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# Dietitian-led clinics in primary care: A scoping review protocol

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## 30 Conflicts of Interest

31 Mary Hickson and Avril Collinson are both members of the British Dietetic Association (funder) and  
32 registered dietitians. Amanda Wanner declares no conflict of interest.

## 33 Abstract

34 **Review objective and questions:** The objective of this scoping review is to examine and map the  
35 existing evidence exploring or evaluating the implementation, cost and/or effectiveness of dietitian-led  
36 clinics in primary care.

- 37 • Does a dietitian-led clinic in general practice and/or primary care improve patient satisfaction  
38 and clinical outcomes?
- 39 • Does a dietitian-led clinic in general practice and/or primary care reduce costs?
- 40 • Is it feasible to implement dietitian-led clinics in general practice and/or primary care?

## 41 Introduction

42 The World Health Organization (WHO) describes primary care as “first-contact, accessible, continued,  
43 comprehensive and coordinated care. First-contact care is accessible at the time of need; ongoing  
44 care focuses on the long-term health of a person rather than the short duration of the disease;  
45 comprehensive care is a range of services appropriate to the common problems in the respective  
46 population and coordination is the role by which primary care acts to coordinate other specialists that  
47 the patient may need”.<sup>1(para.3)</sup> The terms ‘general practice’ and ‘family medicine’ are both synonymous  
48 with primary care and may be used interchangeably in the literature. How primary care is organized  
49 varies between countries and may be centred on the general practitioner (GP) (or primary care  
50 physician) or take a more team orientated approach recognising the primary care team (or family  
51 medicine team). The WHO describes the primary care team as “a group of fellow professionals with  
52 complementary contributions to make in patient care”,<sup>1(para.5)</sup> of which a dietitian may be one member.

53 Dietitians have a skill-set that enables them to lead on the therapeutic support provided to patients  
54 with certain conditions that are amenable to treatment with dietary manipulation. Examples of such  
55 conditions include diabetes mellitus, cardio-vascular disease, over- and under-weight, food allergies,  
56 chronic obstructive pulmonary disease, gastrointestinal, renal and liver conditions. Dietitians have  
57 historically worked largely in acute hospital settings<sup>2</sup> however, there is little information on dietitians  
58 who work in primary care. This may be a service commissioned by the general practice to private  
59 dietitians, or contracted from dietetic services based in the acute or community sectors.

60 Throughout the developed world healthcare is changing. Some of the contributing factors include  
61 demographic shifts such as the ageing population, the increase of long-term conditions, increase of  
62 dementia, changes in the diversity of society, health inequalities and limited funding.<sup>2</sup> This has led to

63 an increased demand within the primary healthcare sector at the same time as GP numbers in many  
64 countries are declining, including the UK,<sup>3</sup> USA,<sup>4</sup> and Australia.<sup>5</sup>

65 Given the skill set of the dietitian it may be that new models of care with the primary care setting,  
66 could see dietitians taking a lead in delivering primary care for relevant diagnosed patients and  
67 providing cheaper, more efficient and effective service in comparison to the traditional approach of GP  
68 support and referral for specialist treatment. Indeed, this has been promoted by the UK government  
69 as a way to tackle work pressures within primary care and general practice.<sup>6, 7</sup>

70 A dietitian-led clinic is any clinic run and managed by a registered dietitian, and in this scoping review  
71 is limited to the primary care setting, where the clinic is likely to support the work of GPs. This would  
72 mean that patients with relevant diagnoses (see above) could be referred by another healthcare  
73 professional, self-refer or be invited to the clinic for diet and lifestyle advice and support.

74 There are several systematic reviews that indicate how advice provided by a dietitian can improve  
75 outcomes in specific conditions, such as hypertension,<sup>8</sup> diabetes, weight loss and diet quality.<sup>9</sup> The  
76 evidence for gestational weight gain<sup>9</sup> and prevention of gestation diabetes<sup>10</sup> is weaker primarily due to  
77 lower quality study design. Other systematic reviews have explored interventions to manage weight in  
78 children<sup>11</sup> and adults,<sup>12</sup> type 2 diabetes,<sup>13</sup> diabetes prevention,<sup>14</sup> and Mediterranean diet and healthy  
79 eating,<sup>15</sup> but these studies were not specific to dietetic interventions, although they included studies  
80 examining dietetic care. They all showed that dietary interventions could improve outcomes, and  
81 some showed that care provided by dietitians achieved superior outcomes, but the quality of the study  
82 designs were often weak. Other original studies also support the view that dietitians and/or dietary  
83 counselling (which dietitians are uniquely trained to deliver) are effective in improving clinical  
84 outcomes in a number of health conditions.<sup>16-20</sup> Therefore, it would seem that greater utilization of  
85 dietetic interventions in the primary care setting could be an effective way to manage many common  
86 chronic diseases, however, it is important to demonstrate that interventions are effective in the setting  
87 in which they will be delivered.

88 A review by Mitchell et al.<sup>9</sup> is the only one available looking specifically at dietitians in primary care,  
89 and this included only randomised controlled trials. They did not search for any particular disease  
90 category but looked at any patient receiving dietetic consultations. The conditions treated included  
91 HIV, cardiovascular disease, obesity, hypertension, diabetes, impaired fasting glucose, gestational  
92 diabetes and colorectal cancer. The results show fair (Grade 2) evidence for dietetic consultations for  
93 adults in primary care settings for improvement in diet quality, diabetes outcomes (including blood  
94 glucose and glycated haemoglobin values), and weight loss outcomes (e.g. changes in weight and  
95 waist circumference) and to limit gestational weight gain. The evidence for controlling lipid levels and  
96 blood pressure is limited (Grade 3), but this review included only studies where the provision of  
97 nutritional care was exclusively by a dietitian. Many of the studies testing interventions for  
98 cardiovascular diseases have multi-disciplinary team interventions and these, with the dietetic  
99 contribution, would not have been included in this review.

100 Thus, there is some evidence for the efficacy of dietetic care in primary care. Nevertheless, there is a  
101 lack of information concerning the broader contribution dietitians may make within the primary care

102 setting, including cost effectiveness and the range of conditions that dietitians may successfully  
103 manage. There may also be useful qualitative information as well as quantitative work. A preliminary  
104 search of the *JBI Database of Systematic Reviews and Implementation Reports*, Cochrane Library,  
105 PubMed and CINAHL databases found no scoping reviews exploring dietetic care with the primary  
106 care setting. A search of the PROSPERO database found no similar systematic review protocol  
107 registered or ongoing.

## 108 Objective

109 The objective of this scoping review is to examine and map the existing evidence exploring or  
110 evaluating the implementation, cost and/or effectiveness of dietitian-led clinics in primary care.

## 111 Review questions

112 Does a dietitian-led clinic in general practice and/or primary care improve patient satisfaction and  
113 clinical outcomes?

114 Does a dietitian-led clinic in general practice and/or primary care reduce costs?

115 Is it feasible to implement dietitian-led clinics in general practice and/or primary care?

## 116 Keywords

117 Dietitian-led; primary care; general practice;

## 118 Inclusion criteria

### 119 Participants

120 The review will consider studies that include dietitian or nutritionist-led clinics treating patients with  
121 any conditions. Both terms will be considered because the professions are linked and the name varies  
122 between countries. However, to be comparable any dietitian or nutritionist-led studies would need to  
123 require the dietitian or nutritionist to have formal accreditation.

### 124 Concept

125 The proposed review is designed to explore the feasibility, organization and effectiveness of dietitian-  
126 led clinics within a primary care setting. Therefore, all studies with a focus on any aspect of dietitian or  
127 nutritionist led healthcare services for any disease group will be considered. Of particular interest will  
128 be any evidence of cost effectiveness in comparison to the usual organization of services.

### 129 Context

130 The context for this review will be primary care or general practice. General practice is part of primary  
131 care, but both terms will be of interest since services provided as part of primary care will be of  
132 interest even if not based in general practice. Both terms may be used interchangeably in papers and  
133 so it is important to identify all sources of evidence. Dietitian or nutritionist-led clinics in hospitals,

134 regional healthcare facilities or specialist centers will not be included. Where studies have been  
 135 conducted in the community, they will be relevant if recruitment has included general practitioners.

136 This review will also only consider evidence from developed countries, since the settings are more  
 137 likely to be comparable. It is recognised that healthcare is delivered and organized differently even in  
 138 developed countries, but findings from developing countries will have less applicability. The World  
 139 Bank country classifications will be used to decide which countries are deemed developing.<sup>21</sup>

## 140 Types of studies

141 This scoping review will consider all available publications that have a focus on dietitian or nutritionist  
 142 led clinical care in a primary care setting. These may include experimental, quasi-experimental,  
 143 observational and qualitative studies. Systematic reviews will be considered, as well as text and  
 144 opinion papers, case studies, and relevant academic presentations, in both peer-reviewed and grey  
 145 literature. Dietetic networks will be used to identify relevant grey literature from other countries.

146

## 147 Methods

148 The proposed systematic review will be conducted in accordance with the Joanna Briggs Institute  
 149 methodology for scoping reviews.<sup>22</sup>

## 150 Search strategy

151 The search strategy aims to find both published and unpublished studies. The systematic search will  
 152 be developed and run by an experienced information specialist (AW). The initial strategy was  
 153 iteratively designed by testing search terms against a pre-defined list of relevant articles and tested in  
 154 several different databases. The final strategy will be translated for use in each of the databases (an  
 155 example of the Ovid MEDLINE search is in Appendix 1). The searches will be limited to the last 10  
 156 years, excluding studies prior to 2008. Limiting the search to the last 10 years ensures that the  
 157 information retrieved will be as relevant as possible to today's healthcare setting. There will be no  
 158 limit on language applied to the searches. The following databases will be searched: MEDLINE  
 159 (Ovid), Embase (Ovid), PsycINFO (Ovid), CINAHL (Ebsco), AMED (Ebsco), British Nursing Index  
 160 (Proquest), and Cochrane Library (Wiley). Next unpublished studies will be sought through requests  
 161 to experts and professional bodies using existing dietetic networks, and through searching Open  
 162 Grey, ClinicalTrials.gov and EU Clinical Trials Register. Finally, the reference lists of each of the  
 163 included papers will be hand searched to identify any further studies.

## 164 Study selection

165 Following the search, all identified citations will be collated and uploaded into EndNote X8.2 (Clarivate  
 166 Analytics, PA, USA) and duplicates removed. The set will then be uploaded to Rayyan QCR<sup>23</sup> and  
 167 titles and abstracts screened by two independent reviewers for assessment against the inclusion  
 168 criteria for the review. Any disagreements will be solved by consensus or by the decision of a third  
 169 reviewer. The full text of studies that may meet the inclusion criteria will be retrieved and re-screened  
 170 to confirm inclusion. Full text studies that do not meet the inclusion criteria will be excluded and

171 reasons for exclusion will be provided in an appendix in the final systematic review report. The final  
 172 full text papers will be imported into JBI System for the Unified Management, Assessment and Review  
 173 of Information (SUMARI).

174 Papers will be included if the setting is based in primary care and general practice; it is regarding  
 175 health service delivery in a developed country; it is about dietetic or nutritionist led clinics,  
 176 consultations, advice or counselling; and the paper was published in or after 2008. Studies testing the  
 177 efficacy of a nutrient, food or dietary pattern but involves a dietitian to deliver information will be  
 178 excluded.

### 179 Data extraction

180 Data will be extracted from the included papers by two independent reviewers using an adapted  
 181 version of the Joanna Briggs Institute results extraction instrument.<sup>24</sup> The data extracted will include  
 182 specific details about the population, concept, context, study methods and key findings relevant to the  
 183 review objective. This information will be tabulated including the following; author/s, year of  
 184 publication, country, setting, purpose of the study, study design, intervention (where relevant),  
 185 participants, relevant outcomes such as cost efficacy or relevant clinical outcome data, and key  
 186 findings that related to the review question. The draft results extraction instrument will be tested on  
 187 the first five papers and modified as necessary, further revisions may be made during the process of  
 188 extracting data from the remaining studies. Modifications will be detailed in the full scoping review  
 189 report. Any disagreements that arise between the reviewers will be resolved through discussion, or  
 190 with a third reviewer. Authors of papers will be contacted to request missing or additional data, where  
 191 required.

### 192 Presentation of the results

193 The extracted data will be presented in diagrammatic or tabular form in a manner that aligns with the  
 194 objective of this scoping review. A narrative summary will accompany the tabulated and/or charted  
 195 results and will describe how the results relate to the review's objective and question/s.

196

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 270

## 271 Appendix 1

272 Example search for Ovid MEDLINE

### # Searches

- 1 dietetics/ or nutritionists/ or nutrition assessment/ or (dieti?ian\* or dietetic\*).ti,ab,kw.
- 2 (counse?ling or advice or consultation\* or intervention).ti,ab,kw. or counseling/
- 3 ((diet\* or nutrition\*) adj (counsel?ing or advice or consultation\*)).ti,ab,kw.
- 4 (1 and 2) or 3
- 5 limit 4 to yr="2008 -Current"

273

274