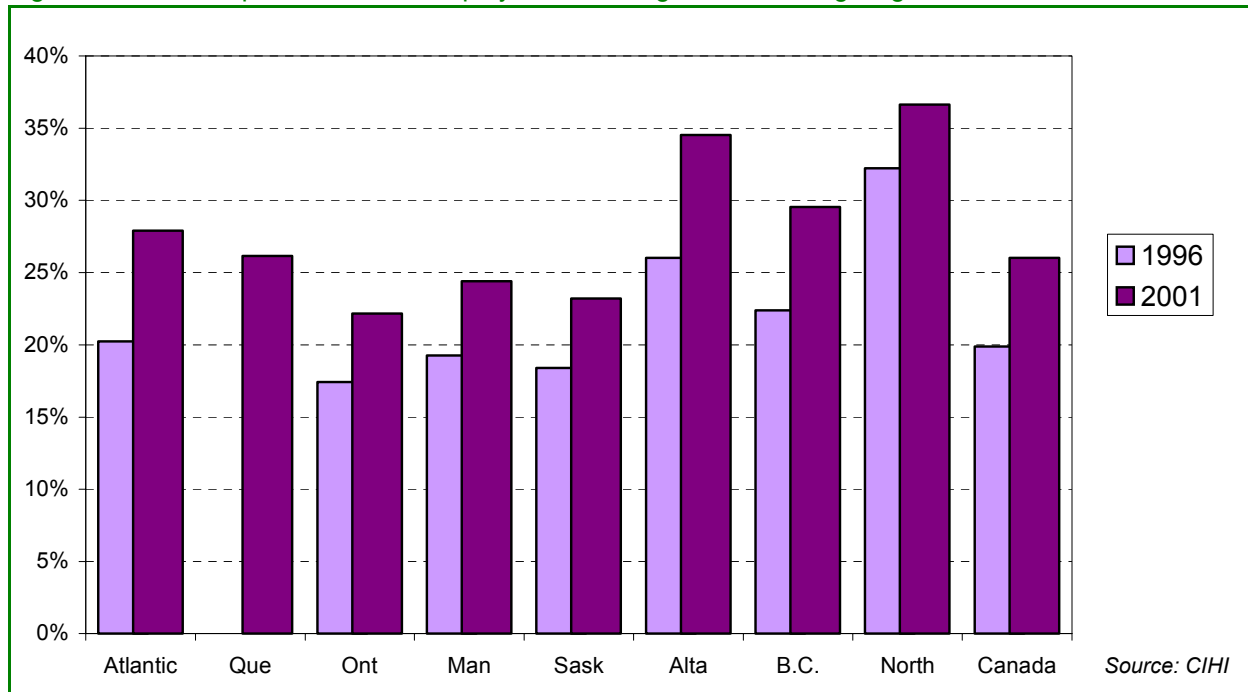


Figure 3.7 Proportion of RNs Employed in Nursing with a Nursing Degree, 1996 and 2001



category which includes educational institutions, the private sector, research facilities, and governments¹ 37% have a degree and 63% have a diploma. Those working in institutional settings – hospitals, rehabilitation centres, mental health centres, and especially long term care facilities – are less likely to have a degree (see Figure 3.8).

Statistics Canada

In 2001, Statistics Canada reported that there were 14,275 persons with a university or non-university post-secondary education in “general nursing”, another 1,165 with a degree or diploma in psychiatric nursing, and another 355 with an unspecified post-secondary education in nursing. The total of 15,795 clearly exceeds the approximately 9,200 RNs/RPNs employed in nursing in the province.

Even if one restricts the age group to those under 65, there are still 12,840 persons with a post-secondary education in nursing. In other words, there are approximately 3,600 adults of working age with a nursing education who are not employed in nursing.

Figure 3.9 shows the labour market activity of those 20 to 64 years of age. The majority (56%) reported their occupation as nursing in the census (NOC 315 - Nursing Supervisors and Registered Nurses). The others were employed in a different occupation grouping (35%) or not at all (9%).

The characteristics of the 4,515 persons who reported a nursing

Figure 3.8 Proportion of RNs with a Nursing Degree, by Type of Employer, Saskatchewan, 2001

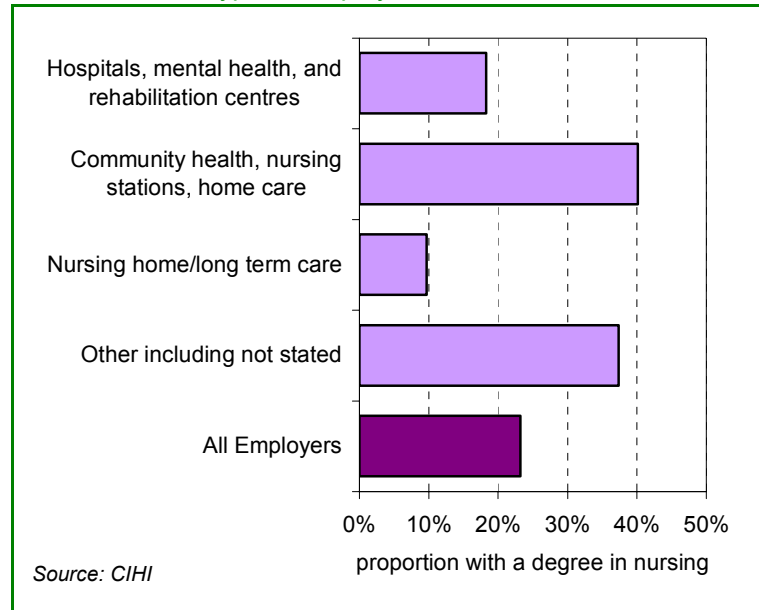
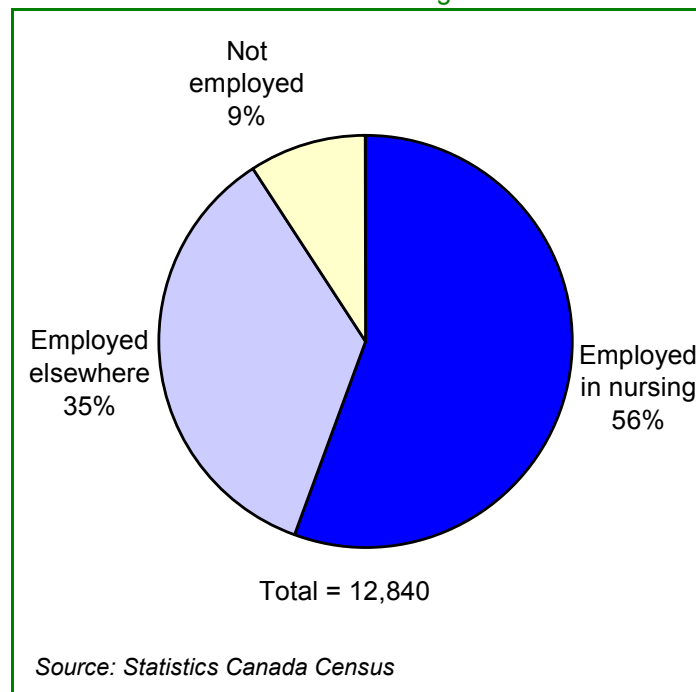


Figure 3.9 Labour Market Activity of Saskatchewan Residents 20 to 64 Years of Age with an Education in Nursing



¹ For descriptions of employer types, see Section 4.1

education but who were not employed in nursing sheds some light on those who are leaving the profession.

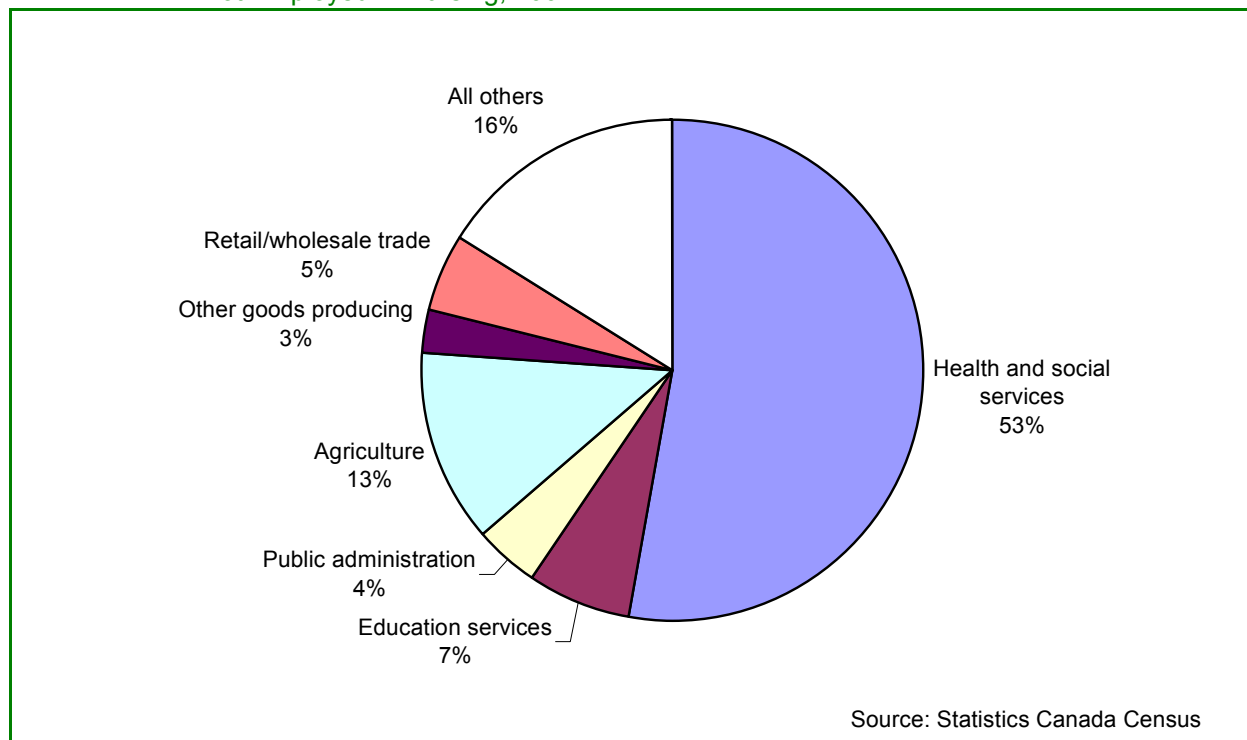
Those not employed in nursing tend to be older – 40% are 50 years of age or older compared with 28% of those who are employed in nursing. Many are new to the province in the sense that they have moved here from 1996 to 2001 either from another country or another province. Ten percent were born outside Canada compared with 6% of those employed in nursing.

In terms of their non-nursing job, the majority (53%) are still working in the general “health and social services” industry grouping. The remaining 47% are widely distributed across other industry groups including 13% in agriculture, 7% in education, and 4% in public administration (see Figure 3.10).

Those working in health and social services are, based on their occupation, apparently working in a variety of non-nursing areas such as radiation and cardiology technicians, as ambulance attendants, LPNs, or as aides. Another group are in managerial and administrative positions.

A number (14%) are self-employed (including farmers) and many (20%) are working out of their home. Average earnings are much lower than for those employed in nursing – the average employment earnings in 2000 for these full-time workers was \$35,000 compared with \$46,000 for full-time workers employed in nursing.

Figure 3.10 Industry Distribution for Those 20 to 64 Years of Age with an Education in Nursing but Not Employed in Nursing, 2001



Licensed Practical Nurses

For LPNs, there were 4,425 who reported a post-secondary education in “nursing assistance” in the province and 3,745 between the ages of 20 and 64. This too, is far in excess of the 2,000 practising LPNs reported by SALPN in 2001. Part of the reasons for the discrepancy will be the difficulty in distinguishing on the census between a post-secondary education qualifying the respondent to work as an LPN and one leading to qualifications as a special care aide or a home care aide.

A tabulation similar to the one for RNs was obtained from Statistics Canada but the difficulty of distinguishing between an LPN and an RN on the census form significantly reduced the accuracy of the data. The characteristics of those educated as LPNs but working outside their field could not be reliably determined.

3.3 Age, Attrition, and Retirement

The characteristic of the nursing supply that will have the most impact over the medium term is the age of those currently in the nursing labour force and the associated attrition and retirement rates.

We start with a description of the age profile for nurses in the three professions using information from the registration databases.

3.3.1 Registered Nurses

Consistent data on the age distribution of RNs employed in nursing is available from the CIHI database. Figure 3.11 shows that in 1992, the peak of the age distribution was in the 35 to 39 age group and five years later, was in the 40 to 44 age group. By 2002, that peak had moved into the 45 to 49 age group. Over the ten years there has been a consistent decline in the number of RNs in younger age groups – those under 40 years of age – and a consistent increase in older age groups – those 45 and older. (The 2002 CIHI database provides additional detail for those 55 and older but only for 2002, showing that of the 1,378 RNs over the age of 55, 60% were 55 to 59 years of age and 34% were 60 to 64 years of age, and the remaining 6% were 65 or older.)

By 2002, 33% of RNs employed in nursing were over the age of 50 compared with 22% in 1992. At the other end of the age scale, 17% were under 35 years of age in 2002 compared with 30% in 1992.

Figure 3.11 Age of RNs Employed in Nursing, 1992 to 2002

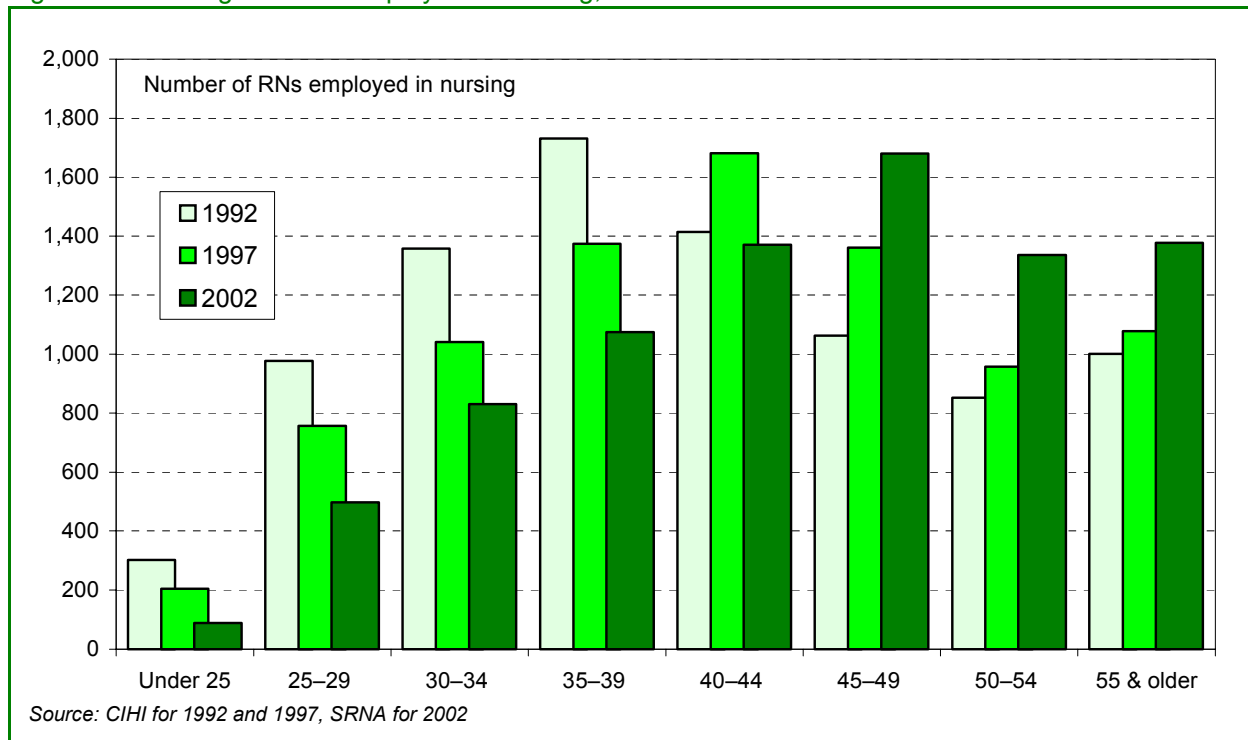
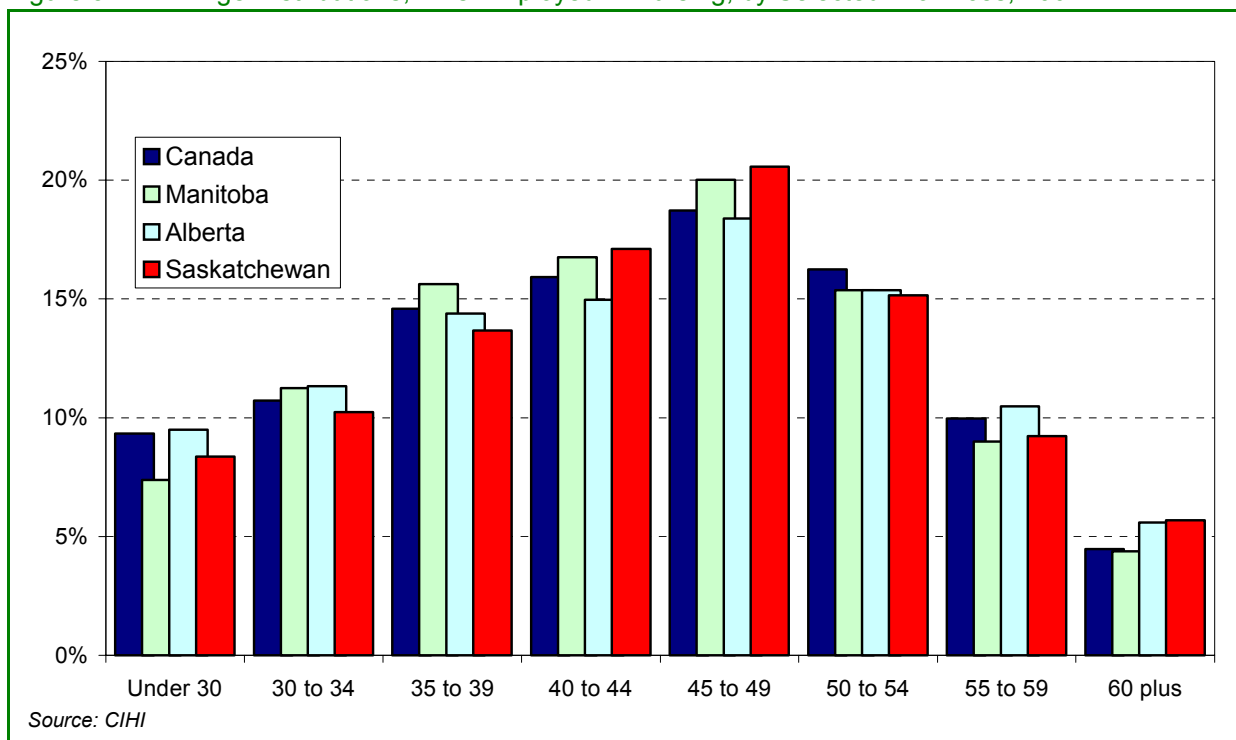


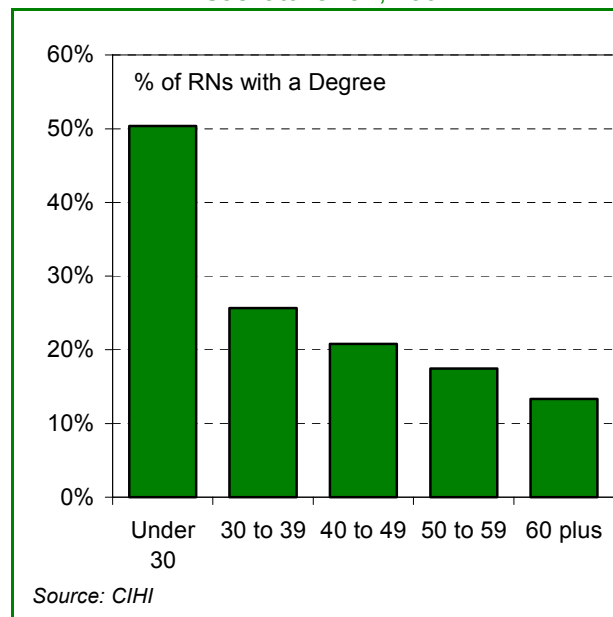
Figure 3.12 Age Distributions, RNs Employed in Nursing, by Selected Provinces, 2001



The age distribution for Saskatchewan’s RNs is compared with the distribution in other provinces in Figure 3.12. The distributions are not dissimilar but there are minor differences in some age groups. Relative to Canada and our neighbouring provinces, Saskatchewan RNs are relatively scarce in age groups under 40 years of age and somewhat more likely to be either in the 45 to 49 age group or 60 years or older.

Figure 3.13 Proportion of RNs Employed in Nursing with a Degree, Saskatchewan, 2001

Not surprisingly, the move from diploma to degree qualification has increased the number of younger Saskatchewan RNs with degrees. Figure 3.13 shows that one half of RNs employed in nursing in 2001 and under the age of 30 had a degree. The proportion declines steadily to 13% among those 60 years of age and older.



The age distribution is also different among RNs employed by different kinds of employers and for different hours of work arrangements¹.

Overall, 52% of RNs reported working on a full-time basis in 2001. The proportion is somewhat higher among those 50 to 59 years of age and somewhat lower among those 30 to 39 years of age or 60 or (see Figure 3.14). Those in their thirties were more likely to be working part-time whereas those 60 or older were more likely to be working on a casual basis.

Younger RNs are much more likely to work in hospitals than those in the older age groups (see Figure 3.15). Older RNs are more likely to work in long term care and in the “other” category which includes the private sector, governments, and educational and research institutions. Those working in community

Figure 3.14 RNs Employed in Nursing, Hours of Work by Age Group, 2001

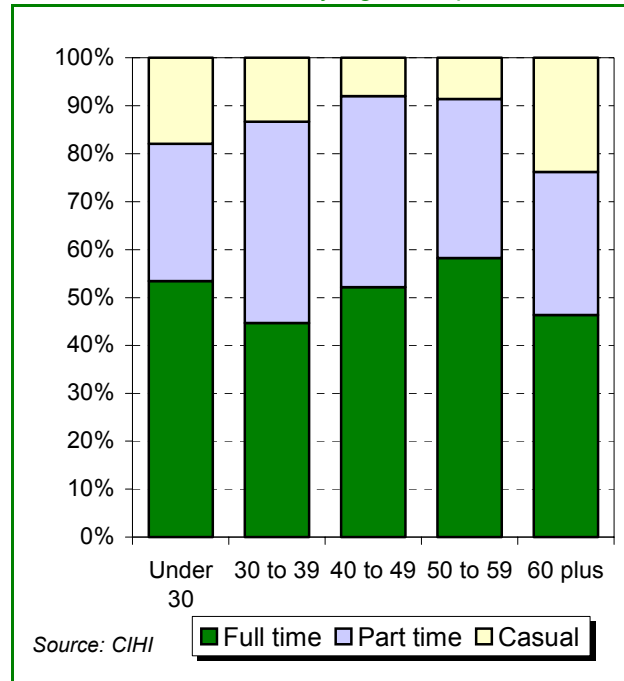
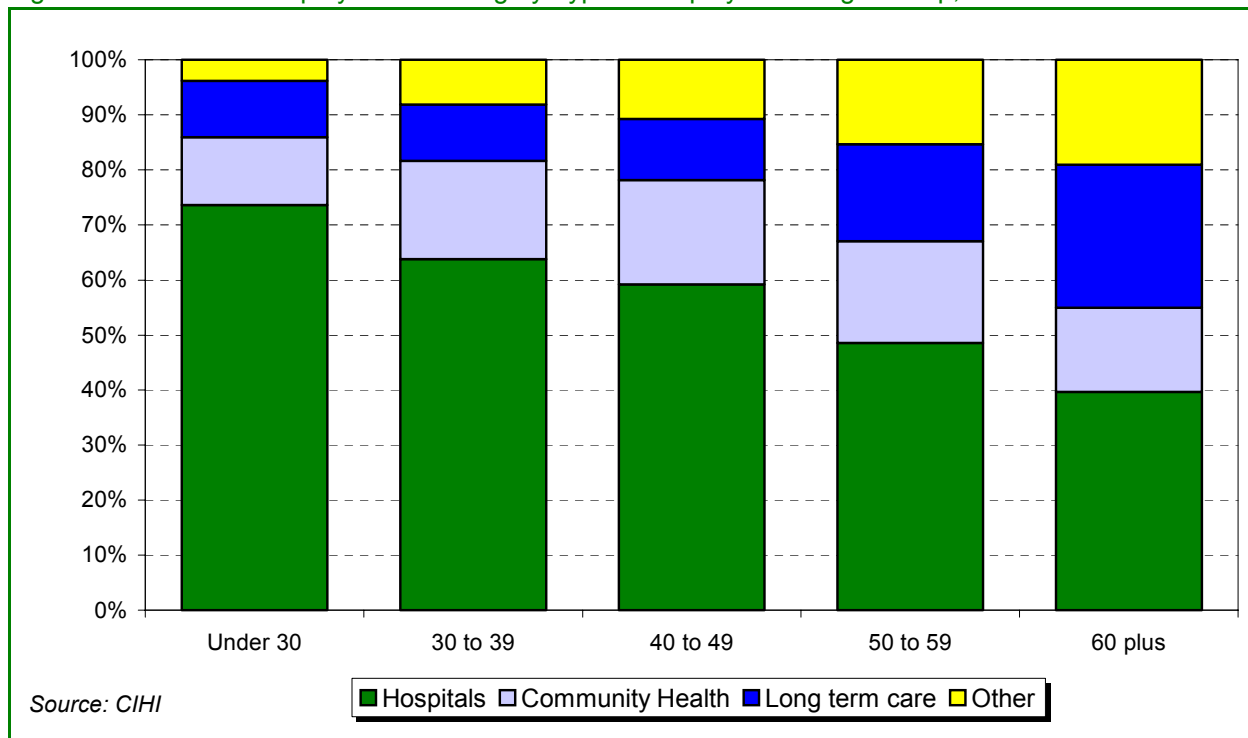


Figure 3.15 RNs Employed in Nursing by Type of Employer and Age Group, 2001



¹ A detailed discussion of employer type is contained in Section 4.1; hours of work are discussed in more detail in section 3.5.

care are relatively uniformly distributed across the age groups.

Other Data Sources

Other data sources including SAHO and the Statistics Canada Labour Force Survey (LFS) also provide information about the age distributions of Saskatchewan RNs. These confirm the age distributions reported by CIHI.

Figure 3.16 shows a comparison with the age distribution of RNs/RPNs employed in the member organizations of SAHO that use their payroll system. The number of FTEs follows a similar pattern to the number of persons. Differences are attributable to RNs/RPNs who work in other organizations and to the difference between FTEs and the number of persons.

Figure 3.16 Comparison of Age Distributions, SAHO Member Agencies, CIHI Registrations, 2002

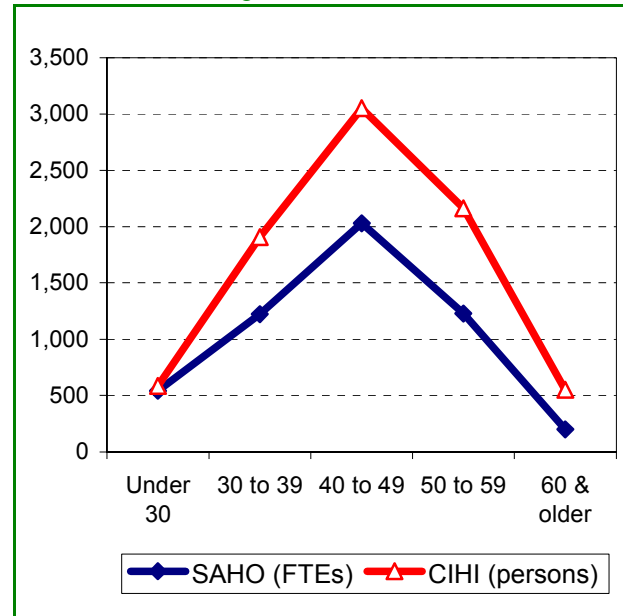
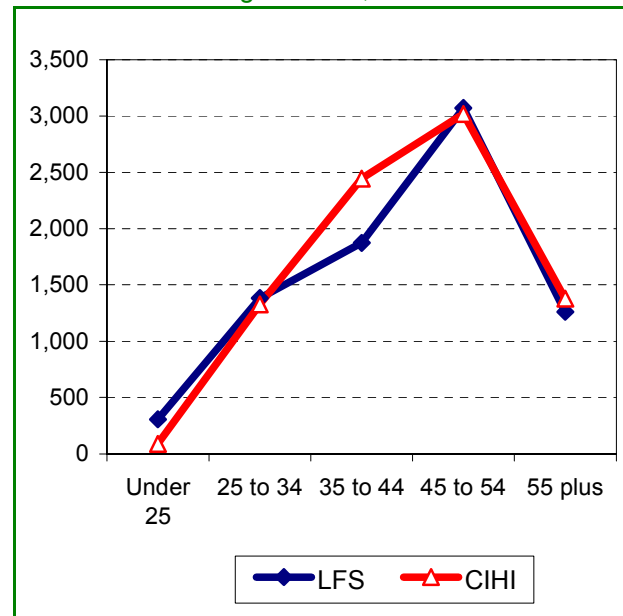


Figure 3.17 shows a comparison of those who report employment in nursing in the LFS (which will include RPNs) with the CIHI registrations. A similar pattern of age distributions is evident.

Figure 3.17 Comparison of Age Distributions, Statistics Canada LFS, CIHI Registrations, 2002



Attrition and Retirement

The detailed historical data from CIHI can be used to derive attrition rates by age group for RNs employed in nursing. The calculation starts with the number of practising RNs using the CIHI database in five year age groups over the ten years from 1992 to 2002. Some assumptions had to be made in order to make the data consistent over time. In particular, previously published data for the “55 plus” age group was allocated to “55-59 age group” and the “60 and older” age group using historical ratios and the relatively few with an “unstated” age were distributed across the age groups proportionately.

For each of the five 5-year age intervals available, the number of those employed in nursing was compared with the number five years earlier and five years younger.

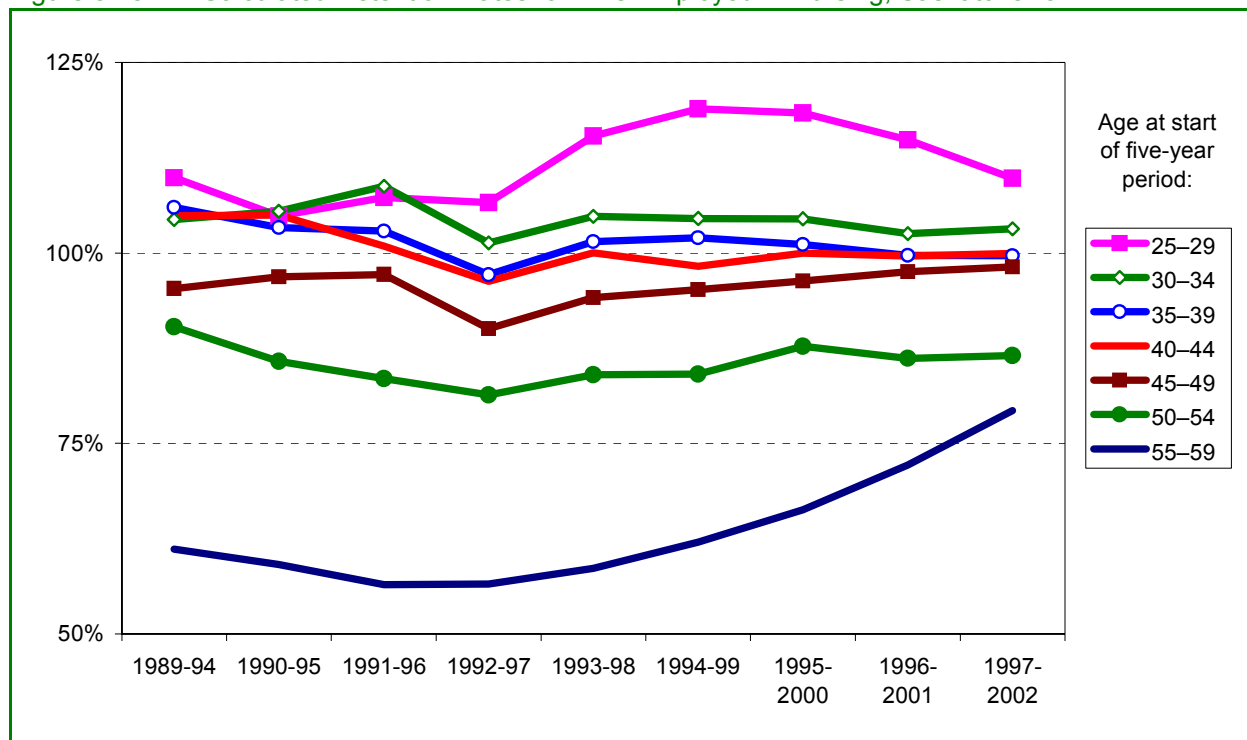
An example is the easiest way to visualize the calculation.

- In 2002 there were 1,336 RNs in the 50 to 54 age group compared with 1,361 in the 45 to 49 age group in 1997. This implies a net retention rate of 98% among those who were 45 to 49 in 1997.
- In 1992, there were 957 RNs in the 50 to 54 age group compared with 1,062 in the 45 to 49 age group in 1992. This implies a net retention rate of 90% among those who were 45 to 49 in 1992.

This is not a pure retention rate but rather a net retention rate because it is the calculation of the net flow to and from the profession, measuring the combined effect of retention, recruitment, deaths, retirements, and inter-provincial migration. Unfortunately, the retention rate will be somewhat overstated to the extent that there will be some new graduates, namely those that enter the profession after age 25 embedded in the data. The number is thought to be small but no statistics on the age of new entrants or RN graduates are available to check this assumption. The retention rates can legitimately be greater than 100%, particularly in the 25 to 34 age group when nurses may reenter the profession after a period of absence for child-rearing or because of inter-provincial migration.

Figure 3.18 shows the calculated retention rates over the nine overlapping five-year periods from 1989 to 1994 to 1997 to 2002. Retention rates for those in the 30 to 49 age group are near 100% and there is no apparent upward or downward trend so we can conclude that those in the middle age groups tend to stay in the profession. The rate for those under the age of thirty reached a high of near 120% in the late 1990s before declining to near 110% in the 1997 to 2002 period. This will reflect the reentry of RNs who have exited the labour market to raise a family, as well as an unknown number of new graduates who were past the age of 24 in 1997.

Figure 3.18 Calculated Retention Rates for RNs Employed in Nursing, Saskatchewan



Retention rates for those 50 to 54 years of age have been relatively constant near 85% over the period whereas retention rates for those 55 and older have increased dramatically from below 60% in the early 1990s to near 80% in the most recent five-year period. In other words, the figures suggest that the retention rates for RNs in the province have improved quite significantly in the past few years. The change is evident among those 45 and older but is particularly pronounced among those 55 and older.

The retention rates for those 60 to 64 cannot be calculated from the CIHI data because the number of RNs 65 or older and employed in nursing has not been routinely published. In 2002, there were, according to the information from the SRNA, 87 RNs employed in nursing who were 65 or older. There were 463 in the 60 to 64 age group which suggests that there are approximately 90 RNs at each individual year of age which, in turn, suggests that the vast majority of those 65 and older would be exactly 65 years of age and would probably leave the profession in a matter of months if they had not already done so. In other words, the retention rate for those 60 and older while technically near 20% is effectively zero. (In a recent tabulation, SAHO reported only one RN over the age of 65 in their payroll system.)

Retirement

Some but not all of the attrition calculated above is the result of retirements in the traditional sense of retirement from the labour force rather than just a switch to a different occupation. Some limited information is available at the national level for average retirement age by occupation. These data are derived from the Labour Force Survey and are based on responses to a question about why the respondent left their last position¹. There is, of course, no guarantee that a person who reported that they were “retiring” would not reenter the labour force at a later date.

Other work by the author also suggests that the “average” retirement age is not, in fact, a good measurement of retirement ages. Actual retirement tends to occur either at or near age 65 or in a cluster at or near age 55 – relatively few people tend to retire at the “average” age. The average age is one way of looking at trends over time, however, and the available statistics are examined here.

The average retirement age for RNs/RPNs at the national level, although fluctuating dramatically from year to year because of the small sample size, tends to follow the trend for women in the public sector (see Figure 3.19). Retirement data from SAHO covering SUN members shows a slightly higher and relatively stable average retirement age just under 61 years of age.

The national data suggests that we can expect the “average” Saskatchewan RN/RPN to retire at age 58 although the earlier calculation of retention rates and the information from SAHO suggests that many are now staying into their early sixties.

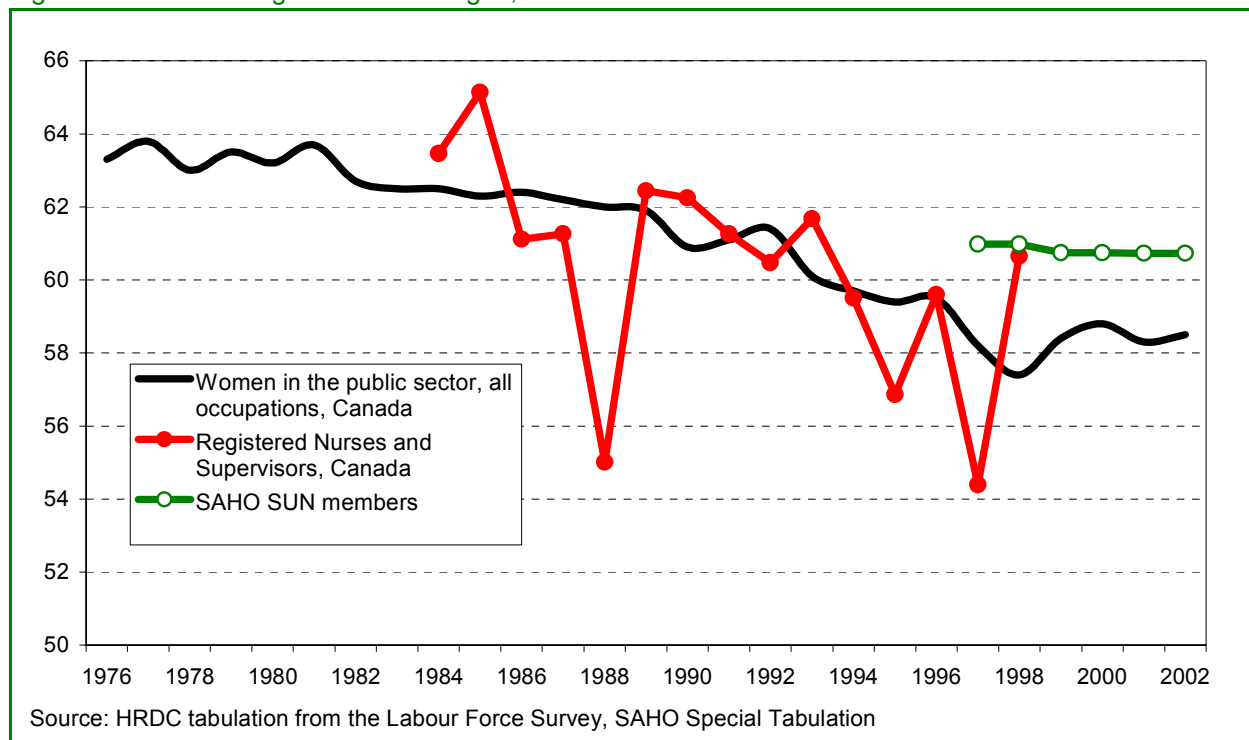
A survey of SUN members found that 61% of respondents were eligible for early retirement and that the vast majority (89%) were either planning on or interested in retiring before age 65. In fact, the majority (57%) were planning to retire on or before age 55 and five out of six were

¹ Source: Special tabulation from HRDC Regional Office

planning on retiring by age 60. Given that the average retirement age is currently at age 61, this suggests that financial or other considerations are keeping SUN members longer than they expected¹.

In any case, it is clear that RNs who are past the age of fifty are actively considering retirement even though they may not be acting on that intention.

Figure 3.19 Average Retirement Ages, Various Sources



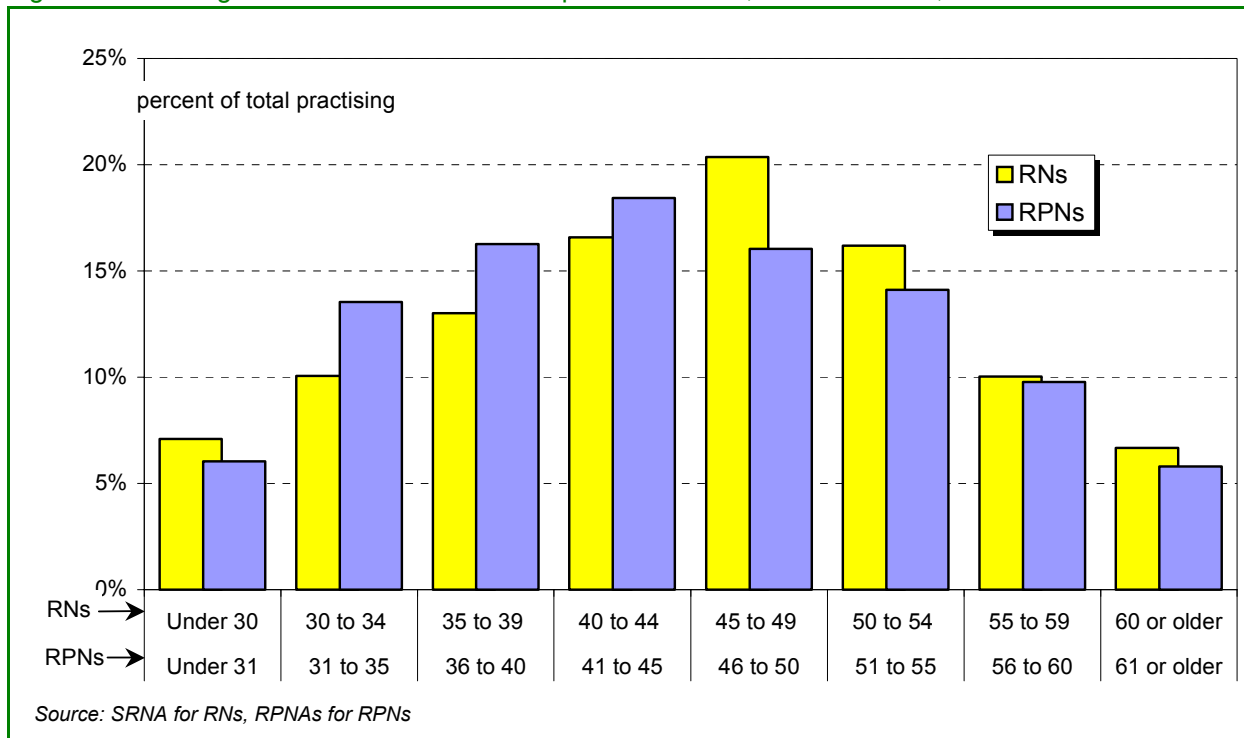
¹ A survey of the public sector in Australia, *Retirement Intentions*, found that financial security was considered as “very important” by 74% of respondents, job stress and leisure activities were mentioned as very important by 39% and 32% respectively. Three quarters of nursing professionals were interested in a gradual reduction in hours or casual employment as an alternative to retirement. <http://www.mpc.wa.gov.au/psmd/pubs/wac/retireintent/front.html>

3.3.2 Registered Psychiatric Nurses

Compared with RNs, there is very little information about the age distribution of RPNs in Saskatchewan. In fact, we have a current age distribution for RPNs from the RPNAS annual report but no equivalent historical data to calculate attrition rates. The difficulty is compounded by the fact that many (12%) RPNs did not report their age on the registration form and that RPNAS uses slightly different age groupings in their annual reports.

Figure 3.20 compares the age distribution of practising RPNs in Saskatchewan (excluding those who did not report an age) with those of RNs. In spite of the different methodologies it is clear that RPNs tend to be somewhat younger than RNs with a peak in the 41 to 45 age group. There are still, however, similar proportions in the 55 and older age group. In the absence of specific data for RPNs, the projection of the future supply of nurses in Section 3.7 will assume that the retention and retirement rate characteristics of RNs will also apply to RPNs.

Figure 3.20 Age Distribution of RPNs Compared with RNs, Saskatchewan, 2002



3.3.3 Licensed Practical Nurses

Consistent data on the age distribution of practising LPNs is available from the SALPN registration database. There is also a current snapshot from the SAHO payroll records but no data from the Labour Force Survey.

Using the SALPN database, Figure 3.21 shows that, as with RNs, the peak of the age distribution moved from the 35 to 39 age group in 1992 progressively forward until 2002 when it was in the 45 to 49 age group by 2002. Over the ten years there has been a consistent increase in older age groups – those 45 and older – with a particularly sharp increase among those in the 55 to 59 age group over the past five years.

Unlike RNs, however, there has been an increase in the number of LPNs under 30 years of age over the past five years. By 2002, 13% of LPNs were under the age of 30 compared with 9% in 1997.

The comparison between RNs and LPNs is instructive and is shown for 2002 in Figure 3.22. Relatively speaking, there are more LPNs than RNs under the age of thirty and in the 45 to 59 age group and more RNs than LPNs in the 30 to 44 age group and 60 years of age or older. Figure 3.23 shows a comparison with the age distribution of LPNs employed in the member organizations of SAHO that use their payroll system. The number of FTEs follows a similar pattern to the number of persons in the SALPN registration database. Differences are attributable to LPNs who work in other organizations and to the difference between FTEs and the number of persons.

Figure 3.21 Age of Practising LPNs, 1992 to 2002

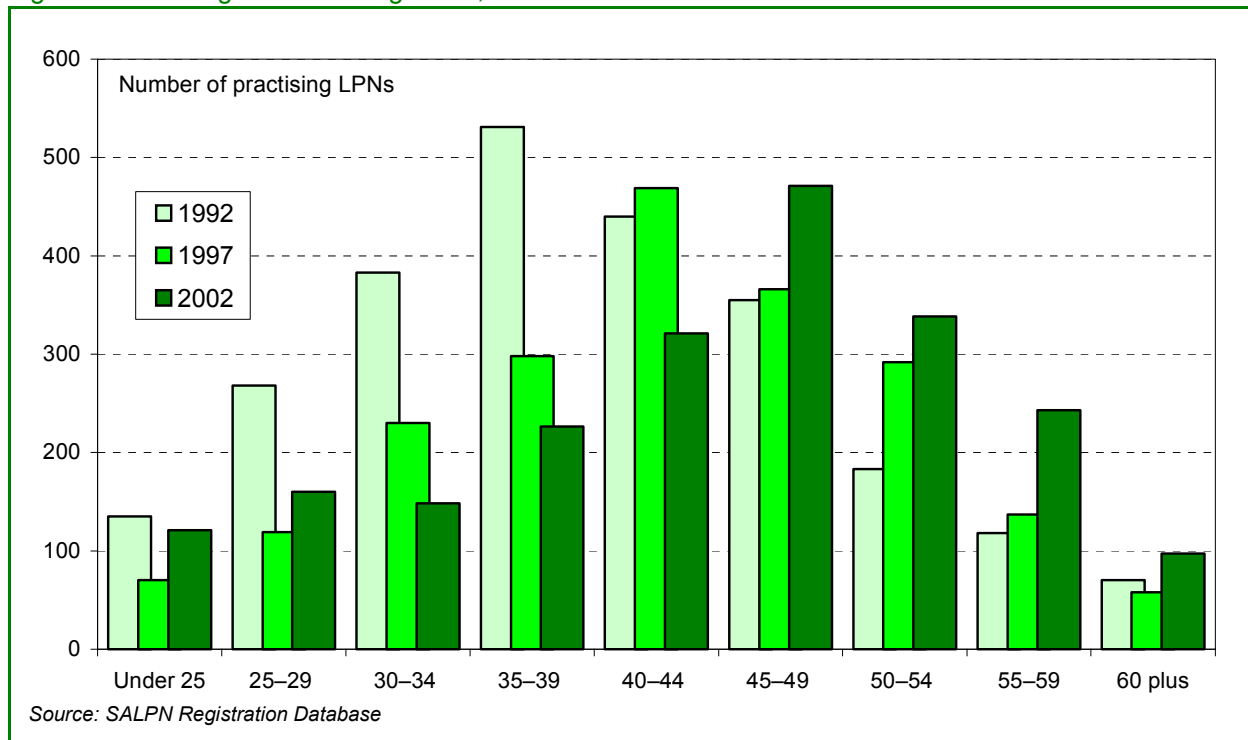


Figure 3.22 Comparison of Age Distributions, LPNs and RNs in 2002

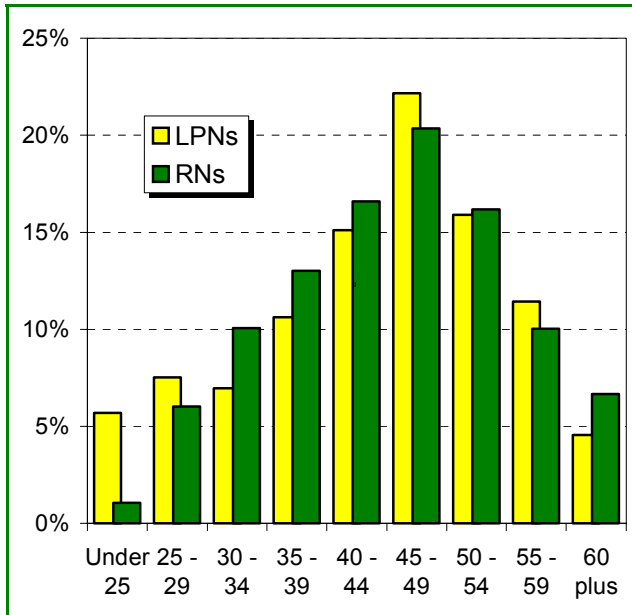


Figure 3.23 Comparison of Age Distributions for LPNs, SAHO and SALPN

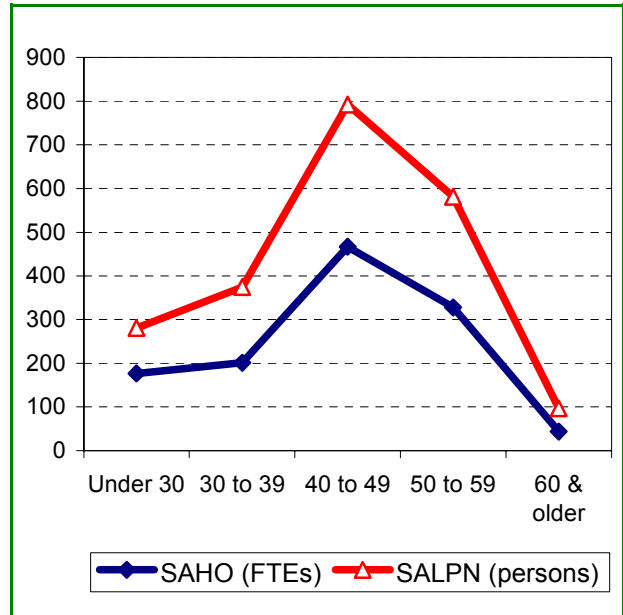
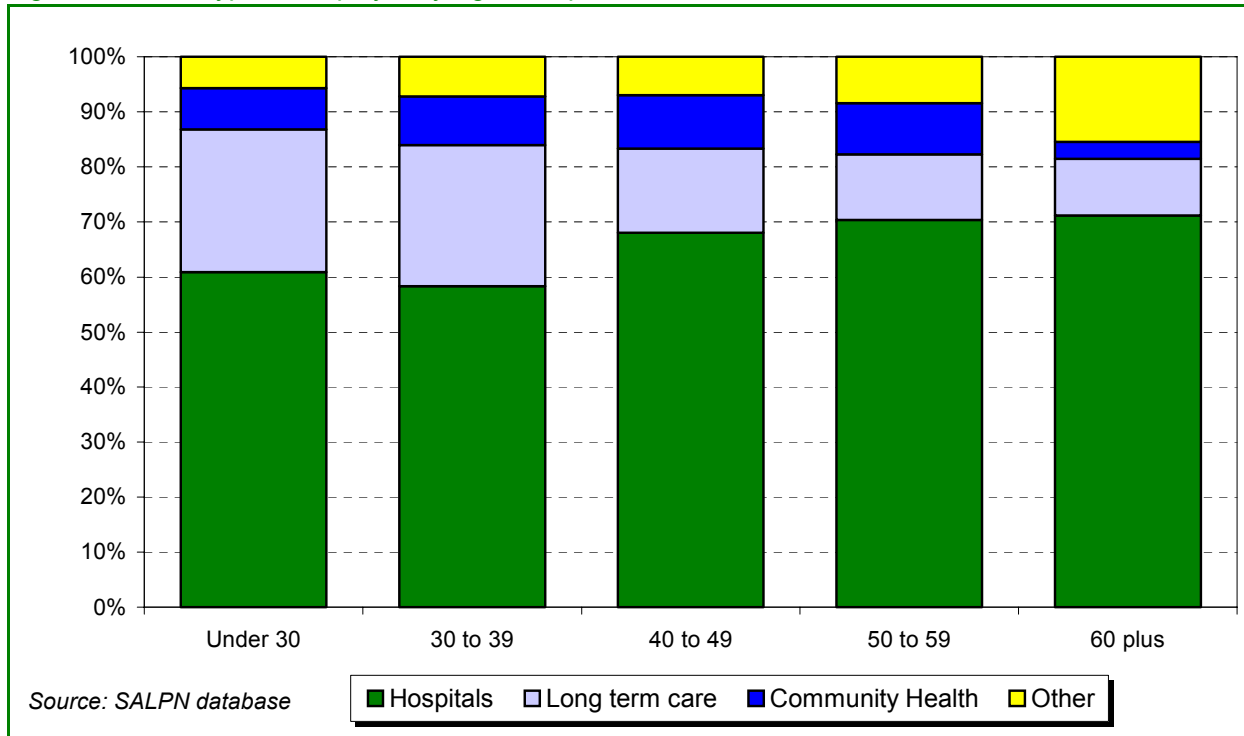


Figure 3.24 Type of Employer by Age Group, 2002



The distribution of LPNs across types of employer is different from RNs (see Figure 3.24). Older LPNs are more likely than those in younger age groups to work in hospitals (including rehabilitation centres and mental health centres) and less likely to be working in long term care. This is the opposite pattern from the one evident among RNs (see Figure 3.15).

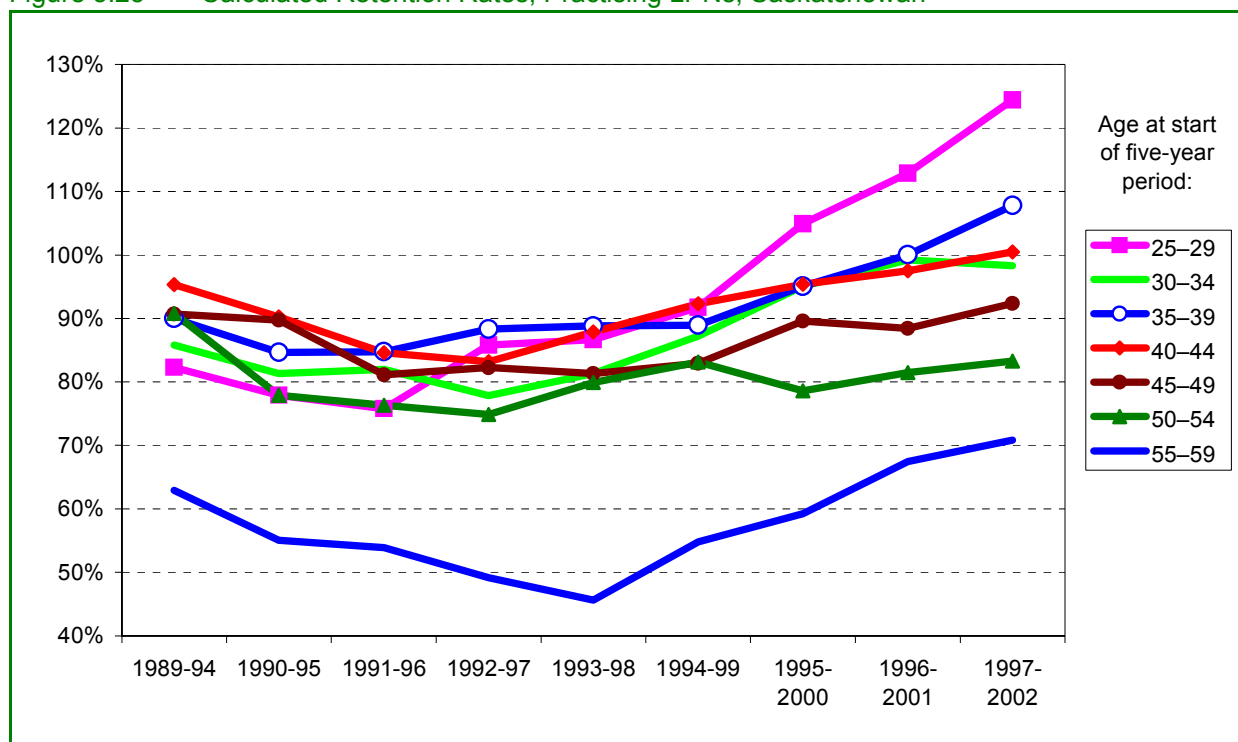
The proportion who work in community health and home care is similar across age groups although there are relatively few over the age of 60 working for this kind of employer. As with RNs, those in the older age groups are more likely to be working in the “other” category although the age effect is less pronounced among LPNs than among RNs.

Using the same methodology described for RNs (see page 38) for calculating net attrition rates, Figure 3.25 shows retention rates for LPNs over the most recent nine five-year time periods. There are several observations that can be made about these rates.

- Until recently the retention rates were typically below 100% suggesting that LPNs were leaving the profession in the 1990s.
- The retention rates have increased recently in almost all the age groups with particularly noticeable increases among those in their thirties and late fifties.
- The retention rates for those in the 45 to 54 age group are well below 100% and have only recently returned to the rates in the early 1990s.
- Retention rates for those 25 to 29 are high and well in excess of 100%. This will be partly a statistical artifact caused by the entrance of older graduates into the profession.

As with RNs, the data suggests that the retention of LPNs in the profession has increased recently.

Figure 3.25 Calculated Retention Rates, Practising LPNs, Saskatchewan

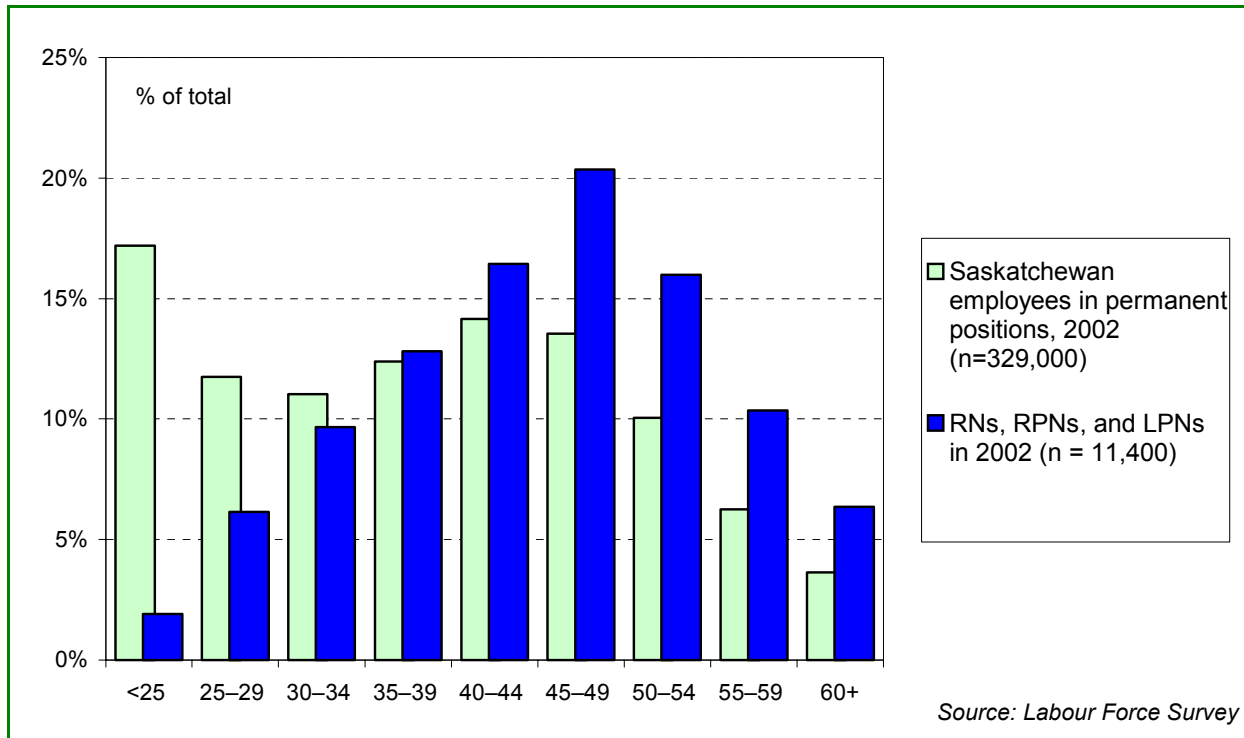


3.3.4 Comparison of Age Distributions

The peak of the age distribution for Saskatchewan nurses is in the 45 to 49 age group. Figure 3.26 shows the age distribution of all Saskatchewan employees in permanent positions (i.e., excluding the self-employed and those in temporary positions) for comparison purposes. The age distribution for Saskatchewan RNs is noticeably skewed toward the higher age groups.

Disregarding those under 25 years of age, the peak of the age distribution for Saskatchewan employees is in the 40 to 44 age group. One third of Saskatchewan nurses are over the age of 50 compared with 20% of permanent employees in Saskatchewan. As another measure, among the 47 occupations reported in the Labour Force Survey, RNs/RPNs have the fourth highest average age (45 years) after senior managers, specialist managers, and clerical supervisors.

Figure 3.26 Comparison of Age Distributions, Saskatchewan Employees in Permanent Positions and Saskatchewan Nurses, 2002



3.4 Employment Insurance Recipients and the Unemployed

Any measure of supply would have data on the number of persons who are qualified and currently unemployed. There are three data sources that can be used to estimate the number of nurses who are in the labour market but currently unemployed¹.

Statistics Canada measures, in the monthly Labour Force Survey, the number of persons who are “unemployed”, that is, without work and actively seeking employment. A good proportion, but not all, of these persons would qualify for Employment Insurance (EI) benefits. As well, the professional associations have their members report on their employment status at the time of registration.

Employment Insurance

The number of persons receiving “regular” employment insurance benefits, that is, excluding benefits arising from maternity/paternity or other kinds of leave, is an obvious source of supply for nurses. Human Resources Development Canada records the occupation of persons receiving EI benefits and the number of recipients – NOC 3152 for Registered Nurses and Registered Psychiatric Nurses and NOC 3233 for Licensed Practical Nurses².

There are virtually no LPNs reported by HRDC as receiving regular benefits – less than ten at any point in the last ten years – and there is no good explanation for this other than the obvious one that unemployment for LPNs is low.

The number of RNs/RPNs receiving EI benefits, on the other hand, has shown a dramatic decline in the last ten years. Figure 3.27 shows the quarterly number of recipients classified as RNs or RPNs. The number has declined from a peak of 250 in the fourth quarter of 2003 to less than 20 in the last three years. These recent counts are indicative of normal “friction” in the labour market – persons who become unemployed temporarily as they move from position to position or from one part of the province to another. They are not indicative of any untapped source of RNs/RPNs in the general labour market because no amount of demand will significantly reduce the number below its current level.

¹ *The Census can also be used to measure unemployment by occupation but the data were not available at the time this report was prepared.*

² *Source: Special tabulation from HRDC regional office in Saskatchewan*

Figure 3.27 Number of RNs/RPNs Receiving Regular Employment Insurance Benefits, Saskatchewan, by Quarter

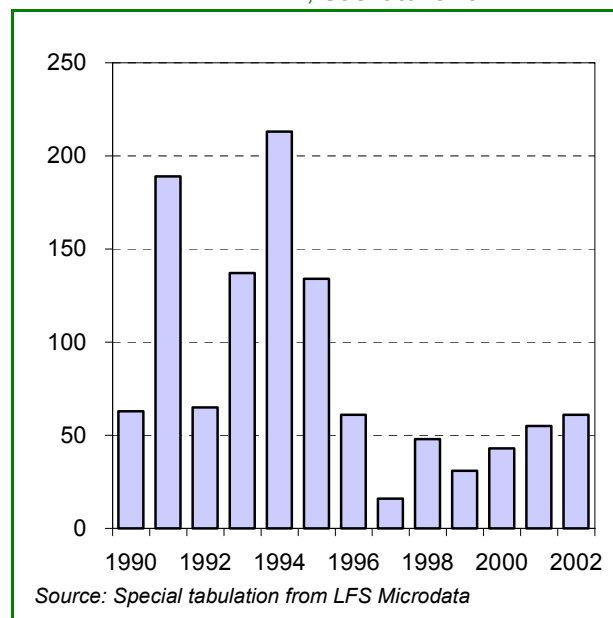


Labour Force Survey

The monthly Labour Force Survey reports the number of people who are actively seeking employment according to their last job or the position they are seeking upon first entering the labour force. The sample size in Saskatchewan is too small to generate estimates for LPNs and the data for RNs/RPNs is also near the limits of statistical reliability.

Figure 3.28 shows a pattern similar to the one for EI recipients. The number of unemployed RNs/RPNs has fallen to a level of virtually zero – less than 1% in terms of the unemployment rate – from the high in 1994.

Figure 3.28 Persons Unemployed with a Previous or Desired Occupation of RN/RPN, Saskatchewan



Association Databases

The professional associations record, on their membership form, whether nurses are currently unemployed. This is, in effect, a snapshot of the situation at the time of registration but it provides an indication of the number of nurses available for employment.

CIHI data shows the number of RNs who report no employment as of June has followed the pattern evident in the other data sources, namely a decline from the early 1990s. As a percentage of active registrations, the number reporting no employment has declined from 3% in 1994 to less than 1% in 2002. SALPN data are only available from 1998 to 2002 and it shows a similar low level of unemployment among LPNs – an average of 1.4% of registrations over the past five years.

Figure 3.29 RNs Reporting No Employment at time of Registration (June)

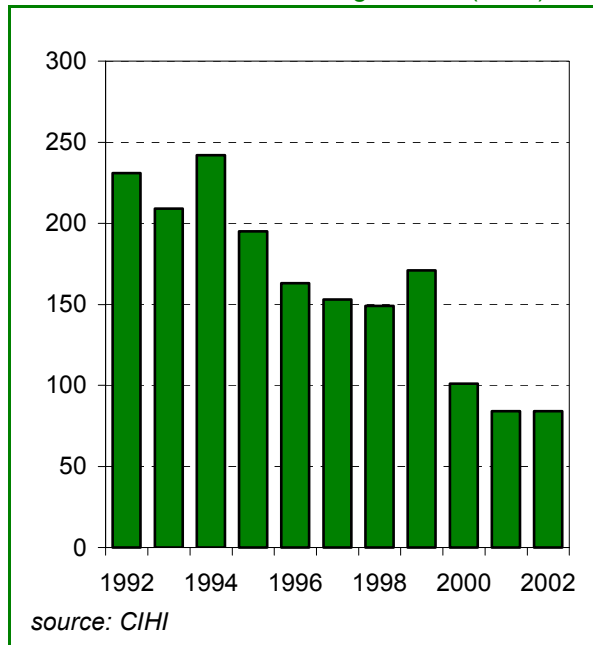
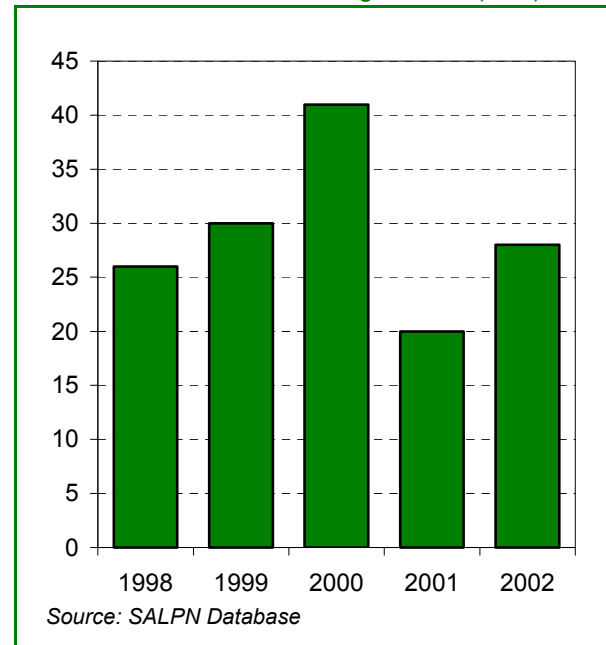


Figure 3.30 LPNs Reporting No Employment at time of Registration (Dec)



Summary

The data from the three sources measuring readily available supply – that is, the number of nurses who are registered and available for work – agree. There is no untapped pool of nurses in the Saskatchewan labour market beyond the normal friction that occurs as people enter the labour market or move from job to job.

3.5 Hours of Work

Conceptually, hours of work can be considered as both a supply and demand issue but we have chosen to include it in the supply section of this report for reasons that will become evident from the analysis.

The supply of nursing services, as in any occupation, is expressed in hours of work as much as it is in the number of persons working. The “demand” from employers is actually manifest as a requirement for a certain number of hours of work to provide patient services, teach classes, or administer a program. There are administrative and financial implications involved in choosing full-time or part-time staff and paying overtime but fundamentally, the demand is for a certain number of hours and these can be provided by full-time or part-time staff.

Individuals, on the other hand, are able to “supply” a certain number of hours and the data will show that many Saskatchewan nurses are choosing to supply less than full-time hours.

Registered Nurses and Registered Psychiatric Nurses

There are six sources of data describing hours of work for RNs and RPNs:

- the Statistics Canada Census which combines the two occupations;
- the Statistics Canada Labour Force Survey which combines the two occupations;
- the CIHI registration database for RNs only;
- the SUN membership survey for in-scope RNs/RPNs only;
- information from the SAHO payroll system which combines the two occupations; and
- information about overtime in the health sector from the Statistics Canada Survey of Employment Payrolls and Hours which covers all employees.

The information from the CIHI registration database is difficult to interpret because a relatively high proportion of RNs do not report their hours of work on the registration form and information is missing for some of the years. In the analysis that follow, we have assumed that RNs who do not report hours of work do so because their hours of work vary, that is, that they are not working full-time. This will understate the proportion who are actually working on a full-time basis.

Figure 3.31 shows that approximately 50% of RNs reported working full-time in the early 1990s. That proportion declined to near 45% in the mid 1990s before increasing to its current level of 51% in 2002. Those working in long-term care are the least likely to be working full-time hours, while those working for “other” kinds of employers are the most likely to be doing so¹.

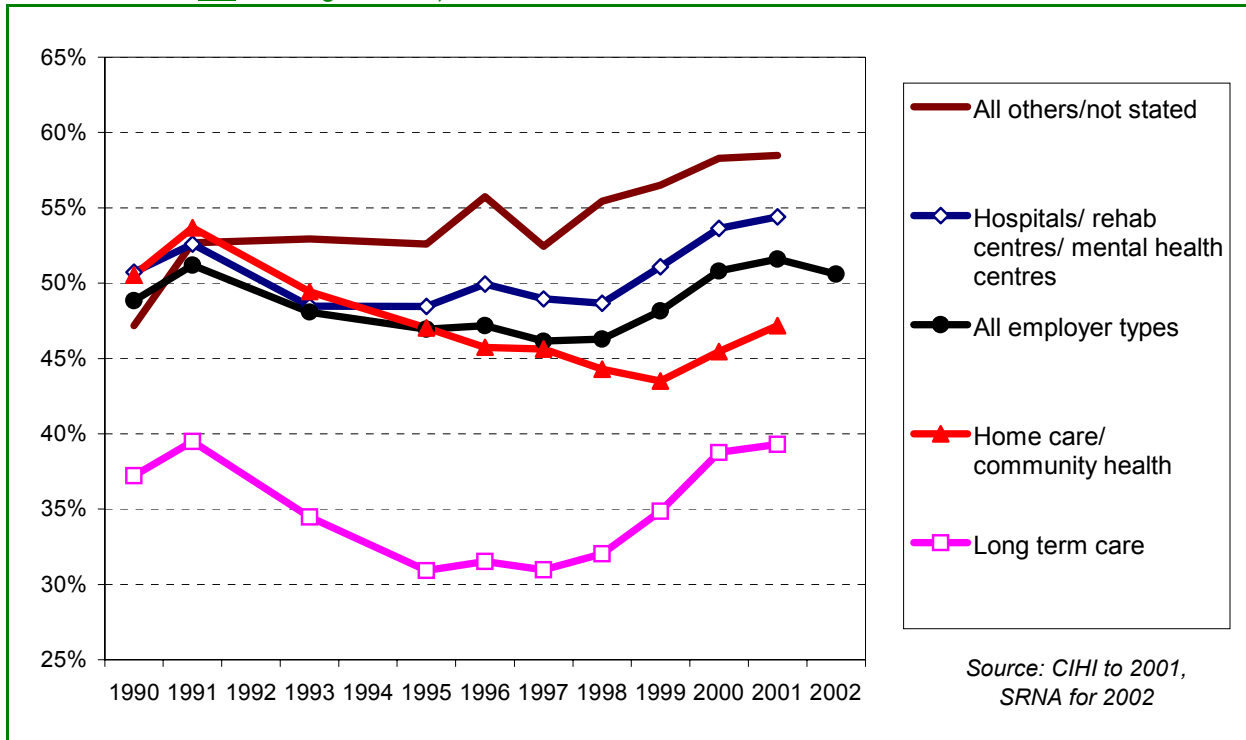
The recent increase is evident among all kinds of employers but is particularly noticeable among those working in long-term care, the group that are the least likely to be working full-time.

Compared with other provinces, Saskatchewan RNs are as likely to be working full-time as other RNs. Figure 3.32 shows that the 52% of Saskatchewan RNs who reported working full-

¹ For a more detailed discussion of employer types, see Section 4.1.

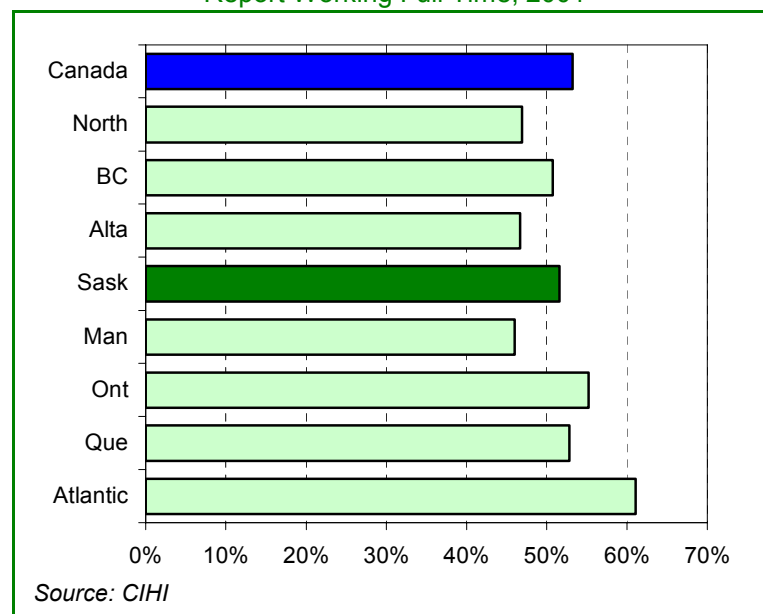
time in 2001 compares with the national average of 53%, 47% in Alberta, and 46% in Manitoba. RNs in the Atlantic provinces were the most likely to report working full-time in 2001.

Figure 3.31 Proportion of RNs Working Full Time (assuming those not reporting hours of work are not working full time)



The SUN membership survey found similar proportions with 51% of the 710 respondents working full-time, 35% working part time and the remaining 13% working on a casual or job-sharing basis. That survey also found that those working in hospitals were more likely to be working full time than those working in long term care.

Figure 3.32 Proportion of RNs Employed in Nursing who Report Working Full Time, 2001



Census

Information from the census describes activity over the course of the year prior to the census, that is, 1990, 1995, or 2000. Only two classes of work attachment are published – working full-time throughout the year, the so-called full-time, full-year workers, and those who worked either part-time or for only part of the year.

Table 3.6 shows that RNs/RPNs have become more attached to the labour market in the last ten years. In 2000, 59% worked on a full-time, full-year basis compared with 50% in 1995 and 46% in 1990.

Relative to other provinces, Saskatchewan now has a higher proportion working full-time, full-year than most (see Figure 3.33). In 2000, the 59% compares with 53% nationally, 61% in the Atlantic provinces as a group, and 47% in Alberta. In 1990, the 46% of RNs/RPNs in Saskatchewan who were working on a full-time, full-year basis was below the national average of 47%.

Figure 3.33 Proportion of RNs/RPNs Working Full-Time Throughout 2000

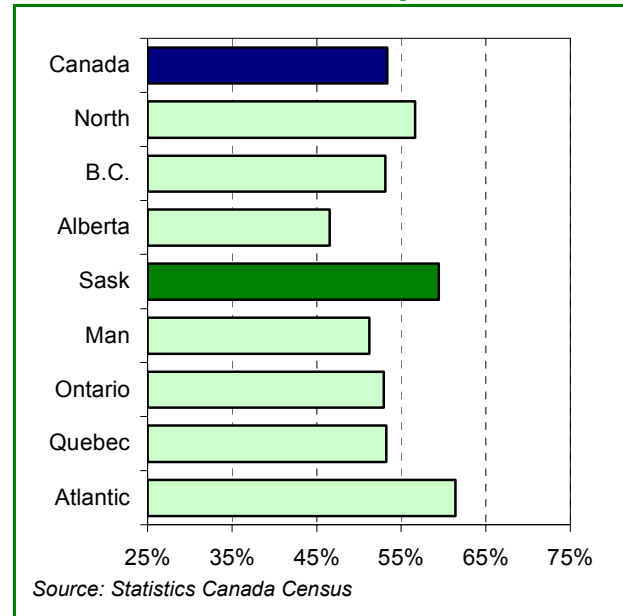


Table 3.6 Attachment to the Labour Force, RNs and RPNs Combined

	1990		1995		2000	
	Number	Percent	Number	Percent	Number	Percent
Worked full-time full-year	4,450	46%	4,905	50%	5,255	59%
Part-time or part-year or both	5,160	54%	4,845	50%	3,585	41%
Total	9,610	100%	9,750	100%	8,840	100%

Source: Statistics Canada Census

Labour Force Survey

While the quality of the Labour Force Survey was found to be suspect in Section 2, there is detailed information about hours of work for RNs/RPNs in that monthly survey. Figure 3.34 shows the proportion of RNs/RPNs who work on a full-time basis (defined as thirty hours per week or more at all jobs) by province using three year averages to remove the volatility in the annual figures. This confirms the findings from the census – namely that Saskatchewan RNs/RPNs are more likely than those in most other provinces to be working full-time and the proportion has increased in the last ten years. Those in the Atlantic provinces are more likely to be working full-time and those in Alberta are less likely to be doing so.

Actual and usual hours of work for Saskatchewan RNs/RPNs are also available from the Labour Force Survey. Table 3.7 shows the results averaged over three year periods to remove annual fluctuations. There are two observations about the data that can be made. Firstly, the number of RNs/RPNs reporting full-time usual hours of 30 to 40 hours per week has increased from 60% in 1990-92 to 70% in 2000-02. The number reporting part-time hours (under 30) has declined from 37% to 27% over the same period. Secondly, a larger proportion are working more than 40 hours per week in the latter part of the time frame. Because of 12-hours shifts, not all of those who report working more than 40 hours per week will actually be working long hours and the increase from 1992 to 2002 may be a simple consequence of more full-time work.

Because of this shift to more full-time work, the average usual hours worked has increased from 31 hours per week to 33 hours per week over the ten year period. The average actual

Table 3.7 Hours of Work at Main Job, RNs and RPNs Combined

		Three year average ending in:		
		1992	1997	2002
Usual weekly hours	Under 20	14%	10%	6%
	20 to 29	23%	26%	21%
	30 to 39	27%	31%	41%
	40 hours	33%	31%	29%
	More than 40	3%	2%	4%
	Total	100%	100%	100%
Actual* weekly hours	Under 20	28%	25%	27%
	20 to 29	19%	20%	17%
	30 to 39	25%	27%	27%
	40 hours	21%	21%	14%
	More than 40	8%	8%	15%
	Total	100%	100%	100%

* actual weekly hours can be zero for illness, vacations, etc.

Source: Special tabulation from the Statistics Canada Labour Force Survey Microdata

hours of work has only increased from 27 hours per week to 28 hours per week as the increase in the number working more than 40 hours per week has been offset by more RNs/RPNs not working at all because of vacation, illness, or personal/family responsibilities.

Actual hours per week at all jobs, not just the main nursing job, can be used to classify RNs/RPNs into the categories shown in Figure 3.35. Over the past ten years there has been a decline in the number of RNs/RPNs working at single or multiple part-time jobs, a relatively constant proportion representing about one half of the RNs/RPNs who are working at a single full-time job with normal hours. There has been an increase in those who are working longer hours, either at a single full-time job or because they have another position in addition to their full-time job.

Information from the Labour Force Survey can also be used to examine the reason for part-time employment. In the last six years, the LFS has included a question on the survey which asks those who are working part-time why they are doing so. Figure 3.36 shows that a declining proportion of RNs/RPNs in Saskatchewan are working part-time because they cannot find full-time work – the so-called “involuntary part-time workers”. Relatively more are choosing part-time work to allow for care of their children or for other personal or family responsibilities. Involuntary part-time work accounts for 13% of those who worked part-time in the past three years compared with 27% over the previous three years. The growth in full-time work in the past decade has apparently reduced the number of RNs/RPNs who are seeking full-time work but cannot find it.

Figure 3.34 Proportion of RNs/RPNs Working Full Time (Actual Hours at All Jobs), by Province

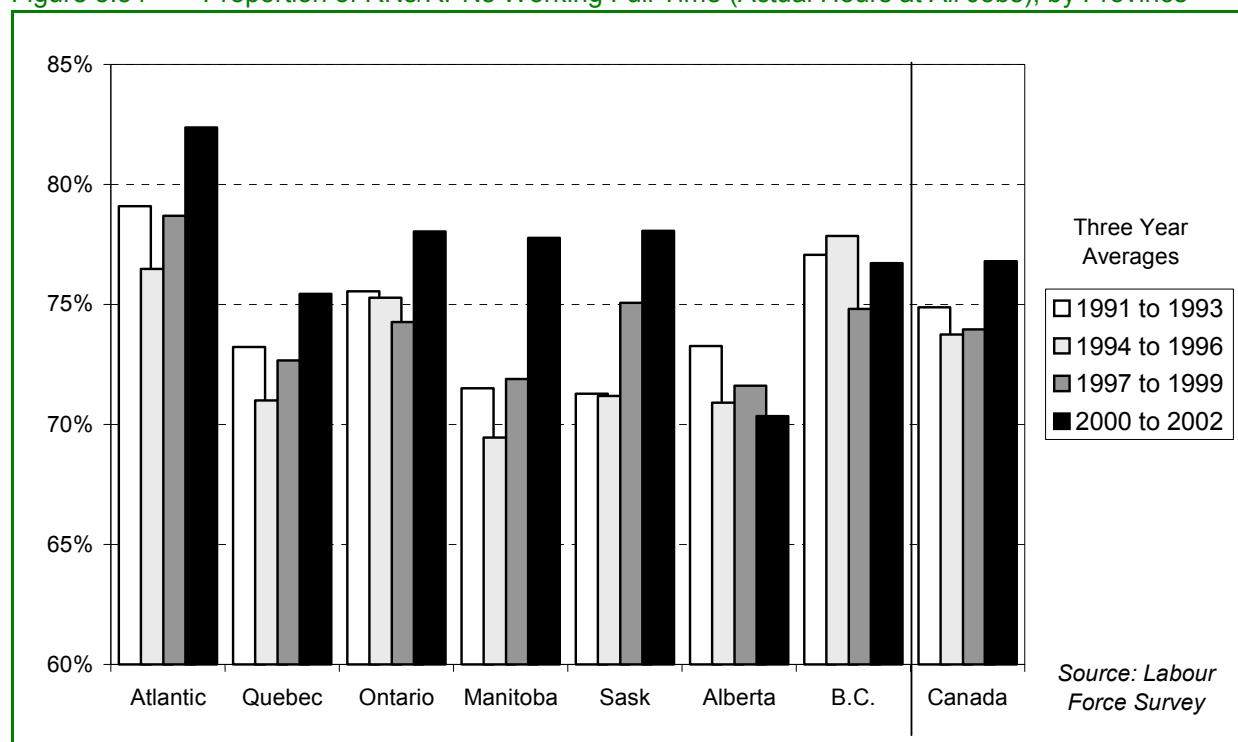


Figure 3.35 Classification of Hours of Work and Number of Jobs, Persons Reporting their Main Job as RN/RPN, Saskatchewan

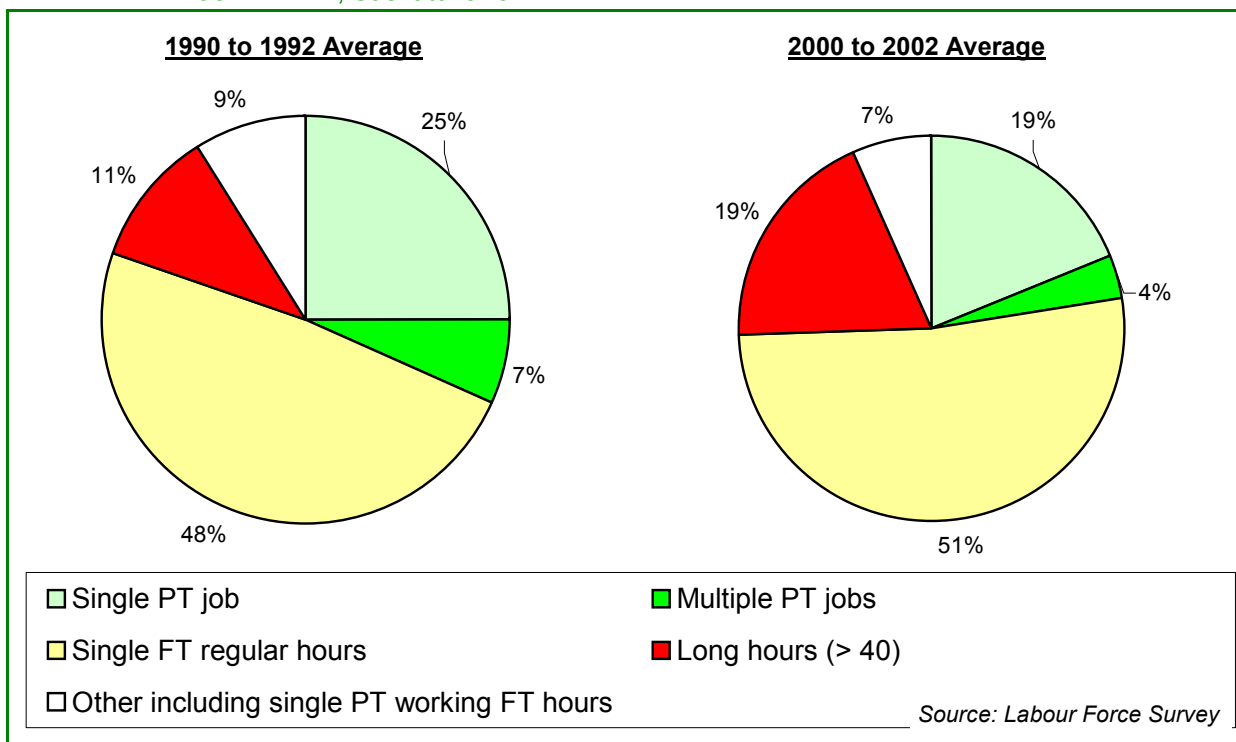
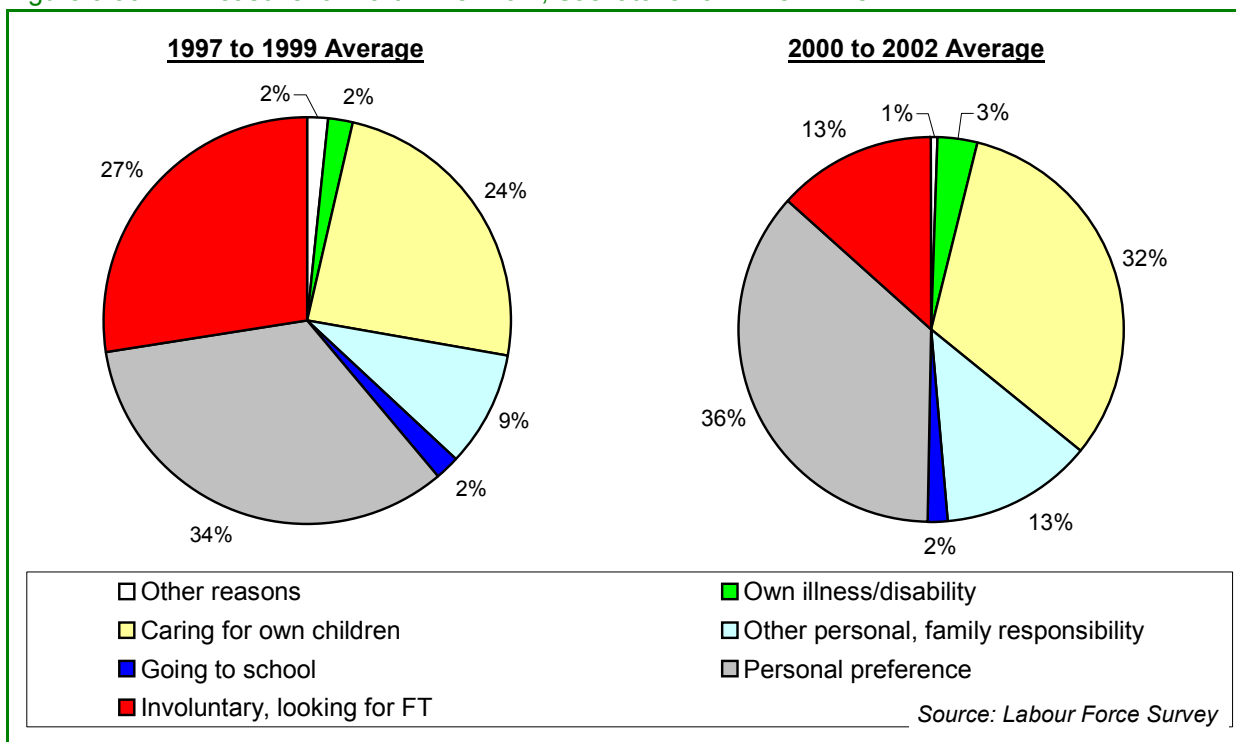


Figure 3.36 Reasons for Part-Time Work, Saskatchewan RNs/RPNs



SAHO

Approximately four out of five RNs/RPNs are represented by member organizations that use SAHO's payroll system. A special tabulation from SAHO for the 2002 calendar year found that those in full-time positions represent 58% of FTEs.

It is difficult to translate this into persons but if part-time and casual RNs/RPNs work an average of half-time, then persons working full-time hours represent about four out of ten RNs/RPNs, lower than the 52% reported by CIHI, the 59% from the Census, and the 74% suggested by the Labour Force Survey. Apparently RNs/RPNs working in SAHO member organizations are more likely to be working part-time than those working for other employers.

The SAHO data are the most reliable for measuring overtime hours although only a one-year snapshot is available and only for SUN members. That is, out-of-scope RNs are assumed to work no overtime.

On average 59 hours of overtime were paid for each FTE during 2002. Figure 3.37 shows that overtime is more prevalent among full-time employees and somewhat less prevalent among SUN members in older age groups.

SUN included several questions on overtime and "extra casual hours" in their 2002 survey. Among the 710 respondents, 31% report working no additional overtime or extra hours usually worked at their main employer.

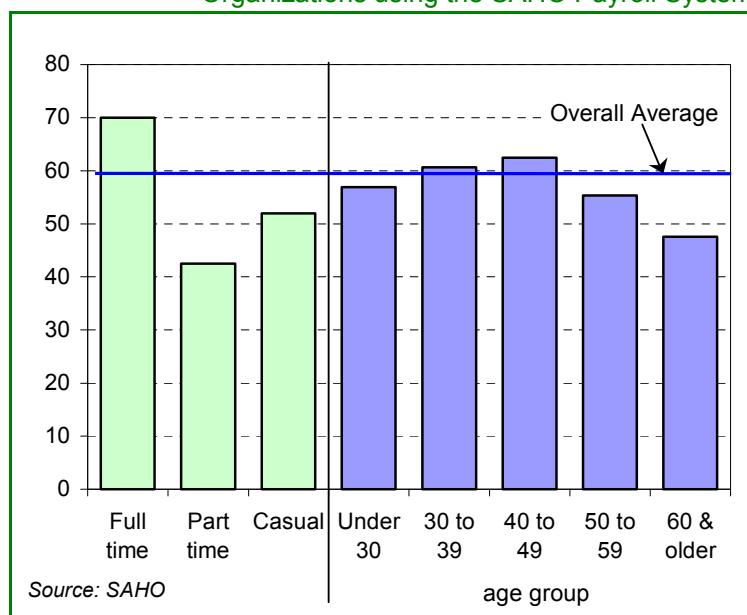
The average among all respondents was 5.3 hours per week but it was significantly higher among those working part-time (8.4 hours) than among those working full time (3.3 hours). Figure 3.38 shows that more than one half (56%) of respondents who work part-time reported working six or more extra hours.

Table 3.8 RN/RPN Full Time Equivalents, SAHO Member Organizations using the Payroll System, 2002

		FTEs	Percent of total
RNs/RPNs		5,222	100%
by status	Full time	3,024	58%
	Part time	1,775	34%
	Casual	424	8%
	Total	5,222	100%
Overtime hours paid per FTE	Full time	211,671	68%
	Part time	75,495	24%
	Casual	21,911	7%
	Total	309,077	100%

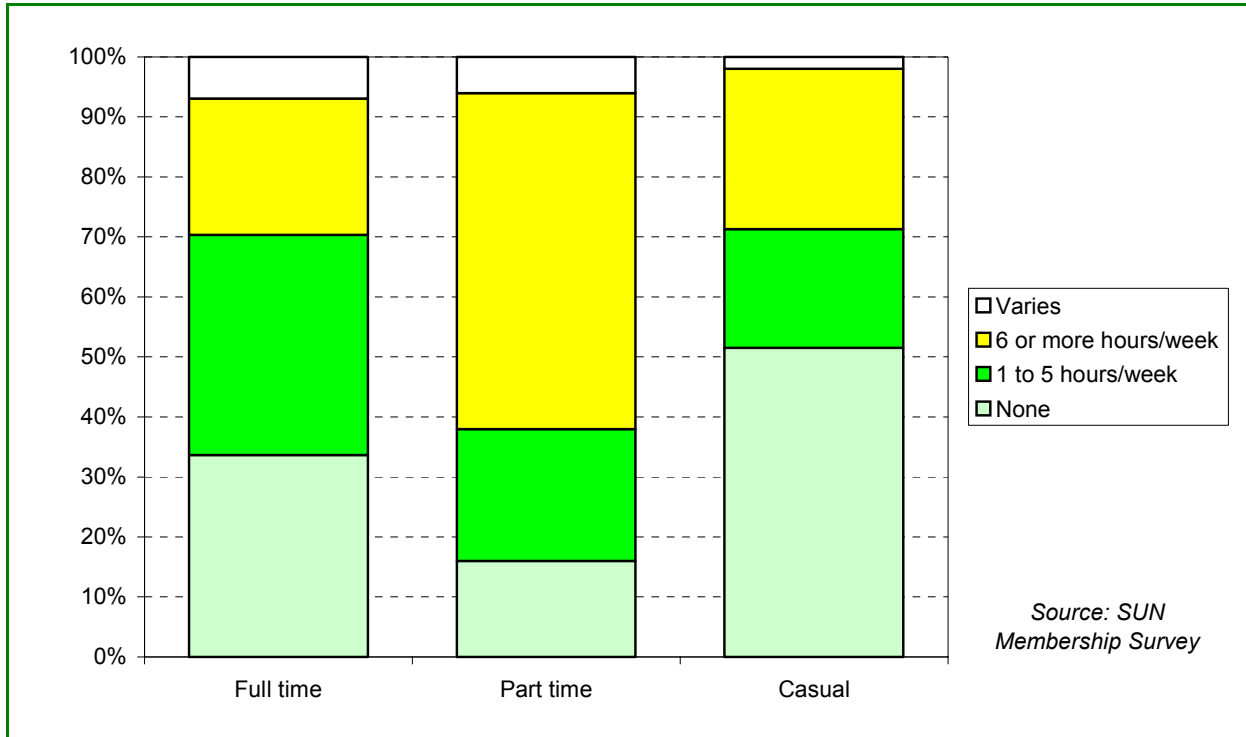
Source: Special tabulation from SAHO

Figure 3.37 Paid Over Time Hours per FTE, Member Organizations using the SAHO Payroll System



The average overtime paid per full-time FTE was 70 hours in 2002 according to the SAHO records. The 3.3 hours per week reported for full-time workers in the SUN survey (assuming this is all overtime and not “extra hours”) translates into 170 hours per year. There is no good explanation for the discrepancy except for the possibility that survey respondents may be overestimating actual overtime worked. This may be the case because 36% report disliking the extra hours and may have been overestimating the amount. In any case, it is clear that overtime is prevalent, particularly among part-time RNs/RPNs.

Figure 3.38 Overtime Hours or Extra Casual Hours per Week, SUN Survey Respondents, 2002



Licensed Practical Nurses

The registration form for LPNs has only recently added hours of work to the list of characteristics collected so the only data available describing hours of work for LPNs are from the census and SAHO.

Information from the census describes work activity over the course of the year prior to the census, that is, 1990, 1995 or 2000. Only two classes of work attachment are published – working full-time throughout the year, the so-called full-time, full-year workers, and those who worked either part-time or for only part of the year.

LPNs have become more attached to the labour market in the last ten years. In 2000, 52% worked on a full-time, full-year basis compared with 54% in 1995 and 44% in 1990.

Relative to other provinces, Saskatchewan now has a higher proportion working full-time, full-year than most (see Figure 3.39). In 2000, the 52% compares with 50% nationally, 62% in the Atlantic provinces as a group, and 42% in Alberta. In 1990, the 44% of RNs/RPNs in Saskatchewan who were working on a full-time, full-year basis was below the national average of 45%.

Approximately four out of five LPNs are represented by member organizations that use SAHO's payroll system. A special tabulation from SAHO for the 2002 calendar year found that those in full-time positions represent 59% of FTE's.

Figure 3.39 Proportion of LPNs Working Full-Time Throughout 2000

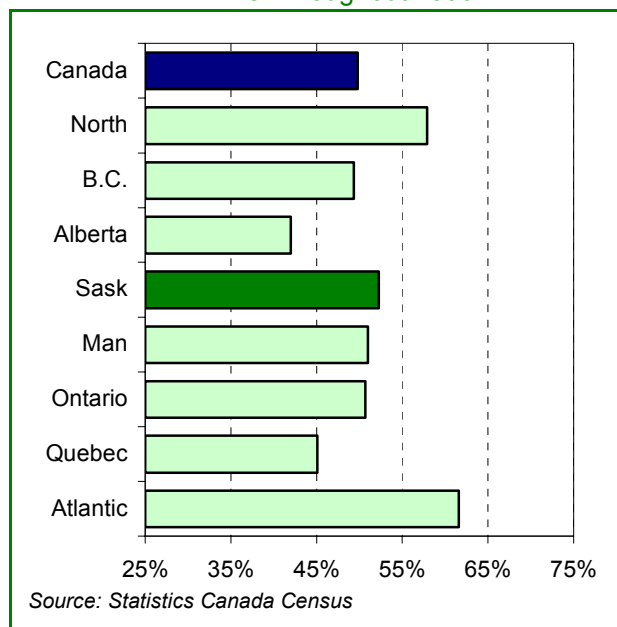


Table 3.9 Attachment to the Labour Force, LPNs

	1990		1995		2000	
	Number	Percent	Number	Percent	Number	Percent
Worked full-time full-year	920	44%	770	54%	920	52%
Part-time or part-year or both	1,155	56%	665	46%	840	48%
Total	2,075	100%	1,435	100%	1,760	100%

Source: Statistics Canada Census

It is difficult to translate this into persons but if part-time and casual LPNs work an average of half-time, then persons working full-time hours represent about four out of ten LPNs, lower than the 52% from the census. Perhaps LPNs working in SAHO member organizations are more likely to be working part-time than those working for other employers or perhaps part-time and casual workers are working more than half time hours.

Survey of Employment Payrolls and Hours

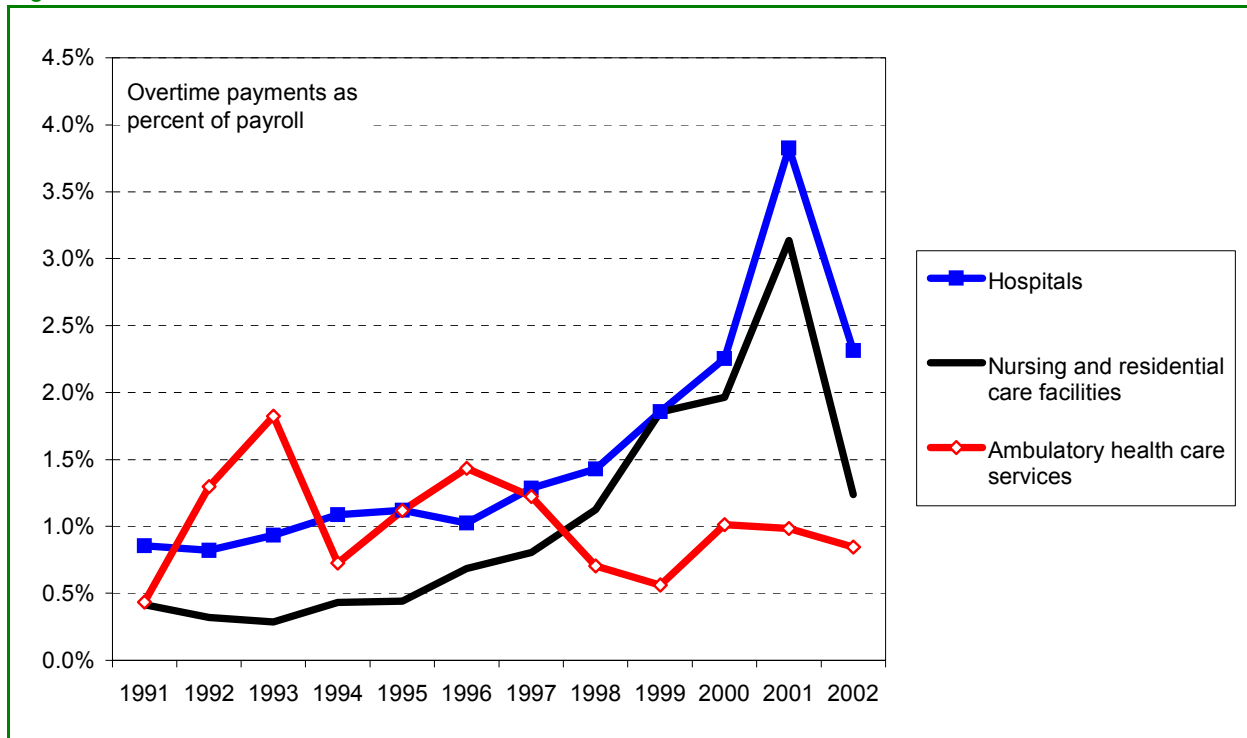
Statistics Canada measures payroll related data in a monthly survey of T4 returns from employers. This can be used to derive the average weekly payrolls with and without overtime by type of employer¹.

Table 3.10 LPN Full Time Equivalents, SAHO Member Organizations using the Payroll System, 2002

		FTEs	Percent of total
All LPNs		1,217	100%
by status	Full time	724	59%
	Part time	369	30%
	Casual	124	10%
	Total	1,217	100%

Source: Special tabulation from SAHO

Figure 3.40 Overtime Trends in the Saskatchewan Health Care Sector, 1991 to 2002



¹ Weekly payrolls represent the gross dollar value before deductions for income taxes, employment insurance contributions etc., including regular pay, overtime and a portion of bonuses, commissions and other type of special payments. The payroll concept excludes dollar amounts that are taxable allowances and benefits, certain types of non-wage compensation as well. Some annual special payments are excluded while other lump sum special payments are adjusted to coincide with the reference week period.

Figure 3.40 shows that overtime in Saskatchewan's hospitals increased from approximately 1% of payroll in the early 1990s to over 2% more recently. The same pattern is evident for long term care facilities although overtime is somewhat less prevalent than in hospitals and has fallen to below 1.5% in 2002. Overtime use in ambulatory health care services (largely ambulance services, home care, and walk in clinics) is much lower and has declined in the past ten years.

Summary

The nursing profession is characterized by a high level of part-time/casual work. In the general Saskatchewan labour market four out of five employees (80%) are employed full-time. For those in the nursing profession the proportion is not completely clear from the data but is estimated at between 50% and 60%. The available data suggests that this is largely because of preference – only 13% of those working part-time report that they would like full-time work. Any comprehensive move to increase the hours of work per nurse, and thereby increase the available “supply” would probably be met with resistance by both nurses and their employers.

There is also evidence to suggest that many nurses are working long hours. For example, 19% of LFS respondents who report their occupation as RN/RPN worked more than 40 hours per week in 2002. Statistics Canada and a survey of SUN members finds relatively high levels of overtime; SUN members express general discontent about the additional workload.

3.6 Inter-Provincial Migration

The migration of people from Saskatchewan to other provinces and countries has received considerable attention and nurses are no exception. Four data sources, all measuring different aspects of migration, are examined in this section. None accurately answers the fundamental question of how many Saskatchewan nurses are leaving the province.

1. The census measures interprovincial flows broken down according to the occupation of the migrant but only if they are working in the destination province. These data, besides being somewhat out of date, do not include flows out of the country¹.
2. The professional associations track interprovincial and international flows of nurses by maintaining administrative records of requests for verification of registration. Besides the fact that they cover only those registered in Saskatchewan or other provinces, these data will count persons who are thinking of leaving but do not actually do so.
3. The graduate follow-up surveys conducted annually by SIAST measure short-term migration flows. The surveys are done six months after graduation so longer term migration patterns are not available from this source.
4. The Canadian Institute for Health Information (CIHI) publishes RN data on the province of registration according to the province of education. This produces a reliable picture of long term net migration patterns. A special tabulation of recent patterns was obtained as part of the research.

¹ *Information from the 2001 Census was not available when this report was published.*

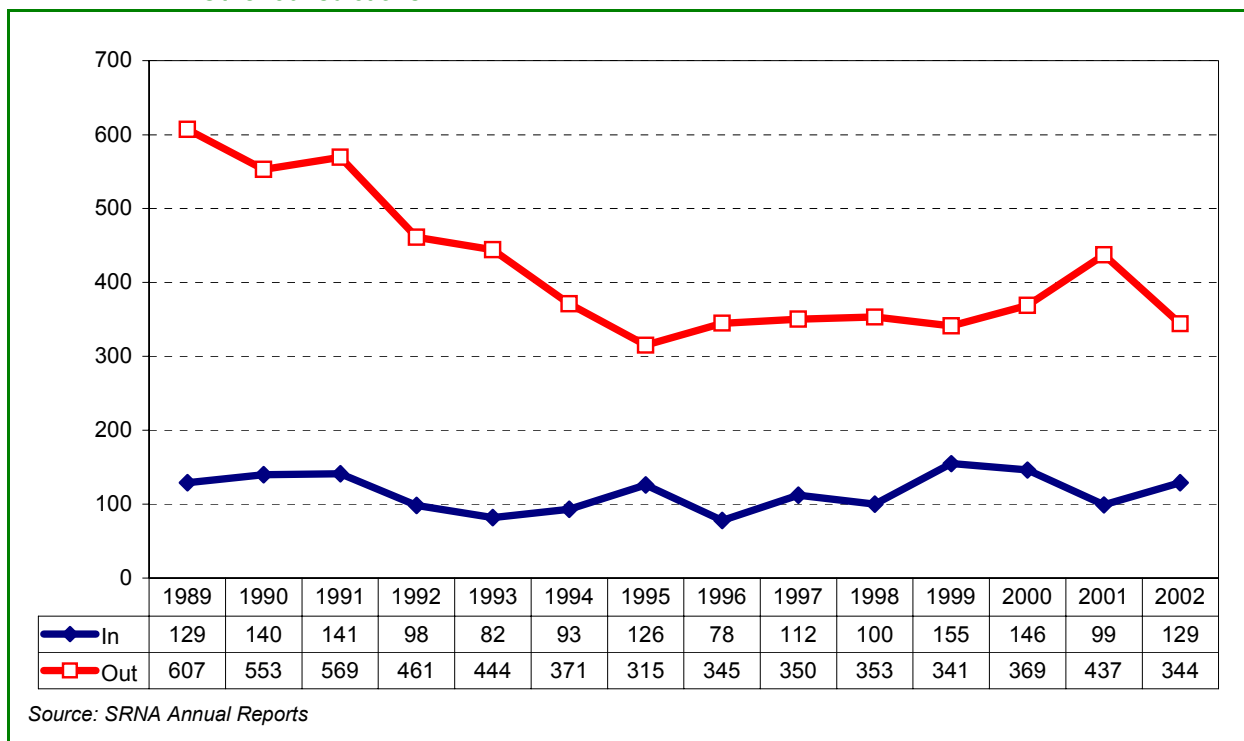
SRNA

Figure 3.41 shows requests for RN verifications published by the SRNA together with the number of registrations from other jurisdictions. The data on the number of requests from other jurisdictions needs to be treated cautiously because they count persons who are thinking of leaving but do not actually do so. The trends are more important than the absolute numbers.

Not all of the requests from other provinces are for information about currently practising members. In 2002, about one third were for non-practising members. In other words, migration arising from those requests would not reduce the supply of practising SRNA members.

The number of requests for verification from other jurisdictions declined steadily during the early 1990s to reach a low of 315 in 1995. Since then it has stabilized, except for a spike in 2001, between 300 and 400 per year. The number of incoming requests has been relatively stable near 100 per year over the past fifteen years.

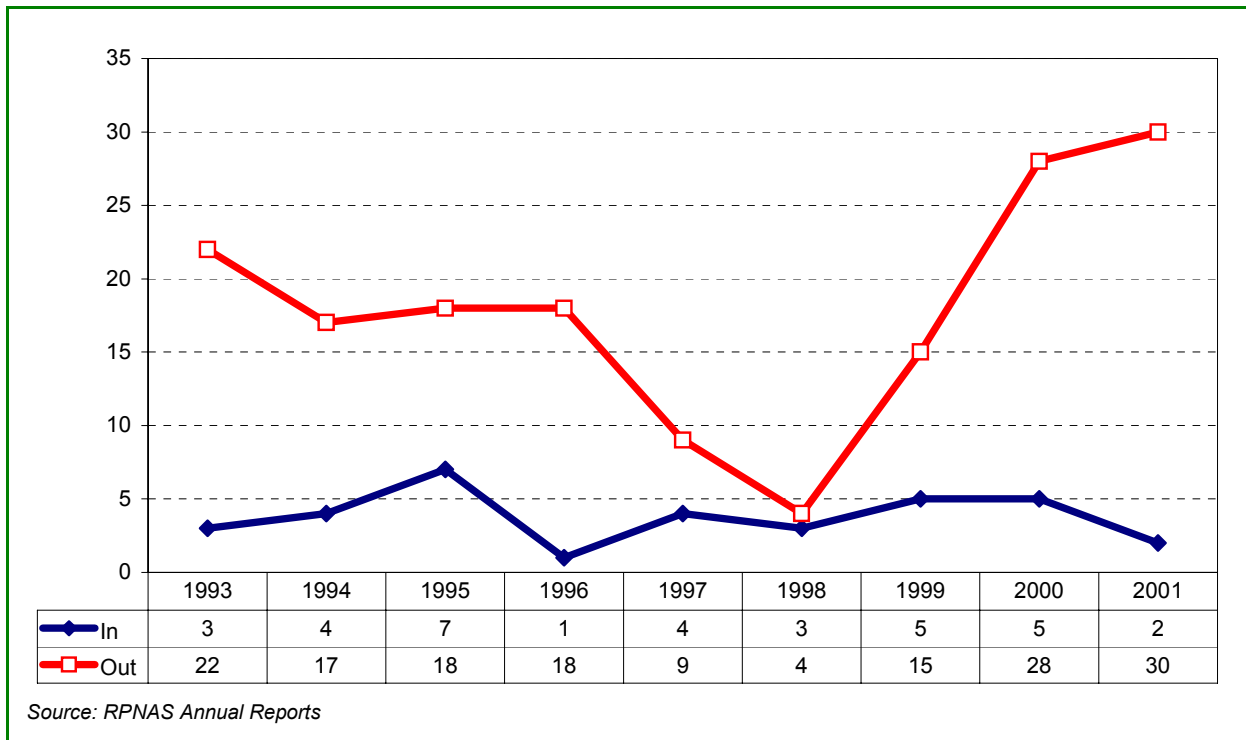
Figure 3.41 Requests for RN Verification from Other Jurisdictions Compared with Registrations from Other Jurisdictions



RPNAS

Although the absolute numbers are much smaller, the reciprocity data from the RPNAS shows a different pattern. Out migration was high in the early 1990s and was on a downward trend until 1999 when it increased significantly (see Figure 3.42).

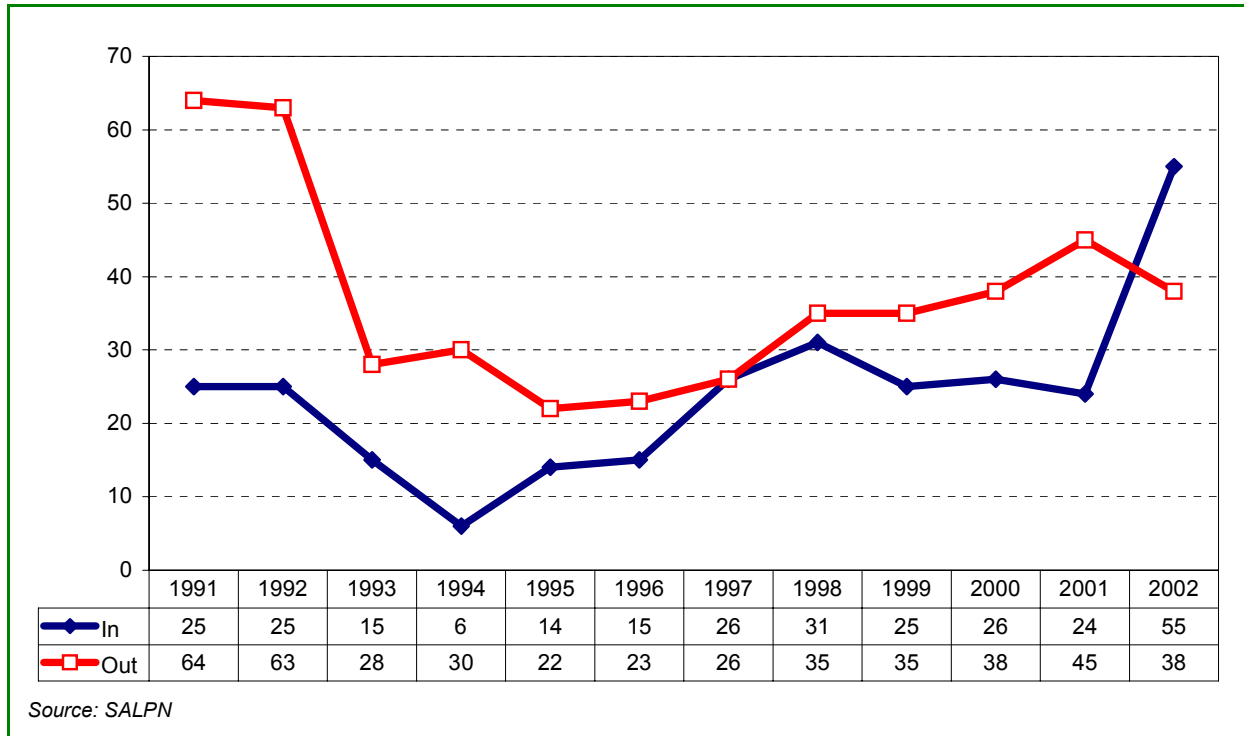
Figure 3.42 Requests for RPN Verification from Other Jurisdictions Compared with Registrations from Other Jurisdictions



SALPN

The LPN data shows a similar pattern to the one for RNs and RPNs in the early 1990s, namely a declining number of requests from other jurisdictions (see Figure 3.43). Starting in the late 1990s, the patterns diverge with both an increasing number of LPN verification requests from other jurisdictions and an increasing number of registrations from other provinces. This was particularly true in 2002 when there were 55 SALPN registrants from other jurisdictions.

Figure 3.43 Requests for LPN Verification from Other Jurisdictions Compared with Registrations from Other Jurisdictions



Graduate Follow-up Surveys

Graduate surveys yield limited information about inter-provincial migration. Those who leave the province are typically harder to contact and so the proportion of non-respondents who have left the province may be higher than the proportion who responded. Graduate follow-up surveys measure only those who leave relatively quickly and not those who leave after practising in Saskatchewan for a short period so they are effectively a measure of those who leave the province immediately after graduation. Finally, they do not, of course, capture in-migration.

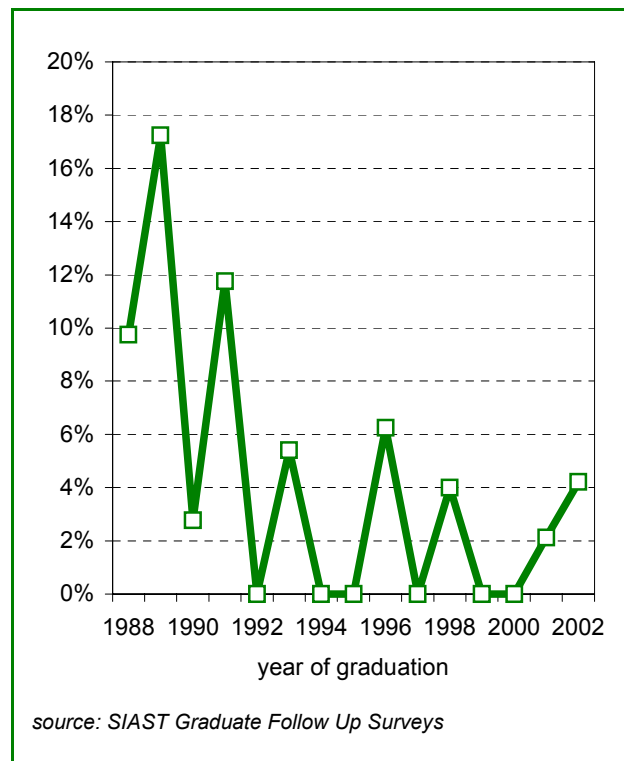
Figure 3.44 shows a pattern for RNs/RPNs similar to the administrative data from the SRNA, namely a decline in the number of out-migrants in the early 1990s and a relatively stable proportion since then.

Relatively few LPNs are working outside the province six months after graduation and the percentage declined in the late 1980s to its current low level (see Figure 3.45).

Figure 3.44 Proportion of RN/RPN Graduates in Training Related Employment Outside Saskatchewan Six Months After Graduation



Figure 3.45 Proportion of LPN Graduates in Training Related Employment Outside Saskatchewan, Six Months After Graduation



CIHI Data

A special tabulation of data from the CIHI database was obtained for this research. The data shows, for the past five years, where graduates of Saskatchewan nursing programs were registered. For the current (2001) year, the age distribution was obtained as well.

This is only a proxy measure for migration, measuring only net migration over time. The methodology does not account for those attending nursing school out-of-province with the intention of returning to Saskatchewan to work, nor will it account for time spent in another jurisdiction. For example, if an RN who initially graduated in Saskatchewan were to return after ten years in another province, there would be no indication of migration, as the province of graduation (Saskatchewan) would match the current province of registration (Saskatchewan). In addition, this method can only track graduates that remain in the country and in the profession; graduates that fail to maintain a licence in a Canadian jurisdiction are excluded.

The information shows that in June 2001, there were 10,128 graduates of Saskatchewan nursing programs registered and working in Canada. Of these, two thirds were working in Saskatchewan, 17% were working in Alberta, 10% were working in B.C. and the remaining 7% were working elsewhere in Canada, typically Ontario or Manitoba. The proportion working in Saskatchewan has not changed significantly over the past five years but there has been a shift from B.C. to Alberta among those who are working outside the province (see Figure 3.46).

Examining the change over time, we see that the number of Saskatchewan graduates has declined by 231 over the past five years. Alberta has increased, on a net basis, 206 graduates leaving declines in Saskatchewan, B.C., and elsewhere.

Table 3.11 Current Province of Registration for Graduates of Saskatchewan Nursing Programs, 1997 to 2001

	Province of Registration									
	Saskatchewan		Alberta		B.C.		Elsewhere in Canada		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
2001	6,682	66%	1,698	17%	1,009	10%	739	7%	10,128	100%
2000	6,937	67%	1,626	16%	1,030	10%	739	7%	10,332	100%
1999	6,982	67%	1,584	15%	1,086	10%	760	7%	10,412	100%
1998	6,909	66%	1,591	15%	1,108	11%	797	8%	10,405	100%
1997	6,895	67%	1,492	14%	1,174	11%	798	8%	10,359	100%
Net change. 1997 to 2001	-213		206		-165		-59		-231	

Source: CIHI special tabulation

There are a number of different interpretations for the declining number of Saskatchewan graduates in B.C. and other provinces. Declines in B.C. could be the result of persons retiring or otherwise leaving the profession without changing their place of residence. The number replacing them is necessarily smaller than the number doing this. The declines could also be the result of net inter-provincial migration out of B.C. to another province, presumably to Alberta. In any case, there is only one interpretation for the increase in Alberta. That province continues to absorb graduates of Saskatchewan nursing programs.

The age distribution of those working in other jurisdictions suggests that the migration tends to occur over the course of a career. Whereas 34% of Saskatchewan graduates were working in another province in 2001, the proportion increases steadily with age, from 18% among those under 30 to 51% among those 60 or older.

One explanation for this distribution is that out-migration occurs for a variety of reasons over the course of a career, accumulating over time, so that the number working in other provinces tends to increase with age. The fact that those registered in B.C., a popular retirement destination, has a disproportionate number of older graduates, is in keeping with this view. Nevertheless, the fact that 82% of those under 30 are working in Saskatchewan suggests that the province has only retained, on a net basis, about four out of five “recent” graduates.

Figure 3.46 Number of Saskatchewan RN Graduates Working in Other Provinces/Territories

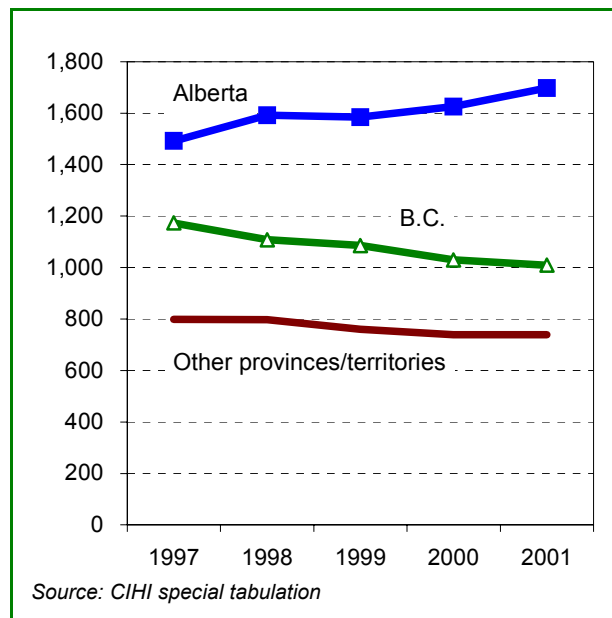


Table 3.12 Province of Registration in 2001 for Graduates of Saskatchewan Nursing Programs, by Age Group

	Province of Registration in 2001									
	Saskatchewan		Alberta		B.C.		Elsewhere in Canada		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 30	579	82%	88	13%	13	2%	24	3%	704	100%
30 to 39	1,715	70%	463	19%	155	6%	134	5%	2,467	100%
40 to 49	2,516	70%	531	15%	350	10%	210	6%	3,607	100%
50 to 59	1,541	57%	489	18%	370	14%	281	10%	2,681	100%
60 or older	331	49%	127	19%	121	18%	90	13%	669	100%
All ages	6,682	66%	1,698	17%	1,009	10%	739	7%	10,128	100%

Source: CIHI special tabulation

Figure 3.47 Proportion of Saskatchewan Graduates Registered in Saskatchewan, 2001

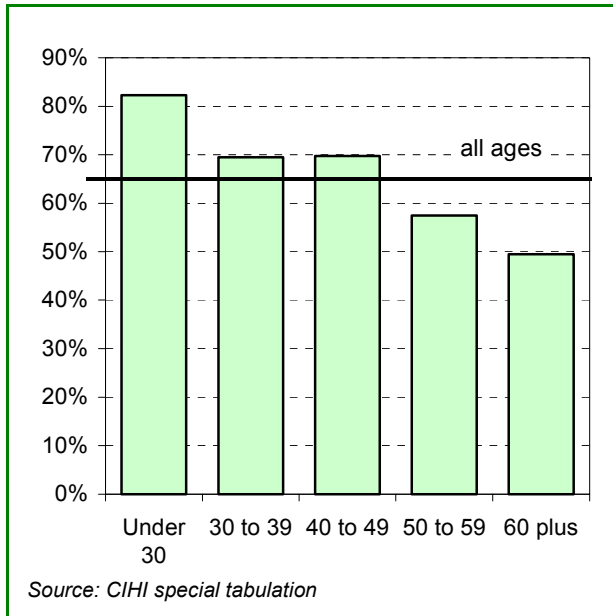
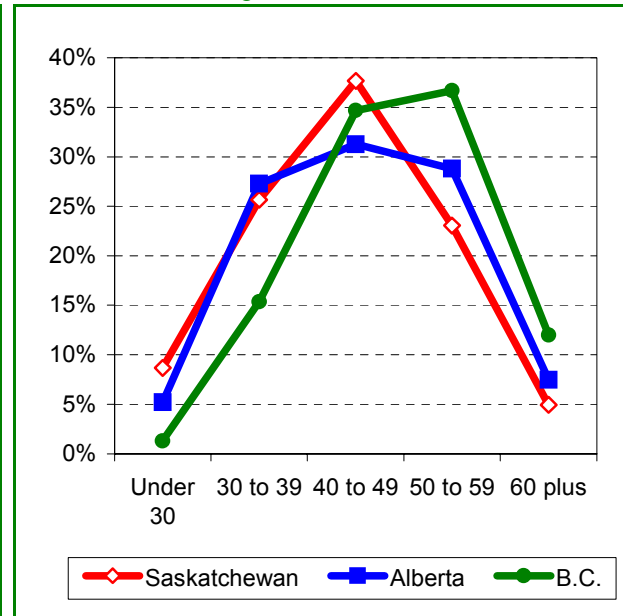


Figure 3.48 Age Distribution of Saskatchewan Graduates, by Province of Registration, 2001



3.7 Projected Supply

Any forecast is subject to error and a forecast of the supply of nurses is particularly difficult. The most reliable forecasts extrapolate on past trends but there has been significant changes to disrupt those trends. As an example, there has been a good deal of instability in the educational requirements to enter the profession and in the programs that deliver that education. Recent changes in the collective agreements covering nurses and the retirement provisions in pension plans will probably alter retention rates in unpredictable ways. For young people planning a career, changes in the scope of practise and the introduction of Nurse Practitioners may affect the attractiveness of the nursing professions.

The analysis that follows attempts to anticipate some of these impacts but the forecast is necessarily based on a series of assumptions. The reader is cautioned to review the validity of these assumptions when evaluating the reliability of the forecast.

To forecast the supply of nurses into the future one needs to project the various elements in the supply portion of the model described in Figure 1.1 in the introduction of this report.

1. How many new entrants will there be to the profession? This is a function of the number of new graduates from Saskatchewan institutions and the proportion who choose to begin practising in the province.
2. How many qualified persons will leave the province and how many will enter from other provinces or countries?
3. How many will leave the profession, not counting those who leave the province? These exits can be permanent or temporary, voluntary or involuntary.
4. Can the supply be effectively increased by increasing the hours of work for those currently employed?
5. Can the supply be increased by tapping into those currently unemployed or working in other occupations while educationally qualified to practise as a nurse? Many of these individuals would require a re-entry program.

In this section we examine these flows separately for RNs, RPNs, and LPNs. There are insufficient long term patterns available to forecast the supply of NPs so they are effectively combined with RNs in the analysis that follows.

To reflect the uncertainty surrounding any forecast of supply, three scenarios are presented. Two of these reflect the author's view of the upper and lower bounds of expected retention rates in the profession and are called, respectively the "high retention" and "low retention" scenarios. The "medium retention" scenario is the one based on retention rates between these two extremes. If forced to choose only one projection, this medium retention rate scenario would be the author's choice.

The number of graduates is addressed in Section 3.7.1 on the next page. For each profession, the flows in points 2, 3, and 5 above are combined by examining retention rates in Section 3.7.2.

The fourth point (increasing hours of work) can be addressed quickly, at least for RNs. The analysis in Section 3.5 shows that there is an opportunity for increasing the hours of work in the sense that RNs are more likely to work part-time or casual than those in other professions. Increasing the hours of work will be difficult however because the data indicates that most RNs who are working part-time are doing so voluntarily. Many part-time RNs are working full-time hours and many are working at more than one job so they are, from the individual's point of view, already working full-time.

Employers would also resist the change as they use the variety of work arrangements to manage budgets and work requirements. No change in the hours of work per nurse is included in the forecast. Any increase in hours of work for those looking for full-time work could be more than offset by a reduction in the number of overtime hours worked among existing staff.

No equivalent data for hours of work for LPNs is available but there is no evidence to suggest that the hours of work pattern is any different from the one for RNs.

3.7.1 Forecast of Graduations

This section looks at forecasts for the number of graduates of Saskatchewan's post-secondary institutions and how these might translate into new entrants into the nursing profession.

Registered Nurses

The capacity of the NEPS program will be at 300 persons per year when the Prince Albert students begin this fall. There is some attrition in the program although there hasn't yet been enough experience to calculate a pattern of completion rates or times and those rates are complicated by the variety of "fast track" options available to students.

Not all graduates will register with the SRNA or RPNAS immediately upon graduation. Some will migrate to other jurisdictions (although they will register in Saskatchewan first) and some may choose to take time off before starting work. Some may choose employment in other than a nursing position and some may not pass the SRNA or RPNAS entrance exams. In the forecast that follows, we assume that 80% of the graduates will enter the profession immediately after graduation – those that delay their entry will be captured by the retention rate calculation in Section 3.7.2. In other words, when the new capacity is fully realized 240 persons per year will immediately enter the profession. We have assumed that 30 will register with the RPNAS and 210 will register with the SRNA.

Forecasting the age and the timing of those graduations is also difficult because there are a high proportion of part-time students in the program and because of the fast tracking. No data are available for the age of the NEPS graduates and the increasing proportion of Aboriginal students may increase the average age because First Nations women have shown a tendency to start post-secondary education later than average.

The assumed graduation rates and the proportion in each age group that enter the profession by registering with the SRNA are shown in Table 3.13. An increasing proportion of graduates are assumed to be under 25 because NEPS has recently announced plans to include more

students directly out of high school. Note that the full impact of the forty new seats is assumed to occur in 2009.

Table 3.13 Assumed Number of New BSN Graduates Entering the Profession as RNs Upon Graduation

age group	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Under 25	85	90	90	90	95	95	95	95	95	95
25 to 29	80	80	85	85	85	90	90	90	90	90
30 to 34	20	20	20	20	20	20	25	25	25	25
Total	185	190	195	195	200	205	210	210	210	210

Registered Psychiatric Nurses

RPNs are assumed to follow the same pattern as RNs in their graduations from the NEPS program. Table 3.14 below shows the age and timing of the assumed graduates, implicitly assuming that their will be a quick resolution to the disagreement about the psychiatric nursing component of NEPS.

Licensed Practical Nurses

The forecast for LPN graduates is even more difficult than for RNs because of the nature of the brokered programs. As the discussion in Section 3.1 indicates, the number of graduates will fluctuate to some extent with the demand for LPNs. And whether or not LPN graduates enter the profession immediately is subject to the same uncertainties as with RNs and RPNs.

In the forecast of supply, we have assumed an annual average of 125 graduates immediately entering the profession – the core program will only yield graduates in two out of every three years because of the staggered intakes and the length of the program. This will be offset by periodic graduating classes from DTI and the regional colleges. The 125 are assumed to predominantly under 25 years of age (80 graduates per year) with 25 in the 25 to 29 age group and 20 in the 30 to 34 age group.

Table 3.14 Assumed Number of New BSN Graduates Entering the Profession as RPNs Upon Graduation

age group	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Under 25	5	5	10	10	15	15	15	15	15	15
25 to 29	5	5	5	10	10	10	10	10	10	10
30 to 34	0	5	5	5	5	5	5	5	5	5
Total	10	15	20	25	30	30	30	30	30	30

3.7.2 Forecast of Retention Rates

The patterns evident in the retention rates described in Section 3.3 are forecast in three scenarios separately for each of the three professional groups.

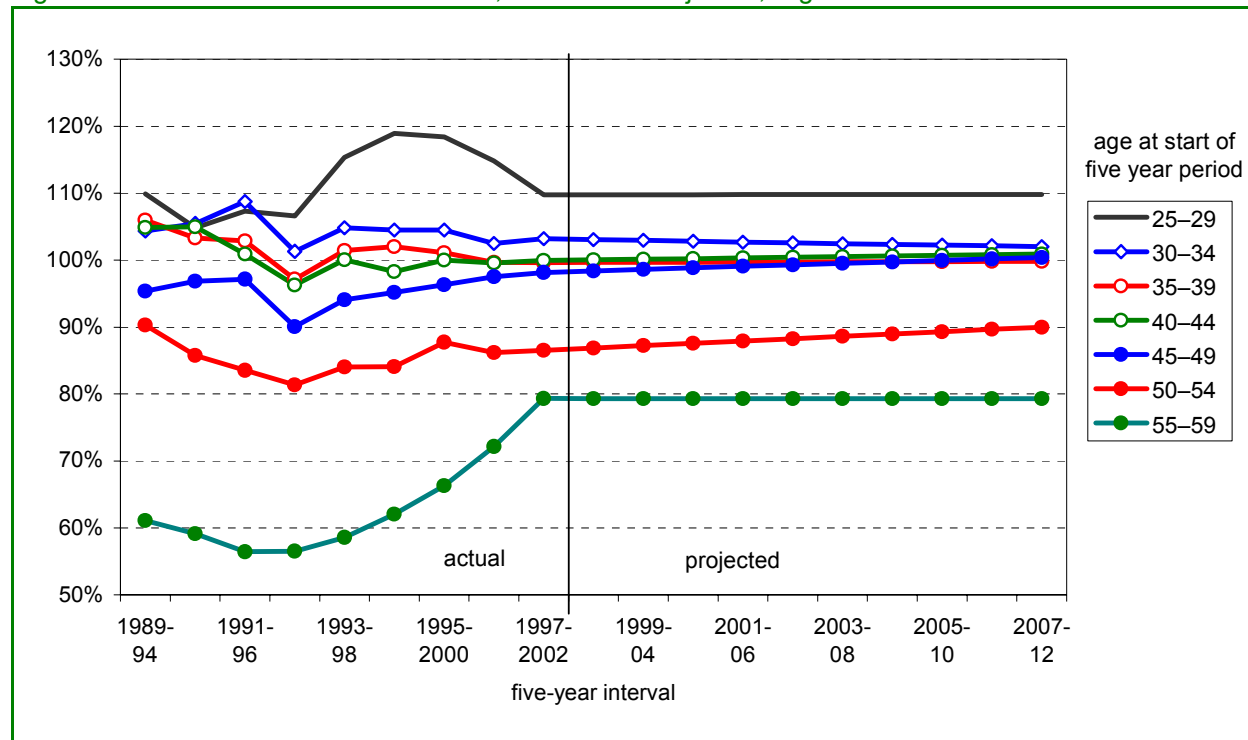
Registered Nurses

The first or “high retention” scenario assumes that the recent improvement in retention rates continues and even improves slightly among some age groups. Figure 3.49 illustrates the retention rates assumed under this scenario, showing for example that the 79% retention rate for those 55 to 59 is assumed to continue and that the rate for those 50 to 54 increases to 90% over the next ten years. Rates for other age groups over the age of 29 are assumed to converge to near 100%.

- there is no new supply of currently unemployed nurses (see section 3.4);
- inter-provincial out migration will slow somewhat, particularly among younger RNs (see section 3.6) as reflected in the retention rates for this group remaining in excess of 100%;
- relatively few of those currently employed outside nursing will choose to reenter the profession (see section 3.2); and
- the profession and the working conditions will be attractive for those over the age of 50 thereby delaying retirement dates.

The “low retention” scenario (see Figure 3.50) is not dramatically dissimilar to the high retention scenario with the exception of some age groups. The rate for those 55 to 59 falls back to the low of 60% experienced in the early 1990s, quickly at first because of the pension provisions,

Figure 3.49 Retention Rates for RNs, Actual and Projected, High Retention Scenario



and then more slowly. The rates for those 50 to 54 and 45 to 49 drift downward to the 80% and 90% experienced during that period. The rate for those 25 to 29 years of age declines to 100% reflecting higher levels of out-migration.

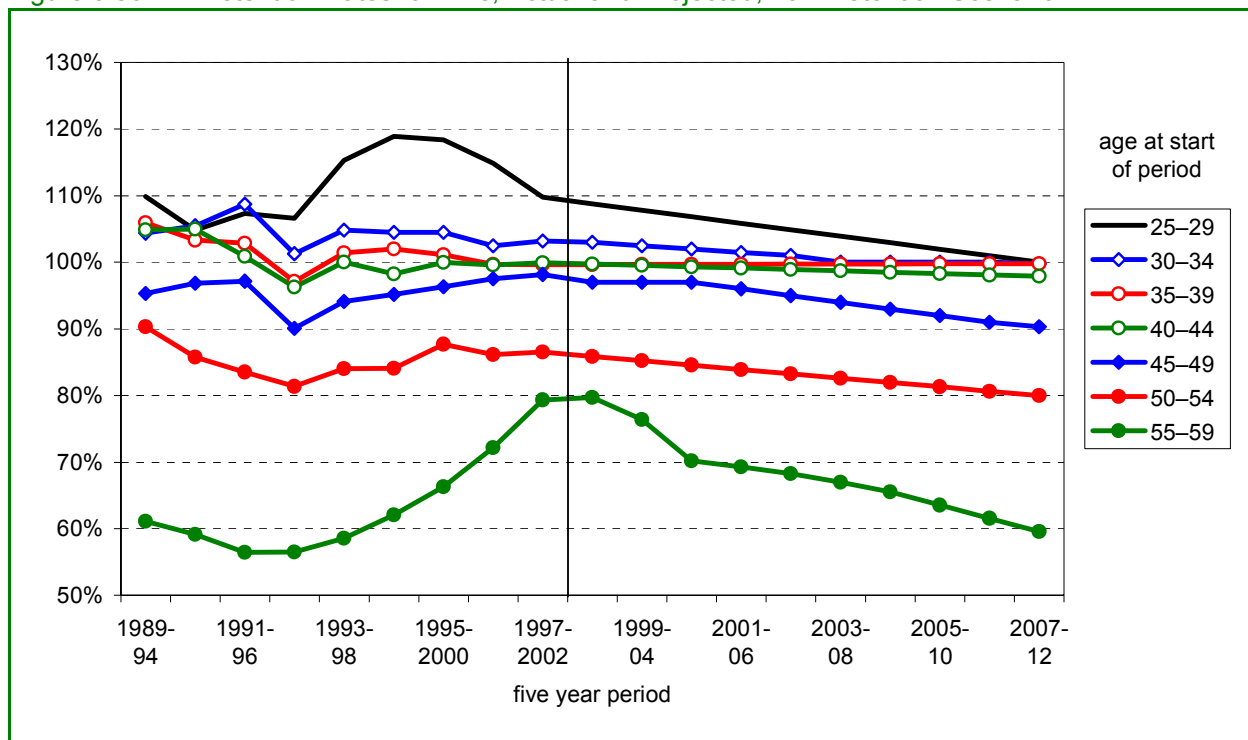
Implicit in this low retention scenario are the assumptions that:

- there is no new supply of currently unemployed nurses (see section 3.4);
- inter-provincial out migration will increase somewhat, particularly among younger RNs (see section 3.6);
- hardly any of those currently employed outside nursing will choose to reenter the profession (see section 3.2); and
- the profession and the working conditions will not be attractive for those over the age of 50 and they will retire as soon as finances permit.

The third scenario is considered by the author to be the most probable based on the blend of circumstances expected over the next five to ten years. The percentages and the trends are a blend of the high and low retention rate scenarios described above, although it models the set of circumstances in the high retention scenario more closely than those in the low retention scenario. It will be referred to as the “medium” retention rate scenario.

The retention rate for those 55 to 59 drops from the current 79% back to 70% and then levels off at 67% (see Figure 3.51) This reflects the belief that many older RNs will choose to retire when the recent wage increase has improved the payment available from their pension plans and the post-retirement health benefits become available. Many of the other retention rates remain constant at their current level. The retention rate for those 25 to 29 years of age declines to 100% reflecting higher levels of out-migration.

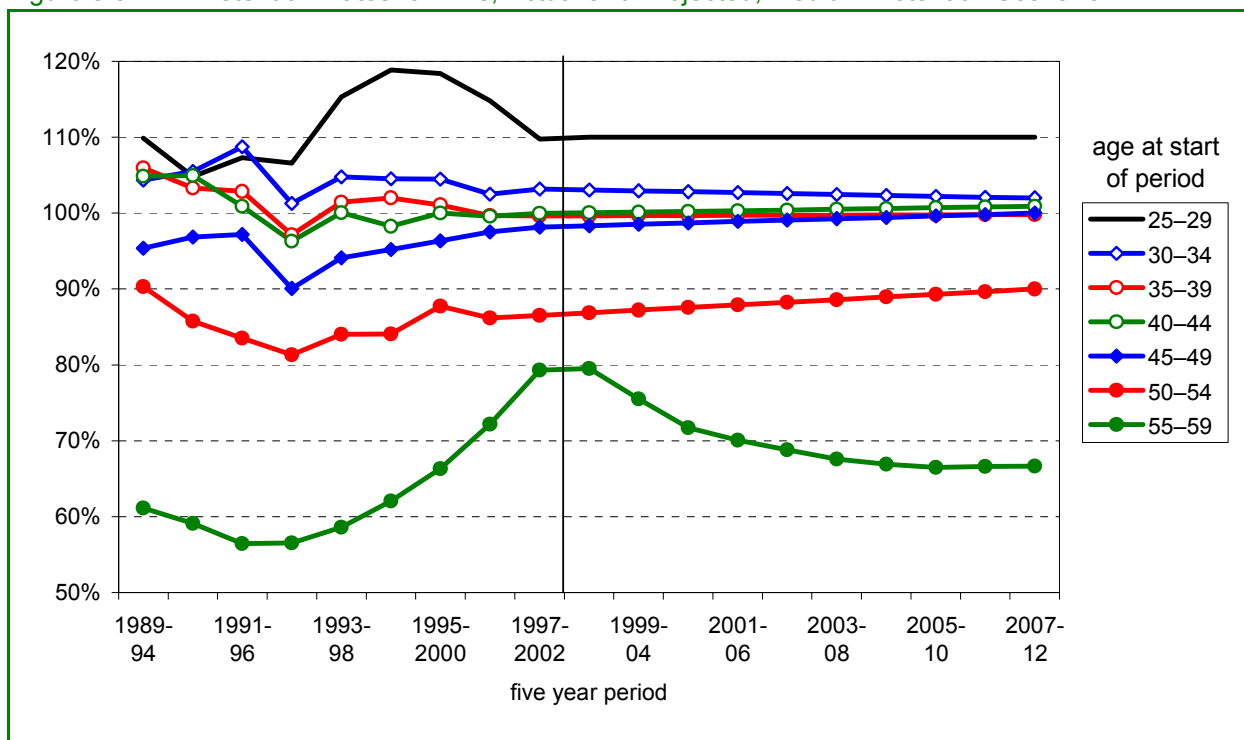
Figure 3.50 Retention Rates for RNs, Actual and Projected, Low Retention Scenario



Implicit in this medium retention rate scenario are the assumptions that:

- there is no new supply of currently unemployed nurses (see section 3.4);
- inter-provincial out migration will increase somewhat, particularly among younger RNs (see section 3.6);
- relatively few of those currently employed outside nursing will choose to reenter the profession (see section 3.2);
- those currently over the age of 55 will retire as soon as finances permit but changes in working conditions and the attractiveness of the profession will keep retention rates above the levels experienced in the 1990s; and
- the profession and the working conditions will remain attractive to those in the 45 to 54 age groups and their retention rate will continue to increase.

Figure 3.51 Retention Rates for RNs, Actual and Projected, Medium Retention Scenario



Registered Psychiatric Nurses

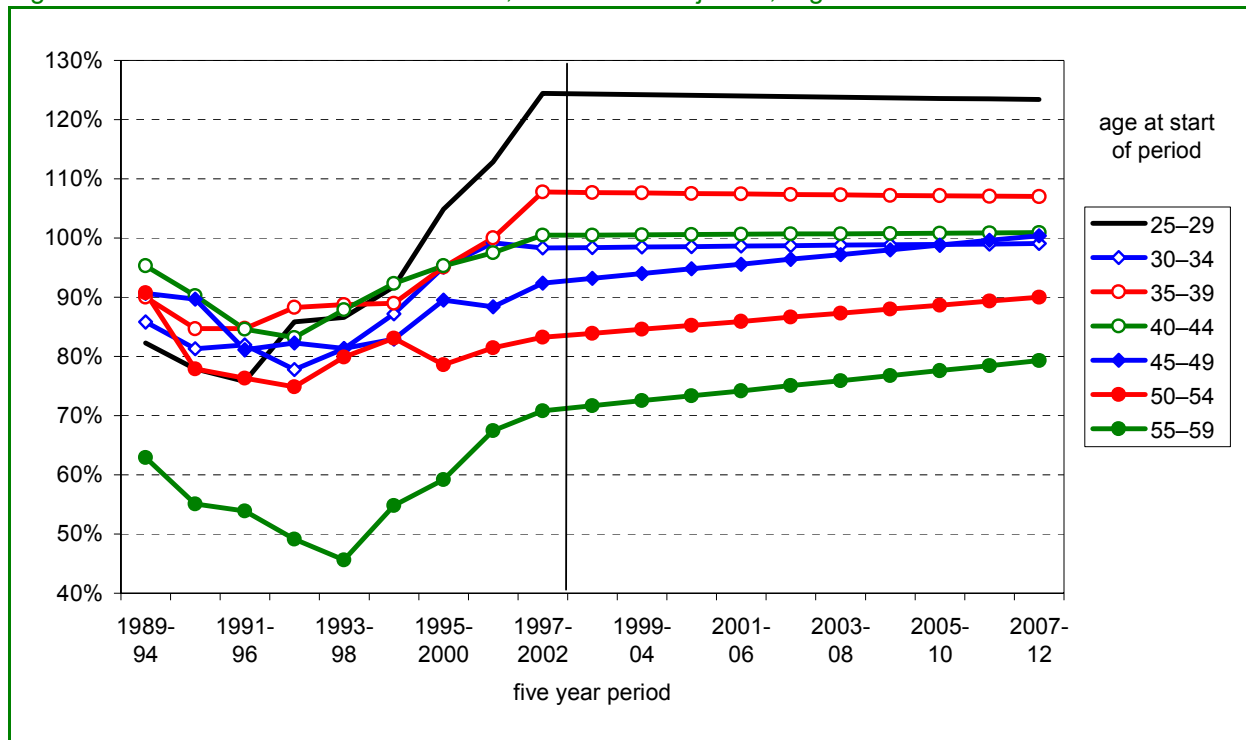
The detailed historical trends in RPN retention rates by age group are not available. Three scenarios (which are not described in detail here) were developed for RPN retention rates using the RN retention rates applied to the current practising RPNs. Some additional assumptions about the age distribution of current RPNs were required for this analysis but the fundamental assumption is that retention rates for RPNs are the same as for RNs.

Licensed Practical Nurses

Although relatively little information is available, the projected retention rates for LPNs assume that, like RNs, there are very few LPNs receiving employment insurance and that the opportunity to increase supply by increasing hours of work is limited.

The patterns evident in the retention rates described in Section 3.3 are forecast in three scenarios. The first or “high retention” scenario assumes that the recent improvement in retention rates continues and improves among those 45 years of age or older. Figure 3.52 illustrates the retention rates assumed under this scenario, showing for example that the retention rate for those 55 to 59 is assumed to increase from 70% to 80% over the ten years, the rate for those 50 to 54 increases to 90%, and the rate for those 45 to 49 increases to 100%. Rates for other age groups over the age of 29 are assumed to remain at their current level.

Figure 3.52 Retention Rates for LPNs, Actual and Projected, High Retention Scenario



Implicit in this high retention scenario are the assumptions that:

- inter-provincial out migration will remain low and be offset by in migration (see section 3.6);
- relatively few of those currently employed outside nursing will choose to reenter the profession (see section 3.2); and
- the profession and the working conditions will be attractive for those over the age of 45.

(The high retention rates among those under 30 are thought to be “noise” from the entry of older graduates into the profession. No age distribution of graduating LPNs was available to estimate the impact of this effect.)

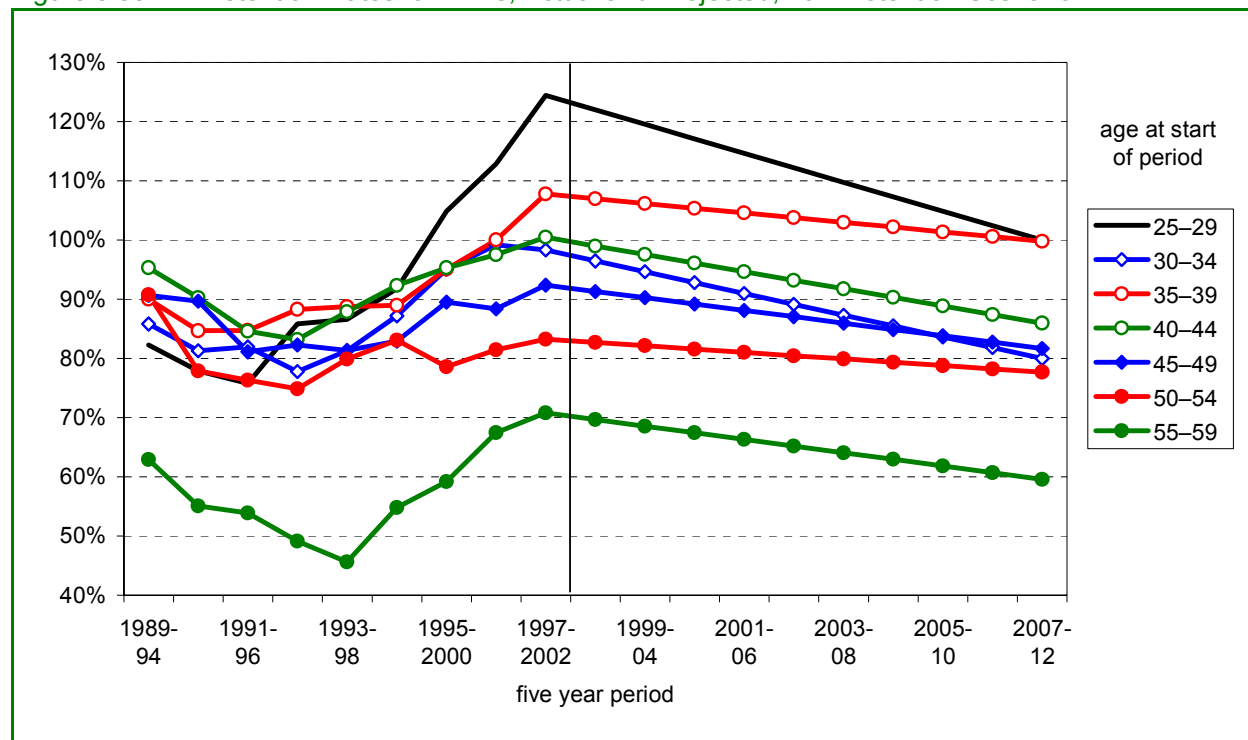
The “low retention” scenario (see Figure 3.53) generally has retention rates decline from their current level back to the levels observed in the early 1990s.

The rate for those 55 to 59, for example, having recently increased from 45% to 70% falls back to 60%. The rates for those 50 to 54 and 45 to 49 also drift downward. The rate for those 25 to 29 years of age declines to 100% reflecting higher levels of out-migration.

Implicit in this scenario are the assumptions that:

- there is no new supply of currently unemployed nurses (see section 3.4);
- inter-provincial out migration will increase, particularly among younger LPNs (see section 3.6);
- hardly any of those currently employed outside nursing will choose to reenter the profession (see section 3.2); and
- the profession and the working conditions will not be attractive for those over the age of 50 and they will retire or leave the profession as soon as finances permit.

Figure 3.53 Retention Rates for LPNs, Actual and Projected, Low Retention Scenario

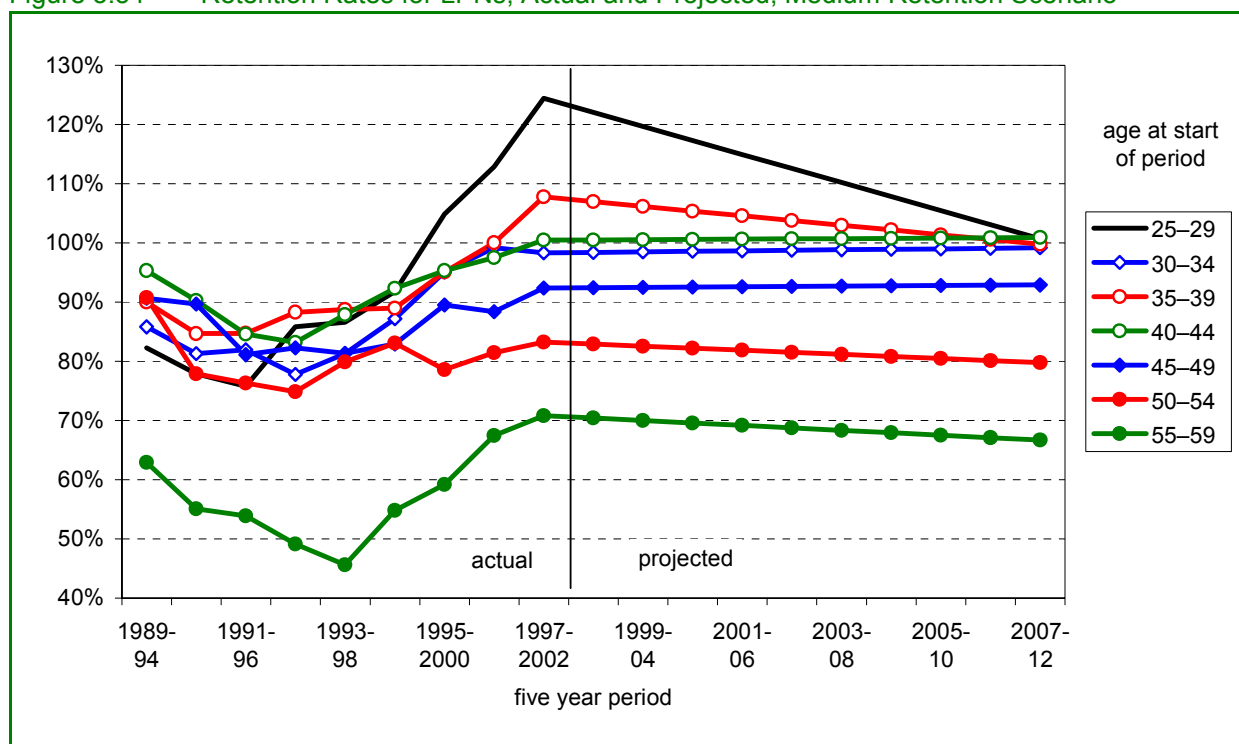


The third scenario is considered by the author to be the most probable based on the blend of circumstances expected over the next five to ten years (see Figure 3.54). It is a blend of the high and low retention rate scenarios described above, although it models the set of circumstances in the high retention scenario more closely than those in the low retention scenario. It will be referred to as the “medium” retention rate scenario.

Implicit in this scenario are the assumptions that:

- there is no new supply of currently unemployed nurses (see section 3.4);
- inter-provincial out migration will not increase and may be offset somewhat by higher levels of in-migration (see section 3.6);
- relatively few of those currently employed outside nursing will choose to reenter the profession (see section 3.2); and
- those currently over the age of 45 will remain in the profession because of improved working conditions and the attractiveness of the profession will keep retention rates at their current levels.

Figure 3.54 Retention Rates for LPNs, Actual and Projected, Medium Retention Scenario



3.7.3 Summary

This section shows the impact of the three retention rate scenarios on the three professions, concentrating on the total counts and the age structure in the medium retention rate scenarios.

Registered Nurses

With the forecasted number of graduates and the forecasted retention rates, the supply of RNs declines in two of the three scenarios and remains relatively constant in the third (see Figure 3.55).

In the low retention scenario, the supply drops by 54 RNs per year for the first five years of the forecast period and 123 per year for the second five years.

In the medium retention scenario, the supply drops by 18 RNs per year for the first five years of the forecast period and 39 per year for the second five years.

In the high retention scenario the supply increases slightly in the first five year period and drops by 21 RNs per year in the second five year period.

The age distribution of RNs in 2007 and 2012 under the medium retention scenario is shown in Figure 3.56. The medium retention scenario has relatively high retention rates for those in the 45 to 49 age group, the largest single age group for RNs currently employed in Saskatchewan. By retaining more of these nurses, the total count remains near the current level in the short term and the peak of the age distribution moves to the 50 to 54 age group in 2007.

By 2012, more of these RNs will be in the 55 to 59 age group and the size of this age cohort drops slightly. The increased number of graduates begins to have an effect with an increasing number of RNs under the age of 30 in this scenario.

No formal calculation of the situation beyond 2012 was undertaken in this research. Nevertheless, it is clear from the age distribution that regardless of retention rates, the number of RNs in Saskatchewan will fall dramatically after 2012 as the 800 RNs over the age of 60 retire. Higher retention rates will postpone this drop but they cannot prevent it.

Table 3.15 Estimated and Projected Supply of RNs, Three Scenarios

		High retention	Medium retention	Low retention
Employment	1992	8,698	8,698	8,698
	1997	8,456	8,456	8,456
	2002	8,257	8,257	8,257
Forecast supply	2007	8,277	8,167	7,989
	2012	8,173	7,972	7,372

Figure 3.55 Supply of RNs, Three Scenarios

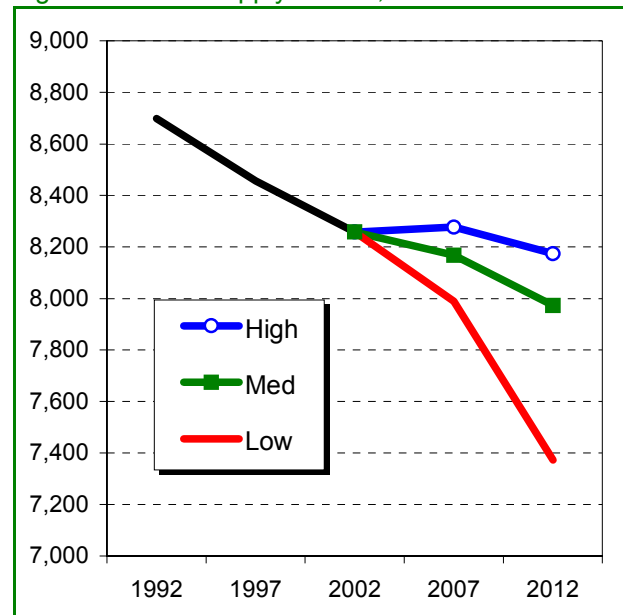
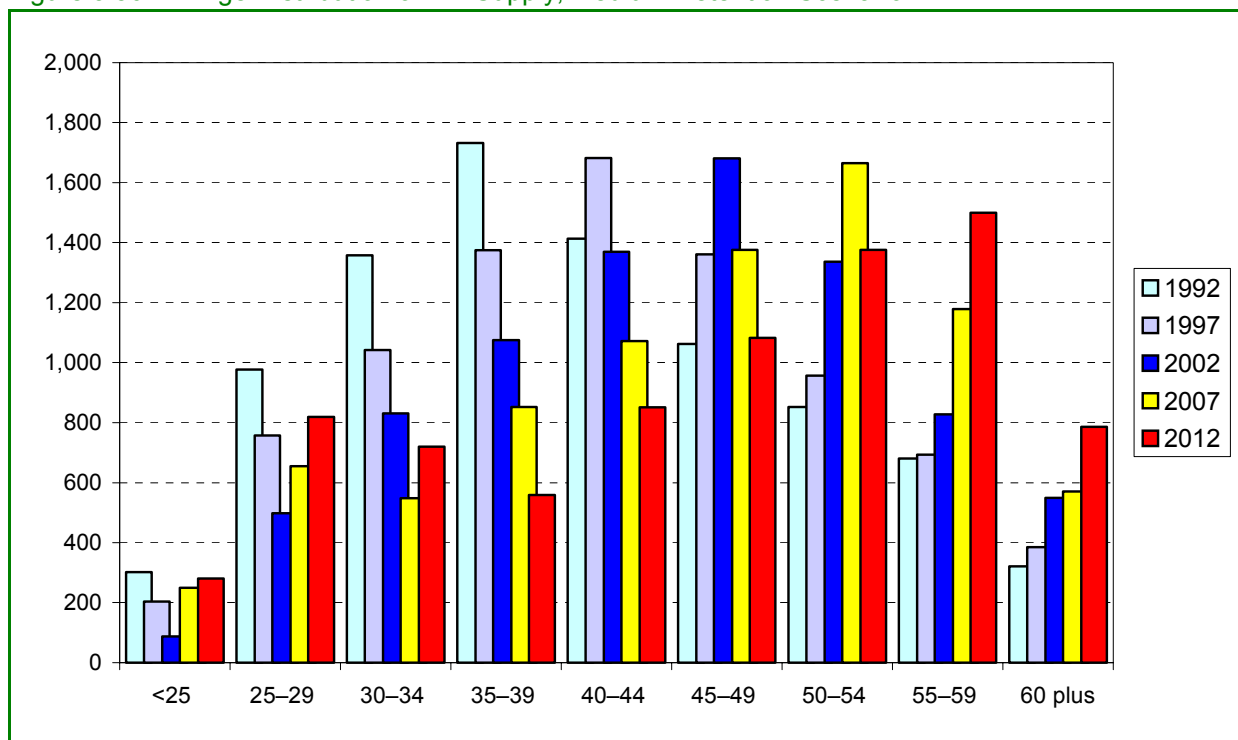


Figure 3.56 Age Distribution of RN Supply, Medium Retention Scenario



Registered Psychiatric Nurses

With the forecasted number of graduates and the forecasted retention rates, the supply of RPNs declines in each of the three scenarios (see Figure 3.57).

In the low retention scenario, the supply drops by an average of twelve RPNs per year for the first five years of the forecast period and the same number for the second five years.

In the medium retention scenario, the supply drops by eight per year for the first five years of the forecast period and then decreases by two per year for the second five years.

In the high retention scenario the supply still drops in the first five year period (by 5 per year) but then increases in the second five year period.

The age distribution of RPNs in 2007 and 2012 under the medium retention scenario is shown in Figure 3.58. This scenario has the same retention rates as for RNs (because of a lack of historical age information for RPNs) so there is a similar effect over time. The slightly younger

Table 3.16 Estimated and Projected Supply of RPNs, Three Scenarios

		High retention	Medium retention	Low retention
Employment	1992	1,166	1,166	1,166
	1997	1,137	1,137	1,137
	2002	999	999	999
Forecast supply	2007	972	961	940
	2012	992	950	879

base population in 2002 means that there is a delay before the peak of the age distribution moves into the retirement age groups.

The peak of the age distribution moves, successively, from 40 to 44 years of age in 2002, to 45 to 49 years of age in 2007 and 50 to 54 years of age in 2012. The retention rates for these age groups are assumed to be near 100% so the size of the peak does not diminish over time.

Over the period, the number of new RPN graduates begins to have an effect on the age distribution with an increase in the number of RPNs under the age of thirty.

Figure 3.57 Supply of RPNs, Three Scenarios

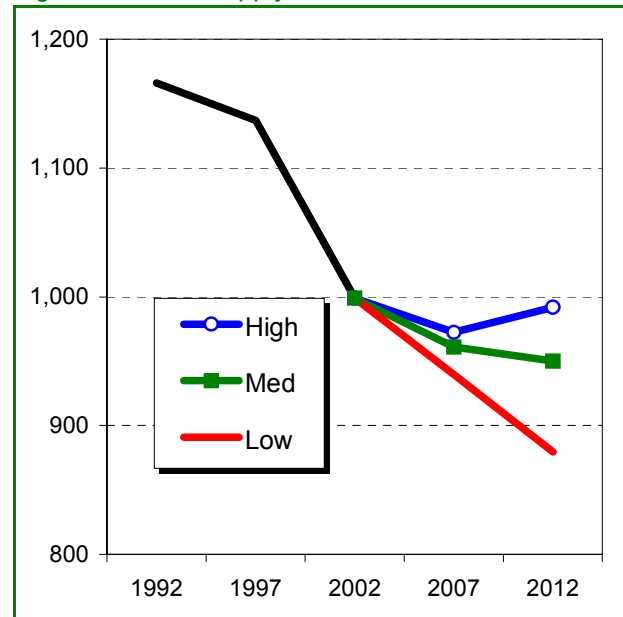
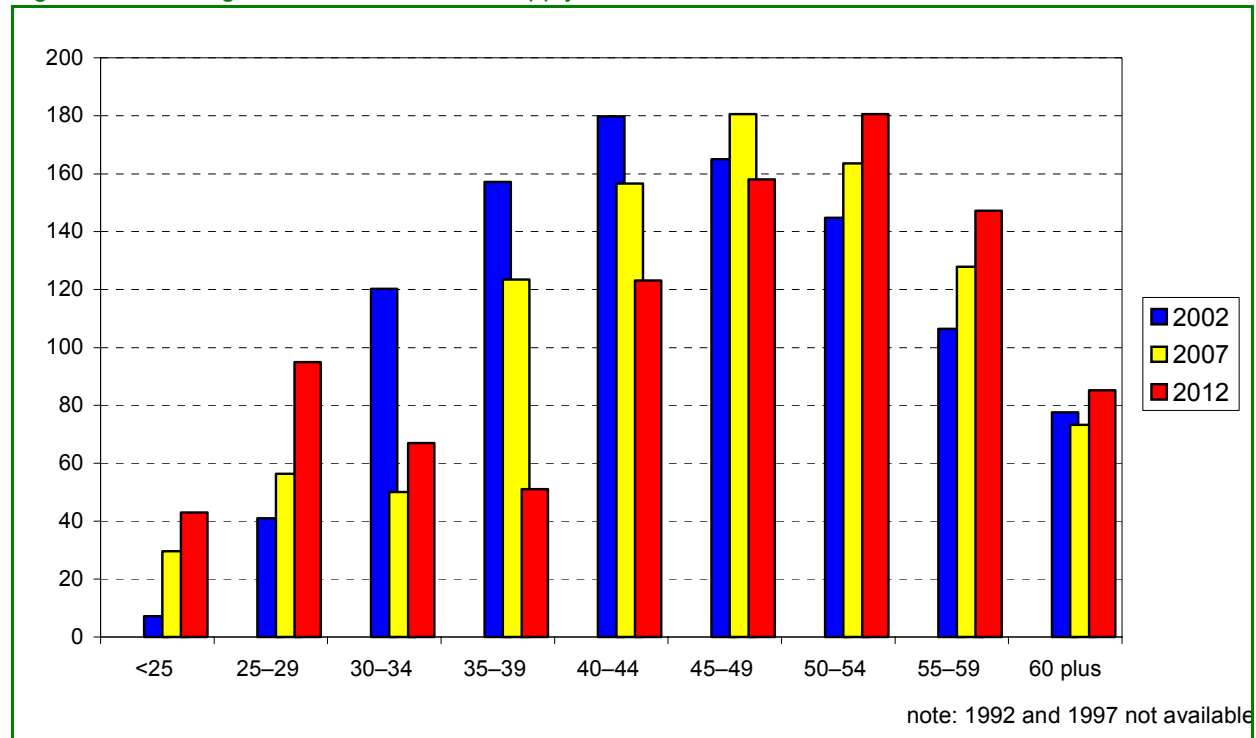


Figure 3.58 Age Distribution of RPN Supply, Medium Retention Rate Scenario



Licensed Practical Nurses

With the forecasted number of graduates and the forecasted retention rates, the supply of LPNs increases in all three of the retention rate scenarios (see Figure 3.59). This is partly the result of the slightly younger age distribution of LPNs and partly because of the number of new graduates in the recent past. In two of the three scenarios, the total number of LPNs returns to the 1992 supply level.

In the low retention scenario, the supply increases by 30 LPNs per year for the first five years of the forecast period and then stabilizes for the next five years.

In the medium retention scenario, the supply increases by 42 LPNs per year for the first five years of the forecast period and 21 per year for the second five years.

In the high retention scenario the supply increases by approximately 60 LPNs per year over the next ten years.

The age distribution of LPNs under the medium retention scenario is shown in Figure 3.60. There is a remarkable turnaround in the age distribution over the course of the ten year period.

The peak of the age group, currently in the 45 to 49 age group, moves to the 50 to 54 age group by 2007 with only a slight decline because of the relatively high retention rates in these age groups. By 2012, however, the situation has changed. The age distribution has two peaks, one in the 25 to 29 age group and one in the 55 to 59 age group. There is still a relatively large number of LPNs over the age of sixty but they are offset by larger numbers of LPNs under 35. The supply will not decline significantly after 2012.

Table 3.17 Estimated and Projected Supply of LPNs, Three Scenarios

		High retention	Medium retention	Low retention
Employment	1992	2,483	2,483	2,483
	1997	2,039	2,039	2,039
	2002	2,126	2,126	2,126
Forecast supply	2007	2,432	2,335	2,278
	2012	2,729	2,441	2,283

Figure 3.59 Supply of LPNs, Three Scenarios

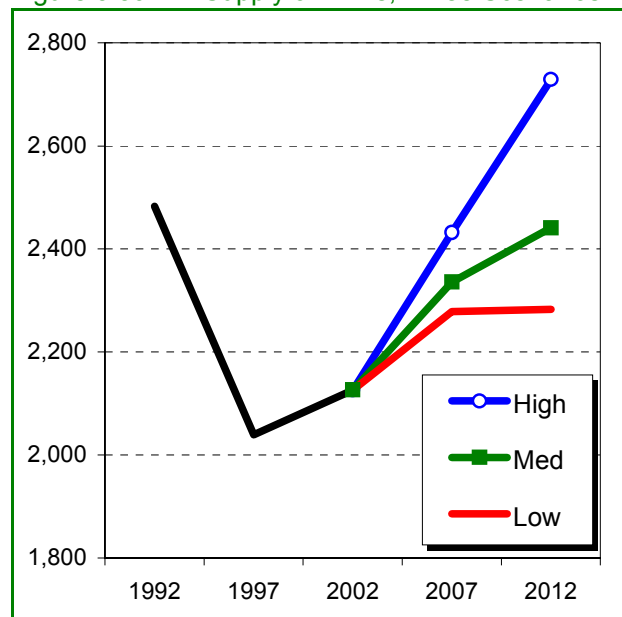
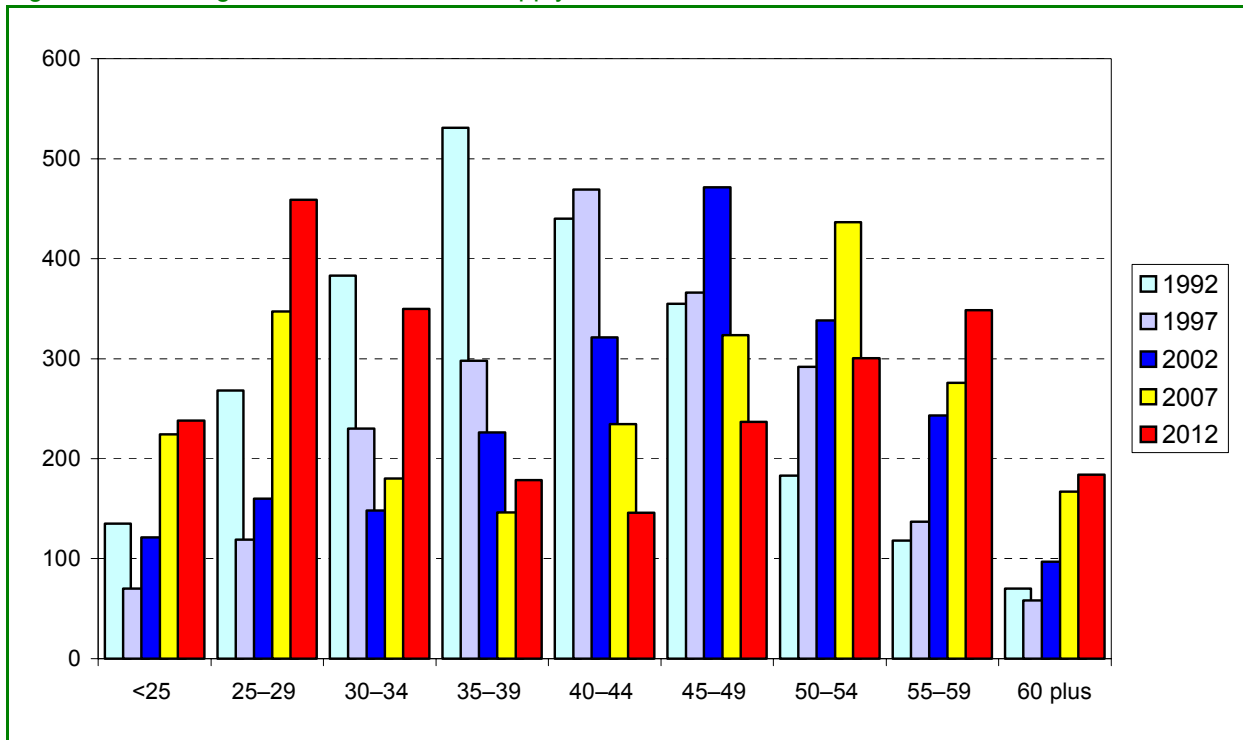


Figure 3.60 Age Distribution of LPN Supply, Medium Retention Rate Scenario



Combinations

There are a variety of ways that the three scenarios for the three professions can be combined – 27 in fact – so they are collapsed, for simplicity, into nine by combining RNs and RPNs and assuming they have equivalent retention rate scenarios in the future. That is, a high retention rate for RNs will be accompanied by a high retention rate for RPNs, a medium rate with a medium rate, etc.

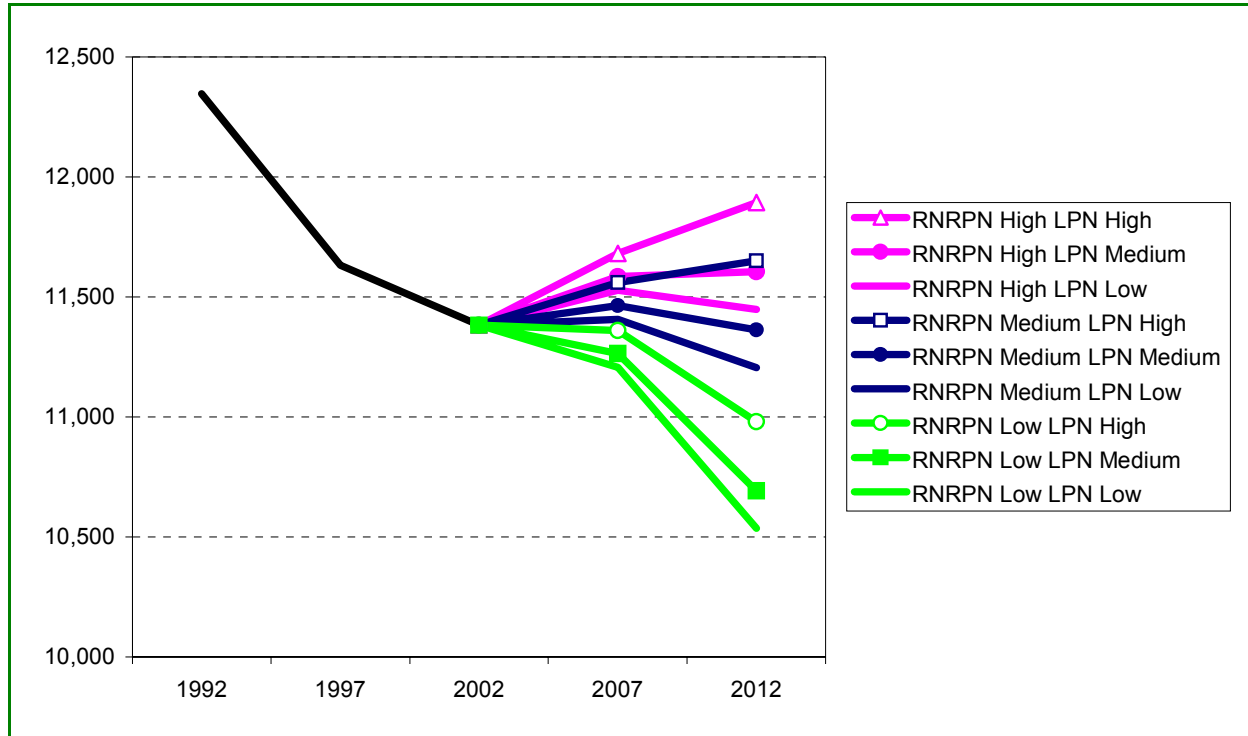
Figure 3.61 shows that the retention rates for RNs and RPNs, because they represent four of five nurses in the province, determine the overall supply. With medium or high retention rates for this group, the supply, which declined throughout the 1990s stabilizes or increases. The combination of medium retention rate scenarios for the three professions, the forecast which is closest to what the author expects, leads to a stable supply of 11,400 nurses over the next ten years.

The increase is more significant if it is accompanied by higher retention rates among LPNs but in no combination of circumstances does it return to the supply level in 1992.

Table 3.18 Estimated and Projected Supply of RNs, RPNs, and LPNs, Three Scenarios

		High retention	Medium retention	Low retention
Employment	1992	12,347	12,347	12,347
	1997	11,632	11,632	11,632
	2002	11,382	11,382	11,382
Forecast supply	2007	11,681	11,464	11,207
	2012	11,894	11,363	10,535

Figure 3.61 Total Supply of RNs, RPNs, and LPNs Under Various Scenarios



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4.0 DEMAND FOR NURSING STAFF

This section looks at the nature of the demand for RNs, RPNs, and LPNs and how it has changed over the last ten years.

Section 2 provided details about the overall level of demand in Saskatchewan, that is, the number of nurses employed in the province. This section looks in more detail at where nurses are working.

There are current data available describing the type of work nurses are doing, the types of employers they work for, and the employment income they receive.

Current vacancy rates, the minimum measure of unmet demand, are examined in Section 4.4.

Current trends in employment by type of employer and area responsibility are used to develop several scenarios for future demand in Section 4.6.

4.1 Employer Type

All three associations provide information on the type of employer for which nurses work. The definitions of the various categories are not completely compatible across provinces and there have been changes over time. The information is still instructive, however, because it shows the employment impact of the changes in the health care delivery system over the 1990s.

Registered Nurses

In 2002, the majority of RNs worked in acute care hospitals although the proportion has been declining over the past decade. Of the 8,257 RNs employed in nursing in 2002, 56% worked in an acute care hospital (see Figure 4.1).

Another 14% worked in other institutional care settings – nursing homes and long term care facilities (13%), rehabilitation centres, and mental health centres. Another 18% were community based in the sense that they worked in community health (10%), home care (7%), or nursing stations (1%). The remaining 12% worked for other kinds of employers including:

- government or professional associations (4.3%);
- educational institutions (2.8%);
- private practise including physician's offices (3.8%); and
- other places of work (0.9%).

Figure 4.1 Type of Employer, RNs Employed in Nursing, June 2002

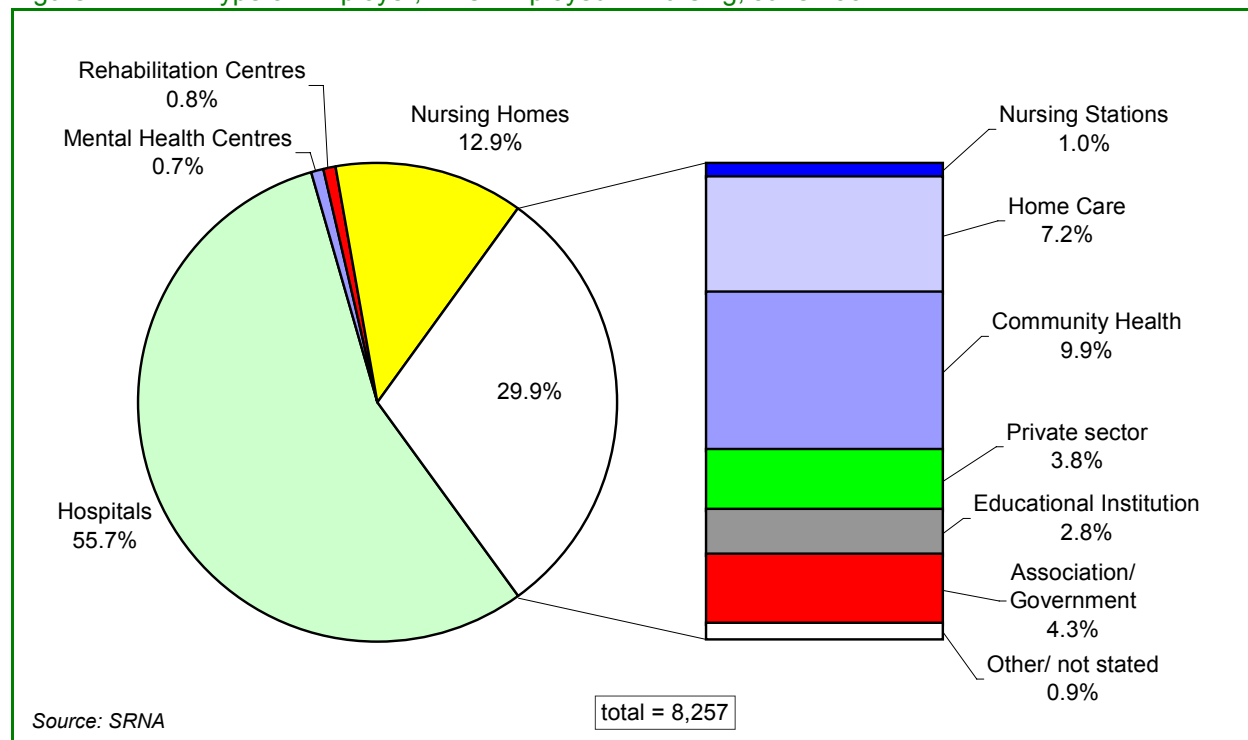
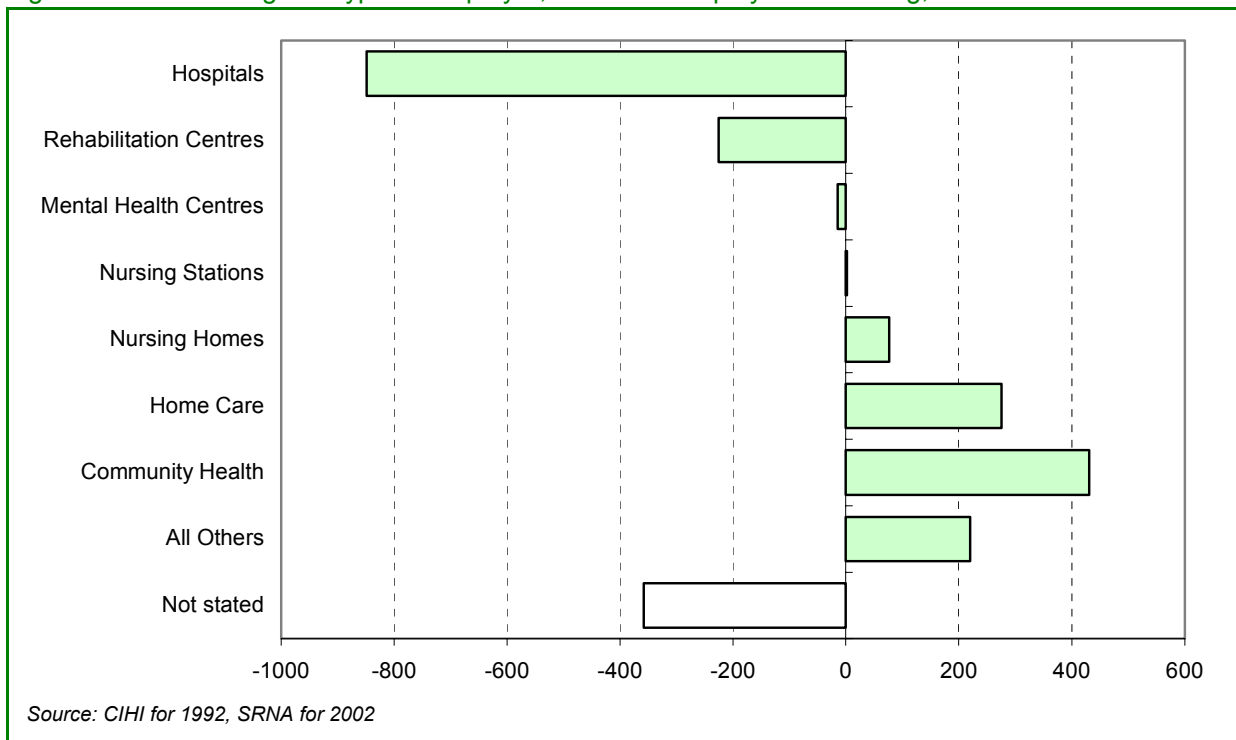


Figure 4.2 Change in Type of Employer, RNs/PNs Employed in Nursing, 1992 to 2002



Comparisons over time are difficult because the number of RNs who did not report a type of employer in the early 1990s was high. In 1992, for example, there were 375 RNs that did not report a type of employer compared with 17 in 2002. Among those reporting, there was a drop in the number of RNs working in hospitals, rehabilitation centres, and mental health centres (see Figure 4.2). Figure 4.3 shows that most of the decline occurred in the early 1990s; the number has stabilized near 5,000 since then.

The increase in the number of RNs working in long term care facilities shown in Figure 4.2 is deceptive. Figure 4.4 shows that RN employment in long term care facilities was increasing in the early 1990s, jumped sharply in 1996 and has been on a downward trend since then.

Health reform in the early 1990s clearly had an effect on the nature of employment for RNs; the largest increases over the ten years were among those working in home care and community health (including nursing stations). Figure 4.5 shows the sharp increase in 1994, and the general upward trend to the current, apparently stable, level of 1,400 RNs.

Over the 1990s, the number of RNs who report employment in the “other” categories and/or did not state a type of employer has been relatively constant.

Figure 4.3 RNs Employed in Hospitals, Rehabilitation Centres, and Mental Health Centres, 1989 to 2002

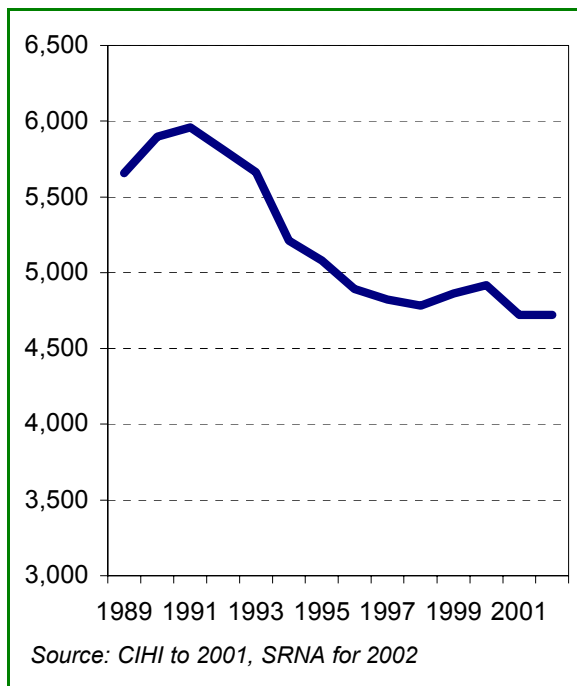


Figure 4.4 RNs Employed in Long Term Care Facilities, 1989 to 2002

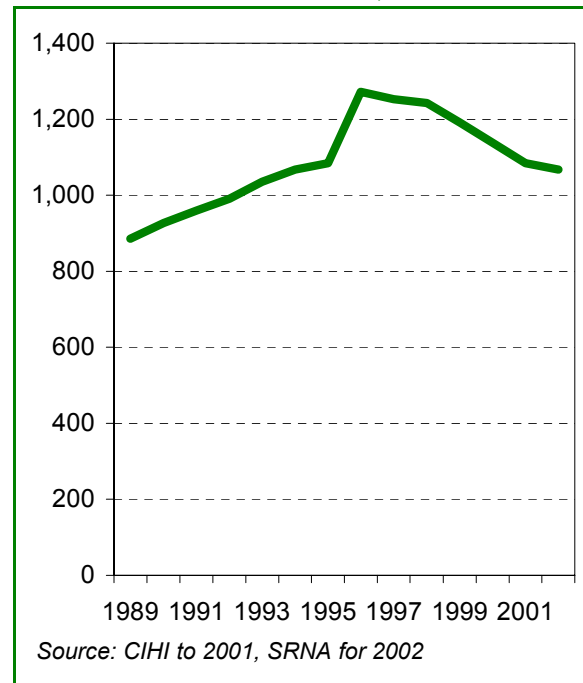


Figure 4.5 RNs Employed in Community Health, Nursing Stations, and Home Care, 1989 to 2002

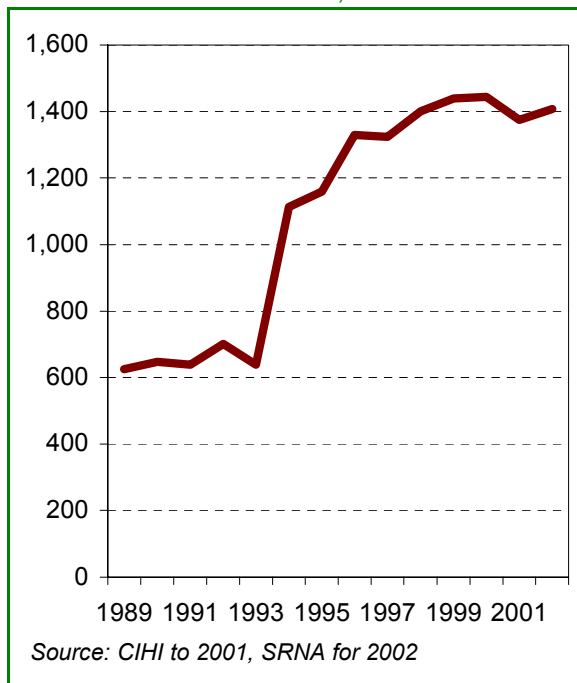
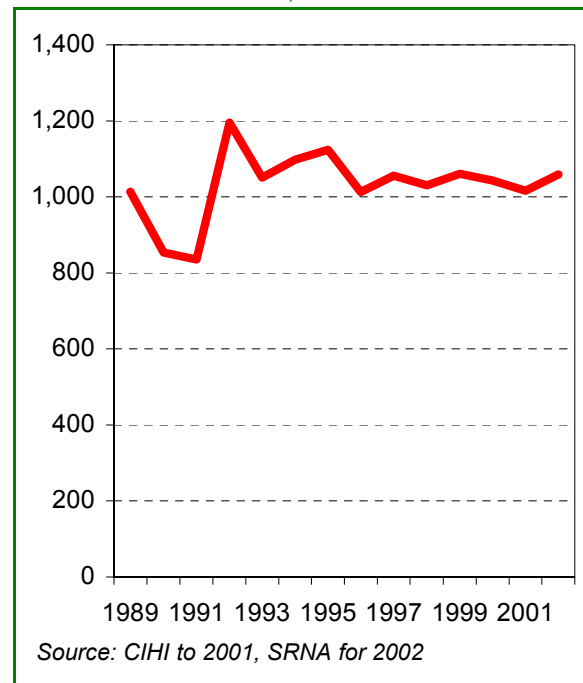


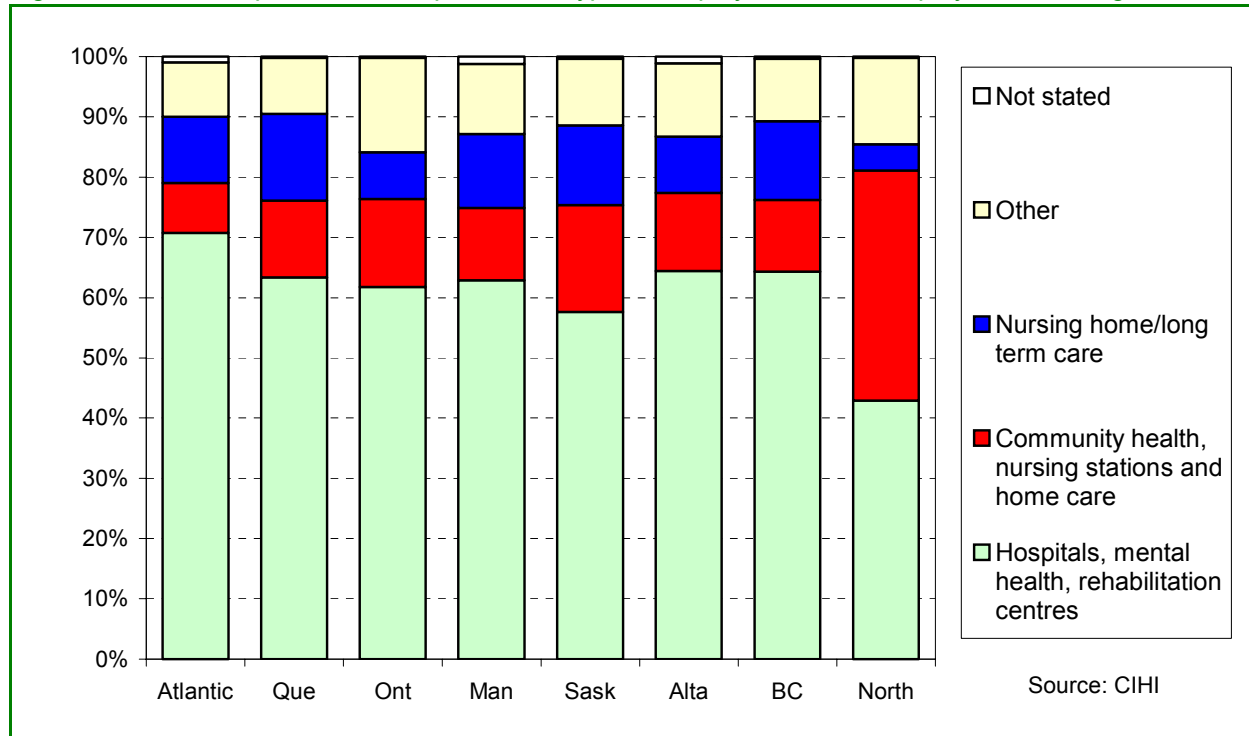
Figure 4.6 RNs Employed by "Other" Employers including "not stated", 1989 to 2002



A comparison across provinces shows that Saskatchewan RNs are less likely than those in other provinces to be employed in hospitals (including mental health centres and rehabilitation centres) although the North is an exception. Typically 60% to 70% of RNs in other provinces are employed in these kinds of settings compared with 58% in Saskatchewan (see Figure 4.7).

Saskatchewan RNs are more likely to be employed in community health and home care than in other provinces and, with the exception of Quebec, more likely to be employed in long term care facilities.

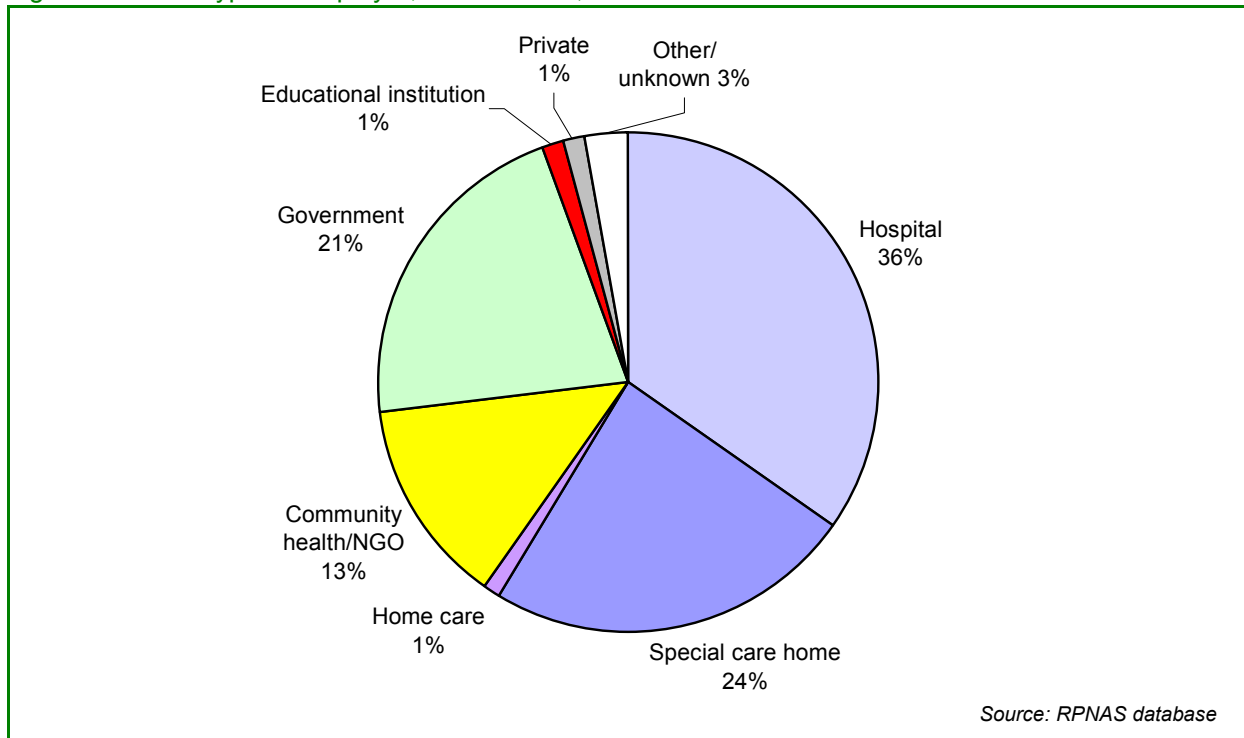
Figure 4.7 Interprovincial Comparison of Type of Employer for RNs Employed in Nursing, 2001



Registered Psychiatric Nurses

Data describing the type of employer are available from the RPNAS registration forms. RPNs tend to work for different kinds of employers than do LPNs and RNs. In particular, a significant proportion (21%) are working in government agencies and relatively few (36%) work in acute care hospitals (see Figure 4.8).

Figure 4.8 Type of Employer, Active RPNs, December 2002



From 1995 to 2002 there was a decline of 221 active RPNs in the province and Figure 4.9 shows that most of the decline was attributable to lower levels of employment in government agencies. The number of RPNs working for government declined by 130 over the period largely as a result of the transfer of community-based services from the Department of Health to the Health Districts in 1995.

There were also declines in most other kinds of employer including a drop of 42 RPNs working in special care homes. Hospitals were the notable exception where there was an increase of 27 RPNs from 1995 to 2002.

Licensed Practical Nurses

Data describing the type of employer are available from the SALPN registration database although there are some changes in methodology prior to 1998 which makes long term comparisons difficult.

In 2002, 61% of practising LPNs worked in a hospital and 84% worked in an institutional setting including long term care facilities (17%) and rehabilitation centres (see Figure 4.10).

Figure 4.9 Type of Employer, Practising RPNs, 1995 and 2002

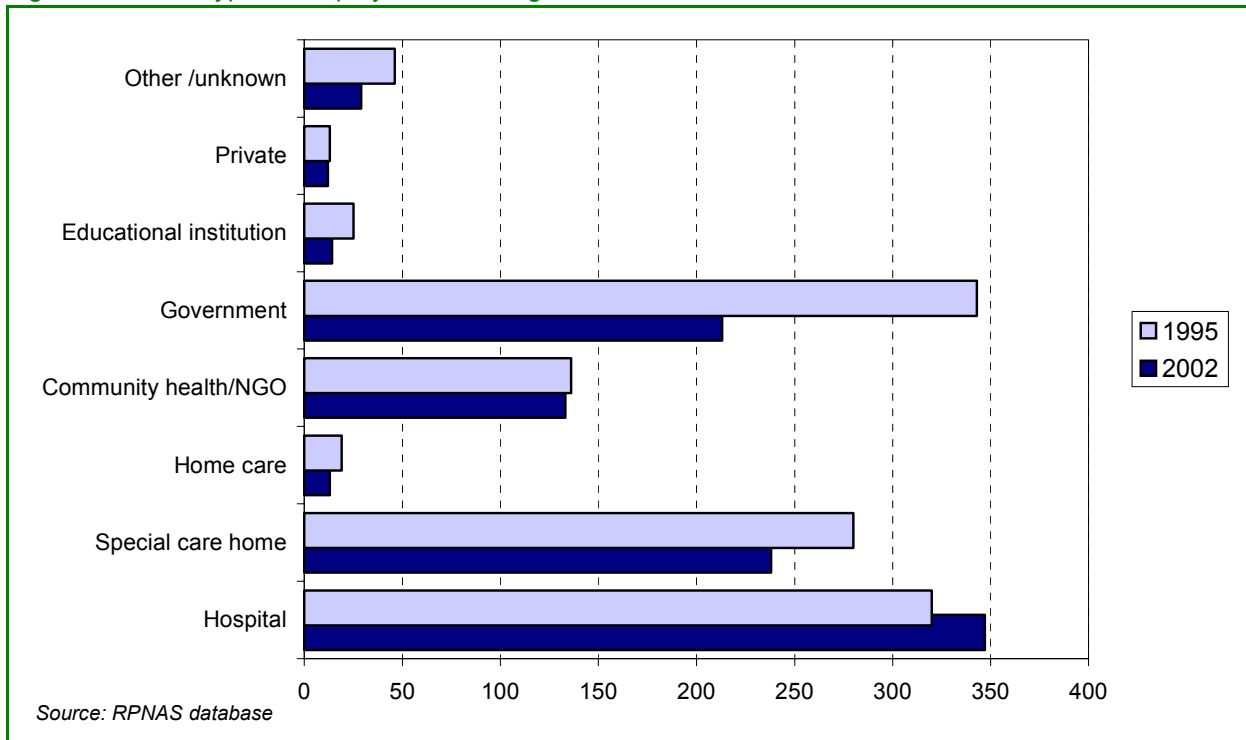
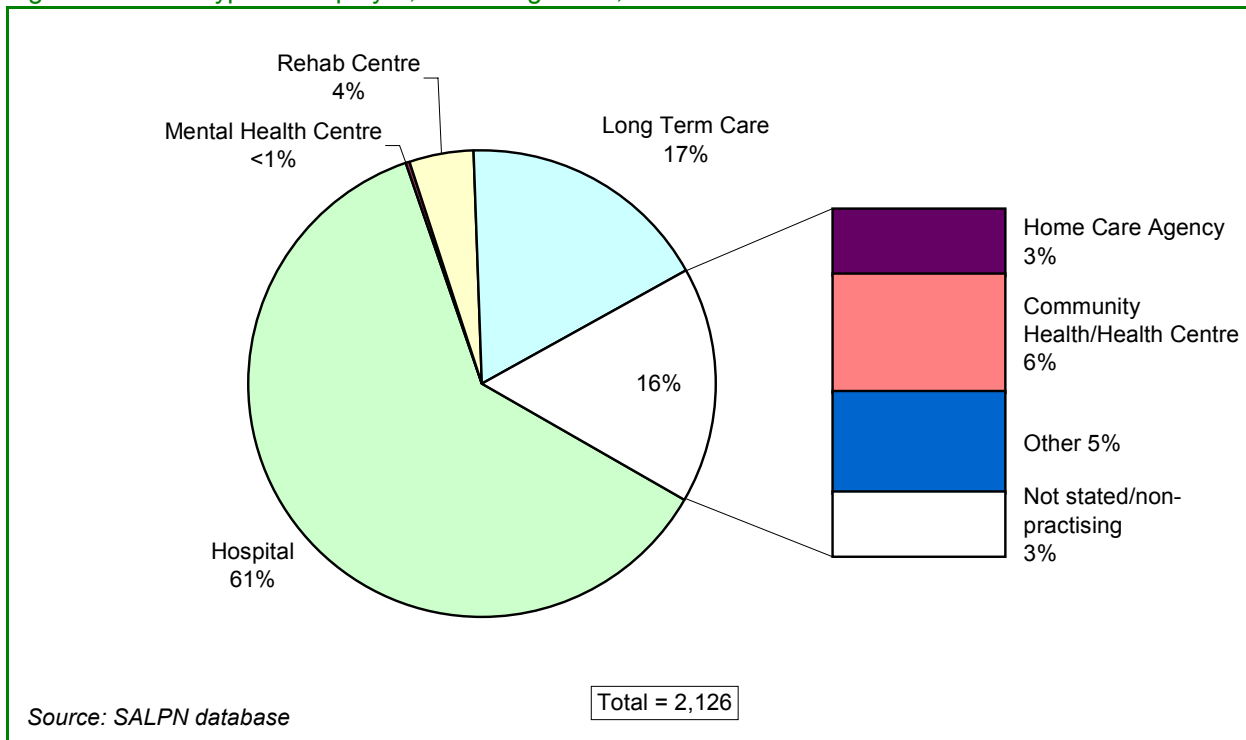


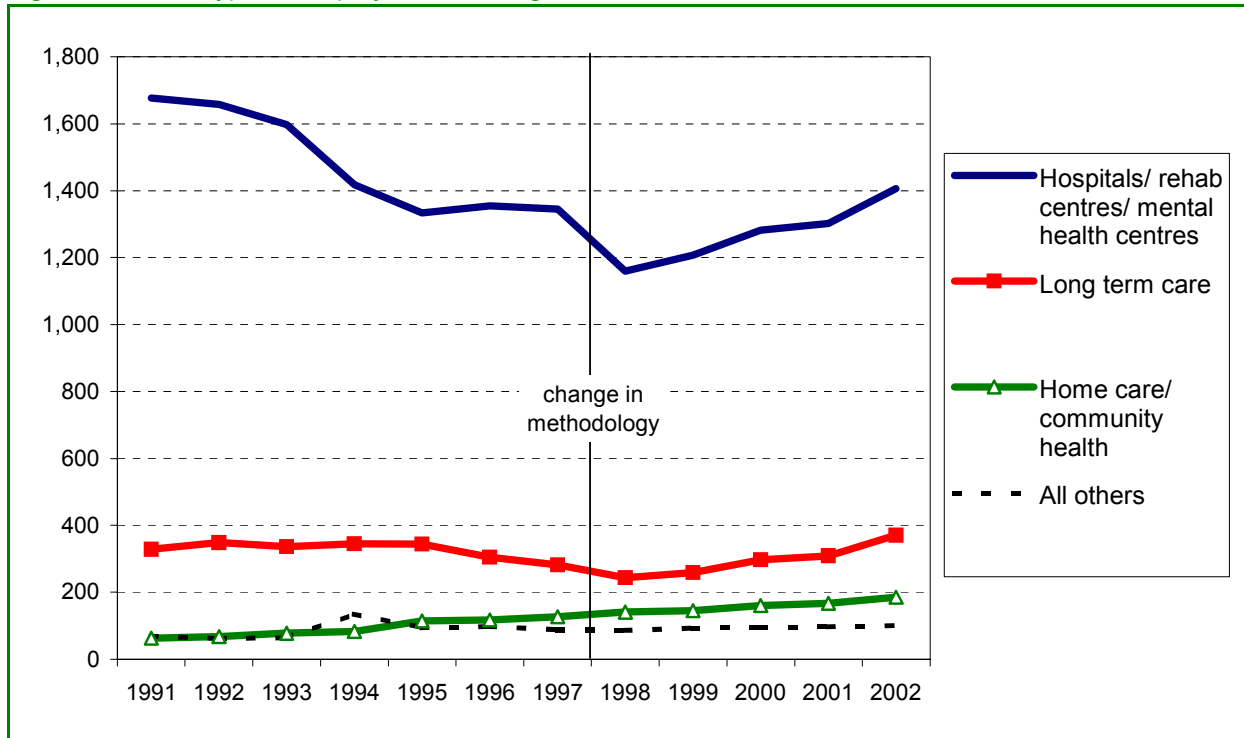
Figure 4.10 Type of Employer, Practising LPNs, 2002



As with RPNs, there was a decline in the number of LPNs working in hospitals (including rehabilitation centres and mental health centres) in the early 1990s (see Figure 4.11). This was accompanied by an increase in the number working in community health and home care.

Unlike RNs, however, there has been an increase in the number of LPNs working in hospitals and long term care facilities since 1998.

Figure 4.11 Type of Employer, Practising LPNs, 1991 to 2002



Mix of Professions by Type of Employer

The mix of nursing professions for particular kinds of employers is affected and will continue to be affected by the policies put in place by the provincial government and by employment practises of the employers. Changes in the scope of practise and the types of services provided by the health care system will also affect these ratios. In the end however, many of these trends will be most affected by the availability of staff to fill positions.

Regardless of the reasons, the ratios of RNs, RPNs, and LPNs in nursing positions for employers is changing although the changes are gradual.

Figure 4.12 shows the proportion of nurses working in acute care hospitals, rehabilitation centres, and mental health centres since 1995¹. RNs dominate in this type of employment, accounting for 73% of nursing staff compared with 5% of RPNs and 22% of LPNs. This compares with 75% RNs in 1995 and 20% LPNs.

Figure 4.13 shows the same data for long term care facilities. For these types of employers, there are proportionately more LPNs although RNs are still the largest category of nursing staff by far. The proportion of nursing staff who are LPNs has increased from a low of 14% in 1998 to a high of 22% in 2002. The proportion of nursing staff who are RPNs has been relatively constant near 15% and the proportion of RNs has declined from 72% in 1998 to 64% in 2002.

In the combined category of home care and community care, there has been relatively little change over the eight years with almost all of the nursing staff being RNs (see

Figure 4.12 Ratios of Nursing Professions in Saskatchewan Hospitals, Rehabilitation Centres, and Mental Health Centres, 1995 to 2002

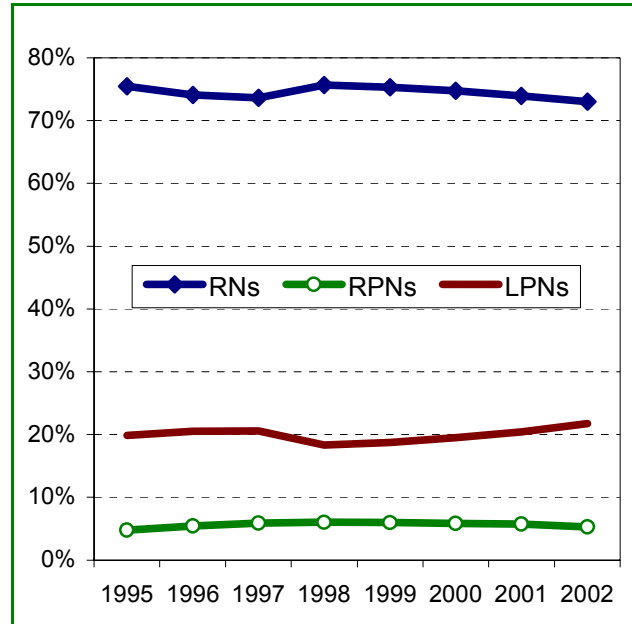
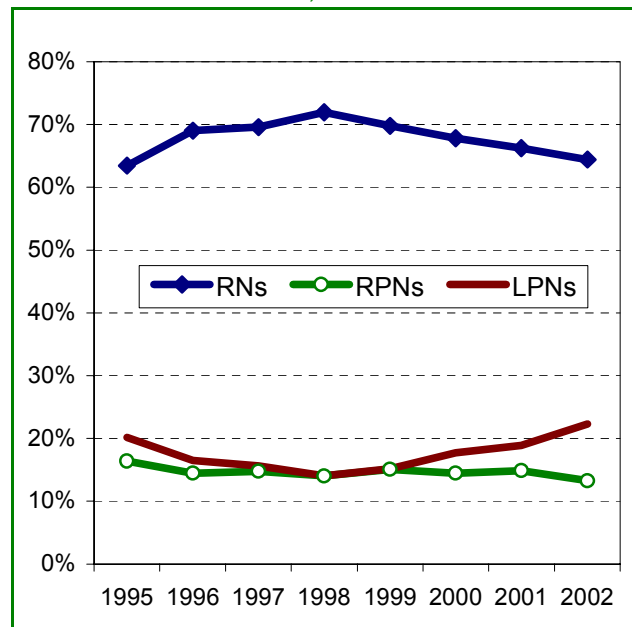


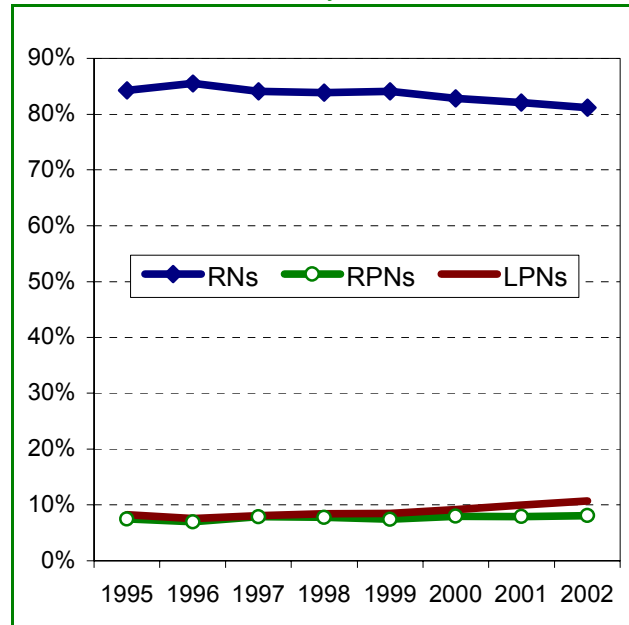
Figure 4.13 Ratios of Nursing Professions In Saskatchewan Long Term Care Facilities, 1995 to 2002



¹ The availability of type of employer data for RPNs limits the time frame that can be examined.

Figure 4.14). For these kinds of employers, RNs make up 81% of nursing staff, RPNs make up 8%, and LPNs make up 11%.

Figure 4.14 Ratios of Nursing Professions in Saskatchewan Home Care and Community Care, 1995 to 2002



4.2 Position and Area of Responsibility

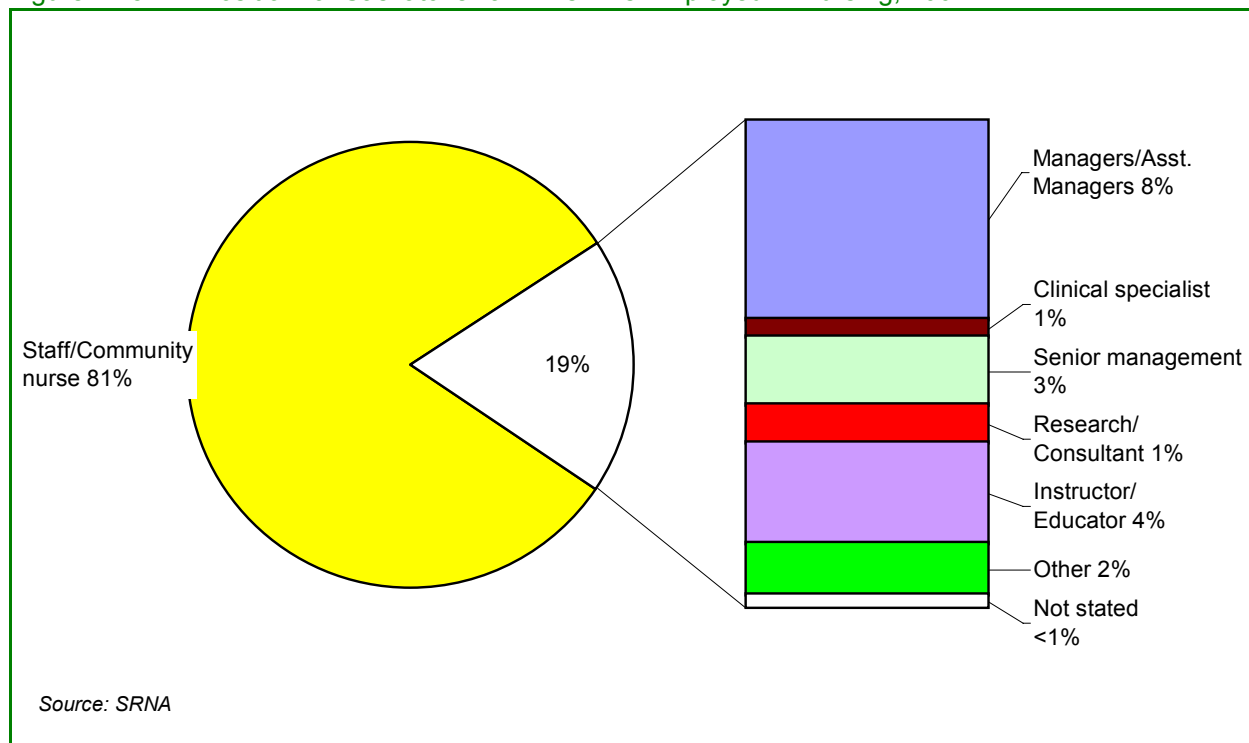
All three associations provide information on the type of position in which nurses work and their area of responsibility. The definitions of the various categories are not completely compatible and there have been changes over time but the information is a useful addition to the information in Section 4.1 on type of employer.

Type of Position: Registered Nurses

Although an increasing number of RNs work in areas other than direct patient care, four out of five RNs were still working as staff nurses in 2002 (see Figure 4.15). Counting the first level of management (8% in 2002) and clinical specialists¹, fully 90% of RNs are involved in direct patient care.

A good deal of the remaining 10% are classified as “other” in the CIHI database but one half of those in this category are employed as an educator or instructor (4%) or in research or consulting (1%). Figures 4.16 and 4.17 show the growth in the position types over the past decade; these comparisons are confounded by the fact that the number of “not stated” and “other” positions varies greatly from year to year. The trends need to be interpreted carefully.

Figure 4.15 Position for Saskatchewan RNs/PNs Employed in Nursing, 2002



¹ This category includes midwives and nurse practitioners.

Since the early 1990s, the number of RNs employed as staff/community nurses (including clinical specialists) has grown from 6,000 to nearly 7,000 with much of the growth occurring since 1996 (see Figure 4.16). Over the same period, the number of RNs in management and supervisory positions has declined from 1,000 to less than 900 (see Figure 4.17). The number employed as instructors or educators or as researchers and consultants, while small, has increased steadily over the period.

Area of Responsibility: Registered Nurses

The registration forms for RNs also asks for the area of responsibility for those employed in nursing. These data can be used to explore the nature of the work in more detail than either the type of employer or the type of position.

Figure 4.18 shows the detailed breakdown of these areas of responsibility and Figure 4.19 shows how these areas of responsibility have changed over the past ten years. As with the data on position, there has been a sharp decline in the number of RNs who did not report an area of responsibility so the changes over time are difficult to assess. If these “not stated” responses are distributed proportionally across other areas of responsibility, then the declines from 1992 to 2002 would be larger and the increases smaller than those shown in the figure.

Medical/surgical units are the most common kinds of areas for RNs employed in Saskatchewan although the number has dropped significantly over the past ten years. In 2002, there were 1,430 RNs employed in this area, 423 fewer than in 1992. The second largest category in 2002 was geriatric/gerontology and the number of RNs employed in this area has also declined.

Figure 4.16 RNs Employed as Staff Nurse/Community Health Nurse, 1989 to 2002



Figure 4.17 RNs Employed in Selected Positions, 1989 to 2002

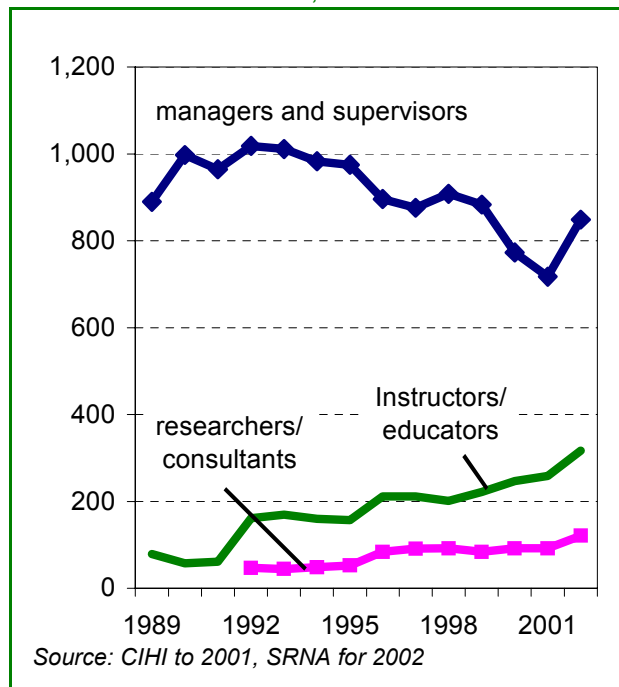
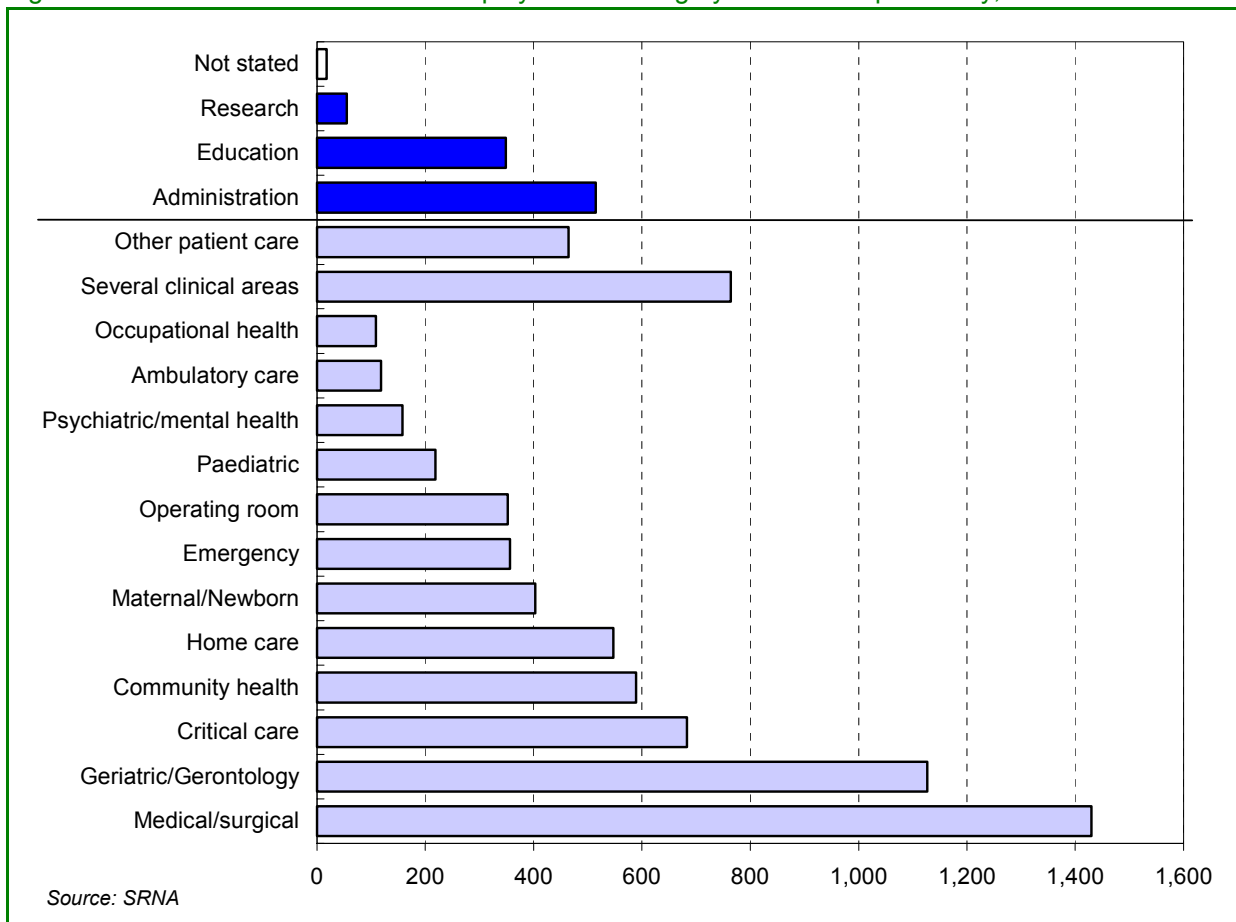


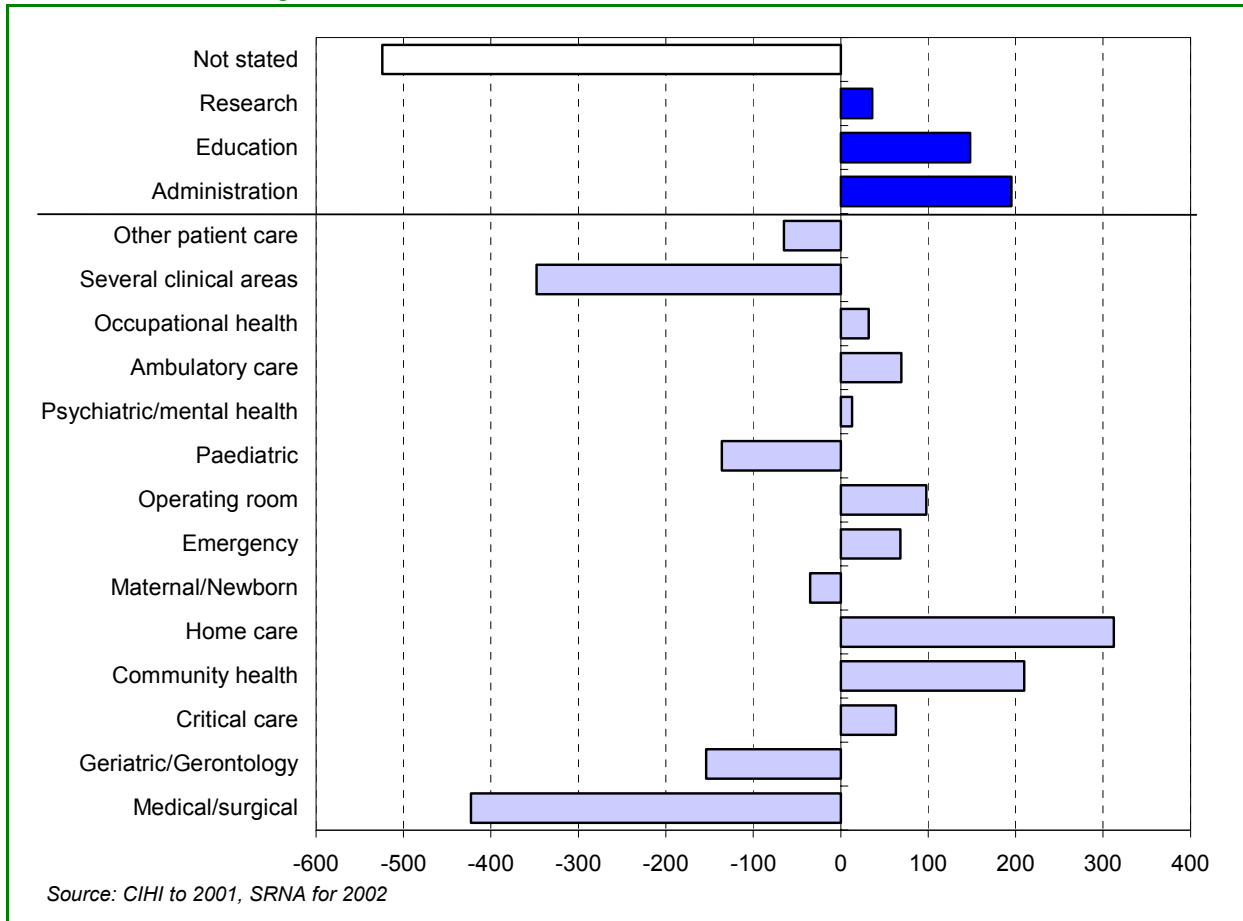
Figure 4.18 Saskatchewan RNs Employed in Nursing by Area of Responsibility, 2002



There are increases in several areas including the critical care areas of operating room, emergency, and critical care (ICU/CCU/etc.). These data also confirm the trend toward more RNs in community based care with increases in the number working in home care and community health. There is also evidence of a decline in the number of RNs working in “several areas”. This is probably a consequence of a decline in those who either move from one area to another in larger facilities and/or those who were employed in smaller hospitals.

The number of RNs employed outside of direct patient care – administration, education, and research - has increased over the past decade.

Figure 4.19 Change in Area of Responsibility, 1992 to 2002, Saskatchewan RNs Employed in Nursing

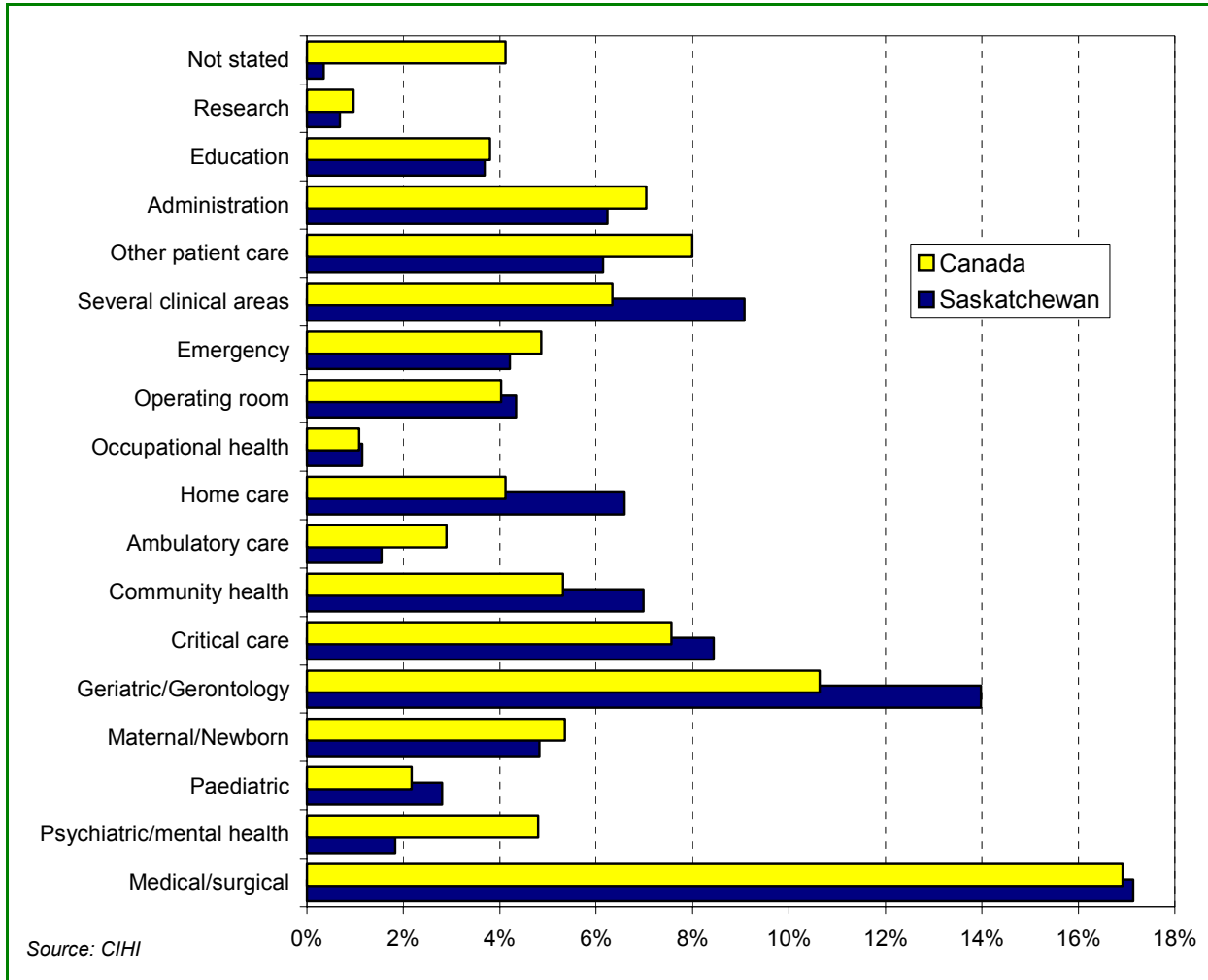


Relative to Canada as a whole, Saskatchewan RNs tend to be working in similar areas of responsibility in 2001. They are more likely to be employed in several areas (see Figure 4.20):

- geriatric/oncology (14% compared with 11%);
- community health (7% compared with 5%);
- home care (7% compared with 4%); and
- “several clinical areas” (9% compared with 6%).

They are somewhat less likely to be employed in ambulatory care and psychiatric/mental health areas.

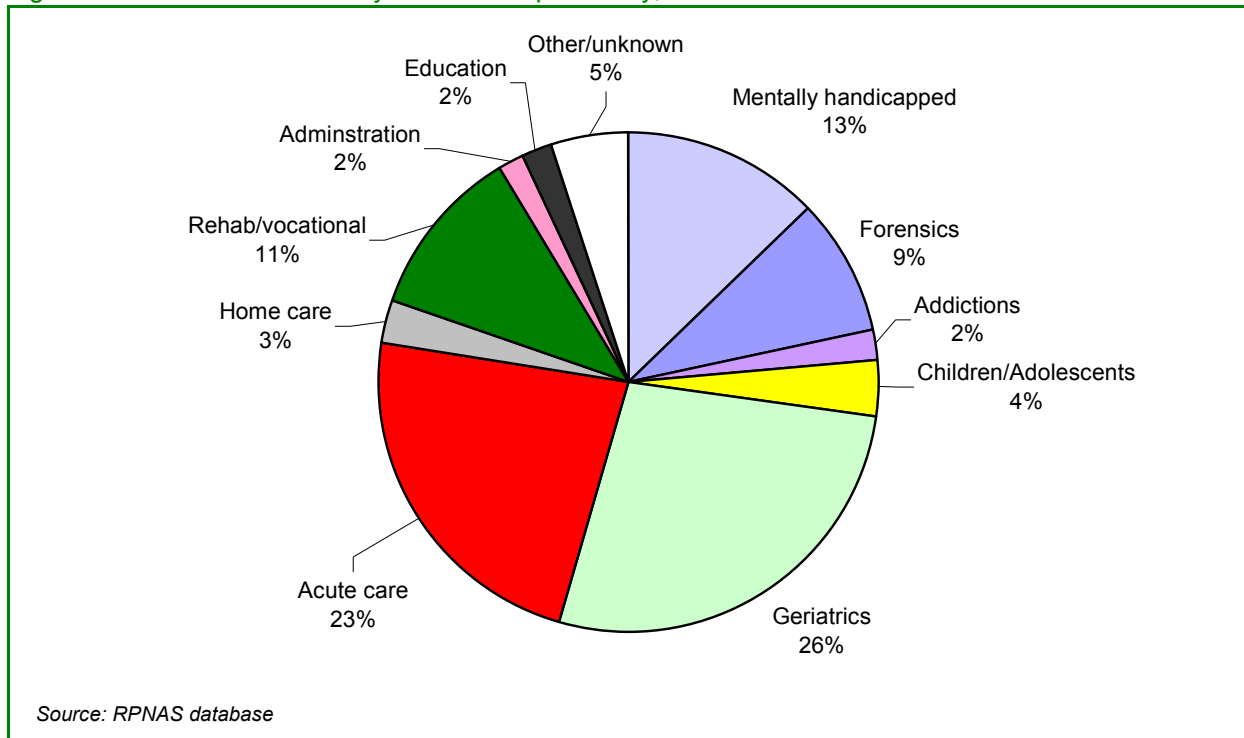
Figure 4.20 Proportion of RNs Employed in Nursing, by Area of Responsibility, 2001



Registered Psychiatric Nurses

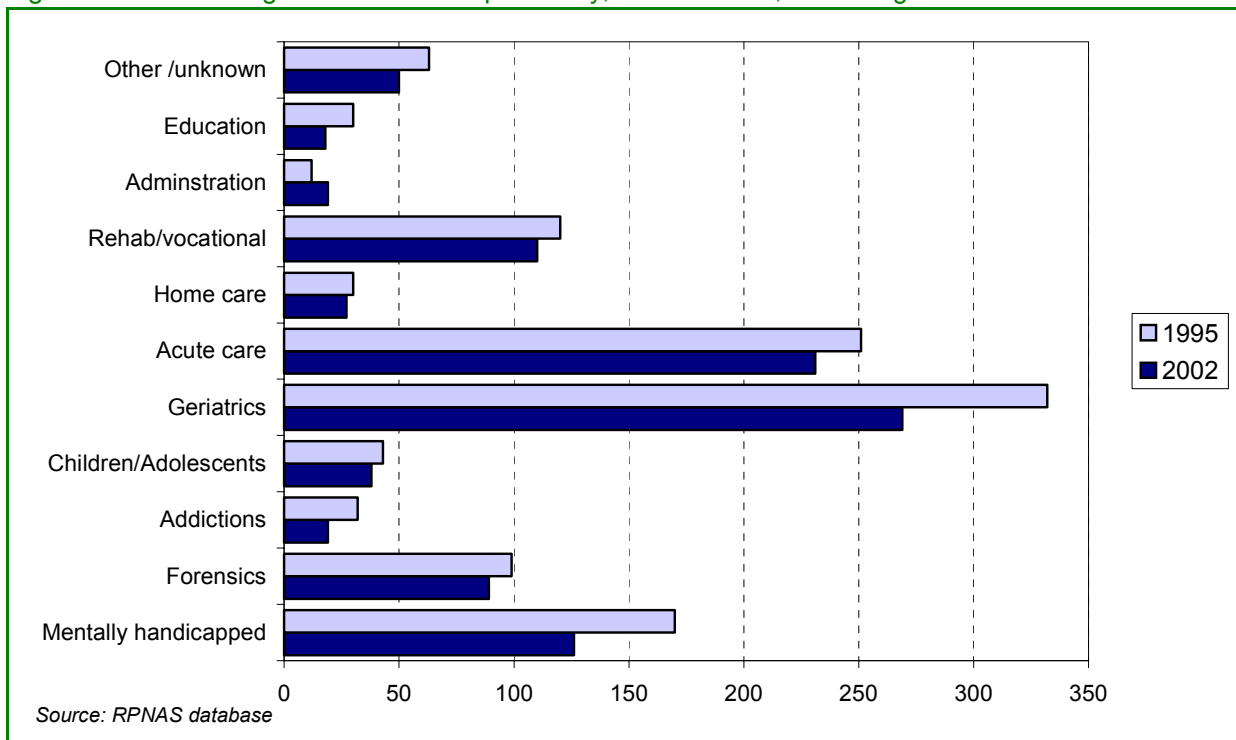
The RPNAS registration form does not capture position but information is available on the area of responsibility. In 2002, approximately one half of RPNs were employed in two areas – geriatrics (26%) and acute care (23%). The remaining half were employed in a variety of different areas shown in Figure 4.21.

Figure 4.21 Active RPNs by Area of Responsibility, 2002



From 1998 to 2002, there was a drop of 186 practising RPNs in the province and Figure 4.22 shows that declines were evident in almost every area of responsibility. In absolute terms, the largest declines were in geriatrics (a drop of 63) and the mentally handicapped (a drop of 44). Administration was the only area of responsibility to show an increase.

Figure 4.22 Changes in Area of Responsibility, 1998 to 2002, Practising RPNs



Licensed Practical Nurses

The position data for LPNs is not as detailed as for RNs or RPNs. In 2002, 86% of LPNs reported working as a staff nurse or community health nurse and 5% as a nurse specialist. Most of the remaining LPNs did not report a position (see Figure 4.23).

Data for the area of responsibility is more instructive although it is, strictly speaking, only comparable over the period from 1998 to 2002.

The majority of LPNs report work in three areas of responsibility as Figure 4.24 shows. Seven out of ten LPNs report working in medical/surgical units (28%), long term care/geriatrics (22%), and "several areas" (20%).

Since 1998, the number working in these three areas has increased whereas the number who did not report an area of responsibility declined. There may not have been any change in the actual areas of responsibility; the data may simply be indicating that LPNs are more likely to report an area of responsibility than they were in 1998.

Over the longer term, there is evidence that the decline in the number of LPNs working in both long term care and medical/surgical units has reversed (see Figure 4.25).

Figure 4.23 Position for Saskatchewan LPNs, 2002

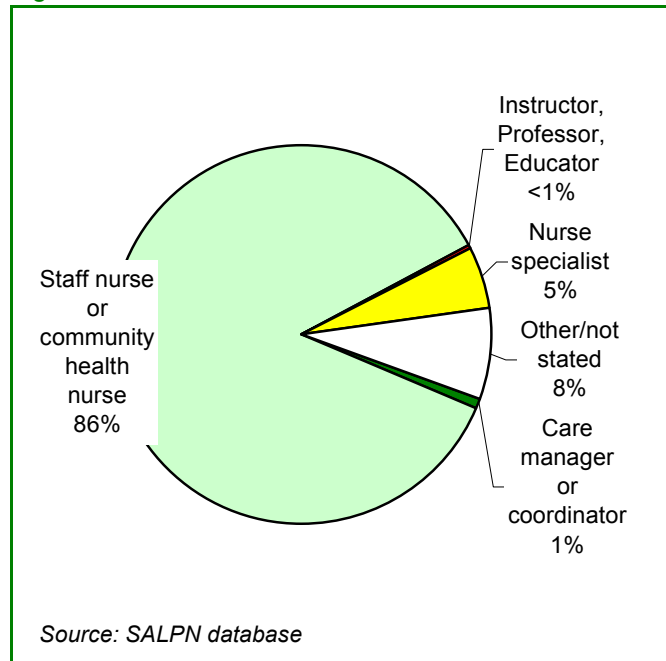


Figure 4.24 Reported Area of Responsibility for Saskatchewan LPNs, 1998 and 2002

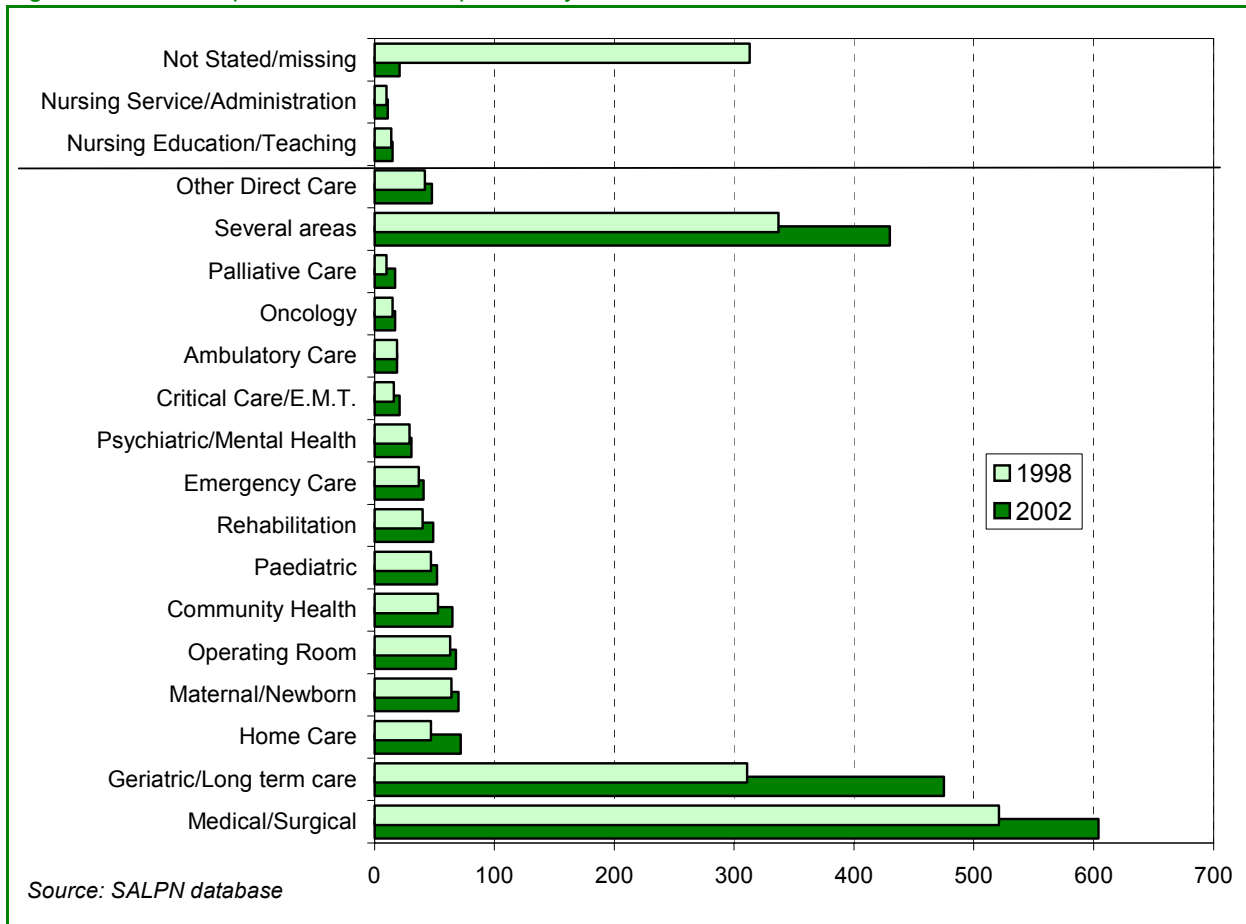
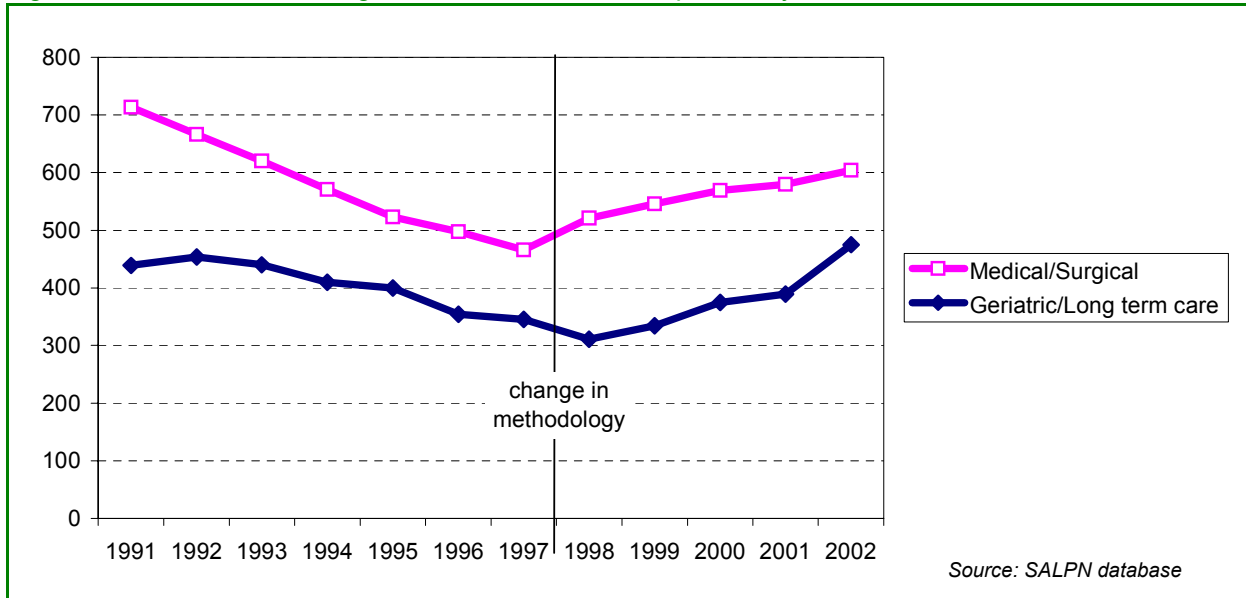


Figure 4.25 LPNs Working in Selected Areas of Responsibility, 1991 to 2002



4.3 Wage Rates and Earnings

There are three sources of information about wage rates and earnings for Saskatchewan nurses.

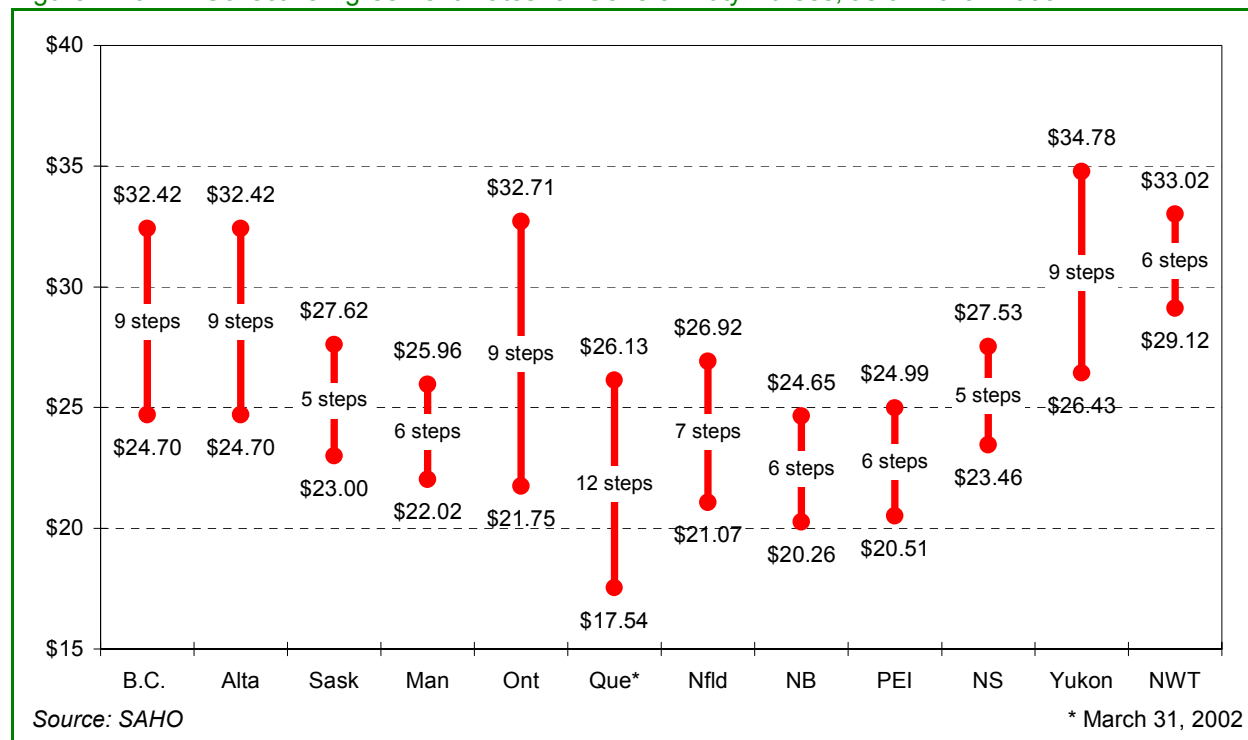
- The collective agreements with SUN/CUPE/SGEU contain ranges for wage rates for those nurses that are union members. According to the Labour Force Survey, about 85% of RNs/RPNs are union members.
- The Labour Force Survey asks respondents to report their hourly wage rate and these can be used to estimate average wage rates.
- The census measures earnings in the year prior to the census for those employed in nursing positions at the time of the census.

Collective Agreements: Registered Nurses and Registered Psychiatric Nurses

An inter-provincial comparison of wage rates for general duty nurses was provided by SAHO. The rate in Figure 4.26 show that Saskatchewan's unionized nurses have pay rates below those in Alberta, B.C., Ontario, and the North but above those in Manitoba and the Atlantic provinces. (Quebec nurses are currently in negotiation.) The differences are less pronounced at the starting level and nurses in Saskatchewan have fewer steps to get to the top rate.

Figure 4.27 shows how the rates have changed in the past four years in the western provinces and Ontario. Over that period, starting rates in Saskatchewan have increased more quickly than in Ontario and B.C. and more slowly than in Alberta and Manitoba. Top rates have lost ground to those in Alberta but have increased at least as quickly as rates in the other provinces. At least in terms of wage rates, there is still a financial incentive for RNs and RPNs

Figure 4.26 Collective Agreement Rates for General Duty Nurses, as of March 2003



to move to Alberta and B.C. The increase in the cost of living in those provinces will offset some of that incentive.

The annual increases of more than 5% per year are well in excess of the rate of inflation, a classic indicator of increased demand.

Collected Agreements: Licensed Practical Nurses

The collective agreement rates for LPNs have a different pattern than for RNs (see Figure 4.28). Alberta rates are similar rather than higher and Manitoba rates are higher rather than lower. The British Columbia rates are compressed and noticeably higher. Rates in Saskatchewan are lower than in P.E.I. and Nova Scotia but above those in Newfoundland and New Brunswick. (Saskatchewan rates may be adjusted upward after the joint job evaluation adjustments are made.)

Figure 4.27 Average Annual Increase in Collective Agreement Rates for General Duty Nurses, 1999 to 2003

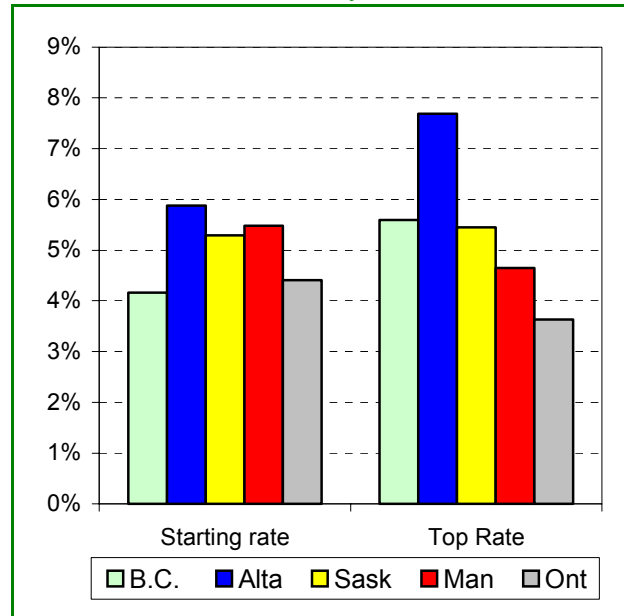
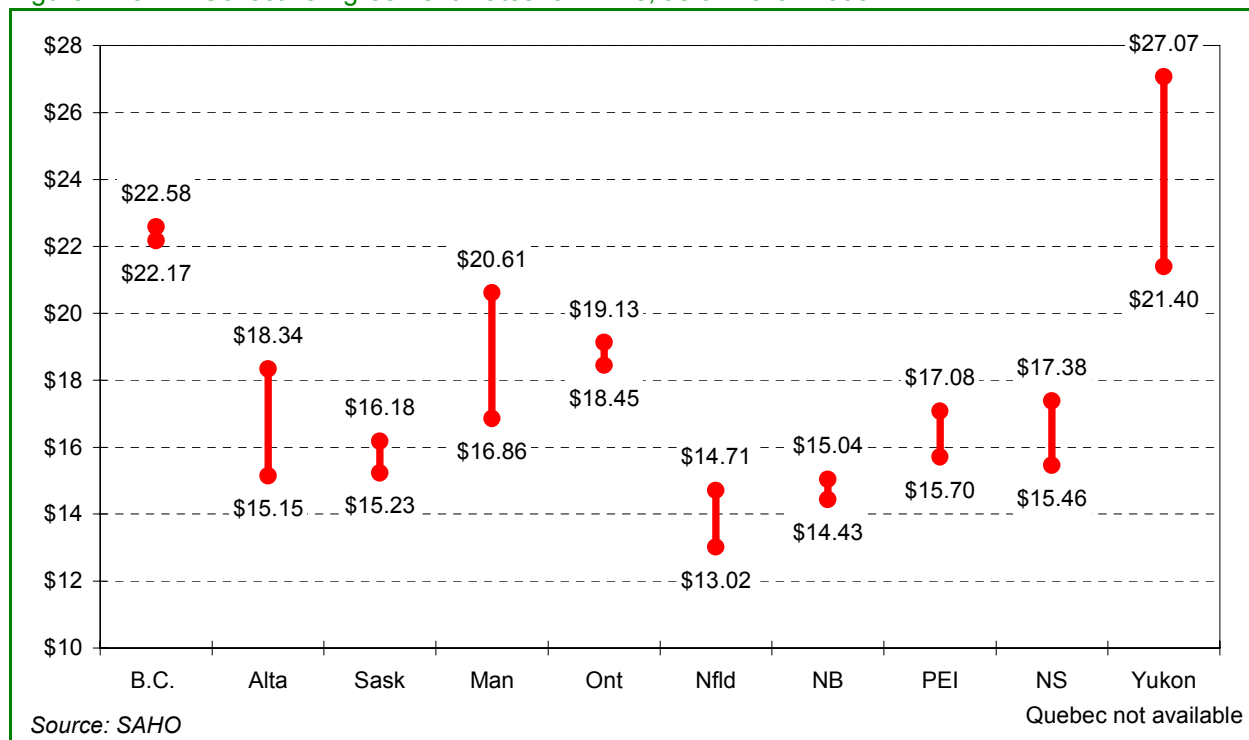


Figure 4.28 Collective Agreement Rates for LPNs, as of March 2003



In the past four years, the rates for Saskatchewan LPNs have increased at an average of 3% per year, slightly above the rate of inflation. Figure 4.29 shows that rates have increased more slowly in Saskatchewan than in our neighbouring provinces.

Labour Force Survey: RNs and RPNs

Respondents to the Labour Force Survey reported their average hourly wage rate at \$22.93 in 2002, an average annual increase of 2.9% from the \$19.88 reported in 1997 (see Figure 4.30). After adjusting for inflation, the increase over the five years has averaged 0.6% per year.

Census: RNs/RPNs

The census data on average earnings has some potential difficulties because it implicitly assumes that all of the employment earnings in 2000 arose from employment in the occupation reported in May 2001. This will not be the case for multiple job holders or for those who changed occupation between January 2000 and May 2001.

Nevertheless it is one of the few sources of employment income available to compare wage rates and earnings across provinces and over time. Earnings reported in the census are gross earnings before taxes including overtime and other premium pay. Among those reporting their occupation as RN/RPN in June 2001, the average earnings in 2000 was \$38,860.

Figure 4.31 shows that earnings in Saskatchewan are slightly (2%) below the national average of \$39,490. Because of the prevalence of part-time work in Alberta, annual earnings for all RNs/RPNs in Alberta are actually lower than in Saskatchewan when averaged over all full-time and part-time RNs/RPNs.

Figure 4.29 Average Annual Increase in Collective Agreement Rates for LPNs, 1999 to 2003

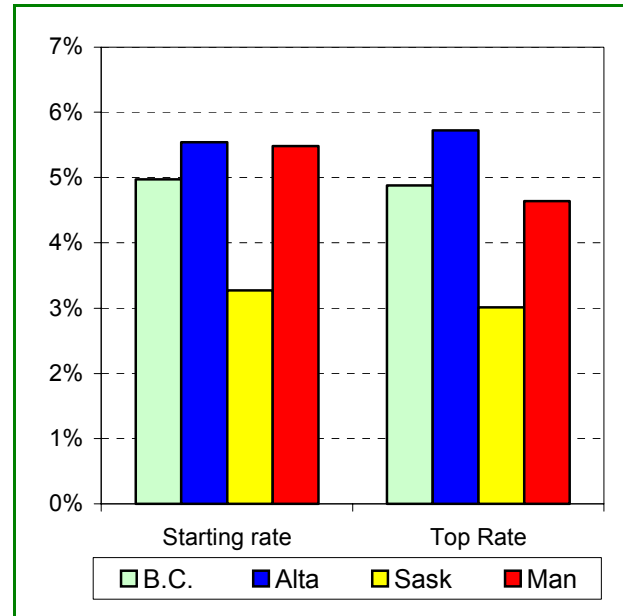


Figure 4.30 Average Hourly Wage Rates, RNs/RPNs in Saskatchewan

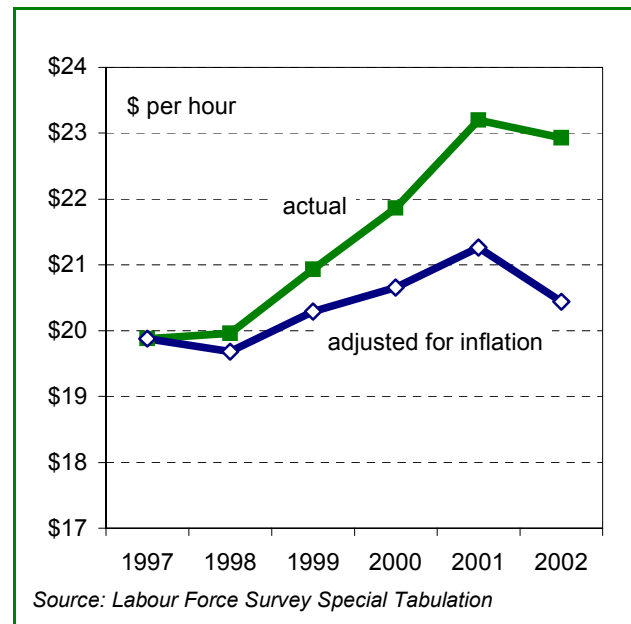
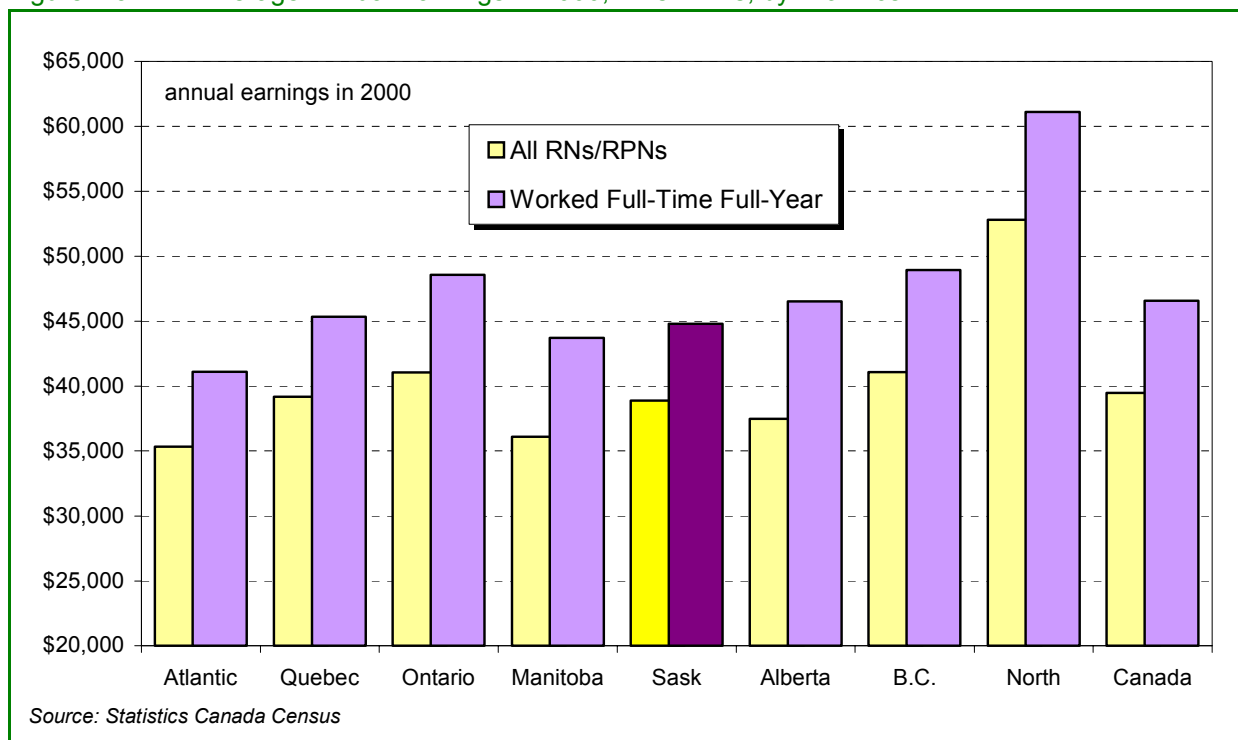


Figure 4.31 Average Annual Earnings in 2000, RNs/RPNs, by Province

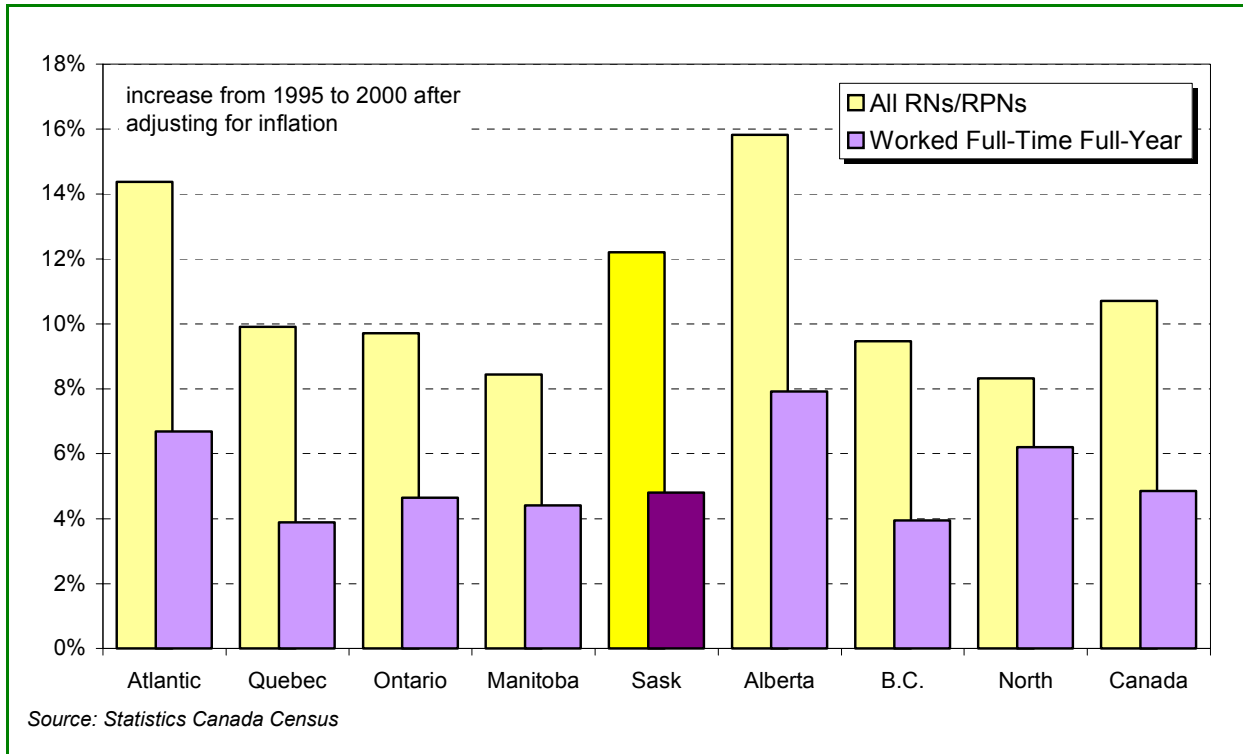


If we restrict the analysis to those who worked throughout the year on a full-time basis to remove the impact of part-time or part-year employment on earnings, the average increases to \$44,790 – the equivalent of approximately \$23 per hour for a 37½ hour work week. Saskatchewan is 4% below the national average among full-time, full-year workers. Provinces that have higher earnings include Quebec, Alberta, and British Columbia. Manitoba and the Atlantic provinces as a group have lower earnings.

From 1995 to 2000, earnings among full-time full-year RNs/RPNs increased by 4.8% after adjusting for inflation (see Figure 4.32). This is near the national average of 4.9%, below the 7.9% increase in Alberta and the 6.7% increase in the Atlantic provinces but above the 4.4% increase in Manitoba. The increase in full-time work led to a 12% increase in earnings for all RNs/RPNs, below the increase in Alberta and the Atlantic provinces.

Earnings for RNs/RPNs have increased over the five years more quickly than the provincial average. In 1995, average earnings among full-time full-year workers was at 125% of the provincial average; by 2000 earnings had increased to 127% of the provincial average.

Figure 4.32 Increase in Average Annual Employment Earnings After Adjusting for Inflation, RNs/RPNs, 1995 to 2000



4.4 Current Vacancy Rates

The approach taken in this analysis uses the vacancy rate as the measure of the imbalance between supply and demand (see Figure 1.1 in the Introduction).

Vacancy rates are the most visible sign of a shortage of supply relative to demand. Their interpretation is difficult, however, because they may understate the actual imbalance to the extent that employers may not record vacancies if they no longer feel anyone is available to fill the position. Some level of vacancies are normal in a labour market as people move from one position to another and as new positions are created.

Historical data on vacancy rates for RNs, RPNs, and LPNs are available from the Health Employer Survey conducted by Saskatchewan Health but discontinued after the 2000 survey. That survey covered only vacancies in full-time and part-time positions, excluding vacant casual positions. This is supplemented with a recent survey of Regional Health Authorities and the Saskatchewan Cancer Agency conducted by Saskatchewan Health in February 2003.

Vacancy rates – the number of vacancies as a percentage of positions – for RNs are shown in the table below and in Figure 4.33. Rates were very low in the early 1990s but started to increase in 1998, reaching a high of 4.6% in 2000.

The recent survey of RHAs found 277 vacant RN positions, primarily in acute care. This is similar to the 285 vacancies reported in 2000 and suggests that the vacancy rate for RNs has remained high. Assuming that the vacancy rate for non-RHA employers is similar, an estimate of 4.5% for full and part time positions in 2002 was used in calculating demand.

The demand for casual positions would be in addition to these figures.

Figure 4.33 Vacancy Rates, Full and Part Time Positions, RNs

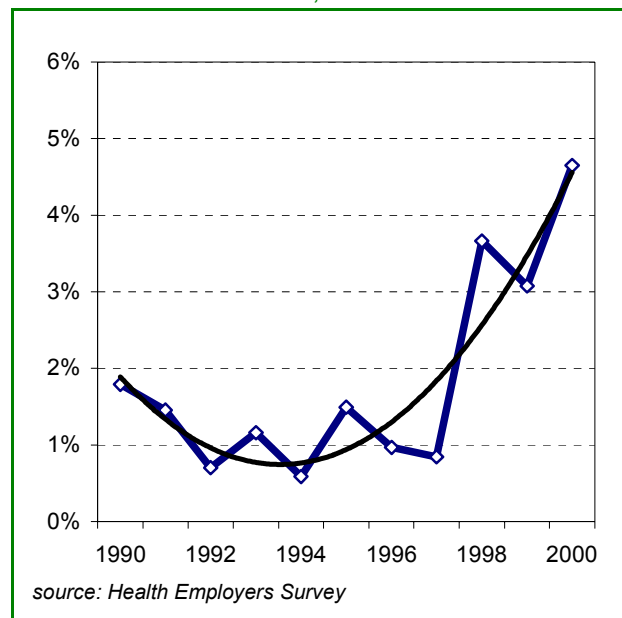


Table 4.1 Vacancies as Percentage of Full Time and Part Time Positions, Health Employer Survey, 1990 to 2000

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
RNs	1.8%	1.5%	0.7%	1.2%	0.6%	1.5%	1.0%	0.8%	3.7%	3.1%	4.6%
RPNs	4.4%	2.5%	2.8%	3.3%	1.6%	2.5%	1.2%	1.6%	2.9%	2.2%	5.7%
LPNs	0.5%	0.2%	0.2%	0.3%	1.0%	1.3%	1.2%	0.9%	2.4%	2.3%	3.1%

Source: Health Employers Survey, Saskatchewan Health

Vacancy rates for RPNs are higher, on average, than those for RNs but have followed a similar pattern in the 1990s. Vacancy rates declined to near 1% in 1996 before increasing to 5.7% in 2000.

The recent survey of RHAs found 25 vacant RPN positions, primarily in acute care. This is below the 35 vacancies reported in 2000 and suggests that the vacancy rate for RPNs may have declined somewhat since 2000. Assuming that the vacancy rate for non-RHA employers is similar, an estimate of 4.5% for full and part time positions in 2002 was used in calculating demand.

Vacancy rates for LPNs have followed an entirely different pattern with very low rates in the early 1990s. Although the rate has risen steadily, it remains relatively low (3%) compared with the vacancy rates for RNs and RPNs.

The recent survey of RHAs found 135 vacant full and part time LPN positions, primarily in the Regina Qu'Appelle Health Authority. This is much higher than the 42 vacancies reported in 2000 and suggests that the vacancy rate for LPNs may have increased sharply since 2000. Calculating a vacancy rate is problematic because the actual number of positions is not known. Estimates from SAHO suggest that the vacancy rate may be as high as 7%. Assuming that the vacancy rate for non-RHA employers is similar, an estimate of 7% for full and part time positions in 2002 was used to calculate demand.

Figure 4.34 Vacancy Rates, Full and Part Time Positions , RPNs

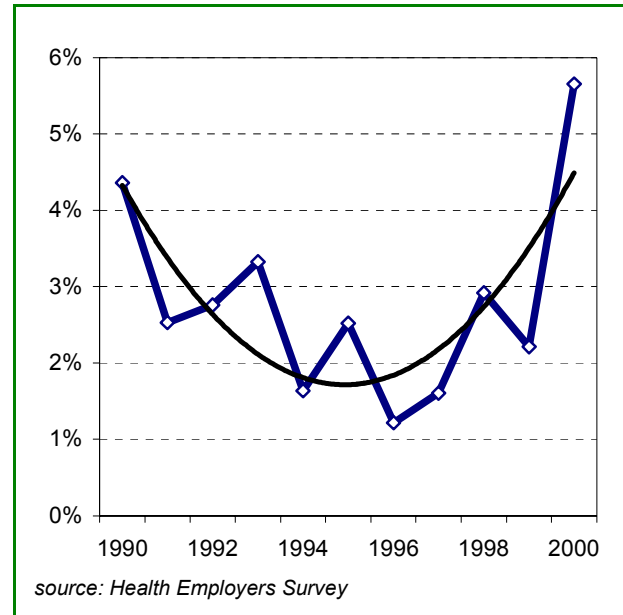
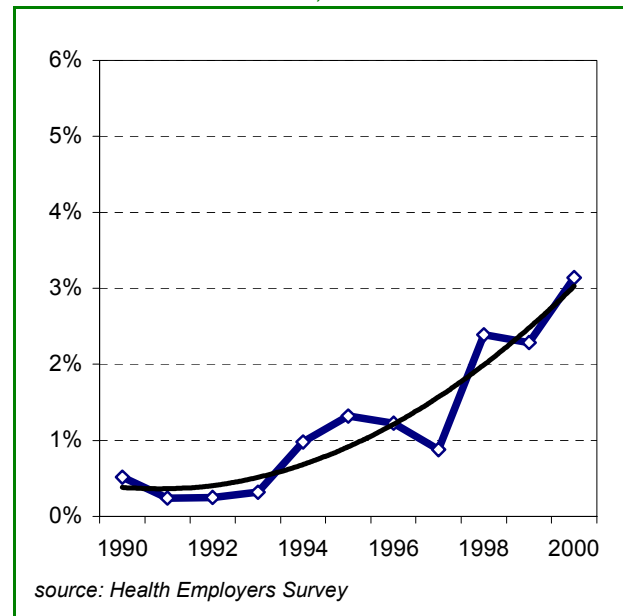


Figure 4.35 Vacancy Rates, Full and Part Time Positions, LPNs



4.5 Other Factors Affecting Demand

There is general agreement that a number of factors will affect the demand for health services over the next ten years but there is little agreement on quantitative measures of these effects or on how they will translate into demand for nursing services. As a prelude to the demand forecast in Section 4.6, this section looks at some of these factors.

Quantitative analysis can assist in this exercise but the analysis is largely qualitative; it is meant to provide context.

Demographic Changes

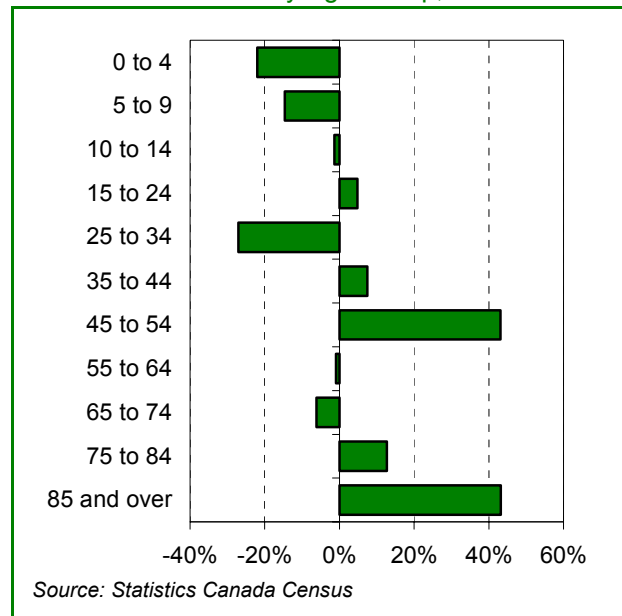
Most population forecasts for Saskatchewan show that the population will be effectively constant during the next ten years. Using a simple per capita basis to calculate demand, the number of nurses required would also remain constant. The evidence for this approach is based on patterns over the 1990s. In spite of the myriad of changes in health service delivery, health funding, and changes in the province's demographics, there was little change in the apparent demand for nurses. In 1991, demand for RNs, RPNs, and LPNs totalled 12,220. In 2002, demand is estimated at 11,980.

The overall stability in the total population of the province disguises three population trends within the overall million persons living in the province. All of these could have an effect on the demand for nursing services.

The population is aging and the number of older seniors is increasing. Over the past ten years, two population subgroups grew significantly within the province (see Figure 4.36). The increase among those 45 to 54 is a simple consequence of the aging of the "baby boom" generation. The increase among those over the age of 85 is a consequence of lower mortality rates. In the next ten years, the fastest growing age groups will be those 55 to 65 as the baby boom ages another ten years and, once again, those 85 years of age and older.

The increase in older seniors will continue to put pressure on long term care facilities and home care. The health services impact of the increase among those 55 to 64 is not as clear. This population cohort may be in better health than their predecessors but they are also entering the age at which utilization tends to increase. They may also have a different attitude and place different demands on the health care system.

Figure 4.36 Population Change from 1991 to 2001 by Age Group, Saskatchewan



The population is becoming more urbanized. This is a gradual process that has continued for several decades and is expected to continue for the foreseeable future. From 1991 to 2001, the only community groups that experienced growth were the urban centres over 4,000 in population, the Far North, and the on-Reserve population in the South (see Figure 4.37).

Part of the reason for the high per capita number of RNs in Saskatchewan relative to other provinces such as Alberta and Ontario is thought to be the sparsity of the population. With more of the province's population move to the larger urban centres, there will be a modest decline in the sparsity. That will not lead to a change in the demand for nursing services but there may be a modest decline in the demand for nurses as the population becomes more concentrated.

The Aboriginal population is young and growing. In 2001, the census found that 50% of the population in Saskatchewan that self-identifies as Aboriginal were under the age of twenty. Since 1996, the Aboriginal population has moved from 11.4% of the provincial population to 13.5%. The growth in this population will have an impact on the health care system in a variety of ways.

- Fertility rates among Aboriginal women are falling but the coming increase in the population in the 15 to 24 age group will increase the number of births in the province.
- The incidence of certain kinds of health conditions – tuberculosis, fetal alcohol effects, diabetes, for example – is higher among the Aboriginal population than among the non-Aboriginal population.
- The delivery of health care services on Reserve increased in the 1990s. The bulk of community health services have been transferred to First Nation control but there may be a modest increase in on-Reserve delivery of mental health services and home care over the next ten years.

Figure 4.37 Population Change from 1991 to 2001, by Community Type and Size

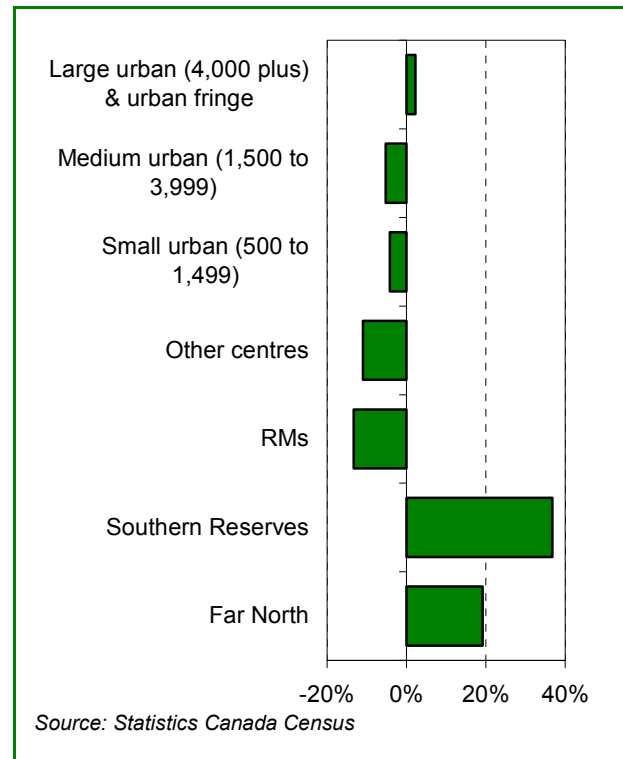
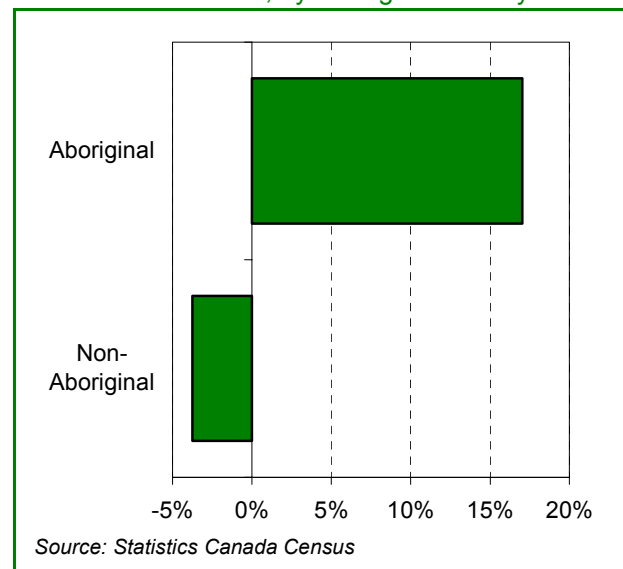


Figure 4.38 Population Change from 1996 to 2001, by Aboriginal Identity



Changes in Service Delivery

The growth in non-institutional health care such as home care and day surgery is expected to continue into the future. This has an obvious effect on the nature of the work that nurses do but its impact on overall demand is not as clear.

The primary care model will increase the demand for Nurse Practitioners and concentrate institutional services in larger communities.

Changes in Patient Acuity

The aforementioned growth in non-institutional health care has had an effect on patient acuity in both institutional settings and non-institutional services. The length of stay in hospitals has declined in the 1990s which means that on a given day, patients are in need of more nursing services¹. With earlier discharges, the acuity of the patients in home care increases as well. Having seniors remain in their own homes longer means that the acuity of those in special care homes also tends to increase.

These increases in acuity do not translate on a one-to-one basis into demand for nurses but they have an effect on the intensity of their work and shift the care from one setting to another.

Scope of Practise

The split of responsibilities between Registered Nurses and Physicians and between Licensed Practical Nurses and Registered Nurses does not affect overall demand in a significant way but it has an effect on the mix of professionals within the total. This issue has been discussed at length and there have been some shifts recently with the introduction of Nurse Practitioners and the increase in utilization of Licensed Practical Nurses.

Financial Capacity

Although we are measuring the demand for nurses and nursing services, decisions made by the provincial and federal governments will determine what level of funding is available to the public health care system. These decisions are, in turn, largely driven by growth in the Canada or Saskatchewan economies. Notwithstanding this limitation, there have been instances in the past and there will undoubtedly be instances in the future when health care spending grew more quickly or more slowly than the economy.

Total provincial government spending from 1992-93 to 2002-03 grew by an average of 1.6% per year whereas spending on health care grew by 4.3% per year on average². Not all spending translates into employment, however. Total employment in health care grew by an average of 1.6% per year between 1992 and 2002.

¹ Using an index of patient acuity developed by CIHI, the average acuity of acute care patients in Saskatchewan grew by 5% from 1996-97 to 2000-01 after adjusting for age.

² Source: Statistics Canada, 68-213 Public Sector Statistics, Financial Management System Basis

4.6 Projected Demand

Projecting demand for nursing services is difficult because the labour market is highly dependent upon the funding of health services, the scope of practise for the professions, and the delivery model for services. Many of these factors are influenced by governments as well as by the labour market. The discussion in Section 4.5 suggests that demographic and other changes in the province will probably lead to an increase in demand for health services although quantifying the increase is difficult. Translating the overall growth in demand for health services into a demand for nursing personnel compounds the difficulty.

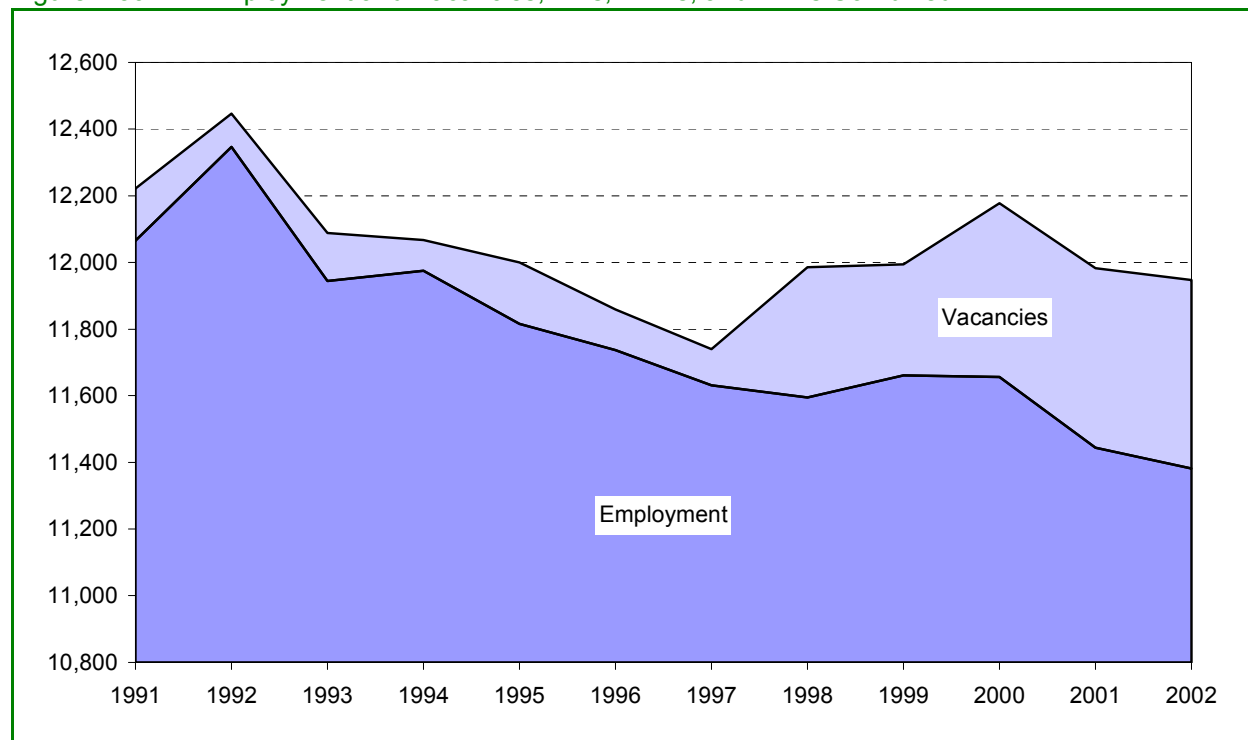
Other studies reviewed for this report tend to concentrate on forecasting supply rather than demand. When they do tackle the demand side of the equation, a simple per capita calculation is usually combined with a population forecast.

Recent Employment and Demand

The number of employed nurses in the three professional groups declined slowly during the 1990s (see Figure 4.39) with a decline of approximately 70 nurses per year or 0.6% of employment. When vacancies are added to arrive at demand, the picture is different. The decline in demand stopped in 1997, increased back to 1991 levels before falling off to the current estimate of just under 12,000.

The figures on the next page show the same data for each of the professional groups. The pattern for RNs who represent three quarters of the nursing demand shows stable employment to 2000 with an increasing number of vacancies. In the past two years employment has

Figure 4.39 Employment and Vacancies, RNs, RPNs, and LPNs Combined



declined while the number of vacancies has been stable. Some of this employment decline is thought to be the result of a supply shortage rather than a decline in demand.

RPNs show a much different pattern with a steady decline in employment and a small but increasing number of vacancies. Overall demand is falling by approximately twenty persons per year.

The same decline evident among RPNs was occurring among LPNs in the early 1990s with an employment decline of almost 100 LPNs per year. Demand bottomed out in 1997 and has been growing since then although most of the increase is manifest as vacancies rather than as employment.

Figure 4.40 Employment and Vacancies, RNs

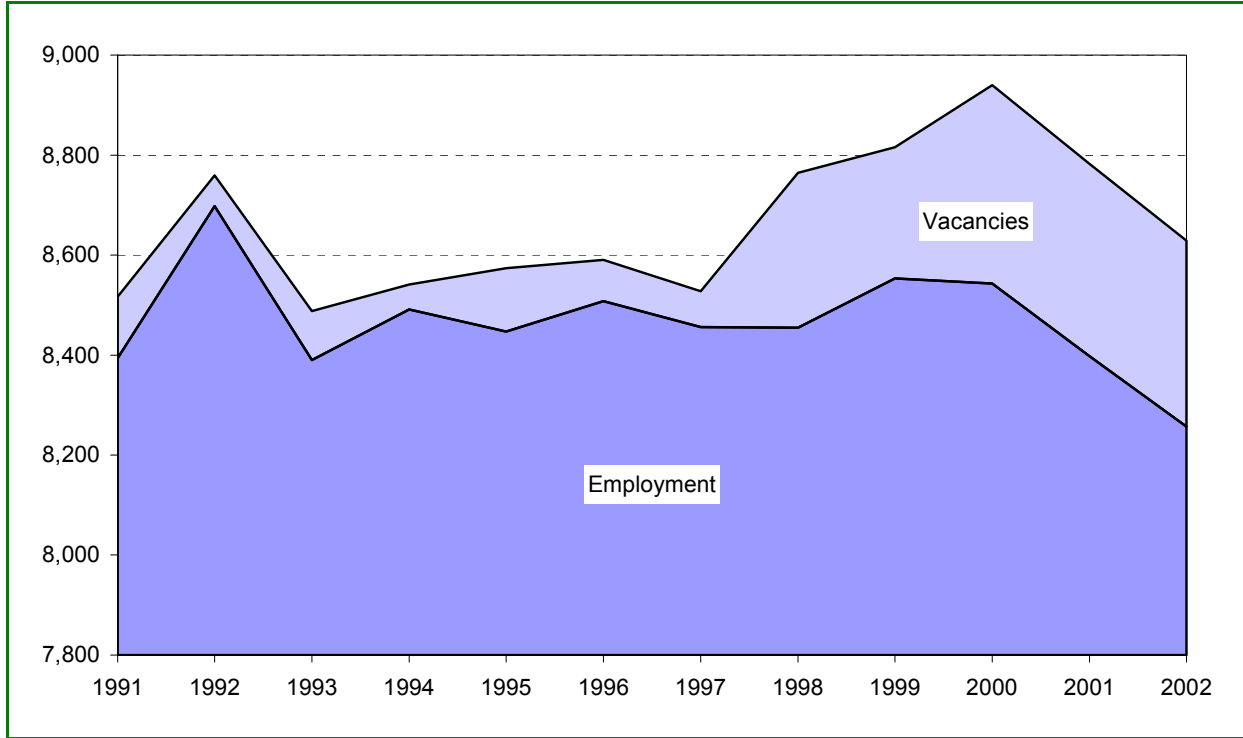


Figure 4.41 Employment and Vacancies, RPNs

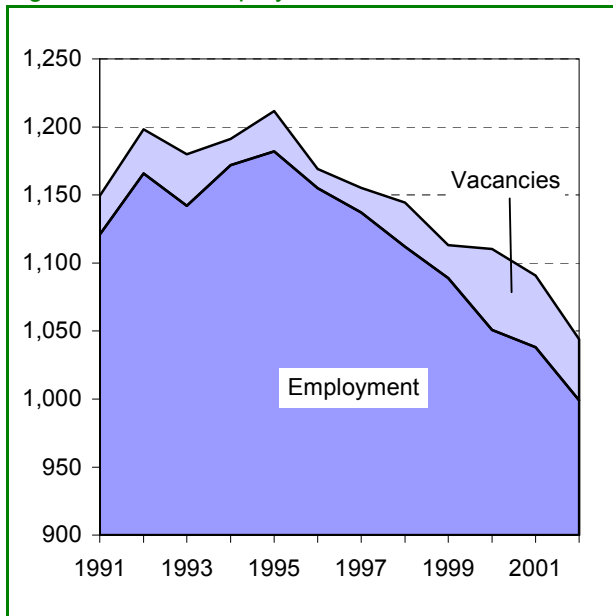
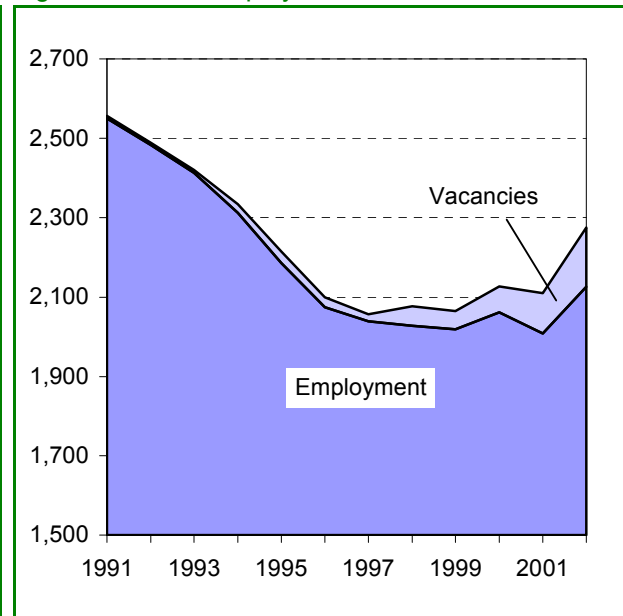


Figure 4.42 Employment and Vacancies, LPNs



Three Scenarios

Given the uncertainty on the demand side, three scenarios for the future demand are presented. The scenarios represent three situations that could unfold over the next ten years.

Zero growth A zero growth scenario is presented which assumes that the demand for nurses remains at its current level of 11,950 and that there is no change in the demand within the three professions. That is, the demand is constant for each of the three professional groups.

This is a reference scenario and, in the author's view, the minimum expected demand and is unlikely to come to pass.

High growth A high growth scenario is developed where the demand for nursing services increases steadily because of the issues discussed earlier in this section, namely changes in the province's demographic makeup, increases in patient acuity, and changes in the health care delivery system. The demand is tempered by the financial capacity of the provincial government.

In percentage terms, the increase is assumed to be higher among LPNs (1% per year) than among RNs and RPNs (0.4% per year) although in absolute terms, most of the growth occurs among RNs. The percentages were chosen to:

- a) return demand for RNs over the course of the next ten years to the trend line evident in the 1990s;
- b) increase demand for RPNs at the same rate as for RNs; and
- c) return the demand for LPNs back to the level in 1991.

This scenario is probably the closest to the "real" demand for nursing services. It too is unlikely to come to pass because the demand for health care services will probably always exceed the ability to provide those services.

Midpoint growth This scenario is simply the midpoint between the zero growth and high growth scenarios. That is, the demand for RNs and RPNs increases at 0.2% per year and the demand for LPNs increases at 0.5% per year.

If a choice of a single point of reference were necessary, this is the scenario that, in the author's view, is most likely to unfold over the next ten years. The projected demand will probably have three scenarios.

Registered Nurses

Applying the three scenarios to the RN demand yields the results in Table 4.2 and Figure 4.43. The high growth scenario returns overall demand to near 9,000 RNs over the course of the ten year forecast period. This is the point at which it would have been on the trend line in the 1990s.

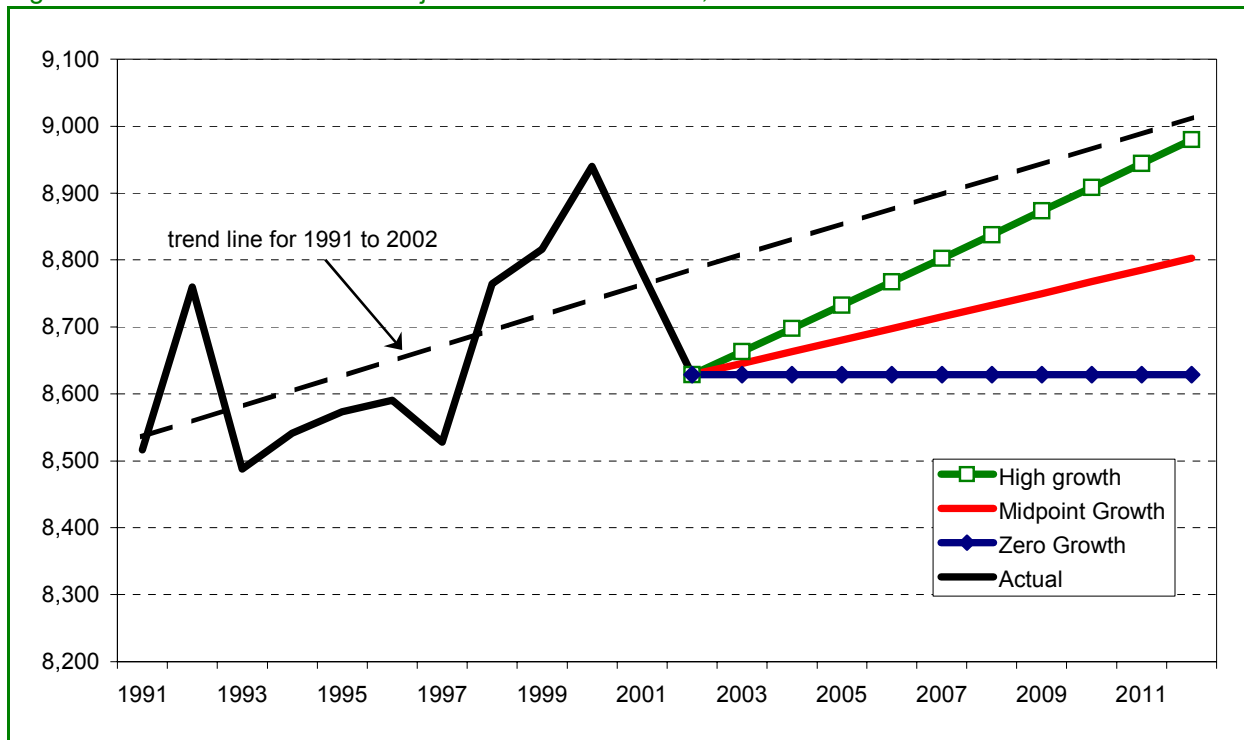
If employment equalled demand in the midpoint growth scenario, the number of RNs would be 8.7 per thousand population (assuming a constant population in the province), well above the current level of 8.4 and the national average of 8.1.

Table 4.2 Estimated and Projected Demand for RNs

		Zero Growth	High growth	Midpoint Growth
Employment plus vacancies	1992*	8,759	8,759	8,759
	1997	8,528	8,528	8,528
	2002	8,629	8,629	8,629
Forecast demand	2007	8,629	8,803	8,715
	2012	8,629	8,980	8,803

* 1992 was an anomaly in terms of employment, employment in 1991 and 1993 was near 8,500

Figure 4.43 Estimated and Projected Demand for RNs, Three Scenarios



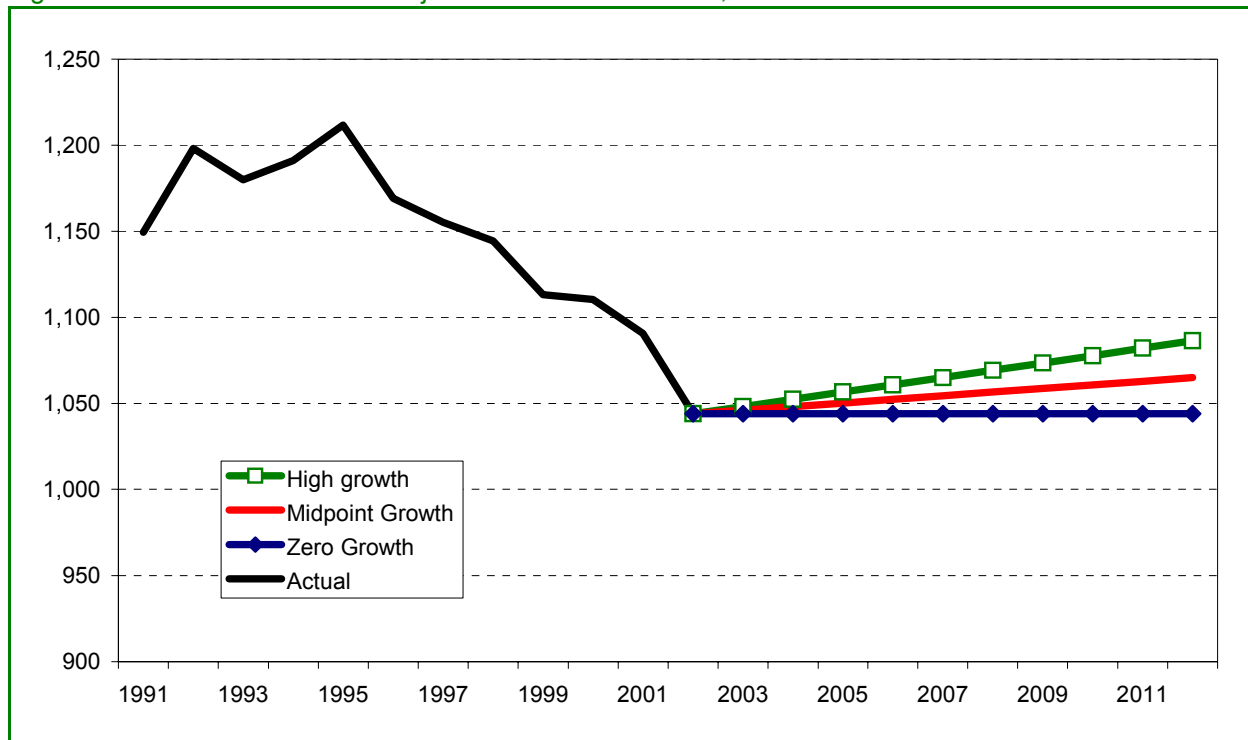
Registered Psychiatric Nurses

Applying the three scenarios to the RPN demand yields the results shown in Table 4.3 and Figure 4.44. Demand does not return to 1992 levels in any of the scenarios although the decline evident during the 1990s is reversed and Saskatchewan would remain the largest per capita employer of RPNs in the western provinces.

Table 4.3 Estimated and Projected Demand for RPNs

		Zero Growth	High growth	Midpoint Growth
Employment plus vacancies	1992	1,198	1,198	1,198
	1997	1,155	1,155	1,155
	2002	1,044	1,044	1,044
Forecast demand	2007	1,044	1,065	1,054
	2012	1,044	1,086	1,065

Figure 4.44 Estimated and Projected Demand for RPNs, Three Scenarios



Licensed Practical Nurses

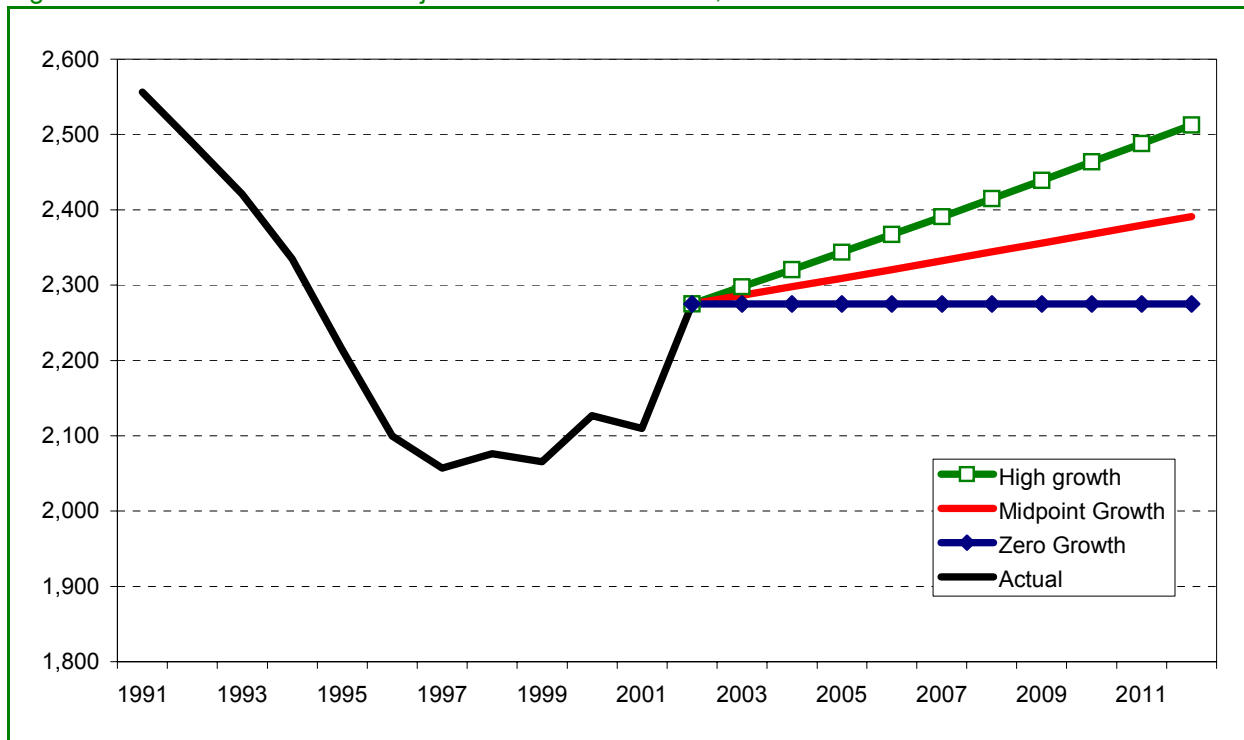
Applying the three scenarios to the LPN demand yields the results shown in Table 4.4 and Figure 4.45. In the high growth scenario, demand returns to the level in the early 1990s. The midpoint growth scenario has a lower rate of growth and the absolute number of LPNs increases to 2,400 over the ten year period.

If the province's population remains constant and employment equals demand, the number of LPNs per capita will be 2.4 per 1000 population in 2012, above the current 2.2 level and near the current national average of 2.4.

Table 4.4 Estimated and Projected Demand for LPNs

		Zero Growth	High growth	Midpoint Growth
Employment plus vacancies	1992	2,489	2,489	2,489
	1997	2,057	2,057	2,057
	2002	2,275	2,275	2,275
Forecast demand	2007	2,275	2,391	2,332
	2012	2,275	2,513	2,391

Figure 4.45 Estimated and Projected Demand for LPNs, Three Scenarios



Total Nursing Demand

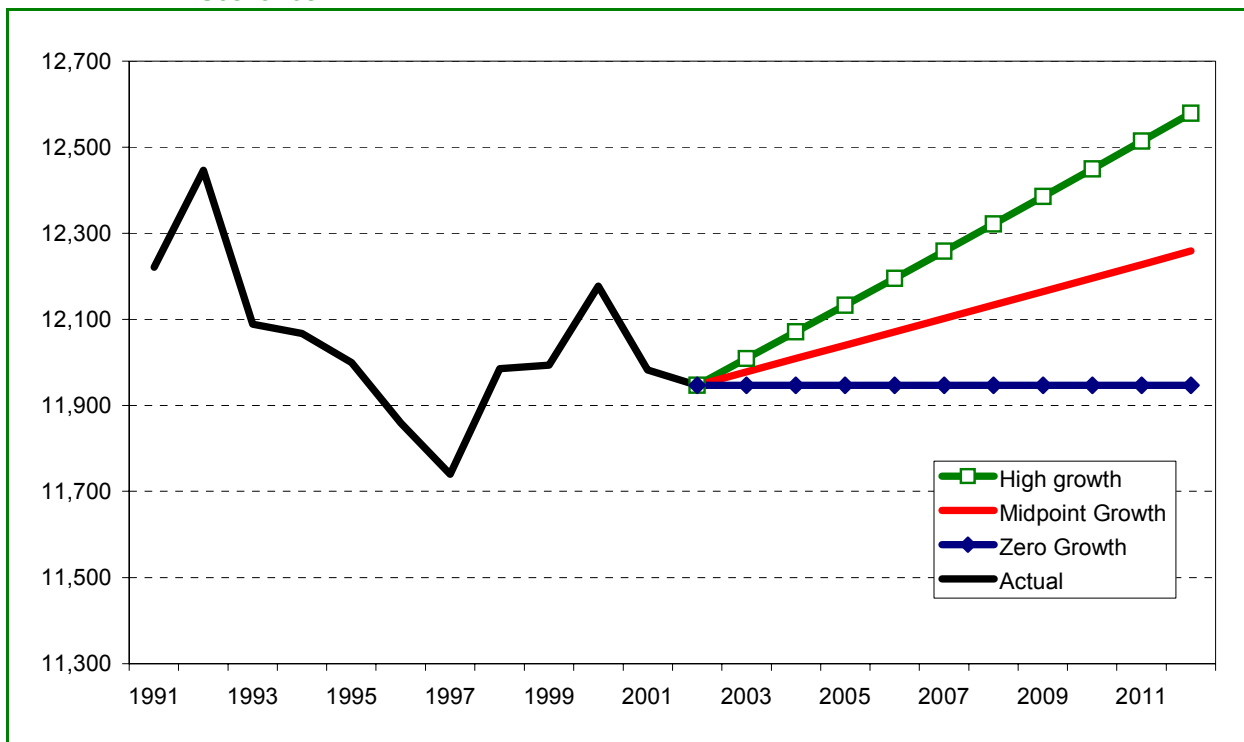
There are a variety of ways that the three demand scenarios can be combined (27 in fact) but many combinations and permutations are unlikely to come to pass. For simplicity, Table 4.5 and Figure 4.46 look only at the combinations with the same growth rates. That is, high growth for RNs is combined with high growth for RPNs and LPNs.

The midpoint growth rate returns demand to a point near the level in the early 1990s.

Table 4.5 Estimated and Projected Demand for RNs, RPNs, and LPNs

		Zero Growth	High growth	Midpoint Growth
Employment plus vacancies	1992	12,447	12,447	12,447
	1997	11,740	11,740	11,740
	2002	11,947	11,947	11,947
Forecast demand	2007	11,947	12,258	12,102
	2012	11,947	12,579	12,259

Figure 4.46 Estimated and Projected Demand for RNs, RPNs, and LPNs combined, Three Scenarios



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5.0 COMPARING SUPPLY AND DEMAND

In this section, the projected supply of RNs, RPNs, and LPNs is compared with the projected demand to arrive at an estimate of the shortfall or surplus (the “gap”) over the next five to ten years. For actual data to 2002, this gap is equivalent to the estimated number of vacant positions.

There are a number of ways that the various supply and demand scenarios can be combined. At the individual profession level, we examine all permutations and combinations even though some are highly improbable. There is, for example, almost no set of circumstances that would lead to high levels of demand and low retention or low levels of demand and high retention.

At the end of this section, we look at one of the more probable scenarios for the profession as a whole and examine the various options for increasing the supply.

Registered Nurses

Table 5.1 and Figure 5.1 compare the three different supply scenarios for RNs developed in Section 3.7 with the three different demand scenarios in Section 4.6, yielding nine different combinations.

The gap between supply and demand is currently estimated at 372. In each combination of scenarios, the gap rises over the course of the next ten years. The smallest rise occurs with no growth in demand and a high retention rate. In that case, the gap increases to 456 by 2012 after dropping slightly during the first five years of the forecast period. In all scenarios, the gap becomes wider in the second half of the ten year period.

If retention rates evolve as per the medium scenario and demand increases at the midpoint growth rate, the gap increases to 548 by 2007 and 830 by 2012. Reducing that gap to an acceptable level of, for example, 150 positions over the course of the next ten years would require an additional supply of 68 RNs per year starting in 2003. With no increase in demand, the additional supply requirements are still 50 RNs per year.

These figures can be considered as conservative estimates because the demand in 2002 may be underestimated.

Figure 5.1 Comparison of Supply and Demand Scenarios for RNs

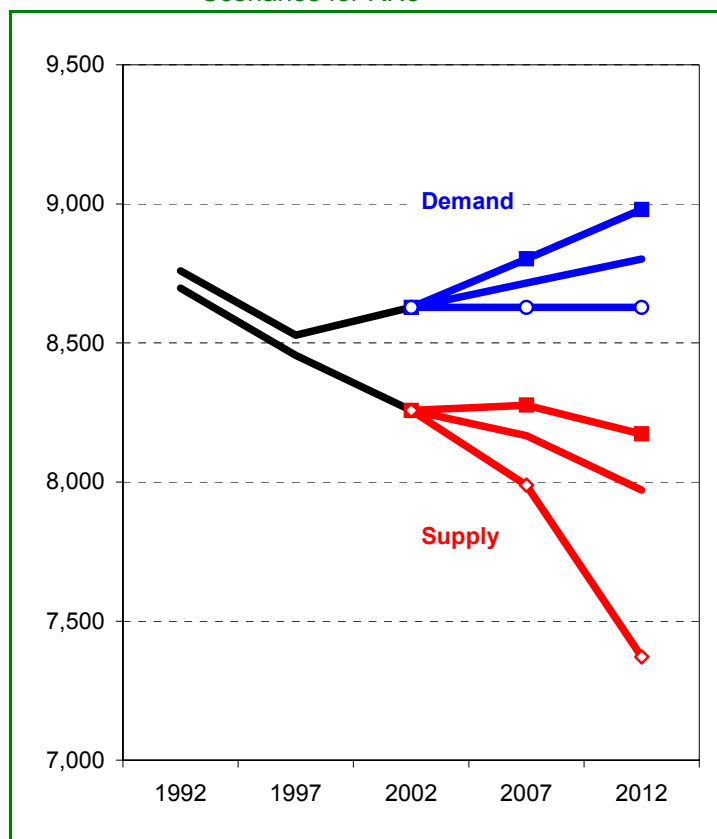


Table 5.1 Difference Between Supply of and Demand for RNs, Three Scenarios

	2007			2012		
	Zero growth in demand	Midpoint growth (0.2%/year)	High Growth (0.4%/year)	Zero growth in demand	Midpoint growth (0.2%/year)	High Growth (0.4%/year)
High retention	352	438	526	456	630	807
Medium retention	461	548	635	656	830	1,008
Low retention	640	726	814	1,256	1,430	1,608

Registered Psychiatric Nurses

Table 5.2 and Figure 5.2 compare the three different supply scenarios for RPNs developed in Section 3.7 with the three different demand scenarios in Section 4.6, yielding nine different combinations.

The gap between supply and demand is currently estimated at 45 RPNs. In all but one combination of scenarios, the gap rises over the course of the next ten years. The exception is the unlikely combination of no increase in demand and high retention rates where the gap in 2012 is 52 RPNs.

If retention rates evolve as per the medium scenario and demand increases at the midpoint growth rate, the gap increases to 93 by 2007 and 115 by 2012. Reducing that gap to an acceptable level of, for example, 20 positions over the course of the ten years would require an additional supply of 10 RPNs per year starting in 2003. With no increase in demand, the additional supply requirements are still 7 RNs per year.

Figure 5.2 Comparison of Supply and Demand for RPNs

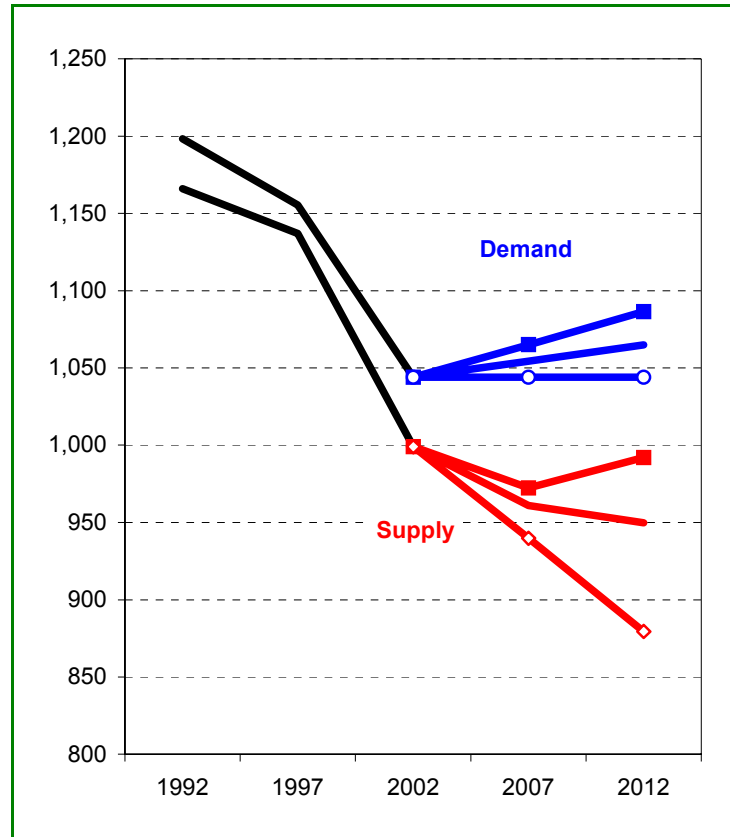


Table 5.2 Difference Between Supply of and Demand for RPNs, Three Scenarios

	2007			2012		
	Zero growth in demand	Midpoint growth (0.2%/year)	High Growth (0.4%/year)	Zero growth in demand	Midpoint growth (0.2%/year)	High Growth (0.4%/year)
High retention	72	82	93	52	73	95
Medium retention	83	93	104	94	115	137
Low retention	104	115	125	164	186	207

Licensed Practical Nurses

Table 5.3 and Figure 5.3 compare the three different supply scenarios for LPNs developed in Section 3.7 with the three different demand scenarios in Section 4.6, yielding nine different combinations.

The situation for LPNs is much different from the one for RPNs and RNs. In most combinations of scenarios, the supply exceeds the demand. In only one combination, namely the unlikely combination of high growth in demand and a low retention rate, is there an increase in the gap from its current estimate of 149 LPNs.

In the medium retention scenario, the supply of LPNs is sufficient to meet either the midpoint or high growth scenarios.

Figure 5.3 Comparison of Supply and Demand for LPNs

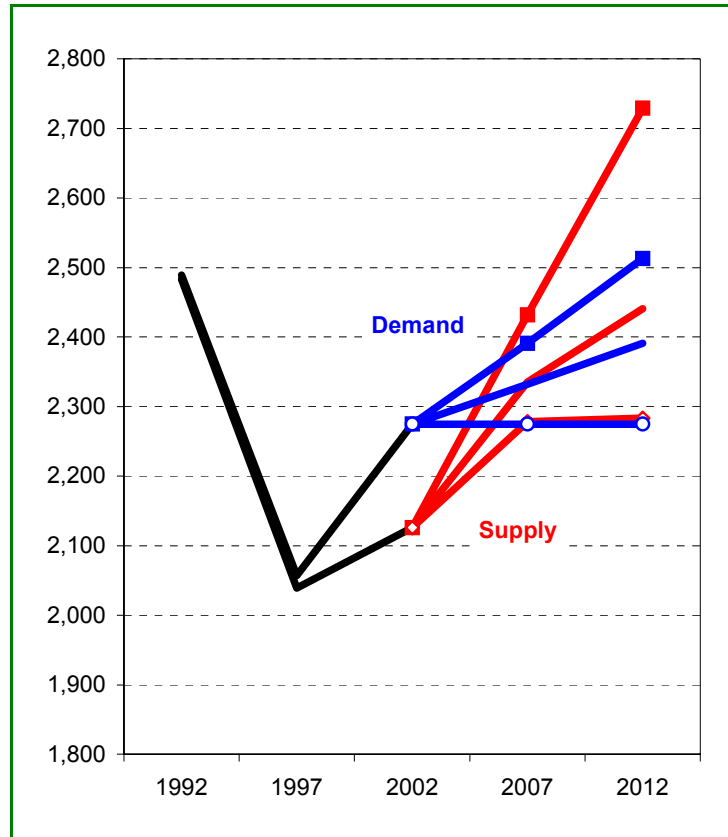


Table 5.3 Difference Between Supply of and Demand for LPNs, Three Demand Scenarios Compared with Three Supply Scenarios

	2007			2012		
	Zero growth in demand	Midpoint growth (0.5%/year)	High Growth (1.0%/year)	Zero growth in demand	Midpoint growth (0.5%/year)	High Growth (1.0%/year)
High retention	(157)	(100)	(41)	(454)	(338)	(216)
Medium retention	(61)	(3)	55	(166)	(50)	72
Low retention	(3)	54	113	(8)	108	230

note: numbers in brackets indicate supply is higher than demand

RNs, RPNs, and LPNs

Table 5.4 and Figure 5.4 combine the three professional groups to arrive at a total nursing supply and demand picture. This was done by combining the scenarios according to equivalent categories. That is, by assuming high retention rates for RNs are accompanied by high retention rates for RPNs, and high retention rates for LPNs, etc.

The aggregate picture is not dissimilar to the one for RNs, of course, because RNs constitute three out of four nurses. The gap between supply and demand widens in most combinations of supply and demand scenarios.

In the unlikely event that there is no growth in demand and a high retention rate, the gap between supply and demand narrows. With medium retention and no growth in demand, the gap remains near its current level of 565 nurses.

With the midpoint increase in demand, a high retention rate would result in a slight narrowing of the gap over the next ten years. With the medium retention rate, it widens to 638 in 2007 and 896 in 2012.

Figure 5.4 Comparison of Supply and Demand for RNs, RPNs, and LPNs Combined

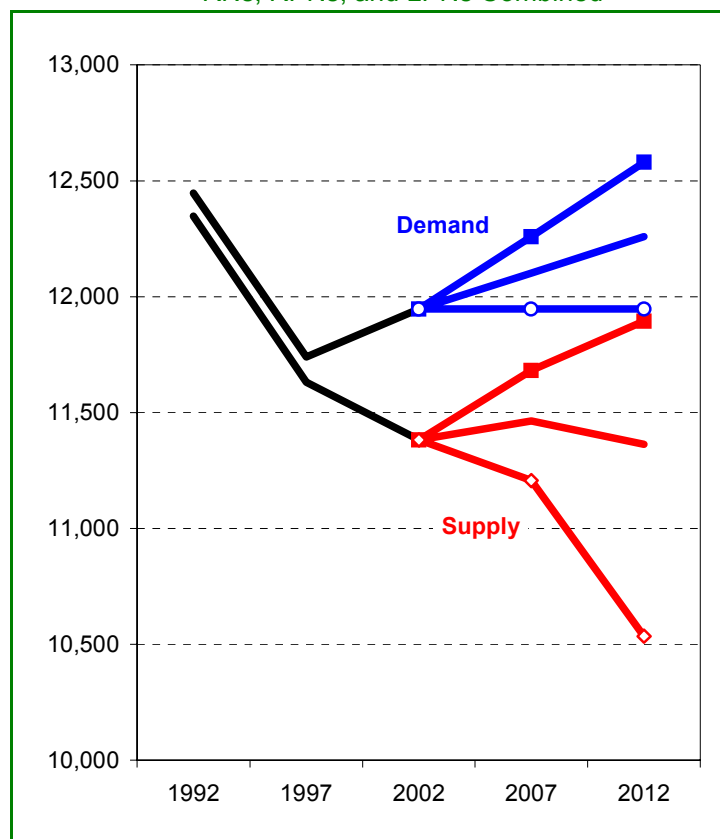


Table 5.4 Difference Between Supply of and Demand for Nurses, Three Demand Scenarios Compared with Three Supply Scenarios

	2007			2012		
	Zero growth in demand	Midpoint growth	High growth	Zero growth in demand	Midpoint growth	High growth
High retention	266	421	577	54	365	686
Medium retention	484	638	795	584	896	1,216
Low retention	741	895	1,052	1,412	1,724	2,044

Summary

The comparisons in this section make it clear that there will be an increasing shortfall between the supply of and demand for RNs and RPNs in the next ten years. Reducing the gap to a reasonable level will require an annual increase of 60 to 80 RNs/RPNs, depending on the assumption for growth in demand.

The situation for LPNs is different. The current estimate of the supply over the next ten years is sufficient to handle a modest increase in demand. Furthermore, the nature of practical nurse programs in the province's post-secondary institutions will make education more responsive to demand in the future.

There are several sources of supply for RNs and RPNs and all operate over a different time frame and on a different age cohort.

Retention of nurses already employed in the profession acts immediately and is the most efficient way to close the gap over the short term. Higher retention rates will have the most impact on older nurses, however, and because of the age structure of the nursing population retention delays rather than removes the inevitable shortfall in the supply.

New graduates add to the supply of younger nurses in the province which helps deal with the long term issue. The effect of adding capacity to the NEPS program is delayed, however, by the inability to add capacity quickly and by the three to five years it takes to yield new graduates ready to enter the labour force. This is clearly an important approach to meeting the demand over the longer term, particularly given the sharp drop in supply expected after the ten year time frame examined in this report.

The third source of supply is recruitment, the flip-side of retention. Although recruiting nurses from other provinces and countries has proven to be difficult, recruitment acts over a shorter time frame than the addition of capacity at post-secondary institutions. It also, given the age structure of the typical migrant, will tend to add younger nurses to the supply.

The age structure of the population of nurses in Saskatchewan suggests that a prudent approach would be to address all three sources of supply.

Appendix 1
Statistics Canada Census Data

Census Data Related to Nursing

These variables are all derived from the "long form" of the Census. They are, therefore, effectively based on a 20% sample of private households in the province.

The "Field of Study" variable refers to the predominant discipline or area of learning or training of a person's highest postsecondary degree, certificate or diploma. The major field of study classification structure consists of 10 broad categories, 121 "minor" groups, and 425 "unit" groups. Only the minor and unit groups are useful for examining the nursing professions.

The Field of Study variable is based on responses to the question:

What was the major field of study or training of this person's highest degree, certificate or diploma (excluding secondary or high school graduation certificates)? For example, accounting, carpentry, civil engineering, history, legal secretary, welding.

Occupations are based on the NOC codes and represent the occupation at the time of the census or, if not employed, the most recent occupation. The "experienced labour force" consists of those who are currently employed or who have worked in the past six months.

Relevant NOC codes are:

- NOC 3151 Head Nurses and Supervisors
- NOC 3152 Registered Nurses (including RPNs and Nurse Practitioners)
- NOC 3233 Registered Nursing Assistants

Table 1: Basic Counts - Saskatchewan - All Ages

	Non-university			University			Total		
	1991	1996	2001	1991	1996	2001	1991	1996	2001
Field of Study: Nursing									
Nursing - general	9,660	10,485	10,215	3,250	3,915	4,060	12,910	14,400	14,275
Psychiatric nursing	845	1,180	940	200	190	225	1,045	1,370	1,165
All others	<u>145</u>	<u>205</u>	<u>170</u>	<u>130</u>	<u>150</u>	<u>185</u>	<u>275</u>	<u>355</u>	<u>355</u>
Nursing Group Total	10,650	11,870	11,325	3,580	4,255	4,470	14,230	16,125	15,795
Field of Study: Nursing Assistance									
Nursing assistant	5,565	4,260	4,425	0	0	0	5,565	4,260	4,425
Health care aide/support	2,270	4,035	5,485	0	0	0	2,270	4,035	5,485
Long-term care aide	105	70	60	0	0	0	105	70	60
Nursing aide, orderly	<u>520</u>	<u>600</u>	<u>575</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>520</u>	<u>600</u>	<u>575</u>
Nursing Assistance Group Total	8,455	8,960	10,540	0	0	0	8,455	8,960	10,540

Table 2: Basic Counts - Saskatchewan - Ages 20 to 64 Only

	Non-university			University			Total		
	1991	1996	2001	1991	1996	2001	1991	1996	2001
Field of Study: Nursing									
Nursing - general	8,585	8,755	8,065	2,925	3,525	3,600	11,510	12,280	11,665
Psychiatric nursing	780	1,015	715	165	165	180	945	1,180	895
All others	<u>115</u>	<u>185</u>	<u>155</u>	<u>90</u>	<u>110</u>	<u>125</u>	<u>205</u>	<u>295</u>	<u>280</u>
Nursing Group Total	9,480	9,955	8,935	3,180	3,800	3,905	12,660	13,755	12,840
Field of Study: Nursing Assistance									
Nursing assistant	5,000	3,810	3,745	0	0	0	5,000	3,810	3,745
Health care aide/support	2,200	3,885	5,270	0	0	0	2,200	3,885	5,270
Long-term care aide	90	60	35	0	0	0	90	60	35
Nursing aide, orderly	<u>480</u>	<u>505</u>	<u>470</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>480</u>	<u>505</u>	<u>470</u>
Nursing Assistance Group Total	7,765	8,260	9,525	0	0	0	7,765	8,260	9,525

Table 3: Age Distribution, University and Non-University Graduates

	20 to 34 years			35 to 44 years			45 to 64 years		
	1991	1996	2001	1991	1996	2001	1991	1996	2001
Field of Study: Nursing									
Nursing - general	3,455	3,010	2,040	3,925	3,860	3,315	4,125	5,405	6,310
Psychiatric nursing	345	370	165	200	295	235	405	520	495
All others	<u>45</u>	<u>45</u>	<u>35</u>	<u>55</u>	<u>120</u>	<u>110</u>	<u>105</u>	<u>135</u>	<u>125</u>
Nursing Group Total	3,845	3,425	2,240	4,180	4,275	3,660	4,635	6,060	6,930
Field of Study: Nursing Assistance									
Nursing assistant	1,550	995	605	1,675	1,265	990	1,775	1,560	2,145
Health care aide/support	850	1,205	1,455	635	1,355	1,730	715	1,320	2,085
Long-term care aide	20	15	10	35	25	15	30	30	15
Nursing aide, orderly	<u>95</u>	<u>140</u>	<u>85</u>	<u>185</u>	<u>125</u>	<u>135</u>	<u>195</u>	<u>230</u>	<u>250</u>
Nursing Assistance Group Total	2,515	2,355	2,150	2,525	2,770	2,875	2,720	3,140	4,495

Table 4: Growth Rates by Province, 20 to 64 years of age only

	Annual Increase from 1991 to 1996				Annual Increase from 1996 to 2001			
	Canada	Manitoba	Sask	Alberta	Canada	Manitoba	Sask	Alberta
Field of Study: Nursing								
Nursing - general	6%	4%	7%	2%	5%	-1%	-5%	12%
Psychiatric nursing	4%	19%	25%	-22%	-8%	-6%	-24%	6%
All others	<u>34%</u>	<u>10%</u>	<u>44%</u>	<u>17%</u>	<u>4%</u>	<u>18%</u>	<u>-5%</u>	<u>31%</u>
Nursing Group Total	7%	4%	9%	2%	5%	-1%	-7%	12%
Field of Study: Nursing Assistance								
Nursing assistant	-6%	-13%	-24%	-8%	-7%	-8%	-2%	6%
Health care aide/support	95%	108%	77%	199%	51%	57%	36%	113%
Long-term care aide	26%	-20%	-33%	-9%	-14%	-25%	-42%	26%
Nursing aide, orderly	<u>35%</u>	<u>30%</u>	<u>5%</u>	<u>2%</u>	<u>28%</u>	<u>-18%</u>	<u>-7%</u>	<u>13%</u>
Nursing Assistance Group Total	15%	24%	6%	5%	12%	17%	15%	24%

**Table 5: Selected Characteristics by Field of Study and Employment
20 to 64 Years of Age, 2001**

	<u>RN Education, Employed as RN</u>	<u>RN Education, Not Employed as RN</u>	<u>LPN Education, Employed as LPN</u>	<u>LPN Education, Not Employed as LPN</u>
Total	7,150	4,515	905	2,380
Gender				
Men	310	290	15	160
Women	<u>6,835</u>	<u>4,230</u>	<u>890</u>	<u>2,220</u>
	7,145	4,520	905	2,380
Age in 2001				
20-24	30	265	40	75
25-29	560	200	65	185
30-34	810	285	65	175
35-39	1,005	500	90	240
40-44	1,240	760	140	435
45-49	1,500	735	200	385
50-54	1,020	725	145	420
55-59	645	610	100	285
60-64	<u>320</u>	<u>450</u>	<u>60</u>	<u>175</u>
	7,130	4,530	905	2,375
Immigration Status				
Born in Saskatchewan	5,555	3,315	775	1,875
Born in Canada, outside Sask	1,140	685	110	425
Born outside Canada	<u>435</u>	<u>460</u>	<u>15</u>	<u>70</u>
	7,130	4,460	900	2,370
Labour Force Status in May 2001				
Employed	6,855	4,045	860	2,215
Unemployed	55	65	10	15
Not in the Labour Force	<u>235</u>	<u>405</u>	<u>40</u>	<u>145</u>
	7,145	4,515	910	2,375

Table 5: Selected Characteristics by Field of Study and Employment
20 to 64 Years of Age, 2001 (continued)

	<u>RN Education, Employed as RN</u>	<u>RN Education, Not Employed as RN</u>	<u>LPN Education, Employed as LPN</u>	<u>LPN Education, Not Employed as LPN</u>
Industry of Employment				
Agriculture, forestry, fishing and hunting	0	515	0	250
Utilities and Resources	0	40	0	10
Construction	0	30	0	20
Manufacturing	0	40	0	25
Wholesale and retail trade	10	210	0	120
Transportation and warehousing	0	65	0	25
Information and cultural industries	0	35	0	0
Finance, insurance, real estate	0	130	0	40
Professional, scientific and technical services	0	120	0	25
Educational services	75	275	0	90
Healthcare and social assistance	6,665	2,170	855	1,505
Arts, entertainment and recreation	0	50	0	10
Accommodation and food services	10	65	0	40
Other services (except public administration)	25	190	0	45
Public administration	<u>120</u>	<u>170</u>	<u>0</u>	<u>30</u>
	6,905	4,105	855	2,235
Average employment earnings in 2000				
Worked full-time, full-year	\$46,341	\$35,213	\$29,502	\$34,568
<u>Worked part-time or part-year</u>	<u>\$31,041</u>	<u>\$19,832</u>	<u>\$22,585</u>	<u>\$19,447</u>
Total	\$40,176	\$27,838	\$26,338	\$27,053

Experienced Labour Force	Nursing supervisors, RNs, and RPNs (NOC 315)			Registered Nursing Assistants (LPNs) (NOC 3233)		
	1991	1996	2001	1991	1996	2001
Atlantic	24,300	24,145	22,075	6,855	5,125	7,145
Quebec	58,980	60,390	59,225	14,870	13,065	13,520
Ontario	91,480	88,425	90,260	18,495	12,335	12,595
Manitoba	11,375	11,240	10,490	2,555	1,840	1,445
Saskatchewan	9,300	9,580	8,620	1,985	1,410	1,725
Alberta	23,770	21,365	22,755	4,940	3,695	4,955
British Columbia	29,550	30,940	27,835	3,595	2,350	5,690
North	615	720	655	90	80	90
Canada	249,365	246,800	241,920	53,385	39,895	47,165

Attachment to the Labour Force	Nursing supervisors, RNs, and RPNs (NOC 315)					
	Worked Full-Time, Full-Year			Part Time or Part Year		
	1990	1995	2000	1990	1995	2000
Atlantic	12,785	13,105	13,940	11,600	11,800	8,755
Quebec	28,625	27,940	31,890	31,255	33,155	28,015
Ontario	44,755	42,680	49,485	48,015	48,715	44,020
Manitoba	5,365	5,110	5,610	6,420	6,515	5,345
Saskatchewan	4,450	4,905	5,255	5,160	4,845	3,585
Alberta	10,540	8,620	10,975	14,260	13,515	12,605
British Columbia	13,415	14,610	15,315	16,850	17,030	13,515
North	375	405	405	260	320	310
Canada	120,310	117,375	132,875	133,820	135,895	116,150

Attachment to the Labour Force	Registered Nursing Assistants (LPNs) (NOC 3233)					
	Worked Full-Time, Full-Year			Part Time or Part Year		
	1990	1995	2000	1990	1995	2000
Atlantic	3,525	2,860	4,520	3,460	2,380	2,815
Quebec	5,995	5,000	6,120	9,130	8,210	7,450
Ontario	8,855	5,665	6,575	9,815	6,895	6,395
Manitoba	1,070	895	755	1,645	1,055	725
Saskatchewan	920	770	920	1,155	665	840
Alberta	2,155	1,545	2,135	2,955	2,230	2,950
British Columbia	1,855	1,240	2,970	1,835	1,165	3,050
North	30	35	55	55	55	40
Canada	24,405	18,010	24,050	30,050	22,655	24,265

	<u>Nursing supervisors, RNs, and RPNs (NOC 315)</u>			<u>Registered Nursing Assistants (LPNs) (NOC 3233)</u>		
	<u>1995</u>	<u>2000</u>	<u>Increase</u>	<u>1995</u>	<u>2000</u>	<u>Increase</u>
Average Employment Earnings in 2000 Dollars						
Atlantic	\$30,889	\$35,328	14.4%	\$20,956	\$23,074	10.1%
Quebec	\$35,655	\$39,187	9.9%	\$26,051	\$27,270	4.7%
Ontario	\$37,431	\$41,067	9.7%	\$28,421	\$28,901	1.7%
Manitoba	\$33,284	\$36,093	8.4%	\$26,255	\$26,295	0.2%
Sask	\$34,634	\$38,862	12.2%	\$25,407	\$27,116	6.7%
Alberta	\$32,351	\$37,471	15.8%	\$23,114	\$24,531	6.1%
B.C.	\$37,535	\$41,087	9.5%	\$28,209	\$32,561	15.4%
<u>North</u>	<u>\$48,734</u>	<u>\$52,791</u>	<u>8.3%</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>
Canada	\$35,668	\$39,487	10.7%	\$26,004	\$27,422	5.5%
Average Employment Earnings in 2000 Dollars Full Time Full Year Workers Only						
Atlantic	\$38,544	\$41,119	6.7%	\$24,990	\$24,910	-0.3%
Quebec	\$43,664	\$45,360	3.9%	\$26,033	\$27,303	4.9%
Ontario	\$46,389	\$48,545	4.6%	\$32,934	\$32,240	-2.1%
Manitoba	\$41,887	\$43,735	4.4%	\$34,668	\$34,464	-0.6%
Sask	\$42,737	\$44,790	4.8%	\$33,334	\$32,291	-3.1%
Alberta	\$43,106	\$46,520	7.9%	\$30,239	\$31,153	3.0%
B.C.	\$47,083	\$48,942	3.9%	\$29,318	\$31,121	6.1%
<u>North</u>	<u>\$57,537</u>	<u>\$61,106</u>	<u>6.2%</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>
Canada	\$44,413	\$46,569	4.9%	\$32,131	\$32,624	1.5%

Appendix 2
Statistics Canada Labour Force Survey Data

Labour Force Survey Data Related to Nursing

The LFS is a monthly household survey of a sample of individuals who are representative of the civilian, non-institutionalized, population 15 years of age or older in Canada's ten provinces. Specifically excluded from the survey coverage are residents of the northern territories and persons living on Indian Reserves. Occupation level data from the LFS also uses the NOC and so does not distinguish between RNs and RPNs. The LFS sample size is too small to yield specific information about LPNs.

Occupations are based on the NOC codes and represent the occupation at the time of the survey.

Relevant NOC codes are:

NOC 3151 Head Nurses and Supervisors

NOC 3152 Registered Nurses (including RPNs and Nurse Practitioners)

	Annual Averages for Registered Nurses and Nursing Supervisors (NOC 3151 and 3152)										
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Labour force											
Atlantic	31,700	31,100	33,700	32,600	29,900	31,500	32,300	33,200	32,900	34,900	35,400
Quebec	105,600	106,500	106,900	111,100	104,900	102,400	104,500	104,400	92,700	97,300	104,700
Ontario	133,000	132,900	144,300	142,600	119,600	135,400	135,200	139,400	147,600	144,800	165,300
Manitoba	13,600	14,700	14,400	16,600	15,400	15,300	14,700	16,400	14,500	14,600	18,100
Saskatchewan	13,600	13,200	13,100	12,200	10,600	13,000	12,500	12,000	12,500	12,700	13,400
Alberta	31,500	32,700	36,000	35,400	30,200	37,200	39,000	33,500	36,500	39,200	41,300
<u>British Columbia</u>	<u>47,100</u>	<u>51,500</u>	<u>46,500</u>	<u>49,500</u>	<u>44,000</u>	<u>50,100</u>	<u>51,400</u>	<u>49,700</u>	<u>56,800</u>	<u>52,900</u>	<u>57,600</u>
Canada	376,200	382,400	394,800	399,900	354,800	384,900	389,500	388,600	393,400	396,600	435,700
Employment											
Atlantic	31,000	30,200	33,000	32,200	29,200	31,100	32,000	33,100	32,600	34,400	35,100
Quebec	104,400	105,200	105,400	109,100	103,400	101,400	103,700	103,700	92,600	96,700	104,200
Ontario	130,000	131,300	142,000	140,800	117,800	133,400	133,800	137,000	146,000	143,800	164,100
Manitoba	13,200	14,400	14,100	16,200	15,200	15,200	14,500	16,200	14,300	14,500	18,000
Saskatchewan	13,400	13,000	12,800	12,100	10,500	13,000	12,400	11,900	12,400	12,600	13,300
Alberta	30,700	31,500	34,800	34,700	29,800	36,700	38,500	33,300	36,400	38,800	41,100
<u>British Columbia</u>	<u>46,500</u>	<u>50,600</u>	<u>45,900</u>	<u>48,500</u>	<u>43,300</u>	<u>49,300</u>	<u>51,000</u>	<u>49,400</u>	<u>56,600</u>	<u>52,500</u>	<u>57,100</u>
Canada	369,200	376,200	388,000	393,400	349,200	379,900	386,100	384,700	390,900	393,400	433,100
Full time employment											
Atlantic	24,600	23,600	26,100	24,000	22,100	23,600	25,400	26,700	27,000	28,600	28,500
Quebec	78,000	78,000	74,000	76,300	75,400	71,700	74,300	78,400	71,300	72,900	77,200
Ontario	96,300	100,800	106,300	106,300	89,000	99,700	98,300	102,200	111,500	114,500	128,200
Manitoba	9,200	10,200	9,100	11,700	10,800	11,100	10,700	11,200	11,600	11,000	13,800
Saskatchewan	9,800	9,200	9,400	8,700	7,100	9,200	9,500	9,300	9,600	9,600	10,700
Alberta	22,500	22,800	24,300	24,300	21,800	27,100	26,600	24,000	26,200	26,800	28,800
<u>British Columbia</u>	<u>36,900</u>	<u>37,700</u>	<u>34,600</u>	<u>38,300</u>	<u>34,300</u>	<u>36,900</u>	<u>37,200</u>	<u>37,900</u>	<u>43,700</u>	<u>39,600</u>	<u>44,200</u>
Canada	277,400	282,200	283,700	289,600	260,500	279,500	282,000	289,600	300,900	302,900	331,200
Part time employment											
Atlantic	6,300	6,600	6,900	8,200	7,100	7,400	6,700	6,400	5,500	5,800	6,800
Quebec	26,400	27,200	31,400	32,800	28,000	29,800	29,400	25,300	21,300	23,900	27,000
Ontario	33,700	30,500	35,700	34,400	28,800	33,700	35,500	34,800	34,500	29,400	35,900
Manitoba	4,000	4,200	5,000	4,500	4,400	4,000	3,900	4,900	2,800	3,500	4,300
Saskatchewan	3,600	3,800	3,400	3,300	3,400	3,700	2,900	2,600	2,800	3,000	2,600
Alberta	8,200	8,700	10,600	10,400	8,000	9,500	11,900	9,300	10,200	12,000	12,400
<u>British Columbia</u>	<u>9,600</u>	<u>12,900</u>	<u>11,300</u>	<u>10,200</u>	<u>9,000</u>	<u>12,300</u>	<u>13,800</u>	<u>11,500</u>	<u>12,900</u>	<u>12,900</u>	<u>12,900</u>
Canada	91,800	94,000	104,300	103,800	88,700	100,500	104,000	95,100	90,000	90,500	101,800

	Annual Averages for Saskatchewan Registered Nurses and Nursing Supervisors (NOC 3151 and 3152)										
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Age groups											
Under 35	3,710	3,018	2,425	2,672	2,248	2,106	2,443	2,244	2,301	1,983	1,691
35 to 44	2,910	3,454	3,081	2,842	2,449	3,358	2,934	2,214	2,552	2,795	1,873
45 to 54	1,886	1,999	1,988	1,741	1,595	2,207	1,833	2,388	2,444	2,592	3,070
55 and older	<u>836</u>	<u>833</u>	<u>804</u>	<u>844</u>	<u>439</u>	<u>1,308</u>	<u>1,300</u>	<u>1,007</u>	<u>1,097</u>	<u>1,306</u>	<u>1,285</u>
	9,342	9,305	8,297	8,099	6,731	8,979	8,511	7,852	8,394	8,675	7,919
Multiple job holder											
Single job holder	7,875	7,877	7,004	6,719	5,553	7,602	6,930	6,733	7,178	7,689	6,788
Multiple job holder	<u>1,012</u>	<u>1,067</u>	<u>816</u>	<u>1,074</u>	<u>853</u>	<u>999</u>	<u>1,066</u>	<u>822</u>	<u>923</u>	<u>717</u>	<u>881</u>
	8,886	8,944	7,820	7,792	6,406	8,601	7,996	7,555	8,101	8,406	7,669
Permanent or temporary job, employees only											
Permanent						7,339	6,933	6,676	6,990	7,503	6,831
Temporary, term, casual						<u>1,166</u>	<u>990</u>	<u>746</u>	<u>1,072</u>	<u>851</u>	<u>654</u>
						8,505	7,923	7,421	8,062	8,354	7,486
Union membership status											
Union member						7,714	7,381	6,555	7,246	8,005	6,852
Not member or covered						<u>791</u>	<u>542</u>	<u>867</u>	<u>816</u>	...	<u>634</u>
						8,505	7,923	7,421	8,062	8,354	7,486
Tenure in current job											
Under 3 years	2,320	1,889	1,306	1,659	1,224	1,802	1,424	1,353	1,878	1,359	1,288
3 to 4.9 years	1,081	1,374	743	727	...	645	502	746	793	832	551
5 to 9.9 years	1,957	1,893	1,972	1,768	1,656	1,903	1,598	1,387	1,433	1,291	1,436
10 or more years	<u>3,240</u>	<u>3,613</u>	<u>3,663</u>	<u>3,529</u>	<u>2,957</u>	<u>4,140</u>	<u>4,382</u>	<u>3,940</u>	<u>3,752</u>	<u>4,807</u>	<u>4,182</u>
	8,598	8,768	7,683	7,683	6,303	8,490	7,906	7,426	7,856	8,289	7,457
Average hourly wages, employees only						\$19.88	\$19.96	\$20.93	\$21.86	\$23.20	\$22.93

... indicates less than 500

Annual Averages for Saskatchewan Registered Nurses and Nursing Supervisors (NOC 3151 and 3152)

Full or part time main or only job											
Full time	5,773	5,933	5,151	5,118	3,816	5,760	5,818	5,645	5,796	6,028	5,913
Part time	<u>3,114</u>	<u>3,011</u>	<u>2,669</u>	<u>2,675</u>	<u>2,590</u>	<u>2,841</u>	<u>2,178</u>	<u>1,910</u>	<u>2,304</u>	<u>2,378</u>	<u>1,756</u>
	8,886	8,944	7,820	7,792	6,406	8,601	7,996	7,555	8,101	8,406	7,669
Reason for part time											
Voluntary						1,876	1,518	1,632	2,016	2,042	1,518
Involuntary						<u>966</u>	<u>660</u>	...	...	...	...
						2,841	2,178	1,910	2,304	2,378	1,756
Usual hours at main job											
Under 20	1,217	805	770	707	724	778	707	488	527	474	468
20 to 29	1,897	2,206	1,899	1,967	1,867	2,064	1,471	1,422	1,777	1,904	1,288
30 to 40	5,482	5,447	4,950	4,849	3,669	5,659	5,619	5,451	5,548	5,664	5,527
41 or more	...	...	...	...	...	...	...	...	...	...	...
	8,886	8,944	7,820	7,792	6,406	8,601	7,996	7,555	8,101	8,406	7,669
Actual hours at main job											
Under 20	2,492	1,885	1,845	1,800	1,630	2,207	2,221	1,992	2,339	2,078	2,009
20 to 29	1,657	1,799	1,572	1,583	1,437	1,570	1,426	1,275	1,209	1,578	1,385
30 to 40	4,086	4,307	3,733	3,782	2,991	4,081	3,442	3,127	3,449	3,410	3,114
41 or more	<u>652</u>	<u>952</u>	<u>671</u>	<u>627</u>	...	<u>743</u>	<u>907</u>	<u>1,161</u>	<u>1,104</u>	<u>1,340</u>	<u>1,160</u>
	8,886	8,944	7,820	7,792	6,406	8,601	7,996	7,555	8,101	8,406	7,669
Usual hours at all jobs											
Under 20	1,033	734	686	651	662	650	633	435	410	409	420
20 to 29	1,731	1,943	1,715	1,783	1,627	1,885	1,179	1,255	1,715	1,759	1,150
30 to 40	5,618	5,176	4,922	4,583	3,585	5,525	5,573	5,181	5,240	5,470	5,178
41 or more	<u>505</u>	<u>1,091</u>	...	<u>775</u>	<u>532</u>	<u>541</u>	<u>612</u>	<u>683</u>	<u>736</u>	<u>768</u>	<u>920</u>
	8,886	8,944	7,820	7,792	6,406	8,601	7,996	7,555	8,101	8,406	7,669
Actual hours at all jobs											
Under 20	2,344	1,779	1,732	1,709	1,562	2,077	2,091	1,927	2,227	2,002	1,939
20 to 29	1,517	1,650	1,516	1,437	1,221	1,437	1,233	1,158	1,102	1,509	1,262
30 to 40	4,134	4,006	3,612	3,692	2,970	4,005	3,436	3,055	3,293	3,352	3,006
41 or more	<u>891</u>	<u>1,510</u>	<u>960</u>	<u>955</u>	<u>653</u>	<u>1,081</u>	<u>1,236</u>	<u>1,416</u>	<u>1,480</u>	<u>1,543</u>	<u>1,462</u>
	8,886	8,944	7,820	7,792	6,406	8,601	7,996	7,555	8,101	8,406	7,669

... indicates less than 500

Appendix 3 Data from the CIHI Database

Registered Nurses

These data are derived from the annual licensing/renewal forms of all Registered Nurses registering in a province or territory in Canada. A procedure used by CIHI/Statistics Canada removes most duplicate records for nurses registered in more than one province, allocating them to their province of residence if multiple registrations are evident.

Data for 2002 was not yet available from CIHI; Saskatchewan estimates were obtained from the SRNA.

Notes:

- 1. The high proportion of "not stated" for Quebec is because the registration form allows Quebec nurses to indicate that they did not want the data shared with CIH*
- 2. There are inconsistencies over the years as the registration forms upon which these data are based are modified and as the definitions and concepts in health care practise change. There are also inconsistencies across provinces depending on the content of the registration forms and the definitions of facilities and positions. (For example, Quebec does not have a "home care" program and Manitoba does not have "nursing homes".)*
- 3. There are no precise definitions for some of the terms (e.g. multiple employer) because they are based on check boxes on the registration forms. In effect, these are all self-identified variables*
- 4. The counts are based on the first six months of the registration period so, for example, the 2001 data refer to the number of persons as of June 30th, 2001. The employment characteristics, on the other hand, will refer to the prior year.*

Registered Nurses

Age and Employment Status

Basic Counts by Age Group and Employment Status, Saskatchewan, as of June:

	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>
Total registrations	8,680	8,783	9,118	8,826	9,047	8,844	8,955	8,810	8,673	8,778	8,689	8,549	8,405
Employed in Nursing	8,326	8,394	8,695	8,387	8,486	8,431	8,491	8,456	8,455	8,553	8,543	8,198	8,257
Total reporting													
Under 25	443	438	327	290	278	276	304	236	166	140	120	103	91
25 to 34	2,646	2,471	2,438	2,241	2,209	2,064	2,001	1,876	1,783	1,725	1,605	1,471	1,353
35 to 44	2,928	3,080	3,266	3,157	3,264	3,252	3,272	3,171	3,053	2,923	2,780	2,629	2,473
45 to 54	1,734	1,781	1,995	2,011	2,119	2,182	2,288	2,399	2,528	2,767	2,945	3,047	3,060
<u>55 plus</u>	<u>929</u>	<u>1,013</u>	<u>1,087</u>	<u>1,122</u>	<u>1,171</u>	<u>1,046</u>	<u>1,072</u>	<u>1,128</u>	<u>1,143</u>	<u>1,223</u>	<u>1,239</u>	<u>1,299</u>	<u>1,428</u>
Total reporting	8,680	8,783	9,113	8,821	9,041	8,820	8,937	8,810	8,673	8,778	8,689	8,549	8,405
Employed in Nursing													
Under 25	413	411	302	234	214	189	242	204	153	135	116	96	88
25 to 34	2,541	2,369	2,334	2,125	2,068	1,936	1,865	1,799	1,708	1,675	1,574	1,428	1,329
35 to 44	2,834	2,980	3,144	3,054	3,122	3,159	3,169	3,057	2,997	2,881	2,743	2,523	2,445
45 to 54	1,683	1,717	1,914	1,949	2,026	2,124	2,200	2,318	2,488	2,711	2,901	2,929	3,017
<u>55 plus</u>	<u>855</u>	<u>917</u>	<u>1,001</u>	<u>1,025</u>	<u>1,056</u>	<u>1,023</u>	<u>1,015</u>	<u>1,078</u>	<u>1,109</u>	<u>1,151</u>	<u>1,209</u>	<u>1,222</u>	<u>1,378</u>
Total reporting	8,326	8,394	8,695	8,387	8,486	8,431	8,491	8,456	8,455	8,553	8,543	8,198	8,257
Employed in Nursing, Percent Distribution													
Under 25	5%	5%	3%	3%	3%	2%	3%	2%	2%	2%	1%	1%	1%
25 to 34	31%	28%	27%	25%	24%	23%	22%	21%	20%	20%	18%	17%	16%
35 to 44	34%	36%	36%	36%	37%	37%	37%	36%	35%	34%	32%	31%	30%
45 to 54	20%	20%	22%	23%	24%	25%	26%	27%	29%	32%	34%	36%	37%
<u>55 plus</u>	<u>10%</u>	<u>11%</u>	<u>12%</u>	<u>12%</u>	<u>12%</u>	<u>12%</u>	<u>12%</u>	<u>13%</u>	<u>13%</u>	<u>13%</u>	<u>14%</u>	<u>15%</u>	<u>17%</u>
Total reporting	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Not employed In Nursing	...	...	55	72	94	109	107	97	65	54	41	29	26
Not employed at all	...	...	231	209	242	195	163	153	149	171	101	84	84
Not stated	78	104	134	155	137	93	177	104	4	0	4	238	38
Employed in Nursing, by Gender													
Men	...	...	...	...	...	...	...	...	...	...	233	232	241
<u>Women</u>	...	...	...	...	...	...	...	...	...	...	<u>8,310</u>	<u>7,966</u>	<u>8,016</u>
Total	...	...	...	...	...	...	...	...	...	...	8,543	8,198	8,257

... data not available from publication

	Basic Counts by Province												
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total Registrations													
Atlantic	23,459	24,221	24,441	24,645	24,711	24,609	23,771	23,720	23,625	23,479	23,611	23,351	
Quebec	58,880	60,667	62,209	63,172	64,093	64,855	64,926	66,419	63,644	65,102	63,564	63,103	
Ontario	101,925	103,887	102,685	101,546	100,937	98,295	99,327	97,285	95,430	95,911	95,784	94,487	
Manitoba	10,399	10,738	10,850	10,915	10,334	10,386	10,957	11,029	10,663	10,375	10,287	10,291	
Saskatchewan	8,680	8,783	9,118	8,826	9,047	8,844	8,955	8,810	8,673	8,778	8,689	8,549	
Alberta	23,588	24,095	23,937	24,148	24,268	23,594	23,356	23,659	23,197	23,064	23,406	23,821	
British Columbia	28,722	29,373	29,913	30,541	30,746	31,004	32,146	32,211	28,898	29,039	28,499	28,237	
<u>North</u>	<u>492</u>	<u>524</u>	<u>530</u>	<u>546</u>	<u>796</u>	<u>813</u>	<u>867</u>	<u>800</u>	<u>834</u>	<u>796</u>	<u>788</u>	<u>1,074</u>	
Canada	256,145	262,288	263,683	264,339	264,932	262,400	264,305	263,933	254,964	256,544	254,628	252,913	
Employed in Nursing													
Atlantic	21,713	22,329	22,787	23,044	23,108	22,806	21,465	22,490	22,598	22,821	22,724	22,648	
Quebec	57,502	...	57,330	59,863	61,218	62,058	57,291	59,160	56,825	57,980	58,750	58,482	
Ontario	82,354	80,912	86,413	84,343	81,301	79,410	80,198	78,067	78,825	78,197	81,679	80,590	
Manitoba	9,756	10,128	10,251	10,258	10,083	10,216	10,490	10,510	10,185	10,211	10,051	10,263	
Saskatchewan	8,326	8,394	8,698	8,390	8,491	8,447	8,508	8,456	8,455	8,553	8,543	8,198	
Alberta	19,144	22,197	21,461	21,835	21,860	21,287	20,751	21,428	21,988	22,044	22,172	22,924	
British Columbia	24,694	25,826	26,696	27,384	27,575	27,868	28,348	28,974	28,004	27,911	27,730	27,375	
<u>North</u>	<u>476</u>	<u>487</u>	<u>492</u>	<u>513</u>	<u>759</u>	<u>777</u>	<u>779</u>	<u>728</u>	<u>771</u>	<u>733</u>	<u>763</u>	<u>1,032</u>	
Canada	223,965	...	234,128	235,630	234,395	232,869	227,830	229,813	227,651	228,450	232,412	231,512	
Registrations per 1000 population													
Atlantic	9.9	10.2	10.3	10.3	10.4	10.3	10.0	10.0	10.0	9.9	10.0	9.8	
Quebec	8.4	8.6	8.7	8.8	8.9	9.0	8.9	9.1	8.7	8.9	8.6	8.5	
Ontario	9.9	10.0	9.7	9.5	9.3	9.0	8.9	8.6	8.4	8.3	8.2	8.0	
Manitoba	9.4	9.7	9.7	9.8	9.2	9.2	9.7	9.7	9.4	9.1	9.0	8.9	
Saskatchewan	8.6	8.8	9.1	8.8	9.0	8.7	8.8	8.6	8.5	8.6	8.5	8.4	
Alberta	9.3	9.3	9.1	9.0	9.0	8.6	8.4	8.3	8.0	7.8	7.8	7.8	
British Columbia	8.7	8.7	8.6	8.6	8.4	8.2	8.3	8.1	7.2	7.2	7.0	6.9	
<u>North</u>	<u>5.7</u>	<u>5.8</u>	<u>5.8</u>	<u>5.7</u>	<u>8.4</u>	<u>8.3</u>	<u>8.7</u>	<u>8.0</u>	<u>8.4</u>	<u>8.0</u>	<u>8.0</u>	<u>10.8</u>	
Canada	9.2	9.4	9.3	9.2	9.1	8.9	8.9	8.8	8.4	8.4	8.3	8.1	

... data not available from publication

Registered Nurses

Type of Employer

	As of June:												
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Hospitals*	5,898	5,960	5,447	5,314	4,885	4,747	4,678	4,625	4,578	4,658	4,730	4,582	4,598
Mental Health Centres*			70	77	73	86	62	59	61	68	63	53	55
Nursing Stations			81	81	89	99	89	95	94	92	84	79	83
Rehabilitation Centres			294	274	254	246	153	140	142	137	124	88	69
Nursing Homes	927	960	991	1,036	1,068	1,084	1,272	1,253	1,243	1,191	1,138	1,084	1,068
Home Care			318	353	411	455	525	540	582	608	607	568	594
Community Health	647	639	383	286	702	705	805	783	819	831	838	807	814
All Others	579	577	739	549	767	599	805	846	895	908	920	909	959
<u>Not stated</u>	<u>275</u>	<u>258</u>	<u>375</u>	<u>420</u>	<u>242</u>	<u>426</u>	<u>119</u>	<u>115</u>	<u>41</u>	<u>60</u>	<u>39</u>	<u>28</u>	<u>17</u>
All Employers	8,326	8,394	8,698	8,390	8,491	8,447	8,508	8,456	8,455	8,553	8,543	8,198	8,257
Hospitals, mental health, and rehabilitation centres**													
Full time	2,991	3,134	...	2,745	...	2,460	2,444	2,361	2,327	2,531	2,683	2,569	
Part time	2,193	2,354	...	2,727	...	1,176	1,406	1,384	1,396	1,578	1,660	1,609	
Not stated	<u>714</u>	<u>472</u>	<u>...</u>	<u>0</u>	<u>...</u>	<u>1,296</u>	<u>979</u>	<u>1,034</u>	<u>1,010</u>	<u>846</u>	<u>658</u>	<u>545</u>	
	5,898	5,960	5,811	5,665	5,212	5,079	4,893	4,824	4,781	4,955	5,001	4,723	4,722
Community health, nursing stations and home care**													
Full time	327	343	...	356	...	592	649	647	662	626	657	686	
Part time	253	262	...	364	...	394	609	607	637	651	...	619	
Not stated	<u>67</u>	<u>34</u>	<u>...</u>	<u>0</u>	<u>...</u>	<u>273</u>	<u>161</u>	<u>164</u>	<u>196</u>	<u>162</u>	<u>...</u>	<u>149</u>	
	647	639	782	720	1,202	1,259	1,419	1,418	1,495	1,439	1,445	1,454	1,491
Nursing home/long term care													
Full time	345	379	...	357	...	335	401	388	398	415	441	426	
Part time	499	526	...	679	...	420	670	659	643	617	576	543	
Not stated	<u>83</u>	<u>55</u>	<u>...</u>	<u>0</u>	<u>...</u>	<u>329</u>	<u>201</u>	<u>206</u>	<u>202</u>	<u>159</u>	<u>121</u>	<u>115</u>	
	927	960	991	1,036	1,068	1,084	1,272	1,253	1,243	1,191	1,138	1,084	1,068
Other													
Full time	281	305	...	292	...	303	448	455	491	516	538	531	
Part time	223	234	...	257	...	136	247	266	266	268	...	273	
Not stated	<u>75</u>	<u>38</u>	<u>...</u>	<u>0</u>	<u>...</u>	<u>160</u>	<u>110</u>	<u>125</u>	<u>138</u>	<u>124</u>	<u>...</u>	<u>105</u>	
	579	577	739	549	0	599	805	846	895	908	920	909	<u>959</u>
All Employers													
Full time	4,066	4,296	3,604	4,034	...	3,965	4,014	3,902	3,913	4,119	4,340	4,229	4,177
Part time	3,261	3,454	2,809	4,356	...	2,264	3,002	2,987	2,997	3,129	3,173	3,969	3,692
Not stated	<u>999</u>	<u>644</u>	<u>2,285</u>	<u>0</u>	<u>...</u>	<u>2,218</u>	<u>1,492</u>	<u>1,567</u>	<u>1,545</u>	<u>1,305</u>	<u>1,030</u>	<u>0</u>	<u>388</u>
	8,326	8,394	8,698	8,390	8,491	8,447	8,508	8,456	8,455	8,553	8,543	8,198	8,257

* Prior to 1996, psychiatric hospitals were considered in the "mental health centre" category

** In 1999, this category includes only hospitals; in 2000, it includes nursing stations. In 1999, nursing stations, rehab centres, and mental health centres were included in "other".

Registered Nurses
Type of Employer by Province, 2001

	<u>Nfld</u>	<u>PEI</u>	<u>NS</u>	<u>NB</u>	<u>Que</u>	<u>Ont</u>	<u>Man</u>	<u>Sask</u>	<u>Alta</u>	<u>BC</u>	<u>North</u>	<u>Canada</u>
Hospitals	3,778	784	5,807	5,065	34,219	48,891	6,280	4,582	14,221	17,003	443	141,073
Mental Health/Rehabilitation (	34	9	244	306	2,810	896	174	141	546	596	0	5,756
Nursing Homes	606	205	984	683	8,433	6,231	1,261	1,084	2,140	3,563	45	25,235
Home Care	33	65	337	64	248	4,702	376	568	1,155	546	32	8,126
Community Health	509	70	436	282	7,178	6,852	731	807	1,675	2,635	169	21,344
Nursing Stations	61	0	15	0	40	197	124	79	147	92	193	948
Educational Institution	131	22	161	135	1,391	1,702	266	203	569	667	26	5,273
Association/Government	25	44	193	158	871	1,273	285	199	343	489	36	3,916
All Others	260	70	377	473	3,166	9,671	639	507	1,867	1,683	86	18,799
<u>Not stated</u>	<u>2</u>	<u>1</u>	<u>0</u>	<u>219</u>	<u>126</u>	<u>175</u>	<u>127</u>	<u>28</u>	<u>261</u>	<u>101</u>	<u>2</u>	<u>1,042</u>
All Employers	5,439	1,270	8,554	7,385	58,482	80,590	10,263	8,198	22,924	27,375	1,032	231,512

Reclassified as:	<u>Atlantic</u>	<u>Que</u>	<u>Ont</u>	<u>Man</u>	<u>Sask</u>	<u>Alta</u>	<u>BC</u>	<u>North</u>	<u>Canada</u>
Hospitals, mental health, rehabilitation centres	71%	63%	62%	63%	58%	64%	64%	43%	63%
Community health, nursing stations and home care	8%	13%	15%	12%	18%	13%	12%	38%	13%
Nursing home/long term care	11%	14%	8%	12%	13%	9%	13%	4%	11%
Other	9%	9%	16%	12%	11%	12%	10%	14%	12%
<u>Not stated</u>	<u>1%</u>	<u>0%</u>	<u>0%</u>	<u>1%</u>	<u>0%</u>	<u>1%</u>	<u>0%</u>	<u>0%</u>	<u>0%</u>
All Employers	100%	100%	100%	100%	100%	100%	100%	100%	100%

* includes Mental Health Centres and Rehab Centres prior to 1992

Registered Nurses	Position												
Position	Type of Position, Saskatchewan, as of June:												
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Senior management*	354	346	406	381	368	296	296	280	280	256	244	221	216
Managers/Asst. Managers**	643	618	612	630	615	679	600	596	628	627	529	496	632
Staff/Community nurse	6,237	6,317	6,296	6,286	6,259	6,267	6,122	6,369	6,521	6,641	6,949	6,687	6,719
Clinical specialist	20	20	33	40	46	42	48	44	48	47	49	40	54
Research/Consultant			47	44	48	52	84	91	92	84	92	92	121
Instructor/Educator	57	61	161	169	159	157	211	211	201	221	246	258	316
Other	506	496	120	108	117	131	303	377	432	465	331	335	160
<u>Not stated</u>	<u>509</u>	<u>536</u>	<u>1,023</u>	<u>732</u>	<u>879</u>	<u>823</u>	<u>844</u>	<u>488</u>	<u>253</u>	<u>212</u>	<u>103</u>	<u>69</u>	<u>39</u>
Total	8,326	8,394	8,698	8,390	8,491	8,447	8,508	8,456	8,455	8,553	8,543	8,198	8,257

* prior to 1999 was classified as "Director, Assistant Director"

** prior to 1999 was classified as either "Head Nurse" or "Nursing Supervisor/Coordinator"

Position	As of June 2001											Canada
	Nfld	PEI	NS	NB	Que	Ont	Man	Sask	Alta	BC	North	
Senior Manager	50	0	94	158	619	560	98	139	153	134	8	2,013
Director/Asst. Director	39	32	134	22	148	1,031	187	82	197	356	16	2,244
Manager/Asst. Manager	401	169	895	501	3,215	3,419	592	496	1,254	1,520	78	12,540
Staff/Community Nurse	4,373	997	6,890	5,628	41,572	61,835	7,756	6,687	18,351	21,819	773	176,681
Nurse practitioner	38	0	0	0	0	540	0	0	14	0	28	620
Clinical specialist	20	1	29	50	759	577	181	40	300	349	15	2,321
Midwife	0	0	0	0	13	0	0	0	0	0	0	13
Instructor/Educator	158	26	202	146	1,234	1,876	329	258	603	800	26	5,658
Research/Consultant	55	18	227	93	1,589	4,591	175	92	347	440	16	7,643
Other	283	23	38	540	6,102	5,236	715	335	1,237	871	68	15,448
<u>Not stated</u>	<u>22</u>	<u>4</u>	<u>45</u>	<u>247</u>	<u>3,231</u>	<u>925</u>	<u>230</u>	<u>69</u>	<u>468</u>	<u>1,086</u>	<u>4</u>	<u>6,331</u>
Total	5,439	1,270	8,554	7,385	58,482	80,590	10,263	8,198	22,924	27,375	1,032	231,512

Registered Nurses

Area of Responsibility

	Area of Responsibility, Saskatchewan												
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Medical/surgical	1,853	1,730	1,698	1,563	1,674	1,619	1,558	1,550	1,543	1,405	1,430
Psychiatric/mental health	145	139	150	168	161	168	165	171	157	150	158
Paediatric	355	318	275	277	262	260	256	256	245	230	219
Maternal/Newborn	438	422	436	409	399	399	401	408	417	395	403
Geriatric/Gerontology	1,281	1,256	1,282	1,259	1,325	1,314	1,306	1,274	1,220	1,146	1,127
Critical care	620	632	634	629	637	646	666	675	693	692	683
Community health	379	363	489	502	543	552	588	592	593	572	589
Ambulatory care	49	56	68	71	107	98	91	105	100	127	118
Home care	235	290	365	383	462	488	539	577	574	540	547
Occupational health	77	75	82	85	83	91	100	96	105	94	109
Operating room	254	259	267	263	315	322	333	341	354	356	352
Emergency	288	267	296	282	312	313	333	347	348	345	356
Several clinical areas	1,112	1,226	989	1,160	761	801	796	745	780	744	764
Other patient care	530	503	485	516	287	351	428	980	496	504	465
Administration	320	303	343	312	489	488	497	507	531	511	515
Education	201	203	188	194	258	252	244	276	287	302	349
Research	19	18	20	27	45	44	47	46	51	56	55
<u>Not stated</u>	<u>542</u>	<u>330</u>	<u>424</u>	<u>347</u>	<u>388</u>	<u>250</u>	<u>107</u>	<u>114</u>	<u>49</u>	<u>29</u>	<u>18</u>
Total	8,698	8,390	8,491	8,447	8,508	8,456	8,455	8,553	8,543	8,198	8,257

... data not available from publication

Registered Nurses
Area of Responsibility

	Area of Responsibility by Province, 2001											
	<u>Nfld</u>	<u>PEI</u>	<u>NS</u>	<u>NB</u>	<u>Que</u>	<u>Ont</u>	<u>Man</u>	<u>Sask</u>	<u>Alta</u>	<u>BC</u>	<u>North</u>	<u>Canada</u>
Medical/surgical	1,135	266	1,834	1,253	10,400	10,936	2,000	1,405	4,367	5,459	108	39,163
Psychiatric/mental health	275	82	496	397	3,218	3,758	316	150	976	1,412	25	11,105
Paediatric	221	32	356	157	0	2,062	328	230	859	764	27	5,036
Maternal/Newborn	276	83	552	348	2,268	4,708	626	395	1,429	1,656	48	12,389
Geriatric/Gerontology	651	197	1,076	897	5,502	7,755	1,332	1,146	2,174	3,847	45	24,622
Critical care	520	59	706	979	3,295	6,989	584	692	1,692	1,965	35	17,516
Community health	463	91	423	609	2,308	3,528	778	572	1,364	1,874	286	12,296
Ambulatory care	112	18	214	204	2,612	2,255	389	127	354	409	14	6,708
Home care	50	53	398		1,730	4,164	451	540	1,231	886	33	9,536
Occupational health	40	7	97	71	355	1,195	105	94	355	186	11	2,516
Operating room	252	40	510	373	1,642	2,685	541	356	1,140	1,759	33	9,331
Emergency	302	63	504	448	2,407	4,274	453	345	1,103	1,272	92	11,263
Several clinical areas	241	90	217	138	6,416	3,787	676	744	1,317	931	116	14,673
Other patient care	357	67	369	732	2,466	9,317	555	504	1,943	2,148	50	18,508
Administration	311	86	405	333	7,387	4,502	589	511	962	1,135	75	16,296
Education	189	35	307	202	1,459	3,956	332	302	825	1,148	29	8,784
Research	42	0	90	16	841	662	82	56	256	194	2	2,241
<u>Not stated</u>	<u>2</u>	<u>1</u>	<u>0</u>	<u>228</u>	<u>4,176</u>	<u>4,057</u>	<u>126</u>	<u>29</u>	<u>577</u>	<u>330</u>	<u>3</u>	<u>9,529</u>
Total	5,439	1,270	8,554	7,385	58,482	80,590	10,263	8,198	22,924	27,375	1,032	231,512

... data not available from publication

Registered Nurses	Education Level
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	Nursing Education Level (Employed in Nursing Only)												
	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>
All RNs													
Diploma	7,288	7,348	7,361	7,158	7,086	6,989	6,942	6,836	6,808	6,796	6,677	6,296	
Degree	<u>1,038</u>	<u>1,046</u>	<u>1,337</u>	<u>1,232</u>	<u>1,405</u>	<u>1,458</u>	<u>1,566</u>	<u>1,620</u>	<u>1,647</u>	<u>1,757</u>	<u>1,866</u>	<u>1,902</u>	
Total	8,326	8,394	8,698	8,390	8,491	8,447	8,508	8,456	8,455	8,553	8,543	8,198	

By Province	<u>1991</u>			<u>1996</u>			<u>2001</u>		
	<u>Diploma</u>	<u>Degree</u>	<u>Total</u>	<u>Diploma</u>	<u>Degree</u>	<u>Total</u>	<u>Diploma</u>	<u>Degree</u>	<u>Total</u>
Atlantic	18,571	3,758	22,329	17,119	4,346	21,465	16,325	6,323	22,648
Quebec	...	...	...	...	...	...	43,194	15,288	58,482
Ontario	69,152	11,760	80,912	66,226	13,972	80,198	62,724	17,866	80,590
Manitoba	8,617	1,511	10,128	8,469	2,021	10,490	7,759	2,504	10,263
Saskatchewan	7,348	1,046	8,394	6,942	1,566	8,508	6,296	1,902	8,198
Alberta	17,756	4,441	22,197	15,349	5,402	20,751	15,005	7,919	22,924
B.C.	21,595	4,231	25,826	22,002	6,346	28,348	19,290	8,085	27,375
<u>North</u>	<u>342</u>	<u>145</u>	<u>487</u>	<u>528</u>	<u>251</u>	<u>779</u>	<u>654</u>	<u>378</u>	<u>1,032</u>
Canada	143,381	26,892	170,273	136,635	33,904	170,539	171,247	60,265	231,512

By Type of Employer, 2001		<u>Saskatchewan, 2001</u>	
		<u>Number</u>	<u>Percent</u>
Hospitals, mental health, and rehabilitation centres			
Diploma		3,859	82%
Degree		<u>864</u>	<u>18%</u>
Total		4,723	100%
Community health, nursing stations, home care			
Diploma		871	60%
Degree		<u>583</u>	<u>40%</u>
Total		1,454	100%
Nursing home/long term care			
Diploma		979	90%
Degree		<u>105</u>	<u>10%</u>
Total		1,084	100%
Other including not stated			
Diploma		587	63%
Degree		<u>350</u>	<u>37%</u>
Total		937	100%
All Employers			
Diploma		6,296	77%
Degree		<u>1,902</u>	<u>23%</u>
Total		8,198	100%

Appendix 4
Data from the LPN Database

Licensed Practical Nurses

These data are derived from the annual licensing/renewal forms of the Saskatchewan Association of Licensed Practical Nursing (SALPN). An extract (without individual identifiers) of the computerized registration database maintained by SALPN was obtained for this research.

Notes:

1. *Most of the data are derived from check boxes on the registration form so precise definitions for the terms are not possible. In effect, these are self-identified variables.*

Licensed Practical Nurses	Basic Counts											
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	as of December:											
	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>
Total registrations (SALPN)	2,713	2,682	2,594	2,576	2,388	2,256	2,191	2,144	2,139	2,183	2,122	2,236
Total registrations (database)	...	...	...	...	...	...	...	2,193	2,156	2,192	2,128	2,236
Status (SALPN)												
Practising	2,520	2,462	2,395	2,352	2,165	2,051	2,027	1,988	2,003	2,059	2,004	2,126
Non-Practising	<u>193</u>	<u>220</u>	<u>199</u>	<u>224</u>	<u>223</u>	<u>205</u>	<u>164</u>	<u>156</u>	<u>136</u>	<u>124</u>	<u>118</u>	<u>110</u>
	2,713	2,682	2,594	2,576	2,388	2,256	2,191	2,144	2,139	2,183	2,122	2,236
Status (database)												
Practising	2,550	2,483	2,413	2,312	2,186	2,074	2,039	2,028	2,019	2,062	2,008	2,126
Non-Practising	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	165	137	130	120	110
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2,193	2,156	2,192	2,128	2,236
Employment status, practising only (database)												
Employed on a regular basis	1,459	1,477	1,463	1,361	1,294	1,311	1,314	1,386	1,452	1,466	1,490	1,265
Employed on a casual basis	<u>661</u>	<u>647</u>	<u>592</u>	<u>607</u>	<u>580</u>	<u>554</u>	<u>526</u>	<u>557</u>	<u>514</u>	<u>482</u>	<u>439</u>	<u>806</u>
Subtotal	2,120	2,124	2,055	1,968	1,874	1,865	1,840	1,943	1,966	1,948	1,929	2,071
Not employed in nursing	6	3	9	10	12	7	2	9	4	3	5	6
Not employed at all	0	1	1	3	0	2	0	26	30	41	20	28
Unknown/not stated	<u>424</u>	<u>355</u>	<u>348</u>	<u>331</u>	<u>300</u>	<u>200</u>	<u>197</u>	<u>50</u>	<u>19</u>	<u>70</u>	<u>54</u>	<u>21</u>
	2,550	2,483	2,413	2,312	2,186	2,074	2,039	2,028	2,019	2,062	2,008	2,126

Note that the figures reported by SALPN in their annual reports (identified as SALPN in the above table) differ slightly from those derived from the electronic database used in the report.

as of December:

Interprovincial Comparison - CIHI publication Health Personnel in Canada

	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>
Practising LPNs										
Atlantic	8,957	9,101	8,633	8,738	8,917	9,011	9,165	9,214	9,350	9,467
Quebec	19,693	19,667	19,688	19,519	19,283	18,572	18,082	16,617	16,405	16,246
Ontario	35,612	35,516	35,877	36,593	36,066	35,392	34,623	33,781	33,141	33,071
Manitoba	3,806	3,657	3,086	2,864	2,737	2,580	2,488	2,582	2,483	2,540
Saskatchewan	2,713	2,682	2,616	2,535	2,405	2,277	2,187	2,144	2,154	2,057
Alberta	6,530	6,545	6,378	6,196	5,562	4,963	4,723	4,272	4,186	4,358
B.C.	6,379	6,390	6,254	5,841	5,871	5,667	5,385	4,964	5,092	4,987
<u>North</u>	<u>165</u>	<u>191</u>	<u>66</u>	<u>167</u>	<u>176</u>	<u>177</u>	<u>177</u>	<u>177</u>	<u>172</u>	<u>179</u>
Canada	83,855	83,749	82,598	82,453	81,017	78,639	76,830	73,751	72,983	72,905
Practising LPNs per 1000 population										
Atlantic	3.8	3.8	3.6	3.7	3.7	3.8	3.9	3.9	3.9	4.0
Quebec	2.8	2.8	2.7	2.7	2.7	2.6	2.5	2.3	2.2	2.2
Ontario	3.4	3.4	3.4	3.4	3.3	3.2	3.1	3.0	2.9	2.8
Manitoba	3.4	3.3	2.8	2.5	2.4	2.3	2.2	2.3	2.2	2.2
Saskatchewan	2.7	2.7	2.6	2.5	2.4	2.2	2.1	2.1	2.1	2.0
Alberta	2.5	2.5	2.4	2.3	2.0	1.8	1.7	1.5	1.4	1.4
British Columbia	1.9	1.8	1.8	1.6	1.6	1.5	1.4	1.2	1.3	1.2
<u>North</u>	<u>1.8</u>	<u>2.1</u>	<u>0.7</u>	<u>1.8</u>	<u>1.8</u>	<u>1.8</u>	<u>1.8</u>	<u>1.8</u>	<u>1.7</u>	<u>1.8</u>
Canada	3.0	3.0	2.9	2.8	2.8	2.7	2.6	2.4	2.4	2.4

Licensed Practical Nurses	Type of Employer											
	as of December:											
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Hospital	1,584	1,564	1,491	1,310	1,223	1,238	1,222	1,095	1,138	1,205	1,223	1,305
Mental Health Centre	8	9	8	10	10	11	10	7	7	7	7	6
Rehab Centre	85	84	98	98	101	106	113	57	63	70	72	95
Long Term Care	328	348	336	345	344	304	282	243	259	297	309	370
Home Care Agency	38	43	52	52	67	69	75	46	49	58	62	68
Community Health/Health Centre	25	25	26	31	47	48	52	95	96	102	105	118
Other	69	61	64	135	94	98	88	86	93	95	97	101
<u>Not stated/non-practising*</u>	<u>383</u>	<u>328</u>	<u>320</u>	<u>371</u>	<u>279</u>	<u>177</u>	<u>185</u>	<u>359</u>	<u>298</u>	<u>225</u>	<u>129</u>	<u>63</u>
Total practising	2,520	2,462	2,395	2,352	2,165	2,051	2,027	1,988	2,003	2,059	2,004	2,126

* prior to 1998, includes non-practising

Licensed Practical Nurses	Type of Position											
	as of December:											
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Position												
Coordinator/Care Manager								14	15	15	15	15
Staff Nurse/Comm. Hlth Nurse								1,421	1,496	1,617	1,658	1,829
Instructor/Professor/Educator								5	6	6	6	6
Nurse Specialist								102	107	108	108	110
<u>Other</u>								<u>134</u>	<u>135</u>	<u>136</u>	<u>139</u>	<u>146</u>
Subtotal								1,676	1,759	1,882	1,926	2,106
Not stated								<u>312</u>	<u>244</u>	<u>177</u>	<u>78</u>	<u>20</u>
Total Practising								1,988	2,003	2,059	2,004	2,126

Note: Position not available prior to 1998

Licensed Practical Nurses

Area of Responsibility

Area of Responsibility	as of December:											
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Medical/Surgical	713	666	620	571	523	497	466	521	546	569	580	604
Psychiatric/Mental Health	12	19	22	27	22	24	32	29	30	31	31	31
Paediatric	106	106	99	89	81	70	64	47	47	49	50	52
Maternal/Newborn	100	98	93	88	70	69	61	64	65	68	68	70
Geriatric/Long term care	439	454	440	410	400	354	345	311	334	375	389	475
Operating Room	56	57	62	60	61	61	63	63	65	68	68	68
Emergency Care								37	38	38	38	41
Critical Care/E.M.T.	1	3	1	3	5	7	6	16	16	18	19	21
Ambulatory Care								19	19	19	19	19
Community Health	71	73	81	75	70	72	85	53	54	57	58	65
Home Care								47	51	62	65	72
Oncology								15	16	16	17	17
Rehabilitation								40	42	45	46	49
Palliative Care								10	11	15	15	17
Other Direct Care	115	111	118	130	159	188	181	42	42	43	45	48
Several Areas	524	547	539	528	495	532	539	337	356	382	391	430
Nursing Service/Administration								10	11	11	11	11
Nursing Education/Teaching								13	14	14	14	14
Research								1	1	1	1	1
Subtotal	2,137	2,134	2,075	1,981	1,886	1,874	1,842	1,675	1,758	1,881	1,925	2,105
Not Stated/missing	<u>383</u>	<u>328</u>	<u>320</u>	<u>371</u>	<u>279</u>	<u>177</u>	<u>185</u>	<u>313</u>	<u>245</u>	<u>178</u>	<u>79</u>	<u>21</u>
Total Practising	2,520	2,462	2,395	2,352	2,165	2,051	2,027	1,988	2,003	2,059	2,004	2,126

**Appendix 5
Data from the RPNAS**

Registered Psychiatric Nurses

These data are derived from the annual licensing/renewal forms of the Registered Psychiatric Nurses Association of Saskatchewan as published in the RPNAS annual reports.

Notes:

- 1. Most of the data are derived from check boxes on the registration form so precise definitions for the terms are not possible. In effect, these are self-identified variables.*

Registered Psychiatric Nurses
Membership Data

	as of December:											
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total membership												
Active	1,121	1,166	1,142	1,172	1,182	1,155	1,137	1,112	1,089	1,051	1,038	999
Non-Active				<u>111</u>	<u>98</u>	<u>100</u>	<u>97</u>	<u>84</u>	<u>71</u>	<u>68</u>	<u>60</u>	<u>60</u>
Total				1,283	1,280	1,255	1,234	1,196	1,160	1,119	1,098	1,059
Employing Agency												
Hospital					320	358	383	380	387	382	364	347
Special care home					280	267	266	242	257	243	243	238
Home care					19	15	19	21	17	19	15	13
Community health					84	93	105	108	110	120	118	133
Government					343	275	232	223	201	180	207	213
Non-government agency					52	63	62	69	54	51	39	0
Educational institution					25	26	24	16	13	16	16	14
Private					13	17	17	14	16	10	10	12
Other					19	19	22	17	15	15	18	22
Inacitve/unknown					<u>125</u>	<u>122</u>	<u>104</u>	<u>106</u>	<u>90</u>	<u>83</u>	<u>68</u>	<u>67</u>
					1,280	1255	1,234	1,196	1,160	1,119	1,098	1,059
Primary Practise Area												
Mentally handicapped					170	161	156	142	129	127	126	126
Forensics					99	91	91	95	98	90	92	89
Addictions					32	36	40	28	25	24	20	19
Children/Adolescents					43	46	53	50	49	42	44	38
Geriatrics					332	320	300	306	308	295	290	269
Acute care					251	240	251	249	242	258	246	231
Home care					30	32	45	29	31	24	24	27
Rehab/vocational					120	129	113	109	114	111	123	110
Adminstration					12	21	13	18	16	18	16	19
Education					30	24	28	19	16	17	13	18
Other					36	32	40	45	43	30	36	43
Inacitve/unknown					<u>125</u>	<u>123</u>	<u>104</u>	<u>106</u>	<u>89</u>	<u>83</u>	<u>68</u>	<u>70</u>
					1,280	1255	1,234	1,196	1,160	1,119	1,098	1059
Interprovincial Migration												
Out migration requests			22	17	18	18	9	4	15	28	30	10
<u>In migration requests</u>			<u>3</u>	<u>4</u>	<u>7</u>	<u>1</u>	<u>4</u>	<u>3</u>	<u>5</u>	<u>5</u>	<u>2</u>	<u>1</u>
Net			19	13	11	17	5	1	10	23	28	9

Registered Psychiatric Nurses**Interprovincial Comparison**

	as of December:											
	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>
CIHI Membership Data												
Man.	1,173	1,192	1,176	1,149	1,133	1,102	1,077	1,055	1,034	1,028		
Sask.	1,121	1,166	1,142	1,172	1,182	1,155	1,137	1,112	1,089	1,051		
Alta.	1,309	1,319	1,303	1,275	1,230	1,177	1,158	1,155	1,148	1,136		
B.C.	2,223	2,280	2,282	2,257	2,316	2,212	2,210	2,200	2,179	2,201		
	5,826	5,957	5,903	5,853	5,861	5,646	5,582	5,522	5,450	5,416		
Per capita												
Manitoba	1.06	1.07	1.05	1.02	1.00	0.97	0.95	0.93	0.90	0.89		
Sask	1.12	1.16	1.13	1.16	1.16	1.13	1.11	1.08	1.06	1.03		
Alberta	0.50	0.50	0.48	0.47	0.45	0.42	0.40	0.39	0.39	0.38		
B.C.	0.65	0.65	0.63	0.60	0.60	0.56	0.55	0.55	0.54	0.54		

Appendix 6
Data from SIAST, NEPS, and the College of Nursing

Education Data

Sources: SIAST/ Institutional Analysis, University of Saskatchewan/ College of Nursing, University of Saskatchewan

Notes:

- 1. There are three data sources for the education data. The enrollment and graduation numbers for the degree program for the 1989 to 1998 period are from the Institutional Analysis Division at the University of Saskatchewan. They are based on data from the Registrar's office. The enrollment and graduation data for the SIAST diploma nursing program, the RPN, and the LPN program are from SIAST records. They were compiled by the Planning, Research and Development Division. Recent data on NEPS graduates are from the College of Nursing, University of Saskatchewan*
- 2. The graduate follow-up surveys are based on published reports from SIAST.*
- 3. Note that data are published on a school or academic year basis, that is, from August 1st to July 31st.*

	Academic Year												
	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
Diploma Nursing 1													
Wascana and Kelsey Campuses													
Capacity (funded seats in year 1)	300	300	270	250	200	160	120	16	...	...	...	...	...
Applications (year 1)	924	1,111	1,163	870	603	334	202	3	...	...	...	...	...
Enrollment (year 1)	315	334	316	262	221	179	169	15	...	...	...	...	1
Graduations (Diploma Nursing 2)	289	312	309	290	261	197	159	167	49	3	0	0	0
Graduations (Nursing reentry)	...	...	...	...	...	...	...	...	...	0	3	1	1
Graduations (Diploma exit)	...	...	...	...	...	...	...	...	...	14	0	0	3
Total graduations RN Diploma	289	312	309	290	261	197	159	167	49	17	3	1	4
School of Nursing Degree Program													
College Admission Quotas													
Health Sciences	80	40	80	80	80	80	80	...	...	...	...	...	...
Degree Program for RNs	45	45	45	45	45	200	200	200	200	200	200	200	100
Full Time Enrollment (first year)													
Health Sciences	88	36	79	79	81	66	64	...	...	...	...	...	...
NEPS	...	...	...	...	...	...	...	102	173	150	139	184	196
Degree Program for RNs	82	45	48	55	117	76	97	93	52	48	34	54	44
Graduate Studies in Nursing	...	...	15	18	20	25	34	32	27	23	32	34	33
Graduations													
BSN	54	61	65	69	28	60	75	63	52	57	129	108	192
Degree Program for RNs (post registration)	33	30	34	26	44	46	25	30	37	42	24	25	17
Masters	<u>5</u>	<u>5</u>	<u>1</u>	<u>4</u>	<u>7</u>	<u>2</u>	<u>5</u>	<u>13</u>	<u>11</u>	<u>6</u>	<u>4</u>	<u>11</u>	...
Total graduations	92	96	100	99	79	108	105	106	100	105	157	144	209
Total graduates excluding Masters, and degree program for RNs	54	61	65	69	28	60	75	63	52	57	129	108	192
Nursing Education Program (NEPS)													
Capacity (year 1)	...	...	...	...	...	...	...	180	180	180	260	268	260
Applications													
Nursing Reentry	...	...	...	...	...	...	...	7	19	40	57	36	41
NEPS (Year 1)	...	...	...	...	...	...	...	226	300	646	755	749	844
Enrollment													
Nursing Reentry	...	...	...	...	...	...	...	21	13	5	30	23	18
NEPS (Year 1)	...	...	...	...	...	...	...	201	185	240	279	275	267
Graduations													
Nursing Reentry	...	...	...	...	...	...	...	0	0	0	3	1	1
NEPS	...	...	...	...	...	...	...	0	0	0	0	3	0
Total RN graduates (degree/diploma)	343	373	374	359	289	257	234	230	101	74	132	109	196

Education Data
Capacity, Applications, Enrollment, and Graduations

	Academic Year												
	<u>1989-90</u>	<u>1990-91</u>	<u>1991-92</u>	<u>1992-93</u>	<u>1993-94</u>	<u>1994-95</u>	<u>1995-96</u>	<u>1996-97</u>	<u>1997-98</u>	<u>1998-99</u>	<u>1999-00</u>	<u>2000-01</u>	<u>2001-02</u>
Psychiatric Nursing 1													
Wascana Campus													
Capacity (funded seats)	110	110	80	72	72	72	72	50	...	...	...	...	...
Applications	210	162	211	157	139	140	17	4	...	...	...	...	...
Enrollment	111	110	84	84	79	77	71	51	2	...	...	...	...
Graduations (Psychiatric Nursing 2)	56	66	81	67	65	56	51	47	1	0	0	0	0
Psychiatric Nursing Reentry													
Wascana Campus													
Capacity (funded seats)								10	10	10	10	10	0
Applications								18	13	18	27	12	14
Enrollment								14	19	2	7	5	7
Graduations (Psychiatric Nursing 2)								0	0	0	0	0	2
Total Graduations, RPN Diploma	56	66	81	67	65	56	51	47	1	0	0	0	2
Practical Nursing													
Capacity (funded seats)													
Reentry Program	...	...	...	...	...	...	...	15	4	4	4	4	0
LPN Certification (core funded)	55	55	55	48	40	40	40	40	40	64	64	72	72
LPN Certification (extension)	...	...	...	...	...	...	...	...	8	16	72	80	72
Applications													
Reentry Program	...	...	...	...	...	...	...	14	16	23	21	31	26
LPN Certification	179	112	143	98	70	109	88	84	83	264	184	142	257
Enrollment													
Reentry Program	...	...	...	...	...	...	...	0	0	9	4	9	20
LPN Certification	86	81	71	72	48	57	49	44	55	86	136	156	148
Graduations													
Reentry Program	...	...	...	...	...	...	...	0	0	9	4	9	17
LPN Certification	51	56	48	61	31	27	28	59	33	41	58	67	140
Total Graduations, Practical Nursing	51	56	48	61	31	27	28	59	33	50	62	76	157

Education Data
Graduate Follow-up Surveys

	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Graduates (including post-basic)													
Diploma/Degree Nursing	302	289	302	306	290	274	224	193	167	72			
Registered Psychiatric Nursing	58	56	66	81	67	65	56	51	47	1		134*	
Nursing Assistants/Practical Nursing	57	54	60	53	62	31	30	32	59	33	41	58	67
Respondents													
Diploma/Degree Nursing	173	171	195	220	174	203	159	116	99	48			
Registered Psychiatric Nursing	31	31	41	49	45	47	36	37	28	1		69	
Nursing Assistants/Practical Nursing	29	36	34	34	37	24	22	16	48	25	32	42	47
Employment													
Diploma/Degree Nursing	170	168	177	171	129	162	144	101	89	47			
Registered Psychiatric Nursing	28	30	37	46	41	45	33	27	26	...		69	
Nursing Assistants/Practical Nursing	27	32	31	30	35	21	20	14	40	25	31	41	45
Training Related Employment													
Diploma/Degree Nursing	169	168	167	149	99	129	117	88	88	41			
Registered Psychiatric Nursing	28	30	35	43	33	41	29	18	21	...		69	
Nursing Assistants	26	31	31	27	29	17	16	13	38	25	31	39	44
Training Related Full Time													
Diploma/Degree Nursing	113	72	54	41	28	63	61	37	52	35			
Registered Psychiatric Nursing	25	17	18	18	10	21	17	5	11	...		57	
Nursing Assistants	8	9	10	2	7	10	13	6	26	20	24	28	34
Training Related Involuntary Part Time**													
Diploma/Degree Nursing	36	65	104	103	59	48	46	...	...	...	...	...	...
Registered Psychiatric Nursing	2	8	15	5	21	12	9	...	...	...	...	...	...
Nursing Assistants	13	11	19	24	15	6	3	...	...	...	...	...	...
Training Related Out of Province													
Diploma/Degree Nursing	32	22	36	41	25	10	8	10	4	2			
Registered Psychiatric Nursing	7	11	1	9	2	2	0	4	1	...		8	
Nursing Assistants	5	1	4	0	2	0	0	1	0	1	0	0	1

* NEPS graduate survey during first year after graduation

** the question on involuntary part-time was not asked from 1996 to 2001

	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Combined RNs/RPNs													
Response rate	57%	59%	64%	70%	61%	74%	70%	63%	59%	67%		51%*	
Employment													
Training related full time	68%	44%	31%	22%	17%	34%	40%	27%	50%	71%		83%	
Training related voluntary PT**	10%	18%	5%	9%	6%	10%	7%	42%	36%	12%		17%	
<u>Training related involuntary PT**</u>	<u>19%</u>	<u>36%</u>	<u>50%</u>	<u>40%</u>	<u>37%</u>	<u>24%</u>	<u>28%</u>	<u>42%</u>	<u>36%</u>	<u>12%</u>		<u>17%</u>	
Training Related Employment	97%	98%	86%	71%	60%	68%	75%	69%	86%	84%		100%	
<u>Other employment</u>	<u>0%</u>	<u>0%</u>	<u>5%</u>	<u>9%</u>	<u>17%</u>	<u>15%</u>	<u>16%</u>	<u>14%</u>	<u>5%</u>	<u>12%</u>		<u>0%</u>	
Employment Total	97%	98%	91%	81%	78%	83%	91%	84%	91%	96%		100%	
Training related employment outside Saskatchewan	20%	17%	18%	26%	20%	7%	5%	13%	5%	5%		12%	
Licensed Practical Nurses													
Response rate	51%	67%	57%	64%	60%	77%	73%	50%	81%	76%	78%	72%	70%
Employment													
Training related full time	28%	25%	29%	6%	19%	42%	59%	38%	54%	80%	75%	67%	72%
Training related voluntary PT**	17%	31%	6%	3%	19%	4%	0%	44%	25%	20%	22%	24%	21%
<u>Training related involuntary PT**</u>	<u>45%</u>	<u>31%</u>	<u>56%</u>	<u>71%</u>	<u>41%</u>	<u>25%</u>	<u>14%</u>	<u>44%</u>	<u>25%</u>	<u>20%</u>	<u>22%</u>	<u>24%</u>	<u>21%</u>
Training Related Employment	90%	86%	91%	79%	78%	71%	73%	81%	79%	100%	97%	90%	94%
<u>Other employment</u>	<u>3%</u>	<u>3%</u>	<u>0%</u>	<u>9%</u>	<u>16%</u>	<u>17%</u>	<u>18%</u>	<u>6%</u>	<u>4%</u>	<u>0%</u>	<u>0%</u>	<u>7%</u>	<u>2%</u>
Employment Total	93%	89%	91%	88%	95%	88%	91%	88%	83%	100%	97%	98%	96%
Training related employment outside Saskatchewan	17%	3%	12%	0%	5%	0%	0%	6%	0%	4%	0%	0%	2%

* NEPS graduate survey during first year after graduation

** the question on involuntary part-time was not asked from 1996 to 2001