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# Nutrition and obesity care in multidisciplinary primary care settings in Ontario, Canada: Short duration of visits and complex health problems perceived as barriers

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## ABSTRACT

Nutrition care in the primary care setting is integral in obesity management, but there is a substantial gap between patients who would benefit from this service and those receiving it. This study provides an in-depth understanding of how relatively new multidisciplinary primary care settings may be affecting nutrition care practices of family physicians and nurse practitioners. This qualitative comparative case study sought to assess nutrition care practices in three different types of multidisciplinary clinics (2 Family Health Teams, 3 Community Health Centers, 1 Nurse Practitioner-Led Clinic) in Ontario, Canada. Individual semi-structured interviews were conducted with nurse practitioners (n = 13) and family physicians (n = 7) in fall 2017. Data analysis was conducted using NVivo Software. The integrated approach was used for elucidating codes and themes. Findings suggest that suboptimal duration of medical visits and increasing prevalence of complex patients were reported by most participants and were perceived as barriers for addressing nutrition and obesity. However, improved nutrition care was fostered through Electronic Medical Records, primary care providers' positive attitude towards nutrition and cost-free dietitian services at point of access. Site-specific challenges, such as duration of medical visits, incentive programs, access to dietitians on site, and continued professional development could enhance nutritional care for weight management in these multidisciplinary primary care settings.

#### 1. Introduction

Obesity is a multifactorial condition and an important health issue as it contributes to a wide variety of chronic diseases and can have negative consequences on quality of life, mental well-being, and health care costs (Senate Canada, 2016). Lifestyle interventions are the first line of treatment for patients with overweight and obesity (Brauer et al., 2015). The primary health care setting is seen as the ideal place to address obesity (Campbell-Scherer and Sharma, 2016).

In this study, nutrition care refers to any practice conducted by the primary care provider that aims to improve the dietary behaviours of their patients (Ball et al., 2014). Despite recommendations for addressing lifestyle interventions such as diet, many patients who would benefit from nutrition counseling do not receive it (Wynn et al., 2010; Brown et al., 2007). Barriers for providing nutrition care include lack of access to and the added cost of dietitian services (Padwal et al., 2011; Wynn et al., 2010), physicians' payment models – specifically the fee for

service model (Hogg et al., 2009; Devlin and Sarma, 2008; Gosden et al., 2000), short medical visits (Wynn et al., 2010; Muldoon et al., 2010), suboptimal use of Electronic Medical Records (EMRs) and under diagnosis of obesity (Baer et al., 2013). Other barriers are comprised of individual Primary Care Providers' (PCP) negative attitude towards nutrition and lack of knowledge in nutrition for obesity management (Martin et al., 2014; Wynn et al., 2010; Forman-Hoffman et al., 2006).

Most of these studies, however, were conducted in non-team based settings. The primary health care reform in Canada aimed to address the barriers aforementioned by shifting towards multidisciplinary primary care settings (Government of Canada, 2007). Additionally, the implementation of EMRs was another aspect that was perceived as important to improving interprofessional collaboration (Hutchison et al., 2011). These multidisciplinary primary care settings include Nurse Practitioner-Led Clinics (NPLCs), Family Health Teams (FHTs), and Community Health Centers (CHCs). These clinics have different governance and funding models (Hutchison et al., 2011). This study

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aimed to acknowledge some of these differences which include: physician remuneration schemes and incentives, duration of medical visits across these different types of primary care settings and the variety of programs offered on site.

In light of the importance of addressing obesity in the primary care setting, the relatively new emergence of team-based primary care settings and the differences in their structure, we sought to understand how the team-based nature of these various multidisciplinary clinical settings affect nutrition care practices of family physicians and nurse practitioners.

### 2. Methods

A comparative case study approach was adopted where the unit of analysis was the various types of practices. Two FHTs, three CHCs, and one NPLC were purposively selected to vary to elucidate the factors that are contributing to FPs and NPs practices. These health care settings have an important aspect in common, which is the team-based nature of their clinical practice but differ in other aspects (i.e., remuneration schemes of primary care providers, duration of medical visits, types of classes/groups offered to patients and the populations they serve). As suggested by Miles and Huberman (1994), a tightly bound research design was used to allow for comparison across sites. This was achieved by using theory to develop a well-defined research purpose and scope, having a selective set of research questions and utilizing specific sampling and analysis techniques.

Data were collected through site-specific websites and individual semi-structured interviews. Site-specific websites were gathered and analyzed to identify the programs offered at each site, the variety of health professionals present at each site, as well as other pertinent information that bounded the cases (Table 1). Prior to data collection, ethics approval was obtained from the University of Ottawa Research Ethics Board (file number: 06-16-07). Each interview began by the interviewer (SA) asking the same questions in the same manner to allow for comparability across sites (Patton, 2002). The interview protocol was pilot tested with 2 FPs and 2 NPs and was refined based on the data collected and feedback provided by the participants. Data from the pilot study were not included in this study but this exercise informed the study's inclusion criteria which were: 1) the PCP had to be working at the primary care setting for at least 6 months and 2) had to provide care predominantly to adult patients. Individual interviews were conducted

Table 2
Demographic characteristics of participants.

Characteristics	FHT (n)	CHC (n)	NPLC (n)
Profession			
FP	3	3	1
NP	3	3	7
Self-identified gender			
Female	4	4	8
Male	2	2	0
Experience in the profession (years)			
≤5	2	2	2
6–15	3	1	5
16–25	1	0	1
≥26	0	3	0
Experience in the organization (years)			
≤1	1	1	0
2–5	3	2	3
6–10	2	0	5
≥11	0	3	0

with a total of 20 participants from which, 13 were NPs and seven were FPs (Table 2). Participant recruitment ceased when data saturation was reached (Charmaz, 2006).

Using NVivo software (QSR International Pty Ltd. Version 11) to aid the analysis, a thematic analysis approach was used for coding the data. Using an integrated approach, deductive themes from the literature were applied and inductive codes emerged from the data (Braun and Clarke, 2006). Deductive themes were identified in the literature review and research questions, whereas inductive themes emerged from the data (Table 3). Researchers conducted the analysis independently. As recommended by Braun and Clarke (2006), the transcripts were first read in their entirety to get a sense of the data as a whole. The first step resulted in an initial set of descriptive codes, which were refined and grouped into themes.

A within-case analysis was conducted for each of the three sites, which resulted in three different write-ups (one for each case). The cross-case analysis consisted of a pattern matching activity where similarities and differences between each type of setting were made clearer (Yin, 2003). Salient quotes are highlighted in the results section along with the range of number of years each participant has been practicing in their profession. The criteria established by Lincoln and Guba (1985) were applied to ensure trustworthiness. Credibility was

#### Table 1

Characteristics of each type of participants' practices in Ontario, Canada.

Characteristics	Family health teams	Community health centres	Nurse practitioner-led clinics
Health professions on the team	Varied based on location but most are composed of family physicians, nurse practitioners, registered nurses, social workers, and dietitians.	Varied based on location but most are composed of family physicians, nurse practitioners, registered nurses, social workers, and dietitians.	Predominantly NPs with FPs consulted based on a need basis, nurses, social workers, and dietitians.
Accountability	Ministry of Health and Long Term Care	Local Health Integration Networks	Ministry of Health and Long Term Care
Clinical programs and services	Vary based on local health and community needs but most sites include programs for diabetes, hypertension, smoking, and weight management (Healthy You) and more.	Specific to local communities' health care needs in order to address social and environmental issues. They offer many health promotion programs including cooking classes for different age groups, hypertension, diabetes, parent-baby drop ins and more.	Most sites include programs for diabetes, weight management, hypertension, seniors and more.
Dietitian on site	Yes	Yes	Yes
Dietitian services covered	Yes	Yes	Yes
Remuneration	FP (capitation + bonuses)	FP (salary)	FP (Fee-for-service)
schemes	NP (salary)	NP (salary)	NP (salary)
Electronic Medical Records	Yes	Yes	Yes
Duration of medical visits	Vary based on clinics but for the ones included in the study, FP visits were 15 min and NP visits were 20 min.	Vary based on clinics but for the ones included in the study, visits ranged from 20 to 40 min (based on patients' medical condition)	Vary based on clinics but for the one included in the study, FP visits were 15 min and NP visits were 30 min.

Information collected from site-specific websites and the Association of Ontario Health Centres (Canada) website: https://www.aohc.org/.

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