

**Registered Nurse
Supply Report 2002/03
Newfoundland and Labrador**

March 2004



Registered Nurse Supply Report 2002/03 Newfoundland and Labrador Prepared by:
Health and Community Services Human Resource Planning Unit
March 2004

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Executive Summary

The RN workforce in Newfoundland and Labrador (NL) is comprised of approximately 5600 individuals. This number has remained relatively constant over the past 12 years. In NL, there are 10.2 RNs practicing per 1000 population, the second highest ratio in Canada. Approximately 36 per cent of the current RN population is over 45 years compared to 51 per cent of Canadian RNs. The average age of RNs in this province is 40.6 years. The long-term care setting employs older RNs with 59 per cent over 45 years old, compared to 29 per cent in the hospital/acute care settings.

Although there was a steady rise in the casual workforce in the 1990s, peaking at 25 per cent in 1997/98, this trend has since reversed. Casual employment by registration year was reported as 11.5 per cent for 2000/01, 10.1 per cent for 2001/02, and 9.5 per cent for 2002/03. NL has the highest percentage of full-time employment in Canada at 74.4 per cent.

Retirement estimates are based on exits at age 58 years, which is considered to be representative of the average age of retirement. The number of RNs reaching age 58 rapidly increases from 54 in 2003 to 144 in 2013. A significant number of RNs will reach age 58 without achieving eligibility for an unreduced full pension. Approximately 1200 RNs are expected to retire by 2013.

As of 1996, the basic education requirement for RNs in NL is a Bachelor of Nursing (BN) degree. The number of graduates in 2002/03 is approximately 33 per cent less than in 1990/91 (180 versus 268) when the number of funded seats was higher. There continues to be an abundant number of qualified applicants for each seat in the BN (Collaborative) Program. New graduate retention is an important factor in long-term workforce stability.

In NL, the highest percentage of RNs by area of responsibility is in direct care at 89.4 per cent in 2002. The majority of RNs, approximately 70 per cent, work in hospital/acute care sector. Community health and long-term care each account for 11 per cent of RNs.

In fiscal year 2000/01, the total sick leave for unionized RNs employed in health boards was 232.9 full-time equivalents (FTEs), or 110.8 sick leave hours per FTE. The total injury leave for unionized RNs employed in health boards in 2000/01 was an additional 117.4 FTEs, or 56.6 injury leave hours per FTE. The total number of FTEs lost due to illness and injury was 350.3. Workplace injuries for RNs are the second highest among professional groups in the health sector in the province.

There are 115 RNs teaching students in NL in the three schools of nursing. Approximately 61 per cent of those RNs are Masters prepared. The average age of RNs teaching students in the three schools of nursing is 46.5 years old, higher than the provincial average age of 40.6 years.

In NL, there are 59 nurse practitioners (NPs), 56 are primary health care NPs and 3 are specialist NPs. Their average age is 42.5, slightly higher than the provincial average age of RNs.

The number of managers with a nursing background has dropped steadily since 1991/92 from 11 RNs in management/supervisory positions per 100 RNs to a low of 7.5 in 1997/98. In 2002/03, this trend has begun to reverse with 8.9 management/supervisory positions per 100 RNs.

The combined factors of reduced graduate numbers, increasing retirement rates, and the continuing out-migration of RNs, will challenge the ability of employers to meet the staffing requirements of the health system in the next decade. Further study of the RN workforce, particularly related to determination of demand variables, is required as well as close monitoring of workforce trends.

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1.0 Introduction

1.1. Background

This report is the third installment of a report that was initially released in July 2000. It was updated in August 2001 to reflect registration year 2000/01 data from the Association of Registered Nurses of Newfoundland and Labrador (ARNNL) and other relevant reports. The current document provides data for 2002/03 and includes new sections on nurse practitioners, nurse faculty, and managers with a nursing background, as well as reported trends from employer sources and including Workplace Health and Safety Compensation Commission (WHSCC) data for 2000/01.

1.2. Limitations of the Report

The Canadian Institute for Health Information (CIHI) summarizes registration data provided by the nursing regulatory bodies in Canada and produces annual reports. The target population is all Registered Nurses (RNs) having active-practicing registration in a Canadian province or territory. CIHI evaluates each registration to ensure that it reflects the primary jurisdiction of practice to remove double-counting effects in the data. The data are collected at the six-month mark of each jurisdiction's registration year. Provincial Regulatory Bodies report data based on registration year-end in their own reports. As a result, CIHI data from the first six months of registration captures 95-99 per cent of all provincial records. Although the impact of collecting data at the six-month mark is minor (one to five per cent difference), the figures released by CIHI are slightly less than provincial/territorial figures.

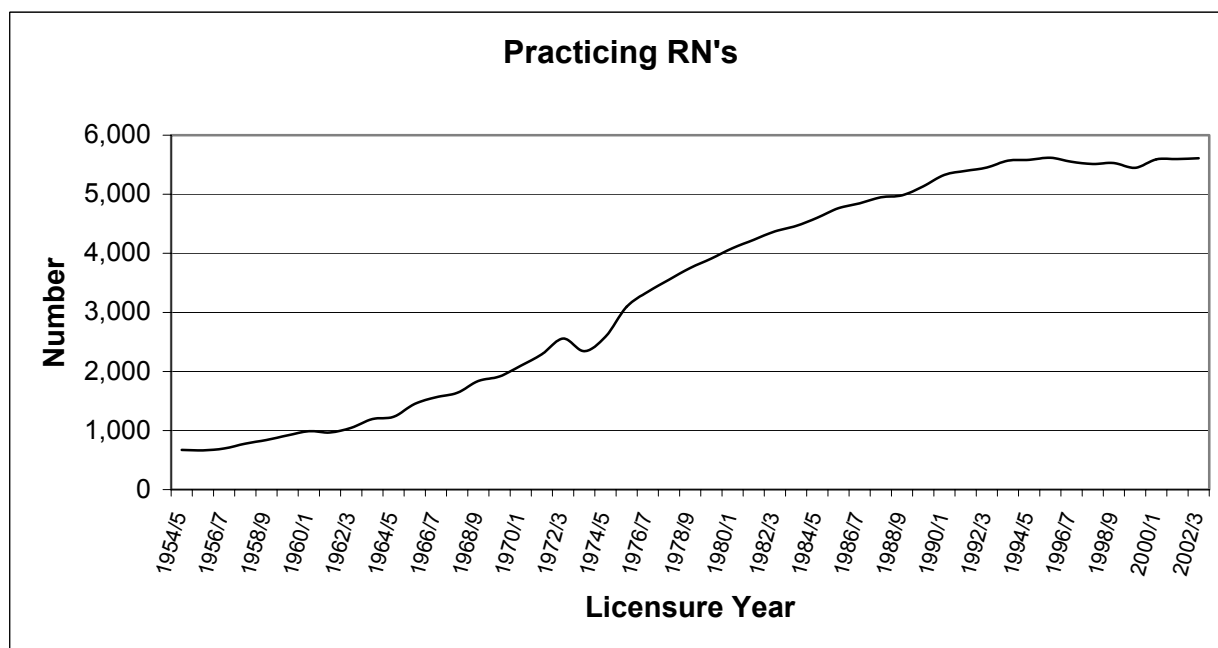
Finally, there are limitations associated with interpreting professionals per population ratios shown in RNs to Population Ratios, section 2.2. The population (denominator) reflects gross population numbers and not age/gender distribution. Additionally, public population numbers do not reflect population health status, population density, or patterns of utilization of health services. The number of professionals (numerator) does not reflect scope of practice issues, the existence or nonexistence of support personnel, utilization, skill mix, casualization, distribution of personnel, or the sector to which they belong i.e. public versus private sector RNs. Core staffing requirements in rural and remote locations are a significant factor in determining the appropriate number of health professionals. Professional per population ratios should be viewed with caution particularly in a sparsely distributed population, as is the case in Newfoundland and Labrador (NL). Other workforce analyses should also be used to augment this data.

2. Workforce Attributes

2.1. Total Number of Registered Nurses

There were 5,609 RNs with practicing licenses in the province in the registration year 2002/03. The total number has remained greater than 5000 over the last decade. The historical trend for the total nursing population is shown in Figure 1:

Figure 1. Trends in Registered Nursing Population, 1954 to 2003.

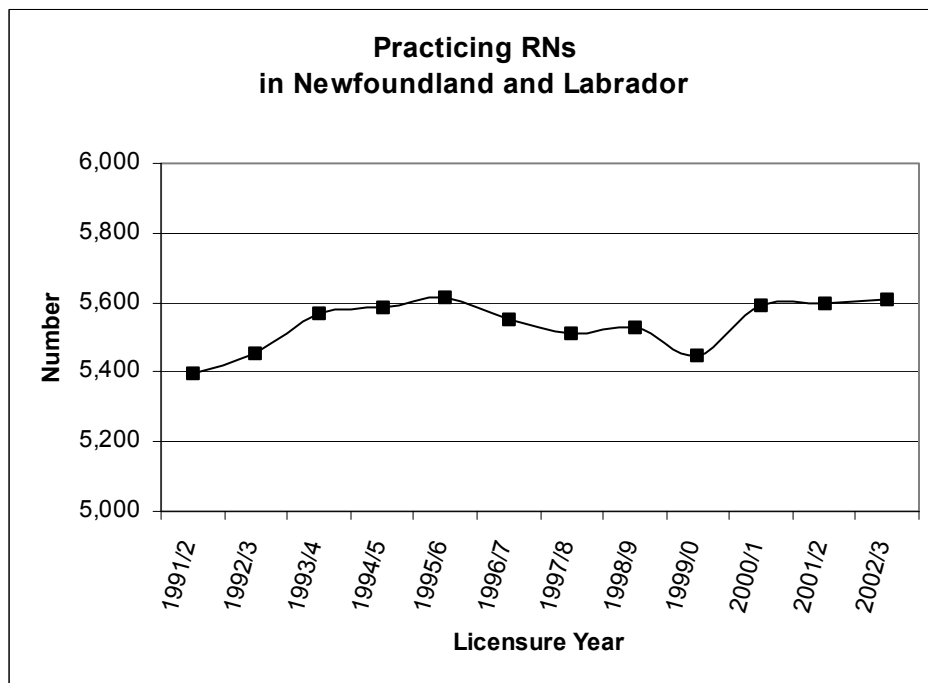


Source: Association of Registered Nurses of Newfoundland and Labrador, Annual Reports (1954 to 2003).

Considering changes in the RN workforce on a linear basis since 1954, growth has been approximately 100 RNs annually. The RN workforce has experienced an annual growth rate of approximately 4.5 per cent annually.

The peak number of RNs in the province occurred in the registration year 1995/96 at 5617 practicing members. Since that time the number of practicing members has been relatively stable. This is shown in Figure 1 and on a larger scale in Figure 2.

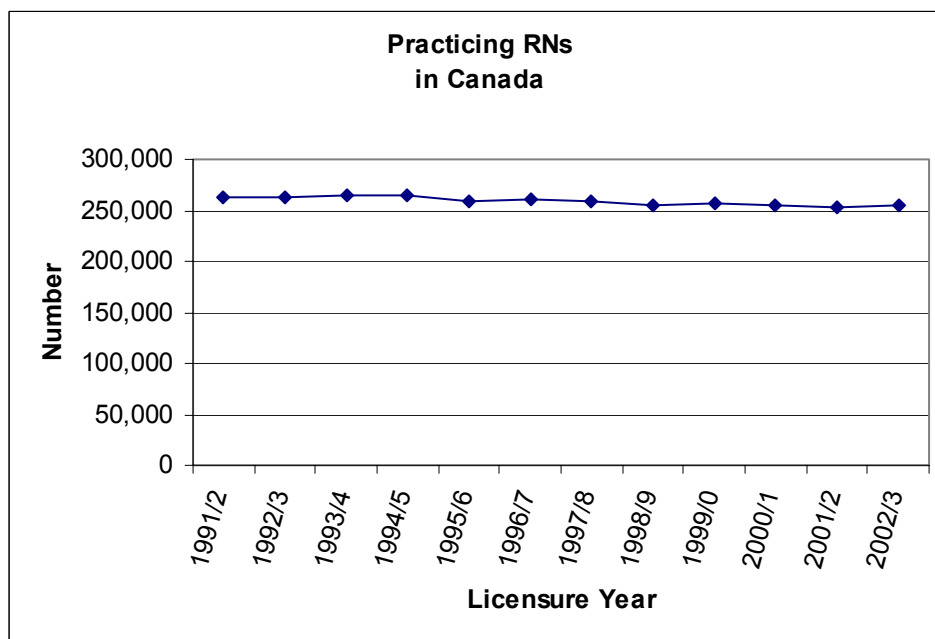
Figure 2. Trends in Nursing Population in Newfoundland and Labrador, 1991/92 – 2002/03.



Source: Association of Registered Nurses of Newfoundland and Labrador, Annual Reports (1954 to 2003).

Similar findings are seen in Canadian trends for practicing RNs are shown in Figure 3.

Figure 3. Trends in Nursing Population in Canada, 1991-2003.



Source: Canadian Nurses Association, 1991-1996 and Canadian Institute for Health Information, Workforce Trends of Registered Nurses in Canada, 2000-2002.

While the NL RN workforce has been relatively stable, the total RN population in Canada has experienced a 2.9 per cent decline from 1991/92 to 2002/03. Although there were 262,288 RNs in 1991, the Canadian RN population peaked in 1994/95 with 264,355 RNs but began to decrease. Currently there are 254,752 nurses (2002/03). Comparatively the Canadian total population has continued to grow.

2.2. Registered Nurse to Population Ratios

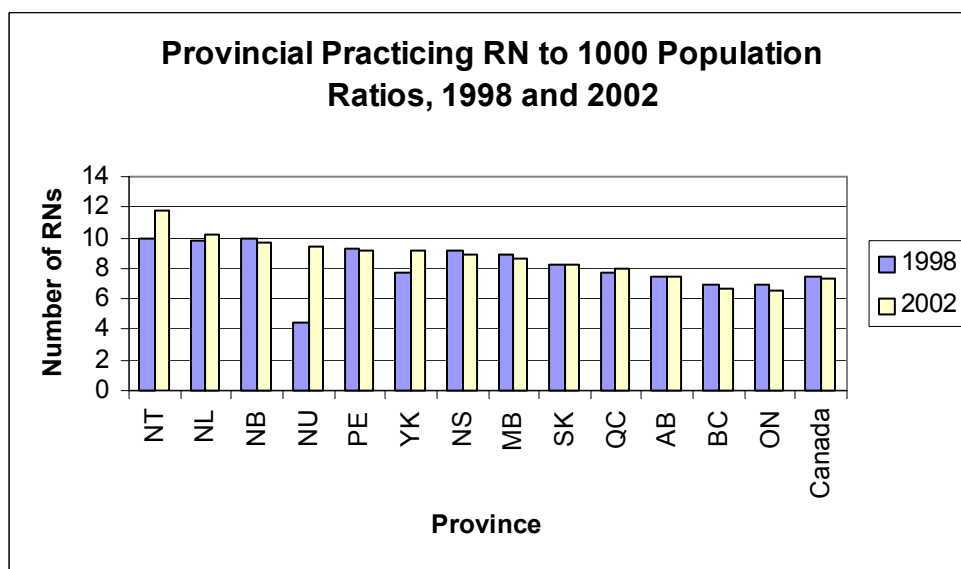
A national comparison of RN to population ratios are shown in Table 1:

Table 1. Provincial Practicing RN to 1000 Population Ratios, 1995 - 2002.

Province	1995	1996	1997	1998	1999	2000	2001	2002
NT	10.4	10.0	8.9	10.0	9.2	10.3	11.6	11.8
NL	9.2	9.4	9.5	9.8	9.7	10.0	10.2	10.2
NB	10.0	9.9	9.8	9.9	10.2	9.7	9.8	9.7
NU	5.0	5.3	4.2	4.5	3.9	3.3	10.1	9.5
PE	8.8	9.8	9.4	9.3	8.9	9.0	9.1	9.2
YK	6.9	7.1	7.9	7.8	7.9	7.8	9.2	9.1
NS	9.5	9.4	9.2	9.1	9.2	9.2	9.1	8.9
MB	9.0	9.2	9.3	8.9	8.9	8.8	8.9	8.6
SK	8.3	8.3	8.3	8.2	8.4	8.4	8.1	8.2
QC	8.6	7.9	8.1	7.8	7.9	8.0	7.9	7.9
AB	7.7	7.4	7.5	7.5	7.4	7.4	7.5	7.5
BC	7.3	7.2	7.3	7.0	6.9	6.8	6.7	6.7
ON	7.2	7.2	6.9	6.9	6.8	7.0	6.8	6.5
Canada	7.9	7.7	7.6	7.5	7.5	7.5	7.4	7.3

Source: Canadian Institute for Health Information, Workforce Trends of Registered Nurses in Canada, 2002 (2003).

Figure 4 shows five-year trends for the RNs to population ratios for each jurisdiction for 1998 and 2002.

Figure 4. Provincial Practicing RN to 1000 Population Ratios for 1998 and 2002.

Source: Canadian Institute for Health Information, Workforce Trends of Registered Nurses in Canada, 2002 (2003).

NL had the second highest proportion of RNs per 1000 population in 2002, second only to the Northwest Territories. A rise in the ranking over the last four years has been due mainly to a decline in the NL population with the RN workforce remaining stable. Another factor influencing the change in ranking has been reductions in RN positions across Canada during the mid-1990s (losses of thousands of positions) as part of cost-cutting reforms. Similar reductions in the RN population did not occur in this province.

Other contributing factors that must be considered when analyzing the RN to population ratio include core staffing levels, staffing mix, beds per population, numbers and types of services being offered, geography, and population health. (Further discussion is contained in Limitations of the Report, section 1.2)

2.3. Demographics

About 96 per cent of this province's current nursing workforce is female. The age distribution for practicing RNs is given in Table 2:

Table 2. Age Distribution of Practicing RNs in Newfoundland and Labrador 1990/91 and 2002/03.

Age Range	1990/91 (number) ¹	1990/91 (per cent) ¹	2002/03 (number) ²	2002/03 (per cent) ²
<25	326	6.8%	173	3.1%
25 – 34	1977	41.2%	1447	25.8%
35 – 44	1494	31.2%	1977	35.2%
45 – 54	819	17.1%	1513	27.0%
55 – 64	169	3.5%	488	8.7%
65 +	11	0.2%	11	0.2%
Total	4796	100.0%	5609	100.0%
45 +	999	20.8%	2012	35.9%

Source:

¹Centre for Health Services and Policy Research Data Tables (1998) University of British Columbia, BC

²Association of Registered Nurses of Newfoundland and Labrador, Annual Reports (1980 to 2002)

Over the last twelve years there has been a 15 per cent increase in the number of practicing RNs over the age of 45 going from 21 per cent in 1990/91 to almost 36 per cent in 2002/03. In 2002, the average age of RNs practicing in NL was 40.6 years (Canadian Institute for Health Information [CIHI], 2003).

The national figures for the age distribution of RNs in Canada are given in Table 3:

Table 3. Age Distribution of RNs Employed in Nursing in Canada, 2002.

Age Range	Canada (number)	Canada (percent)
<25	3,731	1.6%
25 – 34	40,768	17.7%
35 – 44	68,033	29.5%
45 – 54	80,971	35.1%
55 +	37,454	16.2%
Total	230,957	100.0%
45 +	118,425	51.3%

Source: Canadian Institute for Health Information, Workforce Trends of Registered Nurses in Canada, 2002 (2003).

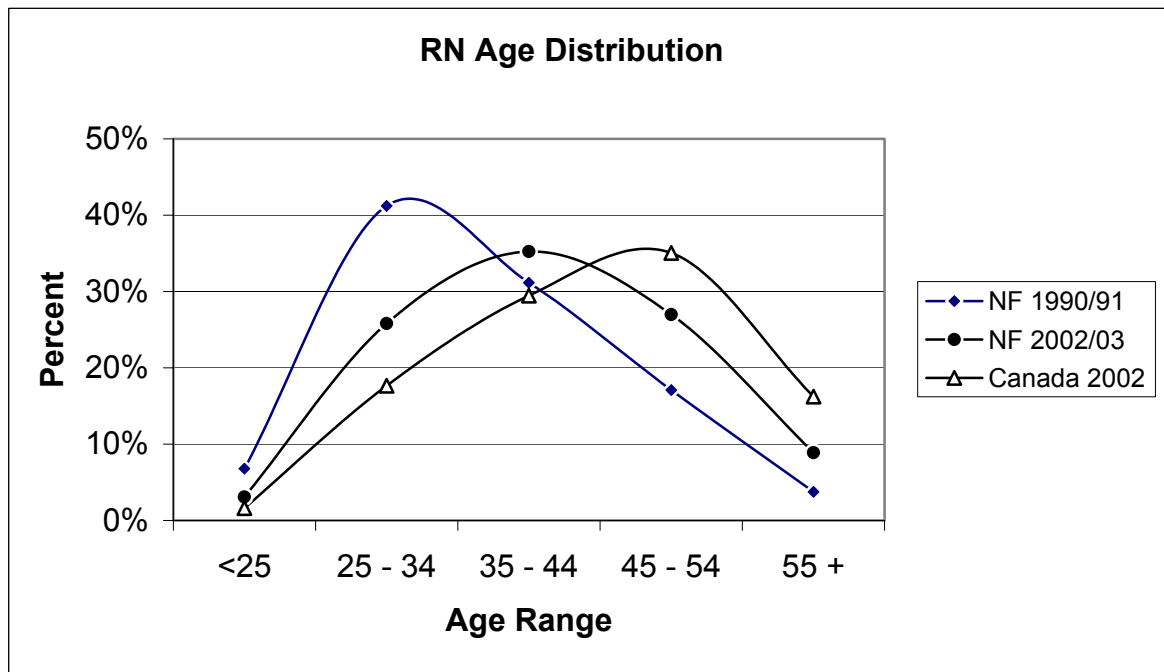
The percentage of RNs in Canada over the age of 45 (51 per cent – shown in Table 3) is significantly higher than the percentage of RNs in Newfoundland and Labrador over the age of

45 (36 per cent – shown in Table 2). This difference (15 per cent) demonstrates that NL has a much younger RN workforce compared to the Canadian average.

Reductions in nursing positions across Canada in the mid- 1990s but not in NL may have contributed to this imbalance in that younger RNs and new graduates were not retained in the rest of Canada.

Graphically, age trends for NL and Canada RNs are shown in Figure 5 as a percentage:

Figure 5. Age Distribution of RNs Practicing in Newfoundland and Labrador 2002/03, 1990/91 and Canada 2002.



Source: Association of Registered Nurses of Newfoundland and Labrador, Annual Reports (1980 to 2002) and Canadian Institute for Health Information, Workforce Trends of Registered Nurses in Canada, 2002 (2003).

The percentage of practicing RNs over the age of 45, by practice setting in 2002/03 is given in Table 4:

Table 4. RNs Age 45+ by Practice Setting in Newfoundland and Labrador, 2002.

RNs Reporting Employment in this Practice Setting	Number 45+ in 2002/03	Per cent 45+ in 2002/3
Hospital	1092	28.8%
Nursing Home/Long Term Care	358	59.2%
Community Health	242	40.3%
Educational Institution	77	56.6%
Other	218 ¹	70.6%

Source: Canadian Institute for Health Information, Workforce Trends of Registered Nurses in Canada, 2002 (2003). ARNNL (2003).

Notes:

¹ There were an additional 25 nurses in this age group who are currently not employed.

The percentage of RNs reporting employment in education institutions over the age of 45 has risen dramatically from 27 per cent in 1990 to approximately 57 per cent in 2002/03 (CIHI, 2003). The combined effect of retirements and potential increased demand for more RNs in education institutions, particularly if student enrollments are increased, will create shortages in this group. Currently, RNs are required to have a minimum of a Masters degree to teach in the Bachelor of Nursing (BN) (Collaborative) Program and this standard is moving towards a Doctorate degree. These RNs therefore require additional time to be prepared. The percentage of RNs over the age of 45 employed in nursing homes remains high at 59.2 per cent.

Table 5 shows RNs working in managerial positions are also older than their provincial colleagues.

Table 5. RNs Age 50+ Older by Position in Newfoundland and Labrador, 2002.

RNs Reporting Employment in this Position	Number 50+ in 2002/03	Per cent 50+ in 2002/03
Managerial	165	32.9%
Staff Nurse/Community Health Nurse	731	16.6%
Other	144	27.5%

Source: Canadian Institute for Health Information, Workforce Trends of Registered Nurses in Canada, 2002 (2003).

2.4. Retirements

This section contains estimates of RN retirements based on retirement at age 58. The age 58 assumption is based on anecdotal evidence, calculations based on pension eligibility, and RN age distributions.

In the NL Public Service Pension Plan, normal retirement with an unreduced pension occurs at age 65 with a minimum of five years pensionable service. Early retirement with an unreduced pension can occur at age 55 with a minimum of 30 years pensionable service or age 60 with a minimum of five years of pensionable service (O'Brien- Pallas et al., 2002). Using dates for normal and early retirement may underestimate total retirement estimates because many RNs will retire with a reduced pension (Human Resource Planning Unit [HRPU], Retirement Analysis, 2003). A comparison is shown in Table 8.

Age Data

Table 6 provides trends of the number of RNs who will reach age 58 years before 2003, from 2003 to 2013, and beyond 2013 for each health board. Only unionized RNs are shown as the data source did not identify RNs in management positions.

Table 6. Number of Unionized RNs Reaching Age 58 by Health Board by Calendar Year.

Year Turning 58	AHCIB + PSCH	CEHCIB	CWHB	GRHSB	HCCSJ + NCTRF	HCS - Central Region	HCS - Eastern Region	HCS - St. John's Region	HLC	PHCC	SJNHB	WHCC + HCS Western	Total
unknown	2	6	0	0	0	1	0	0	0	1	3	1	14
<2003	11	9	11	5	37	5	3	1	7	7	37	22	155
2003	3	0	7	2	18	3	0	1	3	3	11	3	54
2004	5	3	3	1	17	3	1	1	3	6	8	12	63
2005	5	4	5	2	24	1	0	0	2	5	10	8	66
2006	4	3	3	3	26	3	1	4	2	1	10	12	72
2007	6	8	4	3	32	2	1	10	1	5	6	15	93
2008	4	2	2	3	32	2	3	1	4	3	4	15	75
2009	12	5	6	2	36	2	4	8	3	4	9	15	106
2010	5	4	5	6	38	3	1	8	0	4	8	24	106
2011	10	6	10	6	43	1	4	5	1	7	8	17	118
2012	11	6	7	5	68	6	5	6	2	8	10	24	158
2013	6	10	8	2	70	1	0	3	1	4	9	30	144
>2013	168	207	255	101	1576	73	68	92	85	171	91	519	3406
Total	252	273	326	141	2017	106	91	140	114	229	224	717	4630

Source: Newfoundland and Labrador Health and Community Services, Retirement Analysis (April 2003).

Notes:

¹ Health Boards:

AHCIB Avalon Health Care Institutions Board
 CEHCIB Central East Health Care Institutions Board
 CWHB Central West Health Corporation
 GRHS Grenfell Regional Health Services Board
 HCCSJ Health Care Corporation of St. John's
 HCS-C Health and Community Services - Central Region
 HCS-E Health and Community Services – Eastern Region
 HCS-SJ Health and Community Services - St. John's Region
 HCS-W Health and Community Services – Western Region
 HLC Health Labrador Corporation
 NCTRF Newfoundland Cancer Treatment & Research Foundation
 PHCC Peninsulas Health Care Corporation
 PSCH Pentecostal Senior Citizens Home
 SJNHB St. John's Nursing Home Board
 WHCC Western Health Care Corporation

Due to methods in data collection, the analysis in Table 6 does not include all the estimated 5100 unionized RNs in the health boards. Prior to 2003, a total of 155 RNs had reached or exceeded age 58 before 2003 and still hold practicing licenses for the 2002/03 registration year. Table 6 indicates the number of RNs reaching age 58 almost triples from year 2003 to year 2013.

The total projected unionized RNs turning age 58 by 2013 by health board as a percentage of the RN workforce is shown in Table 7:

Table 7. Unionized RNs Reaching Age 58 by 2013 by Health Board as a Percentage of RN Workforce.

Board ¹	Number of RNs ² (July 2001)	Number of RNs Turning Age 58 (January 1, 2003 to January 1, 2013) ³	As a Percentage of Total
SJNHB	226	93	41%
HCS-SJR	170	47	28%
AHCIB	241	70	29%
GRHSB	145	35	24%
HCS-C	129	27	21%
HCSE	81	20	25%
WHCC + HCS-W	782	175	22%
PHCC	251	50	20%
HLC	138	22	16%
CEHIB	268	51	19%
CWHB	327	60	18%
HCCSJ + NCTRF	2297	404	18%
PSCH	15	1	7%
Total	5070	1055	21%

Source:

¹ Newfoundland and Labrador Health and Community Services, Health Human Resources Indicator Report 2000/2001 (October 2002)

² Newfoundland and Labrador Health and Community Services, Retirement Analysis (April 2003).

Notes:

¹ Health Boards:

AHCIB Avalon Health Care Institutions Board

CEHCIB Central East Health Care Institutions Board

CWHB Central West Health Corporation

GRHS Grenfell Regional Health Services Board

HCCSJ Health Care Corporation of St. John's

HCS-C Health and Community Services - Central Region

HCS-E Health and Community Services – Eastern Region

HCS-SJ Health and Community Services - St. John's Region

HCS-W Health and Community Services – Western Region

HLC Health Labrador Corporation

NCTRF Newfoundland Cancer Treatment & Research Foundation

PHCC Peninsulas Health Care Corporation

PSCH Pentecostal Senior Citizens Home

SJNHB St. John's Nursing Home Board

WHCC Western Health Care Corporation

² RN Count is based on July 2001 numbers from Health Human Resources Indicator Report 2000/2001.

³ RNs turning age 58 is based on December 2001 numbers from Retirement Analysis.

The St. John's Nursing Home Board (SJNHB) is projected to lose the highest percentage of RNs to retirement by 2013 at 41 per cent.

Pensions Eligibility

An analysis of data on eligibility for an unreduced pension shows significant numbers of RNs will turn 58 without having become eligible for an unreduced pension.

Table 8 shows a breakdown of unionized RN retirements by year for three estimates. Column 1 indicates the number of RNs reaching age 58 years; column 2 indicates the number of RNs achieving eligibility for early retirement; and column 3 indicates RNs achieving eligibility for normal retirement. Note that casually employed employees participate in the Government Money Purchase Pension Plan (GMPP). These employees do not accumulate pensionable service and are excluded from the retirement figures shown.

Table 8. Comparison of Age Analysis Versus Pensions Eligibility for Unionized RNs in Health Boards in Newfoundland and Labrador, 2003-2013.

Year	Age 58 ¹	Early Retirement ²	Normal Retirement ³
Unknown	14	0	0
<2003	155	56	3
2003	54	24	3
2004	63	40	1
2005	66	53	4
2006	72	60	7
2007	93	70	16
2008	75	66	9
2009	106	114	24
2010	106	93	39
2011	118	106	44
2012	158	95	55
2013	144	105	52
>2013	3406	2613	3248

Source: Newfoundland and Labrador Health and Community Services, [Retirement Analysis](#) (April 2003).

Notes:

¹ Note that because of the average age of retirement equal 58 years assumption, there are 155 RNs that would have reached or exceeded the age of 58 years by December 31st 2002 but still hold practicing licenses in the 2002/03-registration year. Registered Nurses in management positions are excluded from this analysis

² Early Retirement with an unreduced pension can occur at age 55 with a minimum of 30 years pensionable service or age 60 with a minimum of five years of pensionable service.

³ Normal Retirement with an unreduced pension occurs at age 65 with a minimum of five years pensionable service.

Retirement analysis based on pensions eligibility therefore likely understates projected retirements.

To construct the total provincial retirement estimates, RNs employed outside of health boards and those working in management positions in health boards are also considered. It is estimated that 34 per cent of managers have RN backgrounds (HRPU, Retirement Analysis, 2003). As well, the total provincial projected retirements for RNs includes a correction to reflect RNs employed outside health boards. These results are shown in Table 9.

Table 9. Projected Provincial RN Retirements, 2003-2013.

Year A	Board Unionized RN Retirement¹ B	Total Board Management Retirement² C	RN Management Retirement³ D=0.34C	Total RN Retirement in Boards E=B+D	Total RN Retirement Province⁴ F=1.04E
2003	54	21	7	61	63
2004	63	27	9	72	75
2005	66	39	13	79	82
2006	72	44	15	87	90
2007	93	27	9	102	106
2008	75	36	12	87	90
2009	106	44	15	121	125
2010	106	39	13	119	124
2011	118	40	14	132	136
2012	158	35	12	170	176
2013	144	52	18	162	168
Total	1055	404	137	1192	1236

Source: Newfoundland and Labrador Health and Community Services, Retirement Analysis (April 2003). Data as of December 31, 2001

Notes:

¹ Based on retirement at age 58

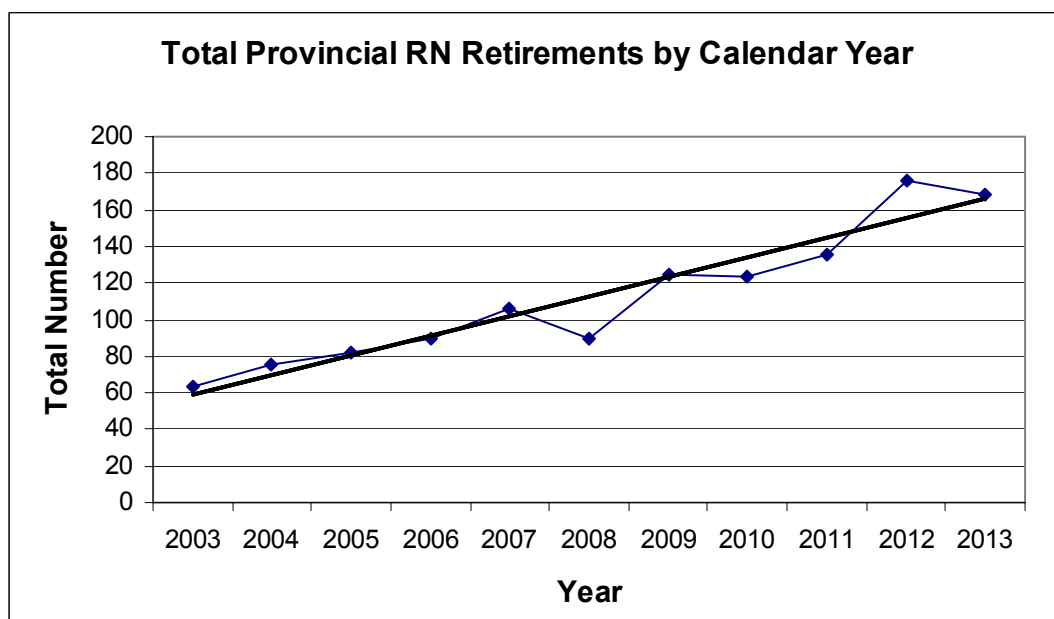
² Based on date of early retirement

³ 34 per cent of management retirements are RN managers

⁴ A four per cent adjustment is made to reflect the total provincial projected retirements, including those RNs employed outside health boards.

To illustrate the figures in Table 9, consider the year 2008. Based on retirement at age 58 years, it is estimated that health boards will have 75 unionized RN retirements; health boards will have an estimate of 36 management retirements overall; 34 percent of these managers have an RN background, therefore 12 management retirements are estimated to be managers with a RN background; the total RN retirements in the health boards is estimated to be 87; the total retirements for the province includes a correction to reflect RNs employed outside health boards, therefore 90 RNs are estimated to retire in the province overall.

The total number of expected retirements in each year (i.e. non-cumulative) is shown graphically in Figure 6:

Figure 6. Total Provincial RN Retirements by Calendar Year, 2003 to 2013.

Source: Newfoundland and Labrador Health and Community Services, Retirement Analysis (April 2003).

The total number of RNs turning 58 by calendar year increases steadily over the next decade, which is indicated by the trend line on the graph that shows about 11 more RNs in each successive year.

3. Education

Historically, the model of RN education in NL was a 2.5 to 3-year Diploma of Nursing Program in the following schools; Western Regional School of Nursing, Corner Brook; St. Clare's Mercy Hospital School of Nursing, St. John's; General Hospital School of Nursing, St. John's; Grace General Hospital, School of Nursing, St. John's. A generic BN Program was in place at Memorial University of Newfoundland (MUN) commencing in 1965.

In 1996, a new four-year BN (Collaborative) Program was introduced and the generic BN program at MUN and the Diploma programs were discontinued. The last class of diploma-prepared nurses graduated in 1998. In 1999 there were only 40 graduates from the generic BN program at MUN due to the transition to the new program. The BN (Collaborative) Program admitted its first class, of approximately 220 students, in 1996 and had its first graduates in 2000. A further increase of enrollments of 32 fast-track seats was introduced in 2002. Based on current enrollments and an intake of approximately 255 per year, the number of graduates is expected to increase.

The 32 seats introduced in 2002 were developed as a fast-track option for students who may enter the program and complete their BN in two years of consecutive semesters, as opposed to the current program, which takes four years to complete. These students are required to have all non-nursing courses completed prior to entry. Based on current evolution, we can expect this initiative to remain in place.

At present there are proposals to attain more funded seats for students for the BN (Collaborative) Program. The three schools of nursing have developed a proposal for Licensed Practical Nurse (LPN) to BN Bridging Program. This program would allow LPNs to enter the second year of the BN (Collaborative) Program by taking a bridging semester. As well, the nursing schools are pursuing the development of a Labrador Inuit Access Program to assist up to 16 Inuit students complete the BN (Collaborative) Program. Students in the access program would begin the program in Labrador and complete it at the Western Regional School of Nursing (Association of Registered Nurses of Newfoundland and Labrador [ARNNL], 2003).

Discussion on faculty is provided in Focus on Faculty, section 4.5, including summary data on demographics and level of education.

3.1. Applicants, Enrollments and Graduates

For both the Diploma Nursing Program and the BN (Collaborative) Program, Table 10 shows the program capacity, number of nursing applicants, enrollments, and graduates since 1991.

Table 10. Program Capacity, Number of Applicants, Enrollments, & Graduates from Newfoundland and Labrador Schools of Nursing by Credential and Year of Graduation Since 1991.

Year	Program Capacity (Approved Seats)			Applicants ²			Enrollments ¹			Graduates		
	Diploma	BN ³	Total	Diploma	BN	Total	Diploma	BN	Total	Diploma	BN	Total
1991	339	50	389	1647	99	1746	339	50	389	243	25	268
1992	326	50	376	1879	73	1952	326	45	371	252	47	299
1993	314	50	364	1744	96	1840	314	51	365	260	44	304
1994	246	50	296	1046	100	1146	246	51	297	249	27	276
1995 ⁴	244	50	294	926	107	1033	244	52	296	227	31	258
1996 ⁵	x	223	223	x	419	419	x	221	221	241	41	282
1997 ⁶	x	223	223	x	416	416	x	221	221	211	45	256
1998	x	223	223	x	399	399	x	221	221	198	49	247
1999 ⁷	x	223	223	x	482	482	x	226	226	x	40	40
2000 ⁸	x	223	223	x	556	556	x	227	227	x	163	163
2001	x	223	223	x	493	493	x	223	223	x	162	162
2002 ⁹	x	255	255	x	557	557	x	244	244	x	176	176
2003 ¹⁰	x	255	255	x	607	607	x	255	255	x	180	180
2004 ¹¹	x	255	255	x	-	-	x	-	x	x	223	223
2005	x	255	255	x	-	-	x	-	x	x	206	206
2006	x	255	255	x	-	-	x	-	x	x	226	226
2007 ¹²	x	255	255	x	-	-	x	-	x	x	***	***

Source: Program Capacity: Association of Registered Nurses of Newfoundland and Labrador Annual Reports (1991-current). Applicants and enrollments: BN Consortium Office. Graduates: Memorial University School of Nursing, Centre for Nursing Studies, and Western Regional School of Nursing.

Notes:

¹ Enrollment in year one of program (does not include enrollment in other program years)

² Duplicate applications to two or more schools prior to 1996 not removed

³ Data for the BN Program does not include Post Basic BN for RNs

⁴ Last intake of students for the BN Generic Program

⁵ In 1996, the BN (Collaborative) Program started with 3 Aboriginal seats, one at each site

⁶ In 1997, ARNNL registration data used as schools did not report the number of graduates

⁷ In 1999, no diploma graduates; graduates of 'phasing out' Generic BN Program only

⁸ In 2000, first graduates of the BN (Collaborative) Program

⁹ In 2002, increase of 21 enrollments reflects the addition of 32 fast track seats. Not all filled due to timing issues with the introduction of the seats

¹⁰ Further increase reflects complete filling of the fast-track seats

¹¹ In 2004, first graduates of the BN (Collaborative) Fast-Track Program are included. From 2004 to 2006, graduate numbers are estimated.

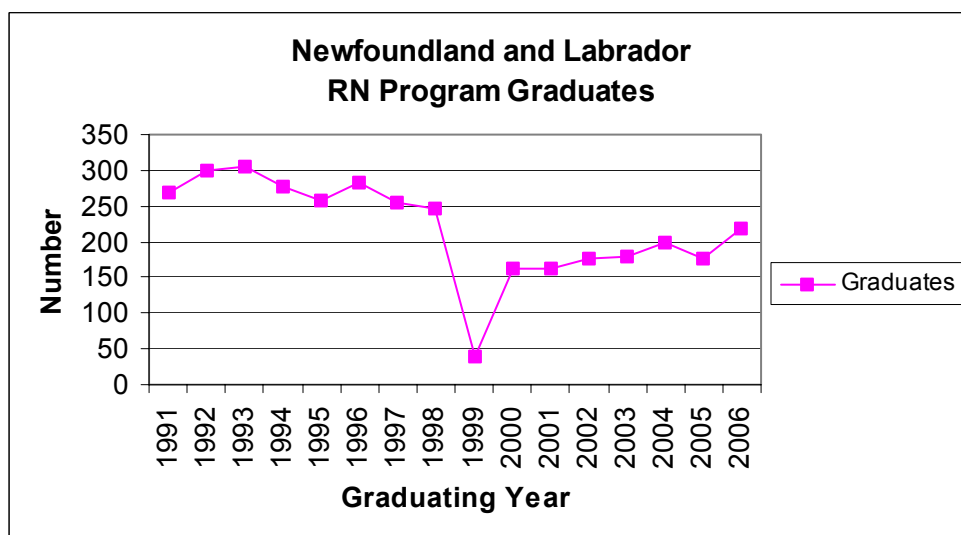
¹² In 2007, due to the variability of student movement, the number of graduates cannot be clearly estimated; therefore, the estimate number of graduates will be between 250 and 300.

To illustrate the figures in Table 1, consider the year 2001. First-year seat capacity was 223 seats; there were 493 applicants for these 223 seats in the BN (Collaborative) Program; there was full enrollment of 223 students into the first year of the BN (Collaborative) Program; and there were 162 graduates. Most of these 162 graduates began their program in 1997.

The decline in funded seats for RN education began when the new BN (Collaborative) Program was introduced based on a surplus supply of RNs in the mid-1990s. The group coordinating the introduction of the BN (Collaborative) Program was the Advisory Committee on Basic Nursing Education. In their analysis, the group compared basic retirement estimates with the retention of graduates to arrive at a net surplus or deficit. Potential increases in demand for RNs were acknowledged but not estimated.

Trends in the number of RN graduates in NL since 1991 are shown in Figure 7.

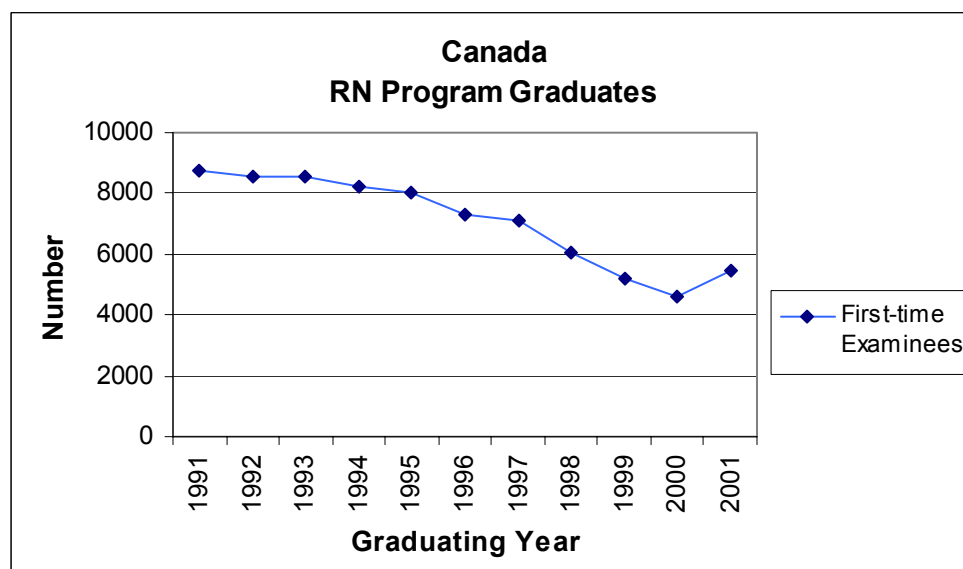
Figure 7. RN Programs Enrollments and Graduates by Graduating Year in Newfoundland and Labrador, 1991 to 2006.



Source: Applicants and enrollments: BN Consortium Office. Graduates: School of Nursing Annual Reports to Association of Registered Nurses of Newfoundland and Labrador, (1954 to 2002) and Memorial University School of Nursing.

In NL, the number of graduates in 2003 is approximately 33 per cent less than in 1991 when the program capacity (approved seats) was higher (180 versus 268). This gap is expected to decrease over the next four years to approximately two per cent less (263 versus 268) as students begin to graduate from the additional fast-track seats added in 2002.

Trends in the number of RN graduates in Canada since 1991 are shown in Figure 8.

Figure 8. RN Program Graduates by Graduating Year in Canada.

Source: Canadian Nurses Association, *Planning for the Future: Nursing Human Resource Projections* (2002).

Note: The number of first-time examinees is used as proxy for the number of graduates because not all nursing schools report their graduates.

The reduced admission levels to nursing programs in Canada have resulted in lower graduate numbers. There was a continuous decrease in the number of first-time examinees from 1991 to 2000 resulting in a 48 per cent decrease. In 2001, the trend began to reverse with a 15.7 per cent increase from the previous year (2000) in first-time examinees.

One strategy outlined in the Nursing Strategy for Canada (2000), was to an increase in nursing education seats Canada-wide by at least ten per cent over two years starting in 1998/99. A follow-up study in 2002 revealed a greater than ten per cent increase, in fact 43 per cent increase, in nursing entry to practice seats across Canada over this period, for all nursing designations combined (RNs, Registered Psychiatric Nurses, and LPNs). (O'Brien-Pallas et al., 2002)

There is no standard definition for attrition, or loss of students, from schools of nursing. Flexibility in the BN (Collaborative) Program means graduation could be delayed by one or more years. Measuring the movement and/or loss of students is beyond the scope of this report.

3.2. New Graduate Retention

Initial registration with ARNNL is mandatory for all new graduates. As a result, one indicator of out migration is the number of new graduates who did not renew practicing licenses following initial registration, i.e. registration for the second year. These numbers are given in Table 11:

Table 11. Newfoundland and Labrador Registered Nursing Graduates by Year of Initial Registration and Licensure Renewal Year (2002/03).

Year of Initial Registration	Licensure Renewal					
	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03
<i>Number of Practicing Licenses from Initial Pool</i>						
1997-8	260 ¹	151²	148	150	156	145
1998-9	-	250	171	166	173	157
1999-0	-	-	46	31	30	30
2000-1	-	-	-	162	125	113
2001-2	-	-	-	-	159	134
2002-3	-	-	-	-	-	176
<i>Number of Practicing Licenses as a Percentage of Initial Pool</i>						
1997-8	100.0% ¹	58.1%²	56.9%	57.7%	60.0%	55.8%
1998-9	-	100.0%	68.4%	66.4%	69.2%	62.8%
1999-0	-	-	100.0%	67.4%	65.2%	65.2%
2000-1	-	-	-	100.0%	77.2%	69.7%
2001-2	-	-	-	-	100.0%	84.3%
2002-3						100.0%

Source: Association of Registered Nurses of Newfoundland and Labrador, 1997/98-2002/03

Notes:

¹ All nurse graduates must register in NL upon graduation, but not all stay to work. In some instances, graduates do not register immediately.

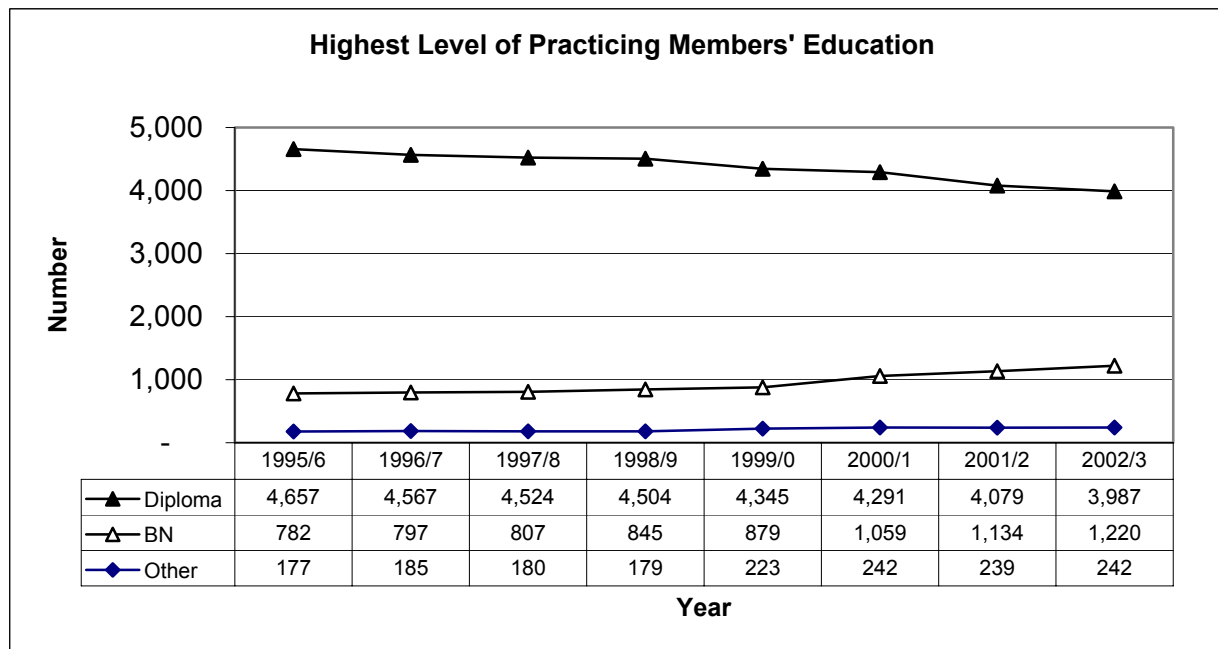
² Figures shown in bold are the number/per cent of nursing graduates that have remained for their second registration.

The Government of NL introduced a \$3,000 signing bonus for new graduates in the years 2000 and 2001. In the year 2000, there were 148 bonuses accepted. In the year 2001, there were 153 bonuses accepted. Most of these were graduates from NL programs. As of November 7, 2002, there were eight graduates from the year 2000 and 18 graduates from the year 2001 that had failed to complete the Return In Service contract. These RNs must reimburse the proportion of the bonus equal to the proportion of the unfulfilled time.

3.3. Level of Education

Figure 9 gives the highest level of education of RNs practicing in the province.

Figure 9. Highest Level of Practicing Members' Education, 1995 to 2002.



Source: Association of Registered Nurses of Newfoundland and Labrador, Annual Reports (1995 to 2003).

Note: "Other" includes non-nursing Bachelor degrees, nursing Masters, non-nursing Masters and Doctorate. RNs with specialty courses are not reflected in this data.

Approximately 75 per cent of RNs in the province are diploma-prepared as their highest level of education. This is close to the national average of 72.7 per cent (CIHI, 2003). Since 2000, graduates in NL are BN-prepared and as a result the number of BN-prepared RNs will rise each year. Also, some diploma-prepared RNs continue to pursue BN (Post RN) programs.

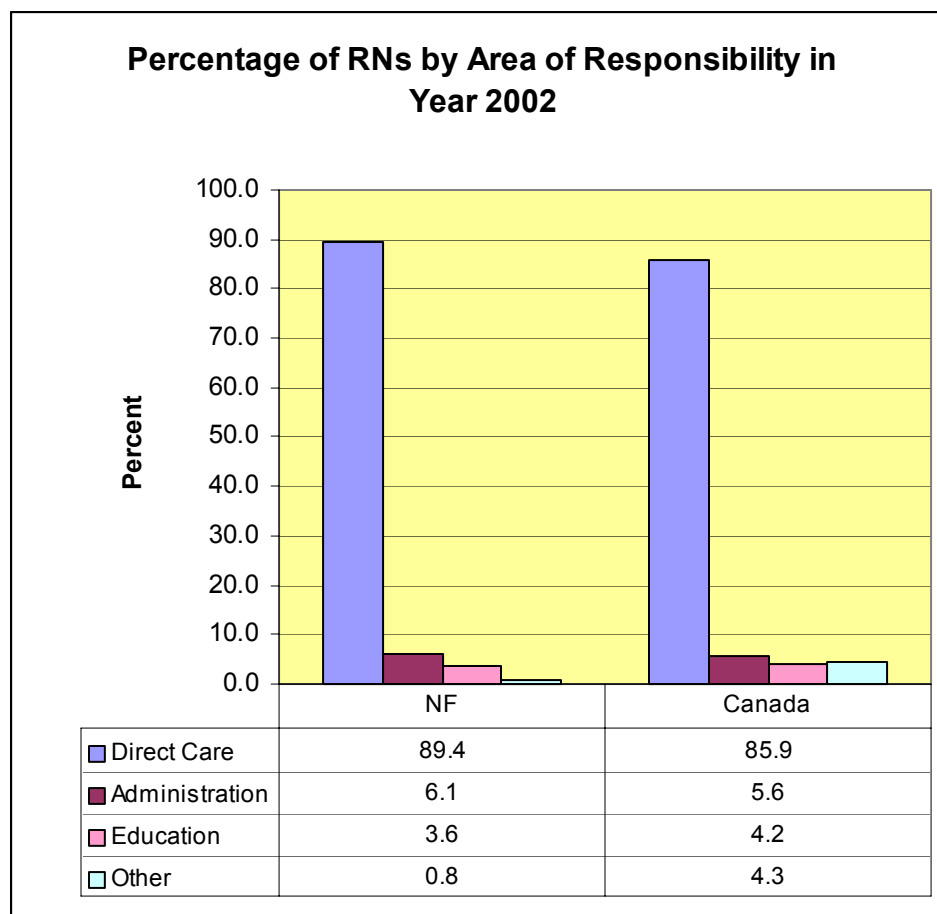
4. Employment Trends

4.1. Employment Status

Area of Responsibility

The percentage of RNs by area of responsibility for the year 2002 is shown in Figure 10:

Figure 10. Percentage of RNs by Area of Responsibility in 2002.



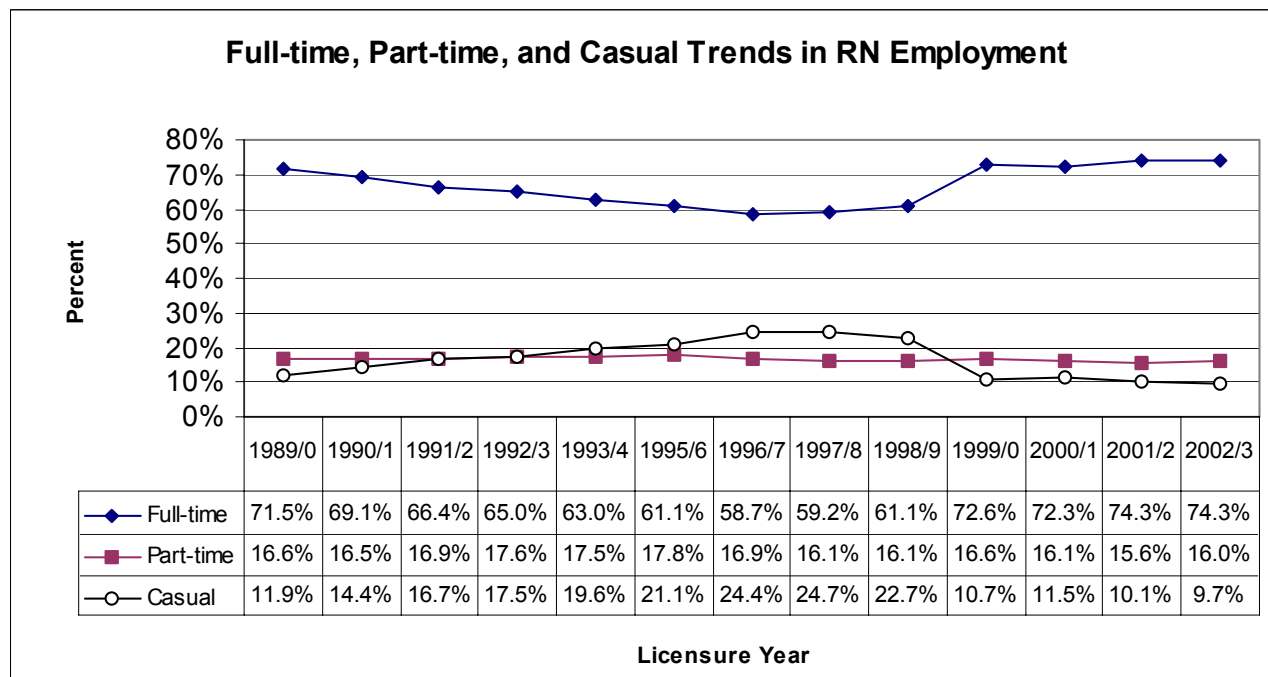
Source: Canadian Institute for Health Information, Workforce Trends of Registered Nurses in Canada, 2002 (2003).

NL has a higher percentage of RNs in direct care and administration (data is self reported and may include unionized RNs) and a lower percentage of RNs working in education and other roles, when compared to the national average.

Full-time, Part-time, and Casual

Present employment status is indicated on the RN registration form as full-time, part-time and casual. Trends are given in Figure 11:

Figure 11. Percentage of RNs by Full-time, Part-time and Casual Employment in Newfoundland and Labrador by Registration Year.



Source: Association of Registered Nurses of Newfoundland and Labrador, Annual Reports (1980 to 2003).

There was a steady rise in casual employment from 1990 to 1998, peaking at 24.7 per cent. Registration data for 2002/03 shows this trend has reversed with approximately 9.7 per cent of RNs reporting casual employment.

Table 12 shows the employment trends in Canadian provinces. Caution is noted where the Unknown category could significantly affect the other percentages. Caution should also be used when interpreting these figures as definitions for full-time and part-time may differ from jurisdiction to jurisdiction. As well, as discussed previously, CIHI data has limitations and may not compare to other data equally. (Further discussion is contained in Limitations of the Report, section 1.2.)

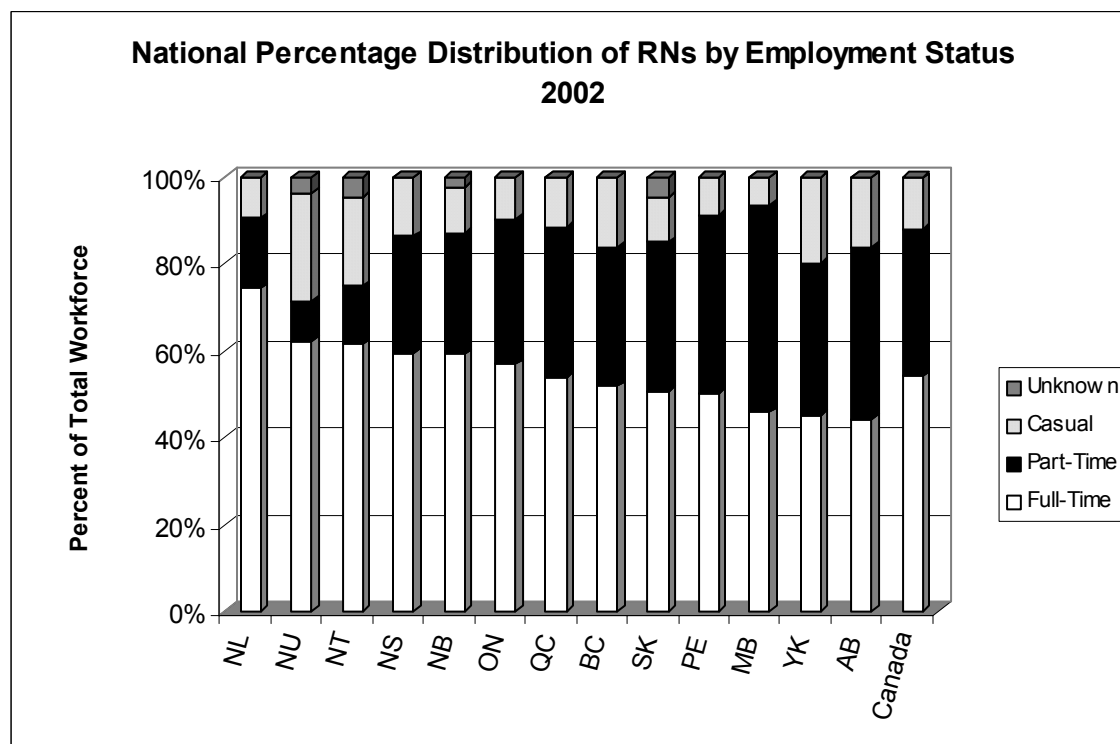
Table 12. Percentage Distribution of RNs by Derived Employment Status in Canada, 2002.

Province	Full-Time	Part-Time	Casual	Unknown
NL	74.4%	16.1%	9.5%	0.0%
NU	62.3	9.2	24.9	3.7
NT	61.4	13.3	20.5	4.7
NS	59.5	26.8	13.7	0.0
NB	59.1	27.8	10.6	2.4
ON	56.9	33.3	9.8	0.0
QC	54.0	34.3	11.7	0.0
BC	51.8	32.1	16.1	0.0
SK	50.6	34.3	10.4	4.7
PE	50.3	40.8	8.9	0.0
MB	45.9	47.6	6.5	0.0
YK	45.2	34.9	19.9	0.0
AB	44.2	39.6	16.2	0.0
Canada	54.1	33.8	11.8	0.3

Source: Canadian Institute for Health Information, Workforce Trends of Registered Nurses in Canada, 2002 (2003).

The data shows that NL currently has the highest proportion of RNs employed on a full-time basis at 74.4 per cent. The 2002 national picture is shown graphically in Figure 12:

Figure 12. National Percentage Distribution of RNs by Employment Status in 2002.



Source: Canadian Institute for Health Information, Workforce Trends of Registered Nurses in Canada, 2002 (2003).

4.2. Employer Types

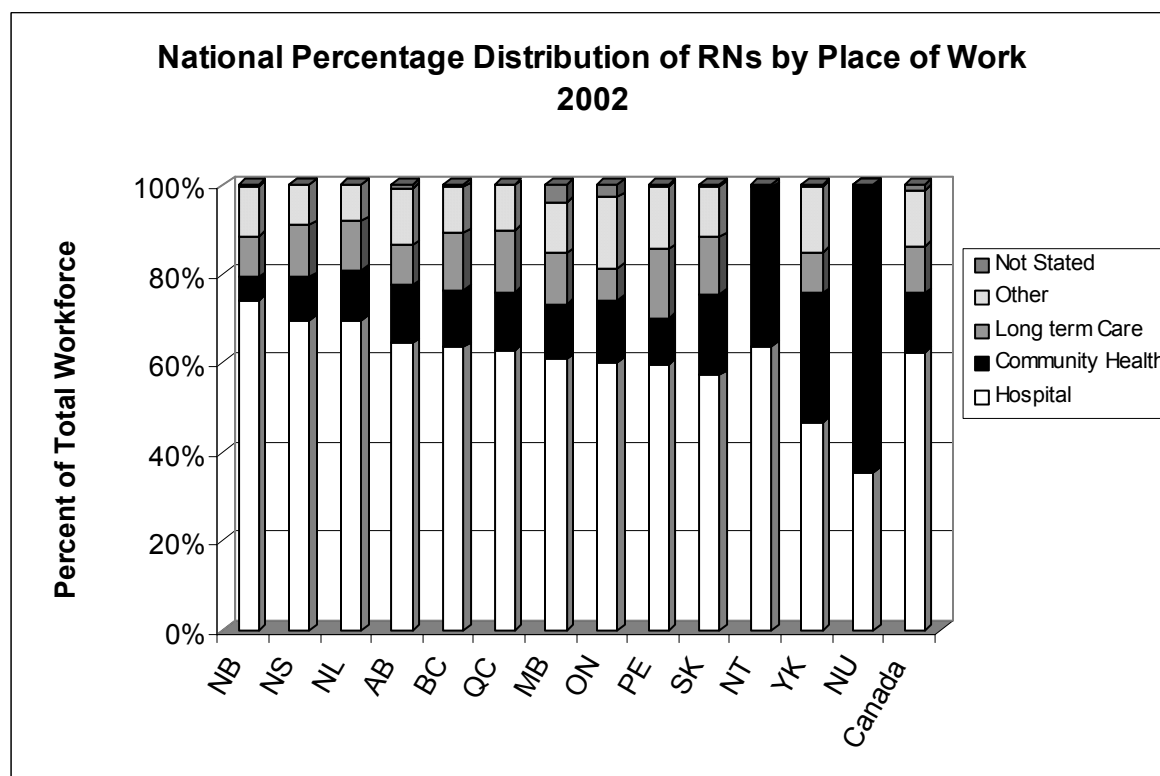
The national picture shows differences in the distribution of RNs by place of work. This is given in Table 13:

Table 13. National Percentage Distribution of RNs by Place of Work in 2002.

Province	Place of Work				
	Hospital	Community Health	Long term Care	Other	Not Stated
NB	74.1%	5.1%	9.2%	11.2%	0.4%
NS	69.7	9.6	11.7	9.0	0.0
NL	69.6	11.0	11.1	8.2	0.0
AB	64.4	13.1	8.9	12.7	0.9
BC	63.4	12.7	13.0	10.3	0.5
QC	62.7	13.2	14.0	10.0	0.1
MB	60.7	12.4	11.4	11.6	3.8
ON	60.1	14.0	7.2	15.9	2.7
PE	59.7	10.3	15.5	14.2	0.2
SK	57.2	18.1	12.9	11.6	0.2
NT	55.2	31.0	n/a	n/a	0.4
YK	46.7	29.0	9.2	14.7	0.4
NU	30.8	56.0	n/a	n/a	0.0
Canada	62.5	13.2	10.6	12.4	1.3

Source: Canadian Institute for Health Information, Workforce Trends of Registered Nurses in Canada, 2002 (2003).

The data shows that NL has the third highest proportion of RNs employed in hospitals as their place of work. Graphically this data is shown in Figure 13:

Figure 13. National Percentage of RNs by Place or Work in 2002.

Source: Canadian Institute for Health Information, Workforce Trends of Registered Nurses in Canada, 2002 (2003).

4.3. Wellness of Registered Nurses

There are a number of statistics that examine the wellness of RNs, including sick leave and workplace injury leave. All lost-time hours are measured in terms of full-time equivalents (FTEs). A FTE is defined as the total number of earned hours divided by the “normal” earned hours in the same year. The total number of earned hours is the sum of the total number of worked hours and benefits hours. The normal earned hours for RNs is 1950 hours in one year. In fiscal 2000/01, the total number of FTEs lost due to illness and injury was 350.3 (232.9 for sick leave and 117.4 for workplace injury leave). Injury Leave is normally work injury related. The Workplace Health, Safety, and Compensation Commission (WHSCC) compensates employees for injuries occurred in the workplace under specific guidelines.

Sick Leave

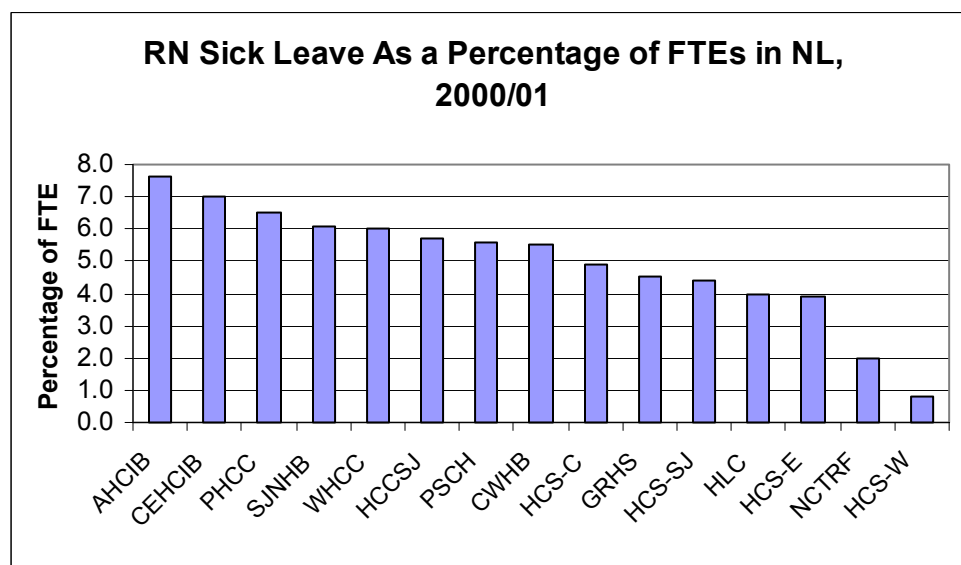
In fiscal year 2000/01, the total sick leave for unionized RNs employed in health boards was 232.9 FTEs, or 110.8 sick leave hours per FTE, or 89.7 sick leave hours per employee. Sick leave FTEs accounted for 5.7 per cent of all earned hours that year. RN sick leave by health board as a percentage of all earned hours is presented in Table 14 below.

Table 14. RN Sick Leave as a Percentage of FTEs in NL, 2000/01

Health Board	Sick Leave FTEs	Total FTEs	Sick Leave As a Percentage of FTEs
AHCIB	15.4	204.0	7.6
CEHCIB	16.3	233.6	7.0
PHCC	15.0	230.3	6.5
SJNHB	10.3	168.5	6.1
WHCC	30.4	507.9	6.0
HCC-SJ	109.2	1928.3	5.7
PSCH	0.6	10.1	5.6
CWHB	14.0	252.0	5.5
HCS-C	4.3	88.7	4.9
GRHS	4.9	108.2	4.5
HCS-SJ	3.7	85.0	4.4
HLC	5.1	128.8	4.0
HCS-E	2.7	68.4	3.9
NCTRF	0.6	28.0	2.0
HCS-W	0.4	56.6	0.8
Total	232.9	4098.4	5.7

Source: Newfoundland and Labrador Health and Community Services Human Resources Sector Study, Health Human Resources Indicator Report 2000/2001, (2002).

AHCIB had the highest rate of sick leave at 7.6 per cent of RN FTEs in 2000/01. Sick Leave for RNs by health board as a percentage of FTEs is shown graphically in Figure 14.

Figure 14. RN Sick Leave by Health Board as a Percentage of FTEs

Source: Newfoundland and Labrador Health and Community Services Human Resources Sector Study, Health Human Resources Indicator Report 2000/2001, (2002).

Workplace Injury Leave

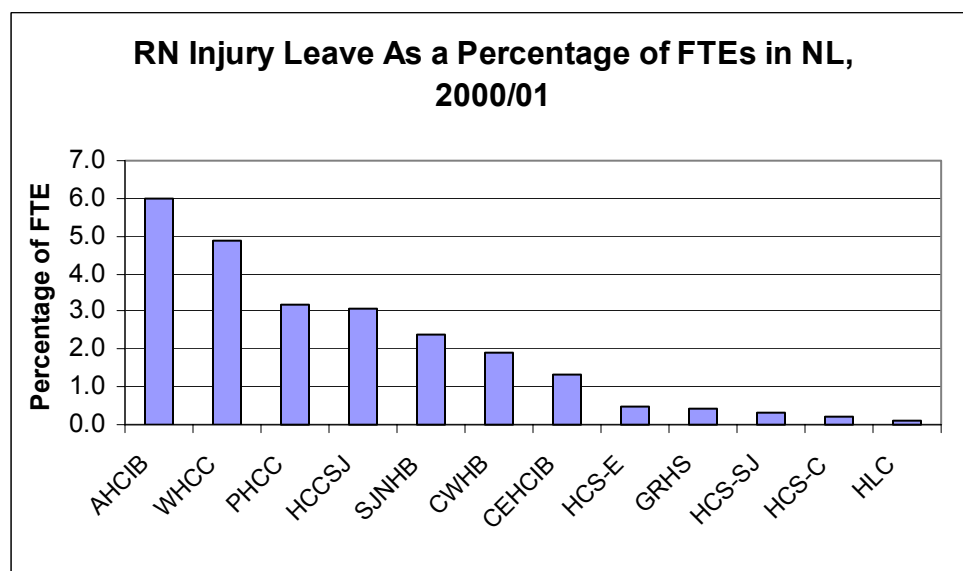
In fiscal year 2000/01, the total injury leave for unionized RNs employed in health boards was 117.4 FTEs, or 56.6 injury leave hours per FTE, or 50.8 injury leave hours per employee. Injury leave FTEs accounted for 2.9 per cent of all earned hours that year. RN injury leave by health board as a percentage of all earned hours is presented in Table 15.

Table 15. RN Injury Leave as a Percentage of Total RN FTEs in NL, 2000/01.

Health Board ¹	Injury Leave FTEs	Total FTEs	Injury Leave As a Percentage of FTEs
AHCIB	12.3	204.0	6.0
WHCC	25.0	507.9	4.9
PHCC	7.3	230.3	3.2
HCCSJ	59.5	1928.3	3.1
SJNHB	4.1	168.5	2.4
CWHB	4.8	252.0	1.9
CEHCIB	3.1	233.6	1.3
HCS-E	0.3	68.4	0.5
GRHS	0.4	108.2	0.4
HCS-SJ	0.3	85.0	0.3
HCS-C	0.2	88.7	0.2
HLC	0.1	128.8	0.1
HCS-W	0.0	56.6	0.0
NCTRF	0.0	28.0	0.0
PSCH	0.0	10.1	0.0
Total	117.4	4098.4	2.9

Source: Newfoundland and Labrador Health and Community Services Human Resources Sector Study, [Health Human Resources Indicator Report 2000/2001](#), (2002).

Injury leave for RNs by health board as a percentage of FTEs is shown in Figure 15.

Figure 15. RN Injury Leave as a Percentage of Total RN FTEs in NL, 2000/01.

Source: Newfoundland and Labrador Health and Community Services Human Resources Sector Study, Health Human Resources Indicator Report 2000/2001, (2002).

Workplace injuries for RNs consist mainly of “sprains, strains, or tears” of the “back, spine, or trunk” due to “overextension in lifting” (HRPU, Review of Workplace Health and Safety Compensation Commission Claims By Public Health Care Employees In Newfoundland and Labrador, 2002). Provincial data shows that in the fiscal year 2000/01, RNs were injured at a rate of one in 16 RNs while LPNs were injured at a rate of one in ten LPNs. Not all injuries lead to a claim or lost time. The rates reflect new incidents only within that fiscal year (HRPU, Health Human Resources Indicator Report 2000/01, 2002).

4.4. Focus on Nurse Practitioners

Graduates

The Centre for Nursing Studies (CNS) offers a Primary Health Care (PHC) Nurse Practitioner (NP) post RN Certificate. This Nurse Practitioner Program prepares registered nurses to collaborate with other health care practitioners in the provision of primary health care services. The program is available on a full-time basis every year and is available on a part time basis every second year. Applicants who enroll full-time complete the program in four semesters (16 months). Applicants who enroll part time complete the program in seven semesters; program completion time may vary for applicants with relevant prior learning. The program is also available through distance delivery (primarily web-based) where RNs can pursue the program and continue to work and live in their communities.

Table 16 illustrates the number of RNs who have completed or are expected to complete the PHC NP post RN Certificate.

Table 16. Number of Graduates from the CNS PHC Nurse Practitioner post RN-Certificate.

Year of Graduation	Enrolled	Capacity	Graduates
1998	14	16	12
1999	15	16	12
2000	13	16	12
2001	0 ¹	16	0 ¹
2002	12	20	9
2003	14 ²	20	14
2004	19 ²	20	17

Source: Centre for Nursing Studies, 2003.

Notes:

¹ No graduates in 2001 due to the fact that in 2000 the program was extended from 12 months to 16 months. For this reason, applicants who were accepted into the program in 2000 did not start until January 2001 and did not graduate until April 2002.

² Includes both full-time and part-time students.

In addition to the NP Program offered at CNS, MUN offers a Masters of Nursing (MN) – Nurse Practitioner Degree and a Post Masters Nurse Practitioner Diploma. All applicants must hold a practicing license from the ARNNL or must be currently registered as a practicing nurse in another Canadian jurisdiction.

Candidates seeking admission to the MN Nurse Practitioner degree option must have two years of clinical experience preferably in their chosen specialty area. As well, candidates must have confirmation from a health care agency and a clinical preceptor guaranteeing the candidate a preceptored clinical placement for the final semester of their program. Candidates seeking admission to the Post MN Practitioner diploma must have completed a MN or an equivalent degree with a nursing focus and have two years of clinical nursing experience preferably in their chosen specialty area. As well, candidates must have confirmation from a health care agency and a clinical preceptor guaranteeing the candidate a preceptored clinical placement for the final semester of their program. (Memorial University of Newfoundland, 2003)

Nurse Practitioner Workforce

In 2002/03, there were 59 NPs licensed in the province, 56 were PHC NPs and 3 were Specialist NPs (with 2 cardiovascular and 1 neonatology). As of July 2003, 52 of the licensed NPs were currently practicing in the province.

Table 17. Number of Nurse Practitioners By Employer, July 2003.

Employer	# of NPs
Avalon Health Care Institutional Board	1
Central East Health Care Institutional Board	5
Central West Health Corporation	7
Grenfell Regional Health Services Board	7
Health and Community Services - Eastern Board	1
Health Care Corporation of St. John's	8
Health Labrador Corporation	3
Peninsulas Health Care Corporation	2
St. John's Nursing Home Board	3
Western Health Care Corporation	6
Educational Institutions: CNS and MUN	6
Private Employers	3
TOTAL	52

Source: Association of Registered Nurses of Newfoundland and Labrador, July 2003.

There were seven PHC NPs who were currently licensed but not practicing in NL as of July 2003.

The average age of NPs who are currently practicing in the province is 42.5 years. From 2003 to 2013, there is estimated to be seven NPs who will turn age 58, five more reaching early retirement eligibility, and none reaching normal retirement eligibility.

Level of Education

Approximately 75 per cent of NPs currently working in the province are diploma-prepared as their highest level of education. All of the Specialist NPs are Masters prepared.

Table 18. Highest Level of Education of Nurse Practitioners Currently Working in Province.

2003	Newfoundland and Labrador	Per cent
Diploma	39	75.0%
Bachelors of Nursing	10	19.2%
Masters of Nursing (3 specialists)	3	5.8%

Source: Association of Registered Nurses of Newfoundland and Labrador, July 2003.

Of the PHC NPs, 45 graduated from a program in NL, five graduated outside of the province, and six are licensed under a competency assessment program.

4.5. Focus on Faculty

The supply of faculty for education programs in nursing (which includes university/college faculty and school of nursing administration faculty) is a topic attracting increasing attention in recent years. In particular, ongoing issues such as increased enrollments in schools of nursing, higher numbers of faculty approaching retirement age, and a limited number of Masters/Doctorate programs across the country have generated concern on provincial, national and international levels regarding the availability of faculty for nursing education programs.

For the purposes of this report, faculty are defined as individuals who teach students, have an RN background and a practicing license in NL, and teach at Memorial University of Newfoundland School of Nursing (MUNSON), CNS, or Western Regional School of Nursing (WRSON). Only this specific group of faculty was reported on (except where stated otherwise).

Faculty Demographics

In November 2003, there were 115 nursing faculty at the three schools of nursing in NL. The faculty teach nursing students in a variety of programs at the different schools, which include: BN (Collaborative) Program, MN, LPN, and NP programs. In NL, there is currently no Doctorate program available. Table 19 indicates the employment status for the nursing faculty with approximately 74 per cent employed on a full-time basis.

Table 19. Faculty Employment Status Teaching in the Three Schools of Nursing in Newfoundland and Labrador, November 2003.

Employment Status	Number	Percentage
Full-time	85	73.9%
Part-time	21	18.3%
Casual ¹	9	7.8%
Total	115	100.0%

Source: Association of Registered Nurses of Newfoundland and Labrador (November 2003) registration data.

Note:

¹ Casual faculty are employed casually or sessionally in the schools of nursing. The casual faculty teach in clinical settings, laboratories, or other areas where needed throughout the school year. Some casual faculty may have positions elsewhere. The number of casual faculty can change from semester to semester.

Aging Faculty

In November 2003, the percentage of RNs employed in the three schools of nursing in NL who were over the age of 45 years was 59.1 per cent. The average age of RNs employed in the three schools of nursing in NL was 46.5 years. This is older than the provincial average age (40.6 years) for all nurses (CIHI, 2003). An age profile of the nursing faculty as of November 2003 in the three schools of nursing is presented in Table 20.

Table 20. Age Profile of Faculty Teaching in the Three Schools of Nursing in Newfoundland and Labrador, November 2003.

Age Cohorts	Number of Faculty by Age Cohort	Percentage of Faculty by Age Cohort
25-29	1	0.9%
30-34	9	7.8%
35-39	13	11.3%
40-44	24	20.9%
45-49	28	24.3%
50-54	23	20.0%
55+	17	14.8%
Total	115	100.0%

Source: Association of Registered Nurses of Newfoundland and Labrador (November 2003) registration data.

Faculty Level of Education

Table 21 details the highest level of education among the faculty in this province. In November 2003, Masters prepared faculty were approximately 61 per cent of the total nursing faculty in the three schools of nursing.

Table 21. Number of Faculty by Highest Level of Education Teaching in the Three Schools of Nursing in Newfoundland and Labrador, November 2003.

Highest Level of Education	Number	Percentage
Baccalaureate (graduated or pending)	37	32.2%
Masters	70	60.9%
Doctorate	8	7.0%
Total	115	100.0%

Source: Association of Registered Nurses of Newfoundland and Labrador (November 2003) registration data.

Issues related to the supply of nursing faculty are being felt in the MN degree program at MUN. The university is experiencing faculty shortages in key areas of expertise and those with a completed Doctorate degree (e.g. maternal/child health) (C. Orchard, personal communication, September 24, 2002). In November 2003, only seven per cent of faculty in the three schools of nursing in NL was Doctorate prepared. The introduction of a non-thesis option in the MN program has allowed MUN to increase student enrollments resulting in fewer existing faculty being engaged with thesis advising (i.e. two faculty members per student for the thesis program vs. one faculty member per student for the non-thesis program). In 2001, there was a 60 per cent increase in enrollment into the MN degree program over the previous year. Many of these students study part-time, often doubling the length of the program from two to four years or more (maximum length of program part-time is seven years). In Fall 2003, 33 new students were accepted into the MN degree program at MUN, 10 on-campus and 23 distance education students.

4.6. Focus on Management and Supervisory Positions

Changes in the number of management/supervisory positions are given in Table 22:

Table 22. Management and Supervisory Position Trends by Registration Year in Newfoundland and Labrador.

Fiscal Year	Chief Nursing Officer/Director and Assistant/Associate Director	Manager/Assistant Manager	Total Management /Supervisory Positions	Management/ Supervisory Position/100 Nurses ¹
	A	B	C=A+B	
1985/86	113	344	457	9.6
1986/87	131	396	527	10.9
1987/88	116	385	501	10.1
1988/89	120	389	509	10.2
1989/90	132	434	566	11.0
1990/91	130	450	580	10.9
1991/92	129	464	593	11.0
1992/93	120	471	591	10.8
1993/94	124	466	590	10.6
1994/95	119	434	553	9.9
1995/96	105	408	513	9.1
1996/97	101	388	489	8.8
1997/98	86	325	411	7.5
1998/99	108	322	430	7.8
1999/00	132	308	440	8.1
2000/01	88	382	470	8.4
2001/02	89	401	490	8.8
2002/03	97	404	501	8.9

Source: Statistics Canada, Health Statistics Division, Registered Nurses Management Data (1985 - 1998). Canadian Institute for Health Information, Workforce Trends of Registered Nurses in Canada, (1999-2002).

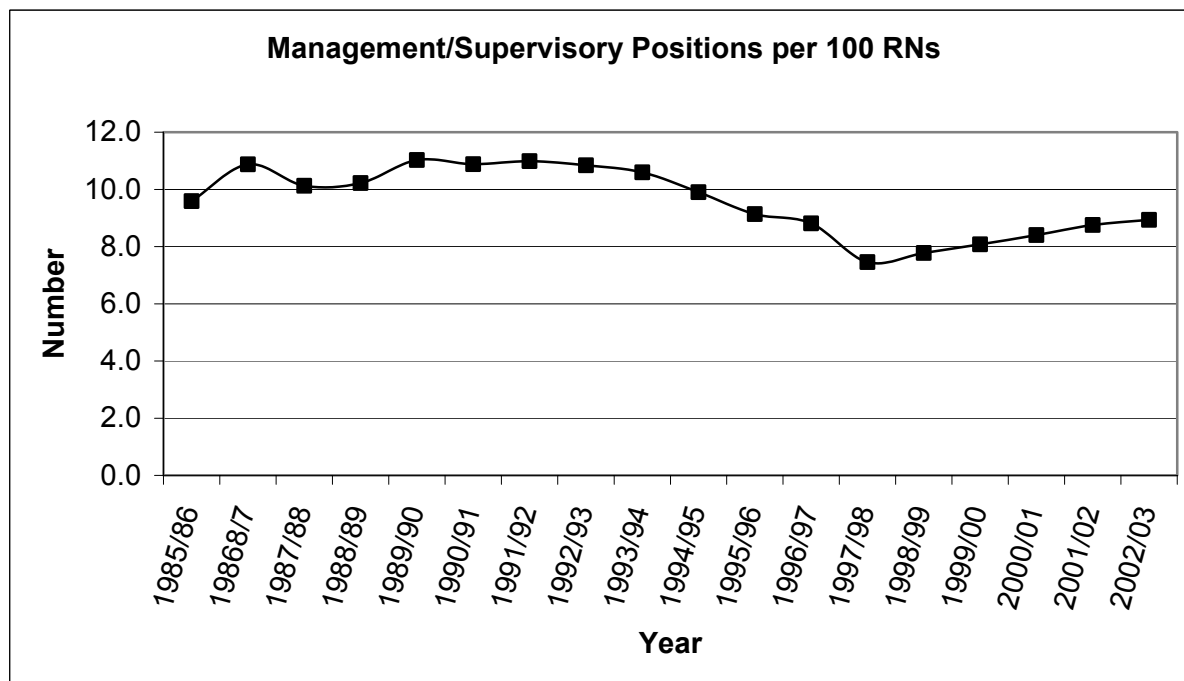
Notes:

¹ The number of management/supervisory positions per 100 nurses is calculated to show the trend and is not a true measure of span of control for individual managers and supervisors who often manage various types of staff. Management/supervisory positions may include unionized nurses due to self-reporting.

There was a steady drop from 1991/92 from 11 RNs in management/supervisory positions per 100 RNs to a low of 7.5 in 1997/98, reflecting a loss of 182 positions. The trend has reversed in the last four years, but has not returned to previous levels.

The trend in supervisory positions per 100 RNs is shown in Figure 16:

Figure 16. Management and Supervisory Position Trends per 100 RNs in Newfoundland and Labrador by Registration Year.



Source: Statistics Canada, Health Statistics Division, [Registered Nurses Management Data](#) (1985 - 1998). Canadian Institute for Health Information, [Workforce Trends of Registered Nurses in Canada, 2002](#) (2003).

In a program management model of health care delivery, these management/supervisory positions may also be responsible for allied health personnel, LPNs, and other support staff, in multiple clinical settings.

There is a wide range of spans of control within this ratio with some nurse managers indicating that as many as 100 employees report to them, and others with very few or none (ARNNL, 2003). Faculty, government staff and others are included in the total number of nurse managers. Additionally, some managers are responsible for staff across several sites or locations.

Management Survey and Audit

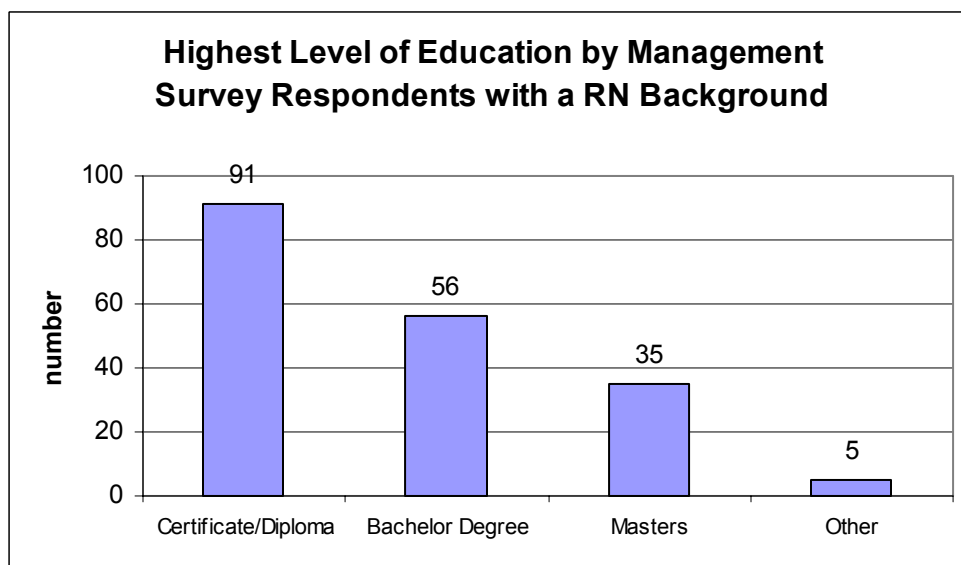
A recent study of management trends in NL included the development of a demographic profile of health and community services system managers in this province. A survey process was used as one component of the study, and of the 569 surveys returned (58 per cent response rate), 187 responses were from managers with a RN background employed by a provincial health board. Highlights from the survey and audit report include the following:

- The average age of survey respondents with a RN professional background was 46 years. Approximately two-thirds (68 per cent) of RN respondents were between the ages of 41 and 55 years.
- Seventy-eight per cent of survey respondents with a RN professional background indicated their primary area of responsibility as clinical/program management.

- Twenty per cent of survey respondents with a RN professional background had more than 50 employees reporting to them; these respondents comprise 64 per cent of the overall management survey respondents who fall within this cohort.
- Fifty-eight per cent of survey respondents with a RN professional background stated that they expected to retire in the next ten years.

Figure 17 shows that 91 (49 per cent) survey respondents with a RN background indicated that a Certificate/Diploma was their highest level of education obtained. An additional 56 (30 per cent) identified a Bachelor’s degree (30 per cent) as their highest level of education obtained.

Figure 17. Highest Level of Education Obtained by Management Survey Respondents with a RN Background



Source: Newfoundland and Labrador Health and Community Services, [A Study of Newfoundland and Labrador’s Health and Community System Managers – A Report of the Management Survey and Audit](#) (April 2003).

Twenty-nine per cent of survey respondents with a RN background reported pursuing further education.

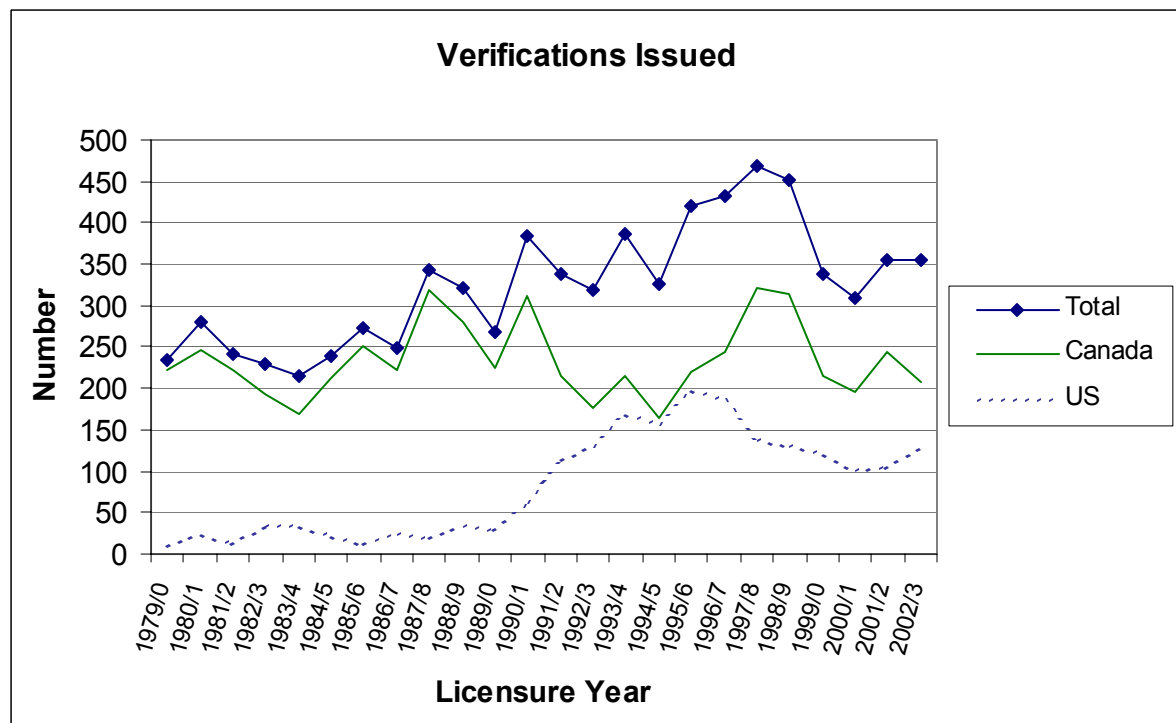
5. Mobility of Registered Nurses

5.1. Migration

RN migration is difficult to measure directly. A proxy measure of the intent to migrate is the number of requests the ARNNL receives to forward verification of registration documents to another regulatory body. As one RN may generate several verifications to explore possibilities for employment, yet may never leave, these numbers must be viewed with caution. Note also that a verification can be requested for a RN who has been out of practice in NL for many years but who is required to provide proof of original registration when seeking registration in another jurisdiction.

The trend in verification issued by ARNNL is shown in Figure 18:

Figure 18. Verifications Issued by ARNNL within Canada or to the United States by Registration Year, 1979/80 - 2002/03.



Source: Association of Registered Nurses of Newfoundland and Labrador (2003).

There has been a notable spike in verification requests from 1995/96 to 1998/99. The RN workforce has moved through regular cycles of shortage and surplus for several decades, provincially, nationally and internationally. During periods of RN surplus, increased migratory activity would be expected. The 1996/97 period is an example of the response to lack of RN positions available in the province.

In the 1990s a shift was noted with a decline in verifications sent within Canada, and an increase in verifications sent to the United States (US). In response to the increasing shortages of RNs in North America, recruiters from other provinces and the US have increased activities in recent years through local job fairs and advertising.

5.2. Net Change in Practicing Registered Nurses

Table 23 outlines licensure trends of RNs in NL including practicing and non-practicing licenses.

Table 23. Practicing Licenses by Registration Year, 1991 to 2003.

Fiscal Year	Practicing Licenses	New Registrants			Renewals ³ (to Practicing Licenses)	Net Change in Renewals ⁴
		Source: NL ¹	Source: Other ²	Total		
91/92	5397	269	51	320	5077	-252
92/93	5452	306	40	346	5106	-291
93/94	5568	300	30	330	5238	-214
94/95	5584	278	27	305	5279	-289
95/96	5617	266	19	285	5332	-252
96/97	5549	277	26	303	5246	-371
97/98	5511	260	24	284	5227	-322
98/99	5528	250	21	271	5257	-254
99/00	5447	46	35	81	5366	-162
00/01	5592	162	50	212	5380	-67
01/02	5596	159	38	197	5399	-193
02/03	5609	176	32	208	5401	-195

Source: Association of Registered Nurses of Newfoundland and Labrador, 2003.

Notes:

¹ Initial registrants graduating from NL nursing schools. Note that the number of initial registrants may differ slightly from the number of graduates because graduates may fail the national exam, graduates may attend school elsewhere and return to NL to write the national exam, delay registration until the following year, or choose not to work and therefore not require a practicing license.

² Initial registrants are from outside NL. Average per year equals 32.7.

³ Renewals can include any nurse who was registered at least once in NL. This can include RNs with practicing licenses, non-practicing membership, or lapsed memberships who may or may not be working within the province or away.

⁴ The net change in renewals means the net change overall in the current year verses the previous year when all factors are included. For example, in 1999/00, one might expect 5528 practicing members from the previous year plus 81 new registrants for a total of 5609 practicing members. In fact there were actually 5447, or a net change of 162 less renewals.

Note that RN retirement estimates shown in Table 9, section 2.4 are approximately one quarter of the net loss in practicing registrations with the ARNNL in recent years.

Data in Table 23 shows how variable this net change in renewals can be. The figure for 2000/01 shows a small net loss (67) which is probably due to the class of 2000/01 filling the void left by the very small class of 1999/00 i.e. two small classes meeting the demand normally addressed by two larger sized classes. Additionally, in the same year the provincial government created 125 new positions and converted some 400 positions from casual to permanent status. Salary increases and incentive packages also impact retention statistics.

Table 24 further analyses net changes for the last five registration years.

Table 24. Account of Net Change in Practicing Licenses 1997 to 2003.

Fiscal Year	Net Change in Renewals ¹	RNs renewing to a practicing license from non-practicing or lapsed license	New RN Graduates from previous year not renewing practicing licenses in current year	Other RNs not renewing practicing licenses
	A=B-C-D	B	C	D
1998/99	-254	108	109	253
1999/00	-162	154	79	237
2000/01	-67	153	15	205
2001/02	-193	105	37	261
2002/03	-195	91	26	260

Source: Association of Registered Nurses of Newfoundland and Labrador, 2003.

Note:

¹ Column A is taken from Table 23.

Table 24 shows that in each year there are RNs who return to the workforce (Column B – assuming that RNs obtaining practicing licenses actually work - some may obtain a practicing license but choose to retire or drastically reduce their workload) and many more who leave the workforce (Column C and D). Historically, new registrants (those entering the NL workforce for the first time) usually offset the net loss. This has led to an overall increase in the number of practicing RNs in the province and a steady-state system in recent years.

This fluctuating movement of RNs highlights the difficulty in predicting changes in the workforce. RNs obtain non-practicing memberships, let their licenses lapse, or return to a full practicing license, for many and varied reasons. Planning is further challenged by the fact that these statistics reflect licenses only, and do not reflect labour force participation. Considering the trend in net change in practicing licenses from Table 23, it is reasonable to expect an annual net loss of 242 plus or minus a variation of 51. These figures were considered in the formulation of a five-year RN forecast, the results of which are summarized in the following section.

6. Forecast

The Final Report (July 2003) from the Newfoundland and Labrador Health and Community Services Human Resource Planning Steering Committee provides a forecast of supply and demand for RNs in this province. Forecasting involves estimating the inputs and outputs of the current workforce now and into the future, and estimating changes in the overall need for health human resources. Forecasting consists of two main areas: supply and demand. Supply forecasts are concerned with the flow of people into and out of the workforce. To forecast demand, one must consider population requirements, the health system's response to these requirements (i.e. models of care), and finally how the system's nursing requirements are met. It is important to note that in this definition of demand, the system providing health services is in itself an important driver of demand, and perhaps the most important to consider for most occupations.

Summarizing the supply forecast only, the net projected supply gap in the next five years, from 2003 to 2007 inclusive, is between 149 to 201 RNs, cumulative. In this scenario, retention of

new graduates is critical; if less than 65 to 67 percent are retained the need could rise. Similarly, if RNs retire earlier than 58 on average, the gap could increase. The vacancy rate for RN positions has been fairly constant in recent years, with some annual variances based on turnover between 150 and 250 vacancies (including permanent, casual, and temporary positions) in health boards. Note that these vacancies also represent movement within and between provincial health boards. System reforms are an important consideration for narrowing the projected gap. If a five percent reduction in the need for RNs (250 RNs) is achieved over five years, the gap could possibly be closed, however this would require aggressive reforms in the short-term. Also, if absenteeism was decreased, the need for RNs could be reduced. The following table summarizes the supply forecast findings.

Table 25. Summary of Registered Nurse Forecast to 2007.

REGISTERED NURSES	ESTIMATES >>	BOARD LEVEL	PROVINCIAL LEVEL
Workforce (number of employees including managers)		5400	5600
Vacancies ¹ (number as of March 2003)		218	Unknown
Projected Retirements (number turning 58, 2003 to 2007, including managers)		402	417
Total Requirements ² (total supply required 2003 to 2007)		962	996
Total Graduate Supply ³ (number from NL 2003 to 2007)			671
Total Other Supply (number other than graduates 2003 to 2007)			150
Potential Surplus ⁴ (+) or Gap (-) (cumulative 2003 to 2007)			-149 to -201
Forecast: The overall number of graduates and other sources of registered nurses will not meet the needs of the workforce in the next five years. Reduced absenteeism could reduce total requirements for this group. The implementation of elements of the strategic health plan could reduce requirements for registered nurses. Rural areas require special attention to avoid shortages. Close annual monitoring is required.			

Source: Newfoundland and Labrador Health and Community Services Human Resource Planning Steering Committee, Final Report (July 2003).

Notes

¹ Vacancies are provided for information purposes only and is not factored into the forecast. The number does not include management positions.

² Based on provincial retirements and a constant estimated percentage of the workforce of about 2.1 percent leaving for reasons other than retirement.

³ Total graduates from 2003 to 2007 expected to be 1019. Factoring in a retention rate of 65 percent in 2003 increasing to 67 percent in 2007 yields 671 effective supply.

⁴ Range estimated based on a projected gap of -175 plus or minus 15 percent.

7. Conclusion

This report has highlighted a number of trends and issues concerning RN human resources in NL. The current RN workforce is comprised of approximately 5600 individuals, which has been relatively constant over the past 12 years. Comparing RNs nationally, NL has the second highest RN to population ratio in the country and the highest number of RNs in full-time positions. Although NL has the youngest RN workforce in Canada, an aging workforce is a factor in areas

such as long-term care and faculty where many RNs are over age 45. Within the RN workforce, retirement estimates suggest that in each successive year for the next decade, 11 more RNs are estimated to retire, a total of approximately 1200 by 2013. These retirement estimates also include RNs in supervisory/management positions as well as those working outside health boards.

Since the early 1990s, the supply of new graduates from schools of nursing into the workforce in NL has been reduced significantly however the overall number of registered nurses in the province has remained constant. From 1991 to 2000, total nurse graduates in Canada also decreased. In NL, graduates from the BN (Collaborative) Program have steadily risen since the first graduating class of 2000. Although RN migration is difficult to measure directly, many RNs move to other jurisdictions each year including new graduates. Wellness is also an important issue in today's RN workforce. Trends show approximately 350 RN FTEs are lost annually to sick and injury leave.

Three specialty groups within the RN workforce were examined in this report; NPs, faculty and management. All three groups are generally older than the overall RN workforce. The number of RNs in supervisory/management positions has dropped steadily from 1991/92 to 1997/98. This trend has begun to reverse but not to previous levels. NPs and faculty require specialized and advance education and therefore long term planning is required to sustain these groups.

Under current conditions and trends, the forecast to 2007 of the projected gap in supply of RNs is a gap of 149 to 201. The combined factors of declining graduate numbers, increasing retirement rates, and the out-migration of RNs, will challenge the ability of employers to meet the staffing requirements of the health system. Provincial planners can anticipate a steady requirement for more RNs in the future. It is important to note that this report only addresses the supply side of the forecasting equation. The report does not consider demand factors that will have a major impact on the future need for RNs. Ongoing monitoring is needed.

8. Bibliography

1. Advisory Committee on Health Human Resources (March 2000). Towards a Nursing Strategy for Canada: A Consultation Paper for Stakeholders. Ottawa, ON: Health Human Resource Planning Section, Policy and Consultation Branch, Health Canada.
2. Association of Registered Nurses of Newfoundland and Labrador (1954 to 2003). Annual Reports. St. John's, NL.
3. Canadian Healthcare Association (July 1999). Health Human Resources Review Nursing: National Resources, Initiatives and Issues. Ottawa, ON.
4. Canadian Institute for Health Information (May 2000). [On-line] Available: <http://www.cihi.ca/Roadmap/HHRDBD/start.htm>
5. Canadian Institute for Health Information (2001). Supply and Distribution of Registered Nurses in Canada, 2000. Ottawa, ON.
6. Canadian Institute for Health Information (2002). Supply and Distribution of Registered Nurses in Canada, 2001. Ottawa, ON.
7. Canadian Institute for Health Information (2003). Supply and Distribution of Registered Nurses in Canada, 2002. Ottawa, ON.
8. Canadian Nurses Association (June 2000). [On-line] Available: <http://www.cna-nurses.ca/frames/resources/statsframe.htm>
9. Canadian Nurses Association (June 2002). Planning for the Future: Nursing Human Resource Projections. Ottawa, ON.
10. Centre for Health Services and Policy Research [Electronic Data Tables]. (1998). Vancouver, BC: University of British Columbia.
11. Centre for Nursing Studies, Memorial University School of Nursing, & Western Regional School of Nursing (1997 to 2003). Graduate Data. St. John's, NL.
12. Elliott, D. (October 1999). Labour Market Analysis Saskatchewan Nursing. Regina, SK: Government of Saskatchewan, Saskatchewan Health.
13. Groupe de recherche interdisciplinaire en santé, Faculté de sciences infirmières, Département d'administration de la santé (December 1999). The Nursing Labour Market in Canada: Review of the Literature Report. Montréal, QC: Université de Montréal.
14. Health and Community Services Human Resource Planning Committee (July 2003). Final Report. St. John's, NL: Government of Newfoundland and Labrador.

15. Human Resource Planning Unit, Department of Health and Community Services (April 2003). A Report of the Management Survey and Audit. St. John's, NL: Government of Newfoundland and Labrador.
16. Human Resource Planning Unit, Department of Health and Community Services (2002). Health Human Resources Indicator Report 2000/01. St. John's, NL: Government of Newfoundland and Labrador.
17. Human Resource Planning Unit, Department of Health and Community Services (2001). Registered Nurse Supply Report 2000/01. St. John's, NL: Government of Newfoundland and Labrador.
18. Human Resource Planning Unit, Department of Health and Community Services (April 2003). Retirement Analysis. St. John's, NL: Government of Newfoundland and Labrador.
19. Human Resource Planning Unit, Department of Health and Community Services (March 2002). Review Of Workplace Health and Safety Compensation Commission Claims By Public Health Care Employees In Newfoundland and Labrador 1990-1999. St. John's, NL: Government of Newfoundland and Labrador.
20. Memorial University of Newfoundland (2003). Nursing Program of Study [On-line]. Available: <http://www.mun.ca/sgs/prospectus/framenursing.html>.
21. O'Brien-Pallas, L., Meyer, R., Alksnis, C., Tomblin-Murphy, G., Williams, S., Thomson, D., Luba, M., & Lemonde, M. (2002) Evaluation of Part One of Strategy 7 of Nursing Strategy for Canada. Ottawa, ON: Health Canada.
22. Orchard, C., personal communication, Sept 24, 2002.
23. Pensions Administration Division, Department of Finance. PSPP Eligibility for Pension Benefit [On-line]. Available: <http://www.gov.nl.ca/fin/pensions/guide4.asp>.
24. Pensions Administration Division (May 2000). Projected Retirements Data. St. John's, NL: Government of Newfoundland and Labrador.
25. Ryten, E. (September 1997) A Statistical Picture of the Past, Present and Future of Registered Nurses in Canada. Ottawa, ON: Canadian Nurses Association.
26. Statistics Canada, Health Statistics Division (1985 – 1998). Registered Nurses Management Data. Ottawa, ON: Canadian Institute for Health Information.
27. Statistics Canada (May 2000). Population [On-line]. Available: <http://www.statcan.ca/english/Pgdb/People/Population/demo02.htm>