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## Nutrition in general practice

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# **Nutrition in General Practice: Role and workforce preparation expectations of medical educators**

## **ABSTRACT**

Nutrition advice from general practitioners is held in high regard by the general public yet the literature investigating the role of general practitioners in the provision of nutrition care is limited. This qualitative study aimed to explore the perceptions of general practice medical educators (GPMEs) regarding the role of GPs in general practice nutrition care, the competencies required by GPs to provide effective nutrition care and the learning and teaching strategies best suited to develop these competencies. Twenty medical educators from fourteen Australian and New Zealand universities participated in an individual semi-structured telephone interview, guided by an inquiry logic informed by the literature. Interviews were transcribed verbatim and thematically analysed. Medical educators identified that nutrition was an important but mostly superficially addressed component of health care in general practice. Numerous barriers to providing nutrition care in general practice were identified. These include a lack of time and associated financial disincentives, perceptions of inadequate skills in nutrition counselling associated with inadequate training, ambiguous attitudes and differing perceptions about the role of general practitioners in the provision of nutrition care. Further research is required to identify strategies to improve nutrition care and referral practices provided in the general practice setting, in order to utilise the prime position of general practitioners as gatekeepers of integrated care to the general public.

## **KEY WORDS**

General Practice, Medical Education, Nutrition, Chronic Disease

## INTRODUCTION

Nutrition is a cornerstone for primary care and public health in the 21<sup>st</sup> century, playing an important role in health promotion and development during the lifespan and in the prevention and management of chronic disease (National Public Health Partnership, 2001; Strategic Inter-Governmental Nutrition Alliance, 2001; World Health Organisation, 2003). In the Australian context, chronic morbidity associated with obesity, Type II Diabetes Mellitus, hypertension and cardiovascular disease are the leading causes of morbidity and mortality. Aside from the individual human costs of the diet-related chronic diseases there is an enormous and escalating economic imperative to effectively prevent, manage and treat these diseases (Australian Institute of Health and Welfare, 2005, 2007a, 2007b). It is widely accepted and promoted that optimum nutrition is an essential feature of chronic disease prevention and management (National Health Priority Action Council (NHPAC), 2006; National Public Health Partnership, 2001; Queensland Public Health Forum, 2002).

Primary care in the Australian health system is concentrated around the general practice setting. More than 20,000 actively practicing general practitioners (GPs) form the dominant professional group in this system (Australian Institute of Health and Welfare, 1996) and consult an estimated 85% of the Australian general public in any 12 month period (Britt, Miller, & Knox, 2010; Commonwealth Department of Human Services and Health, 1994). The general public hold nutrition advice from GPs in high regard (Jackson, 2001), and GPs are ranked by consumers as one of the most trustworthy sources of diet information (Cogswell & Eggert, 1993; Commonwealth Department of Human Services and Health, 1994; Jackson, 2001). GPs have been identified by the Australian federal government as the primary executors of population based health care at both a prevention and management level (Department of Health and Ageing, 2003; National Health Priority Action Council (NHPAC), 2006).

Previous research has demonstrated that GPs are interested in nutrition issues and are aware of the relationship between nutrition and health (Dangar Research Group, 1995; A. D. Helman, 1986). However, Britt et al., (2010) has shown that only 7% of general practice consultations include

nutrition-related counselling, which is low considering the rates of chronic disease presentation to GPs have increased since 1998-99 (Australian Institute of Health and Welfare, 2009). For example, the rate of hypertension has increased from 8.3 to 9.9 per 100 encounters, diabetes from 2.6 to 3.7 per 100 encounters and lipid disorders from 2.5 to 3.7 per 100 encounters (Australian Institute of Health and Welfare, 2009). International studies suggest that there are a number of barriers to effective nutrition counselling in general practice, including uncertainty about the effectiveness of nutrition counselling, perceived inadequate skills in providing nutrition counselling (practice self efficacy), lack of financial incentives and a lack of systematic and organised approach within the practice (Eaton, McBride, Gans, & Underbakke, 2003; Feldman, 2000). Recent Australian studies suggest that although GPs consider their roles to be coordinators of health care (Pomeroy & Worsley, 2008) improvements in nutrition intervention and referral practices in general practice are needed (Pomeroy & Cant, 2010).

Workforce development to build capacity to implement services and strategies for chronic disease prevention and care has been identified as a priority action area in the national chronic disease strategy (NHPAC, 2006). International studies have suggested that preparation of the GP workforce to provide competent and effective nutrition promotion is inadequate (Adams, Lindell, Kohlmeier, & Zeisel, 2006; Vetter, Herring, Sood, Shah, & Kalet, 2008; Walker, 2000; Winick, 1989, 1993). Limited research of this nature has been conducted within the Australian context, consensus about what constitutes adequate (quantity) and effective (quality) nutrition education in medical schools has not yet been established. The shift of medical education to integrated models of education such as problem-based and case-based learning presents other challenges in terms of ensuring adequate medical student exposures that facilitate competency development in nutrition care.

There is a growing trend for professions to utilise competency standards to inform curriculum design and teaching approaches that promote clear role expectations and ensure consistency in graduate performance. Although other health professions utilise such competency descriptions, no such standards have been developed for GPs in Australia. In the US, competency expectations of family physicians relating to nutrition have been drafted from guidelines by the American Academy

of Family Physicians and are currently recommended for medical nutrition education curriculum development (American Academy of Family Physicians, 2000; Feldman, 2000).

The lack of research investigating nutrition care roles, practices and workforce capacity in general practice forms a major gap in the literature given the importance placed on GPs as providers of nutrition interventions that both prevent and manage disease.

Medical educators represent an informed source of information about general practice workforce preparation and the realities of practice in this setting, and therefore as information rich stakeholders in this context. This qualitative study aimed to explore the perceptions of general practice medical educators (GPMEs) regarding the role of GPs in general practice nutrition care, the competencies required by GPs to provide effective nutrition care and the learning and teaching strategies best suited to develop these competencies.

## **METHODS**

The study was approved by Griffith University Human Research Ethics Committee, and all individuals gave informed consent before participating.

### **Participants**

Purposive sampling was used to recruit participants involved in university medical education within the general practice specialty at Australian and New Zealand universities currently conducting degrees in medicine. Twenty-one degrees (from twenty universities) were identified by the Undergraduate Medicine & Health Sciences Admission Test (UMAT) website as well as Australian Medical Students' Association Med School Guide on the basis of the degrees offered in 2009.

Each university website staff directory was examined for contact details of staff involved in general practice education. In the case of this information being unavailable, an email was sent to the respective School of Medicine requesting the contact details for faculty members within the general practice specialty. Each identified staff member (n=91) was sent an initial introductory email, including a participant information sheet. Seventeen staff members replied indicating they were not GPMEs. From the remaining 74 staff members, inferred consent was noted through email reply of 20 participants and organisation of appropriate interview time.

### **Data Collection and Interview Design**

Data collection comprised of individual semi-structured telephone interviews utilising open-ended questions to guide discussions (refer Table 1 Interview guide and inquiry logic). The interview guide was developed following a review of published literature. Interviews were on average 21 minutes, with a range of 16 to 26 minutes. Recording of interview data was completed by two methods: written notes of key responses were taken by the interviewer and interviews were audio-taped.

### **Table 1: Interview guide and inquiry logic**

Insert about here

## **Data Analysis**

Following each telephone interview, audio-tapes were transcribed using indexing and partial transcription. The indexed transcriptions were thematically analysed using the constant comparison method, identifying trends and common ideas shared by interviewed medical educators (Strauss & Corbin, 1998). These thematic trends were coded, allowing for comparisons between interviews. Independent coding by two researchers (author 1 & 2) was completed and themes discussed and confirmed to verify the analysis. Indicative quotes from transcripts have been used to illustrate key themes identified from the data.

## RESULTS

A total of twenty general practice medical educators from fourteen universities across Australia and New Zealand participated in the study, with key demographic characteristics of the sample summarised in Table 2. Based on an initial invitation sample frame of 74 GPMEs, this represents a 27% response rate. The attributes of the GPME study sample indicate equal gender representation, a mix of levels of academic seniority and a high degree of extant involvement in both medical education and general practice.

### **Table 2: Demographic Characteristics of Participants (n = 20).**

*Insert about here*

### **Role of General Practitioners and Nutrition Care**

GPMEs interviewed generally agreed that nutrition was an important part of patient care across a range of clinical and lifestyle scenarios across the spectrum of health care, including prevention and treatment. Most GPMEs believed that it was important for GPs to provide nutrition advice to patients (Table 3).

*“I think most quality general practitioners would see it [nutrition care] as a very important part of clinical practice...” (Participant 15, Male, Lecturer, Currently working as a GP)*

Despite this widespread opinion, there was some disagreement concerning the scope of responsibilities of GPs with respect to the implementation of nutrition care practices, ranging from providing general lifestyle advice through to integrated nutrition assessment and issue specific dietetic advice. Most recognised however that existing roles of GPs in nutrition care are superficial and that the capacity to deliver services was constrained. The common opinion of GPMEs was that



GPs should facilitate the first line intervention for nutrition-related conditions and refer to dietitians for difficulties or complications.

*“I think the role of GPs is really to make an assessment of a person’s nutritional status and then rather than get in to detailed dietary counselling, involve a dietitian to cover that side of things.”* (Participant Three, Female, Senior Lecturer, Current GP Supervisor)

*“We [general practitioners] should be competent to provide general advice in relation to healthy lifestyle at all ages.”* (Participant Four, Male, Professor, Current GP)

These opinions were reinforced by a commonly stated frustration with the perceived ineffectiveness of providing nutrition education and advice in general practice, measured by a lack of improvement of the patient’s condition following nutrition advice.

*“We can do one round of basic intervention and if that doesn’t work or the patient is very unwell then refer on.”* (Participant One, Female, Associate Professor, Current GP Researcher)

*“For many doctors they quickly become disillusioned with giving diet related advice, or working with people on diet related issues because they don’t see progress, and I think you’ll see many people become cynical as a result, and that may in fact change how they run a consultation”.* (Participant Eight, Female, Lecturer)

**Table 3: GPMEs key response themes relating to nutrition care in General Practice**

*Insert about here*

## **Barriers to the provision of effective nutrition care in General Practice**

Discussions with GPMEs regarding the factors impacting on the feasibility and effectiveness of nutrition intervention identified two main themes. A lack of time and a lack of appropriate skills were consistently identified as barriers to the provision of effective and comprehensive nutrition care. These two factors were often considered simultaneously, and were recognised as major barriers to nutrition care in general practice consultations.

*“I think it’s [nutrition care] difficult in general practice, I mean you haven’t got the time or the skills to go into details.”* (Participant 11, Male, Professor, Current GP Supervisor)

*“I don’t feel like I have the skill and the time to be giving them [patients] the kind of detailed information they need about diet”* (Participant 10, Male, Lecturer, Current GP & GP Researcher)

## **Competencies for Effective Nutrition Care by Australian General Practitioners**

The following quote illustrates a common point (and in this case frustration) made by GPMEs about the high expectations placed on GPs with respect to being competent to deliver care for a range of circumstances and conditions.

*“As GPs, we get a lot of stuff dumped on us. Everybody thinks that by educating us they are going to certainly solve the world’s problems. I guess from our side of the fence it feels that everybody expects us to know everything about everything...can you imagine what that must be like?”* (Participant One, Female, Associate Professor, Current GP Researcher)

When asked to identify knowledge, skills and attitudes (competencies) necessary for GPs to perform effective nutrition care, the most common response theme related to in-depth knowledge of nutrition. Differences were apparent concerning what these essential nutrition concepts are, as well as the level of complexity of such concepts.

*"I think there's a continuum from really basic dietetic knowledge, which I would expect every doctor to have a good handle on like how many calories are in particular foods...and simple stuff like diabetic management."* (Participant Seven, Male, Lecturer, Current GP)

*"I think doctors should know simple things around guidelines for a healthy diet. As general practitioners we are generalists, so maybe not complicated things like Type II Diabetes and gluten intolerances."* (Participant Six, Female, Professor)

The above examples illustrate and contrast differences in perceived simple and complex nutrition-related conditions. Required skills identified focused on assessment of nutrition conditions and counselling patients concerning diet were the two most common themes reported. GPMEs were consistent in their belief that the current level of these skills possessed by GPs is inadequate.

A universal attitude deemed as essential for GPs to possess was an awareness of the importance of optimal diet. This attitude was also considered to be a primary factor in the facilitation of effective nutrition care, with GPMEs suggesting that without this attitude, nutrition care would not be at a satisfactory level.

*"I think the bottom line is an awareness of the importance of diet..."* (Participant 14, Male, Professor, Current GP Supervisor)

*"GPs would need to place nutrition at a high enough level of importance that it actually gets time in the consultation; otherwise it just won't get mentioned."* (Participant Five, Female, Senior Lecturer, Current GP)

### **Learning and Teaching Strategies for Developing Nutrition Competencies**

GPMEs were united in a belief that medical student education in nutrition, both current and past, is inadequate and marginalised.

*"I think there's a lack of it [medical nutrition education]. In fact I'm sure there is. We need to train our general practice supervisors [in] more nutrition too."* (Participant 19, Male, Lecturer, Current GP & GP Researcher)

*"I can tell you what happened to me at an undergraduate level with nutrition, which is laughable in that we had one scheduled lecture that no one turned up to."* (Participant Seven, Male, Lecturer, Current GP)

When questioned about increasing nutrition teachings at tertiary level medical education, many participants stated that curricula at medical institutions are currently overcrowded. If the quantity of nutrition education were to increase, another area of learning would therefore need to decrease.

*"It's a pretty packed curriculum, but it's an important topic as well."* (Participant Three, Female, Senior Lecturer, Current GP Supervisor)

*"There's just the challenge of time, I mean if you focus on nutrition you're likely to be displacing some other activity".* (Participant 15, Male, Professor, Current GP Supervisor)

A common theme amongst GPMEs relating to the most effective way to teach nutrition competencies was to have an integrated approach with nutrition knowledge and skills development integrated with clinical learning in a clinical context (e.g. problem-based and case-based learning rather than discrete courses on nutrition).

*"I personally think it's better to integrate it [nutrition education] because of this challenge of having such a broad spectrum of nutritional issues and nutritionally related clinical problems that we deal with...how can you possibly or should you separate that? ...I think most GPs will find that kind of learning more relevant."* (Participant One, Female, Associate Professor, Current GP Researcher)

Other themes which were regarded as important in developing positive attitudes and skills surrounding nutrition in general practice were practical experience in a case-based fashion, as well as 'on-the-job' training with dietitians.

A small number of GPMEs commented on the requirement to increase the level of nutrition in exams to motivate medical students learning about nutrition, particularly when attitudes that marginalise nutrition in clinical care are evident amongst educators and practitioners.

*“I think the bar is set way too low in terms of minimum requirements in undergraduate training; so that bar needs to be raised...and really that borders on negligence what doctors are doing, and we would consider it completely inadequate if say a specialist didn't know of an important new treatment that could not only improve a person's quality of life but also make a significant difference to their outcomes. Doctors are uninformed.”* (Participant 17, Male, Senior Lecturer, Current GP Researcher)

This comment contrasts with previous comments about the pressure and unrealistically high expectations that GPs be competent across a wide range of areas. It appears that although some GPs may feel overwhelmed by the knowledge and skill competency expectations placed upon them, there is a consistent view that the level of medical nutrition education needs to be increased.

## **DISCUSSION**

The response rate and non-probability based purposive sampling method used in this study is likely to have recruited GPMEs with an interest in nutrition and/ or education issues, introducing a potential source of sampling bias. We contend however that in the context of a qualitative study seeking to explore the perceptions of information rich stakeholders, this potential bias is an advantage rather than a limitation. The sample attributes in this study confirm that informants interviewed were significantly involved in the specialty of general practice through current teaching, practising, research and vocational supervision. It can therefore be reasonably assumed that the perceptions expressed by this sample are well-informed and up-to-date with the Australian general practice and workforce development contexts.

The mismatch in opinions regarding the importance of nutrition in general practice care and actual nutrition care service provision (described by GPMEs as limited, superficial and often ineffective) is consistent with previous general practice research indicating that although medical students and GPs perceive nutrition counselling as a priority this is not demonstrated in performance (Helman, 1997; Levine, et al., 1993; Vetter, et al., 2008). Perceptions amongst GPMEs about the ineffectiveness of nutrition counselling they provide in general practice is reflected in international literature (Vetter, et al., 2008). It is unclear from this study if this opinion reflects the limited

effectiveness of the GP because of competency gaps or other barriers in practice or the actual effectiveness of the dietary care intervention. A recent systematic review of the management of blood cholesterol involving dietary guidance has suggested that GPs are indeed less effective than dietitians and patient self-help resources in achieving cholesterol reductions via dietary change (Thompson, et al., 2003).

The widespread opinion expressed by GPMEs in this study that inadequate GP preparation in nutrition care in medical education is supported by earlier studies (Darer, Hwang, Pham, Bass, & Anderson, 2004; Kushner, 1995). Earlier studies suggest that improving GP self-efficacy and attitudes about nutrition care practices is needed throughout workforce preparation, which is expressed in practice with increases in the quantity and quality of nutrition counselling and promotion (Carson, Gillham, Kirk, Reddy, & Battles, 2002; Mihalynuk, Scott, & Coombs, 2003).

The Royal Australian College of General Practitioners (RACGP) specifies 'consistency' as one of the primary standards for general practice (Royal Australian College of General Practitioners, 2007). The disparity observed concerning the perceived role of nutrition care in the general practice setting suggests that the consistency of care provision among GPs with regard to nutrition may vary considerably. As a result, patients treated by the same GP over a period of time may receive considerably diverse nutrition care compared to other patients with a similar condition visiting other GPs.

The barriers to effective nutrition care identified by GPMEs in this study, of limited time and nutrition care competencies amongst GPs (a proxy for inadequate preparation), reflects the existing literature (Helman, 1997; Kelly & Joffres, 1990; Kushner, 1995; Levine, et al., 1993; Wells, Lewis, Leake, & Ware, 1984). Also, the perception of insufficient time to counsel or advise patients about nutrition-related issues is consistent despite recent alterations to Medicare reimbursements to GPs to include extended consultations (Britt, Valenti, Miller, & Farmer, 2004).

The suggestions from GPMEs that current level of medical nutrition education and subsequent GP knowledge and skills is inadequate is inconsistent with the RACGP view of GPs as 'leaders' in health care regarding provision of chronic disease prevention and management (The Royal

Australian College of General Practitioners, 2005). Others have stipulated a mandatory increase in both the quantity and quality of nutrition education received by medical students at tertiary level education (Adams, et al., 2006; Aronson, 1988; Campbell, 1996; Dietitians Association of Australia, 1992).

The Australian general practice system involves limited consultation periods and superficial interventions by practitioners who often believe they are underprepared to provide effective nutrition care. The current general practice setting may therefore be unsuitable for efficient primary care in the context of nutrition. Further research is required to explore the topic in-depth, and identify strategies to improve nutrition care and referral practices provided in the general practice setting.

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**Table 1: Interview guide and Inquiry Logic**

| Interview Questions  | Inquiry Logic  |
|--|--|
| Tell me about <b>your experience and current involvement</b> the specialty of general practice?  | Identify experiences important to the development of perceptions and viewpoints regarding roles and responsibilities of GPs.   |
| How would you describe the <b>current role</b> of general practitioners with respect to integration of nutrition into care for their patients? | Determine what general practice educators perceive GPs role to be in nutritional care of patients.                             |
| Considering the scope of general practice, what can general practitioners <b>realistically do</b> to promote nutrition to their patients?      | Explore the feasibility of nutrition care provision by GPs in the general practice setting.                                    |
| To <b>what degree</b> do you believe nutrition-related conditions should be managed by general practitioners?                                  | Consider what general practice educators believe based on their experiences.   |
| What <b>competencies</b> (skills, knowledge and attitudes) would you identify as necessary for general practitioners to perform these roles?   | Identify general practitioner competencies perceived as essential to the successful treatment of nutrition-related conditions. |
| What <b>learning and teaching strategies</b> do you think are required to develop these competencies of general practitioners?                 | Identify how nutrition care competencies can be developed at a tertiary, vocational and continuing education level for GPs.    |

**Table 2: Demographic Characteristics of Participants (n = 20).**

| <b>Participant Characteristic</b>                | <b>No. of Participants</b> | <b>Percentage (%)</b> |
|--|----------------------------|-----------------------|
| Males  | 10                         | 50                    |
| Females  | 10                         | 50                    |
| Professor of General Practice                    | 5                          | 25                    |
| Associate Professor of General Practice          | 3                          | 15                    |
| Senior Lecturer                                  | 7                          | 35                    |
| Lecturer   | 5                          | 25                    |
| Currently teaching medical students*             | 19                         | 95                    |
| Currently practising as a General Practitioner*  | 16                         | 85                    |
| Currently involved in General Practice Research* | 7                          | 35                    |
| Current GP Registrar Supervisor*                 | 7                          | 35                    |

\*Participants may fill more than one criterion.

**Table 3: Areas of enquiry and key response themes from GPMEs. Key response themes relating to nutrition care and General Practice.**

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**Role**

- Nutrition considered by GPMEs as an important component of primary care across the health care continuum, and its importance is increasing.
- GPs have a central role in nutrition care, however capacity to deliver effective services is limited

**Existing practices**

- Nutrition care in general practice is superficial and dietary guidance is general
- Scope of practice limited to assessment and general nutrition guidance
- GPs lack practice self-efficacy in this area of primary care, largely the result of inadequate nutrition education and perceptions that nutrition care they provide is ineffective

**Barriers to providing effective nutrition care in general practice**

- A lack of time
- Attitudes about nutrition that marginalise nutrition as a priority in practice
- Competency limitations associated with inadequate nutrition education

**Competencies needed**

- Awareness and knowledge of the importance of diet
- Assessment of nutritional status and dietary habits
- Dietary counselling

**Learning and teaching strategies**

- Existing medical education curriculum crowding limiting extra content input
  - Nutrition education to be integrated with problem-based and case-based teaching methods
  - Increase assessment tasks that include nutrition to motivate student learning
-