Licensed Practical Nurse Workforce Model Report Newfoundland and Labrador

January 3, 2012

Executive Summary

Licensed Practical Nurses (LPNs) are regulated by the College of Licensed Practical Nurses of Newfoundland and Labrador (CLPNNL).

Several factors contributed to the need for an LPN Workforce Model including but not limited to the need to estimate future requirements for educational seat capacity, significant changes underway concerning team mix in long term care, on-going work to improve LPN utilization throughout the system, and changes in licensure requirements effective April 1, 2012. A Licensed Practical Nurse Workforce Model Working Group was formed by individuals from relevant stakeholder organizations to develop this report.

The Working Group considered the entire provincial workforce of 2703 LPNs. Almost all LPNs (95 per cent) are employed by Regional Health Authorities (RHAs). Within RHAs, the LPN workforce includes LPNs working in related positions such as Psychiatric LPNs, Operating Room Technicians, Urology Technicians, and others. Home Support Workers and Personnel Care Attendants are not included in the scope of this report.

The Working Group undertook a full analysis of <u>supply</u> (i.e. sources of LPNs entering the workforce) and estimates for growth or decline in workforce <u>demand</u>, based on past patterns of growth or decline and careful consideration of strategic changes in the health care system, either planned or underway. The Working Group notes several limitations, some of which include: 1) It is impossible to accurately predict all factors that contribute to workforce dynamics 2) Balancing supply and demand at the provincial level does not guarantee that all positions will be filled and 3) Demand scenarios reflect employer's need for LPNs; however employer requirements for LPNs do not necessarily reflect population needs in that there are opportunities to improve alignment of services.

Core data were obtained from the CLPNNL. Further detailed data were gathered from RHAs, the Department of Health and Community Services Teledata System (financial and statistical RHA reporting system), and the Canadian Institute for Health Information (CIHI).

The number in the LPN workforce (licensure year 2010/11) was 2,703, down by 237 LPNs since a peak in year 2002/03 when there were 2,940.

It is notable that in 2009 Newfoundland and Labrador had 488 LPNs per 100,000 population, more than twice the Canadian average of 228 per 100,000 in the same year. There are several limitations associated with interpreting these ratios in that the age/gender distribution of the population and its geographic distribution, health status, and patterns of health services utilization are not reflected. Additionally, ratios do not reflect LPN scope of practice, utilization, skill mix, casualization, core staffing in rural and remote locations, or the presence of unregulated workers.

The average age of the LPN workforce in Newfoundland and Labrador was 45.2 years in 2009, compared to the Canadian average of 43.4 years.

There are significant opportunities to improve utilization and well-being of the LPN workforce. Focus on staffing and scheduling practices, utilization of support staff, work processes, illness/injury rates, and other areas could yield significant improvements. For example, the total FTEs in leave taken due to sick and injury benefit amounted to 248 FTEs, or more than 10 per cent of the estimated FTE LPNs in the province, in 2009/10. LPNs are experiencing lost time incidents at a rate of about 3.5 times that of RNs in long term care. A Proposal for a Provincial Injury Prevention Pilot Program in Long Term Care to address safe resident handling practices in the long term care sector within RHAs is currently under development.

Workforce model assumptions include:

- A policy approved by the Board of the CLPNNL in March 2007 requires that all LPNs must have successfully completed approved courses in Medication Administration and Health Assessment to be eligible for licensure effective April 1, 2012. This will result in an estimated exit of 300 LPNs from the workforce of those not meeting the regulatory changes;
- RHAs have changed, or in the process of changing, the composition of the Registered Nurse (RN), LPN, and Personal Care Attendant (PCA) workforce in long term care. Skill mix changes are reducing the number of LPN positions in long term care and are occurring concurrently with regulatory changes. Consultation with RHAs indicates that these factors are in alignment. No supply/demand imbalances are anticipated;
- Small increases in LPNs positions may result from the addition of long term care beds in the province, potential increases in utilization of LPNs in community health and acute care, and implementation of the Provincial Long-term Care and Community Support Care Strategy;
- Beyond 2014, an annual increase of 0.25 per cent in LPN workforce numbers is assumed through to the end of the forecasted period of 2021;
- An 84 per cent average graduate retention rate in the province;
- An 18 per cent average attrition rate from the Practical Nursing Program;
- About 30 LPNs on average will reactivate an existing licensure number (after one year or more inactivity) annually; and
- About eight LPNs on average will enter the workforce annually as external supply i.e. not educated in the province.

Results and Recommendations

At the provincial level, the Working Groups concluded that the current supply of LPNs (September 2011 intake) would exceed demand for the next nine years, assuming funded seat capacity remains constant at 229 seats.

Adjusting supply to balance demand at the provincial level, an optimal seat capacity at the provincial level is estimated to be 185 for intakes starting in 2012, increasing by five annually thereafter. There is an excess capacity of 44 funded seats (229 minus 185), and current funded seat distribution does not match localized demand. St. John's is estimated to be about half of the required seat capacity while all other sites with the exception of Grand Falls-Windsor are over-capacity.

The Working Group considered several factors in determining recommended sites and seat capacities including calculated seat demand for catchment areas, feedback from RHAs, a minimum suggested class size of 16 seats, program requirements for faculty, clinical placements, infrastructure, and other factors.

Existing, calculated, and recommended seat capacities are as follows:

Site	Existing Funded Seat Capacity	Calculated Seat Demand	Recommended Funded Seat Capacity
St. John's	40	89	79
Clarenville	24	7	16
Grand Falls-Windsor	35	38	35
Corner Brook	40	23	23
Stephenville	30	11	16
Floating Site	0	0	16
Burin	18	6	0
St. Anthony	24	6	0
Happy Valley-Goose Bay	18	6	0
Total	**229**	**185**	**185**

All program offerings are contingent on the approval process with the board of the CLPNNL. The board may approve a program if they have sufficient evidence to demonstrate that there is a need to warrant the offering of a program, and if the program can be delivered in accordance with the "Standards and Criteria for Approval and Evaluation of Practical Nursing Programs" as set by the board.

A "Floating Site" seat capacity is proposed annually or as required, for sites demonstrating a need for new graduates through a prescribed approval process. The capacity was set at the minimum class size of 16. Typical sites for an offering of the program on an as-needed basis include but are not limited to Burin, St. Anthony and Happy Valley-Goose Bay.

Nine recommendations are provided in this report, grouped under three strategic directions, to

1) Manage Demand
2) Adjust Internal Supply
3) Plan Effectively

The intent of these recommendations is to improve the utilization of LPNs in the health system, match the supply of new graduates to the demand for new hires, formalize a process to ensure that this matching continues, explore options for innovative methods for program delivery, and improve planning.

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1. Background

Licensed Practical Nurses (LPNs) are regulated by the College of Licensed Practical Nurses of Newfoundland and Labrador (CLPNNL).

LPNs are highly skilled nurses capable of fulfilling their critical responsibilities. A large number of LPNs are qualified to perform a wide range of nursing competencies including administering medications, assessing and caring for clients, supporting intravenous therapy, and monitoring vital signs. LPNs are educationally prepared to provide nursing services for a variety of clients in diverse settings. The setting may be an acute care, long term care or continuing care agency, ambulatory care, the client's home, workplace or school, or the community at large. LPNs frequently assume multiple roles when they provide nursing services for clients, including: direct caregiver; teacher/mentor; facilitator/counselor; advocate; co-coordinator; participant in policy development; and participant in community development. Advanced nursing practice for the LPN is an expanded range of theoretical, practical and research based knowledge applied to the care of clients within a specialized area such as Operating Rooms, Urology and Dialysis. LPNs who function in these related positions have acquired superior clinical skills and judgment through post basic education and/or clinical experience. LPNs are an essential part of the family of nursing and the health care delivery system. LPNs are complementary to other health care disciplines and share responsibilities and functions with them. Practical nursing is a caring supportive profession which is guided by a Code of Ethics. LPNs are individually accountable for all their actions and decisions.

Several factors contributed to the need for an LPN Workforce Model including but not limited to:

- Need to estimate future required seat capacity, related to Practical Nursing Program at the Centre for Nursing Studies (CNS) in St. John’s and multiple site offerings of the Practical Nurse Program throughout the province via the brokering of the program to the College of the North Atlantic;
- Significant changes underway concerning team mix in Long Term Care in the province;
- On-going work to improve LPN utilization throughout the system;
- All LPNs will be required to have successfully completed approved courses in Medication Administration and Health Assessment to be eligible for licensure effective April 1, 2012.

A Licensed Practical Nurse Workforce Model Working Group was formed by the Department of Health and Community Services to guide the development of the model and report presented here. The Terms of Reference are provided in Appendix A.

2. Model Scope

The entire provincial LPN workforce was considered in this analysis. Approximately 95 per cent of all LPNs in Newfoundland and Labrador work in Regional Health Authorities (RHAs) (2,595 in RHAs compared to total LPN workforce in 2010/11 of 2703. Source: CLPNNL). A provincial approach is necessary because supply and demand considerations affect the entire workforce, regardless of the employer.

Within RHAs, the LPN workforce also includes LPNs working in the following related positions:

1. Psychiatric LPNs
2. Operating Room Technicians
3. Urology Technicians
4. Physiotherapy Support Workers
5. Occupational Therapy Support Workers
6. Orthopedic Technicians and Technologists
7. Respiratory Technicians
8. Paramedics

It is important to note that the employer does not necessarily stipulate that such roles must be filled by an LPN, and these positions are not filled exclusively by LPNs. LPNs who work in these roles may be required to have a detailed assessment completed of their work roles and responsibilities by the CLPNNL to determine if they are using enough of the competencies from the LPN scope of practice to maintain currency of practice. Approximately 110 LPNs currently practice in these roles.

LPNs working in related positions have unique supply and demand issues. For example, past analysis of Operating Room Technician demographics and turnover resulted in a new offering of an Operating Room Technician program to meet anticipated demand. The "Licensed Practical Nurse Supply Report 2004/05 Newfoundland and Labrador"[1] of 2006 noted "Special attention should be directed towards Operating Room Technicians, and LPNs with post-basic education in mental health and gerontology, who show sizable retirements by the year 2015." Full analysis of these groups is not within the scope of this report, although limited demographic data are presented.

Home Support Workers and Personnel Care Attendants and others are not included in the scope of the LPN workforce model, however it is important to note that the presence or absence of other staff in the team mix strongly impacts LPN utilization. This and other external factors are discussed in relevant sections.

3. Limitations

Limitations of workforce modeling include:

- Balancing supply and demand at the provincial level does not guarantee that all positions will be filled. Experience has shown that many vacant positions are difficult-to-fill. Targeted recruitment and retention approaches are important, especially in rural and remote areas;
- The results presented are not forecasts; they are scenarios based on averages and assumptions. It is impossible to accurately predict all factors that contribute to workforce dynamics;
- Demand scenarios reflect employer's need for LPNs. Employer requirements for LPNs do not necessarily reflect population needs in that there are opportunities to improve alignment of services. Such realignment could result in a need for more (or fewer) positions;

[1] Available for Download from http://www.clpnnl.ca/attachments/LPN_Supply_Report_June_2006.pdf.

- This model does not account for opportunities for improving LPN utilization. General discussion and recommendations are included; however a full analysis of utilization issues is beyond the scope of this report. Utilization factors include team mix, scope of practice issues, scheduling/deployment, work flow, injury rates, etc.; and
- LPN data are employee counts except where noted, and do not reflect job types (i.e. temporary or permanent, part time or full time) or work patterns (i.e. earned hours and incidence of overtime, callback, sick leave, etc.).

4. Methodology

There are a variety of modeling approaches for workforce planning:

- Utilization-based approach: Uses population-based utilization rates as a baseline, apply rates to future demographic trends. Assumes current level, mix, and distribution of services are appropriate and remain constant (or are changing at some defined rate);
- Needs-based approach: Identifies workforce requirements for serving population health needs now and in the future. Assumes all health needs can and should be met in a cost-effective way, eliminating non-needs/non cost-effective use of resources; and
- Effective demand-based approach: Considers a fiscal envelope to work within, for whatever approach used. Considers proportion of the economy devoted to health care.

A full discussion on the optimal approach to health workforce modeling can be found in the document "A Framework for Collaborative Pan-Canadian Health Human Resources Planning" 2007[2]. The framework advocates a needs-based approach:

> *"Planning health human resources based on system design and population health needs – as opposed to relying primarily on past utilization trends – will lead to more responsive health systems. This type of planning provides an opportunity to identify: the services needed, innovative ways to deliver those services, the types of professionals required, and how to deploy them to make the best use of their skills (i.e., maximize scope of practice) – rather than continuing to plan based on how and by whom services are delivered now."*

A needs-based approach was not used in this report because redesigning the way services are provided, and identifying the types of professionals deemed appropriate to deliver those services, is well beyond the mandate of the Working Group.

The methodology presented here undertakes a full analysis of supply (i.e. all workforce entries and exits are considered) and simplified estimates for growth or decline in workforce demand, based on past patterns of growth or decline and careful consideration of strategic changes in the health care system, either planned or underway.

The Working Group methodology is based on a framework developed to produce provincial models for Social Workers, Registered Nurses, Medical Laboratory Technologists, and Pharmacists in Newfoundland and Labrador, and provides consistent analysis across several health occupations.

[2] Available for download at: http://www.hc-sc.gc.ca/hcs-sss/pubs/hhrhs/2007-frame-cadre/index-eng.php

Core data were obtained from the CLPNNL. Further detailed data were gathered from RHAs, the Department of Health and Community Services Teledata System (financial and statistical RHA reporting system), and the Canadian Institute for Health Information (CIHI). Sources are noted throughout the report.

Stakeholder involvement was critical for model development. Assumptions and estimates must be reasonable from a variety of standpoints. Working Group members included:

- Four Regional Health Authorities;
- Department of Health and Community Services;
- Department of Advanced Education and Skills;
- Centre for Nursing Studies (CNS);
- College of the North Atlantic (CNA);
- College of Licensed Practical Nurses of Newfoundland and Labrador (CLPNNL);
- Individuals as required.

The Working Group developed this report through several iterations of edit and review.

The workforce model considers demand in two components: replacement and expansion/contraction. Replacement demand considers basic turnover and the need to replace exiting staff. Expansion/contraction demand refers to potential workforce growth (or decline). All LPN supply is considered, including new graduates and experienced workers, both from within the province and from external sources. All factors were combined in a spreadsheet and projected over several years to determine potential gaps. Various scenarios were tested to measure impact of different strategies.

It is recognized that the province's post-secondary education system seeks to train students for employment in the province, however students can include residents of the province and others from outside the province, and it is the individual's choice where to work upon graduation.

Recommendations were developed to reflect short and long term opportunities to stabilize the LPN workforce in the province, including recommended seat capacities by location.

5. Licensed Practical Nurse Workforce

Unless otherwise noted, data in this report are employee counts[3].

5.1. Provincial Workforce

Statistics from the CLPNNL provided in Table 1 show that the provincial LPN workforce has been decreasing in number since licensure year 2002/03. The current number in the workforce (licensure year 2010/11) is 2,703 down by 237 since a peak in year 2002/03 when there were 2,940. The assumption used in the model for future trends is discussed in Section 6.2 on page 15.

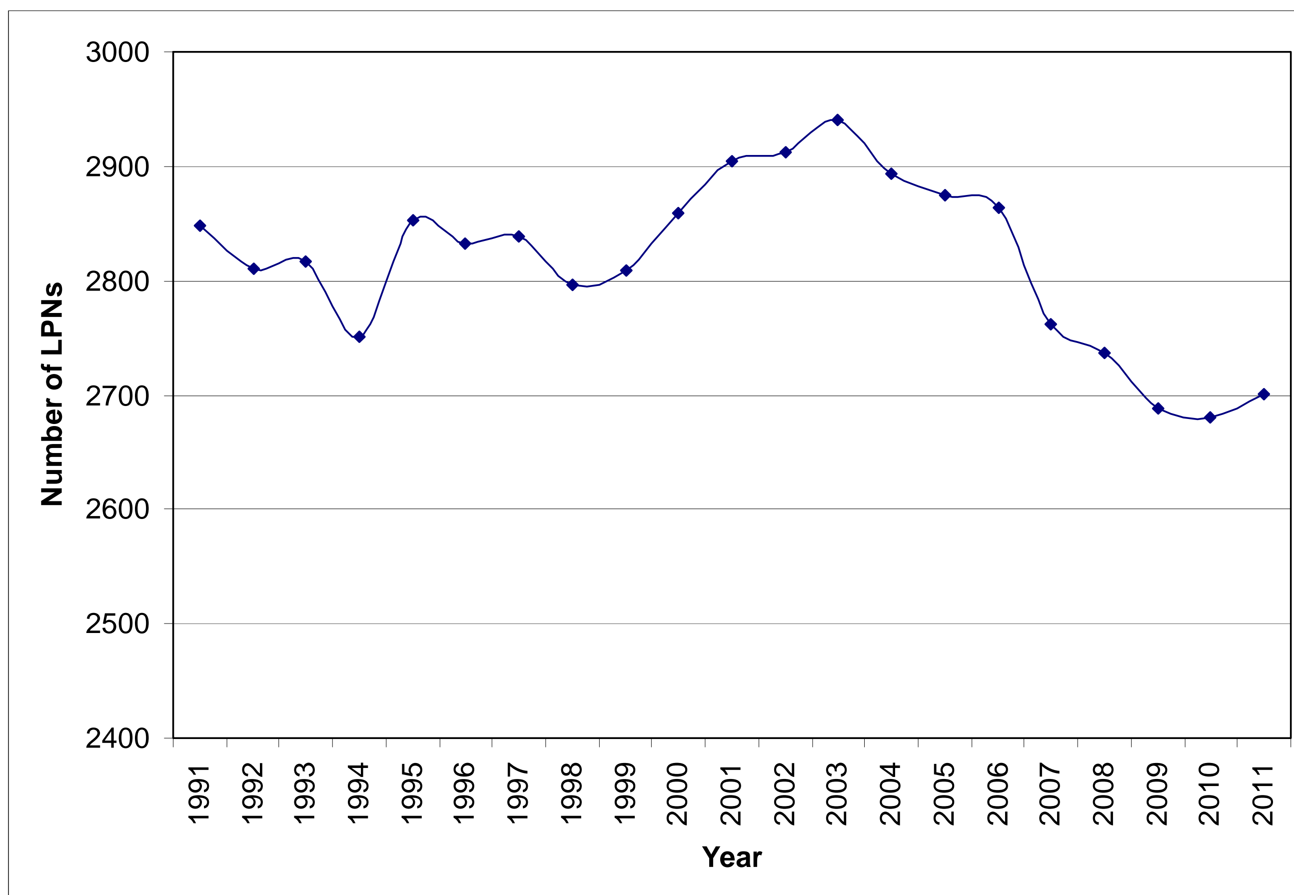
[3] Data obtained from the CLPNNL represent the count of individuals registering at any time in the licensure year referenced. Data from RHAs represent the number of LPNs receiving pay at least once within the previous three months of the date of data collection.

Table 1. Provincial LPN Workforce Historical Trends.

Licensure Year	LPN Count
1990/91	**2,848**
1991/92	**2,810**
1992/93	**2,817**
1993/94	**2,751**
1994/95	**2,853**
1995/96	**2,833**
1996/97	**2,838**
1997/98	**2,797**
1998/99	**2,809**
1999/00	**2,859**
2000/01	**2,905**
2001/02	**2,912**
2002/03	**2,940 (peak)**
2003/04	**2,893**
2004/05	**2,875**
2005/06	**2,863**
2006/07	**2,762**
2007/08	**2,737**
2008/09	**2,689**
2009/10	**2,680**
2010/11	**2,703**

Source: College of Licensed Practical Nurses of Newfoundland and Labrador Annual Reports.

Figure 1. Provincial LPN Workforce Historical Trends.



Source: College of Licensed Practical Nurses of Newfoundland and Labrador Annual Reports.

LPNs in our province have higher rates of full-time and casual employment, and lower rates of part-time employment, than the Canadian average:

Table 2. LPNs NL and Canada: Employment Status.

Employment Status (2009)	N.L.	Canada
Full-time	64.8	50.2
Part-time	5.0	33.7
Casual (temporary)	30.3	16.1
Employed - status unknown	0.0	<0.1
Total	**100.0**	**100.0**

Source: Regulated Nurses: Canadian Trends, 2005 to 2009.

Unfortunately, the number of hours worked in each of the categories shown above is not available and data should be interpreted with caution. All data reported from CIHI are 2009 licensure data provided annually from provincial regulatory bodies and in the case of data from Newfoundland and Labrador, only consider the first six months of the licensure year. Additionally, these data are cleaned to remove potential duplicates, and mapped to common categories for comparison purposes, by CIHI. Results should be interpreted with caution. Full explanation of data reliability and limitations are provided in the document "Regulated Nurses: Canadian Trends, 2005 to 2009" Chapter 5: Methodological Notes[4].

LPNs in Newfoundland and Labrador are distributed more strongly in hospitals and long term care facilities, and less so in community health agencies and other places of work, than the Canadian average:

Table 3. LPNs NL and Canada: Place of Work.

Place of Work (2009)		N.L.	Canada
Hospital		**44.3**	**42.5**
	Hospital	42.0	34.6
	Mental Health Centre	0.3	2.8
	Rehab/Convalescent Centre	2.1	5.1
Community Health Agency		**3.5**	**7.3**
	Nursing Stations (outpost or clinic)	0.3	0.1
	Home Care Agency	0.9	3.6
	Community Health Centre	2.3	3.4
	Public Health Department/Unit	0.0	0.2
Nursing Home/LTC Facility		**50.7**	**36.5**
Other Place of Work		**1.5**	**6.9**
	Business/Ind./Occ. Health Office	0.2	0.6
	Private Nsg Agency/Private Duty	0.4	1.4
	Self-Employed	†	0.6
	Phys. Office/Family Practice Unit	0.3	2.6
	Educational Institution	0.0	0.7
	Association/Government	†	0.2
	Other	0.4	0.8
Not Stated		**<0.1**	**6.8**
Total LPN Workforce		**100.0**	**100.0**

Source: CIHI, Regulated Nurses: Canadian Trends, 2005 to 2009.

It is notable that in 2009 Newfoundland and Labrador had 488 LPNs per 100,000 population, more than twice the Canadian average of 228 per 100,000 in the same year.

[4] Available for download at http://secure.cihi.ca/cihiweb/products/nursing_report_2005-2009_en.pdf.

There are several limitations associated with interpreting professional per population ratios. The population (denominator) only reflects gross numbers and not the age/gender distribution of the population. Additionally, population numbers do not reflect health status, population density, or patterns of utilization of health services. The number of professionals (numerator) does not reflect scope of practice, utilization, skill mix, casualization, distribution of personnel, or the sector to which they belong (i.e. public versus private sector LPNs). Core staffing requirements in rural and remote locations are a significant factor in determining the required number of health professionals. The presence of unregulated workers also strongly affects the number of LPNs in the workforce.

Professional per population ratios should be viewed with caution particularly in a sparsely distributed population, as is the case in Newfoundland and Labrador

5.2. Regional Health Authority Workforce

RHAs employ 95 per cent of all LPNs in the province. A breakdown by RHA is provided in Table 4:

Table 4. LPNs By Employer.

Employer	Count	Per Cent
Eastern Health	1381	51.1%
Central Health	548	20.3%
Western Health	475	17.6%
Labrador-Grenfell Health	164	6.1%
Other or Unknown	135	5.0%
Total	**2703**	**100.0%**

Source: College of Licensed Practical Nurses of Newfoundland and Labrador licensure data 2010/11.

5.3. Demographics

CIHI reports that in 2009 the average age of the LPN workforce in Newfoundland and Labrador was 45.2 years while the Canadian average was 43.4. Compared to Canada, LPNs in our province are distributed among the older age groups, except for those 60 and older:

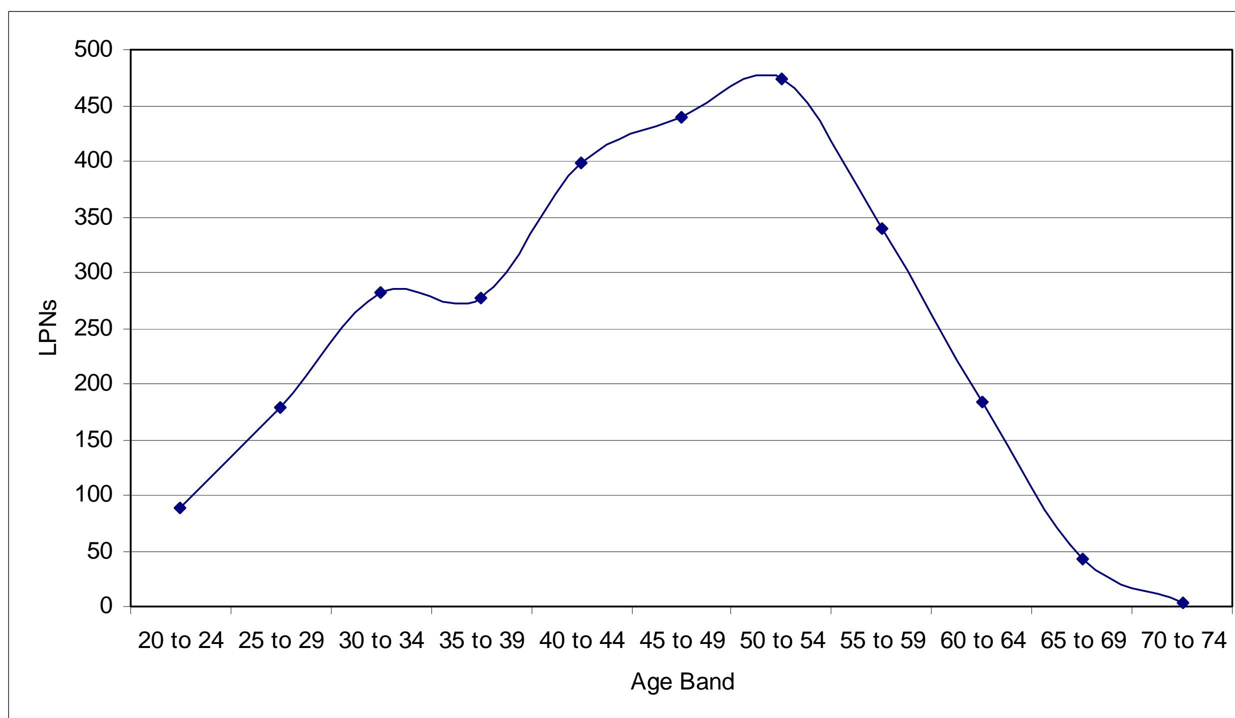
Table 5. LPNs NL and Canada: Age Distribution.

Age Group (2009)	N.L.	Canada
<30 years	8.6	16.2
30-39 years	20.5	22.3
40-49 years	34.7	26.5
50-59 years	29.6	26.5
60+ years	6.6	8.4
Not Stated	0.0	<0.1
Total	**100.0**	**100.0**

Source: CIHI, Regulated Nurses: Canadian Trends, 2005 to 2009.

Graphically, the age distribution is shown in Figure 2:

Figure 2. Provincial LPN Workforce Age Distribution 2010/11.



Source: College of Licensed Practical Nurses of Newfoundland and Labrador licensure data 2010/11.

LPNs in related positions are generally older than the average workforce age of 45.2 years. A breakdown by position is provided in Table 6:

Table 6. LPNs in Related Positions: Average Age.

Position	Employee Count	Average Age
Other	21	51.0
Physiotherapy Support Worker	28	50.4
Operating Room Technician	27	49.1
Paramedic II	9	47.8
Urology Technician	6	44.5
Paramedic	15	44.3
Respiratory Technician	1	See note 2
Rehabilitation Aide II	1	
Paramedic 1	2	
Orthopedic Technician/Technologist	1	

Source: College of Licensed Practical Nurses of Newfoundland and Labrador licensure data 2010/11.
Notes:

1. Position names are as provided in licensure data.
2. Data suppressed to maintain confidentiality for employee groups numbering five or less.

Compared to Canadian averages, LPNs in Newfoundland and Labrador have a higher percentage of males in the workforce:

Table 7. LPNs NL and Canada: Gender.

Gender (2009)	N.L.	Canada
Male	11.9	7.3
Female	88.1	92.7
Not Stated	0.0	0.0
Total LPN Workforce	**100.0**	**100.0**

Source: CIHI, Regulated Nurses: Canadian Trends, 2005 to 2009.

5.4. Licensure Requirements

A policy approved by the Board of the CLPNNL in March 2007 requires that all LPNs must have successfully completed approved courses in Medication Administration and Health Assessment to be eligible for licensure effective April 1, 2012. This is expected to result in significant exits from the LPN workforce of those not meeting the mandatory requirements. Budget 2009 provided $1.6 M over two years for RHAs to subsidize the cost of LPNs completing the required courses.

Current statistics from the CLPNNL indicate that there will be an estimated 300 individuals remaining with one or neither course completed.

5.5. Vacant Positions

Over the past three years, external recruitment postings for LPNs are as follows:

Table 21. LPN Vacancies.

2008/09		2009/10		2010/11		2011/12	Average
April	October	April	October	April	October	April	
14	66	21	54	8	26	39	**33**

Source: Department of Health and Community Services Vacancy Surveys 2008/09 – 2011/12.

On average, 33 LPN positions were posted externally by RHAs on the seven completed surveys. The majority of these postings were for temporary positions.

Internal recruitment postings reflect normal turnover and movement within an organization, and are not included in this analysis. External recruitment postings do not reflect all staffing needs and only represent a proportion of total health system vacant positions. It is possible however, that a position may be vacated for a period of time due to illness / injury / other leave, and the RHA will not advertise the position externally. Rather, the RHA may choose to backfill the position with relief staff or overtime.

The vacancy rate for LPNs is about 1.2 per cent, or the average number of vacant positions (33) divided by a workforce of 2703. Past experience shows this is a reasonable figure, and may never be expected to reduce to zero. Additionally, balancing workforce supply and demand generally involves long term decisions, while the number of vacant positions can change daily for any number of reasons. For these reasons, the average number of vacant positions is not factored into the workforce model.

6. Demand

For the purpose of this document, demand is defined:

<u>Demand</u>: Employer requirements for qualified workers.

Demand is considered in two components:

<u>Replacement Demand</u>: Employer requirements for qualified workers to replace those leaving the organization to sustain the current workforce.

<u>Expansion/Contraction Demand</u>: Employer requirements for qualified workers stemming from projected growth (or decline) in the workforce size.

6.1. Replacement Demand

Replacement demand is simply the number of qualified workers an employer needs to replace those leaving the organization. This is not to be confused with relief staff for day-to-day scheduling issues. If this component of demand is met, the workforce will be sustained, but growth or decline in overall workforce numbers will not be considered. This section examines replacement demand only, which can be equated to turnover. Turnover figures were available from the CLPNNL and RHAs.

To determine turnover at the provincial level, record-level data from the CLPNNL were analyzed. In each transition from one licensure year to the next, there are three possibilities; individuals may:

1) Carry over from year 1 to year 2 (renewal)
2) Not carry over from year 1 to year 2 (exit)
3) Show up in year 2 and not in year 1 (entry)

Exits include people who do not register in the subsequent year for any number of reasons such as leaving the workforce to raise a family, leaving the workforce to go to another jurisdiction, retirement, death, etc. Entries include those obtaining licensure for the first time, and those who reactivate an existing licensure number. Data for nine transitions from one licensure year to the next are provided in Table 8:

Table 8. Provincial LPN Workforce Transitions: Counts.

Licensure Year		Workforce Counts					
Year 1	Year 2	Year 1	Renewals from Year 1 to Year 2	Exits from Year 1	Entries to Year 2	Net Change	Year 2
A	B	C	D	E	F	G	H
2001/02	2002/03	2912	2746	166	194	28	2940
2002/03	2003/04	2940	2758	182	135	-47	2893
2003/04	2004/05	2893	2741	152	134	-18	2875
2004/05	2005/06	2875	2714	161	148	-13	2862
2005/06	2006/07	2862	2662	200	100	-100	2762
2006/07	2007/08	2762	2609	153	129	-24	2738
2007/08	2008/09	2738	2542	196	147	-49	2689
2008/09	2009/10	2689	2547	142	136	-6	2683
2009/10	2010/11	2683	2497	186	206	20	2703
Average		**2817**	**2646**	**171**	**148**	**-23**	**2794**

Source: College of Licensed Practical Nurses of Newfoundland and Labrador licensure data 2001/02 to 2010/11.

An example is provided to illustrate the transition from one licensure year to the next: In licensure year 2002/03, there were 2940 LPNs. Of these, a 2758 renewed their license in 2003/04, while 182 LPNs did not register in 2003/04. A total of 135 registered in 2003/04 that were not registered in 2002/03 (though they may have been in earlier years). The net change of -47 brought the total count of LPNs down to 2893 in 2003/04. Using column labels, C= D + E and G = F – E and H= C + G.

Data are shown as a per cent in Table 9:

Table 9. Provincial LPN Workforce Transitions: Per Cent.

Licensure Year		Workforce Counts			
Year 1	Year 2	Renewals	Exits	Entries	Net Change
2001/02	2002/03	94.3%	5.7%	6.7%	1.0%
2002/03	2003/04	93.8%	6.2%	4.6%	-1.6%
2003/04	2004/05	94.7%	5.3%	4.6%	-0.6%
2004/05	2005/06	94.4%	5.6%	5.1%	-0.5%
2005/06	2006/07	93.0%	7.0%	3.5%	-3.5%
2006/07	2007/08	94.5%	5.5%	4.7%	-0.9%
2007/08	2008/09	92.8%	7.2%	5.4%	-1.8%
2008/09	2009/10	94.7%	5.3%	5.1%	-0.2%
2009/10	2010/11	93.1%	6.9%	7.7%	0.7%
Average		**93.9%**	**6.1%**	**5.3%**	**-0.8%**

Source: College of Licensed Practical Nurses of Newfoundland and Labrador licensure data 2001/02 to 2010/11.

Exits shown above represent a provincial turnover rate of 6.1 per cent. Turnover data in RHAs are shown in Table 10:

Table 10. LPN Turnover in RHAs, 2008, 2009 and 2010.

RHA	Fiscal 2008	Fiscal 2009	Fiscal 2010	Average
Eastern Health	3.8%	5.5%	7.7%	**5.6%**
Central Health	4.4%	6.2%	8.0%	**6.2%**
Western Health	7.4%	7.0%	5.3%	**6.6%**
Labrador-Grenfell Health	3.5%	11.8%	5.6%	**6.9%**
Average	**4.6%**	**6.3%**	**7.2%**	**6.0%**

Source: RHAs, 2011.

Although there is significant variation between RHAs and among fiscal years, RHA average data showing a turnover of 6.0 per cent strongly agree with CLPNNL data showing 6.1 per cent. For the purpose of the workforce model, a turnover rate of 6.1 per cent is used to represent replacement demand.

A subset of the total turnover is the group that leaves the province to find employment elsewhere. The total number seeking employment outside of the province is reflected in the number of requests received by the CLPNNL for license verification. Historical data are shown in Table 11:

Table 11. Total Verifications Sent From CLPNNL to Other Jurisdictions, 1990/91 to 2009/10.

Fiscal Year	AB	ON	NS	BC	YT/NT	NB	MB	SK	PE	Other	Total
1990/91	4	13	-	-	-	-	1	-	-	1	**19**
1991/92	3	25	-	-	1	-	1	1	-	1	**32**
1992/93	5	8	3	1	1	-	-	1	-	-	**19**
1993/94	3	4	4	1	-	-	-	-	-	-	**12**
1994/95	4	2	1	1	-	-	-	-		-	**8**
1995/96	5	11	8	8	1	-	-	-	-	1	**34**
1996/97	9	11	10	6	3	3	-	1	1	-	**44**
1997/98	19	9	7	6	9	2	1	-	-	-	**53**
1998/99	16	11	4	6	2	-	1	1	1	-	**42**
1999/00	5	11	5	9	3	2	-	5	2	-	**42**
2000/01	7	7	7	3	1	3	1	1	-	-	**30**
2001/02	22	9	9	5	4	-	-	-	-	-	**49**
2002/03	9	13	13	9	3	4	-	1	2	2	**56**
2003/04	7	26	10	3	3	3	3	2	-	1	**58**
2004/05	12	16	10	1	3	1	1	-	-	1	**45**
2005/06	19	8	2	-	3	2	-	1	-	3	**38**
2006/07	41	2	6	6	6	2	-	-	-	-	**63**
2007/08	20	5	6	5	4	2	2	-	-	2	**46**
2008/09	14	6	13	2	4	2	2	-	-	-	**43**
2009/10	11	7	6	1	8	2	3	-	-	-	**38**
Total	**235**	**204**	**124**	**73**	**59**	**28**	**16**	**14**	**6**	**12**	**771**
Average	**11.8**	**10.2**	**6.9**	**4.3**	**3.5**	**2.3**	**1.6**	**1.6**	**1.5**	**1.5**	**38.6**

Source: College of Licensed Practical Nurses of Newfoundland and Labrador, 2011.

Considering an average of 39 individuals, this represents about 1.3 per cent of the workforce, and about one quarter of the total turnover. The CLPNNL suggests that most of those LPNs requesting verifications will actually leave the province.

The LPN workforce is aging, and it is recognized that retirement trends are increasing. It is necessary to consider and incorporate these trends yet data on exact numbers of retirements in the past are not readily available i.e. it is not possible to isolate these individuals' data from general turnover data.

Pension eligibility has been shown in the past to understate actual retirement trends; i.e. many will not achieve full eligibility due to time taken for family reasons, late starters in the workplace, etc. Additionally, these data are not available as pensions data do not cleanly identify individual occupations. Exit surveys are conducted by the CLPNNL but cannot be used to identify retirements accurately.

Analysis presented here involves artificially retiring every individual as they turn 58 and determining the linear trend. If this trend is flat, retirements are not increasing in number and no further adjustment to turnover is required. If the trend is rising, turnover is "ramped" slightly to account for more exits, assuming all the other components of turnover will remain constant.

There are many LPNs currently over the age of 58 and still working, however these individuals are not considered because they represent a permanent "wave" that will turnover rapidly at the individual level, but collectively the number might be expected to remain stable. In other words, it would be false to reduce that cohort to 0.

The number of LPNs already 58 or turning 58 in the future, by year, is shown in Table 12:

Table 12. Estimated Retirements Provincial LPN Workforce (Age 58 Assumption)

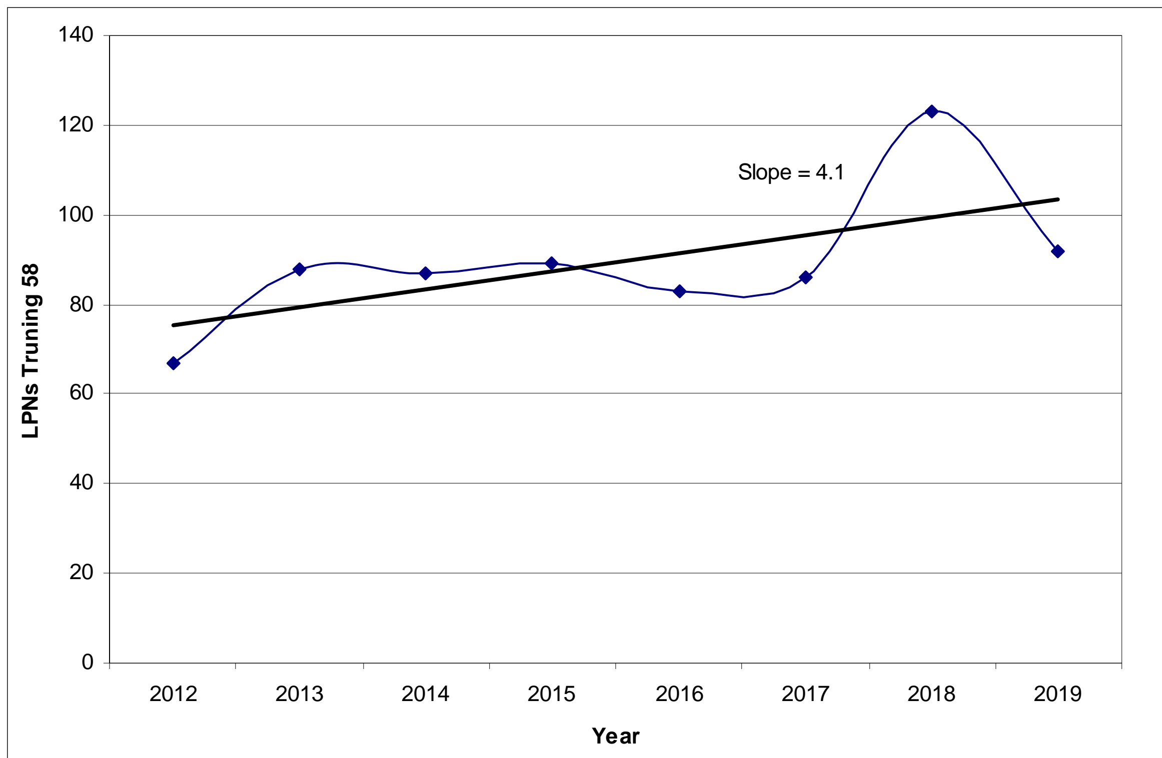
Year	Number of Currently Licensed LPNs Turning 58 in the Year
2011 or earlier	326 (see note 1)
2012	67
2013	88
2014	87
2015	89
2016	83
2017	86
2018	123
2019	92
2020	89
2021	84
2022 or later	1489
Total	**2703**

Source: College of Licensed Practical Nurses of Newfoundland and Labrador licensure data 2010/11.
Note:

1. This is provided to quantify the group of LPNs already 58 or older as described before the table. These LPNs held licenses in 2010/11.

Graphically figures from 2012 to 2019 are shown in Figure 3:

Figure 3. Estimated Retirements Provincial LPN Workforce (Age 58 Assumption)



Source: College of Licensed Practical Nurses of Newfoundland and Labrador licensure data 2010/11.

It is clear that retirement trends may be expected to increase. To incorporate into the model as discussed, the slope of the line indicates an incremental change expected of 4.1 more LPNs than in the previous year. For example, if 60 retire in one year, one might expect (on average) that 64 would retire in the next year, 68 in the year following, etc. The model uses a factor of 4.1 to “ramp” turnover during the timeframe examined. The assumption becomes unreliable in 2019 and onward.

The model assumes a continued rate of 6.1 per cent turnover for the workforce model with an incremental retirement rate of 4.1 LPNs annually.

The issue of LPNs not renewing their license due to changing regulatory requirements was raised in Section 5.4 on Page 10. Discussion on how this is incorporated in the model is provided in Section 6.2.

6.2. Expansion/Contraction Demand

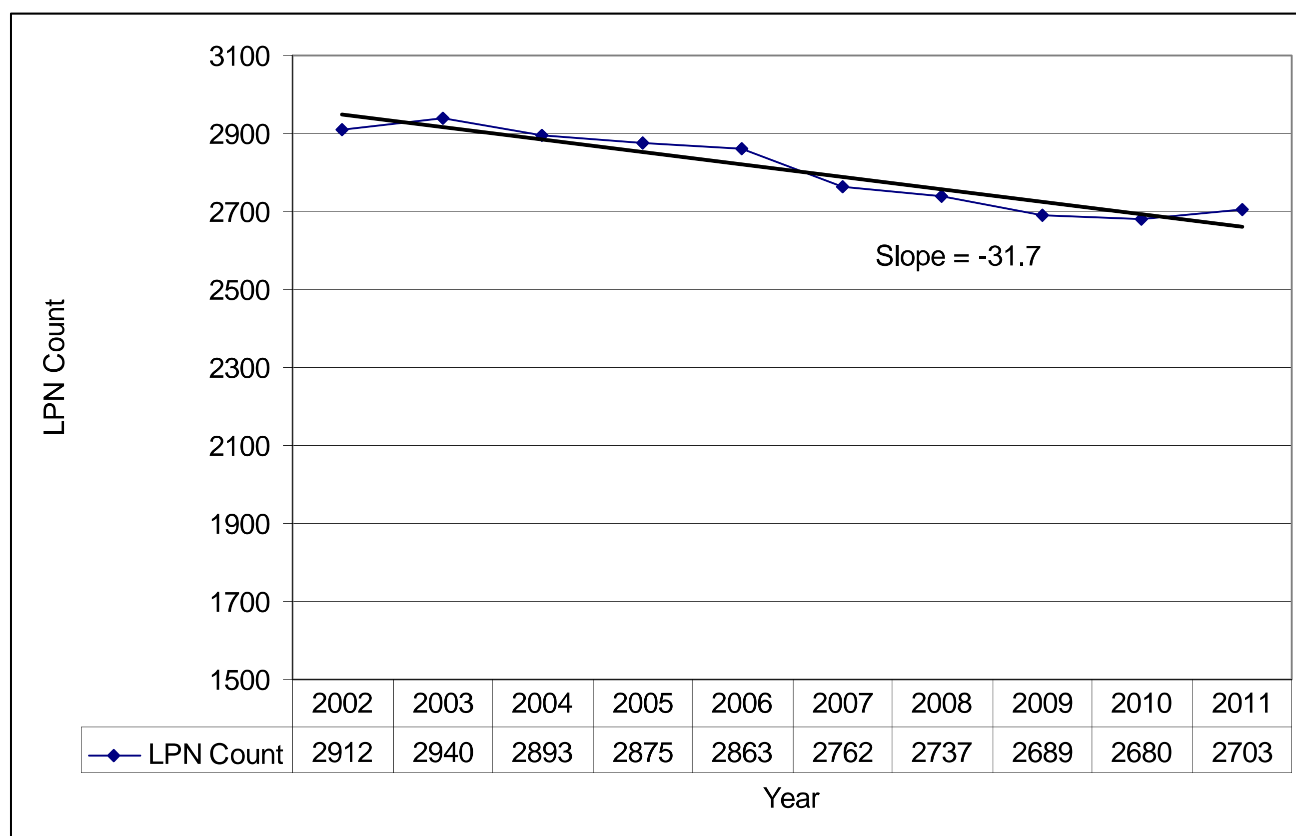
Workforce growth (or decline) is an important factor and has many contributing factors. For example, changing skill mix, the availability of provincial or federal funding for specific initiatives, competing priorities for new positions, and how workers are scheduled and deployed, all change the system’s requirements for LPNs and the overall size of the workforce.

Average historical growth rates vary by profession. For example, the Social Work workforce has been growing in number at a rate of about 3.0 per cent (average annual compounding growth) for the past fifteen years. As with all occupations, opportunities for improved workforce utilization (scope of practice, team mix, workflow, etc.) have the potential to stem some of this growth however there is usually no evidence to suggest that growth will not continue in the future. Trends in population needs for health services are widely accepted to be steadily growing.

The importance of workforce utilization is acknowledged and discussed in more detail below. For the purposes of a workforce model and making decisions that are long term in scope, an assumption on workforce growth or decline is required, regardless of inefficiencies or misalignments.

Historical workforce figures for LPN workforce counts provided earlier are plotted below in Figure 5:

Figure 4. Provincial LPN Workforce Counts 2002 to 2011.



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
LPN Count	2912	2940	2893	2875	2863	2762	2737	2689	2680	2703

Source: College of Licensed Practical Nurses of Newfoundland and Labrador licensure data 2002/03 to 2010/11.

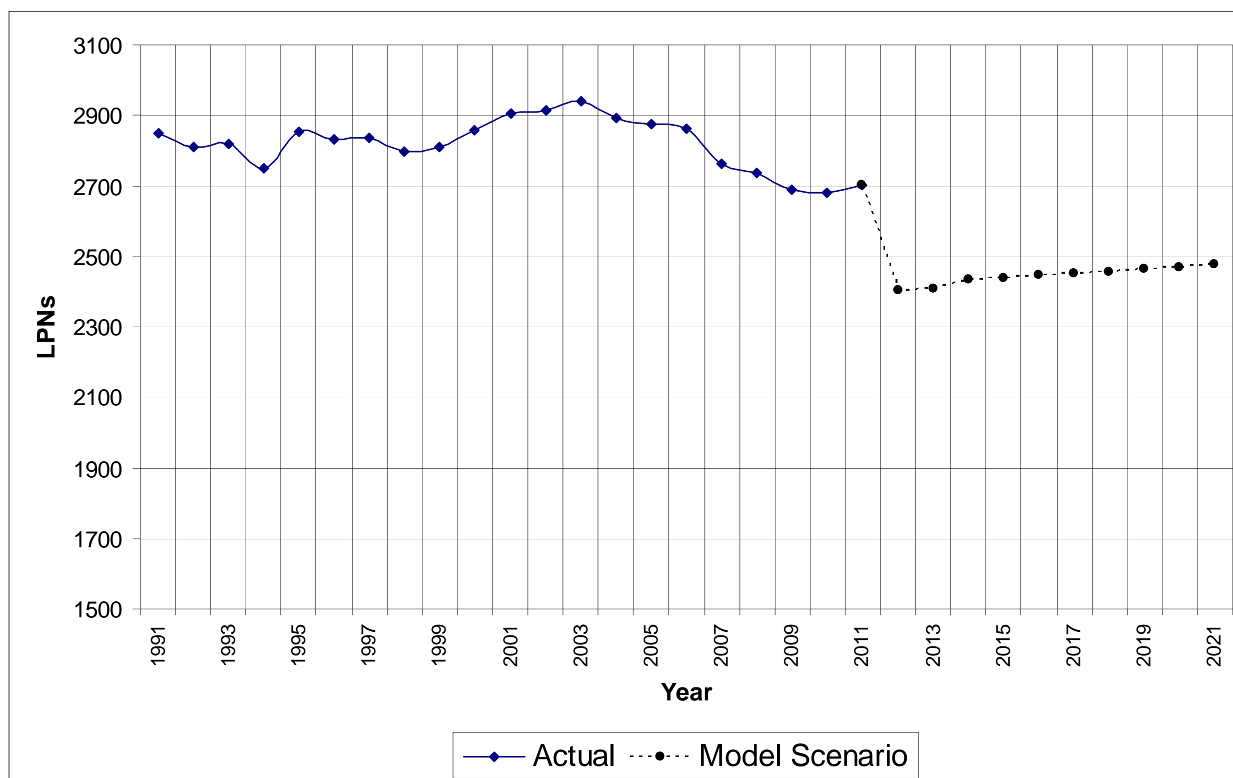
Figure 4 indicates that the provincial LPN workforce has been decreasing in number by an average linear rate of 31.7 LPNs annually, over the last nine years, or about –1.0 per cent compounding annually. Overall health workforce growth in the same period was about 1.3 per cent (source: RHAs).

To determine the most likely scenario for future LPN workforce numbers, several factors were considered:

1. Skill mix changes in long term care: RHAs have changed, or are in the process of changing, the composition of the Registered Nurse (RN), LPN, and Personal Care Attendant (PCA) workforce in long term care. Before skill mix changes were started, the approximate proportions of nursing staff were 20 per cent RNs and 80 per cent LPNs and very few PCAs. The targeted proportions, expressed as the per cent of the workforce a particular occupation represents of the three identified, are as follows: RNs: 14 to 20 per cent, LPNs: 40 to 53 per cent, and PCAs: 33 to 40 per cent. Achieving these targets means reductions in the number of LPN positions. Some RHAs have achieved targeted skill mix while others have not. The remaining changes are estimated to reduce the number of LPN positions in the province by 250 to 300 as of the date of this report. These changes are mainly being achieved through natural attrition of the LPN workforce, with a targeted completion of April 2012.
2. Regulatory changes: As discussed in Section 5.4 on page 10, many LPNs may not undertake upgrading in order to renew their license to meet revised regulatory requirements. It is estimated that 300 LPNs may choose to not renew their license. Some LPNs may assume positions as PCAs filling the need created by skill mix changes. Regulatory changes for LPNs become law on April 1, 2012. Regulatory changes are concurrent with skill mix targets, and both factors align to alleviate replacement demand for LPNs in 2012. Consultation with each RHA indicated that these factors are in alignment and that no supply/demand imbalances are anticipated as a result.
3. Additional long term care beds: New protective care Bungalows in Clarenville will have 12 beds and require an estimated five LPNs in 2013. The new long term care facility in St. John’s will have an additional 90 beds requiring an estimated additional 25 LPNs in 2014.
4. Potentially increasing numbers of LPNs in community health, and acute care. Indications are that opportunities for LPNs to use their full scope of practice in these areas of practice are plentiful, but uptake will be slow for a variety of reasons. The potential for new LPN positions cannot be quantified. A full discussion on team mix and scope of practice issues is beyond the scope of this report.
5. Close to Home Strategy: On October 4, 2011, a additional commitment was made for new funding totaling nearly $100 million over the next four years for the implementation of the Close to Home Strategy, with measures to promote health and wellness, while focusing on person-centred service. This strategy may result in increased demand for LPNs, as opportunities are sought to take full advantage of their skill set to help meet the needs of seniors in their communities. Such increases would likely occur at a rate which could be absorbed by the current capacity of the LPN workforce in the short term. As the strategy develops, long term implications for the LPN workforce can be identified.

The net result of these factors is unknown, but an assumption is required on the size of the workforce in coming years. The assumption used for the model is that a major reduction of 300 will occur immediately on April 1, 2012, while new positions in long term care (related to added bed capacity as described above) of five in 2013, and 25 in 2014, will occur. Beyond 2014, a slow annual increase of 0.25 per cent is assumed through to the end of the forecasted period of 2021. The projected trend is shown in Figure 5:

Figure 5. Historical and Projected LPN Workforce.



Source: College of Licensed Practical Nurses of Newfoundland and Labrador Licensure data 2002/03 to 2010/11 and assumptions as stated.

Positive workforce growth means supply must be stronger to accommodate the growth. In the case of projected decline in workforce numbers, expansion/contraction demand is assumed to be zero i.e. supply to sustain growth is not needed.

Figure 5 above shows actual LPN workforce numbers 1991 to 2011, and projected workforce numbers 2012 to 2021. The projected drop in numbers of 300 is shown in 2012, followed by growth of 5 in 2013, and a further 25 in 2014. The workforce is projected to grow in number from 2015 to 2021 by 0.25 per cent annually.

Many of the model factors are based directly on the workforce size, a decreasing workforce will ease replacement demand in the years of decline. For example, 6.1 per cent turnover is smaller in quantity for a smaller workforce. The drop in workforce size may be more pronounced that estimated in Figure 5, in which case the model's conservative approach is maintained.

6.3. Workforce Utilization

Before concluding a discussion on demand it is important to highlight opportunities for better workforce utilization. Improving utilization could lessen or increase the demand for LPNs, depending on the approach. For example, higher utilization of LPNs in community and acute care could increase demand, while decreasing absenteeism rates (which are currently significant) could lower demand. The former is discussed in the previous Section. This Section touches on opportunities to better utilize the existing workforce.

Regarding the productivity of the current LPN workforce, there are opportunities to improve efficiencies. Focus on staffing and scheduling practices, utilization of support staff, work processes, illness/injury rates, and other areas could yield significant improvements. For example, lost time due to illness and injury, and resources required to replace those LPNs on benefit leave, represents significant cost. Selected earnings are shown in Table 13. The data provided is shown in terms of full-time equivalents (FTEs); one FTE is 1950 hours.

Table 13. RHA LPNs Selected Earnings 2009/10.

Earning	Equivalent FTEs
Sick Benefit (leave taken)	143
Injury Benefit (leave taken)	105
Sick Relief (worked) see note 1.	69
Injury Relief (worked) see note 1.	36
Overtime (worked)	67

Source: Department of Health and Community Services 2011.
Notes:

1. Not all sick and injury benefit leave requires relief.

The total paid FTEs in leave taken due to sick and injury benefit amounts to 248 FTEs, or more than 10 per cent of the estimated FTE LPNs in the province. Including FTEs for relief purposes, the total FTE related to illness and injury is 353 FTE, or about 680,000 paid hours amounting to $12.5 million in fiscal year 2009/10. Further costs are incurred through overtime and callback, much of it related to the provision of relief.

Many workplace injuries result in lost time. Data from the Workplace Health Safety and Compensation Commission for 2006 to 2010 indicates that lost time incident rates are not equal among occupations. For example, RNs and LPNs combined account for 38.3 per cent of all these lost time incidents, about the same proportion of the workforce they represent. However, the LPN workforce is less than half of the size of the RN workforce yet had 50 per cent more lost time incidents. Therefore LPNs are experiencing lost time incidents at a rate of about 3.5 times that of RNs.

A Proposal for a Provincial Injury Prevention Pilot Program in Long Term Care to address safe resident handling practices in the long term care sector within RHAs is currently under development. The goal of the proposal is to reduce lost time incidents associated with resident handling by RNs, LPNs and PCAs in long term care. Ten pilot sites were chosen, representing 1313 employees (about one-third of 3935 employees in 22 long term care sites) with each RHA having two or three sites participating. Targeted start date is January 2012, finishing in March 2013, for 15 months duration. The long term goal is to reduce the total number of lost time incidents in long term care (for all employees) by 44 per cent over five years. Such reductions will lower lost time rates as well as the associated need for relief. Successes in reducing lost time incidents will lower demand for LPNs.

Beyond lost time/costs associated with benefits paid to injured LPNs and relief staff, the human cost is significant. Injuries often result in disabling and chronic conditions which can reduce personal income, end careers, and affect personal lifestyles. Partners, children and other family of injured workers are negatively affected.

The cost of absenteeism includes the direct payment of wages and benefits paid during the absence, but also includes relief staffing, scheduling, re-training, lost productivity, diminished moral, and turnover. Attendance management programs are the best approach for reducing employee absenteeism and improving services.

Gains realized through improved utilization of LPNs are not incorporated directly into the model. Any gains in this area could be redirected into improving services. Though not discussed at length in this report, this is an important area for consideration.

6.4. Demand Summary

Bringing together all demand factors, a summary showing total LPN demand projections for the period 2011 to 2021 is shown in Table 14:

Table 14. LPN Demand Projections 2011 to 2021.

YEAR	WORKFORCE	*DEMAND*			
		Expansion/ Contraction	Replacement	Incremental Retirements	Total Demand
Reference:	*Section 6.2 Page15*	*Section 6.2 Page15*	*Section 6.1 Page 11*	*Section 6.1 Page 11*	
A	**B**	**C**	**D**	**E**	**F=C+D+E (If C is +)**
2011	2703	-	-	-	**-**
2012	2403	-300[1]	147	4	**151**[2]
2013	2408	5	147	8	**160**
2014	2433	25	148	12	**186**
2015	2439	6	149	16	**171**
2016	2445	6	149	21	**176**
2017	2451	6	150	25	**180**
2018	2457	6	150	29	**185**
2019	2464	6	150	33	**189**
2020	2470	6	151	37	**194**
2021	2476	6	151	41	**198**

Notes

1. Many LPNs may not undertake upgrading in order to renew their license to meet revised regulatory requirements. It is estimated that 300 LPNs may choose to not renew their license. See Section 5.4 page 10.
2. The anticipated decrease of 300 LPNs shown in column C does not count as a “credit“ towards the demand for LPNs and is not included in column F.

7. Supply

For the purpose of this document, supply is defined as:

Supply: Source of qualified workers.

Qualified LPN recruits can be new graduates or experienced workers. Either can originate from within the province or external to the province.

7.1. Internal Supply

Internal supply refers to new graduates from Practical Nursing Programs in Newfoundland and Labrador or experienced LPNs entering the workforce from an absence of one year or more. Before quantifying these two areas of internal supply, some background is provided on the evolution of the Practical Nursing Program:

"The mission of the Practical Nursing Program is to prepare caring and professional practical nurses to practice in a wellness-oriented, client-focused and consumer sensitive health care system. This program is designed to prepare practical nurses who are effective care givers, client advocates, therapeutic communicators, collaborative team members and acceptable practitioners. Classroom, laboratory and clinical instructions are provided in an environment which promotes intellectual and personal development through lifelong learning."[5]

Prior to September 1996 the Nursing Assistant Program (now Practical Nursing Program) was delivered through the publicly funded community college system and hospital based programs in the province. In accordance with the Licensed Practical Nurses Act, effective September 1996, the CNS was designated by the Board of the Council for Nursing Assistants (now the CLPNNL) as the parent institution responsible for delivery of practical nursing education in the province.

The transfer of the program from the community college system and hospital-based programs to the CNS was motivated by recognition that the program needed revision, and the interdisciplinary education of nursing assistants and RNs would facilitate positive professional socialization that would promote effective team functioning in practice. Both the Council for Nursing Assistants and the Department of Education (name of the department at the time) requested that the program be revised with a view to responding to the changing needs of the health care system but also with a view to effectively addressing noted deficiencies and the related mobility issues. It was therefore imperative that future graduates have the full spectrum of education required to work in other provinces throughout Canada. The program was revised, changing it from a non-integrated, non-semesterized approach to a fully integrated semesterized program. The length of the program was changed from 11 months to 12 months with new content added to ensure graduates were fully prepared to write the national certification examination and to work in a changing health care system anywhere in Canada. In September 1997, a preceptorship component was added to the Nursing Assistant Program. Practical nurses from across the province provided valuable learning opportunities for these students. As well, new curriculum content added during the 1997-1998 academic year enabled graduates from the program in 1998 to write all components of the Canadian Practical Nurses Registration Exam. This meant that practical nursing graduates would now have employment mobility right across the country.

[5] Source: http://www.cns.nf.ca/PROGRAMS/PROG_LPN/lpn_main.htm Downloaded May 26, 2011.

In September 1997, the Board of the Council for Nursing Assistants approved for the CNS to broker the Nursing Assistant Program to facilitate province-wide access. Based on provincial employment needs determined by the Council for Nursing Assistants in collaboration with the employers, the Program was brokered by the CNS to publicly funded community college institutions in the central and western regions of the province. Up through the past 12 years the CNS has worked with as many as seven College of the North Atlantic campuses throughout Newfoundland and Labrador in brokering the program. As the parent institution responsible for delivery of Practical Nursing education in the province, the CNS is responsible to monitor delivery of the program at the brokered sites to ensure the program is delivered in accordance with the Standards and Criteria for delivery of Practical Nursing Education as set by the Board of the CLPNNL.

In 2002, the Practical Nursing Program underwent its first external review by the CLPNNL and received a full three-year approval. Since that time, the Program has continued to have successful periodic reviews by the CLPNNL. There has been a continued evolution of the Practical Nursing Scope of Practice over the past 15 years. The educational program at the CNS has been responsive to this evolution in preparing graduates for practice and to write the national licensure exam. The program was extended from 12 months to 16 months in September 2004, which provided additional clinical time to achieve proficiency in medication administration, as well as practice other clinical skills taught throughout the Program.

Currently, there are a variety of continuing education options for LPNs. The Continuing Nursing Studies Department of the Centre for Nursing Studies offers:

- Practical Nursing Re-entry Program
- Medication Administration (including Intravenous Therapy)
- Foot Care Workshops
- Competency Modules
- Gerontology Nursing
- Mental Health Nursing
- Operating Room Technician
- Health Assessment Course

As with many health occupations, Newfoundland and Labrador depends heavily on our own supply of LPN graduates. Among provinces, Newfoundland and Labrador is second only to Quebec in the per cent of the workforce trained in their home province:

Table 15. LPNs NL and Canada: Location of Graduation.

Location of Graduation (2009)		N.L.	Canada
Canadian-trained		*	**97.6**
	Retained Graduates	96.2	92.0
	Inter-provincial Graduates	*	5.6
	Canadian-trained (location unknown)	0.0	<0.1
Foreign-trained		*	**2.3**
Not Stated		*	**0.1**
Total LPN Workforce		**100.0**	**100.0**

Source: CIHI, Regulated Nurses: Canadian Trends, 2005 to 2009.
Notes: * Data suppressed.

The Quebec workforce was 100 per cent trained in Quebec, compared to 96.2 per cent for Newfoundland and Labrador and 92.0 per cent for all provinces and territories.

Past patterns of enrollments and new graduates are shown in Table 16. Where available, the number of graduates follows the number enrolled. For example, 66/54 indicates 66 enrolled and 54 graduated, in St. John's in the class starting in September 2003 (fiscal year 2003/04).

Table 16. Practical Nurse Program Enrollments/Graduates/Employment 1988 to 2010.

Fiscal Year	St. John's (CNA)[1]	St. John's (CNS)	Carbonear (CNA)	Burin (CNA)	Bonavista (CNA)	Placentia (CNA)	Springdale (CNA)	Grand Falls (CNA)	Gander (CNA)	Baie Verte (CNA)	Corner Brook (CNA)	Corner Brook (WRSON)[2]	Stephenville (CNA)	Goose Bay (CNA)	St. Anthony (CNA)	Clarenville	Total Graduates[3]	Total Graduated Employed
1988/89	63												26				**89**	
1989/90	66		19		13								21				**119**	
1990/91	128		20			20	17		17		19				18		**239**	
1991/92	112				14				18		18				17		**179**	
1992/93	68			47											19		**134**	
1993/94	35														18		**53**	
1994/95	89									20							**109**	
1995/96	63														27		**90**	
1996/97	71						24		17		22						**134**	
1997/98		46									19						**65**	
1998/99		55						23				28					**106**	
1999/00		51							24			29					**104**	
2000/01[4]		53						22									**75**	
2001/02		54						20	36			29		15			**154**	
2002/03		66						21	24		29			14			**154**	
2003/04		66/54						24			29						**107**	**85**
2004/05		71/61						21			30						**112**	**72**
2005/06		40/30						29/21			32/30						**81**	**67**
2006/07		41/30						30/23			30/27						**80**	**56**
2007/08		40/33						30/19			30/27						**79**	**79**
2008/09		43/30						28/23			30/25						**78**	**77**
2009/10		56/46						34/20			34/33						**99**	**97**
2010/11		59/46		14/13				27/26			32/32		25/25	18/13		24/21	**176**	**147**
2011/12		40/--		24/--				40/--			40/--		30/--	18/--	24/--	24/--		

Source: College of Licensed Practical Nurses of Newfoundland and Labrador, 2011.
Notes:
1. CNA – College of the North Atlantic is indicated after several locations. However, the name of the institution was different for earlier offerings of the program.
2. WRSON – Western Regional School of Nursing.
3. Note all graduates of the Practical Nursing Program must pass a licensing exam and register to become LPNs.
4. Moving the Practical Nursing Program from WRSON to CNA resulted in no graduates in Corner Brook in 2000/01.
5. Where available, first figure in the cell is the number enrolled and the second figure is the number graduated.

Comparing the total number of graduates (812) and total number employed (680) from 2003/04 to 2010/11, the graduate retention rate is 84 per cent. The model uses an 84 per cent average graduate retention rate in the province.

Comparing total enrolled to total graduated (from 2003/04 to 2010/11 where available), average attrition from the Practical Nursing Program is 18 per cent (863 enrolled, 708 graduated). Breakdown by site is provided in Table 17:

Table 17. Practical Nurse Program Attrition by Site 2003/04 to 2010/11.

<table>
<tr><th rowspan="2">Program Site</th><th>Total Enrolled</th><th>Total Graduated</th><th>Attrition Rate</th><th>Number of Program Offerings Analyzed</th></tr>
<tr><th>A</th><th>B</th><th>(A - B)/A</th><th></th></tr>
<tr><td>St. John’s</td><td>416</td><td>330</td><td>21%</td><td>8</td></tr>
<tr><td>Corner Brook</td><td>188</td><td>174</td><td>7%</td><td>6</td></tr>
<tr><td>Grand Falls-Windsor</td><td>178</td><td>132</td><td>26%</td><td>6</td></tr>
<tr><td>Burin</td><td>14</td><td>13</td><td>7%</td><td rowspan="4">1 in each site
Caution is noted in interpretation of results</td></tr>
<tr><td>Goose Bay</td><td>18</td><td>13</td><td>28%</td></tr>
<tr><td>Clarenville</td><td>24</td><td>21</td><td>13%</td></tr>
<tr><td>Stephenville</td><td>25</td><td>25</td><td>0%</td></tr>
<tr><td>Total</td><td>863</td><td>708</td><td><u>18%</u></td><td>24</td></tr>
</table>

Source: College of Licensed Practical Nurses of Newfoundland and Labrador, 2011.

Note that students may drop out in one year and return in a later year. True attrition rates may therefore be understated. The workforce model assumes a program attrition rate of 18 per cent.

The seat capacity for the September 2011 intake was 229. Considering average program attrition and employment retention rates, it is assumed that this seat capacity would result in 156 hires of new graduates into LPN positions in the province. Seat capacity and actual enrollments by site is provided in Table 18:

Table 18. Practical Nursing Program Funded Seat Capacity September 2011.

Practical Nursing Program Site	Funded Seat Capacity	Actual Enrollments
St. John's	40	49
Burin	18	14
Clarenville	24	22
Grand Falls-Windsor	35	33
Stephenville	30	24
Corner Brook	40	36
Happy Valley GB	18	14
St. Anthony	24	20
Total	**229**	**212**

Source: Centre for Nursing Studies, 2011.

It is noted that rural sites have experienced difficulties in filling all funded seats. The reasons for this have not been identified. Furthermore, as of the date of this report, there has been an increase in attrition during their first semester of the current program, for students expected to graduate in December 2012, with a loss of 50 students. All eight sites reported that the current enrollment numbers stand at 168 students. The Stephenville site has just nine students remaining from an enrollment of 24. Further attrition in Stephenville and in other sites may be expected.

Some of the factors that may be contributing to student attrition include poor applicant fit with the program (may be linked to minimal marketing of the program), lack of student funding, change of interest from younger students once they commence the program, personal and/or health issues, the structure/length of the Practical Nurse Program, and other factors related to the sporadic offering of the program in rural locations. Further study is recommended to identify the factors contributing to attrition.

Another source of internal supply includes those experienced LPNs entering the workforce from an absence of one year or more. These are referred to as "reactivated" licenses below. Turnover figures presented in earlier sections include those who may exit the workforce to raise a family, care for another person, or some other reason. Often these people will return to the workforce after an absence and must be considered in supply figures. Further analysis of data on entries (provided in Table 8 page 12) is shown below in Table 19:

Table 19. Provincial LPN Workforce Entries: Counts.

Year 1	Year 2	Entries (Table 8 Columns F)	Entries: New	Entries: Reactivated
A	B	C	D	E
2001/02	2002/03	194	145	49
2002/03	2003/04	135	108	27
2003/04	2004/05	134	104	30
2004/05	2005/06	148	114	34
2005/06	2006/07	100	71	29
2006/07	2007/08	129	94	35
2007/08	2008/09	147	106	41
2008/09	2009/10	136	100	36
2009/10	2010/11	206	179	27
Average		**148**	**113**	**34**

Source: College of Licensed Practical Nurses of Newfoundland and Labrador licensure data 2001/02 to 2010/11.

Data expressed as a per cent of the workforce is shown in Table 20:

Table 20. Provincial LPN Workforce Entries: Per Cents.

Year 1	Year 2	Entries (Table 9)	Entries: New	Entries: Reactivated
A	B	C	D	E
2001/02	2002/03	6.7%	5.0%	1.7%
2002/03	2003/04	4.6%	3.7%	0.9%
2003/04	2004/05	4.6%	3.6%	1.0%
2004/05	2005/06	5.1%	4.0%	1.2%
2005/06	2006/07	3.5%	2.5%	1.0%
2006/07	2007/08	4.7%	3.4%	1.3%
2007/08	2008/09	5.4%	3.9%	1.5%
2008/09	2009/10	5.1%	3.7%	1.3%
2009/10	2010/11	7.7%	6.7%	1.0%
Average		**5.3%**	**4.0%**	**1.2%**

Source: College of Licensed Practical Nurses of Newfoundland and Labrador licensure data 2001/02 to 2010/11.

Column E in Table 19 and Table 20 shows an average of 34 LPNs, or 1.2 per cent of the LPN workforce, reactivate an existing licensure number (after one year or more inactivity) annually. The model assumes 1.2 per cent of the workforce will continually enter the workforce annually, showing up as reactivations.

It is notable that all LPNs exiting the system due to skill mix or regulatory changes are not a viable supply for addressing replacement demand because they are either leaving through attrition (retiring or leaving of their own accord) or non-compliance with regulations (no longer licensed to work as an LPN).

Further discussion on scenarios for capacity and location of seats is provided in Section 9.

7.2. External Supply

Further analysis of CLPNNL data indicates that of all new entries shown in Column D of Table 19 (1021), a total of 84 were educated outside of the province, or 8.2 per cent of all new entries in a particular year. This equates to an average of nine annually, as shown in Table 21:

Table 21. New Entries to the LPN Workforce Educated Outside of NL.

Year 1	Year 2	Entries: New	Educated Outside of the Province	Per Cent
2001/02	2002/03	145	10	6.9%
2002/03	2003/04	108	8	7.4%
2003/04	2004/05	104	8	7.7%
2004/05	2005/06	114	7	6.1%
2005/06	2006/07	71	4	5.6%
2006/07	2007/08	94	8	8.5%
2007/08	2008/09	106	23	21.7%
2008/09	2009/10	100	4	4.0%
2009/10	2010/11	179	12	6.7%
Total		**1021**	**84**	**8.2%**
Average		**113**	**9**	**8.2%**

Source: College of Licensed Practical Nurses of Newfoundland and Labrador licensure data 2001/02 to 2010/11.

The number entering the workforce and educated outside the province is assumed to be a reasonable proxy for the number of external entries, both new graduates and experienced LPNs. The model uses a figure of 9/2703 or 0.33 per cent of the workforce entering annually as external supply

7.3. Supply Summary

A summary showing total LPN supply projections (assuming existing provincial seat capacity remains constant at 229 seats) for the period 2011 to 2021, is shown in Table 23:

Table 22. LPN Supply Projections 2011 to 2021 (Existing Seat Capacity).

YEAR	WORKFORCE	*SUPPLY*				
		Experienced and New Graduates (External)	Experienced Re-entering (Internal)	New Graduates Retained from Previous Year's Seats (Internal)		Total Supply
Reference:	*Section 6.2 Page15*	*Section 7.2 Page 27*	*Section 7.1 Page 21*	*Section 7.1 Page 21*		
A	**B**	**G**	**H**	**Seats**	**I**	**J=G+H+I**
2011	2703	-	-	212	-	**-**
2012	2453	8	29	229	146	**183**
2013	2458	8	29	229	158	**195**
2014	2483	8	30	229	158	**195**
2015	2489	8	30	229	158	**196**
2016	2495	8	30	229	158	**196**
2017	2502	8	30	229	158	**196**
2018	2508	8	30	229	158	**196**
2019	2514	8	30	229	158	**196**
2020	2520	8	30	229	158	**196**
2021	2527	8	30	229	158	**196**

* Actual enrollment in 2011 is used for 2011 to project graduates retained in the province in 2012. For 2012 and each year to the end of the projection period, 229 enrollments is used, assuming all allocated seats are filled.

A summary comparing projected LPN supply (using current seat capacities) and projected LPN demand, is shown next in Section 8.

8. Provincial Workforce Model

Table 23. LPN Supply and Demand Projections 2011 to 2021 (Existing Seat Capacity).

YEAR	WORKFORCE	*DEMAND*				*SUPPLY*					*PROJECTED GAP (In each year. positive value means surplus)*
		Expansion/ Contraction	Replacement	Incremental Retirements	**Total Demand**	Experienced and New Graduates (External)	Experienced Re-entering (Internal)	New Graduates Retained from Previous Year's Seats (Internal)		**Total Supply**	
Reference:	*Section 6.2 Page15*	*Section 6.2 Page15*	*Section 6.1 Page 11*	*Section 6.1 Page 11*		*Section 7.2 Page 27*	*Section 7.1 Page 21*	*Section 7.1 Page 21*			
A	**B**	**C**	**D**	**E**	**F=C+D+E (If C is +)**	**G**	**H**	**Seats**	**I**	**J=G+H+I**	**K=F-J**
2011	2703	-	-	-	**-**	-	-	212[2]	-	**-**	-
2012	2403	-300	147	4	**151[1]**	8	29	229	146	**183**	**33**
2013	2408	5	147	8	**160**	8	29	229	158	**195**	**35**
2014	2433	25	148	12	**186**	8	30	229	158	**195**	**10**
2015	2439	6	149	16	**171**	8	30	229	158	**196**	**24**
2016	2445	6	149	21	**176**	8	30	229	158	**196**	**20**
2017	2451	6	150	25	**180**	8	30	229	158	**196**	**15**
2018	2457	6	150	29	**185**	8	30	229	158	**196**	**11**
2019	2464	6	150	33	**189**	8	30	229	158	**196**	**7**
2020	2470	6	151	37	**194**	8	30	229	158	**196**	**2**
2021	2476	6	151	41	**198**	8	30	229	158	**196**	**-2**

Notes
1. The anticipated decrease of 300 LPNs shown in column C does not count as a "credit" towards the demand for LPNs and is not included in column F.
2. Actual enrollment in 2011 is used for 2011 to project graduates retained in the province in 2012. For 2012 and each year to the end of the projection period, 229 enrollments is used, assuming all allocated seats are filled.

Caution is noted that emphasis should not be placed on exact figures as the model uses trends and averages. Assumptions are made such that resulting estimates may be considered slightly optimistic. Therefore the summary presented in Table 23 may also be considered slightly optimistic. The assumption on incremental retirements becomes weak after 2019 as the assumption was based on linear trends from 2011 to 2019 as shown in Figure 3.

At the provincial level, the current supply of LPNs would exceed demand for the next nine years, assuming seat capacity remains constant at 229. This is shown as surpluses in column K, from 2012 to 2020.

Adjusting supply to balance demand at the provincial level, an optimal seat capacity at the provincial level is estimated to be 185 for intakes starting in 2012, increasing by five annually thereafter. Appropriate seat capacity should be re-evaluated in 2016.

A model showing the effect of a seat capacity of 185 for intakes in 2012, increasing by five annually thereafter, is shown in Table 24.

Table 24. LPN Supply and Demand Projections 2011 to 2023 (Proposed Seat Capacity).

YEAR	WORKFORCE	*DEMAND*				*SUPPLY*					*PROJECTED GAP (In each year. positive value means surplus)*
		Expansion/ Contraction	Replacement	Incremental Retirements	**Total Demand**	Experienced and New Graduates (External)	Experienced Re-entering (Internal)	New Graduates Retained from Previous Year's Seats (Internal)		**Total Supply**	
Reference:	*Section 6.2 Page15*	*Section 6.2 Page15*	*Section 6.1 Page 11*	*Section 6.1 Page 11*		*Section 7.2 Page 27*	*Section 7.1 Page 21*	*Section 7.1 Page 21*			
A	**B**	**C**	**D**	**E**	**F=C+D+E (If C is +)**	**G**	**H**	**Seats**	**I**	**J=G+H+I**	**K=F-J**
2011	2703	-	-	-	**-**	-	-	212[2]	-	**-**	-
2012	2403	-300	147	4	**151[1]**	8	29	185	146	**183**	**33**
2013	2408	5	147	8	**160**	8	29	190	127	**165**	**5**
2014	2433	25	148	12	**186**	8	30	195	131	**169**	**-17**
2015	2439	6	149	16	**171**	8	30	200	134	**172**	**1**
2016	2445	6	149	21	**176**	8	30	205	138	**176**	**0**
2017	2451	6	150	25	**180**	8	30	210	141	**179**	**-1**
2018	2457	6	150	29	**185**	8	30	215	145	**183**	**-2**
2019	2464	6	150	33	**189**	8	30	220	148	**186**	**-3**
2020	2470	6	151	37	**194**	8	30	225	152	**190**	**-4**
2021	2476	6	151	41	**198**	8	30	230	155	**193**	**-5**

Notes

1. The anticipated decrease of 300 LPNs shown in column C does not count as a "credit" towards the demand for LPNs and is not included in column F.
2. Actual enrollment in 2011 is used for 2011 to project graduates retained in the province in 2012. For 2012 and each year to the end of the projection period, 229 enrollments is used, assuming all allocated seats are filled.

It is anticipated that the shortfall projected for 2014 can be absorbed by LPNs working in temporary part-time positions throughout the province. It may also be somewhat mitigated by the projected surplus in 2012. Due to the numerous offerings of the program throughout the province and localized supply and demand issues, regional analysis is required.

9. Regional Analysis

Analysis was completed on where LPNs were educated versus where they work. A correlation between the two suggests that local programs result in local employment, although there is also significant movement of graduates to other sites for work. Data are shown in Table 25:

Table 25. LPNs Employer Site Versus Program Site 2011.

LPN Counts	**Program Site**														
Employer Site	Bonavista	Burin	Carbonear	Clarenville	Corner Brook	External	Gander	Grand Falls-Windsor	Happy Valley - Goose Bay	Placentia	Springdale	St. Anthony	St. John's	Stephenville	**Total Employed at Employer Site**
Baie Verte					5	1		20					3		**29**
Bay D'Espoir					1			2							**3**
Bonavista	10	4	1	4	3	4		2					28		**56**
Bonne Bay					12	2		1					3		**18**
Botwood	2	1			5	1	1	30					10		**50**
Burgeo					9	1		2					2	4	**18**
Burin		**8**			2	3							37		**50**
Carbonear		3	**4**	1	1	7		4		11			113		**144**
Clarenville		1		**9**	2	5		5					24		**46**
Clarke's Beach						1							22		**23**
Conne River								3					1		**4**
Corner Brook					**247**	7	1	10			1	4	34		**304**
Fogo								9					2		**11**
Forteau					3			3					6		**12**
Gander		1			5	6	**28**	79					38		**157**
Grand Bank	1	14			1			1	1				17		**35**
Grand Falls-Windsor					4		5	**138**				1	16		**164**
Happy Valley - Goose Bay					12			5	**30**			1	18		**66**
Harbour Breton					1		1	6					8		**16**
Labrador City					3	3		1	2	1			4		**14**
Lewisporte					2		2	25					6		**35**
Placentia						1		3		**6**			43		**53**
Port aux Basques					19	1		1					3	2	**26**
Port Saunders					16			3	1				3		**23**
Roddickton					2			2					1		**5**
Springdale					3	4	1	39			**0**		6		**53**
St. Anthony					36	2		13	1			**6**	6		**64**
St. John's	1	7	4	7	37	42	7	73	4	3	2	4	**868**	7	**1066**
Stephenville					20								4	**3**	**27**
Stephenville Crossing	1	1			54	4						1	17	7	**85**
Twillingate					1	3	1	18					11		**34**
Wabana						1							10		**11**
Wabush								1							**1**
Total Educated at Program Site	**15**	**40**	**9**	**21**	**506**	**99**	**47**	**499**	**39**	**21**	**3**	**17**	**1364**	**23**	**2703**

Source: College of Licensed Practical Nurses of Newfoundland and Labrador licensure data 2010/11.

Numbers shown in bold and running diagonally through the table indicate the number educated and working at the same site. For example, 138 were educated and work in Grand Falls Windsor. Note also that a total of 499 were educated in Grand Falls-Windsor, while 164 are currently employed there. Therefore, 138/164 or 84 per cent are locally educated LPNs. Note that of all 2703 practicing LPNs in 2011, 1364 or 50 per cent were educated in St. John's.

A summary showing the per cent of the LPN workforce educated in the same location as they are currently practicing is shown in Table 26:

Table 26. Per Cent of LPN Workforce Locally Educated by Training Site.

Site	LPN Workforce at This Site Who Were Educated at This Site	Total LPN Workforce at This Site	Per Cent of LPN Workforce Locally Educated
	A	B	A/B
Grand Falls-Windsor	138	164	84%
St. John's	868	1066	81%
Corner Brook	256	322	80%
Happy Valley - Goose Bay	30	66	45%
Clarenville	9	46	20%
Bonavista	10	56	18%
Gander	28	157	18%
Burin	8	50	16%
Placentia	6	47	13%
Stephenville	3	27	11%
St. Anthony	6	64	9%
Carbonear	4	144	3%
Springdale	0	53	0%
Total	**1366**	**2262 (see note 1)**	**60%**

Notes:

1. Figures in Table 26 only represent LPNs working at the sites listed and is not a comprehensive list of all LPNs in the province.

Note that past patterns of program availability and capacity, the availability of employment positions and their types, and many other factors affect the mobility of graduates. It is reasonable to conclude that employers have benefited from a local supply of new graduates.

An important question is how many seats are needed and where? A mathematical approach is taken here to lay the foundation for education site scenarios. A calculated ideal total of 185 seats were shared proportionally among all existing employer sites, based on how many LPNs were employed at each site. All employer sites were then mapped to local education sites, assuming (incorrectly) that all supply for a particular employer originates with the local program site. The assumed starting point for education sites is that a program would be available at any site that had offered it in the past. This is not a possibility for the present, but facilitates the "rolling up" of demand to the various sites. This was then compared to existing funded seat capacities. Results are shown in Table 27:

Table 27. Practical Nursing Program Seat Demand Calculation and Program Site Scenarios.

Employer Site	LPNs	LPN Seat Demand Calculation (see note 1)	Scenario 1: All Sites		Scenario 2: Existing Sites		
			Site	Total	Site	Total	Current Funded Seat Capacity
St. John's	1066	73.0	St. John's	**74**	St. John's	**89**	**40**
Wabana	11	0.8					
Old Perlican	6	0.4	Carbonear	**12**			
Carbonear	144	9.9					
Clarke's Beach	23	1.6					
Placentia	47	3.2	Placentia	**3**			
Clarenville	46	3.1	Clarenville	**3**	Clarenville	**7**	**24**
Bonavista	56	3.8	Bonavista	**4**			
Grand Bank	35	2.4	Burin	**6**	Burin	**6**	**18**
Burin	50	3.4					
Bay D'Espoir	3	0.2	GF-W	**19**	GF-W	**38**	**35**
Botwood	50	3.4					
Lewisporte	35	2.4					
Grand Falls-Windsor	164	11.2					
Harbour Breton	16	1.1					
Conne River	4	0.3					
Twillingate	34	2.3	Gander	**14**			
Gander	157	10.7					
Fogo	11	0.8					
Springdale	53	3.6	Springdale	**4**			
Baie Verte	29	2.0	Baie Verte	**2**			
Bonne Bay	18	1.2	Corner Brook	**23**	Corner Brook	**23**	**40**
Corner Brook	304	20.8					
Port Saunders	20	1.4					
Burgeo	18	1.2	Stephenville	**11**	Stephenville	**11**	**30**
Port aux Basques	26	1.8					
Stephenville	27	1.8					
Stephenville Crossing	85	5.8					
St. Anthony	64	4.4	St. Anthony	**6**	St. Anthony	**6**	**24**
Roddickton	5	0.3					
Forteau	15	1.0					
Labrador City	14	1.0	HV-GB	**6**	HV-GB	**6**	**18**
Happy Valley - Goose Bay	66	4.5					
Wabush	1	0.1					
Totals	**2703**	**185.0**		**185**		**185**	**229**

Notes:

1. A calculated ideal total of 185 seats were shared proportionally among all existing employer sites, based on how many LPNs were employed at each site. For example, Bonavista theoretically requires 56/2703 x 185 seats (i.e. 56 LPNs in Bonavista out of a total workforce of 2703, times the number of optimal seats: 185) or 3.8 seats.
2. Both scenarios use a starting capacity of 185 seats for 2012, based on the results of the model presented in Table 24.

Scenario 1: All Sites
This is a fictional scenario and is included only to demonstrate the manner in which calculated seat demand would be distributed if every site that ever ran a program were available to run programs today. It shows 185 seats distributed among 14 sites throughout the province. Many sites would serve several communities, and calculated seat demand is "rolled-up" accordingly. Educational institutions advise that a minimum class size of 16 is needed to make a program viable. In this scenario, 11 of the 14 sites are below the minimum class size of 16.

Scenario 2: Existing Sites
Scenario 2 is provided to compare the existing funded seat capacities in eight sites to calculated seat demand for the same eight sites.

Table 28. Scenario 2: Existing Sites versus Calculated Seat Demand.

Site	Existing Funded Seat Capacity	Calculated Seat Demand	Difference
St. John's	40	89	49
Clarenville	24	7	-17
Burin	18	6	-12
GF-W	35	38	3
Corner Brook	40	23	-17
Stephenville	30	11	-19
St. Anthony	24	6	-18
HV-GB	18	6	-12
Total	**229**	**185**	**-44**

Overall, the calculated seat demand (185) is 44 seats below the actual capacity of 229. Five of the eight sites listed have a calculated seat demand below that of the suggested minimum class size of 16.

According to calculated (and assumed optimal) seat demand, St. John's and Grand Falls-Windsor are currently under-capacity (St. John's by less than half), while the remaining sites are over-capacity, by as much as four-times in the case of St. Anthony. The College of the North Atlantic indicated that Grand Falls-Windsor is currently at maximum capacity of 35 seats.

Scenario 3: Recommended Sites
The Working Group considered several factors in determining recommended sites and seat capacities. These include:

- Calculated seat demand for catchment areas;
- Feedback from RHAs;
- Minimum suggested class size of 16 seats;
- Program requirements for faculty, clinical placements, infrastructure, etc.

Proposed sites and funded seat capacities are provided in Table 29:

Table 29. Scenario 3: Recommended Sites.

Site Notes	Site	Existing Funded Seat Capacity	Calculated Seat Demand	Recommended Funded Seat Capacity
1	St. John's	40	89	79
2	Clarenville	24	7	16
3	Grand Falls- Windsor	35	38	35
4	Corner Brook	40	23	23
5	Stephenville	30	11	16
6	Floating Site	0	0	16
7	Burin	18	6	0
	St. Anthony	24	6	0
	Happy Valley-Goose Bay	18	6	0
	Total	**229**	**185**	**185**

The total number of proposed seats is 185. Six program sites are identified, with a total capacity of 169 seats, and a further 16 seats are assigned to a "floating site" i.e. a program site to serve local demand on an infrequent basis. Details are provided below.

Site Notes:

1. St. John's: Seat capacity for St. John's was determined after allocations to other sites such that the total provincial capacity would equal 185 seats. St. John's was allocated 79 seats, about double the current capacity (40) but below the calculated seat demand (89). The programs serves employers in St. John's, Wabana, Old Perlican, Carbonear, Clarke's Beach, and Placentia;
2. Clarenville: The Clarenville site serves employers in Clarenville and Bonavista, and potentially Burin. Since the calculated seat demand is below the minimum class size, capacity was set at 16 seats;
3. Grand Falls-Windsor: Proposed Grand Falls-Windsor capacity remains at 35 seats, just below calculated seat demand of 38;
4. Corner Brook: Proposed Corner Brook seat capacity of 23 matches the calculated seat demand, a decrease of 17 from current capacity of 40 seats;
5. Stephenville: A seat capacity of 16 is proposed for Stephenville, or about half of the current capacity of 30 funded seats. This is based on:
   - A calculated seat requirement of 11, based on the meeting needs of the LPN workforce in Stephenville, Bay St. George, Port aux Basques, and Burgeo; and
   - Indications from Western Health that the Stephenville program is needed to supply local graduates to work in facilities on the Southwest coasts of the island.

   The availability of required clinical placements for students and reasonable employment prospects for new graduates from the Stephenville program was discussed by the Working Group. Continuing a program in Stephenville is contingent on the approval process with the board of the CLPNNL, as are all program offerings. This is discussed in more detail below. This process will address these issues;
6. Floating site: The "Floating Site" will be assigned annually or as required, to individual sites demonstrating a need for new graduates through an approval process. The capacity was set at the minimum class size of 16. Typical sites for an offering of the program on an as-needed basis include but are not limited to Burin, St. Anthony and Happy Valley-Goose Bay.
7. Burin, St. Anthony, and Happy Valley-Goose Bay: Sites in Burin, St. Anthony, and Happy Valley-Goose Bay have low calculated seat demand and do not justify an annual offering of the program, but are possible sites for occasional offerings depending on demonstrated need.

It is important to note that all offerings of the Practical Nurse Program are subject to the approval process with the board of the CLPNNL. The board may approve a program if they have sufficient evidence to demonstrate that there is a need to warrant the offering of a program, and if the program can be delivered in accordance with the "Standards and Criteria for Approval and Evaluation of Practical Nursing Programs" as set by the board. The process examines evidence at a level more detailed than is possible in this report, including availability of required clinical placements for students, reasonable employment prospects, and other considerations.

Moving forward, it is proposed that provincial capacity increase by five annually to mirror increasing demand. The proposed capacity increases would be implemented in St. John's. Sites with a proposed capacity of 16 would remain constant because calculated seat demand remains below minimum class size of 16 for the projection period. Proposed increases by intake year are shown in Table 27:

Table 30. Practical Nuring Program Site Scenarios by Intake Year.

Practical Nursing Program Site	Intake Year				
	2012	2013	2014	2015	2016
St. John's	79	84	89	94	99
Clarenville	16	16	16	16	16
Grand Falls-Windsor	35	35	35	35	35
Corner Brook	23	23	23	23	23
Stephenville	16	16	16	16	16
Floating Site	16	16	16	16	16
Total	**185**	**190**	**195**	**200**	**205**

The process for proposing a program site including securing the necessary supporting evidence, the brokering of the program, and the necessary approvals, must be identified and formalized. For example, an estimated 12 months lead time is needed to prepare for an offering of the program, in order to establish the necessary funding, faculty, clinical placement, etc.

Some factors and evidence to consider in a formal approval process for location and capacity include but are not limited to:

- Accessibility of training to local residents;
- Local workforce turnover and retirement trends;
- Number and type of vacancies;
- Movement of new graduates for work;
- Funding to run the program;
- Faculty to teach the program;
- Laboratory space and equipment; and
- A variety of clinical placement types.

It is the anticipated that a regular offering of the Stephenville and Clarenville sites will bring stability to the offering of the Practical Nurse Program in those sites, improving faculty recruitment and other recurring issues. Repeated annual demonstration of need and subsequent approval of offering at these sites could lead to an "automatic program renewal" status, as is the case with the St. John's, Grand Fall-Windsor, and Corner Brook offerings.

Distance Education

Options for distance education are worth exploring. For example, if certain components of the program could be offered through distance education, there may be opportunities to reorganize the remainder of the program to make it easier to offer on-site components in rural areas. On-line offering of certain courses such as anatomy and physiology (as prerequisites to registration for the full program) could reduce attrition as students would be able to determine their suitability to the program beforehand.

The Centre for Nursing Studies has expressed interest in exploring options for distance delivery of the program and has a existing relationship with Memorial University's Distance Education, Learning and Teaching Supports (DELTS). Such an offering could be developed in partnership with the College of the North Atlantic and RHAs, and increase accessibility to the program in rural areas.

Finally, it is important to note that the results presented here do not consider the mechanics of offering the program at the identified sites, at the identified capacity. They do not represent a commitment by any organization; rather these results are recommendations for the best fit of location/capacity to the demand from current employers. There may be other valid reasons, beyond the scope of this report, for offering seats at a capacity different from those recommended.

10. Recommendations

Recommendations that follow are grouped into three strategic directions to 1) Manage Demand, 2) Adjust Internal Supply, and 3) Plan Effectively.

Based on the evidence provided and the scope of this report, the following recommendations are provided:

Recommendation 1 Manage Demand.

1.1 Identify opportunities to better utilize LPNs in acute care, community care, and long term care to make full use of their scope of practice.

1.2 Strengthen existing attendance management programs in RHAs and establish programs where there are none.

1.3 Support implementation of the "Proposal for a Provincial Injury Prevention Pilot Program in Long Term Care".

Recommendation 2 Adjust Internal Supply.

2.1 Adjust seat locations, capacities and associated funding requirements of the Practical Nurse Program to match those identified in this report. Increase funded seat capacity in St. John's, beyond the recommendation of 79 seats in 2012, by five annually each year from 2013 to 2016. Dedicate seat funding for a "floating site" offering.

Practical Nursing Program Site	Intake Year and Recommended Funded Seat Capacities				
	2012	**2013**	**2014**	**2015**	**2016**
St. John's	79	84	89	94	99
Clarenville	16	16	16	16	16
Grand Falls-Windsor	35	35	35	35	35
Corner Brook	23	23	23	23	23
Stephenville	16	16	16	16	16
Floating Site	16	16	16	16	16
Total	**185**	**190**	**195**	**200**	**205**

2.2 Formalize the process of program site identification and seat demand determination.

2.3 Explore options for distance education and associated funding for selected Practical Nurse Program courses. Such offerings could be considered as potential prerequisites to the Practical Nurse Program, or as core program elements.

2.4 Undertake an analysis of student attrition from the Practical Nurse Program and take steps to reduce attrition to an acceptable level.

Recommendation 3 Plan Effectively.

3.1 RHAs monitor workforce trends for LPNs working in related positions including: Operating Room Technicians, Urology Technicians, Physiotherapy Support Workers, Orthopedic Technicians, Respiratory Technicians, and Paramedics in order to anticipate and plan for potential gaps in supply and demand.

3.2 The provincial government refresh the LPN Workforce model Report in 2016 to re-evaluate funded seat capacity and other opportunities to balance LPN supply and demand factors.

11. Appendix A: Terms of Reference

Licensed Practical Nurse Workforce Model Working Group (Working Group)

Background

- Several factors contribute to the need for a LPN Workforce Model including but not limited to:
  - Need to estimate required seat capacity, related to Practical Nursing Program at the Centre for Nursing Studies in St. John's and multiple site offerings of the Practical Nurse Program throughout the province via the brokering of the program to the College of the North Atlantic;
  - Significant changes underway concerning team mix in Long Term Care in the province;
  - On-going work to improve LPN utilization in acute care and community sectors;
  - Changes in licensure requirements effective April 1, 2012.

Scope

- The entire provincial LPN workforce.

Objectives

- To develop a comprehensive LPN Workforce Model that incorporates the following Supply and Demand factors:

Replacement Demand (how many LPNs are needed to simply maintain the current workforce?)
• Workforce requirements stemming from projected turnover. Turnover includes all employee separations, including retirements.
Expansion/Contraction Demand (how many LPNs will be required to meet changing population needs and changing service delivery models?)
• Workforce requirements stemming from projected growth (or decline) in workforce size; • Incorporate discussion on changing population health needs, changing service delivery models, opportunities to improve productivity.
Supply (where are LPNs coming from?)
• Supply figures including all graduates, all provincial programs, (also considering attrition and graduate retention rates) and supply from outside the province. Also includes those re-entering the workforce.

Deliverables

- A written report including recommendations related to any or all of the Supply and Demand Factors listed above, and a spreadsheet model.

Reporting Structure and Communications

- The Working Group reports to the Assistant Deputy Minister Professional Services: Colleen Janes

Membership

- **Heather Hanrahan** Director Health Workforce Planning, Department of Health and Community Services (Chair)
- **Anita Ludlow** Provincial Chief Nurse
- **Andrew Wells** Senior Manager Health Workforce Planning, Department of Health and Community Services
- **Suellen Sheppard**, Manager Health Workforce Planning, Department of Health and Community Services
- **Candice Ennis-Williams** Director Institutional Services (Alternate Mark Hunter Post-Secondary Policy and Program Specialist), Department of Advanced Education and Skills
- **Jane Gamberg** Dean Health Sciences, College of the North Atlantic
- **Sharon Fitzgerald** Associate Director, Centre for Nursing Studies
- **Paul Fisher** Executive Director, College of Licensed Practical Nurses of Newfoundland and Labrador
- **Trudy Stuckless** Vice-President Professional Standards and Chief Nursing Officer, Central Health (Admin Assistant Kathy Milley)
- **Julie Nicholas** VP Acute Care and LTC Services & COO (South), Labrador-Grenfell Health (Admin Assistant Sandra Pink)
- **Anne Doyle** Director LTC, Western Health
- **Kim Blanchard** Manager Recruitment, Eastern Health

Governance

- Working Group is chaired by H. Hanrahan.
- Use of alternates encouraged if member absent for a meeting.

Roles and Responsibilities

- The chair is responsible for meeting agendas, keeping the discussion focused on the project, and adherence to timelines as defined in this Terms of Reference.
- All members are responsible for representing the interests of their organization, reviewing materials, providing constructive feedback, and deliverables.
- The Department of Health and Community Services is responsible for report and workforce model development under the direction of the Working Group.

Schedule

- Regular monthly meetings will be held until June 2011. Final deliverables in June 2011.

Constraints

- Future population health needs and service delivery models are determined by a host of influences including social, economic, political, geographic, and other factors. Precise determination of Demand for LPNs in this regard is not possible. Discussion on probable directions will be included in the report and factored into the model where possible.

Relationship to other Groups

- Maintain contact and periodically share results with Department of Health and Community Services Board Services (liaison H. Hanrahan) and CLPNNL Committee responsible for PN Program, brokering decisions (liaison P. Fisher).

Revision Date

- November 9, 2011.