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Public health nutrition practice in Canada: a situational assessment

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Abstract

Objective: Renewed focus on public health has brought about considerable interest in workforce development among public health nutrition professionals in Canada. The present article describes a situational assessment of public health nutrition practice in Canada that will be used to guide future workforce development efforts.

Methods: A situational assessment is a planning approach that considers strengths and opportunities as well as needs and challenges, and emphasizes stakeholder participation. This situational assessment consisted of four components: a systematic review of literature on public health nutrition workforce issues; key informant interviews; a PEEST (political, economic, environmental, social, technological) factor analysis; and a consensus meeting.

Findings: Information gathered from these sources identified key nutrition and health concerns of the population; the need to define public health nutrition practice, roles and functions; demand for increased training, education and leadership opportunities; inconsistent qualification requirements across the country; and the desire for a common vision among practitioners.

Conclusions: Findings of the situational assessment were used to create a three-year public health nutrition workforce development strategy. Specific objectives of the strategy are to define public health nutrition practice in Canada, develop competencies, collaborate with other disciplines, and begin to establish a new professional group or leadership structure to promote and enhance public health nutrition practice. The process of conducting the situational assessment not only provided valuable information for planning purposes, but also served as an effective mechanism for engaging stakeholders and building consensus.

Keywords
Public health nutrition practice
Situational assessment
Workforce development

Canada has benefited from a strong tradition of leadership in public health[1–3]; however, increased rates of overweight and chronic disease, as well as infectious disease outbreaks such as severe acute respiratory syndrome (SARS), have emphasized the need for a renewed focus on public health infrastructure[4]. The newly formed Public Health Agency of Canada was established to provide leadership and promote collaboration in several areas of public health including workforce development. Recognition of the need for enhanced resources and expertise within the public health system has generated significant activity among all of the major public health disciplines to define roles, identify needs for education and development, and seek opportunities for interdisciplinary partnership. In 2006, a group of public health nutrition professionals, in collaboration with the Public Health Agency of Canada and Dietitians of Canada (the professional association that represents and promotes the dietetics profession), initiated a pan-Canadian effort to explore practice issues and create an action plan for the future. The initial stage of this work consisted of completing a situational assessment of public health nutrition practice in Canada. The present paper describes the purpose, methods and findings of this assessment, and discusses the implications for future workforce development efforts.

The public health system in Canada

Canada is the second largest country in the world, spanning a geographic area[5] of nearly 10 million km^2. Its

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population of over 32 million people[6] is diverse. Nearly a million people reported aboriginal identity in the 2001 census[7], and over 18% of the population is foreign-born[8]. Health Canada is the federal government department responsible for maintaining and improving the health of the population[9]. Within Health Canada, the Office of Nutrition Policy and Promotion 'supports the nutritional health and well-being of Canadians' through a number of research, policy and dissemination strategies including the development of Canada's Food Guide, Dietary Reference Intakes and nutrition labelling[10].

Primary responsibility for core public health functions, including health promotion and protection, disease and injury prevention, disease and risk factor surveillance, and population assessment, however, is housed in the approximately 140 local or municipal public health units/departments found within Canada's ten provinces and three territories[11]. The provinces and territories provide varied levels of funding, planning, administration and technical assistance to support local public health efforts. While the provincial/territorial level has responsibility for most major public health functions, the federal government maintains significant revenue generation and spending capacity[11]. In 2003, the National Advisory Committee on SARS and Public Health recommended the creation of a public health agency to coordinate national public health efforts[11]. In September 2004, the government of Canada established the Public Health Agency of Canada to collaborate with provinces and territories 'to renew the public health system in Canada and support a sustainable health care system'[12]. Workforce development has been a key focus of the Agency since its inception, particularly with the release of 'A Pan-Canadian Framework for Public Health Human Resources Planning'[13]. A foundational component of this framework is the development of Core Competencies for Public Health[14] and a national consultation on a draft set of these competencies is currently underway. As part of the broader public health workforce development strategy, several professional groups such as public health nurses, epidemiologists, environmental public health professionals and health promoters are currently working with the Public Health Agency of Canada to develop competencies, standards of practice and training initiatives specific to their disciplines, yet integrated into the broader public health interdisciplinary approach. In addition, several Canadian universities are establishing new programmes specific to public health education and training.

Public health nutrition workforce development

In early 2006, a small group of public health nutrition professionals assembled to begin to develop competencies specific to public health nutrition practice. As the planning progressed, however, it became clear that broader exploration of public health nutrition workforce development issues was required and an advisory committee was established to guide the process. The fifteen-member Pan-Canadian Advisory Committee on Public Health Nutrition Practice (hereafter referred to as the AC) consisted of front-line practitioners, senior-level nutritionists, federal/provincial territorial representatives, a representative from Dietitians of Canada, a member of one of the provincial regulatory bodies, and practitioners working in various aspects of public health research, education and development. Considerable efforts were made to foster participation of practitioners from each region of the country. While the development of competencies potentially forms an important component of workforce enhancement, the group felt that overall needs and strengths of the profession warranted careful consideration prior to the establishment of practice competencies or standards. The section that follows describes the approaches and methods used to conduct this situational assessment of public health nutrition practice in Canada.

Methods

Health promotion and health services approaches have conventionally included a needs assessment as a key component of the planning process[15–19]. Recently, however, a situational assessment has been proposed as a broader approach that enables communities to build on their current assets in addition to identifying gaps[20]. A situational assessment is a multi-method needs assessment strategy that takes into account community strengths and enablers[20]. This approach involves key stakeholders in the process, considers socio-environmental determinants of health, and encourages identification of resources and opportunities that may be readily available[20]. Its aim is to (re-)focus efforts on opportunities rather than on problems and deficits only. The AC adapted the situational assessment method developed by The Health Communications Unit (THCU) at the University of Toronto[20] to explore public health nutrition practice in Canada. The purpose of this assessment was to identify key needs, issues and opportunities as the basis for developing a three-year action plan for public health nutrition workforce development. The situational assessment approach consisted of four components: a systematic review of literature on public health nutrition workforce development issues; key informant interviews; a PEEST (political, environmental, economic, social, technological) factor analysis; and a consensus meeting.

Systematic review of literature

The initial focus of the AC was to conduct a systematic review of the literature on competency development specific to the discipline. The following indexed databases were searched to seek information related to the

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development, implementation, uses and evaluation of competencies intended for nutrition professionals working in public health: MEDLINE, EMBASE, CINAHL, Cochrane Library, ERIC and the NLM Gateway. Search terms used included combinations of the following words: '(professional) competency/ies', 'qualifications', 'roles', 'knowledge', 'skills', 'responsibilities', 'entry-level', 'advanced training' and 'workforce development', combined with 'public health nutritionist', 'community nutritionist' and 'public health dietitian'. Citations were limited to the English language and included those published from 1992 onwards. Hand searches of bibliographies and reference lists supplemented the systematic search. The search of the indexed databases using all search terms initially identified several hundred citations. A review of titles and abstracts ascertained that twenty were of direct relevance to the project[21].

A generalized Internet search using Google and Google-Scholar was also conducted, using a subset of the original search terms ('public health nutritionist', 'community nutritionist' and 'public health dietitian' combined with '(professional) competency/ies'). In addition, the websites of the following known organizations were searched for relevant information: US Public Health Foundation, American Public Health Association, the American Dietetic Association, Ontario Public Health Association, and Dietitians of Canada. Members of the AC also provided reports and documents specific to their jurisdictions.

Table 1 Guide for key informant interviews

No.	Question
1	Structure of public health (PH) nutrition services
1.1	How are PH nutrition services organized in your province/territory?
1.2	What standards/guidelines/policies direct practice in your province/territory/community/organization?
2	Roles and functions of PH nutrition professionals
2.1	What are the major roles of PH nutrition professionals?
2.2	How do you think PH nutrition roles and functions will change in the years ahead?
2.3	What training and qualifications are required to perform these roles?
3	Relationship to other team members
3.1	Describe the relationship of PH professionals to other public health team members and personnel
4	Unique knowledge, skills and abilities of PH nutrition professionals
4.1	What knowledge/skills/attributes are necessary to work as a PH nutrition professional at: (a) entry-level practice? (b) an advanced level of practice?
4.2	What is unique about PH nutrition practice compared to … (a) other fields of dietetic practice (e.g. clinical, food service)? (b) the practice of other PH disciplines (e.g. nursing, epidemiology)?
5	Role of competencies for future practice
5.1	Describe your preferred vision for PH nutrition practice in the next five to ten years
5.2	How does nutrition practice need to change to achieve that vision?
5.3	How can the development of PH nutrition competencies support that vision?
6	Other considerations
6.1	What other considerations should be taken into account when developing PH nutrition competencies?
6.2	What would you like to see included/addressed in the PH nutrition competencies?

Key informant interviews

The THCU situational assessment approach emphasizes stakeholder participation in health planning activities and encourages involvement of both core and peripheral opinion leaders[20]. The AC identified front-line nutrition professionals and representatives from regulatory bodies, public health managers, government representatives including First Nations and Inuit Branch of Health Canada, provincial/territorial public health nutrition groups, representatives of dietetics and public health nutrition training programmes, the Canadian Public Health Association and the Canadian Institutes of Health Research, as potential key informants. In the summer of 2006, in-depth telephone interviews were conducted with twenty-nine of these stakeholders. The interviews were open-ended, based on a pre-determined set of questions (see Table 1) that had been developed by the AC, and lasted approximately forty-five minutes[22]. The interviews were audio-taped and the interviewer took notes throughout. The interview process was reviewed and approved by the Ethics Review Office at the University of Toronto and all interviewees provided written consent to participate. The responses were grouped according to topics and themes and summarized for further analysis by the interviewer[22]. A second AC member with qualitative research and interviewing experience audited the interviews to confirm the summary themes identified[22]. For a detailed description of the key informant interview process and findings, see Chenhall[22].

Political, environmental, economic, social and technological factor analysis

Identifying the political, environmental, economic, social and technological (PEEST) factors related to health issues enhances understanding of the complexities of public health planning situations[20]. A subgroup of the AC reviewed documents including reports on population trends, workforce projections, social, economic, environmental and health trends, and technological innovation in order to acquire some sense of future issues and opportunities facing public health nutrition practitioners[23–33]. This work was compiled and distributed to all AC members for further discussion at the consensus meeting.

Consensus meeting

The general findings of the literature search, key informant interviews and PEEST factor analysis were compiled into a report and circulated to the AC members for

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review. After reviewing and providing input on the report, the AC gathered for a one-day professionally facilitated meeting to discuss the report, analyse findings, and come to consensus on the priority needs and opportunities for future planning. Specifically, the aim of the meeting was to create a vision for the future of public health nutrition practice in Canada and identify barriers and enablers for achieving that vision. These findings are described in the section that follows.

Findings

Local and international data were collected through the four information-gathering approaches (literature review, key informant interviews, PEEST analysis and consensus meeting) and organized according to the following categories: nutritional health issues; definitions of public health nutrition practice; roles and functions of public health nutrition professionals; training and qualifications; other workforce issues; strengths and assets; and vision and leadership.

Nutritional health issues

Participants in the PEEST factor analysis, key informant interviews and consensus meeting identified numerous nutrition challenges facing Canadians that significantly impact the work of public health nutrition professionals. Chronic disease and promoting healthy weight were prominent concerns. Chronic disease is considered to be the largest demand on the Canadian health care system[34] with about two-thirds of total deaths attributed to CVD, cancer, chronic obstructive lung disease and diabetes[35]. Rates of obesity (using BMI cut-off points based on age and sex) among children aged 2 to 17 years have risen from 3% in 1978 to 8% in 2004[36]. For adults, the age-adjusted obesity rate (BMI $> 30\,kg/m^2$) increased from 14% to 23% in the same period[36]. Breast-feeding, fruit and vegetable consumption and food insecurity were identified as factors affecting chronic disease, obesity and overall health[33]. In 2003, an estimated 85% of mothers reported they had attempted to breast-feed; however, only 17% reported breast-feeding exclusively for at least 6 months, as recommended by Health Canada[37] and WHO[38]. In addition, the Canadian Community Health Survey reported that seven out of ten children aged 4–8 years, and half of adults, did not eat the recommended daily minimum of five servings of fruit and vegetables[39]. Food insecurity was also identified by key informants as a complex health challenge. Almost 15% of Canadians were considered to be living in a 'food-insecure' household at some point in 2000–1[40] and female lone parents and Aboriginal people living off-reserve were identified as being particularly vulnerable to food insecurity[40]. These nutrition issues were seen by stakeholders to be interconnected, and were the focus of much of their work.

Defining public health nutrition practice

While nutrition professionals working in community, not-for-profit and private sector organizations may perform some of the functions of public health nutritionists, our use of the term 'public health nutrition practice' refers to practice that occurs within federal, provincial, territorial and local public health departments, units and programmes.

Definitions of public health nutrition practice in the literature often differentiate public health nutrition professionals from other public health disciplines or from other dietetics practitioners[26,30,31,41]. Most agree that it is a unique practice area in which specialized knowledge of nutrition, food and food systems informs an array of programmes, policies and services designed to prevent disease and promote the health of populations and communities[21]. Publications from the European Union cite a 'new multidisciplinary specialty' of public health nutrition that integrates knowledge of nutrition and physical activity to promote overall health and wellness[42,43]. Another new field, 'public nutrition', has been put forward by several authors over the past decade to account for the broad range of social, cultural, economic and political influences related to nutrition and health[44–47]. Similarly, the 'new nutrition science' encourages consideration of ecological, environmental and social science-related elements required for sustainable promotion of the nutritional health of populations[48].

The key informants interviewed also referred to the impact of these broader social, political and environmental elements on overall health, and generally described public health nutrition practice as promoting the improved nutritional health of populations through the application of nutrition science knowledge and understanding of the determinants of health and healthy eating. While a few informants noted that service delivery models in their communities included one-to-one nutrition counselling, most emphasized that public health nutrition interventions focused on populations rather than individuals.

Roles and functions

Frequently cited roles and functions of public health nutrition professionals included nutrition surveillance and monitoring, nutrition assessment of communities and populations, education and communication, programme and policy planning and evaluation, leadership, and intersectoral collaboration[24,26,27,49–53]. In addition, key informants noted advocacy functions, community capacity-building and skills training, resource development, enforcement of nutrition-related regulations, mentoring students and trainees, and promoting professional

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and ethical standards as being important functions and responsibilities of public health nutrition professionals. Consistent with current realities and future challenges for public health practice cited by key informants, the PEEST factor analysis highlighted the ageing[54,55] and culturally diverse Canadian population[8,55,56], income disparities[40,57,58], Aboriginal health issues[55,59] and the impact of technology on contemporary society, and underscored the need for a deep appreciation of the social and environmental complexities inherent in public health nutrition practice[29,60].

Professional training and development

Public health nutrition professionals in Canada are almost always registered dietitians who have completed four-year undergraduate degrees in food and nutrition followed by accredited internship or practicum programmes. Upon successful completion of these educational requirements, graduates in most provinces are required to pass a standardized national examination, in order to be eligible for registration with one of the provincially administered regulatory bodies. Entry-level dietitians must demonstrate general competence in clinical, community and administrative practice domains; however, the emphasis placed on community and public health components varies considerably among educational programmes. The key informant interviews and provincial public health nutrition documents suggested that most dietitians pursuing careers in public health acquire public health skills and expertise through 'on-the-job' training and/or through graduate training specific to public health. The education requirements for public health nutrition professionals vary among jurisdictions, with some needing or encouraging graduate preparation, while others do not. A small number of internship/practicum programmes focus on community/public health; however, clinical nutrition and food service training remain the foci of most programmes. The development of competencies specific to public health nutrition practice was seen by most stakeholders to be an important strategy for promoting and building expertise through these various education channels.

Analysis of current public health nutrition practice underscored the need for workforce enhancement. While no 'official' inventory of public health nutrition positions in Canada exists, an informal survey conducted with public health nutrition representatives from federal, provincial and territorial governments in November 2006 as part of the PEEST analysis* suggests that there are over 400 public health nutrition professionals in Canada. Figure 1 illustrates an estimate of the number of public health nutrition professional positions in each province and territory in Canada. While an accurate statement of job vacancy rates was not available, most provinces and territories indicated current as well as projected demand for nutrition professionals over the next five-year period, due to an ageing workforce, maternity leaves and renewed investment in public health infrastructure and programmes. Funding support for salaries and challenges in recruiting dietitians with public health expertise were emphasized by many stakeholders, along with pleas to provide educational opportunities to both entry-level trainees and experienced dietitians who may be considering career transitions into public health practice.

Other workforce issues

In addition to the need for opportunities for current and future nutrition professionals to acquire public health expertise, several other workforce development issues were raised during the key informant interviews and consensus meeting. These included opportunities for career enhancement, development of models for interdisciplinary collaboration, coordination of the efforts of multiple groups to develop and implement competencies, and promotion of a global/social/environmental perspective to practice by facilitating the entrance of internationally trained practitioners into the profession. Many interview and consensus meeting participants expressed frustration with limited opportunities for career advancement within the public health nutrition field, despite their extensive training. The issue of interdisciplinary practice also surfaced repeatedly in interviews and discussion. While the notion of interdisciplinary practice permeates public health discourse, concrete models and approaches were felt to be lacking. This lack of broad practice models was contrasted to the seemingly overlapping development of practice competencies by various professional groups. For example, while the AC was preparing to develop competencies specific to public health nutrition practice, the provincial regulatory bodies developed competencies for dietetic practice and the Public Health Agency of Canada promoted draft core competencies for all public health disciplines. This left practitioners, educators and managers wondering how they were going to implement these various 'layers' of competency requirements.

Strengths and assets

The four mechanisms employed to gather data identified many areas for future development, and revealed the strengths, assets and enabling factors that will enhance the public health nutrition workforce. The roots of the dietetics profession in Canada can be found in multiple specialties including human nutrition, food science, agriculture, home economics, human ecology

* This was a crude investigation and does not include Quebec, some community/public health nutrition professionals working in First Nations and Inuit communities and those working outside the formal public health system.

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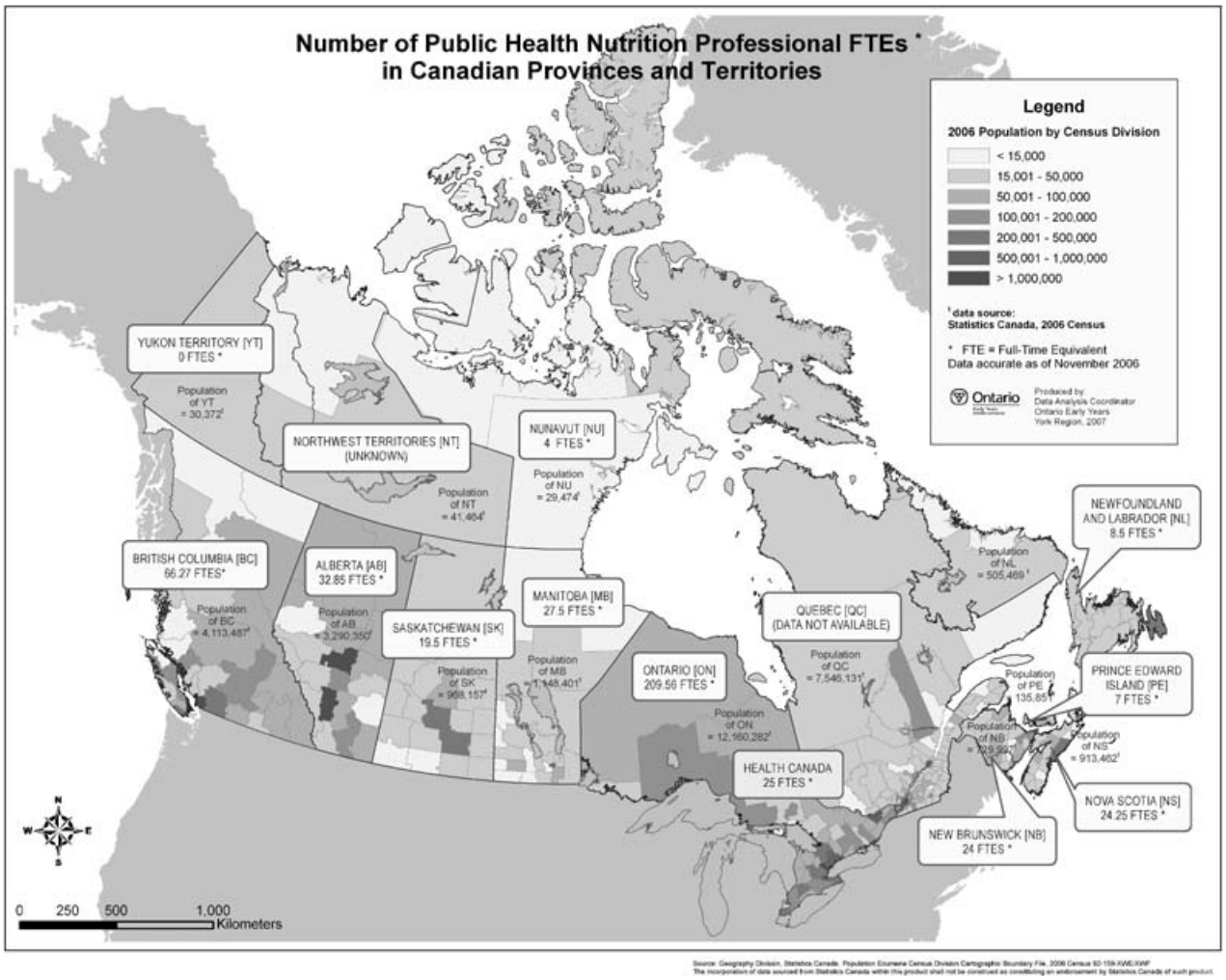

Fig. 1 Number of full-time equivalent public health nutrition professionals in Canadian provinces and territories

and food systems management, to name a few. This rich mix of perspectives was felt to be an inherent enabler of interdisciplinary practice, which, coupled with the commitment of practitioners throughout the country, created excitement around the future potential for innovation. The strength of existing public health and dietetics associations, such as the Canadian Public Health Association and Dietitians of Canada, was also identified as an asset that would help to create a leadership structure for public health nutrition professionals. Many suggested that the federal mandate of the Public Health Agency of Canada, and the recent investment of several provinces in public health infrastructure and programmes, provided an important opportunity for nutrition professionals to help shape the future of public health in Canada and ultimately improve the health of Canadians.

Vision and leadership

During the interviews, key informants were asked to describe their preferred vision for future practice and this was discussed at length at the consensus meeting. Common elements of a future vision included increased numbers of nutrition professionals in the public health workforce so that pressing health issues could be better addressed; enhanced leadership and management opportunities supported by enriched training, education and development; and consistent approaches to public health nutrition policy and practice across the country. The visioning discussions also highlighted the need for enhanced research training and for the development of both discipline-specific and interdisciplinary research programmes to support the evolution of the public health nutrition profession. Nutrition epidemiology, nutrition surveillance and monitoring, and use of innovative communication technology were identified as areas for growth within the profession that would facilitate achieving these visionary elements.

Discussion: next steps

The findings of this situational assessment suggest directions for change within the public health system, the

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dietetics profession, the education system, and the public health nutrition profession itself. Enhancing the workforce with an increased number of public health nutrition professionals who are equipped to address the health needs of Canadians in the 21st century will require increased investment not only in public health infrastructure, but also in education and training. Furthermore, the establishment of a leadership model to promote the public health nutrition profession, coordinate activities to achieve these goals, and create innovative research and professional development initiatives requires tremendous commitment from within the discipline and its partners. To this end, the AC has developed a three-year plan to guide its next steps. The goal of the plan is 'to define, strengthen and promote effective public health nutrition practice in Canada'. Specific objectives include defining public health nutrition practice within the Canadian context, mapping the elements of discipline-specific competencies with other relevant competency sets, identifying opportunities for collaboration with other public health disciplines, creating a professional group or leadership structure to address public health nutrition practice issues, and securing the resources needed to achieve these objectives.

The initial activities will be to communicate the findings of this situational assessment as widely as possible among stakeholders and to establish mechanisms for broad-based participation in implementing the plan. The next step will be to develop a discussion document that defines public health nutrition practice, roles and functions and integrates discipline-specific competencies with those of general dietetics and public health practice. Perhaps the biggest and most exciting challenge, however, is to establish an organizational structure to represent and address the specific needs of public health nutrition practitioners in Canada. The governance, mandate and resource requirements of this body will require careful thought and planning; however the potential to impact change is considerable. Once established, this group will advocate for education, research, career enhancement opportunities, public health innovation and evaluation, and policy initiatives that support the health of Canadians as well as the larger global community.

By 2010, the AC aims to define public health nutrition practice in Canada and how it relates to the broader health care system, initiate the development of innovative educational programmes, influence the changing public health system in Canada, and begin to build a professional body that will provide leadership for years to come. The process of completing a situational assessment, and the findings that resulted, was a key step in building consensus and setting this direction. By generating data from the literature, key informants, a PEEST factor analysis and a consensus meeting, the AC was able to draw upon insights garnered from both local and international experiences and incorporate multiple perspectives in planning. As the group works to achieve the ambitious objectives set out in its three-year plan, the situational assessment will continue to supply valuable information and guidance.

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