

**Licensed Practical Nurse  
Supply Report 2000/2001  
Newfoundland and Labrador**

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## **Executive Summary**

The education of Licensed Practical Nurses (LPNs) in this province is a one-year diploma program currently offered at the Centre for Nursing Studies (CNS) and brokered by the CNS to a number of sites throughout the province. The diploma program was revised in 1996 with the integration of theory and practice, introduction of preceptorship, and the addition of new courses such as professional issues, caring relationships, community health, medication administration, I.V. Therapy, and new nursing skills. Since 1997, all graduates have completed this expanded curriculum. The Practical Nursing Program is 12-months duration.

Since 1988, the program has been offered at 15 sites throughout the province, with more than 1600 graduates.

The LPN workforce in this province is comprised of approximately 2900 individuals. The total number of LPNs has slowly increased over the last 12 years by 13 percent. Newfoundland and Labrador has the highest ratio of licensed practical nurses per population in Canada and the highest ratio of LPNs per RN.

There has been a dramatic increase in the number of LPNs 45 years old or over in the past 12 years. At present, 42.1 percent of the LPN population is 45 or older. Annual LPN retirements are expected to increase more than three-fold from 32 in 2001 to 106 in 2007. From 2008 to 2014 the number is expected to decline slightly.

There has been a steady rise in the casual and temporary workforce, fluctuating from 26.4 percent in 1988 to 37.8 percent in 2001. The majority of LPNs, 61.9 percent, work in a long-term care setting. Nursing homes employ 47.0 percent of the LPNs with a further 45.7 percent reporting employment in hospital settings.

The variability in the annual number of graduates and the net change in practicing licenses means it is difficult to predict, with any certainty, future shortfalls (or surpluses) in the supply of LPNs. The nature of the brokering process means LPNs can be educated within a short timeframe as required to suit needs at a local level. This process is currently under review.

Changes in the demand for LPNs have not been considered in this report, but it is recognized that they may be substantial. Additionally, the role of unregulated workers in the delivery of health services has not been considered in this report.

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## 1. Introduction

### 1.1. Background

In September 1999, a Steering Committee was established through the Department of Health and Community Services, to study human resource (HR) planning. Three sub-committees were also established to represent the following groups:

1. Registered Nurses (RN)/Licensed Practical Nurses (LPN)
2. Allied Health Professionals
3. Physicians

The purpose of the RN/LPN Human Resource Planning Sub-committee is to:

- Advise the Steering Committee on current RN/LPN human resource issues;
- Advise the Steering Committee on plans to address the immediate priorities; and
- Co-ordinate and direct an integrated RN/LPN Human Resource Plan for the province into the future.

The Committee will identify realistic goals reflecting provincial and national labour market realities.

In the **short term**, the Committee shall:

1. Advise the Steering Committee on the current status of RN/LPN supply and demand in the province.
2. Advise the Steering Committee on strategies to address gaps and barriers to recruiting and retaining appropriate RN/LPN human resources in the province.
3. Work in partnership with the applicable stakeholders.

In the **medium term**:

1. Select, based on an in-depth analysis of global models, a model that can be used for provincial, integrated, RN/LPN human resources planning taking into account the fiscal capacity. In evaluating models, realities relating to data availability and collection need to be considered.
2. Make recommendations where applicable on changes in provincial human resource policy directions that support a stabilizing and appropriate workforce.

**In the long term:**

1. Applying the selected model, prepare a five-year forecast of the demand and supply for RNs/LPNs.
2. Make recommendations to address identified gaps between forecasted demand and supply that reflect fiscal and other realities.
3. Make recommendations concerning how to sustain RN/LPN human resource planning and to link this process on a timely basis with the province's annual budget process and provincial/employers' strategic planning.
4. Providing an advisory role in recruitment and retention strategies, the implementation of incentive programs in the Province, and school enrolment (undergraduate, postgraduate, and continuing education).

The Sub-committee will report to the Deputy Minister of the Department of Health and Community Services through the Provincial Human Resource Planning Steering Committee.

Other reporting relationships may exist based on established agreements or other sub-committee requirements. The Committee will provide regular reports to the Steering Committee.

## **1.2. Limitations of the Report**

Although the scope of information collected through the registration process with the Council for Licensed Practical Nurses (CLPN) is good, and the data is very consistent over the last 12 years, the analysis in this report is limited by the available information. The movement of LPNs out of the workforce is not well documented.

There has been very little national data collected on LPNs in Canada and the task of collecting, editing and analyzing the data is extensive. Collaborative efforts between the regulating authorities for LPNs within each province/territory, the Canadian Institute for Health Information (CIHI), and the Canadian Practical Nurses Association (CPNA), have resulted in a national minimum dataset for LPNs. CIHI is currently implementing this project and the first national report will be generated in May 2003.

## **2. Graduates**

The duration of the current Practical Nursing (PN) program is 12 months. It was originally offered through the College of Trades and Technology (since renamed the Cabot Institute and now part of the College of the North Atlantic).

Responsibility for the program was transferred to the CNS in 1996. The Centre operates within the Health Care Corporation of St. John's. This is the only permanent PN program in the province. The CNS brokered the program annually to the Western Regional School of Nursing (WRSN) in Corner Brook however this was discontinued in 2001. Additionally, the PN program is brokered to other areas of the province based on human resource need. At present there are four brokered sites with the College of the North Atlantic (CONA): Corner Brook, Grand Falls-Windsor, Gander, and Happy Valley-Goose Bay.

The process is as follows: A Health Board(s) identifies a need for LPNs. An educational organization working in collaboration with a Health Board applies to the CLPN for approval through the Education Committee. If approved, the CNS verifies that Standards and Criteria for Approval and Evaluation of Practical Nurse Program (1999) can be met to offer the program in that location and a contract is signed.

Since the PN program spans only 12 months and can be offered in multiple locations, the response to a need is swift and localized. The process is efficient and ensures that the supply of LPNs matches the demand.

Prior to December 1997, a graduate from the program was designated a Nursing Assistant (NA). At that time, the designation was changed to Practical Nurse (PN). All graduates of PN programs in Canada (except Quebec graduates) are required to write the National Certification Exam (CPNRE). Prior to 1996 the exam had one core component. Some provinces required instruction in two further components: Medications and IV Therapy before an LPN could be eligible to practice, leading to the effort to upgrade the national exam. In 1996 these two components were added.

Upon transfer to the CNS, the program was revised to include these two components, and the 1997 class was the first to write all three parts of the national exam. In September 2001, instruction in Health Assessment and Intramuscular Injections were added to the PN program, and in September 2002 students will write all components of the revised (2001) CPNRE.

Because of these changes to the program, there exist significant differences in graduate competencies in the present LPN workforce. These differences create challenges in implementing scope of practice initiatives aimed at giving LPNs more responsibility.

A summary of the number of graduates since 1988 is given in Table 1:

**Table 1. Summary of Practical Nurse Graduates by Fiscal Year and Location.**

Fiscal Year	St. John's (CONA)	St. John's (CNS)	Carbonear (CONA)	Burin (CONA)	Bonavista (CONA)	Placentia (CONA)	Springdale (CONA)	Grand Falls (CONA)	Gander (CONA)	Baie Verte (CONA)	Corner Brook (CONA)	Corner Brook (WRSN)	Stephenville (CONA)	Goose Bay (CONA)	St. Anthony (CONA)	Total Graduates
1988	63												26			89
1989	66		19		13								21			119
1990	128		20			20	17		17		19				18	239
1991	112				14				18		18				17	179
1992	68			47											19	134
1993	35														18	53
1994	89									20						109
1995	63														27	90
1996	71						24		17		22					134
1997		46									19					65
1998		55										28				83
1999		51							24			29				104
2000		53						22				29				104
2001 <sup>1</sup>		54							36					15		105
<b>Total</b>	695	259	39	47	27	20	41	22	112	20	78	86	47	15	99	1607

Source: Council for Licensed Practical Nurses [CLPN] 2001

Note:

1. As of October 3, 2001

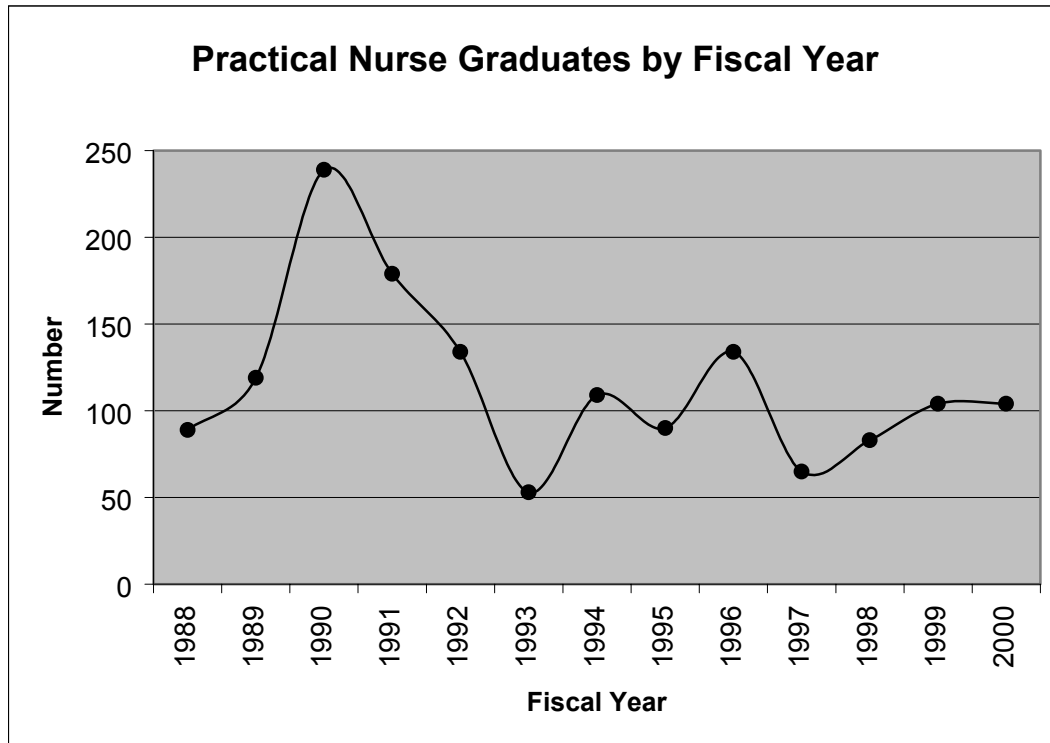
Note that (CONA) is indicated after several locations, but the name of the institution may have been different depending on the timing of the program.

The average number of graduates in the last five years' full data (1996 – 2000) equals 98 per year with a standard deviation of 26.

PN programs typically have many more applicants than available seats. For example, in 2000 there was an excess of 700 applicants for 122 seats.

The number of graduates is shown graphically in Figure 1:

**Figure 1. Summary of Practical Nurse Graduates by Fiscal Year**



Source: Council for Licensed Practical Nurses [CLPN] 2001

Data is summarized by health region (Health and Community Services Boards and Integrated Boards) in Table 2:

**Table 2. Summary of Practical Nurse Graduates by Fiscal Year and Health Region.**

Fiscal Year	St. John's Region	Eastern Region	Central Region	Western Region	Grenfell Region	Labrador Region	Total
1988	63	0	0	26	0	0	89
1989	66	32	0	21	0	0	119
1990	128	40	34	19	18	0	239
1991	112	14	18	18	17	0	179
1992	68	47	0	0	19	0	134
1993	35	0	0	0	18	0	53
1994	89	0	20	0	0	0	109
1995	63	0	0	0	27	0	90
1996	71	0	41	22	0	0	134
1997	46	0	0	19	0	0	65
1998	55	0	0	28	0	0	83
1999	51	0	24	29	0	0	104
2000	53	0	22	29	0	0	104
2001 <sup>1</sup>	54	0	36	0	0	15	105
<b>Total</b>	<b>954</b>	<b>133</b>	<b>195</b>	<b>211</b>	<b>99</b>	<b>15</b>	<b>1607</b>
<b>Graduates as a percent of the total graduates</b>	<b>59%</b>	<b>8%</b>	<b>12%</b>	<b>13%</b>	<b>6%</b>	<b>1%</b>	<b>100%</b>

Source: Graduate statistics: Council for Licensed Practical Nurses [CLPN] 2001, Catchment population: Government of Newfoundland and Labrador Department of Health and Community Services Board Services (Oct. 2001) Web Site

Note:

1. As of October 3, 2001

Continuing education initiatives were reevaluated in 1996 at the CNS with an employers' needs survey. Recent and upcoming CNS continuing education course offerings include:

1. Re-entry program started in February 1998. Sixty-one people have completed the program. Prior to 1998 the re-entry program was offered through Cabot College.
2. Medication Administration module started January 2000. Ninety people have completed the program.
3. Gerontology Course starting date to be announced - previously offered through the General Hospital and Cabot College.
4. Mental Health Course anticipated starting date September 2002 - previously offered through the Waterford Hospital.
5. Operating Room Technician Course is currently under development.

6. Employers have identified a need for a post-basic health assessment course, which is under development and anticipated to be available in the spring of 2002.
7. Other short workshops also available.

CNS in collaboration with MUN School of Nursing and WRSN are developing an LPN Bridging Program to enable graduates of current Practical Nursing Programs to enter the second year of the BN (Collaborative) Program. It is envisioned that the LPN Bridging Program will be comprised of transition courses offered in a semester preceding the start of year two of the BN (Collaborative) Program.

CLPN has been working with other regulating authorities for LPNs within each province and territory to achieve the common goal of improved labour mobility. Jurisdictions have increased their understanding of the ways in which the occupation is similar or different across the country, identifying barriers to worker mobility, and taking significant steps toward eliminating these barriers to accommodate each other's members. This agreement has established the conditions under which a practical nurse registered/licensed in one Canadian jurisdiction will have his/her qualifications recognized in another Canadian jurisdiction that is a party to the agreement. This is a requirement of the Labour Mobility Chapter of the Agreement on Internal Trade for all regulated professions, which came into effect in 1995.

### 3. Workforce

#### 3.1. Total Number of LPNs

The total number of LPNs in the province is given in Table 3.

**Table 3. Total Number of LPNs.**

Fiscal Year	Number of LPNs
1988	2566
1989	2659
1990	2848
1991	2810
1992	2817
1993	2751
1994	2853
1995	2833
1996	2838
1997	2797
1998	2809
1999	2859
2000	2905

Source: Council for Licensed Practical Nurses [CLPN] Annual Reports. (1988 to 2000).

The current LPN population is 13 percent male and 87 percent female.

The number of LPNs per 1000 population, RNs per 1000 population and the ratios of LPNs to 10 RNs, for all provinces for the year 2000 are given in Table 4:

**Table 4. LPN and RN to Population Ratios All Provinces 2000.**

Province	Number of LPNs <sup>1</sup>	Population <sup>2</sup>	LPNs per 1000 Population 2000	LPNs per 1000 Population 1998 <sup>3</sup>	Number of RNs <sup>4</sup>	RNs per 1000 Population	LPNs per 10 RNs
NF	2905	538,800	5.4	5.2	5394	10.0	5.4
PEI	638	138,900	4.6	4.5	1255	9.0	5.1
NS	3266	941,000	3.5	3.4	8699	9.2	3.8
NB	2662	756,600	3.5	3.4	7376	9.7	3.6
ONT	33,071	11,669,300	2.8	3.0	81,679	7.0	4.0
QUE	16,246	7,372,400	2.2	2.3	58,750	8.0	2.8
SASK	2059	1,023,600	2.0	2.1	8543	8.3	2.4
MAN	2540	1,147,900	2.2	2.0	10,051	8.8	2.5
AB	4770	2,997,200	1.6	1.3	22,172	7.4	2.2
BC	4987	4,063,800	1.2	1.3	27,730	6.8	1.8
YUK	67	30,700	2.2	Not available	237	7.7	2.8
NWT and NUN	112	69,800	1.6	Not available	526	7.5	2.1
<b>Total</b>	<b>73,323</b>	<b>30,750,000</b>	<b>2.4</b>	Not available	<b>232,412</b>	<b>7.6</b>	<b>3.2</b>

Sources:

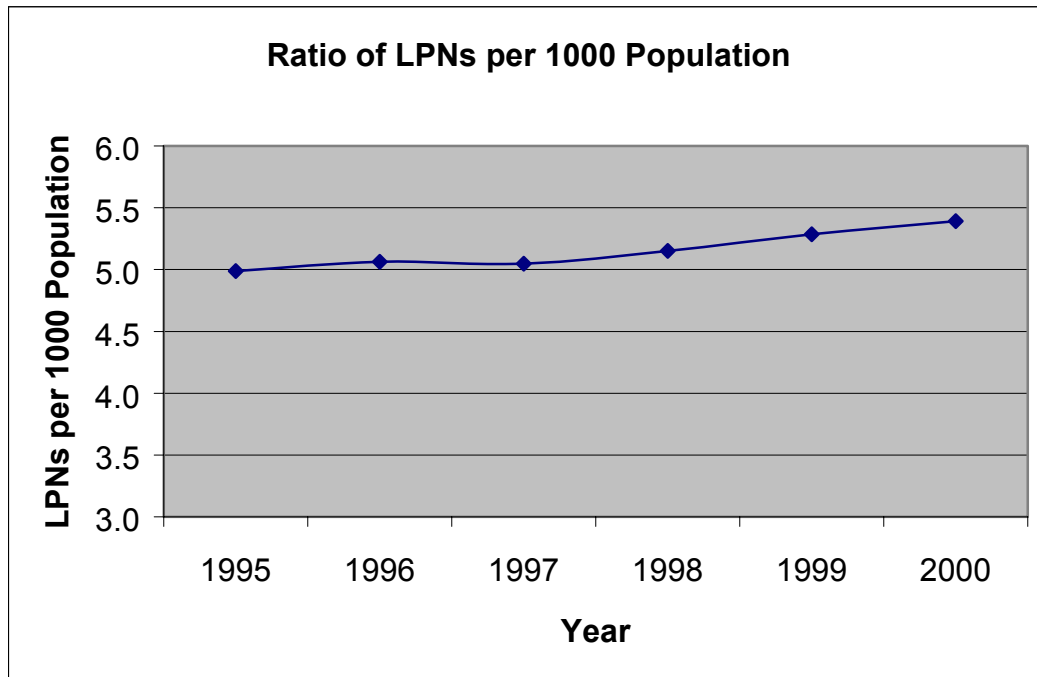
1. Licensed Practical Nurses Jurisdictional Registrars' Conference - 2001
2. Statistics Canada Population (May 2000). Statistics Canada Web Site
3. Licensed Practical Nurse Supply Report (July 2000)
4. Canadian Institute for Health Information [CIHI] Supply and Distribution of Registered Nurses in Canada 2000. 2001

There is a large range in the ratios, with Newfoundland and Labrador having the most LPNs per capita, almost twice the figure for Ontario and 4.5 times British Columbia. One possible explanation is that other provinces have a higher utilization of unregulated workers.

Table 4 indicates that Newfoundland and Labrador also has the highest number of RNs per population however the Northwest Territories and Nunavut were combined due to lack of LPN data to identify Nunavut separately. This masked the fact that the Northwest Territories had the highest ratio at 10.3 RNs to 1000 population.

Trends in the last five years show an eight percent increase in the number of LPNs per 1000 population in the province, going from 5.0 per 1000 population in 1995 to 5.4 per 1000 population in 2000. This is shown below in Figure 2.

**Figure 2. Ratio of LPNs per 1000 Population.**



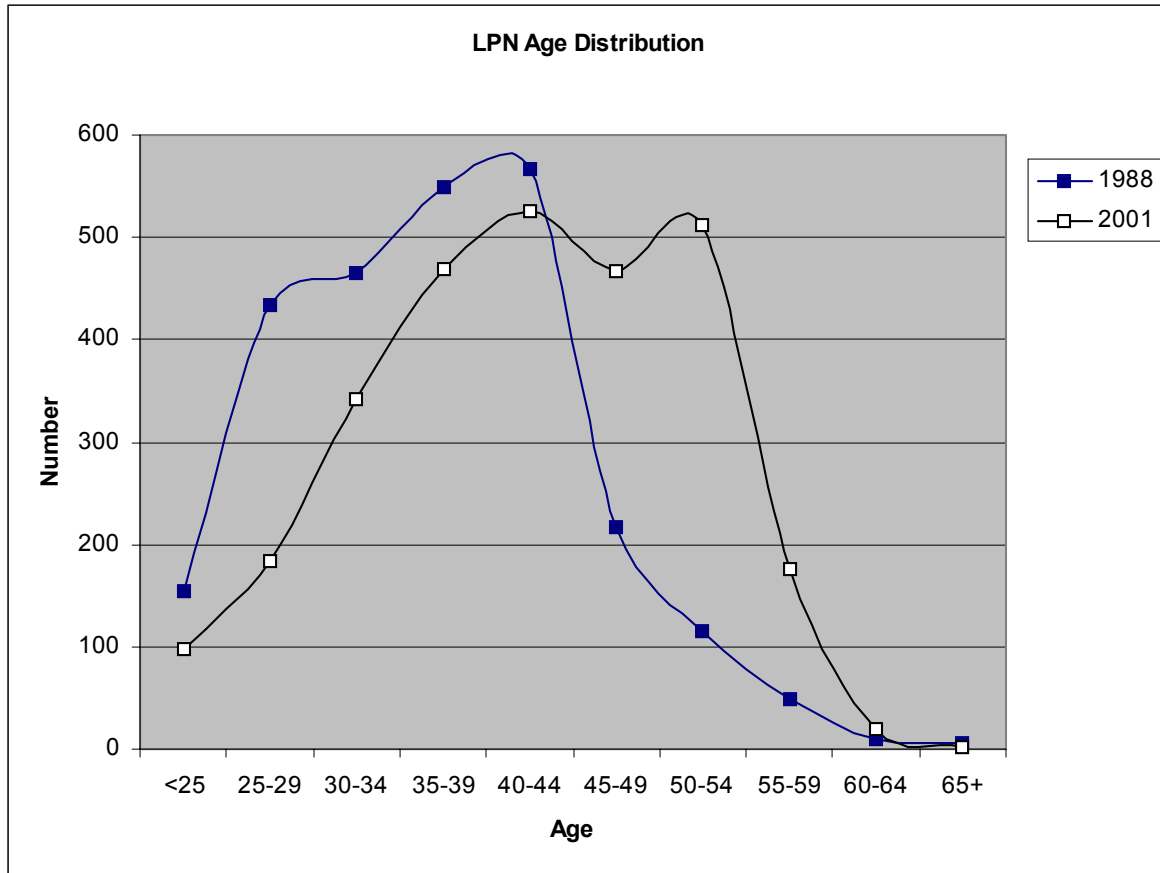
Source: Council for Licensed Practical Nurses [CLPN] Annual Reports. (1988 to 2000) and Statistics Canada Population (May 2000). Statistics Canada Web Site

This trend is due to a steadily decreasing provincial population, and an increase in the LPN population, over the last five years.

### 3.2. Demographics

Figure 3 below shows that in the past 12 years, the average age of working LPNs in the province has increased by approximately five years. The average age in the year 2001 is 42 years.

**Figure 3. LPN Age Distribution.**



Source: Council for Licensed Practical Nurses [CLPN] Annual Reports, (1988 to 2000) and 2001 data: Council for Licensed Practical Nurses [CLPN] Database for Registration Year 2000-2001 (October 29, 2001).

Table 5 shows a dramatic increase in the number of LPNs older than 45 over the last 13 years.

**Table 5. LPN Count by Age Group.**

Fiscal Year	Age										Percent 45 or older
	<25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+	
1988	154	434	465	549	567	217	116	49	10	5	15.5%
1989	144	440	464	496	651	268	136	50	7	3	17.5%
1990	226	405	494	483	688	339	144	58	11	0	19.4%
1991	246	360	477	458	650	383	164	58	13	1	22.0%
1992	215	351	466	474	623	454	156	59	19	0	24.4%
1993	150	356	447	474	530	518	186	71	16	3	28.9%
1994	115	334	482	491	503	598	228	83	17	2	32.5%
1995	85	334	435	514	489	596	280	81	18	1	34.5%
1996	65	334	407	530	478	579	335	89	18	3	36.1%
1997	62	288	394	505	480	553	393	100	21	1	38.2%
1998	66	232	405	506	496	495	466	115	27	1	39.3%
1999	84	198	370	530	500	478	509	156	33	1	41.2%
2000	94	187	364	477	536	483	538	192	29	5	42.9%
2001	97	184	342	470	525	468	512	176	20	1	42.1%

Source: Council for Licensed Practical Nurses [CLPN] Annual Reports, (1988 to 2000) and 2001 data: Council for Licensed Practical Nurses [CLPN] Database for Registration Year 2000-2001 (October 29, 2001).

In 1988 there were 397 LPNs 45 years or older, or 15.5 percent of the total. Today there are 1177 LPNs 45 years or older or 42.1 percent.

Some LPNs employed at the Health Care Corporation of St. John’s, Waterford Hospital Site, are eligible to retire earlier than other LPNs due to an agreement reached in 1977 known as the Hart Report. The effect of this agreement on retirements is not considered in Section 3.3.

### 3.3. Retirements

This section contains two estimates of LPN retirements. The first estimate is calculated using data from the Pensions Administration Division of the Provincial Department of Finance on years of service and age. The second analysis simply assumes LPNs retire at an average age of 58 (This is the average age of LPNs becoming eligible to retire with an unreduced pension as calculated from the pensions analysis). Section 3.3.3 combines both to estimate retirements to 2015.

### 3.3.1. Pensions Data

To produce this analysis, data on all LPNs participating in the provincial pension plan was obtained in 2000 and their earliest date to retire with an unreduced pension was calculated. The assumption is that LPNs will retire at or near their earliest date of unreduced pension as the penalty for retirement before that time is significant.

Results by Health Board are provided in Table 6:

**Table 6. Number of LPNs Becoming Eligible to Retire with an Unreduced Pension by Health Board by Calendar Year.**

Board <sup>1</sup>	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
AHCIB			3	4	3	4	6	10	8	6	7	3	4	4	4	<b>66</b>
CEHIB		1	2	2	7	2	5	9	4	6	8	6	2	3	4	<b>61</b>
CWHB	1	3	3	5	2	5	12	6	18	14	13	10	16	8	10	<b>126</b>
GRHS	1		1	1	1	3	3	5	6	1	3	4	3		3	<b>35</b>
HCCSJ	2	4	10	13	13	18	13	19	14	20	15	17	22	18	24	<b>222</b>
HLC		1			2			2	4	4	1	2	3			<b>19</b>
PHCC	2	2	1	2	5	1	6	7	5	7	3	2	1	2	2	<b>48</b>
SJNHB	5	6	8	10	14	14	23	14	20	19	16	11	9	11	11	<b>191</b>
WHCC		1	2	4	6	5	8	19	11	13	8	10	15	12	12	<b>126</b>
Other <sup>2</sup>				1			1	4		2	2	1				<b>11</b>
<b>Total (Boards)</b>	<b>11</b>	<b>18</b>	<b>30</b>	<b>42</b>	<b>53</b>	<b>52</b>	<b>77</b>	<b>95</b>	<b>90</b>	<b>92</b>	<b>76</b>	<b>66</b>	<b>75</b>	<b>58</b>	<b>70</b>	<b>905</b>
<b>Total (Province)<sup>3</sup></b>	<b>11</b>	<b>19</b>	<b>31</b>	<b>43</b>	<b>55</b>	<b>54</b>	<b>79</b>	<b>98</b>	<b>93</b>	<b>95</b>	<b>78</b>	<b>68</b>	<b>77</b>	<b>60</b>	<b>72</b>	<b>933</b>

Notes:

1. Acronyms for Health Boards:

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

2. "Other" Includes Health and Community Services - St. John's Region and Western Regional Health and Community Services. Combined to preserve confidentiality.
3. This amount estimated by assuming the total number of LPNs in Health Boards represents 97 percent of the total Provincial LPNs.

Boards with the highest total projected LPN retirements (up to the year 2014) as a percentage of the LPN workforce (LPN count as of December 31, 1999) are shown in Table 7:

**Table 7. Total Number of LPNs Becoming Eligible to Retire with an Unreduced Pension by 2015 by Board as a Percent of LPN Workforce.**

Board	Number of LPNs <sup>1</sup> (December 31, 1999)	Number of LPNs becoming Eligible (January 1 2000 to January 1 2015)	As a Percent of Total Workforce
HCCSJ	429	222	52%
GRHS	79	35	44%
CWHB	300	126	42%
CEHIB	172	61	35%
HLC	54	19	35%
AHCIB	218	66	30%
PHCC	160	48	30%
WHCC	424	126	30%
SJNHB	648	191	29%
Other	12	11	92%
<b>Total (Boards listed only)</b>	<b>2496</b>	<b>905</b>	<b>36%</b>

Source: 1: Provincial Health and Community Services Interim Human Resource Planning Report (July 2000).

“Other”, including Health and Community Services - St. John's Region and Western Regional Health and Community Services are projected to lose nearly all of their LPNs with unreduced pensions before 2015 however the figures are small. The Health Care Corporation of St. John’s is projected to lose the second highest percentage of its LPNs at 52 percent.

The average age of LPNs becoming eligible for an unreduced pension is 58 years. The above figures should be regarded as conservative. This is further explained in Section 3.3.3.

Note that the above numbers do not account for the 2520 people in the Government Money Purchase Pension Plan (GMPP) in 2000 that is made up from many professions. Just 348 of these employees were 50 years old or over (to approximate becoming eligible to retire in the next 15 years) in the entire province. It is unknown what percentage of these are LPNs. Human Resources staff at the HCCSJ believes that employees participating in the GMPP are not a significant consideration for retirements planning for LPNs due to their low average age and high turnover.

### 3.3.2. Age Data

Another method for estimating retirements is to assume that all LPNs retire at an average age of 58 years and determine how many will turn 58 in each of the next 14 years. Results are given in Table 8:

**Table 8. Number of LPNs Reaching Age 58 by Health Board by Calendar Year.**

Board <sup>1</sup>	Turned 58 before 2000 <sup>2</sup>	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
AHCIB	3	2	6	4	6	7	11	11	11	12	15	4	5	11	12	7	127
CEHCIB	3	1	3	7	5	8	12	7	11	10	8	9	4	6	13	15	122
CWHB	1	2	5	3	8	12	7	25	13	14	16	14	13	21	19	17	190
GRHS	1			1	5	3	6	2	1	3	4	5	5	3	5	4	48
HCCSJ	8	5	7	4	11	17	23	18	25	14	16	13	7	19	15	16	218
HLC	0		1	2	1	1	1	3	5	2	2	3	1	1	3		26
PHCC	3		2	4	2	4	7	7	5	4	8	4	6	3	5	3	67
SJNHB	12	7	10	13	8	27	16	24	22	15	15	12	12	13	13	13	232
WHCC	2	2	2	8	11	11	17	16	16	14	12	20	24	17	18	21	211
Total	33	19	36	46	57	90	100	113	109	88	96	84	77	94	103	96	1241

Source: Council for Licensed Practical Nurses [CLPN] Database for Registration Year 2000-2001 (November 26, 2001).

Notes:

1. Acronyms for 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
- HCS-C Health and Community Services - Central Region
- HCS-E Eastern Health and Community Services
- HCCSJ Health Care Corporation of St. John's
- HLC Health Labrador Corporation
- NCTRF Newfoundland Cancer Treatment & Research Foundation
- PHCC Peninsulas Health Care Corporation
- SJNHB St. John's Nursing Home Board
- WHCC Western Health Care Corporation

2. Note that because of the average age of retirement equal 58 years assumption, there are 33 LPNs that exceeded the age of 58 years before 2000 but still hold practicing licenses.

Boards with the highest total projected LPN retirements using the age analysis to the year 2014 as a percentage of the LPN workforce (LPN count as of December 31, 1999) are shown in Table 9:

**Table 9. Number of LPNs Turning 58 by 2015 by Board as a Percent of LPN Workforce.**

<b>Board</b>	<b>Number of LPNs<sup>1</sup> (December 31, 1999)</b>	<b>Number of LPN Turning 58</b>	<b>As a Percent of Total Workforce</b>
CEHCIB	172	122	71%
CWHB	300	190	63%
GRHS	79	48	61%
AHCIB	218	127	58%
HCCSJ	429	218	51%
WHCC	424	211	50%
HLC	54	26	48%
PHCC	160	67	42%
SJNHB	648	232	36%
<b>Total (Boards listed only)</b>	<b>2484</b>	<b>1241</b>	<b>50%</b>

Source: 1: Provincial Health and Community Services Interim Human Resource Planning Report (July 2000).

Note that because of the nature of the data available from the CLPN, employees for Health and Community Services - St. John's Region and Western Regional Health and Community Services could not be identified.

The analysis given in Table 7 using the Pensions data provides a different sort order than the analysis given in Table 9 that puts CEHCIB at the top with 71 percent rather than 35 percent in Table 7. This highlights that there may be a significant group of LPNs retiring with a reduced pensions or alternatively working beyond 58 years of age. The latter may have HR planning implications. Caution should be used when interpreting the figures as the Pensions analysis probably underestimates retirements. This is further discussed in Section 3.3.3.

Further analysis shows that LPNs reaching the age of 58 by 2015 are 49 percent in the CLPN categories "Hospital", 48 percent in "Long Term Care" and three percent in "Other". Hospital-based LPNs and Long Term Care-based LPNs will have similar rates of retirements according to the age analysis.

The CLPN Database provides several additional fields to capture specialized education. For example, if an LPN has specialized education in Mental Health and IV Therapy (categories taken directly from CLPN Database), both of these fields would be checked. The age summary by specialty is shown in Table 10:

**Table 10. Number of LPNs Reaching Age 58 by Specialized Education and Calendar Year.**

Calendar Year	Operating Room Technician	Urology	Mental Health	Medications	IV Therapy	Gerontology
58 before 2000	2		2			2
2000	1		1			2
2001	1		1			3
2002			1			3
2003	3		2	3	2	3
2004	1		4	2	1	4
2005	5	1	2	2	2	9
2006	6		3	3	2	12
2007	2	1	7	2	1	5
2008	7	2	2	7	3	3
2009	6	1	11	4	3	8
2010	1	1	7	4	2	5
2011	2	1	4	4	3	3
2012	2		3	4	2	6
2013	3		3	8	7	
2014			3	4	2	3
<b>Total</b>	<b>42</b>	<b>7</b>	<b>56</b>	<b>47</b>	<b>30</b>	<b>71</b>
Total listed in CLPN Database	44	13	102	172	117	143
<b>Total as a Percent</b>	<b>95%</b>	<b>54%</b>	<b>55%</b>	<b>27%</b>	<b>26%</b>	<b>50%</b>

Source: Council for Licensed Practical Nurses [CLPN] Database for Registration Year 2000-2001 (November 26, 2001).

Nearly 80 percent of Operating Room Technicians will turn 58 by the year 2010.

Due to individuals having multiple entries in the above categories, 431 individuals account for all 591 records. The vast majority of OR Techs in the province have no additional specialized training.

### 3.3.3. Retirement Estimates

The retirement analysis using the age assumption shows higher losses than the pensions analysis. It is important to note that given the high percentage of casual and temporary staff provided in Figure 6, is likely that the retirements projections based on the pensions analysis is too low as many LPNs will receive a reduced pension when they retire.

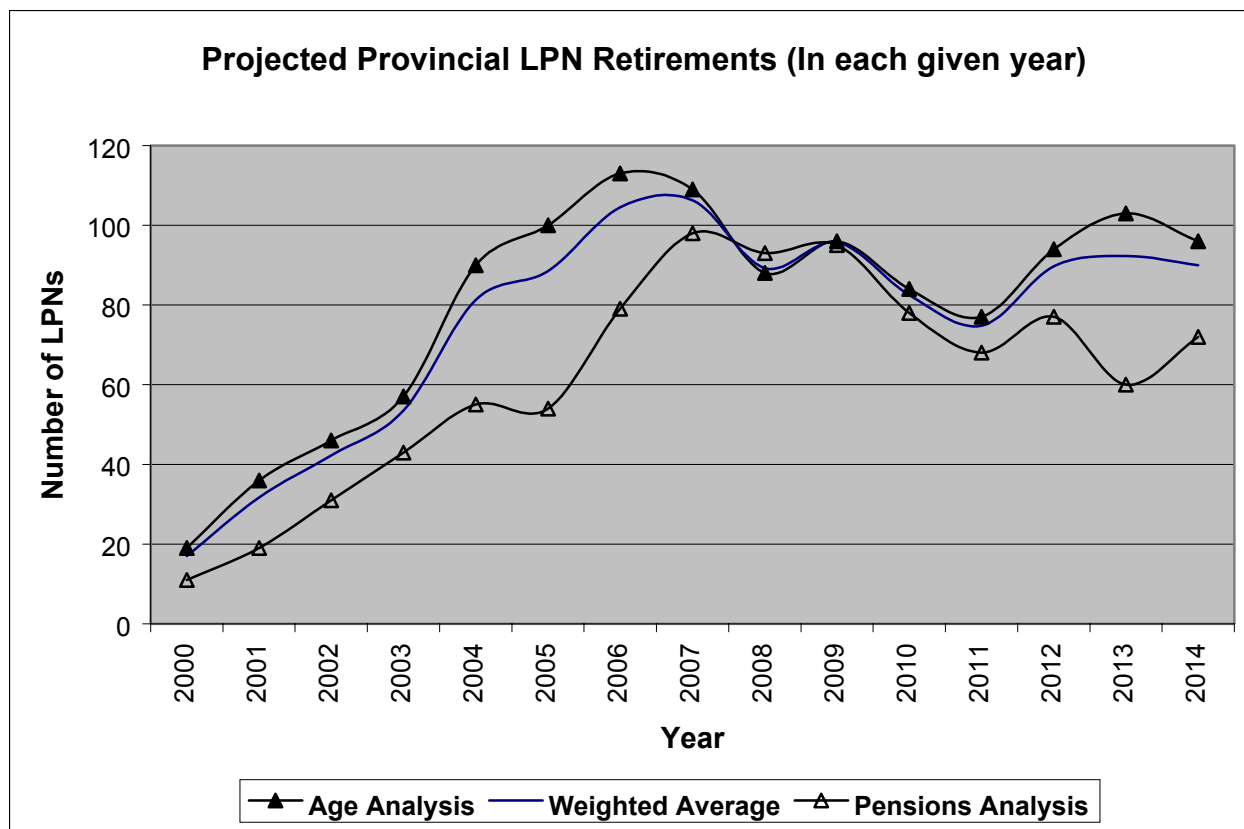
To factor in both analyses for supply forecasting, a weighted average is calculated. The age analysis is given 75 percent of the weight while the pensions analysis is given 25 percent. The latter is given less weight to acknowledge that there will be significant retirees with reduced pensions. This is assumed to be a good estimate of retirements; neither analysis should be considered in isolation. Summaries from both analysis and weighted averages are shown in Table 11:

**Table 11. Estimated Number of LPNs Retiring in Province by Calendar Year.**

Calendar Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
Pensions Analysis	11	19	31	43	55	54	79	98	93	95	78	68	77	60	72	933
Age Analysis	19	36	46	57	90	100	113	109	88	96	84	77	94	103	96	1208
<b>Weighted Average</b>	17	32	42	54	81	89	105	106	89	96	83	75	90	92	90	1139

Results in Table 11 are shown in Figure 4:

**Figure 4. Number of Potential LPN Retirements by Calendar Year.**



Retirements are expected to increase almost five-fold from 2000 to 2007.

### 3.4. Migration

Data on inter-provincial migration is difficult to obtain. Currently, the only indication of migration is in the number of verifications sent to other provinces from CLPN, although a request for verification does not guarantee this person is moving and may not be the only verification requested.

It is also important to note that initial registration with CLPN is not mandatory unless the person wishes to work in the province. If a graduate wishes to work in another jurisdiction, verification is still required even though initial registration with CLPN did not occur.

Figures are provided in Table 12:

**Table 12. Verifications Sent From CLPN.**

Fiscal Year	Ontario	Alberta	Nova Scotia	British Columbia	Yukon/NWT	New Brunswick	Saskatchewan	Manitoba	Prince Edward Island	Outside Canada	Total
1990	13	4						1		1	19
1991	25	3			1		1	1		1	32
1992	8	5	3	1	1		1				19
1993	4	3	4	1							12
1994	2	4	1	1							8
1995	11	5	8	8	1					1	34
1996	11	9	10	6	3	3	1		1		44
1997	9	19	7	6	9	2		1			53
1998	11	16	4	6	2		1	1	1		42
1999	11	5	5	9	3	2	5		2		42
2000	7	7	7	3	1	3	1	1			30
to Nov. 30, 2001	8	14	5	3	2	4					36
<b>Total</b>	<b>117</b>	<b>90</b>	<b>56</b>	<b>43</b>	<b>27</b>	<b>15</b>	<b>11</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>371</b>

Source: Council for Licensed Practical Nurses [CLPN] 2001

The average and standard deviation for totals in years 1995 to 2000 are 41 and 8 respectively. A reasonable range would be 1.44 standard deviations to cover 85 percent of all cases, or plus or minus 12. For example, one might expect 41 verifications in any given year, but it could as easily be as high as 53 or as low as 29. Caution is advised in using these figures for forecasting purposes, due to the inherent variability.

Figures are not readily available on the migration of LPNs into the province. Anecdotal evidence suggests an average of seven enter the province and obtain licensure annually.

### 3.5. Net Change in Practicing LPNs

The net change in practicing LPNs depends on several factors. Inputs include:

1. An estimated retention rate of 94 percent of new graduates
2. An estimated 5 to 10 LPNs from out of province registering in this province for the first time
3. LPNs completing a re-entry (previously known as refresher) program

The first and second were derived directly from the registration numbers, assigned consecutively to those obtaining licensure with CLPN. The third is known from re-entry program statistics, and it is assumed that the majority of these previously had registration numbers (licensure was introduced in 1985) and therefore do not get assigned new numbers. If a number was assigned in the past, it is reactivated.

Outputs are not so easily detailed as they include all LPNs who fail to renew a license for any reason. These reasons are many and varied, and change from year to year.

Given the above information it is possible to calculate the overall numbers of LPNs failing to renew licenses for each year. The figures are provided in Table 13:

**Table 13. Number of LPNs Failing to Renew Licenses.**

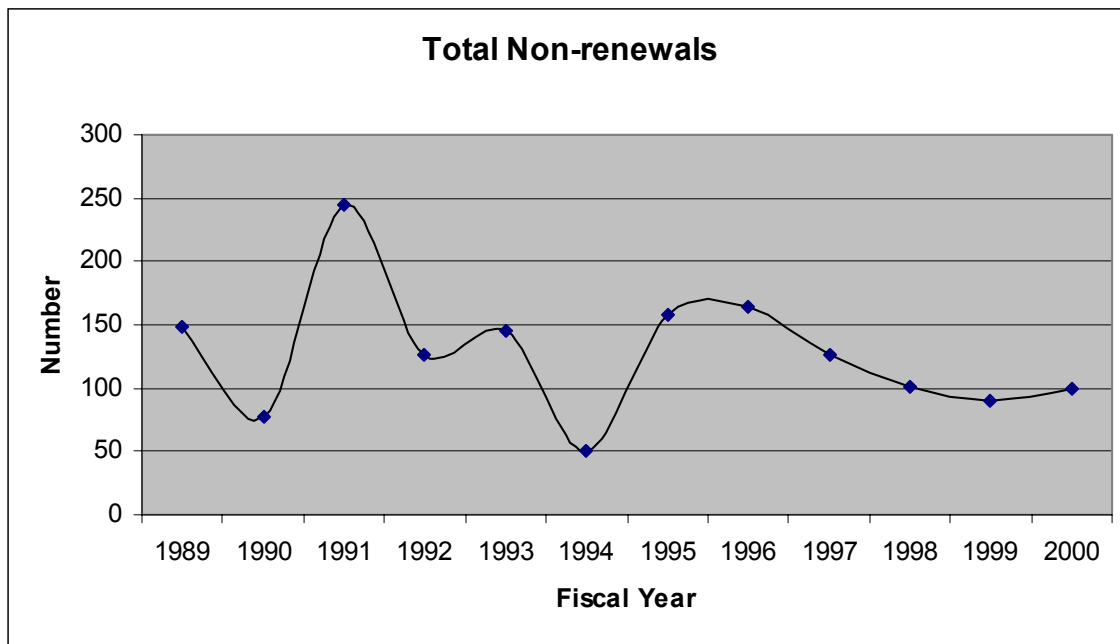
Fiscal Year	Total Registrations	Net Change	New Registrations	Re-entry	Total Non-renewing
		A	B	C	D
1988	2566				
1989	2659	93	203	39	149
1990	2848	189	248	19	78
1991	<b>2810</b>	-38	196	10	244
1992	<b>2817</b>	<b>7</b>	<b>127</b>	<b>6</b>	<b>126</b>
1993	2751	-66	79	0	145
1994	2853	102	134	19	51
1995	2833	-20	124	14	158
1996	2838	5	142	27	164
1997	2797	-41	85	0	126
1998	2809	12	100	13	101
1999	2859	50	121	19	90
2000	2905	46	120	26	100

Calculations above are best illustrated with an example: In fiscal year 1991 there were 2810 LPNs. In 1992 there were 127 new registrations and 6 reentries. If every LPNs renewed their license, the expected number of LPNs in 1992 would be 2943 (2810 + 127 + 6), but there were actually 2817 or a net change of seven more LPNs. This means that 126 LPNs failed to renew from a license held in 1991.

In general terms:  $D = | A - B - C |$

Graphically, the number of LPNs failing to renew licenses is shown in Figure 5:

**Figure 5. Number of LPNs Failing to Renew Licenses.**



There is no apparent pattern for which to predict this net loss of LPNs. The number of verifications is some indication of the movement of LPNs out of the province but in different years may account for nearly half of the non-renewals (42 verifications out of 90 non-renewals in 1999) or as little as eight percent (12 verifications out of 145 non-renewals in 1993).

Considering the Total Non-renewing column (D) and excluding the highest (1991) and lowest figures (1994), the average and standard deviation of the remaining figures are 124 and 30 respectively. A reasonable range would be 1.44 standard deviations to cover 85 percent of all cases, or plus or minus 43. For example, one might expect 124 in any given year to fail to renew in the subsequent year but it could as easily be as high as 167 or as low as 81.

A lapsed membership survey was administered for the first time in 2001. 163 surveys were mailed, 8 returned undelivered, 59 returned completed:

- 17 (29 percent) had left the province
- 20 (34 percent) on long-term sick leave
- 9 (15 percent) retired
- 4 (7 percent) on maternity leave
- 4 (7 percent) had new jobs not requiring licensure
- 5 (8 percent) other

It is impossible to know if these proportions truthfully represent the entire pool of non-renewals.

An LPN must work a minimum number of hours as an LPN to renew a license to practice. Basic requirements mean they must have a minimum of 1125 hours in the previous five years or 450 hours in the previous two years. Without these hours an LPN must complete a re-entry program.

### **3.6. Employment Type**

Present job type is indicated on the CLPN registration form as follows:

1. Permanent full-time (PFT). Typically 75 hours biweekly.
2. Permanent part-time (PPT). Typically 37.5 hours biweekly.
3. Temporary full-time (TFT). Typically 75 hours biweekly. For example, a maternity leave replacement position.
4. Temporary part-time (TPT). Typically 37.5 hours biweekly.
5. Casual full-time (CFT). Typically 75 hours biweekly.
6. Casual part-time (CPT). Typically 37.5 hours or less biweekly.

Employees under the Casual designation cannot participate in the group insurance plan unless a four-month continuous period of work is anticipated in the immediate future. Casual employees receive earned benefits such as annual leave and sick leave on a prorated basis.

It is noteworthy that the Newfoundland Association of Public Employees (NAPE) and Canadian Union of Public Employees (CUPE) do not recognize the Casual designation (or categories five and six above). It is assumed that these positions are officially designated as temporary. Caution is noted in the interpretation of these figures as it is left to the discretion of the registering practical nurse to self select the category and may not be consistent throughout the workforce.

Trends in employment types are shown in Table 14.

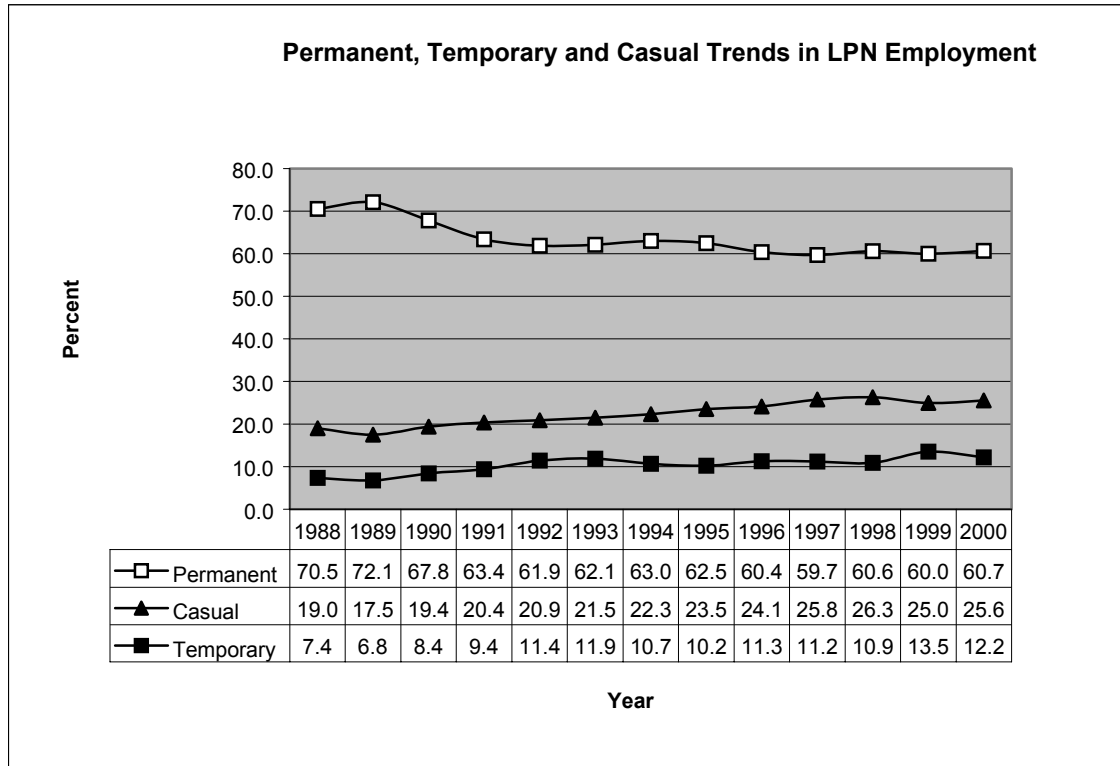
**Table 14. Trends in LPN Employment Types.**

Fiscal Year	PFT		PPT		TFT		TPT		CFT		CPT	
	%	#	%	#	%	#	%	#	%	#	%	#
1988	65.4	1621	5.1	126	4.7	117	2.7	67	4.2	104	14.8	367
1989	67.7	1739	4.4	113	4.4	113	2.4	62	4.1	105	13.4	344
1990	63.5	1732	4.3	117	5.2	142	3.2	87	4.8	131	14.6	398
1991	59.3	1558	4.1	108	5.7	150	3.7	97	4.0	105	16.4	431
1992	57.6	1531	4.3	114	5.2	138	6.2	165	3.6	96	17.3	460
1993	58.2	1530	3.9	103	5.1	134	6.8	179	2.9	76	18.6	489
1994	58.7	1611	4.3	118	5.3	145	5.4	148	3.9	107	18.4	505
1995	58.5	1598	4.0	109	5.6	153	4.6	126	4.1	112	19.4	530
1996	56.5	1540	3.9	106	5.3	144	6.0	164	3.7	101	20.4	556
1997	55.5	1503	4.2	114	5.3	144	5.9	160	3.5	95	22.3	604
1998	56.7	1561	3.9	107	6.1	168	4.8	132	4.3	118	22.0	606
1999	56.3	1589	3.7	104	6.6	186	6.9	195	4.2	119	20.8	587
2000	55.9	1597	4.8	108	6.1	174	6.1	172	4.9	128	20.7	560
<b>Change since 1988</b>	<b>-9.5</b>	<b>-24.3</b>	<b>-0.3</b>	<b>-18.4</b>	<b>+1.4</b>	<b>+57.5</b>	<b>+3.4</b>	<b>+105.1</b>	<b>+0.7</b>	<b>+23.9</b>	<b>+5.9</b>	<b>+193.1</b>

Source: Council for Licensed Practical Nurses [CLPN] Annual Reports. (1988 to 2000).

Data shown in Table 14 is illustrated in three groupings in Figure 6. Each of Permanent, Temporary, and Casual are summed and plotted.

**Figure 6. Permanent, Temporary and Casual Trends in LPN Employment.**



Source: Council for Licensed Practical Nurses [CLPN] Annual Reports, (1988 to 2000).

Since 1988, permanent staff has decreased by 9.8 percent, temporary staff has increased by 4.8 percent and casual staff has increased by 6.6 percent. These changes have been gradual over this time frame.

Statistics from the CLPN database (as of November 26, 2001) were obtained to analyse employment status according to CLPN employment type classifications provided. Casual and Temporary categories were combined in the CLPN Database at the time the data was requested, and the following summary reflects this new grouping shown in Table 15:

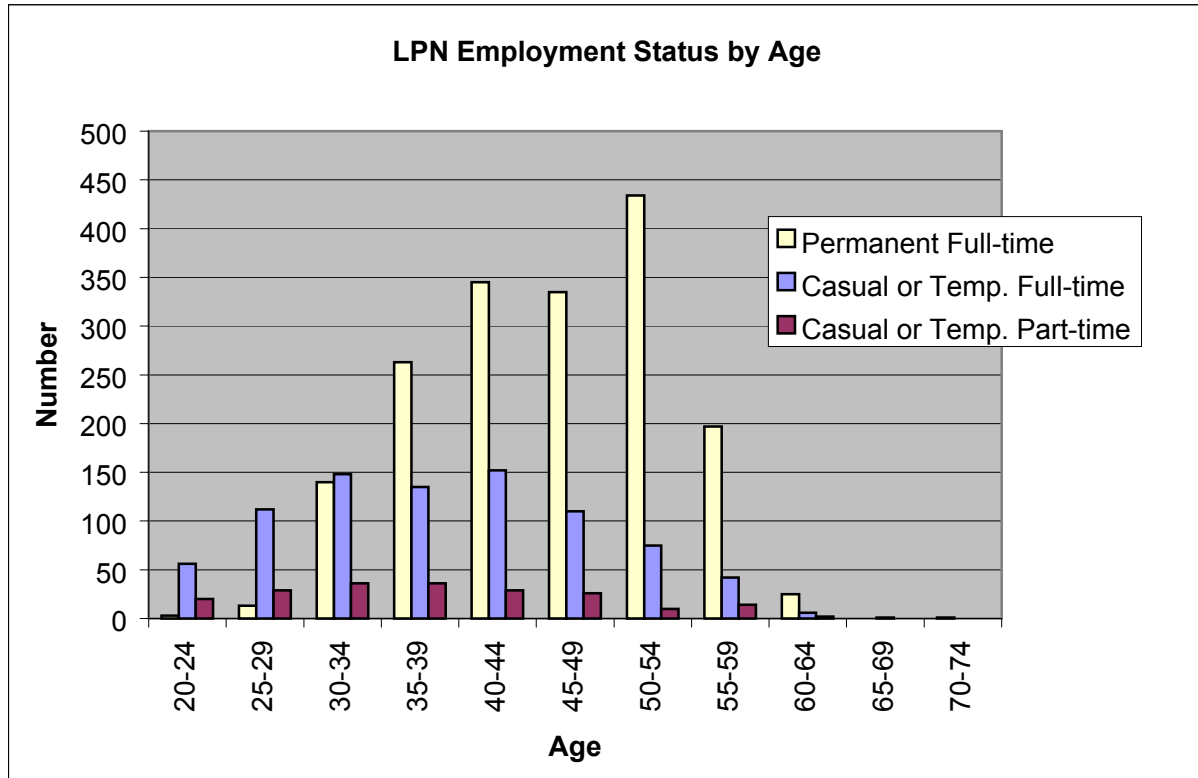
**Table 15. LPN Employment Status.**

Employment Status	Number	Percentage
Permanent full-time	1756	63%
Casual or Temporary part-time	837	30%
Casual or Temporary full-time	202	7%
<b>Total</b>	<b>2795</b>	<b>100%</b>

Source: Council for Licensed Practical Nurses [CLPN] Database for Registration Year 2000-2001 (November 26, 2001).

Employment status by age is provided in Figure 7:

**Figure 7. LPN Employment Status by Age.**



Source: Council for Licensed Practical Nurses [CLPN] Database for Registration Year 2000-2001 (November 26, 2001).

Above the age of 35, Permanent full-time LPNs dominate the workforce. Caution is noted in using the figures presented in this section. The CLPN registration form does not define the categories and as such there will be variation in how the form is interpreted. Additionally, these categories cannot be used to estimate hours of work for any particular group.

### 3.7. Employer Types

Place of employment is captured on the CLPN registration form. Data summarized by CLPN Employer Type Categories as shown in Table 16:

**Table 16. LPN Workforce as a Percentage of Total by Employer Types.**

Fiscal Year	Hospitals	Nursing Homes	Extended Care <sup>1</sup>	Other
1988	54.8	39.5	1.9	3.6
1989	53.9	40.2	2.4	3.1
1990	50.7	42.0	3.3	3.9
1991	48.9	43.3	3.6	4.0
1992	47.2	44.2	4.3	4.0
1993	45.0	45.5	4.5	4.7
1994	45.1	45.7	4.5	4.4
1995	44.0	46.9	4.3	4.4
1996	43.4	47.8	4.2	4.4
1997	43.3	47.7	4.8	4.0
1998	44.3	47.6	4.5	3.4
1999	45.2	47.2	4.6	2.7
2000	45.7	47.0	4.4	2.6
<b>Change since 1988</b>	<b>-9.1</b>	<b>+7.5</b>	<b>+2.5</b>	<b>-1.0</b>

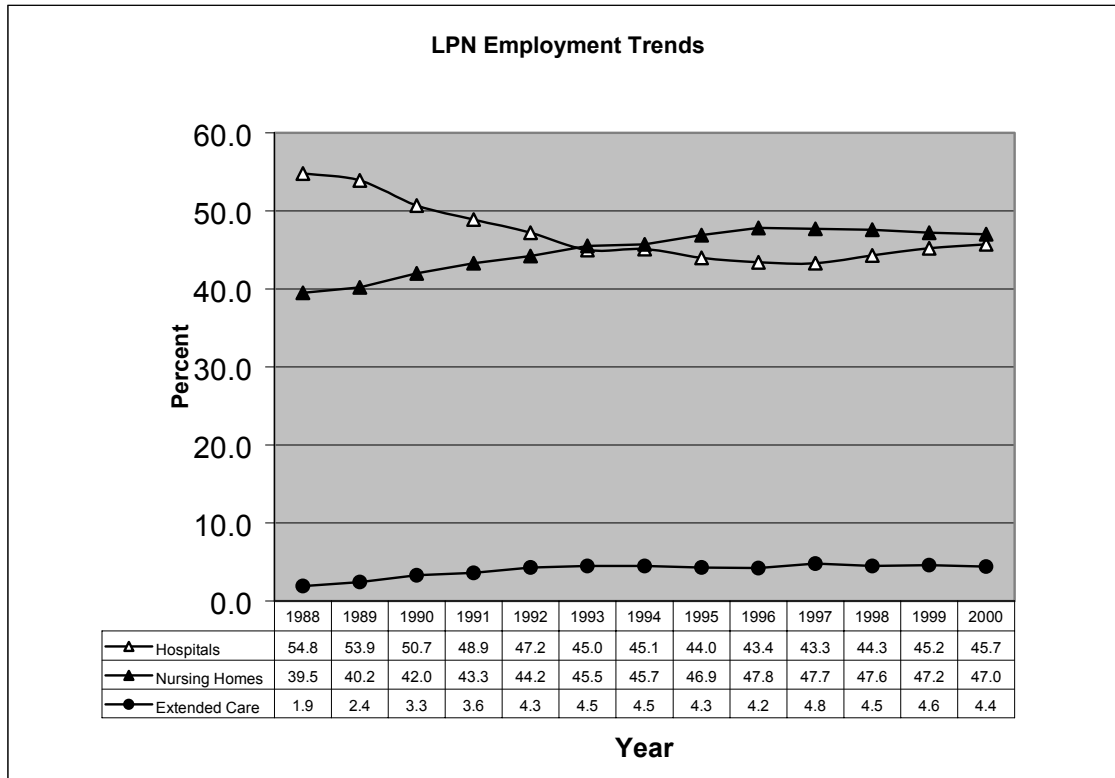
Source: Council for Licensed Practical Nurses [CLPN] Annual Reports. (1988 to 2000).

Note:

1. Extended care is basically the Dr. L.A. Miller Centre operated within the Health Care Corporation of St. John's.

Graphically, the trend for Hospitals, Nursing Homes, and Extended Care is shown in Figure 8.

**Figure 8. LPN Workforce as a Percentage of Total by Place of Employment.**



Source: Council for Licensed Practical Nurses [CLPN] Annual Reports. (1988 to 2000).

Trends for the percentage of LPNs working in Hospitals and Nursing Homes reversed in 1996.

Prime area of responsibility is also recorded on the CLPN registration form and is summarized in Table 17.

**Table 17. LPN Workforce as a Percentage of Total by Prime Area of Responsibility.**

Fiscal Year	Medicine	Surgery	Obstetrics	Pediatrics	Geriatrics	Psychiatry	Nursery	Other
1988	9.2	7.2	1.5	3.3	47.4	7.5	0.6	22.9
1989	9.7	6.8	1.2	2.8	48.4	6.8	0.5	23.4
1990	8.8	6.4	1.1	2.7	50.6	5.5	0.5	24.0
1991	8.5	6.3	0.9	2.7	52.6	5.1	0.5	22.9
1992	7.9	6.3	1.2	2.1	54.1	5.1	0.3	22.6
1993	7.5	6.1	1.1	1.9	55.5	4.8	0.3	22.5
1994	6.9	5.3	1.0	2.0	56.2	7.2	0.1	20.8
1995	6.2	4.8	0.9	1.9	57.5	7.2	0.0	21.1
1996	5.7	4.6	0.8	1.8	59.3	7.0	0.0	20.5
1997	5.6	4.5	0.5	1.7	59.0	7.0	0.0	21.2
1998	5.9	4.8	0.4	1.8	58.9	6.8	0.0	20.9
1999	6.1	4.9	0.5	1.7	62.5	7.2	0.0	16.7
2000	6.3	4.5	0.4	1.6	61.9	7.0	0.0	17.9
<b>Change since 1988</b>	<b>-2.9</b>	<b>-2.7</b>	<b>-1.1</b>	<b>-1.7</b>	<b>+14.5</b>	<b>-0.5</b>	<b>-0.6</b>	<b>-5.0</b>

Source: Council for Licensed Practical Nurses [CLPN] Annual Reports, (1988 to 2000).

The largest area of responsibility is Geriatrics accounting for 61.9 percent of LPNs. The second largest is Other at 17.9 percent and the third largest is Medicine at 6.3 percent. Geriatrics is the only area showing growth over the last 12 years.

#### 4. Supply Forecasting

Given the nature of the data presented in previous sections it is difficult to predict changes in the inputs to, or outputs from, the LPN workforce. Figures show high variability, and external factors are numerous.

The movements into and out of the LPN workforce are summarized below:

For Reference	Movement	In or Out	Section of Report	Page
I	Initial Registrants from Newfoundland and Labrador: These are Practical Nurse graduates from Newfoundland and Labrador programs registering for the first time.	In	2	2
II	Initial Registrants not from Newfoundland and Labrador.	In	3.4	18
III	LPNs re-entering the workforce.	In	3.5	19
IV	Those allowing license to lapse.	Out	3.5	19

I: With the current process for brokering the Practical Nurse program, the pattern of annual graduates is variable and difficult to predict. It is estimated that 94 percent of graduates register with CLPN. The last five year's full data suggests an average of 98 graduates with a range of plus or minus 38.

II: Each year, approximately seven LPNs enter the province and obtain licenses.

III: The pattern of annual graduates from the re-entry program is variable and also difficult to predict. It is used to determine IV:

IV: Only trends in the total number of LPNs failing to renew practicing licenses can be estimated. Previous analysis indicates that this trend can be described as average net loss of 124 LPNs plus or minus 43. This figure includes retirements. Given an assumption that projections provided in section 3.3.3 are accurate, retirements only represents about 10 to 20 percent of the present total net loss.

The variability in the annual number of graduates and the net change in practicing licenses means it is difficult to predict, with any certainty, future shortfalls (or surpluses) in the supply of LPNs.

**It is important to note that this report is only intended to address the supply side of the forecasting equation. It does not consider several other important factors that will have a significant impact on the need for LPNs. These factors include:**

- Population health needs
- Advancing technologies
- Social policy
- Provincial Staffing Standards of Care
- Scope of practice adjustments
- Labour force participation
- Other unknowns

Seemingly small changes in demand or any of the factors listed above can have major impacts on LPN requirements.

## **5. Conclusions**

This report has highlighted a number of points with LPN human resource planning in this province. The aging of the workforce is noteworthy although it is not concentrated in any particular employer type.

The nature of the brokering process means LPNs can be educated within a short timeframe as required to suit needs at a local level where demand can be demonstrated. Retirement estimates provided in this report can aid in this process.

Further study of LPNs, particularly related to determination of demand variables, is required.

## **6. Next Steps**

The next step involves developing better demand data to pinpoint areas where requirements for LPNs will change.

The final goal is to have the necessary data, on an on-going basis, to be able to make policy recommendations to ensure an adequate supply of licensed practical nurses in the province.

Also of interest is a database initiative, spearheaded by CIHI, with the goal of improving the comprehensiveness of the data on the nursing profession by collecting information on licensed practical nurses. Specific objectives include:

- To determine information requirements for development of national information system for licensed practical nurses; To develop and pilot test a prototype database for licensed practical nurses;
- To develop relevant analytical products from the prototype database; and
- To produce a national publication on counts of health professionals in Canada

The CLPN database has been redesigned to suit this initiative. The work is nearing completion.

## 7. Bibliography

Author/originator title (date). Source, location

1. Canadian Institute for Health Information [CIHI] (May 2000). CIHI Web Site <http://www.cihi.ca/Roadmap/HHRDBD/start.htm>
2. Canadian Licensed Practical Nurses Association [CLPNA] (May 2000)
3. Centre for Nursing Studies [CNS] Applicant and Graduate Data (1997 to 1999). Health Care Corporation of St. John's [HCCSJ], NF
4. Coady, Wells Licensed Practical Nurse Supply Report (July 2000) NF
5. Council for Licensed Practical Nurses (CLPN) Annual Reports. (1988 to 2000). NF
6. Council for Licensed Practical Nurses (CLPN) Standards and Criteria for Approval and Evaluation of Practical Nurse Program (1999). NF
7. Government of Newfoundland and Labrador Department of Health and Community Services Board Services (Oct. 2001) Web Site <http://www.gov.nf.ca/health/divisions/boardservices/brdservices.htm#boards>
8. Groupe de recherche interdisciplinaire en santé, Faculté de sciences infirmières, Département d'administration de la santé The Nursing Labour Market in Canada: Review of the Literature Report (Dec. 1999). Université de Montréal, PQ
9. Pensions Administration Division, Department of Finance Projected Retirements Data (May 2000). Government of Newfoundland and Labrador, NF
10. Practical Nurse/Nursing Assistant Jurisdictions Registrars' Conference Jurisdictional Information (1999). Council for Licensed Practical Nurses, NF
11. Statistics Canada Population (May 2000). Statistics Canada Web Site <http://www.statcan.ca/english/Pgdb/People/Population/demo02.htm>