Primary Health Care Research and Development 2005; **6**: 172–183

Report of a 1999 survey of public health nurses: is public health restructuring in Ontario, Canada moving toward primary health care?

Adeline Falk-Rafael York University, Toronto, Ontario, Canada, **Joyce Fox** Simcoe County District Health Unit, Barrie, Ontario, Canada and **Diane Bewick** Family Health Services, Middlesex-London Health Unit, London, Ontario, Canada

Public health restructuring in Ontario, Canada occurred in the midst of the rhetoric of 'primary health care (PHC) reform'. The purpose of this descriptive mailed survey of nurses working in public health nursing in Ontario, Canada was to describe the nature and scope of public health nursing practice, establish a baseline against which to monitor future change, examine nurses' reports of changes in practice that had occurred in the previous five years, and determine current public health nursing staffing levels. Findings were examined to ascertain whether the changes had moved Ontario closer to PHC. Two sets of questionnaires were mailed in 1999: one to a public health nurse (PHN) in a senior manager position in each of Ontario's 37 official public health units and one to all PHNs in Ontario.

Response rate was 87% for the managers' surveys ($n = 32$) and 77% for PHNs ($n = 2242$). Reported staffing levels represent an 11% reduction in public health nursing full-time equivalents (FTEs) from 1988 data. Furthermore, between 1993 and 1998, the population:nurse ratio rose 32% from 3710:1 to 4910:1. Many traditional public health nursing services, such as those to individuals, families, and schools, had been reduced or eliminated. Significant regional disparities were revealed. Nurses used a wide variety of individual, community, and population-focused health promotion strategies consistent with principles of PHC in their practice but evidence suggested the continuance of biomedical domination of public health and public health nursing, rather than the shift to a multidisciplinary model that would be more consistent with PHC.

Findings suggest that changes in public health nursing over the last 20 years are incongruent with several tenets of PHC, such as equity, accessibility, social justice, and community participation.

Key words: full-time equivalents; primary health care; public health nurses; registered nurses

The Canadian federal government has been recognized internationally for its leadership role in advancing health promotion. The Lalonde Report (1974), emphasized health promotion services as a critical component of the country's health care system. A few years later, a second federal government report expanded Lalonde's definition of health promotion and emphasized the role of broad social, environmental, and political determinants of health (Epp, 1986). This report formed a basis for the Ottawa Charter for Health Promotion that emerged from the First International Conference on Health Promotion, held later that year in Ottawa, Canada (World Health Organization, Canadian Public Health Association, & Health and Welfare, 1986).

Address for correspondence: Dr A. Falk-Rafael, 215 Dunlop St E., No. 203, Barrie, Ontario, Canada, L4M 1B2. Email: afalk-rafael@rogers.com
At the time of this study, Dr. Falk-Rafael was Assistant Professor, Nursing, University of Western Ontario, London, Ontario, Canada.

10.1191/1463423605pc240oa

Despite the support for health promotion set forth in these remarkable documents, the Canadian federal government has continued to favour treatment and curative services through its funding mechanisms. Historically, it has partnered with provincial governments in ensuring the availability of health services for Canadians and in funding those services. The Canada Health Act (CHA) (1984) is federal legislation that outlines 'essential' health care services – in large part physicians' and hospital services – that are eligible for federal cost sharing if five conditions are met: Provincial health insurance plans are required to be a) publicly administered; b) comprehensive; c) universal; d) portable among provinces; and e) accessible, allowing no user fees to clients.

In contrast to services deemed essential in the CHA, disease prevention and health promotion services are largely the purview of provincial governments, carried out by community organizations, such as public health units. Over the past two decades, significant changes to public health have eroded the Canadian public health infrastructure and undermined the adequacy of public health services (Canadian Public Health Association, 1996; Hoey, 2002; Sullivan, 2002). In at least one Canadian province, Ontario, these changes have had significant impact on the practice of public health nursing and on public health nurses (PHNs) (Rafael, 1992; Wong, 1993; Chambers *et al.*, 1994; Ciliska *et al.*, 1994; Rafael, 1997; Rafael, 1999a). Cutbacks to services were accompanied by increased bureaucratic, political, and medical control over nursing practice and shifts in funding that threatened the ability of PHNs to respond to community needs and provide services, particularly to vulnerable populations (Registered Nurses Association of Ontario, 1997; Registered Nurses Association of Ontario & Community Health Nurses Interest Group, 1996). Because no provincial, discipline-specific data existed to monitor the changes occurring to public health nursing services, a survey of the nature and scope of public health nursing practice was undertaken in 1999 to ascertain a baseline of those services.

Background

Primary health care (PHC), as set out initially in the *Declaration of Alma-Ata* (World Health Organization, 1978), refers to essential health care that is accessible, acceptable, and affordable. Its principles are grounded in social justice and equity and it emphasizes health promotion, community participation, intersectoral collaboration, and a multidisciplinary approach. The Declaration recognized the central role of research and public health experience in PHC and identified some traditional public health services, such as proper nutrition, an adequate supply of safe water and sanitation, and maternal and child health care, including family planning and immunization, among the services it deemed essential.

The congruence of PHC with public health nursing has been widely recognized (Jaeger-Burns, 1981; Laffrey and Page, 1989; Siivola and Martikanen, 1990; Carryer *et al.*, 1999; Rafael, 1999b). Implementation of PHC systems that embodied the central tenets set out in Alma-Ata, however, has been compromised by too narrow an interpretation of the term, resulting in the 'false equation of primary medical care with PHC' in Europe (Vuori, 1984). Similar co-optation of the term was observed in the USA (Barnes *et al.*, 1995) and it was evident during the height of health care restructuring in Ontario where 'primary health care' reform dealt more with finding alternate models of physician payment than shifting the orientation of health care from its treatment/illness focus (Subcommittee on Primary Health Care of the Provincial Co-ordinating Committee on Community and Academic Health science Centre Relations, 1996; Health Services Restructuring Commission, 1999). It can be expected that the interpretation of PHC adopted by politicians, bureaucrats, and public health administrators will directly affect the nature and scope of PHNs' practice, as well as in the health care infrastructure they create.

The Canadian public health system, unlike the British system on which it was modelled, was decentralized at the outset so that sole responsibility for public health rested with the provinces (Ostry, 1995). Over the years, provincial public health systems had come to augment the national health system by ensuring that health promotion and protection services were among the affordable, acceptable, essential health services that were universally accessible to individuals and families in the community. Together with the services insured through the CHA, the Canadian health care system was in many ways consistent with the

tenets of PHC. However, restructuring of public health has destabilized that sector and threatens its complementariness. The restructuring has been precipitated by, and continues to occur within, a complex ideological, political, bureaucratic, and economic context.

In Ontario, public health programs and services are administered through 37 public health units, each governed by an autonomous local board. With few exceptions, the chief administrator is a physician. The legislative authority for public health is a provincial act, the Health Protection and Promotion Act (HPPA), passed in 1983. In accordance with the HPPA, provincial control over public health is exercised through shared funding mechanisms and through the establishment of Mandatory Health Programs and Services Guidelines, with which the 37 public health units must comply. The Public Health Branch of the Ministry of Health and Long-Term Care of Ontario administers public health and its chief administrative officer has historically been and continues to be a physician. Public health restructuring in Ontario began after passage of the HPPA and accelerated throughout the 1990s with the reorganizing of service provision from disciplinary to programmatic units.

At the local agency level, these changes affected PHNs, the largest group of public health professionals, most significantly. Many senior nursing positions were lost, often removing a nursing voice at decision-making tables at both the provincial and local levels. Whereas some public health nursing services were reduced simply by virtue of lost positions, others were reduced and/or eliminated because of a shift in direction by public health officials, most often without evidence for or against the effectiveness of specific programs and typically with limited or no input from nurses or clients (Chambers *et al.*, 1989; Black *et al.*, 1991; Underwood *et al.*, 1991; Rafael, 1992; Wong, 1993; Chambers, 1994; Moyer *et al.*, 1997; Rafael 1997).

Often changes were based on administrative interpretations of population health and/or community development that artificially separated the health of populations from that of the individuals, families, and communities within them. One study, an oral history of public health nursing in Southern Ontario, documented substantial changes to services between 1980 and 1996 (Rafael, 1999a). This study revealed that home visiting, particularly people with mental health or post-cardiac event needs, and elderly clients had been almost completely eliminated. Perinatal visiting had been greatly reduced and prenatal classes had been eliminated in several health units. Elders' health promotion groups and well-baby clinics virtually disappeared during the study period. Likewise, many school nursing activities, such as individual health counselling, advocacy, classroom presentations, screening and follow up of various health needs, including vision and hearing, had been reduced or eliminated. In secondary schools, a trusted health professional with whom students could discuss health problems, such as pregnancy, violence, weight, self-esteem, and family breakup was often no longer available. Most nurses reported spending little time in the schools and limiting their involvement to collaborating with Boards of Education in the development of health curricula, preparing program resources, and supporting teachers to teach health content. The study noted that across all service areas, in place of the eliminated programs, nurses spent much more time in program development and evaluation, grant writing and administration, and administrative assistant duties. Although nurses saw benefits to some of their new activities, many expressed concerns about the fragmentation of community services that resulted in inefficient overlaps or gaps in service delivery and created particular hardships for vulnerable and marginalized populations.

Destabilization of public health in Ontario continued when, on 1 January 1998, legislation took effect in Ontario that downloaded full responsibility for funding public health programs and services from the provincial government to local municipalities, where they would compete for tax dollars with road repairs, policing, firefighting, and other municipal concerns. Less than a year later, in March 1999, the provincial government announced a tenuous commitment to resume up to 50% of public health funding, to be retrospective to 1 January 1998. Prior to 1998, the provincial/municipal share for public health services spending had, with a few exceptions, been 75/25% so that the 1999 decision effected an overall net reduction of 25% in the provincial government's responsibility for public health funding. Throughout this turmoil, the provincial government maintained control of public health programs; however, the will and ability of municipal governments to provide the

mandated programs and services as well as respond to and fund services for local health issues varied across the province.

It was within this context that the study was developed. Its purpose was to provide systematic information on the numbers of PHNs and the services they provided in order to establish a baseline with which to assess future changes in the public health infrastructure. The study addressed four research questions: 1) How has public health nursing changed over the past five years? 2) What is the nature of public health nursing work at the present time and what services are nurses providing? 3) How are decisions made regarding the provision of public health nursing services? and 4) How many registered nurses (RNs) are employed by the province's official public health units?

Method

After receiving ethical approval from the University of Western Ontario, two sets of mailed questionnaires were used to collect data in a descriptive survey design. In May 1999, an agency questionnaire eliciting information about nursing numbers, salaries, and services, was sent to a PHN in a senior management position, in each of Ontario's 37 official health units. An individual questionnaire, finalized after pilot testing with three focus groups of PHNs, was mailed in June 1999 to the home addresses of RNs ($n = 2959$) who, in their 1998 registration with the College of Nurses of Ontario, indicated that their place of employment was public/community health and gave permission to be included in research studies. Questionnaires were coded to allow follow up with non-responders. Dillman's (1978) method to maximize the response rate was used and included sending a reminder postcard in one week as well as sending duplicate questionnaires to non-responders four and nine weeks after the initial mailing. As prescribed by the method, each mailing included a unique covering letter that was addressed to the recipient by name and signed personally by the researcher using blue ink.

Senior nursing managers returned 32 of 37 agency questionnaires for a response rate of 86.5%. Of 2959 individual questionnaires, 28 were returned undeliverable, reducing the denominator to calculate the response rate to 2931. Respondents returned 2271 questionnaires and, after removing those that were not usable because they had been returned either unanswered ($n = 25$) or with the tracking number removed ($n = 4$), a response rate of 76.5% ($n = 2242$) was calculated. An additional 498 questionnaires were not used in the data analysis because respondents did not work for official Ontario public health units, yielding a final dataset of 1744.

Results

Demographics

Respondents to the individual questionnaire identified themselves primarily as PHNs ($n = 1360$); managers ($n = 161$), including program directors ($n = 16$) and nursing directors ($n = 5$); and RNs other than PHNs ($n = 144$). Seventy-nine either gave other position titles ($n = 60$) or did not answer the question ($n = 19$). Ninety-nine per cent of PHNs and 70% of managers (refers to program managers and directors from this point forward) reported that their position required them to be a nurse. Seventy-four per cent of respondents worked full-time; 22% worked part-time and 4% worked on a casual basis. Respondents worked throughout the province: 37% in central east (CE), 23% in central west (CW), 16% in eastern (E), 14% in southwestern (SW) and 10% in northern (N) regions of Ontario. Fifty per cent of respondents reported that they worked in large cities; 33% worked in public health units that served rural and small city populations and 17% worked in rural areas.

Almost one in four nurses had worked in public health nursing 20 years or longer (23%) and 49% had 10–19 years of public health nursing experience. Twenty-eight per cent of respondents had nine or fewer years experience. The most frequently reported highest level of education was a baccalaureate in nursing (70.8%), with 9% reporting a nursing or non-nursing masters degree, 8% an RN diploma, and 7% a diploma in public health. Additional education most frequently reported involved lactation, management, or university course work.

Nursing staffing levels

Staffing levels reported by senior managers were compared with 1988 data, the last known staffing

Table 1 Mean nursing FTEs per health unit over time ($n = 29$)

	Mean FTEs			Mean changes in FTEs					
	1988[a]	1993	1998	1998–1993	Significant value	1993–1988	Significant value	1998–1988	Significant value
PHN	28.829	36.789	31.002	−5.79	0.000[b]	6.960	0.004[b]	1.17	0.552
RN	4.576	4.668	3.491	−1.18	0.000[b]	0.009	0.009[b]	−1.08	0.806
Manager	4.483	5.373	4.121	−1.25	0.000[b]	0.890	0.014[b]	−0.036	0.241
RPN	1.424	1.106	0.965	−0.14	0.570	−0.320	0.209	−0.46	0.164
Total	40.209	47.936	39.578	−8.36	0.000[b]	7.730	0.005[b]	−0.63	0.776

[a]Ministry of Health of Ontario, 1989
[b]$p = 0.0167$ (Bonferroni's Correction for $p = 0.05$)

report by discipline from the Ontario Ministry of Health, Public Health Branch (1989). Table 1 shows the changes in full-time equivalents (FTEs) per health unit for PHNs, other RNs, registered practical nurses (RPNs), nursing managers, and total nursing staff for those health units for which managers reported both 1993 and 1998 staffing levels ($n = 29$). Means of each category of nursing staff were examined using paired *t*-tests. Type I error was protected against by using Bonferroni's Correction to adjust the significance value from $p = 0.05$ to $p = 0.0167$. Mean PHN, nurse manager, and total nursing FTEs per health unit rose significantly between 1988 and 1993 and declined significantly between 1993 and 1998. RN and RPN FTEs were much smaller and therefore, although some statistically significant changes were observed, they are less likely to be administratively significant.

Total nursing FTEs calculated from the reported 1998 mean nursing FTEs of 45.66 ($n = 32$) is 1689. However, the size of nonresponding health units could alter that figure significantly. From the survey response rate, assuming that the distribution of nurses working in public health is the same among respondents and nonrespondents, 2280 RNs can be estimated to work in Ontario's official public health agencies. Using the full-time:part-time ratio reported by respondents, with part-time nurses working at 0.5 FTEs, 1998 nursing FTEs would approximate 2000, representing an 11% reduction from the 2249 FTEs reported by the Public Health Branch in 1988 (Ministry of Health of Ontario, 1989).

Including population growth in the examination of nursing staffing levels adds an important dimension to the data. For the health units that reported both 1993 and 1998 staffing and population data ($n = 24$), paired *t*-tests revealed significant increases in the population:nurse ratio between 1993 (3710:1) and 1998 (4910:1; Bonferroni's Correction for multiple comparisons was used to adjust overall *p* value of 0.05–0.0167). For comparison, during the years that the Public Health Branch kept records of staff by discipline, a population:nurse ratio of 3400:1 was used as a guideline for adequate staffing (Ministry of Health of Ontario, 1985). The increase between 1993 and 1998 marks a 32% increase in the population served by each nurse.

Services provided directly by respondents

Services to child-bearing and child-rearing families were an important aspect of the nursing work performed by respondents. Sexual/reproductive health ranked first among 15 issues for which respondents ($n = 1744$) were asked to identify their extent of involvement. Next highest ranked were parenting, nutrition, child health and development, and postnatal health. These issues were pursued in a number of activities. Thirty-one per cent of PHNs ($n = 1360$) frequently or extensively provided lactation consulting, 49% reported involvement with postnatal services that included both telephone contact and a mutually determined number of home visits 90% of the time. Approximately one-third of PHNs reported frequent or extensive involvement with home visiting to prenatal and postnatal families and those with young children, with significant differences evident across regions (Table 2). By contrast, home visiting to elders and those with mental illness or cardiac events was minimal, although significant differences among regions existed.

Another highly ranked issue, child health and development, was addressed in part through

Table 2 Mean scores[a] of PHNs' home visiting involvement across regions ($n = 1360$)

Area of province	N		SW		CE		CW		E		Significant differences[b]
Nature of visit		S.D.		S.D.		S.D.		S.D.		S.D.	
Postnatal	1.94	1.14	1.95	1.03	2.33	1.33	2.05	1.23	1.96	1.29	CE with all other regions
Families with young children	1.73	0.983	1.91	1.21	2.19	1.20	2.11	1.22	1.79	1.06	CE and E, N CW and E, N
Prenatal	1.69	0.949	1.67	1.03	1.91	1.05	1.78	1.03	1.55	0.928	CE and E
Mental health	1.11	0.387	1.2	0.494	1.45	0.679	1.49	0.783	1.30	0.587	CE and N, SW, E, CW and N, SW, E
Elders	1.19	0.490	1.12	0.464	1.32	0.593	1.16	0.449	1.14	0.477	CE and SW, CW, E
Post-cardiac event	1.08	0.309	1.02	0.122	1.07	0.278	1.08	0.307	1.03	0.227	None

[a]Mean scores calculated from degree of involvement, 1: none; 2: minimal; 3: frequent; 4: extensive
[b]$p = 0.05$ using one-way ANOVA and confirmed with Tukey and Tamhane post hoc tests

Table 3 Mean scores[a] of selected PHNs' school health strategies ($n = 710$)

	Group A PHNs[b]		Group B PHNs[c]		Comparison of means using one-way ANOVA ($p = 0.05$)		
	Score	S.D.	Score	S.D.	*F* value	d.f.	Significant value
Principal–teacher consultation	2.89	0.73	2.38	0.85	69.91	1, 703	0.000
Resource development	2.32	0.86	2.33	0.98	0.017	1, 702	0.896
Health fair planning/participation	2.35	0.85	2.27	0.91	1.158	1, 701	0.282
Individual/family counselling	2.81	0.95	2.17	0.98	76.30	1, 702	0.000
Student health project assistance	2.37	0.83	2.16	0.81	11.25	1, 697	0.001
Classroom teaching	2.65	0.80	2.10	0.87	73.55	1, 699	0.000
Interagency collaboration	2.40	0.90	2.09	0.94	18.71	1, 701	0.000

[a]Mean scores calculated from degree of involvement, 1: none; 2: minimal; 3: frequent; 4: extensive
[b]Group A PHNs were assigned 1–10 schools
[c]Group B PHNs were assigned >10 schools or were not assigned to specific schools

promoting school health. Fifty-two per cent of PHN respondents indicated they were involved in school health. However, of those who were, 45.2% were not assigned to specific schools and 10.7% were assigned to 11 or more schools. The remaining 44% were assigned to between 1 and 10 schools. Respondents were asked to indicate their degree of involvement with 17 school nursing activities; some statistically significant differences were found between PHNs who were assigned 1–10 schools (Group A) and those who were not (Group B) (Table 3). Group A PHNs were significantly more likely to participate in individual/family counselling, classroom teaching, interagency collaboration, and supporting students working on special health projects than Group B PHNs.

Respondents who had worked at least 10 hours per week in the same position for five years were asked to estimate the number of hours per week they spent on 16 specific activities at the time of survey completion in 1999 and five years previously. Comparisons of time per week spent, using paired *t*-tests, showed that the time PHNs spent on home visiting and school nursing decreased significantly in 1999 (Table 4). Analysis using one-way ANOVA, however, indicated that there were significant differences across regions in the time spent on school nursing in 1999 ($F = 11.01$ 4, 352 $p = 0.05$). The Bonferroni post hoc test revealed that the mean time per week spent by PHNs in school health in the SW region (11.84 hours) was significantly higher than the N (3.02 hours), CE

https://doi.org/10.1191/1463423605pc240oa Published online by Cambridge University Press

Table 4 Significant[a] differences in PHN's ($n = 900$) estimated use of time on selected activities in 1999 and 1994

	Hours per week 1999			Hours per week 1994			Significant value
	Hours	*n*	S.D.	Hours	*n*	S.D.	
Home visiting	7.46	412	5.82	10.19	412	6.86	0.000
School nursing	6.14	288	6.77	9.59	288	7.62	0.000
Clinics/drop ins	7.02	293	6.22	6.51	293	6.05	0.050
Community development	3.39	225	4.58	2.56	225	3.35	0.000
Social marketing/media	3.59	344	4.33	2.66	344	3.02	0.000
Program planning/evaluation	3.21	411	2.62	2.40	411	2.62	0.000
Coaching/mentoring/precepting	2.08	274	2.41	1.66	274	1.46	0.001
Operational/organizational duties	3.72	535	3.13	2.93	535	2.60	0.000

[a]$p = 0.05$, paired-samples *t*-test

Table 5 Most frequently used public health nursing strategies ($n = 1665$)

	Mean score[a]	S.D.
Individual health counselling	2.97	1.03
Group health promotion	2.76	0.956
Interagency collaboration	2.74	0.938
Community development	2.35	0.974
Community assessment	2.32	0.922
Social marketing/media	2.28	0.924
Coalition development	2.13	1.065
Policy development	2.02	0.851
Lobbying/advocacy	1.98	0.845

[a]Mean scores calculated from degree of involvement, 1: none; 2: minimal; 3: frequent; 4: extensive

(5.65 hours), CW (6.23 hours), or E (4.85 hours) regions. As Table 4 reflects, other activities, such as clinics and drop ins, community development, social marketing/media work, program planning and evaluation, coaching/mentoring/precepting, and organizational duties took significantly more of PHN's time in 1999 than they had five years before. The shifts in how nurses spent their time were consistent with the strategies that they reportedly used, reflecting a multifaceted approach to nursing that combined individual, family, and population-focused health promotion strategies (Table 5).

Reporting relationships and decision-making processes

Eighty per cent of respondents indicated that they reported to a nurse. Reporting relationships varied with position; 86% of PHNs compared with 59% of managers reported to nurses. Pearson Chi-square also revealed differences among regions with nurses in the N region being significantly less likely than expected to report to a nurse ($p \leqslant 0.05$). If respondents did not report to a nurse, the discipline of the person they reported to also varied with their position. Managers were more likely to report to a physician whereas PHNs who did not report to a nurse reported most frequently to nutritionists (31%), health promoters (16%), and public health inspectors (15%).

Because of the shift to program-focused services, positions such as director of nursing had for the most part been abandoned throughout the province. Some health units had recognized the importance of a professional practice leader and had designated a senior nurse to be responsible for professional nursing practice issues in their agency. However, 39% of respondents reported that either there was no such person in their agency or they did not know of one. A substantial number of respondents (15%) did not know how many nurses were on their agency's executive committee. When asked to what extent they participated in activities of their local board of health, 48% reported they had no involvement during the past two years. Approximately a third (31%) indicated they had at least read the board meeting minutes and a smaller number had also attended meetings and/or presented to the board.

Respondents were asked to rate, on a scale of 1–4, with 1 being none and 4 being high, the influence of various persons and groups on the type and extent of nursing services provided by their health unit (Table 6). Both managers and staff nurses (PHNs and other RNs) rated the community as having the least amount of influence over the nature and scope of nursing practice and the chief

executive officer (CEO) or medical officer of health (MOH) (usually both positions held by the same person) as having the most. Staff nurses believed the Ontario Ministry of Health, Public Health Branch, their agency executive committee, and then nursing managers were the next most powerful influences. They assessed their own influence on their practice to be just slightly above the community's. Managers, on the other hand, ranked their own influence as second only to the CEO/MOH and the staff nurses' as sixth, higher than municipal politicians, non-nursing managers, the Minister of Health, and the community.

Effectiveness in meeting community health needs

Respondents had mixed views when comparing their health unit's past and present ability to meet the community's needs (Table 7). Overall, just over half of the respondents (54%) believed that the current service was equal to or better than it was five years before and just under half (46%) believed that to be true in comparison to services 10 years earlier. Perceptions for both five years ago ($F = 9.26, 2, 1343$) and 10 years ago ($F = 11.94$, $2, 1035$) varied significantly ($p \leqslant 0.01$) by position, with managers viewing the present more positively than either PHNs or other RNs (confirmed with Tukey and Tamhane post hoc tests).

Table 6 Mean scores[a] of perceived degree of influence over nursing services

	PHNs and RNs		Managers	
	Score	Rank	Score	Rank
CEO or MOH	3.6	1	3.65	1
Ministry of Health, Public Health Branch	3.4	2	3.29	3
Agency Executive Committee	3.12	3	3.19	4
Minister of Health	3.10	4	2.69	8
Nursing managers/ directors	3.03	5	3.32	2
Local Board of Health	2.98	6	2.93	5
Municipal politicians	2.76	7	2.71	7
Non-nursing managers/ directors	2.6	8	2.69	8
Staff nurses	2.21	9	2.74	6
Community members	2.07	10	2.36	10

[a]Scores range from 1 = no influence to 4 = high

Discussion

The changes in nursing work over the five years preceding the study, as estimated by respondents, must be interpreted with caution as recall bias may be a factor. The results are, however, consistent with the findings of previous qualitative studies (Rafael, 1992; 1997). Many health promotion services previously offered by PHNs to individuals and communities across the lifespan have been eliminated or reduced in most regions of the province. This trend may stem both from an increased population: PHN ratio and from a misconception that an individual/family approach is limited to 'downstream' thinking in contrast to 'upstream' population-focused approaches (Butterfield, 1990). Such thinking has been disputed in recent research that demonstrates that in order to be effective, both must be integrated in public health nursing practice (SmithBattle *et al.*, 1997). A multifaceted approach is also consistent with population health frameworks endorsed by provincial/federal governments (Federal, Provincial and Territorial Advisory Committee on Population Health, 1994; Hamilton and Bhatti, 1996), public health providers (Association of Local Official Health Agencies, 1995), public health associations (Ontario Public Health Association, 1993), nursing (Vail, 1995), and non-nursing literature (Baum, 1993; Green, 1994), and in the

Table 7 Respondents' perceptions of their health unit's ability to meet community needs now (1999) and in the past

	Five years ago – 1994 ($n = 1411$)			Ten years ago ($n = 1084$)		
	Worse in 1999 (%)	Same (%)	Better in 1999 (%)	Worse in 1999 (%)	Same (%)	Better in 1999 (%)
PHNs	48	23	30	56	12	32
Other RNs	50	19	31	64	6	30
Managers	35	14	50	39	5	57
Overall	47	22	32	54	11	35

https://doi.org/10.1191/1463423605pc240oa Published online by Cambridge University Press

Jakarta Declaration for Health Promotion (World Health Organization, 1997).

Changes that reduced numbers of PHNs and discontinued many of the health promotion services they traditionally provided are not supported by current evidence. A 1996 systematic overview of available research provided strong evidence for the effectiveness of home visiting interventions for pre- and postnatal women as well as for frail elderly persons (Ciliska *et al.*, 1996). More recent studies documented the effectiveness of nurses' postnatal home visiting for two years following birth in improving maternal and child health outcomes in the short term (two years after visiting stopped), particularly in homes with the greatest economic stresses and the fewest psychological resources (Kitzman *et al.*, 1997; Brown and Johnson, 1998). Furthermore, significant long-term effects over a 15-year period included: fewer subsequent births and greater spacing between pregnancies, less use of social assistance, fewer maternal behavioural impairments from substance use, fewer maternal arrests and fewer reported incidents of child abuse and neglect (Olds *et al.*, 1997). It is important to note that although the protocol used in these studies involved intensive interventions by nurses, the costs were recovered before the child's fourth birthday.

Respondents' comparisons of their agencies' present and past ability to address community issues points to the need for greater community participation in determining the programs and services. In addition, future policy decisions regarding the provision of programs and services should be based on systematic program evaluations and outcomes research. Outcomes research related to PHNs' work, other than those aspects referred to above is not as well documented, in part, because of difficulties inherent in evaluating it (Hayward *et al.*, 1996). PHNs, however, have identified practice outcomes, such as: delayed and decreased institutionalization of elders, fewer and less frequent hospitalizations for people with mental illness, and increased functioning and improved quality of life for individuals and families. Many PHNs contended that through case-finding, fostering parenting skills and providing support, they were effective in reducing incidents of child abuse and neglect in their communities (Rafael, 1997). Findings of a group of researchers in Ontario lend some support to the nurses' contention. Browne *et al.* (1995) examined characteristics of public health nursing clients and speculated that the unmet needs of many community members may be the result of the shift away from individual/family services which has increasingly unbalanced the system over the past 10 years.

The findings provide much needed data regarding public health nursing staffing levels and reflect a similar trend in nursing generally in Canada where the ratio of population to nurse continues to increase, from 125:1 in 1994, to 133:1 in 2000 (Canadian Nurses Association, 2000). This marks a stark contrast to trends in the ratio of population to active physicians which increased between 1993 and 1997 but then as the growth rate of physicians began again to exceed population growth, returned to 1991 levels by 2000 (Canadian Institute for Health Information, 2002). This stabilization of population to physician ratios followed substantial decreases in population to active physician ratios between 1975 and 1990 (Health and Welfare, Canada, 1987; Health Canada, 1992).

Changes to public health nursing services may be related to the decreases in population to physician ratios. Nursing historians have observed that in times of economic depression, the activities of public heath nurses have been restricted to lessen competition with general practitioners (Baumgart and Kirkwood, 1990). Consistent with that observation, many of the services PHNs once provided, such as well-baby clinics, preschool immunizations, and health monitoring of elderly clients are now available to the public almost exclusively through physicians.

Nurses' ability to control their practice and respond to community health needs in the future is threatened by the structural changes they reported. Although at the time of the survey 86% of PHNs reported to managers who were nurses, only 70% of those managers indicated that their position required them to be a nurse. Furthermore, 41% of managers reported to non-nurses, most often physicians. Because nurses work in bureaucratic systems, their access to resources and avenues to influence decisions is often gained only through their managers. These factors, coupled with the findings that: a) nurses considered physicians already had more influence over their practice than either themselves or their communities, b) almost 40% of respondents did not know of or have access to a professional nursing practice officer; and c) almost half the respondents had no involvement with

their local board of health in the previous two years, do not bode well for a future in which PHNs can determine, in partnership with their communities, what the nature and scope of the services they provide should be.

Conclusion

The findings of this study provide no support for the premise that public health restructuring in Ontario has moved the PHC agenda forward. The nature and scope of individual and family health promotive services have been greatly reduced and, with fewer resources, those that remain are threatened when crises, such as natural disasters or outbreaks of infectious diseases, occur. Their withdrawal, even on a temporary basis, is a matter of social injustice.

Significant regional disparities in services, e.g., school nursing, violate principles of *equity*. An overemphasis on population health at the expense of individual and family health promotion efforts has reduced *accessibility* for many community members who, in the past, could self-refer to public health nursing services for health needs. Nurses' perceptions that communities had the least influence on the services PHNs provided to them is contrary to the centrality of *community participation* in PHC. The perceived lack of influence of the community also brings into question the *acceptability* of public health programming to the public.

The PHC movement that began at Alma-Ata has been characterized as an anti-medical establishment movement (Lupton, 1995) with the potential to unseat the biomedical domination of public health and return it to its socio-ecological roots. The findings of this study do not provide evidence that such a change has occurred or is underway in Ontario. To the contrary, the situation seems more reflective of Vuori's (1984) statement that:

> the claim that primary *medical* care is identical with primary *health* care is particularly dear to those health authorities and health professionals who want to give the impression of being all for primary health care but who in fact are either opposed to it or have not quite understood what it means.
>
> (Vuori, 1984: p. 221; italics in original)

On a more positive note, the study's findings suggest that despite an absence of administrative and political support for authentic PHC, PHNs incorporated a number of its principles into their practice. Among the health promotion strategies that nurses indicated they used frequently were intersectoral collaboration, policy development, coalition development and a community development approach in which public participation is primary. As New Zealand nurses argued in positioning nurses as ideal PHC workers, 'nursing's theoretical orientation towards health and towards partnership already embrace consumer empowerment models' (Carryer *et al.*, 1999: 25).

The importance of supporting PHNs to work to their full scope of practice cannot be overstated. Laffrey and Page (1989) warned 16 years ago that if PHNs continue to allow the nature and scope of their practice to be determined by other professionals, nurses could become obsolete and the health of communities would suffer. To prevent this, further research is needed that links the changes in public health nursing with community health indicators. Outcomes research is critically needed to examine and make visible the effect of public health nursing work on the health of communities.

This study has provided a baseline of public health nursing services in Ontario. A follow-up survey is needed to determine whether changes implemented in PHC reform since this study was undertaken have supported or hindered the delivery of essential public health nursing services in Ontario.

Acknowledgements

Funding from the following sources is gratefully acknowledged: Iota Omicron chapter of Sigma Theta Tau, University of Western Ontario, Middlesex-London Health Unit, Community Health Nurses Initiatives Group, Nursing Research Interest Group, Simcoe County District Health Unit.

References

Association of Local Official Health Agencies. 1995: *Population health: The role of public health units in Ontario*. Toronto, Ontario: Association of Local Official Health Agencies.

Barnes, D., Eribes, C., Juarbe, T., Nelson, M., Proctor, S., Sawyer, L., Shaul, M. and **Meleis, A.I.** 1995: Primary health care and primary care: a confusion of philosophies. *Nursing Outlook* 43, 7–16.

Baum, F.E. 1993: Healthy cities and change: social movement or bureaucratic tool? *Health Promotion International* 8, 31–40.

Baumgart, A.J. and **Kirkwood, R.** 1990: Social reform versus education reform: University nursing education in Canada, 1919–1960. *Journal of Advanced Nursing* 15, 510–16.

Black, M.E., Ploeg, J., Van Berkel, C., Woodcox, V. and **Underwood, J.** 1991: Evaluation of the reorganization of a public health nursing division. *Canadian Journal of Public Health* 82, 310–14.

Brown, S.G. and **Johnson, B.T.** 1998: Enhancing early discharge with home follow-up: a pilot project. *Journal of Obstetric, Gynecologic, and Neonatal Nursing* 27, 33–38.

Browne, G., Roberts, J., Byrne, C., Underwood, J., Jamieson, E., Schuster, M., Cornish, D., Watt, S. and **Gafni, A.** 1995: Public health nursing clientele shared with social assistance; proportions, characteristics and policy implications. *Canadian Journal of Public Health* 86, 155–61.

Butterfield, P.G. 1990: Thinking upstream: nurturing a conceptual understanding of the societal context of health behavior. *Advances in Nursing Science* 12, 1–8.

Canadian Institute for Health Information. 2002 (7 January): Health Personnel in Canada, 1993–2002. Online at *http://www.secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=PG_67_E&cw_topic=67&cw_rel=AR_21_E* (retrieved 1 August 2004).

Canadian Nurses Association. 2000 (20 July): CNA president says national HHR strategy key to sustainability of the system. Online at *http://www.cna-nurses.ca/_frames/media_relations/media_relations_frame.htm* (retrieved on 1 August 2004).

Canadian Public Health Association. 1996: *Focus on health: Public health in health services restructuring*. Ottawa, Canada: Canadian Public Health Association.

Carryer, J., Dignam, D., Horsburgh, M., Hughes, F. and **Martin, J.** 1999 (August): Locating nursing in primary health care: A report for the national health committee. Online at *http://www.nhc.govt.nz/publications/phc/phcnursing.html* (retrieved on 1 August 2004).

Chambers, L., Underwood, J. and **Halbert, T.** 1989: Individual client care and public health policy: the dual challenges for public health nurses. *Canadian Journal of Public Health* 80, 315–16.

Chambers, L., Underwood, J., Halbert, T., Woodward, C.A., Heale, J. and **Isaacs, S.** 1994: 1992 Ontario survey of public health nurses: perceptions of roles and activities. *Canadian Journal of Public Health* 85, 175–79.

Ciliska, D., Hayward, S., Mitchell, A., Thomas, H., Underwood, J. and **Rafael, A.R.F.** 1994: The effect of public health nursing. *Registered Nurse* 6, 25–26.

Ciliska, D., Hayward, S., Thomas, H., Mitchell, A., Dobbins, M., Underwood, J., Rafael, A. and **Martin, E.** 1996: A systematic overview of the effectiveness of home visiting as a delivery strategy for public health nursing interventions. *Canadian Journal of Public Health* 87, 193–98.

Dillman, D.A. 1978: *Mail and telephone surveys: The total design method*. New York: John Wiley & Sons.

Epp, J. 1986: *Achieving health for all: a framework for health promotion*. Ottawa, Canada: Health and Welfare, Canada.

Federal, Provincial and Territorial Advisory Committee on Population Health. 1994: *Strategies for population health: Investing in the health of Canadians*. Ottawa, Canada: Minister of Supply and Services, Canada.

Green, L.W. 1994: Refocusing health care systems to address both individual care and population health. *Clinical and Investigative Medicine* 17, 133–41.

Hamilton, N. and **Bhatti, T.** 1996: Population health promotion. Ottawa, Ontario: Health Promotion and Development Division, Health Canada.

Hayward, S., Ciliska, D., DiCenso, A., Thomas, H., Underwood, J. and **Rafael, A.R.F.** 1996: Evaluation research in public health: barriers to the production and dissemination of outcomes data. *Canadian Journal of Public Health* 87, 413–17.

Health and Welfare, Canada. 1987: *Health personnel in Canada, 1986*. Ottawa, Canada: Health and Welfare, Canada.

Health Canada. 1992: *Health personnel in Canada, 1992*. Ottawa, Canada: Health Canada.

Health Services Restructuring Commission. 1999: *Primary health care strategy: advice and recommendations to the Honourable Elizabeth Witmer, Minister of Health*. Toronto, Ontario: Ministry of Health.

Hoey, J. 2002: Public health on the ropes. *Canadian Medical Association Journal* 166, 1245.

Jaeger-Burns, J. 1981: The relationship of nursing to primary health care internationally. *International Nursing Review* 28, 167–75.

Kitzman, H., Olds, D.L., Henderson, C.R., Hanks, C., Cole, R., Tatelbaum, R., McConnochie, K.M., Sidora, K., Luckey, D.W., Shaver, D., Englehardt, K., James, D. and **Barnard, K.** 1997: Effect of prenatal and infancy home visitation by nurses on pregnancy outcomes, childhood injuries, and repeated childbearing. *Journal of the American Medical Association* 278, 644–52.

Laffrey, S. and **Page, G.** 1989: Primary health care in public health nursing. *Journal of Advanced Nursing* 13, 1044–50.

Lalonde, M. 1974: *A new perspective on the health of Canadians: a working paper.* Ottawa, Ontatio: Health and Welfare, Canada.

Lupton, D. 1995: *The imperative of health: public health and the regulated body*. Thousand Oaks, CA: Sage.

Ministry of Health of Ontario. 1989: *1988 Study of Public Health Units*. Toronto, Ontario: Ministry of Health of Ontario.

Ministry of Health of Ontario. 1985: *Fiscal Report on Public Health Units for Year 1984*. Toronto, Ontario: Ministry of Health of Ontario.

Moyer, A., Verhousek, H. and **Wilson, V.L.** 1997: Facilitating the shift to population-based public health programs:

innovation through the use of framework and logic model tools. *Canadian Journal of Public Health* 88, 95–98.

Olds, D.L., Eckenrode, J., Henderson, C.R., Kitzman, H., Powers, J., Cole, R., Sidora, K., Morris, P., Pettitt, L.M. and **Luckey, D.** 1997: Long-term effects of home visitation on maternal life course and child abuse and neglect. *Journal of the American Medical Association* 278, 637–43.

Ontario Public Health Association. 1993: The Ontario Public Health Association position paper on the use of multiple strategies to improve the health of communities. *Community Health Nurses Interest Group Newsletter*.

Ostry, A. 1995: The history of public health in Canada: differences in the history of public health in 19th century Canada and Britain. *Canadian Journal of Public Health* 86, 5–6.

Rafael, A.R.F. 1992: Content analysis of public health nurses' perceptions of power and powerlessness. Unpublished master's thesis, D'Youville College, Buffalo, NY.

Rafael, A.R.F. 1997: *Every day has different music: an oral history of public health nursing in Southern Ontario, 1980–1996*. Unpublished doctoral dissertation, University of Colorado, Denver, CO.

Rafael, A.R.F. 1999a: From rhetoric to reality: the changing face of public health nursing in Southern Ontario. *Public Health Nursing* 16, 50–59.

Rafael, A.R.F. 1999b: The politics of health promotion: influences on public health promoting nursing practice in Ontario, Canada, from Nightingale to the Nineties. *Advances in Nursing Science* 22, 23–39.

Registered Nurses Association of Ontario. 1997: *Presentation to the standing committee on general government regarding: bill 152*. Toronto, Ontario: Registered Nurses Association of Ontario.

Registered Nurses Association of Ontario and Community Health Nurses Interest Group. 1996: *Response to the Ministry of Health's Public Health Branch regarding: Review and revision of the Mandatory Health Programs and Services Guidelines*. Toronto, Ontario: Registered Nurses Association of Ontario.

Siivola, U. and **Martikanen, T.** 1990: The public health nurse – the linchpin of primary health care. *World Health Forum* 11, 102–107.

SmithBattle, L., Drake, M.A. and **Kiekemper, M.** 1997: The responsive use of self in community health nursing practice. *Advances in Nursing Science* 20, 75–89.

Subcommittee on Primary Health Care of the Provincial Co-ordinating Committee on Community and Academic Health science Centre Relations. 1996: *New directions in primary health care*. Toronto, Ontario: Ontario Ministry of Health.

Sullivan, P. 2002: Canada's public health system beset by problems: report. *Canadian Medical Association Journal* 166, 1319.

Underwood, J., Woodcox, V., Van Berkel, C., Black, M.E. and **Ploeg, J.** 1991: Organizing public health nursing for the 1990s: generalist or specialist. *Canadian Journal of Public Health* 82, 245–48.

Vail, S. 1995: Clarifying population health. *Canadian Nurse* 91, 60–59.

Vuori, H. 1984: Primary health care in Europe-problems and solutions. *Community Medicine* 6, 221–31.

Wong, S. 1993: *A study on the quality of worklife of public health nurses and their perception of job satisfaction*. Unpublished master's thesis, University of Toronto, Toronto, Ontario, Canada.

World Health Organization. 1978: Declaration of Alma-Ata. Online at *http://www.who.int/hpr/archive/docs/almata.html* (retrieved on 4 September 2002).

World Health Organization. 1997: The Jakarta Declaration on Health Promotion into the 21st century. *Promotion & Education* 4, 54–58.

World Health Organization, Canadian Public Health Association, and Health and Welfare, Canada. 1986 (17–21 November): Ottawa charter for health promotion. Online at *http://www.who.int/hpr/NPH/docs/ottawa_charter_hp.pdf* (retrieved 1 August 2004).