Newfoundland and Labrador

Health Human Resource Indicator Report 1999 to 2003

Part 5 - Workforce Movement

NEWFOUNDLAND AND LABRADOR HEALTH BOARDS ASSOCIATION

GOVERNMENT OF NEWFOUNDLAND AND LABRADOR

Department of Health and Community Services

The Health Human Resource Indicator Report 1999 to 2003 is comprised of the following separate documents to facilitate ease of distribution, verification, and update:

This document is:

Part 5 – Workforce Movement

This document provides an analysis of movement of employees into and out of the workforce.

Health Human Resource Indicator Report 1999 to 2003 Part 5 – Workforce Movement
Prepared by: Health and Community Services Human Resource Planning Unit
March 15, 2005

Contact Information:

Newfoundland and Labrador Health Boards Association
Human Resource Planning Unit
Board of Trade Building Suite 202
66 Kenmount Road, St. John's, NL A1B 3V7
Tel: (709) 364-7701
Fax: (709) 364-6460
http://www.nlhba.nf.ca/hr

The Health and Community Services Human Resource Planning Unit represents a partnership agreement between the Government of Newfoundland and Labrador Department of Health and Community Services, and the Newfoundland and Labrador Health Boards Association. Please direct inquiries related to this report to the Newfoundland and Labrador Health Boards Association.

Summary

Workforce movement is difficult to understand and quantify. By examining various statistics such as the number of vacancies, hires, separations, and resulting turnover, some measures of workforce movement can be made. To best understand these statistics, they are described as percentages of the workforce, or vacancy rate, hire rate, etc. The underlying caution in this document is the noticeable variation in statistics. Some of this variation was due to data collection and quality issues, but much was because of normal fluctuation. Many groups are small in size and caution is noted in interpreting the figures.

Vacancy data was collected at six points in time from 2003/04 to 2004/05. The vacancy rate is the average number of vacancies per quarter as a percentage of the total workforce. The overall vacancy rate for primary occupations in the health and community services system was 1.6 per cent. Audiologists, pharmacists and nuclear medicine technologists all had rates above five per cent although caution should be used in interpreting the figures as one or two vacancies can greatly change the vacancy rates for small sized groups. A notable group was pharmacists who consistently had between two and seven vacancies in a workforce of 82. Audiologists and pharmacists also had the longest average vacancy periods and most positions were deemed by health boards to be "difficult to fill". The majority of vacancies were permanent full-time positions.

The number of internal hires expressed as a percentage of the workforce is the internal hire rate, or a measure of internal workforce movement. This has also been referred to by researchers as "workforce dislocation". Data collected over four years showed much variability in the number of internal hires by occupation. On average, groups having the largest rates of internal hires were occupational therapists at 34 per cent and respiratory therapists at 23 per cent, annually. Registered nurses were 17 per cent and licensed practical nurses were 10 per cent, over the time frame studied.

Similarly, the external hire rate showed much variability in the number of external internal hires by occupation. The percentage of hires filled externally had a range of 4.9 per cent to 40.0 per cent (35.1 per cent difference). Radiation therapists had the highest percentage at 40.0 per cent of the workforce hired externally while managers had the lowest at 4.9 per cent.

Turnover is defined as the number of separations expressed as a percentage of the workforce. Separations data is used to calculate turnover, as opposed to hires data, as it is generally more stable and less influenced by budget considerations, availability of graduates or other supply, natural variation in the timing of hires, etc. Over the four-year period of 1999 to 2002/03, primary occupations had a range of four per cent to 33 per cent annual turnover. The lowest turnover was for medical laboratory technologists and medical radiation technologists, both under 4.5 per cent while the highest was for audiologists and radiation therapists, at more than 25 per cent. Registered nurses and licensed practical nurses had average annual turnover rates of 6.4 and 4.8 per cent respectively.

Note that caution should be used in interpreting turnover rates as a few separations for a small group can result in high turnover rates. For example in 2000/01 audiologists had a count of 16 with 8 separations giving a 50 per cent turnover rate, whereas registered nurses in the same year had a count of 5070 with 378 separations giving a turnover rate of 7.5 per cent. As indicated earlier, much variation is evident over the last four years. Generally, occupational groups with rates of turnover of approximately 10 per cent or higher tend to be small in number, and young, mobile, health professionals. Most of these groups are trained out of the province. Overall, turnover rates for occupational groups exceeding 250 in number provincially seems reasonable, although national benchmarks and comparators on this topic are difficult to locate.

A separate study of turnover in two health boards, and an alternative method for calculating turnover, both showed general agreement with the accepted "separations method" of calculating turnover.

Table of Contents

List of Tables

1. Preamble

This report provides an overview of employee movement into and out of provincial health boards. Topics covered include vacancies, hires, separations and turnover. Note that workforce movement between health boards was not analyzed.

The reader is referred to the Executive Summary and Introduction sections for an overview of findings and detailed supporting notes including background, methodology, and limitations. Definitions are contained in Part 7 – Definitions.

The Government of Newfoundland and Labrador's (NL) decision to transform 14 health boards into four regional integrated health authorities (RIHAs) was announced on September 10, 2004, and governance structures were established in early 2005. Data and analysis in this document can be regrouped to reflect new RIHA structures. Please direct inquiries to the Human Resource Planning Unit (HRPU). Contact information is shown at the beginning of this document.

2. Vacancies

In 2003/04, the HRPU initiated a quarterly vacancy data collection process. Health boards submit internal and external vacancies collected at a specific point in time for each quarter and represents "snapshot" statistics. A vacancy is any unoccupied position in a health board that is potentially immediately available to another candidate because the previous occupier has left the position, or it is a new position. However, health boards may not always actively recruit candidates to fill a vacant position and the position may be intentionally kept vacant due to various factors such as budget constraints.

Vacant positions portray several types of health board needs: replacement of health board workforce to sustain current services, development of current services, and offering new services. The Statistics Canada report, "The Quest for Workers: A New Portrait of Job Vacancies in Canada," (2003) reports that the number of vacant positions depends on several factors, including expansion and decline for certain health services, health professional retention capacity (wages, benefits, conditions of employment), competition across jurisdictions, supply of health professionals, and budget constraints. An analysis of vacancy rates will provide some indication of supply of and corresponding demand for health professionals and health services.

Since initial collection in 2003/04, the vacancy collection process has been revised each quarter to include additional data and to increase consistency of vacancy collection across all health boards. This section provides quarterly internal and external vacancy rates by primary occupation at the health board level. An internal vacancy is a position that is posted for competition only for current employees within that health board. An external vacancy is a position that is posted for competition outside the health board. Vacant positions in this section are limited to the primary occupation category (see Part 7 – Definitions).

Table 1 shows the number of vacancies by primary occupation on a particular date within each quarter, sorted alphabetically by primary occupation.

Table 1. Public Sector Health Human Resources Quarterly Primary Occupation Vacancies.

Primary Occupation	Number of Vacancies for one Particular Day Per Quarter						Average
	2003/04 Q2[1,2]	2003/04 Q3[2]	2003/04 Q4[2,3]	2004/05 Q1[3,4,5]	2004/05 Q2[3]	2004/05 Q3[3]	
Audiologist	4	4	3	2	2	2	**3**
Behaviour Management Specialist	4	1	0	3	0	1	**2**
Cardiology Technologist	0	0	0	1	1	2	**1**
Combined LX Technologist[6]	0	1	2	1	0	0	**1**
Dietitian/Nutritionist	2	2	1	0	4	1	**2**
Electroneurophysiology Technologist	2	1	0	0	0	0	**1**
Licensed Practical Nurse	3	14	11	18	12	20	**13**
Manager	16	27	37	28	22	23	**26**
Medical Laboratory Technologist	1	8	8	10	6	8	**7**
Medical Radiation Technologist	3	9	4	4	6	7	**6**
Nuclear Medicine Technologist	1	1	0	1	0	1	**1**
Occupational Therapist	0	3	6	10	3	3	**4**
Orthopedic Technologist	0	0	1	0	0	1	**0**
Pharmacist	5	7	4	2	4	4	**4**
Physiotherapist	2	5	3	8	6	4	**5**
Psychologist (Clinical)	1	2	1	1	1	4	**1**
Prosthetist-Orthotist	0	0	0	0	0	1	**0**
Radiation Therapist	0	0	0	0	0	2	**0**
Recreation/Development Specialist	0	1	1	0	1	0	**1**
Registered Nurse	42	58	85	101	60	79	**71**
Respiratory Therapist	0	0	2	2	2	2	**1**
Social Worker	12	8	13	28	15	15	**15**
Speech Language Pathologist	0	1	3	2	2	4	**2**
Other (Primary)[7]	1	0	0	0	1	1	**1**
Total	**99**	**153**	**185**	**222**	**148**	**185**	**166**

Notes:

1. Vacancy data collection initiated. Data obtained is unreliable due to differing health board definitions of vacancy, and data was not obtained over a comparable period.
2. No data submitted by St. John's Nursing Home Board. Estimates for St. John's Nursing Home Board were derived from vacancies and vacancy periods submitted for 2004/05-Q1.
3. Western Health Care Corporation only provided data on 'difficult to fill' positions for this quarter, and estimates for non- 'difficult to fill' vacancies were derived from external advertising sources.
4. Due to the labour dispute in April 2004, vacancy data collection was late starting for 2004/05. May 1, 2004 was chosen as a substitute point-in-time for this quarter.
5. Central West Health Corporation did not provide data for this quarter.
6. Combined LX technologists = combined laboratory and x-ray technologists.
7. Other (Primary) includes assistant clinical microbiologist, cardiovascular perfusion technologists, child care services consultants, clinical biochemists, management engineers, kinesiologists, music therapists, orthopists, and pastoral care clinicians.

On average, approximately 166 vacant positions were recorded for the designated date in each quarter (average of six "snapshots"). Registered nurse, manager, and social worker positions consistently dominated each quarter's vacancy statistics, averaging 71, 26, and 15 health professionals. Vacancies peaked in 2004/05-Q1 due to upcoming summer annual leaves. Note that the number of vacancies at any point-in-time for any group may vary considerably, and caution is noted where numbers are small.

The vacancy rate is the average number of vacancies for the designated date per quarter as a percentage of the total workforce. Table 2 shows quarterly vacancy rates by primary occupation, sorted descending by vacancy rate.

Table 2. Public Sector Health Human Resources Quarterly Primary Occupation Average Vacancy Rates.

Primary Occupation	Average Vacancies Per Quarter	Workforce Counts as of March 31, 2003	Vacancy Rate
Audiologist	2.8	13	**21.8%**
Pharmacist	4.3	82	**5.3%**
Nuclear Medicine Technologist	0.7	13	**5.1%**
Speech Language Pathologist	2.0	41	**4.9%**
Combined LX Technologist	0.7	14	**4.8%**
Physiotherapist	4.7	109	**4.3%**
Electroneurophysiology Technologist	0.5	12	**4.2%**
Occupational Therapist	4.2	101	**4.1%**
Orthopedic Technologist	0.3	10	**3.3%**
Manager	25.5	879	**2.9%**
Psychologist (Clinical)	1.7	59	**2.8%**
Dietitian/Nutritionist	1.7	69	**2.4%**
Social Worker	15.2	648	**2.3%**
Radiation Therapist	0.3	15	**2.2%**
Medical Radiation Technologist	5.5	256	**2.1%**
Cardiology Technologist	0.7	35	**1.9%**
Behaviour Management Specialist	1.5	79	**1.9%**
Medical Laboratory Technologist	6.8	366	**1.9%**
Recreation/Development Specialist	0.5	28	**1.8%**
Respiratory Therapist	1.3	75	**1.8%**
Registered Nurse	70.8	4916	**1.4%**
Prosthetist-Orthotist	0.2	12	**1.4%**
Licensed Practical Nurse	13.0	2701	**0.5%**
Other (Primary)	0.5	32	**1.6%**
Total	**165.3**	**10565**	**1.6%**

Audiologists, pharmacists, and nuclear medicine technologists had the highest vacancy rates per quarter. Caution should be noted when interpreting these figures as some occupational groups had significantly more workforce than others, thereby decreasing the vacancy rate. For example, there were only 13 audiologists in NL, with a vacancy rate of 21.8 per cent and 648 social workers in NL with a vacancy rate of 2.3 per cent.

For larger occupational groups with over 500 individuals, managers had the highest vacancy rate at 2.9 per cent. Social workers had the next highest vacancy rate for larger occupational groups. Both registered nurses and licensed practical nurses showed low vacancy rates overall in comparison to other occupational groups at 1.4 per cent and 0.5 per cent of their workforces respectively. Note that local areas may have experienced higher or lower rates.

Vacant positions are recruited using internal and external recruitment methods. Often, health boards will initialize recruitment for vacancies using internal recruitment methods exclusively. If internal methods are unsuccessful in attracting qualified, available candidates, recruitment may be done using external sources. A health board may use external recruitment methods immediately when it is known that the number of qualified, available candidates within the health board is limited. Table 3 shows the percentage of primary occupation vacancies by recruitment method using internal only, external only, or both internal and external methods.

Table 3. Percentage of Primary Occupation Vacancies Using Internal or External Recruitment Methods.

Primary Occupation	Recruitment Method[1]		
	Internal Only	External Only	Both
Radiation Therapist	0.0%	0.0%	100.0%
Speech Language Pathologist	0.0%	33.3%	66.7%
Manager	28.1%	5.9%	64.7%
Pharmacist	7.7%	30.8%	61.5%
Combined LX Technologist	50.0%	0.0%	50.0%
Orthopedic Technologist	50.0%	0.0%	50.0%
Occupational Therapist	40.0%	12.0%	48.0%
Medical Radiation Technologist	45.5%	9.1%	45.5%
Behaviour Management Specialist	55.6%	0.0%	44.4%
Physiotherapist	42.9%	7.1%	42.9%
Clinical Psychologist	30.0%	30.0%	40.0%
Dietitian/Nutritionist	30.0%	30.0%	40.0%
Recreation/Development Specialist	66.7%	0.0%	33.3%
Audiologist	0.0%	70.6%	29.4%
Nuclear Medicine Technologist	50.0%	25.0%	25.0%
Social Worker	61.5%	4.4%	24.2%
Registered Nurse	51.8%	22.4%	23.5%
Medical Laboratory Technologist	61.0%	19.5%	19.5%
Respiratory Therapist	62.5%	25.0%	12.5%
Licensed Practical Nurse	69.2%	21.8%	7.7%
Cardiology Technologist	25.0%	75.0%	0.0%
Electroneurophysiology Technologist	33.3%	66.7%	0.0%
Prosthetist-Orthotist	100.0%[2]	0.0%	0.0%
Other Occupations	33.3%	66.7%	0.0%
Total	**46.8%**	**18.2%**	**32.6%**

Notes:
1. Approximately 2.4 per cent of vacant positions indicated unknown recruitment methods.
2. This is a single position filled internally.

Internal and external recruitment methods combined were used to fill 32.6 per cent of vacant positions. Internal only recruitment methods were used for 46.8 per cent of vacant positions and external only recruitment methods for 18.2 per cent of vacancies. The majority of primary occupational group vacancies are first advertised to the current health board workforce, and if a qualified candidate is not available, external recruitment methods are initiated. As the largest vacancy group, registered nurses use internal methods only for over half of registered nurse vacant positions. The second largest vacancy group, managers, prefer a combination of recruitment methods.

Seventy-five per cent of cardiology technologist vacant positions and 70.6 per cent of audiologist vacant positions used external recruitment methods exclusively. These occupations were also 'difficult to fill' for one cardiology technologist vacancy and three audiology vacancies respectively in Table 5. Often, external recruitment methods are used to attract candidates from other jurisdictions.

The vacancy period is defined as the number of months that a position has been vacant. Table 4 shows the average vacancy period in months by primary occupation, sorted descending by 2004/05-Q3.

Table 4. Average Vacancy Period Per Quarter Measured in Months by Primary Occupation.

Primary Occupation	Average Vacancy Period (Months)[1,2,3]				
	2003/04 Q3	2003/04 Q4	2004/05 Q1	2004/05 Q2	2004/05 Q3
Pharmacist	4	12	33	54	65
Pharmacist (Excluding GRHS)[5]	*5*	*7*	*15*	*5*	*6*
Audiologist	12	17	27	29	31
Audiologist (Excluding GRHS) [5]	*4*	*5*	*10*	*11*	*13*
Clinical Psychologist	9	11	15	16	6
Medical Radiation Technologist	1	2	3	4	5
Speech Language Pathologist	0[4]	5	7	5	4
Licensed Practical Nurse	2	1	1	2	4
Registered Nurse	2	3	3	5	4
Cardiology Technologist			1	4	4
Manager	2	2	2	4	3
Medical Laboratory Technologist	2	3	3	7	3
Behaviour Management Specialist	1		1		3
Social Worker	1	4	1	1	2
Orthopedic Technologist		1			2
Nuclear Medicine Technologist	0		1		1
Prosthetist-Orthotist					1
Physiotherapist	0	2	1	1	1
Occupational Therapist	0	1	3	4	0
Dietitian/Nutritionist	0	1		1	0
Radiation Therapist					0
Respiratory Therapist		1	2	1	0
Combined LX Technologist	0	0	0		
Electroneurophysiology Technologist	0				
Recreation/Development Specialist	0	2		1	
Other (Primary)				1	0
Quarterly Average (Including GRHS)	**2**	**3**	**3**	**6**	**5**

Notes:

1. Average vacancy periods are rounded to the nearest month.
2. Vacancy periods for 2003/04 – Q2 were unreliable and not used in this analysis.
3. Blank spaces indicate that no vacancies were reported in this quarter for this primary occupation.
4. Position(s) vacant for less than one month
5. Excluding Grenfell Regional Health Services Board, the average vacancy period for pharmacists decreased from 65 months to 6 months in 2004/05-Q3. The average vacancy period for audiologists decreased from 31 months to 13 months in the same quarter.

Data in Table 4 was submitted manually by human resource representatives from each health board. Anomalies in the length of vacancy period are the result of differing definitions of vacancy and vacancy period at the time of collection. Use of standard definitions for vacancy and vacancy period in the last three quarters provides a more accurate representation of the average vacancy period for each occupational group.

The average vacancy period represents all vacancies by occupational group recorded in a single quarter. A single position that has been vacant for an extended period of time in one board, therefore, can affect the average vacancy period for the entire occupational group. For example, Grenfell Regional Health Services Board has had a vacant pharmacist position and a vacant audiologist position for several years. This increases the average vacancy period for all pharmacists and audiologists provincially.

In 2003/04-Q4, health boards were requested to indicate vacant positions that were classified as 'difficult to fill'. A 'difficult to fill' position is any position in which initial recruitment activities were unsuccessful in attracting qualified, available candidates (see Part 7 – Definitions.) The number of vacancies labeled 'difficult to fill' by primary occupational group is given quarterly in Table 5, sorted descending by average number of positions.

Table 5. Number of Vacant Positions Labeled 'Difficult to Fill' by Primary Occupation.

Primary Occupation	Number 'Difficult to Fill'[1,2]				Average "Difficult to Fill'	Average Vacancies Per Quarter
	2003/04 Q4	2004/05 Q1	2004/05 Q2	2004/05 Q3		
Registered Nurse	23	11	13	4	**13**	**71**
Manager	22	5	7	5	**10**	**26**
Medical Laboratory Technologist	2	2	4	2	**3**	**7**
Pharmacist	2	2	2	4	**3**	**4**
Audiologist	3	1	2	2	**2**	**3**
Medical Radiation Technologist	1	1	2	3	**2**	**6**
Speech Language Pathologist	3	1	1	2	**2**	**2**
Licensed Practical Nurse	1	3	1	0	**1**	**13**
Physiotherapist	0	2	0	2	**1**	**5**
Social Worker	3	1	0	0	**1**	**15**
Cardiology Technologist	0	1	1	1	**1**	**1**
Clinical Psychologist	1	0	1	1	**1**	**2**
Combined LX Technologist	1	1	0	0	**1**	**1**
Radiation Therapist	0	0	0	2	**1**	**0**
Other (Primary)	0	0	1	0	**0**	**1**
Total	**62**	**31**	**35**	**28**	**39**	**157**

Notes:

1. "0" indicates that vacancies were reported in this quarter for a primary occupation, but none were labeled 'difficult to fill'.
2. For the following occupational groups, no vacancies were reported as 'difficult to fill': behaviour management specialists, dietitian/nutritionist, nuclear medicine technologists, occupational therapists, orthopedic technologists, prosthetist-orthotist, recreation/development specialist, and respiratory therapist.

Approximately 39 vacant positions were 'difficult to fill' each quarter, although Western Health Care Corporation only reported those vacancies classified as 'difficult to fill'. The number of vacancies that were 'difficult to fill' each quarter varied considerably, from 62 vacancies in 2003/04-Q4 to 28 vacancies in 2004/05-Q3. Readers are cautioned that several primary occupations had few vacancies and the corresponding number labeled 'difficult to fill' at any point-in-time may vary considerably.

Comparisons across primary occupations with many vacancies and primary occupations with few vacancies may be limited. For example, audiologists averaged three vacancies per quarter of which two were labeled 'difficult to fill' vacancies. Registered nurses averaged 71 vacancies per quarter of which 13 were labeled 'difficult to fill' vacancies.

Table 12 gives the number of vacancies labeled 'difficult to fill' by health board, sorted descending by average number of positions.

Table 6. Number of Primary Occupation Vacant Positions Labeled "Difficult to Fill" by Health Board.

Health Board	Number Difficult to Fill[1,2]				Average "Difficult to Fill'	Average Vacancies Per Quarter
	2003/04 Q4	2004/05 Q1	2004/05 Q2	2004/05 Q3		
Health Care Corporation of St. John's	23[4]	3	4	2	**8**	**52**
Grenfell Regional Health Services Board	9	10	6	5	**8**	**12**
Peninsulas Health Care Corporation	6	5	12	3	**7**	**29**
Health Labrador Corporation	13	1	2	6	**6**	**16**
Central West Health Corporation	3	0	0	0	**3**	**3**
Health and Community Services Western	2	0	3	4	**3**	**5**
St. John's Nursing Home Board	0	3	0	0	**3**	**15**
Western Health Care Corporation[3]	2	4	2	3	**3**	**12**
Health and Community Services Central	3	2	3	0	**3**	**3**
Newfoundland Cancer Treatment and Research Fdn.	0	0	0	2	**0**	**1**
Health and Community Services Eastern	0	1	2	1	**1**	**6**
Avalon Health Care Institutions Board	1	1	1	1	**1**	**2**
Health and Community Services St. John's	0	1	0	1	**1**	**10**
Total	**62**	**31**	**35**	**28**	**39**	**157**

Notes:

1. Central East Health Care Institutions Board indicated no vacancies for 2003/04-Q4 to 2004/05-Q3.
2. "0" indicates that vacancies were reported in this quarter for a primary occupation, but none were labeled 'difficult to fill'.
3. Western Health Care Corporation indicated only vacancies labeled 'difficult to fill.'

Health Care Corporation of St. John's and Grenfell Regional Health Services Board had the highest average number of vacancies labeled 'difficult to fill'. The high number of 'difficult to fill' vacancies at Health Care Corporation of St. John's was likely attributed to its large workforce size and number of specialized occupational groups. Grenfell Regional Health Services Board, however, showed the same number of 'difficult to fill' vacant positions despite its small workforce size and lack of specialized occupational groups. A high number of 'difficult to fill' positions at Grenfell Regional Health Services Board generates concerns in its ability to recruit professionals into a more rural geographic area.

The health board Vacancy Survey collects the employment status of all vacant positions as permanent, temporary, or casual. The average number of primary occupation vacancies by employment status is shown in Table 7, sorted descending by permanent status.

Table 7. Average Number of Primary Occupation Vacancies Each Quarter by Employment Status.

Primary Occupation[1]	Permanent	Temporary	Casual	Average Vacancies Per Quarter
Registered Nurse	**35**	24	12	71
Manager	**18**	6	1	26
Social Worker	**5**	10	0	15
Pharmacist	**4**	0	0	4
Licensed Practical Nurse	**3**	8	2	13
Medical Radiation Technologist	**3**	2	0	6
Audiologist	**2**	1	0	3
Medical Laboratory Technologist	**2**	4	1	7
Clinical Psychologist	**2**	0	0	2
Physiotherapist	**2**	3	0	5
Occupational Therapist	**1**	3	0	4
Dietitian/Nutritionist	**1**	1	0	2
Speech Language Pathologist	**1**	1	0	2
Combined LX Technologist	**1**	0	0	1
Respiratory Therapist	**1**	0	0	1
Nuclear Medicine Technologist	**1**	0	0	1
Behaviour Management Specialist	**0**	1	0	2
Cardiology Technologist	**0**	0	1	1
Total	**83**	**66**	**17**	**166**

Notes:

1. Vacancies for electroneurophysiology technologists, orthopedic technologists, prosthetist-orthotists, recreation/development specialists, radiation therapists, and other (primary) had an average of 0 positions each quarter that were classified as permanent, temporary, and casual. Although there may have been vacancies in one or more quarters for these positions, the low average for all quarters equals 0.

Approximately 50 per cent of all primary occupation vacancies each quarter were for permanent positions, equaling an average of 83 vacancies each quarter. Temporary positions composed 39.6 per cent of vacancies (approximately 66 vacant positions each quarter). Registered nurses had the most vacant positions each quarter, and their percentage by employment status followed the overall average trend. Approximately 50 per cent of registered nurse vacancies were for permanent employment (35 vacant positions), and 33.9 per cent were for temporary employment (24 vacant positions). Managers had the second highest number of vacant positions each quarter of which the majority were for permanent employment. The variability of the number of vacant positions each quarter for most occupational groups prevents further trending analysis, and caution should be noted where vacancy numbers are small.

Employment hours are submitted for each vacancy and are recorded as follows:

1. Full-Time (FT) – typically 70 or 75 hours biweekly.
2. Part-Time (PT) – typically 35 or 37.5 hours biweekly.
3. Unknown – hours are unknown.

Table 8 shows the percentage distribution of primary occupation vacancies by employment hours for all quarterly data collected to date, sorted descending by full-time hours.

Table 8: Average Number of Primary Occupation Vacancies Each Quarter by Employment Hours

Primary Occupation[1,2]	Full-Time	Part Time	Unknown	Average Vacancies Per Quarter
Registered Nurse	**43**	23	5	71
Manager	**19**	6	0	26
Social Worker	**14**	2	0	15
Licensed Practical Nurse	**7**	5	1	13
Pharmacist	**4**	0	0	4
Medical Laboratory Technologist	**4**	2	0	7
Medical Radiation Technologist	**4**	2	0	6
Occupational Therapist	**4**	0	0	4
Physiotherapist	**3**	1	0	5
Audiologist	**3**	0	0	3
Speech Language Pathologist	**2**	0	0	2
Behaviour Management Specialist	**2**	0	0	2
Clinical Psychologist	**2**	0	0	2
Dietitian/Nutritionist	**1**	0	0	2
Combined LX Technologist	**1**	0	0	1
Nuclear Medicine Technologist	**1**	0	0	1
Electroneurophysiology Technologist	**1**	0	0	1
Recreation/Development Specialist	**1**	0	0	1
Respiratory Therapist	**1**	1	0	1
Cardiology Technologist	**0**	1	0	1
Total	**115**	**43**	**7**	**166**

Notes:

1. Some health boards did not indicate the employment hours for certain vacant positions.
2. Vacancies for orthopedic technologists, prosthetist-orthotists, radiation therapists, and other (primary) had an average of 0 positions each quarter that were classified as full-time, part-time, or unknown. Although there may have been vacancies in one or more quarters for these positions, the low average for all quarters equals 0.

Approximately 70 per cent of all primary occupation vacancies each quarter were for full-time hours, equaling an average of 115 vacancies each quarter. Twenty-six per cent of vacant positions involved temporary hours (approximately 43 vacant positions each quarter). Again, registered nurses had the most vacant positions each quarter, and the highest average number of full-time vacant positions. Fifteen occupational groups averaged vacancies for full-time employment only. The variability of the number of vacant positions each quarter for most occupational groups prevents further trending analysis, and caution should be noted where vacancy numbers are small.

Starting in 2004/05-Q2, health boards were asked to indicate whether vacant positions were intentionally kept vacant. Vacant positions may not be filled due to budget constraints, redesign of services, or other internal changes. In 2004/05-Q2, 16.2 per cent of vacancies (24 positions) were intentionally kept vacant, including licensed practical nurses, managers, registered nurses, social workers, and medical radiation technologists. These positions were limited to five health boards. In 2004/05-Q3, 9.7 per cent of vacancies (18 positions) were intentionally kept vacant, including managers, medical radiation technologists, registered nurses, and social workers. These positions were limited to seven health boards.

3. Hires

All health boards were asked to submit the total number of hires, broken into two categories of internal and external.

3.1. Internal Hires

The number of internal hires expressed as a percentage of the workforce is the internal hire rate, or a measure of internal workforce movement. Researchers have also referred to this as "workforce dislocation". The number of hires filled internally is presented in Table 9.

Table 9. Internal Hires 1999 to 2002 and Internal Hires as a Per Cent of the Workforce.

Occupation	Calendar 1999	Fiscal 2000/01	Fiscal 2001/02	Fiscal 2002/03	Average Internal Hires[1]	Workforce Size[2]	Internal Hire Rate[3]
Audiologist		1	0	1	**1**	14	**7.1%**
Behaviour Management Specialist			9	9	**9**	79	**11.4%**
Cardiology Technologist			2	2	**2**	35	**5.7%**
Combined LX Technologist			2	3	**3**	14	**17.9%**
Dietitian/Nutritionist		17	15	11	**14**	70	**20.5%**
Licensed Practical Nurse	221	190	293	397	**275**	2701	**10.2%**
Manager			82	76	**79**	888	**8.9%**
Medical Laboratory Technologist	52		49	54	**52**	366	**14.1%**
Medical Radiation Technologist	61		31	42	**45**	256	**17.4%**
Nuclear Medicine Technologist			0	3	**3**	13	**23.1%**
Occupational Therapist	46	32	25	35	**35**	101	**34.2%**
Pharmacist	7	7	7	4	**6**	82	**7.6%**
Physiotherapist	15	36	16	25	**23**	109	**21.0%**
Psychologist (Clinical)		3	2	6	**4**	59	**6.2%**
Radiation Therapist			1	2	**2**	15	**10.0%**
Recreation/Develop. Specialist		2	11	5	**6**	28	**21.4%**
Registered Nurse	954	1016	630	647	**812**	4924	**16.5%**
Respiratory Therapist		36	16	17	**23**	75	**30.7%**
Social Worker	116	173	139	165	**148**	648	**22.9%**
Speech Language Pathologist		2	1	5	**3**	41	**6.5%**

Notes:

1. Blanks indicate data not available during that fiscal year or for that profession.
2. Workforce Size is the workforce numbers for 2002/03.
3. Internal Hire Rate expresses the average internal hires as a percentage of the workforce. Conversely, the Annual Benchmarking Survey, facilitated through the Human Resources Benchmarking Network, considers the indicator: "Internal Transfers to Total Hires Ratio" which divides the number of internal transfers by the sum of all external hires and internal transfers. This is noted to avoid confusion between these indicators.

The last column in the table expresses the number of internal hires as a percentage of the workforce. The internal hire rate had a range of 5.7 per cent to 34.2 per cent (28.5 per cent difference). Occupational therapists had the highest percentage of internal hires at 34.2 per cent. The group having the lowest percentage of internal hires was cardiology technologists at 5.7 per cent. Registered nurses were approximately in the middle of the range with 16.5 per cent hired internally.

3.2. External Hires

Table 10 shows the number of external hires for each of the occupational groups studied.

Table 10. External Hires 1999 to 2002, and External Hires as a Per Cent of the Workforce.

Occupation	Calendar 1999	Fiscal 2000/01	Fiscal 2001/02	Fiscal 2002/03	Average External Hires[1]	Workforce Size[2]	External Hire Rate[3]
Audiologist	3	4	0	1	**3**	14	**19.0%**
Behaviour Management Specialist			5	3	**4**	79	**5.1%**
Cardiology Technologist			0	2	**2**	35	**5.7%**
Combined LX Technologist			0	1	**1**	14	**7.1%**
Dietitian/Nutritionist		14	7	5	**9**	70	**12.4%**
Dosimetrist			1	0	**1**	4	**25.0%**
Licensed Practical Nurse	255	221	80	97	**163**	2701	**6.0%**
Manager			36	51	**44**	888	**4.9%**
Medical Laboratory Technologist	36		11	8	**18**	366	**5.0%**
Medical Radiation Technologist	39		15	24	**26**	256	**10.2%**
Nuclear Medicine Technologist			0	2	**2**	13	**15.4%**
Occupational Therapist	40	26	14	10	**23**	101	**22.3%**
Pharmacist	4	11	7	8	**8**	82	**9.2%**
Physicians			59	64	**62**	886	**6.9%**
Physiotherapist	48	31	25	10	**29**	109	**26.2%**
Prosthetist-Orthotist		1	0	0	**1**	12	**8.3%**
Psychologist (Clinical)	13	6	12	8	**10**	59	**16.6%**
Radiation Therapist			2	10	**6**	15	**40.0%**
Recreation/Develop. Specialist		5	4	3	**4**	28	**14.3%**
Registered Nurse	415	499	290	316	**380**	4924	**7.7%**
Respiratory Therapist		11	12	8	**10**	75	**13.8%**
Social Worker	72	111	46	33	**65**	648	**10.1%**
Speech Language Pathologist	6	5	4	4	**5**	41	**11.6%**

Notes:

1. Blanks indicate data not available during that fiscal year or for that profession.
2. Workforce Size is the workforce numbers for 2002/03.
3. External Hire Rate expresses the average external hires as a per cent of the workforce.

The last column in the table indicates the percentage of the workforce that was hired externally. The percentage of hires filled externally had a range of 4.9 per cent to 40.0 per cent (35.1 per cent difference). Radiation therapists had the highest percentage at 40.0 per cent of the workforce hired externally while managers had the lowest at 4.9 per cent.

4. Separations

Separations data was recorded for each occupational group. This data included employees who were no longer employed by a board due to resignation, retirement, death, termination, etc. Separations did not include temporary leaves such as maternity, parental, educational, secondment, leaves of absence, etc.

In Table 11, a summary of the total separations from calendar year 1999 to fiscal year 2002/03 are indicated.

Table 11. Total Separations by Profession, 1999 to 2002/03.

Occupation	Calendar 1999	Fiscal 2000/01	Fiscal 2001/02	Fiscal 2002/03	Average
Audiologist	3	8	0	1	**4.0**
Behaviour Management Specialist			0	5	**5.0**
Cardiology Technologist			2	3	**2.5**
Combined LX Technologist			1	1	**1.0**
Dietitian/Nutritionist		8	4	4	**5.3**
Electroneurophysiology Technol.			1	0	**1.0**
Licensed Practical Nurse	128	124	116	144	**128.0**
Manager			82	79	**80.5**
Medical Laboratory Technologist	7		22	14	**14.3**
Medical Radiation Technologist	12		11	10	**11.0**
Nuclear Medicine Technologist			0	3	**3.0**
Occupational Therapist	17	24	13	12	**16.5**
Pharmacist	10	10	7	3	**7.5**
Physiotherapist	24	22	16	12	**18.5**
Prosthetist-Orthotist		2	1	1	**1.3**
Psychologist (Clinical)	7	10	5	8	**7.5**
Radiation Therapist			5	5	**5.0**
Recreation/Develop. Specialist		1	3	5	**3.0**
Registered Nurse	311	378	308	270	**316.8**
Respiratory Therapist		12	6	3	**7.0**
Social Worker	45	78	56	36	**53.8**
Speech Language Pathologist	2	5	3	5	**3.8**

Notes:
1. Only permanent separations were captured, excluding temporary leaves.
2. Blanks indicate data not available during that fiscal year or for that profession.
3. Average is calculated for the four fiscal years presented.

On average, the highest number of separations occurred with registered nurses with 317 separations per fiscal year. Licensed practical nurses followed with the next highest number of separations with 128 per fiscal year. Other groups with high numbers of separations included managers with 81 per fiscal year, and social workers with 54 annually.

5. Turnover

While employee turnover can have positive effects such as the introduction of fresh ideas and new practices, the negative effects can include lower efficiencies, reduced morale, reduced organizational performance, gaps in client care, and increased recruiting, hiring, and training costs. Understanding reasons for turnover is essential for effective health human resource planning, including the recruitment and retention of staff.

5.1. Total Separations Method

The total number of employee separations was used to calculate turnover of employees. Only separations considered permanent were captured. Temporary leave was excluded (i.e. maternity leave, education leave, secondments, etc.) as these are not considered employee separations.

Table 12 shows the turnover figures for calendar year 1999, and fiscal years 2000/01, 2001/02, and 2002/03.

Table 12. Turnover Rates by Profession, Fiscal Years 1999 to 2002.

Occupation	Calendar 1999	Fiscal 2000/01	Fiscal 2001/02	Fiscal 2002/03	Average
Radiation Therapist			33.3%	33.3%	33.3%
Audiologist	25.0%	50.0%	0.0%	7.1%	27.4%
Nuclear Medicine Technologist			0.0%	23.1%	23.1%
Physiotherapist	27.0%	20.0%	14.7%	11.0%	18.2%
Occupational Therapist	17.7%	22.6%	12.9%	11.9%	16.3%
Psychologist (Clinical)	13.5%	16.9%	8.5%	13.6%	13.1%
Recreation/Develop. Specialist		3.4%	10.7%	17.9%	10.7%
Pharmacist	13.9%	13.7%	8.5%	3.7%	9.9%
Respiratory Therapist		17.6%	8.0%	4.0%	9.9%
Speech Language Pathologist	5.1%	12.5%	7.3%	12.2%	9.3%
Manager			9.2%	8.9%	9.1%
Prosthetist-Orthotist		9.5%	8.3%	8.3%	8.7%
Social Worker	8.1%	11.8%	8.6%	5.6%	8.5%
Electroneurophysiology Technol.			8.3%	0.0%	8.3%
Dietitian/Nutritionist		11.9%	5.7%	5.7%	7.8%
Cardiology Technologist			5.7%	8.6%	7.1%
Combined LX Technologist			7.1%	7.1%	7.1%
Registered Nurse	6.6%	7.5%	6.3%	5.5%	6.4%
Behaviour Management Specialist			0.0%	6.3%	6.3%
Licensed Practical Nurse	5.1%	4.4%	4.3%	5.3%	4.8%
Medical Radiation Technologist	4.9%		4.3%	3.9%	4.4%
Medical Laboratory Technologist	1.7%		6.0%	3.8%	3.9%

Sources and Notes:

1. Source: Health Human Resource Indicator Report 2000/2001
2. Source: Provincial Health and Community Services Interim Human Resource Planning Report
3. Blanks indicate data not available during that fiscal year or for that profession.
4. Total number of separations divided by the total workforce for each year separately.
5. Average is calculated for the four fiscal years presented.

Note that caution should be used in interpreting turnover rates. A few separations for a small group can result in high turnover rates. For example in 2000/01, audiologists had a count of 16 with 8 separations giving a 50 per cent turnover rate, whereas registered nurses in the same year had a count of 5070 with 378 separations giving a turnover rate of 7.5 per cent. Much variation is evident over the last four years with swings of 25 per cent for some groups.

5.2. Focus on Two Health Boards

An independent report examined employee turnover at the Health Care Corporation of St. John's and the Newfoundland Cancer Treatment and Research Foundation using exit survey data collected from calendar years 1997 to 2003. The number of separations, total employee count excluding students and physicians, and resulting turnover per year are given in Table 13:

Table 13. Health Care Corporation of St. John's and Newfoundland Cancer Treatment and Research Foundation Average Turnover 1997 to 2003.

Calendar Year	Number of Separations	Employee Count[1]	Turnover
1997	467	6009	7.8%
1998	369	6270	5.9%
1999	354	6512	5.4%
2000	617	6516	9.5%
2001	497	6550	7.6%
2002	468	6447	7.3%
2003	313	6435	4.9%
Average	**441**	**6391**	**6.9%**

Source: Exit data from Health Care Corporation of St. John's and Newfoundland Cancer Treatment and Research Foundation (1997-2003).

Note:

1. The employee count for 1997 is an average of the employee count on January 1st, 1997 and January 1st, 1998. Employee counts for 1998 and 2003 are an average of the total employee count on March 31st (fiscal total) and December 31st (calendar total) of each year.

The top three reasons for employee separations at Health Care Corporation of St. John's and Newfoundland Cancer Treatment and Research Foundation from 1997 to 2003 were resignations (55.9 per cent), retirements (10.5 per cent), and redundancies (10.2 per cent). These constitute more than three quarters of all separations.

Turnover was calculated by dividing the number of separations in each calendar year by the employee count. The average turnover was 6.9 per cent for all employees for all years. For primary occupations the average was 7.0 per cent, and seven groups averaged more than 10 per cent annual turnover. The highest was 9.5 per cent in 2000 and the lowest was 4.9 in 2003. While the workforce remained relatively constant in size, the number of separations varied considerably from 313 in 2003 to 617 in 2000.

Among primary occupations, the highest average turnover was for radiation therapists at 27.6 per cent. As the Newfoundland Cancer Treatment and Research Foundation is the only employer of radiation therapists in the province, these figures correspond reasonably well with those provided in Table 12 of 33.3 per cent. Registered nurses, licensed practical nurses and managers accounted for 77.4 per cent of separations that occurred within primary occupations over the seven-year period and represented 47.8 per cent of the total workforce. The average turnover for registered nurses was 6.0 per cent, for licensed practical nurses it was 6.6 per cent, and 8.8 per cent for managers. Provincial figures provided in Table 12 for the same occupations are 5.5 per cent, 5.3 per cent, and 8.9 per cent respectively. Differences are expected in this regard, as Health Care Corporation of St. John's and Newfoundland Cancer Treatment and Research Foundation figures represent a mostly acute care, urban setting, but they do provide an additional piece of evidence for planning purposes.

5.3. Snapshot Method

To calculate turnover from electronically collected payroll, workforce snapshots from different points in time one year apart were compared. The times were March 31, 2002, and March 31, 2003. In comparing the two sets, some employees were common to both, some employees had exited and some had entered. A turnover rate was calculated by taking the number not appearing in the latter set (exiting) and dividing by the employee count in the second timeframe. As a proxy measure of separations is being used, true turnover is not reflected in the results but it provides a "second opinion" with respect to understanding workforce movement. Table 14 shows the turnover rate using the snapshot method, by profession for 2003, sorted alphabetically by occupational group.

Table 14. Provincial Turnover Rates by Profession, 2003.

Primary Occupation	Turnover	Ancillary Occupations - Clinical	Turnover
Audiologist	30.8%	Audiology Technician	None
Behaviour Management Specialist	6.3%	Cardiology Technician	None
Cardiology Technologist	None	Combined LX Technician	None
Cardio-Pulmonary Technologist	None	Community Service Worker	21.4%
Combined LX Technologist	7.1%	Dental Technicians	5.9%
Dentist	28.6%	Medical Laboratory Technician	5.5%
Dietitian/Nutritionist	13.0%	Medical Radiation Technician	23.1%
Dosimetrist	None	Nuclear Medicine Technician	None
Electroneurophysiology Technol.	None	Occup. Therapy Support Worker	7.1%
Genetic Counsellor	None	Paramedic	3.8%
Licensed Practical Nurse	6.1%	Personal Care Attendant	33.0%
Manager	8.1%	Pharmacy Technician	5.1%
Medical Laboratory Technologist	5.7%	Physiotherapy Assistant	2.5%
Medical Physicist	None	Prosthetist-Orthotist Technician	None
Medical Radiation Technologist	4.3%	Psychology Assistant	None
Nuclear Medicine Technologist	30.8%	Recreation Therapy Worker	10.9%
Occupational Therapist	15.8%	Social Service Worker	10.8%
Orthopedic Technologist	None	Other (Ancillary Clinical)	11.7%
Pharmacist	3.7%	**Subtotal (Ancillary Clinical)**	**15.5%**
Physiotherapist	16.5%		
Prosthetist-Orthotist	8.3%	**Ancillary Occupations – System**	**Turnover**
Psychologist (Clinical)	8.5%	Administrative/Clerical Support	6.7%
Radiation Therapist	53.3%	Biomedical Engineering	15.0%
Recreation/Develop. Specialist	10.7%	Dietary	7.1%
Registered Nurse	6.9%	Facilities	9.8%
Respiratory Therapist	4.0%	Housekeeping	6.3%
Social Worker	6.9%	Information systems	2.3%
Speech Language Pathologist	2.4%	Laundry	6.1%
Other (Primary)	12.5%	Materials	4.7%
Subtotal (Primary)	**7.0%**	Records	3.9%
		Other (Ancillary System)	5.3%
		Subtotal (Ancillary System)	**6.7%**
Total			**7.5%**

Sources and Notes:

1. "None" was used to indicate no turnover.

Figures in Table 14 vary from Table 12 due primarily to differences in methods. Figures do however show general agreement. Note that turnover calculated in this way does not account for workforce movement between boards or those that entered and exited between the time frame end points.

6. Summary

Much information has been presented in this report concerning the vacancies, hires, separations and turnover. Results at the provincial level are summarized in Table 15 below:

Table 15. Summary of Provincial Vacancies, Hires, Separations, and Turnover, by Occupation.

Occupation	Average Vacancy Rate 2003/04 to 2004/05	Average Internal Hire Rate 1999 to 2002/03	Average External Hire Rate 1999 to 2002/03	Average Number of Separations 1999 to 2002/03	Average Turnover Rate 1999 to 2002/03
	Table 2	Table 9	Table 10	Table 11	Table 12
Radiation Therapist	2.2%	10.0%	40.0%	5.0	33.3%
Audiologist	21.8%	7.1%	19.0%	4.0	27.4%
Nuclear Medicine Technologist	5.1%	23.1%	15.4%	3.0	23.1%
Physiotherapist	4.3%	21.0%	26.2%	18.5	18.2%
Occupational Therapist	4.1%	34.2%	22.3%	16.5	16.3%
Psychologist (Clinical)	2.8%	6.2%	16.6%	7.5	13.1%
Recreation/Develop. Specialist	1.8%	21.4%	14.3%	3.0	10.7%
Pharmacist	5.3%	7.6%	9.2%	7.5	9.9%
Respiratory Therapist	1.8%	30.7%	13.8%	7.0	9.9%
Speech Language Pathologist	4.9%	6.5%	11.6%	3.8	9.3%
Manager	2.9%	8.9%	4.9%	80.5	9.1%
Prosthetist-Orthotist	1.4%	0.0%	8.3%	1.3	8.7%
Social Worker	2.3%	22.9%	10.1%	53.8	8.5%
Electroneurophysiology Technol.	4.2%	0.0%	0.0%	1.0	8.3%
Dietitian/Nutritionist	2.4%	20.5%	12.4%	5.3	7.8%
Cardiology Technologist	1.9%	5.7%	5.7%	2.5	7.1%
Combined LX Technologist	4.8%	17.9%	7.1%	1.0	7.1%
Registered Nurse	1.4%	16.5%	7.7%	316.8	6.4%
Behaviour Mgmt. Specialist	1.9%	11.4%	5.1%	5.0	6.3%
Licensed Practical Nurse	0.5%	10.2%	6.0%	128.0	4.8%
Medical Radiation Technologist	2.1%	17.4%	10.2%	11.0	4.4%
Medical Laboratory Technologist	1.9%	14.1%	5.0%	14.3	3.9%
Dosimetrist	0.0%	0.0%	25.0%	0.0	0.0%

Notes:

1. Please read notes associated with each table referenced above. Caution is noted in the interpretation of the figures as many represent averages of data that are quite variable.

The occupational groups with rates of turnover of approximately ten per cent or higher tend to be small in number, and young, mobile, health professionals. Most of these groups are trained out of the province. Overall, turnover rates for occupational groups exceeding 250 in number provincially seem reasonable, although national benchmarks and comparators on this topic are difficult to locate.

If the number of separations equaled the number of external hires, the external hire rate and turnover would be identical. In many cases in Table 15, the external hire rate varies considerably from turnover. Inherent variability in data and collection and analysis methods contribute to this variability and make comparisons difficult. While it is not expected that these two statistics would equal, one might expect similarities in magnitude where occupations are not growing or shrinking significantly in number, which is apparent for most occupations shown.

This concludes this Part of the Human Resource Indicator Report 1999 to 2003. For more information on workforce counts and detailed retirement projections, please read Part 1 – Who's Who and Part 6 – Retirement Estimates.