Employment trends in nursing

Wendy Pyper

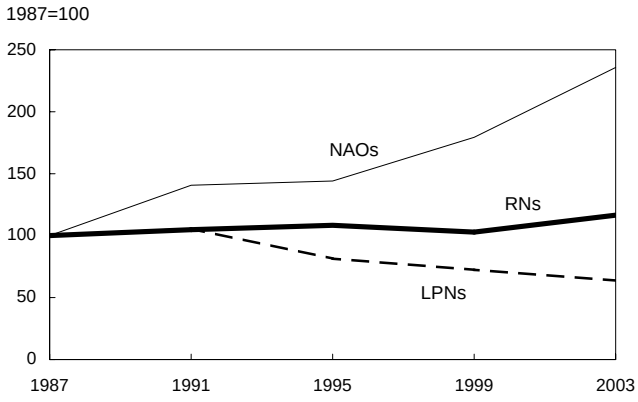
Nurses make up the largest proportion of health workers in Canada. Whether in hospitals, home care or nursing care facilities, they play an integral role in the health care system, which touches the life of every Canadian. These days they are under increasing pressure as their employers are faced with fewer resources for providing patient care. Several factors have come into play: an aging workforce that is fast approaching retirement; declining enrolment in nursing programs throughout the 1990s; and fiscal restraint, which has promoted more use of lower-paid unregulated workers (CNA 1995; CPNA 1999; RNAO 1996). The result has been a smaller ratio of regulated nurses to population amid reports of an overworked and overstressed nursing workforce (Baumann et al. 2001).

Using the Labour Force Survey (LFS) and the Survey of Labour and Income Dynamics (SLID), this article examines the changing occupational composition of workers in the health care sector. It looks at employment trends between 1987 and 2003 for the two regulated nursing professions: registered nurses (RNs) and licensed practical nurses (LPNs),[1] and compares them with the unregulated nurse aides and orderlies group (NAOs). With SLID, respondents can be tracked over several years (see *Data sources and definitions*).

Employment trends different for regulated nursing occupations

Between 1987 and 2003, the number of employed registered nurses increased by 17%, reaching 259,800 in 2003 (Chart A).[3] The number of employed LPNs was fairly steady throughout the mid-1990s, but decreased substantially in the late 1990s and the beginning of this century, resulting in an almost 40% decline over the period to 49,100. This is in sharp contrast to the unregulated NAOs, whose employment increased steadily and substantially, more than doubling to 188,800. This growth was much larger than the 28% growth in overall employment.

Chart A: Employment more than doubled between 1987 and 2003 for nurse aides and orderlies.



Source: Labour Force Survey

One factor contributing to the stagnant number of nurses may be enrolment in nursing programs, which fell from almost 40,000 in 1990-91 to 28,800 in 1998-99 (Galarneau 2003).[4]

Immigration provides another possible source of nurses. However, this does not appear to be a large factor for RNs or LPNs. In 2002, 7% of employed RNs were graduates of a foreign nursing program, a percentage that remained roughly constant from 1998 to 2002 (CIHI 2003b).[5] Only 2% of LPNs (excluding Quebec for which data were not available) were foreign-trained (CIHI 2003a). Overall, the flow into nursing from outside Canada seems to be small.[6]

Wendy Pyper is with Labour and Household Surveys Analysis Division. She can be reached at (613) 951-0381 or perspectives@statcan.ca.

Data sources and definitions

The **Labour Force Survey** (LFS) is a monthly household survey that provides labour market information and demographic characteristics for the civilian non-institutional population 15 years of age and over. The LFS is the source of cross-sectional information in this article.

The **Survey of Labour and Income Dynamics** (SLID) provides the longitudinal information. SLID began in 1993 and follows people for six years. Every three years, a new panel of 15,000 households is added, representing about 30,000 individuals aged 16 to 69. Respondents complete two detailed questionnaires each year. To increase sample size, the study combined two panels between 1999 to 2001, the most recent period available. If a person held a job or jobs for only one year during the period 1999 to 2001, they were removed from the sample. There are three possibilities regarding jobs held: A worker could hold only one job during this three-year time frame; more than one job, but never more than one at a time (could change jobs, but never having overlapping jobs); or more than one job at a time (a multiple jobholder). Only the first two types of workers (those with only one job at a time) are included in the discussion on full-time and part-time status. In the remaining longitudinal analysis, all types of workers are included (both single and multiple jobholders). Here the characteristics of the main job were selected for those holding more than one job at a time.

Strictly speaking, the term **nurse** refers to a registered nurse. However, in this study, it refers to either registered nurses (RNs) or licensed practical nurses (LPNs).[2] For RNs (which includes head nurses and supervisors), education at either the community college or university level is followed by a national exam and registration process. LPNs, however, require different education levels depending on the jurisdiction. Following the completion of training, LPNs are required to pass a national exam. Generally, LPNs work under the supervision of RNs.

In addition to these two regulated nursing professions, there is a group of unregulated workers: nurse aides and orderlies (NAOs). These generally work in conjunction with the two regulated nursing professions and include health care aides, long-term care aides, personal care attendants, and medical orderlies (see *Patient care providers in Ontario* for an example of the differences). While NAOs do not have the educational requirements of the two nursing occupations, they provide an important part of hands-on patient care, especially in nursing and residential care facilities and home health care settings. As such, they are included in this study for comparison.

Over 80% of jobs in these occupational groups were held by women in 2003. The percentage was as high as 93% for RNs and LPNs, and 89% for NAOs (data not shown).

Job absences (see Akyeampong 2002 for more details)

Incidence of absence: percentage of full-time employees reporting some absence in the reference week.

Days lost per worker: hours lost as a proportion of the usual weekly hours of all full-time employees multiplied by the estimated number of working days in the year (250).

Occupational groups

D112 Registered nurses + D111 Head nurses and supervisors

D233 Registered nursing assistants

D312 Nurse aides and orderlies

Industry categories

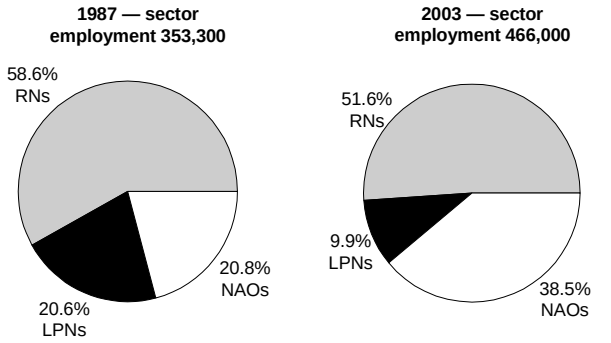
Health care sector:
- Hospitals
  - General medical and surgical hospitals
  - Psychiatric and substance abuse hospitals
  - Specialty (except psychiatric and substance abuse) hospitals
- Nursing and residential care facilities
  - Nursing care facilities
  - Residential developmental handicap, mental health and substance abuse facilities
  - Community care facilities for the elderly
  - Other residential care facilities
- Home health care services
- Other ambulatory health care services
  - Offices of physicians
  - Offices of dentists
  - Offices of other health practitioners
  - Out-patient care centres
  - Medical and diagnostic laboratories
  - Other ambulatory health care services

Accompanying the declines in nursing employment has been a growth in Canada's population. As a result, the per capita ratio of nurses has dropped. While the trend for RNs was generally downward, the decline for LPNs was more pronounced—from 291 per 100,000 people in 1987 to 155 by 2003. At the same time, the ratio for NAOs virtually doubled from 300 to roughly 600 per 100,000.

The changing face of patient care

Traditionally, RNs and LPNs have been the primary providers of patient care. However, one method of controlling costs since the late 1980s seems to have been an increase in the patient-care role of unregulated nurse aides and orderlies (CNA 1995; CPNA 1999; RNAO 1996).[7] In 1987, 21% of workers in patient-care occupations[8] were unregulated NAOs (Chart B), but by 2003, this had jumped to 39%. Over the same period, LPNs declined

Chart B: Nurse aides and orderlies are becoming a larger part of health care.



Source: Labour Force Survey

from 21% to just 10%, and RNs from 59% to 52%. Although the regulated nursing workforce remains predominant, lower-paid unregulated NAOs are becoming increasingly more common as care providers.

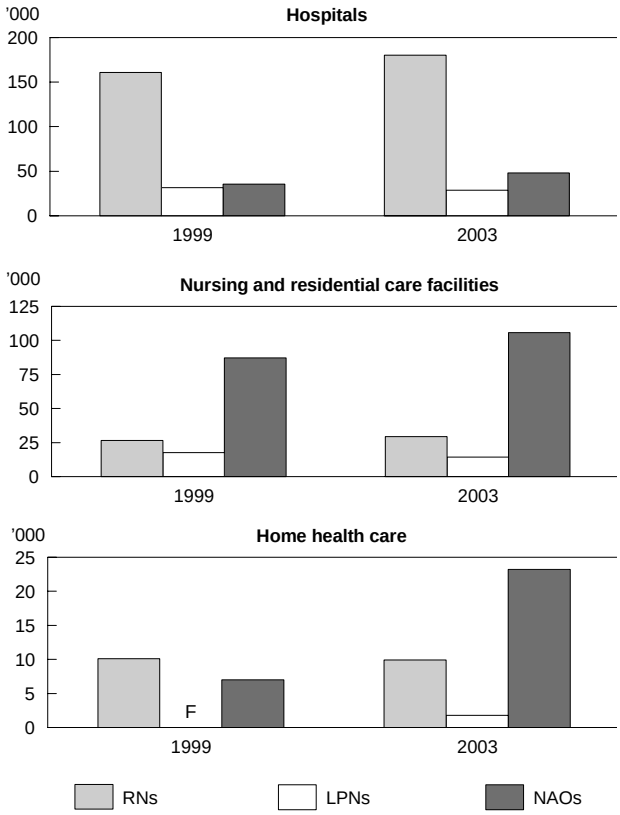
Nurses and unregulated NAOs are found in various parts of the health care sector.[9] Nurses are most often thought to work in hospitals, yet these experienced the smallest employment growth between 1987 and 2003 while other areas grew substantially. In 1987, 71% of patient-care workers were employed in the hospital industry. By 2003, this had declined substantially to 55% (Table 1). While overall employment in the health care sector grew 32% over the period, growth for the three patient-care occupations in hospitals was only 3%. The occupational composition within the hospital industry saw little change from 1999 to 2003, with over two-thirds of workers being RNs (Chart C).[10]

Table 1: Patient-care workers by industry

	1987	1991	1995	1999	2003
			%		
Health care	**100**	**100**	**100**	**100**	**100**
Hospitals	71	68	61	57	55
Nursing care facilities	22	26	32	33	32
Home health	2	1	2	5	7
Other ambulatory	5	4	5	5	5

Source: Labour Force Survey

Chart C: Occupational composition differs among industries.



Source: Labour Force Survey

The second most common area for the nursing workforce was nursing and residential care facilities, employing 32% of patient-care workers in 2003, up from 22% in 1987. Patient-care employment has grown and will likely continue to grow in these facilities as the population ages. This area saw a slight increase in the proportion of NAOs (from 66% in 1999 to 71% in 2003) because of two factors: First, employment among NAOs increased more quickly than among RNs; second, the number of LPNs declined.

Employment in home health care has undergone substantial changes since the late 1990s. While employment among the nursing workforce and NAOs has increased markedly, this industry is still very small, employing only 7% of these workers in 2003. However, the

relative share of NAOs increased dramatically, reaching two-thirds of patient-care workers in 2003, compared with 38% in 1999.

The aging workforce in nursing

An often discussed issue is the aging of the regulated nursing workforce. With more RNs approaching the traditional retirement age, the Canadian Institute for Health Information projects that by 2006, Canada could lose up to 13% of its 2001 RN workforce (O'Brien-Pallas, Alksnis and Wang 2003). A similar situation faces LPNs: Assuming a retirement age of 55, over half could be eligible to retire by 2012 (CIHI 2003a).

Indeed, the Labour Force Survey shows a substantial increase in the proportion of RNs aged 50 or older—the rate doubling from 15% in 1987 to 30% in 2003. LPNs mirrored this increase. Over the past decade, many new graduates were unable to find full-time employment as older nurses with more seniority obtained or retained nursing positions. As a result, some young nurses left Canada or the nursing profession entirely (CNAC 2002). Declining enrolment in nursing programs and the increasing proportion of workers approaching retirement age raise real concerns as to whether enough younger nurses will be available to replace those retiring.

NAOs experienced a slightly smaller increase in their percentage of older workers. In 1987, 18% of NAOs were 50 or older, compared with 28% in 2003. This group is also facing potential shortages because of their aging workers. Given the aging of the general population and the accompanying demands on the health care system, shortages could well occur in nursing and related occupations, especially if this trend continues.[11]

Rising education levels

Educational requirements for registered nurses have evolved over the past several decades. Early in the 1990s, they required either a three-year nursing diploma from a community college or a four-year bachelor's degree from a university. By the end of the decade though, most provinces announced that the initial nursing educational requirement would be a four-year baccalaureate (CIHI 2003b). Indeed, the LFS illustrates this change. In 1990, 16% of RNs had a university degree (baccalaureate or master's), compared with 26% in 2003 (Table 2). The increase is seen not only at the baccalaureate level but also at the master's level—from 1.4% in 1990 to 3.9% in 2003. For LPNs, educational requirements have also changed, with training offered in postsecondary institutions as opposed to hospitals (CIHI 2003a). The LFS shows some change in the education level of LPNs, but it is less than for RNs.

The NAOs show two trends. First, fewer are less educated; the proportion having a high school diploma or less decreased from 47% in 1990 to 31% in 2003. At the same time, the proportion with a university degree increased slightly (from 4% in 1990 to 6% in 2003). Several factors may be contributing to these trends, including age structure and immigration.

Table 2: Education levels

	1990	1997	2003
All occupations		%	
Less than high school	26.8	18.5	15.0
High school graduate	22.8	20.5	20.3
Postsecondary certificate or diploma	36.0	42.5	43.8
University degree	14.4	18.5	20.9
Registered nurses			
Less than high school	1.8	F	F
High school graduate	3.3	2.0	1.6
Postsecondary certificate or diploma	79.4	77.0	72.1
Bachelor's degree	14.1	17.7	22.1
Master's degree	1.4	2.8	3.9
Licensed practical nurses			
Less than high school	5.3	F	F
High school graduate	7.3	5.8	7.3
Postsecondary certificate or diploma	84.7	86.3	87.2
University degree	2.9	6.0	4.7
Nurse aides and orderlies			
Less than high school	27.4	15.8	12.6
High school graduate	19.6	16.0	18.2
Postsecondary certificate or diploma	49.1	62.0	63.2
University degree	3.7	6.2	5.9

Source: Labour Force Survey

Very low unemployment rate among nurses

With declines in enrolment in RN programs (and only small increases for LPNs), low numbers of immigrant nurses, and an aging workforce, one might expect full employment. In fact, the unemployment rate of RNs is extremely low compared with the 7.6% for the

general workforce (Table 3). Indeed, after peaking in 1992 at 2.4%, the rate for RNs dropped almost steadily. It was somewhat higher for NAOs—2.7% in 2003—but still much lower than the general unemployment rate.

Table 3: Unemployment, part-time employment, and voluntary part-time employment rates

	1987	1995	2003
Unemployment rate		%	
All occupations	**8.8**	**9.4**	**7.6**
Registered nurses	1.7	2.1	F
Licensed practical nurses	1.9	3.0	F
Nurse aides and orderlies	4.0	3.0	2.7
Part-time employment rate			
All occupations	**16.8**	**18.9**	**18.8**
Registered nurses	30.6	33.0	28.9
Licensed practical nurses	32.3	34.4	29.1
Nurse aides and orderlies	30.6	31.7	33.6
	1997	2000	2003
Voluntary part-time employment		%	
All occupations	**69**	**75**	**72**
Registered nurses	67	81	82
Licensed practical nurses	55	69	64
Nurse aides and orderlies	49	59	54

Source: Labour Force Survey

Majority working full time, but many are part-timers

Aside from the periodic snapshots from the LFS, SLID presents a longitudinal picture showing that over 60% of workers in the patient-care occupations who held a job (only one at a time) in at least two years between 1999 and 2001 worked full time in each year (Table 4). This holds for both the regulated and unregulated occupations. Roughly 65% of RNs and 67% of LPNs always held full-time jobs compared with 63% of NAOs. However, these rates are significantly lower than the overall almost 8 in 10 workers.

Both RNs and LPNs have very high rates of part-time work compared with the general working population (CIHI 2003b). For RNs, the rate hovered around 30% over the 1987 to 2003 period; for LPNs, it ranged between 29% and 36%; and for NAOs, between 31% and 36% (Table 3). In comparison, the part-time rate for all occupations was only 19% in 2003. The high part-time rate in the nursing profession is at least partially due to the high percentage of women in these occupations. Longitudinally, 15% of RNs worked part time in each year they held a job between 1999 and 2001 (Table 4), indicating some stability in their work arrangements.

Part-time by choice

Between 1987 and 2003, roughly 30% of RNs and LPNs worked part time. Were full-time jobs not available or did they work part time by choice? The LFS, which asks part-time workers if they choose to work part time, shows an 82% voluntary part-time rate for RNs in 2003—well above the overall rate of 72% (Table 3).[12]

The rate fluctuated somewhat over time, increasing for RNs from 67% in 1997 to 81% in 2000 and remaining fairly steady through to 2003. A similar increase occurred for LPNs. Their rate rose from 55% in 1997 to 69% in 2000, varied somewhat after 2000, and stood at 64% in 2003. In comparison, the proportion of NAOs who chose to work part time rose from 49% to 54% over the period. One reason for the relatively low proportion of voluntary part-time NAOs may be their lower earnings, which could make part-time work less preferable.

Looking longitudinally, SLID shows that many workers in these occupations consistently preferred to work part time. Almost 8 in 10 RNs who worked part time between 1999 and 2001 always did so by choice. For LPNs, the proportion was 6 in 10 (Table 4).

Do nurses working part time in their main job hold other jobs? Only 7% of all part-time workers held more than one job at a time in 1987, with the rate increasing slightly by 2003. In 2003, 12% of RNs who worked part time in their main job held multiple jobs, a slight increase from 9% in 1987. LPNs showed a similar pattern. The multiple jobholding rate for NAOs rose as well, from 8% in 1987 to 13% in 2003. So, while 40% of NAOs worked part time involuntarily, only 13% of those whose main job was part-time had another job at the same time in 2003.

Temporary job trends differ for RNs and LPNs

One indicator of job stability and quality is permanence. Unlike a permanent job, a temporary job has a pre-determined termination date or is linked to the end of a project or contract. Such jobs are generally

Patient care providers in Ontario

	RNs and LPNs	Unregulated care providers
Who they are	Regulated under the *Regulated Health Professions Act*.	*Not regulated through legislation or* accountable to any board, college or institution.
What they do	"The practice of nursing is the promotion of health and the assessment of, the provision of care for, and the treatment of health conditions by supportive, preventive, therapeutic, palliative and rehabilitative means in order to attain or maintain optimal function." —*Nursing Act*, 1991 Authorized to perform controlled acts such as injections.	Provide services under the direction of an RN, LPN, client, family member, employer or other regulated health professional. Assist with routine care activities. Cannot perform controlled acts unless delegated by a regulated health professional.
Educational requirements	Graduation from an approved nursing education program. Successful completion of national nursing registration exams.	No minimum educational requirements. Training may be received on the job or through community college or private programs.
Accountability	Accountable to their clients, College of Nurses in Ontario, and their employer.	Accountable to their employer, not to any external body. No regulatory body to set standards or monitor quality of service.

Source: College of Nurses of Ontario. Utilization of Unregulated Care Providers (UCPs), *2004*.

Table 4: Work arrangements, 1999 to 2001

	All occupations	RN	LPN	NAO
		%		
Full time each year	**78**	65	67	63
Mix of full time and part time	**12**	20	16[E]	21
Part time each year	**10**	15	17[E]	16[E]
Working part time				
Did so voluntarily in each year	**74**	77	59[E]	67

Source: Survey of Labour and Income Dynamics
Note: Does not include workers holding multiple jobs.

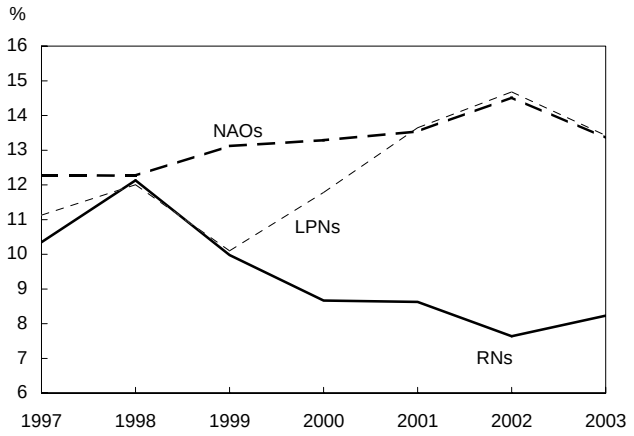
considered to be less secure. In 1997, the proportion of RNs in temporary jobs stood at 10%. The rate peaked at 12% in 1998, and then fell to 8% in 2003 (Chart D). LPNs followed a similar pattern between 1997 and 1999, but subsequently the two paths diverged, with the proportion of LPNs in temporary jobs reaching 13% in 2003. More LPNs and fewer RNs now faced the uncertainty associated with temporary jobs. Although NAOs had higher rates of temporary employment, their rate increased only slightly over the period.

Working at a temporary job for a short time is very different from doing so year after year.[13] For RNs with a paid job (including multiple jobs) in at least two years between 1999 and 2001, 78% held permanent jobs in each year (Table 5). For LPNs, the rate was 83%; and for NAOs, 72%.

Both wage and non-wage benefits differ

Not surprisingly, given the different responsibilities and education requirements, average hourly

Chart D: Temporary job trends differ for RNs and LPNs.



Source: Labour Force Survey

earnings differ widely between the two regulated nursing occupations. In 2003, RNs averaged just over $26 per hour, 40% higher than LPNs (almost $19) (Table 6). In contrast, the less educated and unregulated NAOs earned less than $15. In real terms, over the 1997-2003 period, hourly earnings for RNs increased about $2 (roughly 9%)—a very different picture from LPNs, whose hourly earnings actually declined, and NAOs, whose remained relatively constant.

Non-wage benefits, such as employer-sponsored insurance and pension plans, are other indicators of job quality (Marshall 2003). Two-thirds of RNs and LPNs who held paid jobs between 1999 and 2001 had insurance coverage in all years (Table 5). This was much higher than the overall employed population and the non-regulated NAOs—both at 51%. Similarly, over 60% of regulated nurses had a retirement plan, a much higher proportion than workers overall. A relatively small percentage of RNs had no insurance or retirement plan. These results are likely due to differing unionization rates—higher levels of unionization are generally associated with higher levels of non-wage benefits (Marshall 2003). In fact, the 80% unionization rate for both RNs and LPNs is substantially higher than the overall workforce. However, unionization does not appear to guarantee coverage since NAOs, who have fairly high unionization rates (almost 70%), were less likely to receive non-wage benefits (only 51% received benefits in all three years). This could be explained by this group's relatively high level of temporary employment.

Nurses consistently more stressed and absent more often

Stress can affect both physical and psychological well-being. While some level of stress is unavoidable, studies have shown that it is related to psychological distress and health problems, especially in the long term (Shields 2004; Wilkins and Beaudet 1998). Half of all workers reported feeling very or somewhat stressed in all years between 1999 and 2001.[14] While this rate seems quite high, it is even higher for those in the regulated nursing professions. Two-thirds of RNs reported being very or somewhat stressed in each of the years between 1999 and 2001, slightly higher than LPNs. Levels for NAOs were about the same as those in the general working population.

Table 5: Job benefits, 1999 to 2001

	All occupations	RNs	LPNs	NAOs
			%	
Permanent job in each year	**72**	78	83	72
Insurance coverage				
Each year	**51**	69	68	51
Some years	**22**	22	22[E]	25
Never	**27**	9	10[E]	24
Retirement plan				
Each year	**31**	65	61	43
Some years	**25**	23	20[E]	27
Never	**44**	12	19[E]	30
Very or somewhat stressed in each year	**51**	67	60	48

Source: Survey of Labour and Income Dynamics
Note: Includes workers holding multiple jobs, where information from the main job is used when multiple jobs are held.

Table 6: Average hourly earnings

	1997	2003
	$	
All occupations	**17.69**	**18.06**
RNs	23.97	26.13
LPNs	19.00	18.89
NAOs	14.44	14.60

Source: Labour Force Survey
Note: 2003 constant dollars, for employed employees only.

Work absences are another indicator of occupational well-being (Table 7). In 2003, 10% of full-time RNs reported a work absence, a somewhat higher rate than for all full-time workers (7%).[15] NAOs, however, were even more likely to be absent (12% in 2003). The vast majority of these days were due to illness or disability (data not shown)—not surprising given their almost constant exposure to ill patients and the demands of the job. Taking into account the length of absence, the average number of workdays lost per full-time worker was much higher for nurses and NAOs. The latter lost the most days: 19 in 2003, compared with 15 and 18 for RNs and LPNs respectively and substantially more than all full-time workers. These results paint a difficult picture for many in the nursing professions, suggesting that the perception of a stressed nursing workforce may be accurate.

Table 7: Absence rates and days lost

	1997	2003
Absence rates	%	
All occupations	**5.5**	**7.3**
RNs	9.0	9.8
LPNs	10.3	11.0
NAOs	10.2	11.9
Days lost	Days	
All occupations	**7.4**	**9.1**
RNs	16.3	15.4
LPNs	16.8	17.6
NAOs	18.4	18.6

Source: Labour Force Survey
Note: Full-time employees excluding maternity leave. See Akyeampong 2002 for details.

Summary

Registered nurses and licensed practical nurses play a prominent role in the hands-on patient care of Canadians. However, since 1987 there has been only a marginal increase in the number of RNs and a substantial decline in LPNs. This, coupled with the aging of the nursing population and declining enrolment in nursing programs, suggests that concerns of a looming nursing shortage may be valid.

The LFS provides support for the notion that a shift has occurred in the occupational composition of patient care from RNs and LPNs to less-educated, lower-paid NAOs over the past 17 years. For example, of the patient-care workers, 39% were NAOs in 2003, compared with 21% in 1987. In the home health care industry, the relative share of NAOs represented two-thirds of patient-care workers in 2003, up from 38% in 1999.

Nurses remain central to the health care sector. It is not surprising that their unemployment rate is extremely low compared with the general working population. The work arrangements of nurses differ substantially from those of other workers. It is commonly believed that many working part time would prefer to work full time. Indeed in 2003, they were much more likely than other workers to work part time (30% of RNs and 36% of LPNs). However, most did so by choice—8 in 10 part-time RNs reported choosing to work less than full time.

Perspectives

Notes

1 A third category is registered psychiatric nurses, who are licensed and regulated as a separate profession in Manitoba, Saskatchewan, Alberta and British Columbia. However, in the LFS, this profession is grouped with RNs, so separate analysis is not possible.

2 This category is sometimes called 'registered practical nurses' or 'registered nursing assistants.' In this article, the term used is 'licensed practical nurses.'

3 Estimates using the LFS at this detailed level of occupation may be slightly different from other sources such as the Census or administrative records such as the Registered Nurses Database used in many CIHI reports. Sampling and non-sampling errors explain these differences.

4 The number of LPN graduates increased from 2,600 in 1988 to 2,800 in 2000 (CIHI 2001). The comparable figures for graduating RNs are 9,200 in 1988 and 5,100 in 1999. Unfortunately, 15 schools (approximately 12 to 15%) did not respond to the CNA survey in 1999. As a result, the figure for 1999 is an undercount of the number of graduates.

5 While graduating from a foreign nursing program does not necessarily mean that the graduate is an immigrant, it is an indicator of migration. 'Foreign graduates' include Canadians who attended nursing school outside Canada, but who returned to work in Canada. Similarly, 'Canadian graduates' include students from foreign countries who graduated from a Canadian nursing school (CIHI 2003b).

6 The recognition of foreign credentials of nurses is an important issue, but it is complex and beyond the scope of this article.

7 In 2000, nurse supervisors and registered nurses working full year, full time had an average employment income of $46,600. For licensed practical nurses, the figure was $32,600, and for nurse aides and orderlies, $27,200.

8 The term 'patient care' refers to the group of occupations composed of RNs, LPNs and NAOs.

9 While not all nurses are employed in the health care sector, the vast majority are. This section, related to industries, discusses only the health care sector.

10 There appear to be some problems with the data series by industry and occupation at this level of disaggregation. Part of the problem may be attributable to the NAICS classification, which began direct coding in 1999. As a result, this section is limited to the period from 1999 to 2003.

11 That is, if other changes do not occur, such as increased immigration of nurses. Immigration of nurses and the recognition of foreign credentials are important issues but beyond the scope of this article.

12 The number employed part time on a voluntary basis divided by the number employed part time. The rate is only calculated from 1997 onwards because of a change in LFS definitions.

13 Unfortunately, the sample size of SLID does not allow an examination of workers who repeatedly worked on a temporary basis in each year over the period from 1999 to 2001. Instead, the longitudinal aspect of holding permanent jobs is examined here.

14 Since SLID does not ask directly about work-related stress, the reported stress levels cannot be attributed entirely to employment. They do, however, provide an overall measure of stress.

15 See Akyeampong 2002 for details on work absences.

References

Akyeampong, Ernest. 2002. *Work Absence Rates, 1991 to 2001*. Catalogue no. 71-535-MPB, no. 11. Ottawa: Statistics Canada.

Baumann, Andrea, Linda O'Brien-Pallas, Marjorie Armstrong-Stassen, Jennifer Blythe, René Bourbonnais, Sheila Cameron, Diane Irvine Doran, Michael Kerr, Linda McGillis Hall, Michel Vezina, Michelle Butt, and Leila Ryan. 2001. *Commitment and care: The benefits of a healthy workplace for nurses, their patients and the system*. Canadian Health Services Research Foundation and The Change Foundation.

Canadian Institute for Health Information (CIHI). 2001. *Canada's health care providers*. Ottawa.

---. 2003a. *Workforce trends of licensed practical nurses in Canada, 2002*. Ottawa.

---. 2003b. *Workforce trends of registered nurses in Canada, 2002*. Ottawa.

Canadian Nurses Association (CNA). 1995. *Unregulated health care workers supporting nursing care delivery*. Policy statement. Ottawa.

Canadian Nursing Advisory Committee (CNAC). 2002. *Our health, our future: Creating quality workplaces for Canadian nurses*. Ottawa: Federal-provincial-territorial Advisory Committee on Health Human Resources.

Canadian Practical Nurses Association (CPNA). 1999. *Facing forward: Current and future health care trends and issues and the implications for Canada's practical nurses*. Scarborough.

Galarneau, Diane. 2003. "Health care professionals." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XIE) 4, no. 12. December 2003 online edition.

Marshall, Katherine. 2003. "Benefits of the job." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XIE) 4, no. 5. May 2003 online edition.

O'Brien-Pallas, Linda, Chris Alksnis and Sping Wang. 2003. *Bringing the future into focus: Projecting RN retirement in Canada*. Ottawa: Canadian Institute for Health Information.

Registered Nurses Association of Ontario. 1996. *Replacement of registered nurses by less prepared providers*. RNAO and ONA Joint Statement. Internet: www.rnao.org/policy/less_prepared_providers.asp.

Shields, Margot. 2004. "Stress, health and the benefit of social support." *Health Reports* (Statistics Canada, Catalogue no. 82-003-XIE) 15, no. 1 (January): 9-38.

Wilkins, Kathryn and Marie P. Beaudet. 1998. "Work stress and health." *Health Reports* (Statistics Canada, Catalogue no. 82-003-XIE) 10, no. 3 (Winter): 47-62.

Appendix: Provincial aspects

While national trends are important, provincial analysis of the nursing workforce is necessary since provincial policy largely determines health care. Nationally, the ranks of RNs increased 17% between 1987 and 2003. Ontario, with the largest number of RNs, increased 38% to 100,100 in 2003. While several other provinces also experienced large percentage increases, in absolute terms, the increases were smaller (Alberta, British Columbia, and several Atlantic provinces). Quebec, on the other hand, saw a decline—down 16% to 62,200 in 2003.

A very different picture emerges for LPNs whose numbers fell 36% over the period. Ontario represented almost two-thirds of the Canada-wide decline (-65%). Conversely, NAOs experienced growth in each province—substantial in Quebec and Ontario.

These different trends have resulted in changes in the occupational composition of patient-care workers. This is particularly evident in Quebec where RNs accounted for 68% of patient-care workers in 1987 compared with just 49% in 2003. LPNs also declined, resulting in a shift in the relative share of NAOs from 15% to 40%. Other provinces also experienced a large increase in their relative share of NAOs, generally at the expense of LPNs.

The proportion of RNs, LPNs (and to a lesser extent NAOs) aged 50 or older has increased substantially. British Columbia had a large proportion of RNs aged 50 and over (37% in 2003, an increase from 15% in 1987). The Atlantic provinces had fewer older regulated nurses in both 2003 and 1987. For the unregulated NAOs, there was very little difference between provinces.

Provinces differed somewhat in part-time employment rates for both regulated and unregulated patient-care workers. The largest differences existed among LPNs, where the rate ranged from 17% in Atlantic Canada to 45% in Quebec. Similarly, NAOs were most likely to work part time in Quebec (37%) and Ontario (36%), and least likely in the Atlantic provinces (23%). For RNs, the part-time employment rate declined in all regions except Quebec, where it increased slightly from 30% in 1987 to 32% in 2003.

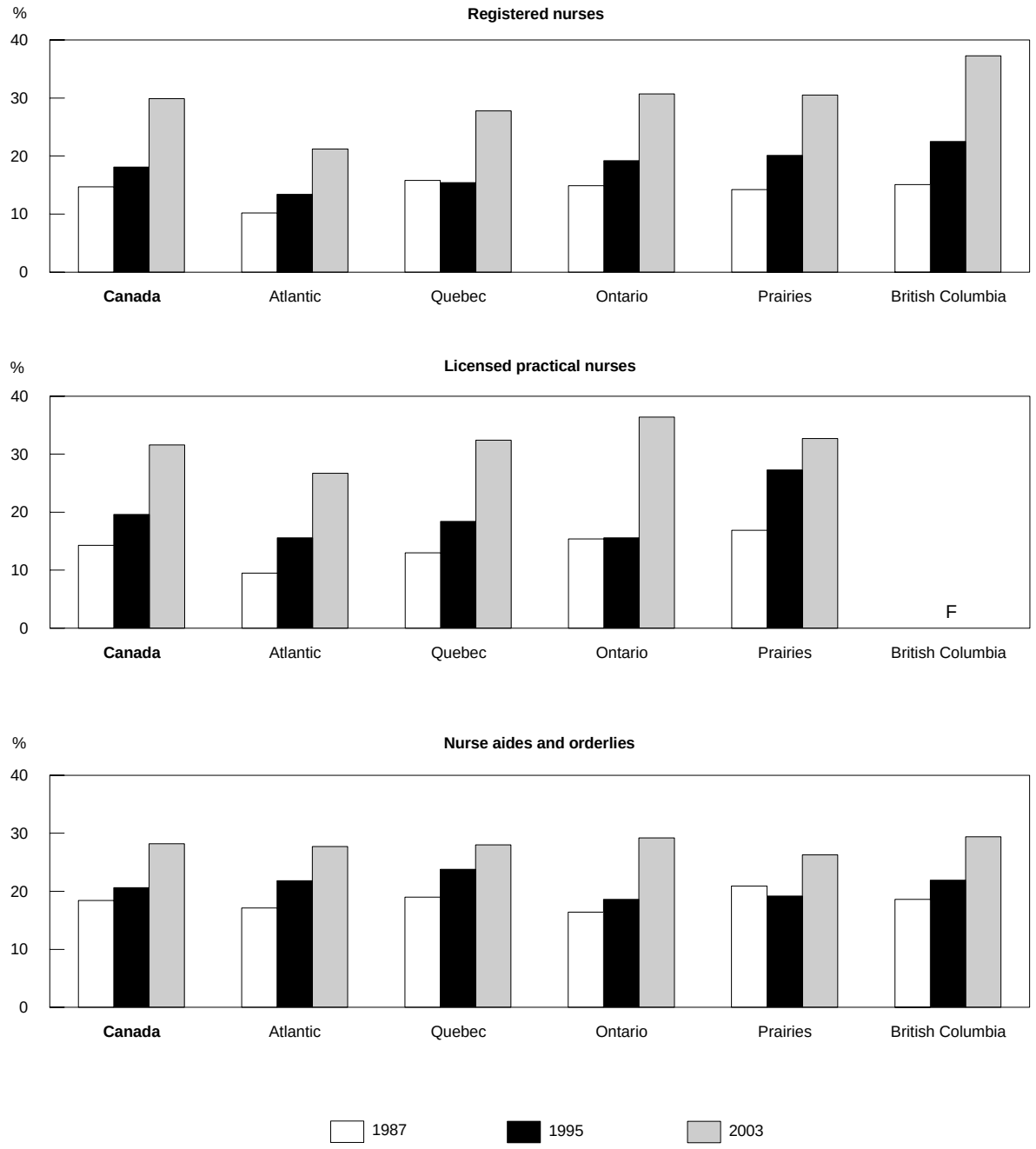
The vast majority of RNs working part time chose to do so—over 75% in all regions in 2003. In every region, fewer NAOs chose to work part time. In all regions except Quebec and the Prairies, less than half chose this arrangement. Interestingly, Quebec experienced the largest increase in the voluntary part-time rate in each of the three patient-care occupations.

Overall, those working in the regulated nursing occupations are highly unionized (83% for RNs and 85% for LPNs in 2003), but not all provinces have such high unionization rates. Ontario had the lowest rates for both regulated occupations (74% for RNs and 75% for LPNs) and also one of the lowest rates for NAOs (62%).

Hourly earnings for both the regulated nursing workforce and the unregulated NAOs differ widely by province. RNs, for example, earned more in the western provinces ($28 per hour in Alberta and $29 in British Columbia) than in the eastern provinces ($24 in the Atlantic region). Between 1997 and 2003, increases in real hourly earnings for RNs ranged from a mere 2% in New Brunswick to 20% in Newfoundland and Labrador and 19% in Alberta. In each province, LPNs earned less per hour than RNs. However, LPNs in British Columbia earned the same as RNs in New Brunswick. LPNs in several provinces experienced declines in hourly earnings over the period: New Brunswick (-8%), Quebec (-6%), and Alberta (-3%).

The range in hourly earnings for NAOs was large: those in Newfoundland and Labrador earned $10 in 2003 while those in British Columbia earned almost twice that ($19.80). In fact, NAOs in British Columbia earned more per hour than LPNs in almost every province (except Ontario and British Columbia). NAOs in some provinces experienced a decline in earnings: New Brunswick (-10%) and Quebec (-5%).

Workers aged 50 or over



Source: Labour Force Survey

Employment, employment share and part-time employment by province

	Registered nurses			Licensed practical nurses			Nurse aides and orderlies		
	1987	1995	2003	1987	1995	2003	1987	1995	2003
Employment (1987=100)*									
Canada	**100.0**	**108.4**	**116.6**	**100.0**	**81.5**	**63.8**	**100.0**	**144.1**	**235.7**
Atlantic	100.0	131.3	131.2	100.0	91.4	102.7	100.0	114.2	184.1
Newfoundland and Labrador	100.0	173.6	185.2	100.0	81.2	62.5	F	153.7	635.7
Prince Edward Island	100.0	128.5	145.6	100.0	96.4	90.6	100.0	74.6	97.1
Nova Scotia	100.0	137.3	125.8	100.0	96.2	114.3	100.0	107.6	174.7
New Brunswick	100.0	106.0	109.2	100.0	104.1	172.2	100.0	122.0	135.2
Quebec	100.0	93.9	83.9	100.0	90.7	77.3	100.0	174.7	307.7
Ontario	100.0	112.5	137.7	100.0	80.0	35.5	100.0	159.2	258.5
Prairies	100.0	109.7	121.4	100.0	77.5	73.4	100.0	117.1	190.9
Manitoba	100.0	109.9	96.9	100.0	94.0	61.8	100.0	107.5	176.4
Saskatchewan	100.0	100.6	112.0	100.0	79.9	55.2	100.0	121.6	172.9
Alberta	100.0	113.5	138.7	100.0	66.4	88.0	100.0	122.5	220.1
British Columbia	100.0	122.3	136.3	100.0	59.0	74.1	100.0	128.9	186.0
Employment share					%				
Canada	**58.6**	**57.3**	**51.9**	**20.4**	**15.0**	**9.9**	**21.0**	**27.6**	**38.2**
Atlantic	51.1	58.6	50.2	25.8	19.6	19.2	23.1	21.8	30.6
Newfoundland and Labrador	43.1	60.1	53.0	51.5	31.9	20.3	F	8.0	26.7
Prince Edward Island	41.7	53.7	51.5	23.3	21.9	18.1	35.0	24.3	30.4
Nova Scotia	50.8	59.0	47.8	20.4	15.9	16.7	28.8	25.1	35.5
New Brunswick	58.7	58.0	50.5	15.8	14.6	21.7	25.5	27.4	27.7
Quebec	68.1	60.9	48.7	17.2	14.9	11.5	14.7	24.3	39.8
Ontario	57.6	55.3	56.3	22.1	15.6	5.5	20.3	29.0	38.2
Prairies	50.9	53.6	47.3	21.3	15.5	11.9	27.7	30.9	40.8
Manitoba	47.0	48.2	39.8	21.7	19.7	11.5	31.3	32.1	48.7
Saskatchewan	46.3	45.4	41.8	18.0	13.4	8.2	35.7	41.2	50.1
Alberta	56.1	61.1	53.6	22.8	13.9	13.7	21.1	25.0	32.7
British Columbia	55.2	59.0	54.2	18.2	9.2	9.3	26.6	31.7	36.5
Part-time employment									
Canada	**30.6**	**33.0**	**28.9**	**32.3**	**34.4**	**29.1**	**30.6**	**31.7**	**33.6**
Atlantic	27.8	30.7	20.3	17.9	22.1	17.4	22.4	26.4	22.7
Quebec	30.4	37.5	32.2	44.3	46.6	44.6	42.9	35.7	37.3
Ontario	31.0	30.5	29.2	26.4	33.9	24.2	27.3	33.6	36.4
Prairies	33.7	36.6	29.8	33.8	30.9	26.9	31.0	29.7	30.5
British Columbia	28.0	26.4	26.6	36.1	F	F	24.8	24.0	27.5

Source: Labour Force Survey, 1987-2003

* *Except for nurse aides and orderlies in Newfoundland and Labrador 1988=100.*

Voluntary part-time employment, unionization rate, and hourly wage rate by province

	Registered nurses		Licensed practical nurses		Nurse aides and orderlies	
	1997	2003	1997	2003	1997	2003
Voluntary part-time employment			%			
Canada	**66.6**	**81.5**	**55.3**	**63.6**	**49.2**	**53.9**
Atlantic	69.5	85.1	58.8	53.3	41.7	46.9
Quebec	58.3	85.0	38.7	62.1	47.1	59.1
Ontario	62.7	76.7	54.4	F	47.6	48.5
Prairies	76.5	86.7	72.1	67.9	57.5	64.2
British Columbia	76.3	81.0	69.6	F	48.6	44.8
Unionization rate						
Canada	**81.5**	**82.7**	**82.9**	**85.2**	**66.3**	**68.8**
Atlantic	84.0	88.7	82.1	84.7	48.4	51.4
Newfoundland and Labrador	93.9	89.8	95.5	95.7	F	28.1
Prince Edward Island	90.9	85.7	66.7	80.0	57.1	50.0
Nova Scotia	76.6	86.7	74.3	75.0	50.0	68.9
New Brunswick	85.3	90.5	80.0	83.3	57.1	42.1
Quebec	89.7	89.1	92.1	91.9	76.0	70.4
Ontario	68.2	73.7	71.2	74.5	56.1	62.0
Prairies	86.9	89.0	87.0	84.6	69.0	76.3
Manitoba	89.0	91.4	84.2	96.3	74.7	82.1
Saskatchewan	90.6	88.4	90.5	93.8	80.3	82.7
Alberta	83.8	88.4	86.2	78.7	58.4	67.1
British Columbia	90.4	85.7	93.7	88.7	82.3	85.1
Hourly wage rate*			$			
Canada	**23.97**	**26.13**	**19.00**	**18.89**	**14.44**	**14.60**
Atlantic	21.41	23.79	14.91	16.09	11.26	11.61
Newfoundland and Labrador	20.57	24.69	14.23	16.99	8.74	9.99
Prince Edward Island	F	F	F	F	F	F
Nova Scotia	20.91	23.82	14.34	15.95	11.03	12.28
New Brunswick	22.45	22.96	16.82	15.44	12.78	11.53
Quebec	22.97	24.66	19.97	18.68	14.59	13.90
Ontario	24.78	26.34	19.37	20.67	14.61	14.71
Prairies	23.26	26.80	17.53	17.71	12.76	13.53
Manitoba	22.86	24.03	17.12	18.38	12.39	12.47
Saskatchewan	22.55	25.66	16.78	17.47	13.55	14.14
Alberta	23.76	28.24	18.00	17.48	12.61	13.93
British Columbia	26.65	29.17	22.29	23.00	18.53	19.77

Source: Labour Force Survey, 1997 and 2003
** 2003 constant dollars*