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Health care professionals' views towards self-management and self-management education for people with type 2 diabetes

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TITLE:

Health care professionals' views towards self-management and self-management education for people with type 2 diabetes

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ABSTRACT

Objectives: Significant problems with patients engaging with Diabetes Self-Management Education (DSME) exist. The role of healthcare professionals (HCPs) has been highlighted, with a lack of enthusiasm, inadequate information provision and poor promotion of available programmes all cited as affecting patients' decisions to attend. However, little is known about HCP views towards DSME. This study investigates the views of HCPs towards self-management generally and self-management in the context of DSME more specifically.

Design: A qualitative study using semi-structured interviews to investigate HCP views of diabetes self-management and DSME. Data were analysed thematically and emergent themes were mapped on to the constructs of Normalization Process Theory (NPT).

Setting: Two boroughs in London, UK.

Participants: Sampling was purposive to recruit a diverse range of professional roles including GPs, practice nurses, diabetes specialist nurses, health care assistants, receptionists and commissioners of care.

Results:

Interviews were conducted with twenty two participants . The NPT analysis demonstrated that whilst a self-management approach to diabetes care was viewed by HCPs as necessary and, in principle, valuable, the reality is much more complex. HCPs expressed ambivalence about pushing certain patients into self-managing, preferring to retain responsibility. There was a lack of awareness amongst HCPs about the content of DSME and benefits to patients. Commitment to and

1
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3 engagement with DSME was tempered by concerns about suitability for some
4 patients There was little evidence of communication between providers of group-
5 based DSME and HCPs or of HCPs engaging in work to follow up non-attenders.
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12 **Conclusions:** HCPs have concerns about the appropriateness of DSME for all
13 patients and discussed challenges to engaging with and performing the tasks
14 required to embed the approach within practice. DSME, as a means of supporting
15 self-management, was considered important in theory, but there was little evidence
16 of HCPs seeing their role as extending beyond providing referrals.
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27 **ARTICLE SUMMARY**

28 **Strengths and limitations of this study**

- 29 • One of the first studies to explore HCP views towards DSME in routine
30 practice
 - 31 • A wide range of HCPs were interviewed including GPs, nurses,
32 commissioners, health care assistants and administrative staff
 - 33 • Participants had varying degrees of prior knowledge and experience of DSME
 - 34 • A theoretical framework Normalization Process Theory was used to analyse
35 the findings
 - 36 • The sample was limited to HCPs within two London boroughs
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INTRODUCTION

Self-management has been characterised as a key feature of contemporary health care systems (1). Supporting self-management by patients with chronic conditions is now an accepted and important part of reducing disease burden and health service use associated with chronic disease in many countries (2, 3). For diabetes, self-management education (DSME) offers strategies to offset the challenges that providers face in delivering chronic disease care, whilst also improving outcomes for patients (4). Globally, however, there are serious problems with patients with diabetes participating in DSME. Research from the UK (5-7), USA (8), Mexico (9), Germany (10), France (9), Italy (9), India (11), Russia (9), Algeria (9), Turkey (9), China (9) and Canada (12) report low rates of patient attendance (13). In the UK, DSME is recommended for people with type 2 diabetes (T2DM) (14) and primary care services (GP practices) are financially incentivised to refer patients to available programmes (15). However, data from the UK's National Audit Office survey suggests that in 2015 only 8.2% of patients with T2DM attended DSME (16). Poor attendance rates are a major concern given that high quality DSME can have positive effects on quality of life and health outcomes (17-20) and that patients who do not attend any form of diabetes educational intervention are at a fourfold increased risk of developing complications (21).

Research on reasons for non-attendance at DSME suggests there are factors which relate to patients being unable to attend (for example, because of accessibility issues, physical health problems and financial problems) and others that relate to patients choosing not to attend (for example, because of a lack of perceived benefit, knowledge or information or because of emotional and cultural factors) (6). A number

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3 of strategies are suggested to overcome barriers identified by patients, including the
4 provision of more culturally specific education (22), the use of alternative methods of
5 delivery, such as online (17) and better promotion of education by health
6 professionals (6, 22). The role of health care professionals (HCPs) as pivotal in
7 patient decisions to attend DSME has been highlighted, with a lack of enthusiasm,
8 inadequate information provision and poor promotion of available programmes by
9 HCPs all cited as affecting patients' decisions to attend DSME (6, 7, 11, 12, 23, 24).

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21 Despite HCPs potentially playing a key role in integrating DSME into routine care
22 delivery (4) and promoting self-management (25), there is little research into the
23 views of HCPs towards DSME. One paper exploring HCPs' views towards group-
24 based DSME focused largely on practice nurses who were knowledgeable about
25 DSME having either been educators, or attended a taster session of group-based
26 DSME (22). These practice nurses viewed DSME favourably, particularly the group
27 mode of delivery, reporting that it improved patient interactions saving HCPs' time
28 and improved patient outcomes. However, they also reported that DSME wasn't
29 accessible to those with literacy problems, older people and those who worked or
30 had young children. Other research suggests that HCPs may be ambivalent about
31 the importance and benefits of self-management support programmes for chronic
32 illnesses, and are concerned about sharing responsibility for disease management
33 with other professional educators or even patients themselves (25). It has also been
34 suggested that if HCPs perceive these self-management programmes to be
35 ineffective or inaccessible for their patients they may be less likely to employ these
36 resources for their patients (4). Furthermore there has been little research into HCPs'
37 views on alternative forms of DSME such as online (26).
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3 The aim of the current study was to explore the views of HCPs towards a self-
4 management approach to diabetes care for patients with T2DM within two socially
5 and economically diverse settings in London, UK. Additionally, we aimed to explore
6 HCPs views towards the diabetes education programmes available to patients with
7 T2DM within these settings.
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17 **METHODS**

21 **Design**

22 This qualitative cross-sectional study used semi-structured interviews with HCPs
23 working in English primary care, secondary care and intermediate care services that
24 served patients with T2DM from two inner city boroughs in North London.
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33 **Setting**

34 The setting was two densely populated urban boroughs in inner city London which
35 were multi-ethnic and socially and economically diverse. The first borough has a
36 population of 231,200 (based on 2017 estimates), with over a third born abroad and
37 just under a half having a language other than English as their first language. The
38 average household income (median modelled and 2012/3 figures) is £54,950
39 (England average £30,763). Just less than 5 percent of this population are
40 unemployed and have no educational qualifications. One third of children are
41 reportedly living in poverty. For people aged 17+, 5.0% have diabetes. The second
42 borough has a population of 242,500 people (based on 2017 estimates), just under
43 half of whom were born abroad and have a language other than English as their first
44 language. The average household income (median modelled and 2012/3 figures) is
45 £67,990 (England average £30,763). Four percent of the borough is unemployed
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3 and just under two percent of working age adults have no educational qualifications.
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5 A third of children are reportedly living in poverty. For people aged 17+, 3.9% have
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7 diabetes (27).
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12 The first borough had established an Integrated Care programme in 2013 to develop
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14 new ways of commissioning and delivering healthcare. For diabetes care, the aims
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16 of this approach were to enhance the management of diabetes and those at risk of
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18 developing diabetes in primary care, and increase the number of people who are
19
20 able to self-manage their health. The second borough had implemented an
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22 Integrated Practice Unit (IPU) model of care in 2013, which was developed to fully
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24 integrate diabetes care across the setting.
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31 At the time of the study there were four types of free education for people with T2DM
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33 provided in the boroughs (see table 1). ; Diabetes Education and Self- Management
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35 for Ongoing and Newly Diagnosed (DESMOND) (19), the Diabetes Self-
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37 Management Programme (previously referred to as Co-Creating Health) (28), the
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39 X-PERT Programme (29), and Healthy Living for People with T2DM (HeLP-
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41 Diabetes). HeLP-Diabetes is an online diabetes self-management programme which
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43 had been introduced to these boroughs by this research team as part of a wider
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45 programme grant of research (30) and was much newer in the boroughs than the
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47 other forms of DSME.
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54 Table 1. Diabetes education available in the two boroughs
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Name	Delivery	Ethos	Duration	Target population	Access
HeLP-Diabetes	Online	Online tool for adults with type 2 diabetes to learn knowledge	Available 24/7 for as long	Type 2 diabetes	Referrals are made via health

		and skills to manage their condition. The programme takes a holistic view of self-management and addresses a wide range of patient needs including medical management, emotional management and role management.	as patient wants.		professional or self-referral.
DESMOND	Face-to-face group based	The programme teaches patients about diabetes and provides lifestyle advice so that they are better able to self-manage their condition.	One day	Type 2 diabetes	Referrals are made via health professional
Diabetes Self-Management Programme	Face-to-face group based	Aims to help participants strengthen their health-related behaviours. It does this by developing health literacy, building appreciation of peer support, developing collaborative decision-making skills and building knowledge of self-management techniques as well as participants' skills and confidence to use these techniques	Runs over 7 weekly sessions, lasting three hours per session	Diabetes (Type 1 and 2)	Referrals are made via health professional
X-PERT Programme	Face-to-face group based	Aims to help patients cope with their health condition and improve their quality of life by learning new skills to manage their condition on a daily basis.	Six-week course. Each weekly session lasts two and a half hours.	Adults with one or more long-term health conditions (including diabetes). The course is also	Self-referral or via health professional

				available for carers.	
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Sample

Sampling for HCPs interviews was purposive to capture the views from a range of HCPs working across the boroughs providing care to diabetes patients. Diabetes care was provided in primary care (37 GP practices in borough 1 and 32 GP practices in borough 2), community care (an intermediate diabetes service in each borough), and secondary care (three hospital trusts, two serving mainly patients from borough 1 and one serving patients mainly from borough 2). Twenty six GPs, nurses, health care assistants, administrative staff, practice managers, and commissioners were contacted via email and invited to take part in an interview throughout the duration of the study period (between July 2013 and August 2015).

Data collection

Topic guides were developed with reference to previous research on self-management and DSME, with input from the wider project multidisciplinary steering group and were informed by a theory of implementation (Normalisation Process Theory, NPT) (31, 32).

NPT is widely used in process evaluations of innovations in healthcare organisation and delivery (33, 34). It focuses on the 'work' of implementation. This is represented by four constructs: Coherence: *what is the work that people do to understand and make sense of a practice*; Cognitive participation: *what is the work that people do to engage and support a new practice*; Collective action: *what is the work that people do to enact a new practice, and make it workable and integrate it in its context*; and

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3 Reflexive monitoring: *what is the work that people do to reflect on and evaluate*
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5 *enacting a new practice in context.*
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10 The topic guide was piloted with a member of the study team who was also a GP
11 (this interview was excluded from the analysis). All interviews were semi-structured
12 and conducted face-to-face by the same researcher (JR) who is an experienced
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14 and conducted face-to-face by the same researcher (JR) who is an experienced
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16 female qualitative researcher who had worked in the boroughs implementing the
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18 HeLP-Diabetes. All interview participants had been contacted before the day of
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20 interview to discuss the research and all participants provided informed consent.
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22 Most participants had met the researcher prior to the interviews in her role
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24 implementing HeLP-Diabetes and were aware of the research objectives of the wider
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26 programme grant (30). All interviews were conducted in the HCPs' consultation
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28 rooms, or at the researcher's University (dependent on participant preference) and
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30 lasted between 30 minutes and an hour. Interviews were audio recorded and the
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32 researcher made field notes following each interview. Interviews continued until no
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34 new themes were apparent.
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43 **Data analysis**

44 Data collection and analysis were conducted concurrently, with analysis starting as
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46 soon as interviews were transcribed. Corrected and anonymised transcripts were
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48 loaded into Nvivo 10 software (35) ready for coding. Although NPT had been used to
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50 inform the topic guide and ensure data on the relevant issues were collected, an
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52 inductive approach to analysis was employed to ensure the issues participants
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54 judged to be important were captured, as opposed to constraining their answers to
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56 the categories in NPT. This approach was also taken in analysis where initially an
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58 inductive approach to analysis was taken to capture responses, followed later by
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3 mapping the analysis onto the constructs of NPT (see Figure 1 for the process of
4 analysis). Firstly, each transcript was read by JR and summaries of the main themes
5 and impressions from each transcript were created to generate a feeling for each of
6 the interviews and as a quick reference point for each interview. The themes that
7 were identified in this initial analysis were discussed within the core team (*names
8 removed for review purposes*). To obtain other interpretations of the data from a
9 range of perspectives these themes were presented to the project's multidisciplinary
10 steering group where the themes were discussed and refined. In addition to the
11 steering group, a data clinic was held to explore the rigour and reliability of the
12 themes from the initial analysis. Eight qualitative researchers from a range of
13 disciplines (health services research, sociology, psychology and epidemiology)
14 attended the data clinic and themes were discussed and refined and new themes
15 were considered. Following the data clinic, all interview transcripts were re-read and
16 recoded where appropriate; the themes were refined and additional ones created
17 until a final set of themes emerged that were agreed upon by all co-authors.
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40 After agreement on themes had been reached, it was clear that the data resonated
41 strongly with the constructs of NPT. In a second step to the analysis, themes were
42 mapped onto constructs of NPT (Coherence, Cognitive Participation, Collective
43 Action and Reflexive Monitoring) (See table 2). This required the researchers to re-
44 read data within the themes and allocate the themes to appropriate constructs. This
45 sometimes meant that the data coded under one theme was categorised into two or
46 three different constructs. All themes could be applied to at least one construct. This
47 approach has been used successfully in other research (e.g., (34, 36-39)) and
48 provided confidence that the themes were data driven (although it is acknowledged
49 that the use of the NPT to develop interview topic guides is likely to have affected the
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data collected), and meant that the robustness of NPT in explaining the data could be tested against the themes during this mapping process. The findings are presented within the NPT framework, together with illustrative quotations.

Table .2. Mapping themes onto constructs of NPT

Themes	Description of the theme	Construct of NPT
Perceptions of self-management	HCPs describe their views of the self-management approach to diabetes care being promoted within the service	Coherence
Barriers and facilitators to the self-management approach to diabetes	The difficulties to implementing a self-management approach with patients and the benefits of the approach	Coherence; Cognitive Participation; Collective Action; Reflexive Monitoring
HCPs and patient interactions	The way that HCPs and patient interactions are affected by self-management and DSME	Collective Action
Perceptions of current DSME	HCPs views on group-based and online DSME	Coherence
HCPs role in promoting self-management and DSME	HCPs views about the extent and limitations of their roles in supporting patients to self-management and participate in DSME	Cognitive Participation; Collective Action
Improving uptake of DSME	HCPs views on how patient participation in DSME could be increased	Reflexive Monitoring

Patient and public involvement (PPI)

The wider programme grant, of which this study formed part of one work package, had significant PPI input (both health professionals working in diabetes care and patients with T2DM) throughout (please see (40) for details). For this study specifically, two PPI representatives advised on the topic guide development and interpretation of findings. Both were invited to be part of developing the manuscript.

RESULTS

Characteristics of research participants

Twenty two HCPs (of the 26 approached) took part in interviews. The interview sample represented a diverse range of professional roles, experience in current role, ethnicities and experience with DSME (Table 3). The sample worked within 11 different GP practices, both intermediate services, one hospital and a commissioning group.

Table 3. Participant characteristics

	HCP (n=22)
Age, <i>n</i> (%)	
18-24	1 (4.5)
25-34	3 (13.6)
35-44	7 (31.8)
45-54	6 (27.3)
55-64	4 (18.2)
65-74	1 (4.5)
Female, <i>n</i> (%)	16 (72.7)
Role, <i>n</i> (%)	
GP*	4 (18.2)
Nurse**	10 (45.5)
HCA	3 (13.6)
Reception/Admin	3 (13.6)
Practice manager	1 (4.5)
Commissioner	1 (4.5)
Ethnicity, <i>n</i> (%)	
White British	16 (72.7)
South Asian	3 (13.6)
Other	3 (13.6)
Attended DSME taster session, <i>n</i> (%)	15 (68.2)
Experience with online DSME, <i>n</i> (%)	13 (59.1%)
*includes GP partners and salaried GPs **includes practice nurses, diabetes specialist nurses and advanced nurse practitioners	

Coherence

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It was clear that all participants were aware of the 'party line' on the importance of the self-management approach for patients with T2DM and for health services and that this policy view had become normalised within practice as the accepted approach for managing patients with diabetes. HCPs were knowledgeable about the intended benefits and advantages of the self-management approach. The self-management approach was still viewed as fairly new, especially among HCPs who had been in their roles for many years, who viewed it as a new way of doing things. There was ambivalence in HCPs' descriptions about the value of this approach for certain patient groups. Some HCPs contested the value of self-management for patients such as those with mental health problems, learning difficulties, no or low education and/or health literacy, with HCPs suggesting that they should retain a duty of care for these patients.

"you still have to, if you like, retain responsibility as a professional a bit more for some of these hard to reach people... it's important not to throw the baby out with the bathwater, and say, oh, diabetes is all about the patients' responsibility" (#11: Female GP Partner)

In terms of DSME more specifically, although all HCPs were aware that there were DSME options to refer patients to, there was less coherence about what these were and what they entailed. Awareness was polarised between those who had attended or taught on a DSME course and those who had not. For those who had no personal experience with DSME many reported gaining their knowledge about what DSME consisted of and its value from patients who had attended.

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3 *"I haven't been to one, but from what patients have told me... I think they*
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5 *do...lifestyle changes" (#4: Female Practice Nurse)*
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10 Because the online DSME was a new initiative being implemented within the service,
11 awareness about it among HCPs was high. The value of group-based and online
12 DSME were often presented in contrast to one another with the strength of one being
13 the weakness of the other. For example, group-based education was seen as
14 particularly beneficial in terms of the social and peer support that patients could gain
15 from learning with other people with diabetes. Online DSME was presented as most
16 beneficial for those people who would have difficulty in attending group-based DSME
17 due to other commitments (work, caring responsibilities), those who disliked groups
18 and, those who had different learning styles (i.e. preferred to learn at their own pace
19 and revisit information).
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35 **Cognitive participation**

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37 Uncertainties over the legitimacy and value of self-management for some patients
38 clearly impacted on HCPs' willingness to promote this approach to all. HCPs
39 described impotence in trying to engage patients with self-management when faced
40 with resistance from patients or when patients were not fulfilling the roles that self-
41 management placed on them.
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51 *"if people don't want to make changes there is little that we can do. We can't*
52 *force people" (#16: Female Diabetes Specialist Nurse)*
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3 Some HCPs expressed the view that patients should take more responsibility for
4 their own care and that it was not a legitimate part of professionals' role to always be
5 chasing patients to do things.
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12 *"I think they need to take more responsibility; quite often they don't turn up for*
13 *their follow ups and, sort of, monitoring."* (#4: **Female Practice Nurse**)
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19 HCPs presented evidence of a tension when discussing benefits of self-management
20 education. Often the benefit was framed in terms of being able to provide patients
21 with education that they didn't have the time to provide themselves due to a lack of
22 resources and competing demands. However, there was the sense that, in an ideal
23 world they would have preferred to keep the imparting of knowledge as part of their
24 role and were frustrated that time pressures did not allow this. This gave rise to a
25 sense of loss of control in terms of providing all the care needed for a patient. In
26 some cases however, HCPs described holding onto this for certain patients for
27 whom they did not feel self-management was appropriate.
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42 *"you don't have enough time, one-to-one, to do the information giving, which*
43 *you do need to do and the self-management support. And so you can see*
44 *that when people go on programmes, they come back so much better*
45 *informed...So there's a bit of a frustration when you see people one-on-one."*
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51 **(#2 Female Diabetes Specialist Nurse)**
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56 **Collective action**

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3 The role of many HCPs in promoting attendance was limited to providing a referral.
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5 There was little evidence that HCPs generally perceived their role to extend beyond
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7 this.
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12 *“We can only give them the form, I mean, there’s no... I can’t walk them up*
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14 *there”.* (**#6 Male GP Partner**)
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19 However, there were exceptions to this, and some HCPs, particularly those who had
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21 direct experience with DSME, described it as a core part of their work to engage
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23 patients with the idea of self-management and to attend DSME, even if patients were
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25 reluctant.
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30 *“I think that you have to chip chip away, build a relationship, you know, and try*
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32 *to gradually keep them onboard”* (**#11 Female GP Partner**)
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38 There was also a sense that relationships between HCPs within practices were
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40 important for how far self-management and DSME could be implemented. One nurse
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42 described how it had been particularly difficult to embed the concept of self-
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44 management within a practice where the lead GP didn’t buy into the idea of it; she
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46 spoke about having to try and embed the practices on her own, without support
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48 which made it difficult.
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53 *“I kind of have to hoe my own row. He’s not obstructive, but he’s got a very*
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55 *clear idea of what he thinks is important, and what isn’t. It’s not always easy.”*
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58 (**#20: Female Practice Nurse**)
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3 Other HCPs reported that they perceived resistance around putting a self-
4 management approach into action within their practice because of the increased
5 workload that this approach was perceived to create. There was frustration
6 expressed that the new emphasis on the self-management approach from the
7 service was creating many additional tasks which they were being asked to absorb
8 into an already overwhelming workload, without any tasks being removed. A paradox
9 arose whereby the ideal of patient self-management couldn't be achieved by patients
10 on their own and instead requires work on the part of the health professional, as
11 described by one GP:
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26 *“Yes, they would love their patients to self-manage so why don't they just go*
27 *off and do it, and the thought of starting digging actually creates much more*
28 *work... That's the other thing of, well, self-management takes time and we've*
29 *been asked to do lots and lots. So I'm being asked to do more...what are we*
30 *going to stop doing?” (#19: Male Salaried GP)*
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40 For group-based DSME, HCPs spoke of adhering to guidelines and giving referrals
41 to all newly diagnosed patients. This was despite nearly all HCPs describing patients
42 they did not think would benefit from attending.
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49 *“Not everyone will be suitable. I think I've had a couple of patients where they*
50 *would have liked to have taken a relative, and ... one lady who had*
51 *anxiety...she could only stay for the half-day.” (#9 Male GP Partner)*
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58 However, in terms of online DSME, HCPs were more able to implement their own
59 criteria for assessing who would be suitable to participate (presumably because this
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3 service was not incentivised at a practice level through the QoF, as group DSME
4 was) which resulted in referrals being withheld from patients for whom it was not
5 deemed appropriate.
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12 *“I normally say to them... do you feel comfortable..., using a computer?...If*
13 *they say, no, I'm not interested, then I don't take it any further.” (#8 Male*
14 *Receptionist/Administrator)*
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21 Although it was clear that self-management was the approach being promoted within
22 general practice, this was not always translated into action on the part of the
23 patients, who in many cases, in the opinion of HCPs, preferred care to remain in the
24 hands of the health professional, thus creating a tension between the approach
25 HCPs were expected to promote and the needs and preferences of patients.
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35 *“most of them they don't want to look at their blood results, they'd rather go*
36 *through it with us and that's probably just because that's what they're used*
37 *to.” (#4: Female Practice Nurse)*
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45 The work of encouraging patients to manage their condition was sometimes
46 described as frustrating or resulted in HCPs feeling that they were nagging patients.
47 Others described how this work forced them into roles that they were uncomfortable
48 with assuming, such as that of a detective.
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56 *“And so a lot of the time it's like being a detective ...you know that it's [poor*
57 *control] about something that they're doing at home that they're not sharing*
58 *with you” (#2: Female Diabetes Specialist Nurse)*
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6 Despite HCPs describing engaging in many different types of work to support patient
7 self-management, there were only a few examples of HCPs engaging in work to
8 encourage patients to take up offers of participating in education more specifically.
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10
11 GPs, although the ones who were often responsible for providing referrals to DSME,
12
13 were rarely the HCPs group to do the work of following up non-attenders. This often
14
15 fell to Health Care Assistants or reception staff who obtained information from the
16
17 courses or online intervention on patients who did not participate; they then followed
18
19 them up with additional offers via mail. Nurses also reported in engaging in some
20
21 discussions with patients about attendance.
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29 *“The doctors obviously offer it to the patients (DSME) ...if they’ve still not*
30 *signed up when I send out the result letters, I just put a little reminder in that*
31 *there is this website called Help Diabetes, so I sort of try and get as many*
32 *patients as we can.” (#13 Female Health Care Assistant)*
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40 **Reflexive monitoring**

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45 HCPs did not report in engaging regularly in any activities which would allow them to
46
47 reflect on DSME. There were no formal systems in place for monitoring patient
48
49 attendance. This appeared to be a haphazard process and varied by primary care
50
51 practice. Some HCPs were aware that monitoring did take place but were unaware
52
53 of any data relating to the number of patients who participated in education. Despite
54
55 this, HCPs did seem to be aware that the number of patients participating in
56
57 education was low.
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3 *"I don't know what the uptake figures are like. I would imagine not very good."*

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6 **(#6 Male GP Partner)**
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10 They also reflected on this and suggested ways in which participation could be
11 improved. The main way that HCPs thought they could engage more patients with
12 DSME was by being able to offer different formats of DSME. It was widely
13 acknowledged that no one approach would be suitable for all patients and therefore
14 it was a real strength for these boroughs having alternatives to group DSME
15 available (such as the online DSME).
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26 *"I think if you're going to do self-management courses you have to have a*
27 *menu of options, because there's nothing, you know, one size doesn't fit all so*
28 *there's no way that everybody's going to want to do (group DSME)."* (#3 Male
29 **Commissioner)**
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38 HCPs discussed several strategies that could improve patient uptake of DSME.
39 Several HCPs mentioned that patients should be able to attend group-based DSME
40 directly after diagnosis, otherwise there is the risk, if patients have to join waiting
41 lists, that they lose the impetus. Others recognised the role of HCPs in promoting
42 available education and suggested that, to get patients more engaged, HCPs have
43 to become more engaged.
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54 *"it's how the referrer is selling it, whether is he only selling it, or the GPs who*
55 *are selling any form of structured education. If they're not explaining and all*
56 *they've done is tick a box referral, then that's when the patients don't turn up."*
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(#22: Female, Diabetes Specialist Nurse)

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5 Advertising DSME in the community was suggested as a way to raise patient
6 awareness of education. Suggestions for locations for this included: pharmacies,
7
8 older adult centres, supermarkets, TV, national newspapers and libraries. For the
9
10 online education specifically, HCPs thought that this could be advertised more widely
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12 using other online resources. There were also several suggestions that group-based
13
14 and online education should advertise each other.
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22 *“if it’s in the news or kind of just like an advert on TV or something it just kind*
23
24 *of brings it to the attention of someone to think...it’s kind of...got like a seal of*
25
26 *approval...if you’re told something just by one person you think well, no one*
27
28 *else has told me” (#18: Female Receptionist/Administrator)*
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33 HCPs were concerned that neither group nor online DSME were available in
34
35 languages other than English, which excluded many patients who did not have
36
37 English as a first language (although diabetes education DVDs were available in
38
39 other languages). The timing and commitment required to attend the group-based
40
41 courses were mentioned by many HCPs; it was suggested that running the courses
42
43 at weekends or evenings could make it easier for more patients to attend. A few
44
45 HCPs reported that patients might find it helpful to take a friend or relative to group
46
47 education for support. Some HCPs suggested that more feedback from patients who
48
49 had taken part in group or online DSME would help them to promote these services
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51 to other patients.
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3 *“it would be interesting to know... how they find it, and then I could say to*
4 *other patients, well, actually patients have found this really helpful, you know.”*

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7 **(#5: Female Health Care Assistant)**
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10 11 12 13 14 **DISCUSSION**

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19 The study findings suggest that HCPs views towards self-management as a way of
20 managing T2DM are ambiguous. Self-management had become the dominant
21 approach for managing patients with diabetes in the study boroughs; this was
22 described as arising out of necessity as opposed to investment by HCPs. Many
23 HCPs describe this approach as valuable in principle, although many were
24 concerned that for a proportion of patients, self-management is either clinically
25 inappropriate or insufficient to support effective behaviour change (low coherence).
26 There were also tensions about perceived responsibility for diabetes care. Several
27 HCPs wanted to retain responsibility of care for certain patients for whom they did
28 not feel self-management was appropriate. Other HCPs expressed frustration with
29 patients and believed patients should take on more responsibility for looking after
30 their diabetes. There was less evidence of HCPs believing that engaging patients
31 with DSME more specifically was a legitimate part of their role (low cognitive
32 participation). HCPs viewed their role as limited to providing referrals to this
33 education. As such there was little evidence of collective action around following up
34 referrals or checking that patients had attended DSME. A ‘care pathway’ for patients
35 to attend education was not evident, and there were no accounts of relationships
36 between primary care and the providers of DSME which are likely to be necessary to
37 increase patient participation. Lack of formal systems to monitor attendance also
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3 impacted on HCPs ability appraise DSME and likely impacted efforts to promote it to
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5 patients.
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10 This study adds to the existing evidence on the perceptions of HCPs towards DSME
11 and their role in patient engagement and attendance. Whereas previous studies
12 have reported that HCPs are very knowledgeable about DSME (22), this study found
13 varying degrees of knowledge. If HCPs are to take on responsibility for promoting
14 DSME to patients they must be aware of what it is and its potential benefits. The
15 HCPs in this study had concerns over the self-management paradigm more broadly,
16 which is consistent with other findings (2, 41, 42). This study found that despite the
17 current focus on patient self-management by policy makers, HCPs believe there are
18 certain patients for whom this approach to diabetes care is not deemed suitable.
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33 Using Normalisation Process Theory has provided a framework by which to explain
34 the findings from this study and has helped to develop implications and
35 recommendations. Because of an ambiguity towards the benefits of DSME by HCPs
36 (low coherence), providing HCPs with opportunities to gain personal experience with
37 DSME, for example through a 'taster session' or more education for HCPs by
38 providers, is likely to increase coherence and perceived value. There was little
39 evidence of collective action between HCPs and providers of DSME in promoting
40 patient attendance. Future research could focus on establishing a better pathway
41 between those providing group DSME and the HCPs recommending it and
42 incorporating DSME into routine practice by for example, practice based events and
43 training. This could increase opportunities for HCPs to offer additional sessions to
44 patients who did not attend, or offer alternative formats of education (e.g. online). In
45 addition, providing HCPs with feedback from DSME graduates might provide more
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3 opportunities for HCPs to appraise DSME and be useful for HCP promotion to other
4 patients, and for their own perceptions of the benefit.
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10 The strengths of this study include the wide range of HCPs interviewed including
11 GPs, nurses, commissioners, health care assistants and administrative staff, with
12 varying degrees of knowledge and experience of DSME. However, the sample was
13 limited to HCPs within two London boroughs, and therefore their views and the range
14 of services available to patients may not generalise more widely, especially as these
15 boroughs are particularly diverse in terms of ethnicity, culture and socioeconomic
16 status. It is also important to note that three members of the steering group for this
17 study worked within these boroughs at the time and this may have resulted in a
18 social desirability bias in responses.
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39 of the National Health Service, the NIHR, or the Department of Health.
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49 **COMPETING INTERESTS**

50
51 EM is the managing director of HeLP Digital, a not-for-profit Community Interest
52 Company that disseminates digital health interventions to the NHS. She has not, and
53 will not, receive any remuneration for this work.
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3 KP has worked with HeLP Digital, a not-for-profit Community Interest Company that
4 disseminates digital health interventions to the NHS. He has not, and will not, receive
5 any remuneration for this work.
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12 No other conflicts are declared.
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16 **AUTHORS' CONTRIBUTIONS**

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19
20 JR, FS, CD, KP, CM, SM. LY, and EM all contributed to the design and analysis of
21 the study. JR undertook data collection. JR wrote the first draft of the paper; all
22 authors commented on this draft and approved the final version.
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31 **DATA SHARING STATEMENT**

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33 No data are available as we do not have consent from the participants.
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39 **ETHICS APPROVAL AND CONSENT TO PARTICIPATE**

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42 Ethical approval was gained from NRES COMMITTEE EAST MIDLANDS –
43 LEICESTER. Informed consent to participate in the study was obtained from all
44 participants.
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60

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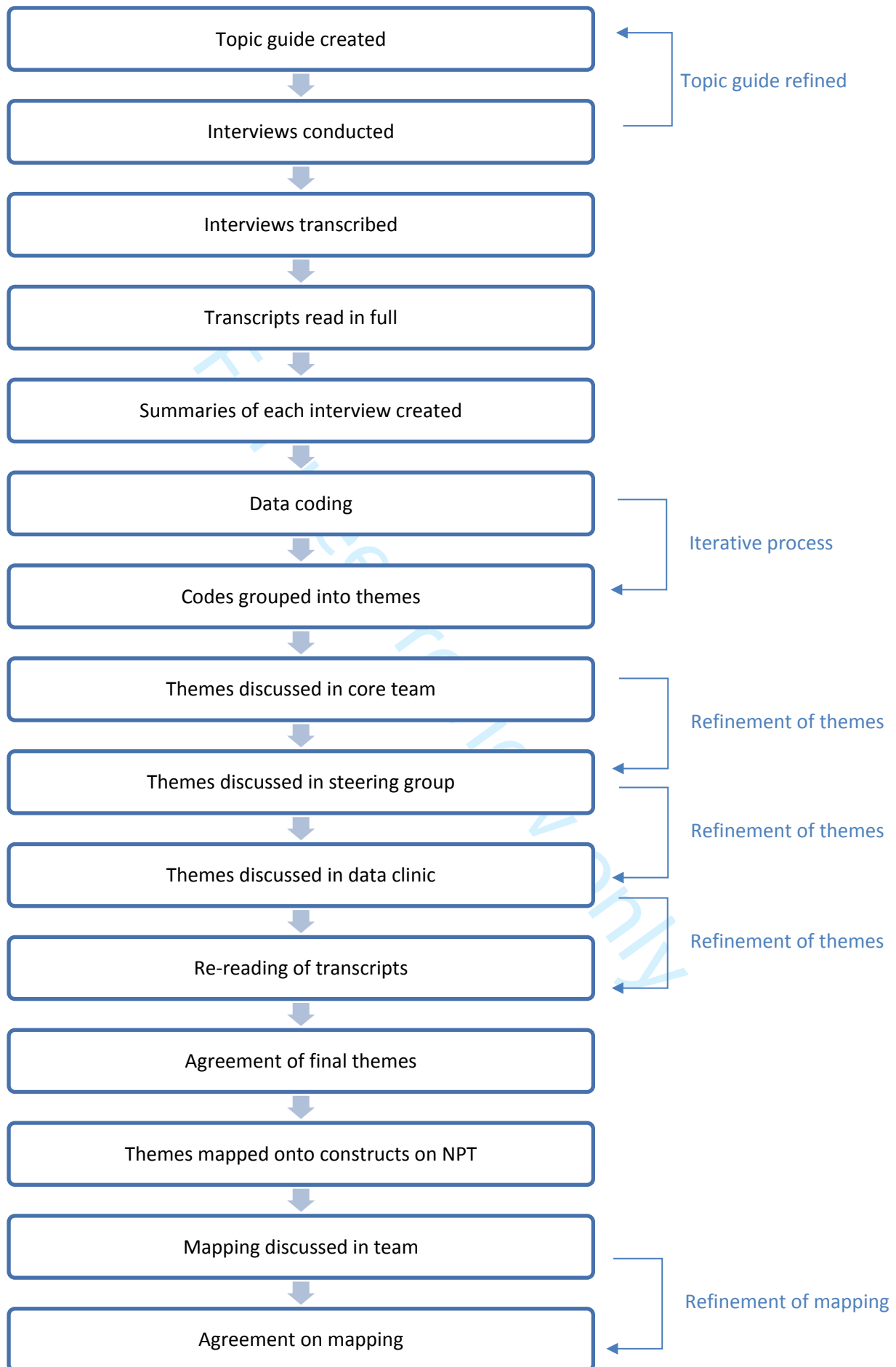
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For peer review only

Figure 1. Process of data analysis



COREQ (COnsolidated criteria for REporting Qualitative research) Checklist

A checklist of items that should be included in reports of qualitative research. You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

Topic	Item No.	Guide Questions/Description	Reported on Page No.
Domain 1: Research team and reflexivity			
<i>Personal characteristics</i>			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	
Credentials	2	What were the researcher's credentials? E.g. PhD, MD	
Occupation	3	What was their occupation at the time of the study?	
Gender	4	Was the researcher male or female?	
Experience and training	5	What experience or training did the researcher have?	
<i>Relationship with participants</i>			
Relationship established	6	Was a relationship established prior to study commencement?	
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	
Interviewer characteristics	8	What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	
Domain 2: Study design			
<i>Theoretical framework</i>			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	
<i>Participant selection</i>			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	
Sample size	12	How many participants were in the study?	
Non-participation	13	How many people refused to participate or dropped out? Reasons?	
<i>Setting</i>			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	
<i>Data collection</i>			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	
Repeat interviews	18	Were repeat interviews carried out? If yes, how many?	
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	
Field notes	20	Were field notes made during and/or after the interview or focus group?	
Duration	21	What was the duration of the interviews or focus group?	
Data saturation	22	Was data saturation discussed?	
Transcripts returned	23	Were transcripts returned to participants for comment and/or	

Topic	Item No.	Guide Questions/Description	Reported on Page No.
		correction?	
Domain 3: analysis and findings			
<i>Data analysis</i>			
Number of data coders	24	How many data coders coded the data?	
Description of the coding tree	25	Did authors provide a description of the coding tree?	
Derivation of themes	26	Were themes identified in advance or derived from the data?	
Software	27	What software, if applicable, was used to manage the data?	
Participant checking	28	Did participants provide feedback on the findings?	
<i>Reporting</i>			
Quotations presented	29	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	
Data and findings consistent	30	Was there consistency between the data presented and the findings?	
Clarity of major themes	31	Were major themes clearly presented in the findings?	
Clarity of minor themes	32	Is there a description of diverse cases or discussion of minor themes?	

Developed from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

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Health care professionals' views towards self-management and self-management education for people with type 2 diabetes

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TITLE:

Health care professionals' views towards self-management and self-management education for people with type 2 diabetes

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ABSTRACT

Objectives: Significant problems with patients engaging with Diabetes Self-Management Education (DSME) exist. The role of healthcare professionals (HCPs) has been highlighted, with a lack of enthusiasm, inadequate information provision and poor promotion of available programmes all cited as affecting patients' decisions to attend. However, little is known about HCP views towards DSME. This study investigates the views of HCPs towards self-management generally and self-management in the context of DSME more specifically.

Design: A qualitative study using semi-structured interviews to investigate HCPs views of type 2 diabetes self-management and DSME. Data were analysed thematically and emergent themes were mapped on to the constructs of Normalization Process Theory (NPT).

Setting: Two boroughs in London, UK.

Participants: Sampling was purposive to recruit a diverse range of professional roles including GPs, practice nurses, diabetes specialist nurses, health care assistants, receptionists and commissioners of care.

Results:

Interviews were conducted with twenty two participants. The NPT analysis demonstrated that whilst a self-management approach to diabetes care was viewed by HCPs as necessary and, in principle, valuable, the reality is much more complex. HCPs expressed ambivalence about pushing certain patients into self-managing, preferring to retain responsibility. There was a lack of awareness amongst HCPs about the content of DSME and benefits to patients. Commitment to and

1
2
3 engagement with DSME was tempered by concerns about suitability for some
4 patients There was little evidence of communication between providers of group-
5 based DSME and HCPs or of HCPs engaging in work to follow up non-attenders.
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12 **Conclusions:** HCPs have concerns about the appropriateness of DSME for all
13 patients and discussed challenges to engaging with and performing the tasks
14 required to embed the approach within practice. DSME, as a means of supporting
15 self-management, was considered important in theory, but there was little evidence
16 of HCPs seeing their role as extending beyond providing referrals.
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28 **ARTICLE SUMMARY**

29 **Strengths and limitations of this study**

- 30
31 • One of the first studies to explore HCP views towards type 2 DSME in routine
32 practice
- 33
34 • A wide range of HCPs were interviewed including GPs, nurses,
35 commissioners, health care assistants and administrative staff
- 36
37 • Participants had varying degrees of prior knowledge and experience of DSME
- 38
39 • A theoretical framework Normalization Process Theory was used to analyse
40 the findings
- 41
42 • The sample was limited to HCPs within two London boroughs
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INTRODUCTION

Self-management has been characterised as a key feature of contemporary health care systems (1). Supporting self-management by patients with chronic conditions is now an accepted and important part of reducing disease burden and health service use associated with chronic disease in many countries (2, 3). For diabetes, self-management education (DSME) offers strategies to offset the challenges that providers face in delivering chronic disease care, whilst also improving outcomes for patients (4). Globally, however, there are serious problems with patients with diabetes participating in DSME. Research from the UK (5-7), USA (8), Mexico (9), Germany (10), France (9), Italy (9), India (11), Russia (9), Algeria (9), Turkey (9), China (9) and Canada (12) report low rates of patient attendance (13). In the UK, DSME is recommended for people with type 2 diabetes (T2DM) (14) and primary care services (GP practices) are financially incentivised to refer patients to available programmes (15). However, data from the UK's National Audit Office survey suggests that in 2015 only 8.2% of patients with T2DM attended DSME (16). Poor attendance rates are a major concern given that high quality DSME can have positive effects on quality of life and health outcomes (17-20) and that patients who do not attend any form of diabetes educational intervention are at a fourfold increased risk of developing complications (21).

In the UK, problems previously existed with health professionals not referring patients to structured education. However referrals to DSME were made a Quality and Outcomes Framework (QOF) Indicator incentive (providing payment incentives to GP practices for referral) in 2013/4 (22). This increased rates of referral from 15.9% in 2012/13 to 75.8% in 2014/15. However, the rate of patient uptake

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3 remained low, only increasing from 3.6% in 2012-13 to 5.3% in 2014-15 (23),
4
5 representing a problem with translating the referrals into attendance.
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8 Research on reasons for non-attendance at DSME suggests there are factors which
9
10 relate to patients being unable to attend (for example, because of accessibility
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12 issues, physical health problems and financial problems) and others that relate to
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14 patients choosing not to attend (for example, because of a lack of perceived benefit,
15
16 knowledge or information or because of emotional and cultural factors) (6). A number
17
18 of strategies are suggested to overcome barriers identified by patients, including the
19
20 provision of more culturally specific education (24), the use of alternative methods of
21
22 delivery, such as online (17) and better promotion of education by health
23
24 professionals (6, 24). The role of health care professionals (HCPs) as pivotal in
25
26 patient decisions to attend DSME has been highlighted, with a lack of enthusiasm,
27
28 inadequate information provision and poor promotion of available programmes by
29
30 HCPs all cited as affecting patients' decisions to attend DSME (6, 7, 11, 12, 25, 26),
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33 Research has also found variation in terms of HCPs' level of knowledge about
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35 diabetes education (24) which is potentially important given the important role they
36
37 play in encouraging patients to attend.
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45 Despite HCPs potentially playing a key role in integrating DSME into routine care
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47 delivery (4) and promoting self-management (27), there is little research into the
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49 views of HCPs towards DSME. One paper exploring HCPs' views towards group-
50
51 based DSME focused largely on practice nurses who were knowledgeable about
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53 DSME having either been educators, or attended a taster session of group-based
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55 DSME (24). These practice nurses viewed DSME favourably, particularly the group
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57 mode of delivery, reporting that it improved patient interactions saving HCPs' time
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59 and improved patient outcomes. However, they also reported that DSME wasn't
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3 accessible to those with literacy problems, older people and those who worked or
4 had young children. Other research suggests that HCPs may be ambivalent about
5 the importance and benefits of self-management support programmes for chronic
6 illnesses, and are concerned about sharing responsibility for disease management
7 with other professional educators or even patients themselves (27). It has also been
8 suggested that if HCPs perceive these self-management programmes to be
9 ineffective or inaccessible for their patients they may be less likely to employ these
10 resources for their patients (4). Furthermore there has been little research into HCPs'
11 views on alternative forms of DSME such as online (28).
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26 The aim of the current study was to explore the views of HCPs towards a self-
27 management approach to diabetes care for patients with T2DM within two socially
28 and economically diverse settings in London, UK. Additionally, we aimed to explore
29 HCPs views towards the diabetes education programmes available to patients with
30 T2DM within these settings.
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40 **METHODS**

41 **Design**

42 This qualitative cross-sectional study used semi-structured interviews with HCPs
43 working in English primary care, secondary care and intermediate care services that
44 served patients with T2DM from two inner city boroughs in North London.
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56 This research took place in the context of a wider programme of work to develop,
57 evaluate and implement a digital self-management programme for people with type 2
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3 diabetes (HeLP-Diabetes). The research team conducted the interviews in this study
4
5 as part of the HeLP-Diabetes implementation study (see (29, 30) for more details).
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10 **Setting**

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12 The setting was two densely populated urban boroughs in inner city London which
13
14 were multi-ethnic and socially and economically diverse. The first borough has a
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16 population of 231,200 (based on 2017 estimates), with over a third born abroad and
17
18 just under a half having a language other than English as their first language. The
19
20 average household income (median modelled and 2012/3 figures) is £54,950
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22 (England average £30,763). Just less than 5 percent of this population are
23
24 unemployed and have no educational qualifications. One third of children are
25
26 reportedly living in poverty. For people aged 17+, 5.0% have diabetes. The second
27
28 borough has a population of 242,500 people (based on 2017 estimates), just under
29
30 half of whom were born abroad and have a language other than English as their first
31
32 language. The average household income (median modelled and 2012/3 figures) is
33
34 £67,990 (England average £30,763). Four percent of the borough is unemployed
35
36 and just under two percent of working age adults have no educational qualifications.
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38 A third of children are reportedly living in poverty. For people aged 17+, 3.9% have
39
40 diabetes (31).
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49 At the time of the study there were four types of free education for people with T2DM
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51 provided in the boroughs (see table 1). ; Diabetes Education and Self- Management
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53 for Ongoing and Newly Diagnosed (DESMOND) (19), the Diabetes Self-
54
55 Management Programme (previously referred to as Co-Creating Health) (32), the
56
57 X-PERT Programme (33), and Healthy Living for People with T2DM (HeLP-
58
59 Diabetes). HeLP-Diabetes is an online T2DM self-management programme which
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had been introduced to these boroughs by this research team as part of a wider programme grant of research (34) and was much newer in the boroughs than the other forms of DSME.

Table 1. Diabetes education available in the two boroughs

Name	Delivery	Ethos	Duration	Target population	Access
HeLP-Diabetes	Online	Online tool for adults with type 2 diabetes to learn knowledge and skills to manage their condition. The programme takes a holistic view of self-management and addresses a wide range of patient needs including medical management, emotional management and role management (such as adapting lifestyle or life roles).	Available 24/7 for as long as patient wants.	Type 2 diabetes	Referrals are made via health professional or self-referral.
DESMOND	Face-to-face group based	The programme teaches patients about diabetes and provides lifestyle advice so that they are better able to self-manage their condition.	One day	Type 2 diabetes	Referrals are made via health professional
Diabetes Self-Management Programme	Face-to-face group based	Aims to help participants strengthen their health-related behaviours. It does this by developing health literacy, building appreciation of	Runs over 7 weekly sessions, lasting three hours per session	Diabetes (Type 1 and 2)	Referrals are made via health professional

		peer support, developing collaborative decision-making skills and building knowledge of self-management techniques as well as participants' skills and confidence to use these techniques			
X-PERT Programme	Face-to-face group based	Aims to help patients cope with their health condition and improve their quality of life by learning new skills to manage their condition on a daily basis.	Six-week course. Each weekly session lasts two and a half hours.	Adults with one or more long-term health conditions (including diabetes). The course is also available for carers.	Self-referral or via health professional

In primary care settings, GPs have overall responsibility for the care and treatment of people with T2DM and provide referrals to specialist diabetes care. Diabetes specialist nurses are nurses with specialist knowledge of diabetes, providing support and advice and are often responsible for organising access to other specialists. They are usually based in secondary and tertiary care services. Practice nurses work in GP practices or diabetes clinics and assist with diabetes care. These three professional groups are the ones most likely to provide patients with referrals to DSME. Health Care Assistants work in GP practices and support patients with diabetes. In the two boroughs in this study HCAs are trained in conducting T2DM self-management appointments with patients undertaking tasks such as assisting goal setting and action planning at diabetes reviews. Administrative staff and practice managers are mainly responsible for clerical

1
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3 tasks, however, with the introduction of HeLP-Diabetes in the boroughs, these
4
5 staff were undertaking roles with patients such as registering patients to use
6
7 the online education, assisting patients in accessing diabetes related content
8
9 and chasing up referrals to use the programme. Commissioning officers are
10
11 responsible for decisions around commissioning diabetes services, including
12
13 DSME and evaluating them. They also provide support to implement
14
15 commissioned services and engage staff in delivering them.
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22 **Sample**

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24 Sampling for HCPs interviews was purposive to capture the views from a range of
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26 HCPs working across the boroughs providing care to T2DM patients. T2DM care
27
28 was provided in primary care (37 GP practices in borough 1 and 32 GP practices in
29
30 borough 2), community care (an intermediate diabetes service in each borough), and
31
32 secondary care (three hospital trusts, two serving mainly patients from borough 1
33
34 and one serving patients mainly from borough 2). Twenty six GPs, nurses, health
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36 care assistants, administrative staff, practice managers, and commissioners were
37
38 contacted via email and invited to take part in an interview throughout the duration of
39
40 the study period (between July 2013 and August 2015).
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46 **Data collection**

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48 Topic guides were developed with reference to previous research on self-
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50 management and DSME, with input from the wider project multidisciplinary steering
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52 group and were informed by a theory of implementation (Normalisation Process
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54 Theory, NPT) (35, 36).
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3 NPT is widely used in process evaluations of innovations in healthcare organisation
4 and delivery (37, 38). It focuses on the 'work' of implementation. This is represented
5
6 by four constructs: Coherence: *what is the work that people do to understand and*
7
8 *make sense of a practice*; Cognitive participation: *what is the work that people do to*
9
10 *engage and support a new practice*; Collective action: *what is the work that people*
11
12 *do to enact a new practice, and make it workable and integrate it in its context*; and
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14 Reflexive monitoring: *what is the work that people do to reflect on and evaluate*
15
16 *enacting a new practice in context*.
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24 The topic guide was piloted with a member of the study team who was also a GP
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26 (this interview was excluded from the analysis). All interviews were semi-structured
27
28 and conducted face-to-face by the same researcher (JR) who is an experienced
29
30 female qualitative researcher who had worked in the boroughs implementing HeLP-
31
32 Diabetes. All interview participants had been contacted before the day of interview
33
34 to discuss the research and all participants provided informed consent. Most
35
36 participants had met the researcher prior to the interviews in her role implementing
37
38 HeLP-Diabetes and were aware of the research objectives of the wider programme
39
40 grant (34). All interviews were conducted in the HCPs' consultation rooms, or at the
41
42 researcher's University (dependent on participant preference) and lasted between 30
43
44 minutes and an hour. Interviews were audio recorded and the researcher made field
45
46 notes following each interview. Interviews continued until no new themes were
47
48 apparent and thus representing data saturation (as described by (39, 40)).
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55 **Data analysis**

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57 Data collection and analysis were conducted concurrently, with analysis starting as
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59 soon as interviews were transcribed. Corrected and anonymised transcripts were
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3 loaded into Nvivo 10 software (41) ready for coding. Although NPT had been used to
4
5 inform the topic guide and ensure data on the relevant issues were collected, an
6
7 inductive approach to analysis was employed to ensure the issues participants
8
9 judged to be important were captured, as opposed to constraining their answers to
10
11 the categories in NPT. This approach was also taken in analysis where initially an
12
13 inductive approach to analysis was taken to capture responses, followed later by
14
15 mapping the analysis onto the constructs of NPT (see Figure 1 for the process of
16
17 analysis). Firstly, each transcript was read by JR and summaries of the main themes
18
19 and impressions from each transcript were created to generate a feeling for each of
20
21 the interviews and as a quick reference point for each interview. The themes that
22
23 were identified in this initial analysis were discussed within the core team (*names
24
25 removed for review purposes*). To obtain other interpretations of the data from a
26
27 range of perspectives these themes were presented to the project's multidisciplinary
28
29 steering group where the themes were discussed and refined. In addition to the
30
31 steering group, a data clinic was held to explore the rigour and reliability of the
32
33 themes from the initial analysis. Eight qualitative researchers from a range of
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35 disciplines (health services research, sociology, psychology and epidemiology)
36
37 attended the data clinic and themes were discussed and refined and new themes
38
39 were considered. Following the data clinic, all interview transcripts were re-read and
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41 recoded where appropriate; the themes were refined and additional ones created
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43 until a final set of themes emerged that were agreed upon by all co-authors.
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54 After agreement on themes had been reached, it was clear that the data resonated
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56 strongly with the constructs of NPT. In a second step to the analysis, themes were
57
58 mapped onto constructs of NPT (Coherence, Cognitive Participation, Collective
59
60 Action and Reflexive Monitoring) (See table 2). This required the researchers to re-

read data within the themes and allocate the themes to appropriate constructs. This sometimes meant that the data coded under one theme was categorised into two or three different constructs. All themes could be applied to at least one construct. This approach has been used successfully in other research (e.g., (38, 42-45)) and provided confidence that the themes were data driven (although it is acknowledged that the use of the NPT to develop interview topic guides is likely to have affected the data collected), and meant that the robustness of NPT in explaining the data could be tested against the themes during this mapping process. The findings are presented within the NPT framework, together with illustrative quotations.

Table .2. Mapping themes onto constructs of NPT

Themes	Description of the theme	Construct of NPT
Perceptions of self-management	HCPs describe their views of the self-management approach to diabetes care being promoted within the service	Coherence
Barriers and facilitators to the self-management approach to diabetes	The difficulties to implementing a self-management approach with patients and the benefits of the approach	Coherence; Cognitive Participation; Collective Action; Reflexive Monitoring
HCPs and patient interactions	The way that HCPs and patient interactions are affected by self-management and DSME	Collective Action
Perceptions of current DSME	HCPs views on group-based and online DSME	Coherence
HCPs role in promoting self-management and DSME	HCPs views about the extent and limitations of their roles in supporting patients to self-management and participate in DSME	Coherence Cognitive Participation; Collective Action
Improving uptake of DSME	HCPs views on how patient participation in DSME could be increased	Reflexive Monitoring

Patient and public involvement (PPI)

The wider programme grant, of which this study formed part of one work package, had significant PPI input (both health professionals working in diabetes care and patients with T2DM) throughout (please see (46) for details). For this study specifically, two PPI representatives advised on the topic guide development and interpretation of findings. Both were invited to be part of developing the manuscript.

RESULTS

Characteristics of research participants

Twenty two HCPs (of the 26 approached) took part in interviews, 4 HCPs did not respond to email requests to participate. The interview sample represented a diverse range of professional roles, experience in current role, ethnicities and experience with DSME (Table 3). The sample worked within 11 different GP practices, both intermediate services, one hospital and a commissioning group.

Table 3. Participant characteristics

	HCP (n=22)
Age, <i>n</i> (%)	
18-24	1 (4.5)
25-34	3 (13.6)
35-44	7 (31.8)
45-54	6 (27.3)
55-64	4 (18.2)
65-74	1 (4.5)
Female, <i>n</i> (%)	16 (72.7)
Role, <i>n</i> (%)	
GP*	4 (18.2)
Nurse**	10 (45.5)

HCA	3 (13.6)
Reception/Admin	3 (13.6)
Practice manager	1 (4.5)
Commissioner	1 (4.5)
Ethnicity, <i>n</i> (%)	
White British	16 (72.7)
South Asian	3 (13.6)
Other	3 (13.6)
Attended DSME taster session, <i>n</i> (%)	15 (68.2)
Experience with online DSME, <i>n</i> (%)	13 (59.1%)
*includes GP partners and salaried GPs **includes practice nurses, diabetes specialist nurses and advanced nurse practitioners	

Coherence

It was clear that all participants were aware of the 'party line' on the importance of the self-management approach for patients with T2DM and for health services and that this policy view had become normalised within practice as the accepted approach for managing patients with T2DM. HCPs were knowledgeable about the intended benefits and advantages of the self-management approach. The self-management approach was still viewed as fairly new, especially among HCPs who had been in their roles for many years, who viewed it as a new way of doing things. There was ambivalence in HCPs' descriptions about the value of this approach for certain patient groups. Some HCPs contested the value of self-management for patients such as those with mental health problems, learning difficulties, no or low education and/or health literacy, with HCPs suggesting that they should retain a duty of care for these patients.

"you still have to, if you like, retain responsibility as a professional a bit more for some of these hard to reach people... it's important not to throw the baby out with the bathwater, and say, oh, diabetes is all about the patients"

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2
3 *responsibility” (#11: Female GP Partner. 17 years in role, experience of*
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5 **DSME taster session and online DSME)**
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10 In terms of DSME more specifically, although all HCPs were aware that there were
11 DSME options to refer patients to, there was less coherence about what these were
12 and what they entailed. Awareness was polarised between those who had attended
13 or taught on a DSME course and those who had not. For those who had no personal
14 experience with DSME many reported gaining their knowledge about what DSME
15 consisted of and its value from patients who had attended.
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26 *“I haven’t been to one, but from what patients have told me... I think they*
27 *do...lifestyle changes” (#4: Female Practice Nurse, 2 years in role, no*
28 **experience of DSME taster session, experience of online DSME)**
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35 Because the online DSME was a new initiative being implemented within the service,
36 awareness about it among HCPs was high. The value of group-based and online
37 DSME were often presented in contrast to one another with the strength of one being
38 the weakness of the other. For example, group-based education was seen as
39 particularly beneficial in terms of the social and peer support that patients could gain
40 from learning with other people with T2DM. Online DSME was presented as most
41 beneficial for those people who would have difficulty in attending group-based DSME
42 due to other commitments (work, caring responsibilities), those who disliked groups
43 and, those who had different learning styles (i.e. preferred to learn at their own pace
44 and revisit information).
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Cognitive participation

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3 Uncertainties over the legitimacy and value of self-management for some patients
4 clearly impacted on HCPs' willingness to promote this approach to all. HCPs
5
6 described impotence in trying to engage patients with self-management when faced
7
8 with resistance from patients or when patients were not fulfilling the roles that self-
9
10 management placed on them.
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17 *"if people don't want to make changes there is little that we can do. We can't*
18 *force people"* (#16: **Female Diabetes Specialist Nurse, 1 year in role,**
19 **experience of DSME taster session, no experience of online DSME)**
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26 Some HCPs expressed the view that patients should take more responsibility for
27
28 their own care and that it was not a legitimate part of professionals' role to always be
29
30 chasing patients to do things.
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35 *"I think they need to take more responsibility; quite often they don't turn up for*
36 *their follow ups and, sort of, monitoring."*
37
38 (#4: **Female Practice Nurse, 2 years in role, no experience of DSME**
39 **taster session, experience of online DSME)**
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49 HCPs presented evidence of a tension when discussing benefits of self-management
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51 education. Often the benefit was framed in terms of being able to provide patients
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53 with education that they didn't have the time to provide themselves due to a lack of
54
55 resources and competing demands. However, there was the sense that, in an ideal
56
57 world they would have preferred to keep the imparting of knowledge as part of their
58
59 role and were frustrated that time pressures did not allow this. This gave rise to a
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3 sense of loss of control in terms of providing all the care needed for a patient. In
4
5 some cases however (as described in cognitive participation), HCPs described
6
7 holding onto this for certain patients for whom they did not feel self-management was
8
9 appropriate.
10

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14
15 *“you don’t have enough time, one-to-one, to do the information giving, which*
16
17 *you do need to do and the self-management support. And so you can see*
18
19 *that when people go on programmes, they come back so much better*
20
21 *informed...So there’s a bit of a frustration when you see people one-on-one.”*

22
23
24 ***(#2 Female Diabetes Specialist Nurse, 12 years in role, experience of***
25
26 ***DSME taster session, no experience of online DSME)***
27

30 31 **Collective action**

32
33 The role of many HCPs in promoting attendance was limited to providing a referral.

34
35 There was little evidence that HCPs generally perceived their role to extend beyond
36
37 this.
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41
42 *“We can only give them the form, I mean, there’s no... I can’t walk them up*
43
44 *there”. (#6 Male GP Partner, 3 years in role, no experience of DSME taster*
45
46 ***session or online DSME)***
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51 However, there were exceptions to this, and some HCPs, particularly those who had
52
53 direct experience with DSME, described it as a core part of their work to engage
54
55 patients with the idea of self-management and to attend DSME, even if patients were
56
57 reluctant.
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1
2
3 *"I think that you have to chip chip away, build a relationship, you know, and try*
4 *to gradually keep them onboard"*

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6
7 **(#11: Female GP Partner. 17 years in role, experience of DSME taster**
8 **session and online DSME)**
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16
17 There was also a sense that relationships between HCPs within practices were
18 important for how far self-management and DSME could be implemented. One nurse
19 described how it hadn't been easy to embed work to support patient self-
20 management within the practice. She had been trying to get her practice to agree to
21 take on the online DSME to support patients with self-management but had
22 experienced difficulty because the lead GP at the practice didn't buy into the idea of
23 it; she spoke about having to try and embed practices on her own, without support
24 which had made it not possible to implement the DSME..
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37 *"I kind of have to hoe my own row. He's not obstructive, but he's got a very*
38 *clear idea of what he thinks is important, and what isn't. It's not always easy."*

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41
42 **(#20: Female Practice Nurse, 17 years in role, experience of DSME taster**
43 **session, no experience of online DSME)**
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49 Other HCPs reported that they perceived resistance around putting a self-
50 management approach into action within their practice because of the increased
51 workload that this approach was perceived to create. There was frustration
52 expressed that the new emphasis on the self-management approach from the
53 service was creating many additional tasks which they were being asked to absorb
54 into an already overwhelming workload, without any tasks being removed. A paradox
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3 arose whereby the ideal of patient self-management couldn't be achieved by patients
4
5 on their own and instead requires work on the part of the health professional, as
6
7 described by one GP:
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10
11
12 *“Yes, they would love their patients to self-manage so why don't they just go*
13 *off and do it, and the thought of starting digging actually creates much more*
14 *work... That's the other thing of, well, self-management takes time and we've*
15 *been asked to do lots and lots. So I'm being asked to do more...what are we*
16 *going to stop doing?” (#19: Male Salaried GP, 1 year in role, experience of*
17 *DSME taster session and online DSME)*
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28 For group-based DSME, HCPs spoke of adhering to guidelines and giving referrals
29
30 to all newly diagnosed patients. This was despite nearly all HCPs describing patients
31
32 they did not think would benefit from attending.
33
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35
36
37

38 *“Not everyone will be suitable. I think I've had a couple of patients where they*
39 *would have liked to have taken a relative, and ... one lady who had*
40 *anxiety...she could only stay for the half-day.” (#9 Female, Practice Nurse, 4*
41 *years in role, experience of DSME taster session and online DSME).*
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49 However, in terms of online DSME, HCPs were more able to implement their own
50
51 criteria for assessing who would be suitable to participate (presumably because this
52
53 service was not incentivised at a practice level through the QoF, as group DSME
54
55 was) which resulted in referrals being withheld from patients for whom it was not
56
57 deemed appropriate.
58
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1
2
3 *"I normally say to them... do you feel comfortable.., using a computer?...If*
4 *they say, no, I'm not interested, then I don't take it any further."* (**#8 Male**
5 **Receptionist/Administrator, 1 year in role, no experience of DSME taster**
6 **session, experience of online DSME)**
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15 Although it was clear that self-management was the approach being promoted within
16 general practice, this was not always translated into action on the part of the
17 patients, who in many cases, in the opinion of HCPs, preferred care to remain in the
18 hands of the health professional, thus creating a tension between the approach
19 HCPs were expected to promote and the needs and preferences of patients.
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28 *"most of them they don't want to look at their blood results, they'd rather go*
29 *through it with us and that's probably just because that's what they're used*
30 *to."*
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35 (**#4: Female Practice Nurse, 2 years in role, no experience of DSME**
36 **taster session, experience of online DSME)**
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45 The work of encouraging patients to manage their condition was sometimes
46 described as frustrating or resulted in HCPs feeling that they were nagging patients.
47 Others described how this work forced them into roles that they were uncomfortable
48 with assuming, such as that of a detective.
49
50
51
52
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55

56 *"And so a lot of the time it's like being a detective ...you know that it's [poor*
57 *control] about something that they're doing at home that they're not sharing*
58 *with you"*
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2
3 **(#2 Female Diabetes Specialist Nurse, 12 years in role, experience of**
4 **DSME taster session, no experience of online DSME)**
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12 Despite HCPs describing engaging in many different types of work to support patient
13 self-management, there were only a few examples described of work to encourage
14 patients to take up offers of participating in education more specifically. GPs,
15 although the ones who were often responsible for providing referrals to DSME, were
16 rarely the HCPs group to do the work of following up non-attenders. This often fell to
17 Health Care Assistants or reception staff who obtained information from the courses
18 or online intervention on patients who did not participate; they then followed them up
19 with additional offers via mail. Nurses also reported in engaging in some discussions
20 with patients about attendance.
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35 *“The doctors obviously offer it to the patients (DSME) ...if they’ve still not*
36 *signed up when I send out the result letters, I just put a little reminder in that*
37 *there is this website called Help-Diabetes, so I sort of try and get as many*
38 *patients as we can.” (#7 Female Health Care Assistant, 9 years in role, no*
39 *experience of DSME taster session, experience of online DSME)*
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49 **Reflexive monitoring**

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54 HCPs did not report in engaging regularly in any activities which would allow them to
55 reflect on DSME. There were no formal systems in place for monitoring patient
56 attendance. This appeared to be a haphazard process and varied by primary care
57 practice. Some HCPs were aware that monitoring did take place but were unaware
58
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1
2
3 of any data relating to the number of patients who participated in education. Despite
4
5 this, HCPs did seem to be aware that the number of patients participating in
6
7 education was low.
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11
12 *"I don't know what the uptake figures are like. I would imagine not very good."*

13
14 **(#6 Male GP Partner, 3 years in role, no experience of DSME taster**
15
16 **session or online DSME)**
17
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23 They also reflected on this and suggested ways in which participation could be
24
25 improved. The main way that HCPs thought they could engage more patients with
26
27 DSME was by being able to offer different formats of DSME. It was widely
28
29 acknowledged that no one approach would be suitable for all patients and therefore
30
31 it was a real strength for these boroughs having alternatives to group DSME
32
33 available (such as the online DSME).
34
35
36
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39

40
41 *"I think if you're going to do self-management courses you have to have a*
42
43 *menu of options, because there's nothing, you know, one size doesn't fit all so*
44
45 *there's no way that everybody's going to want to do (group DSME)."* **(#3 Male**
46
47 **Commissioner, experience of DSME taster session, no experience of**
48
49 **online DSME)**
50
51

52
53 HCPs discussed several strategies that could improve patient uptake of DSME.
54
55 Several HCPs mentioned that patients should be able to attend group-based DSME
56
57 directly after diagnosis, otherwise there is the risk, if patients have to join waiting
58
59 lists, that they lose the impetus. Others recognised the role of HCPs in promoting
60

1
2
3 available education and suggested that, to get patients more engaged, HCPs have
4
5 to become more engaged.
6
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8
9

10 *“it’s how the referrer is selling it, whether is he only selling it, or the GPs who*
11 *are selling any form of structured education. If they’re not explaining and all*
12 *they’ve done is tick a box referral, then that’s when the patients don’t turn up.”*
13
14

15 **(#22: Female, Diabetes Specialist Nurse, 10 years in role, experience of**
16 **DSME taster session, no experience of online DSME)**
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24 Advertising DSME in the community was suggested as a way to raise patient
25 awareness of education. Suggestions for locations for this included: pharmacies,
26
27 older adult centres, supermarkets, TV, national newspapers and libraries. For the
28
29 online education specifically, HCPs thought that this could be advertised more widely
30
31 using other online resources. There were also several suggestions that group-based
32
33 and online education should advertise each other.
34
35
36
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39

40 *“if it’s in the news or kind of just like an advert on TV or something it just kind*
41 *of brings it to the attention of someone to think...it’s kind of...got like a seal of*
42 *approval...if you’re told something just by one person you think well, no one*
43 *else has told me” (#18: Female Receptionist/Administrator, 7 years in*
44 *role, no experience of DSME taster session or online DSME)*
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53
54 HCPs were concerned that neither group nor online DSME were available in
55
56 languages other than English, which excluded many patients who did not have
57
58 English as a first language (although T2DM education DVDs were available in other
59
60 languages). The timing and commitment required to attend the group-based courses

1
2
3 were mentioned by many HCPs; it was suggested that running the courses at
4
5 weekends or evenings could make it easier for more patients to attend. A few HCPs
6
7 reported that patients might find it helpful to take a friend or relative to group
8
9 education for support. Some HCPs suggested that more feedback from patients who
10
11 had taken part in group or online DSME would help them to promote these services
12
13 to other patients.
14
15

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17
18
19 *“it would be interesting to know... how they find it, and then I could say to other*
20
21 *patients, well, actually patients have found this really helpful, you know.” (#5:*

22
23 ***Female Health Care Assistant, 10 years in role, no experience of DSME taster***
24
25 ***session, experience of online DSME)***
26
27

28 29 30 **DISCUSSION**

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35 The study findings suggest that HCPs views towards self-management as a way of
36
37 managing T2DM are ambiguous. Self-management had become the dominant
38
39 approach for managing patients with T2DM in the study boroughs; this was
40
41 described as arising out of necessity as opposed to investment by HCPs. Many
42
43 HCPs describe this approach as valuable in principle, although many were
44
45 concerned that for a proportion of patients, self-management is either clinically
46
47 inappropriate or insufficient to support effective behaviour change (low coherence).
48
49

50
51 There were also tensions about perceived responsibility for T2DM care. Several
52
53 HCPs wanted to retain responsibility of care for certain patients for whom they did
54
55 not feel self-management was appropriate. Other HCPs expressed frustration with
56
57 patients and believed patients should take on more responsibility for looking after
58
59 their T2DM. There was less evidence of HCPs believing that engaging patients with
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1
2
3 DSME more specifically was a legitimate part of their role (low cognitive
4 participation). GPs viewed their role as limited to providing referrals to this education.
5
6 As such there was little evidence of collective action around following up referrals or
7
8 checking that patients had attended DSME. A 'care pathway' for patients to attend
9
10 education was not evident, and there were no accounts of relationships between
11
12 primary care and the providers of DSME which are likely to be necessary to increase
13
14 patient participation. Lack of formal systems to monitor attendance also impacted on
15
16 HCPs ability appraise DSME and likely impacted efforts to promote it to patients.
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24 This study adds to the existing evidence on the perceptions of HCPs towards DSME
25 and their role in patient engagement and attendance. Whereas previous studies
26
27 have reported that HCPs are very knowledgeable about DSME (24), this study found
28
29 varying degrees of knowledge. If HCPs are to take on responsibility for promoting
30
31 DSME to patients they must be aware of what it is and its potential benefits. The
32
33 HCPs in this study had concerns over the self-management paradigm more broadly,
34
35 which is consistent with other findings (2, 47, 48). This study found that despite the
36
37 current focus on patient self-management by policy makers, HCPs believe there are
38
39 certain patients for whom this approach to diabetes care is not deemed suitable.
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47 Using Normalisation Process Theory has provided a framework by which to explain
48 the findings from this study and has helped to develop implications and
49
50 recommendations. Because of an ambiguity towards the benefits of DSME by HCPs
51
52 (low coherence), providing HCPs with opportunities to gain personal experience with
53
54 DSME, for example through a 'taster session' or more education for HCPs by
55
56 providers, is likely to increase coherence and perceived value. There was little
57
58 evidence of collective action between HCPs and providers of DSME in promoting
59
60

1
2
3 patient attendance. Future research could focus on establishing a better pathway
4
5 between those providing group DSME and the HCPs recommending it and
6
7 incorporating DSME into routine practice by for example, practice based events and
8
9 training. This could increase opportunities for HCPs to offer additional sessions to
10
11 patients who did not attend, or offer alternative formats of education (e.g. online). In
12
13 addition, providing HCPs with feedback from DSME graduates might provide more
14
15 opportunities for HCPs to appraise DSME and be useful for HCP promotion to other
16
17 patients, and for their own perceptions of the benefit.
18
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23
24 There were several 'hard-to-reach' groups identified by HCPs as not suitable to
25
26 attend DSME, including those with mental health problems, low literacy and from
27
28 non-English speaking backgrounds. Designing different types of courses for different
29
30 groups of people that HCPs can refer patients to may increase opportunities for
31
32 participation as well as promote positive perceptions on the suitability of DSME in
33
34 HCPs. In one of the study boroughs, since the completion of this study, a diabetes
35
36 education course has been created in Bengali. However, given the multiple
37
38 languages spoken in these boroughs, even the commissioning of DSME in several
39
40 other languages still leaves many unable to participate. There are also DSME
41
42 programmes for adults with intellectual and developmental disabilities being
43
44 developed and evaluated (49), but these were not available in the boroughs at the
45
46 time of the study.
47
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52
53 Given previous work on the importance of DSME being 'sold' to patients by HCPs,
54
55 and the findings from this study that often the work around getting patients to attend
56
57 DSME is limited to providing a referral, helping HCPs to market DSME more
58
59 effectively might be an important way to increase participation. Further work
60

1
2
3 underway by this research team is exploring how conversations about self-
4 management and DSME are conducted in healthcare settings and how these can be
5 improved upon (50).
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12 The strengths of this study include the wide range of HCPs interviewed including
13 GPs, nurses, commissioners, health care assistants and administrative staff, with
14 varying degrees of knowledge and experience of DSME. However, the sample was
15 limited to HCPs within two London boroughs, and therefore their views and the range
16 of services available to patients may not generalise more widely, especially as these
17 boroughs are particularly diverse in terms of ethnicity, culture and socioeconomic
18 status. It is important to note that these interviews were conducted in the context of
19 a wider study that was implementing the online DSME in the two study boroughs.
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30 The researcher conducting the interviews had also been involved in implementation
31 activities within these NHS services and was known to many of the participants. This
32 has the potential to have elicited socially desirable responses to questions about
33 DSME. In addition, three members of the steering group for this study worked within
34 these boroughs at the time and this may have resulted in a social desirability bias in
35 responses. However, before interviews, participants were informed that the findings
36 would be used to develop and improve HeLP-Diabetes and the way that it was
37 offered to patients; thus giving participants' permission to be critical or negative.
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49 Indeed, many participants' were very forthcoming about their non-engagement with
50 HeLP-Diabetes, self-management and DSME more generally, suggesting that
51 participants felt comfortable giving honest accounts.
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COMPETING INTERESTS

EM is the managing director of HeLP Digital, a not-for-profit Community Interest Company that disseminates digital health interventions to the NHS. She has not, and will not, receive any remuneration for this work.

KP has worked with HeLP Digital, a not-for-profit Community Interest Company that disseminates digital health interventions to the NHS. He has not, and will not, receive any remuneration for this work.

No other conflicts are declared.

AUTHOR CONTRIBUTIONS

JR, FS, CD, KP, CM, SM, LY, and EM all contributed to the design and analysis of the study. JR undertook data collection. JR wrote the first draft of the paper; all authors commented on this draft and approved the final version.

DATA SHARING STATEMENT

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2
3 No data are available as we do not have consent from the participants.
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8 9 **ETHICS APPROVAL AND CONSENT TO PARTICIPATE**

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11
12 Ethical approval was gained from NRES COMMITTEE EAST MIDLANDS –
13
14 LEICESTER. Informed consent to participate in the study was obtained from all
15
16 participants.
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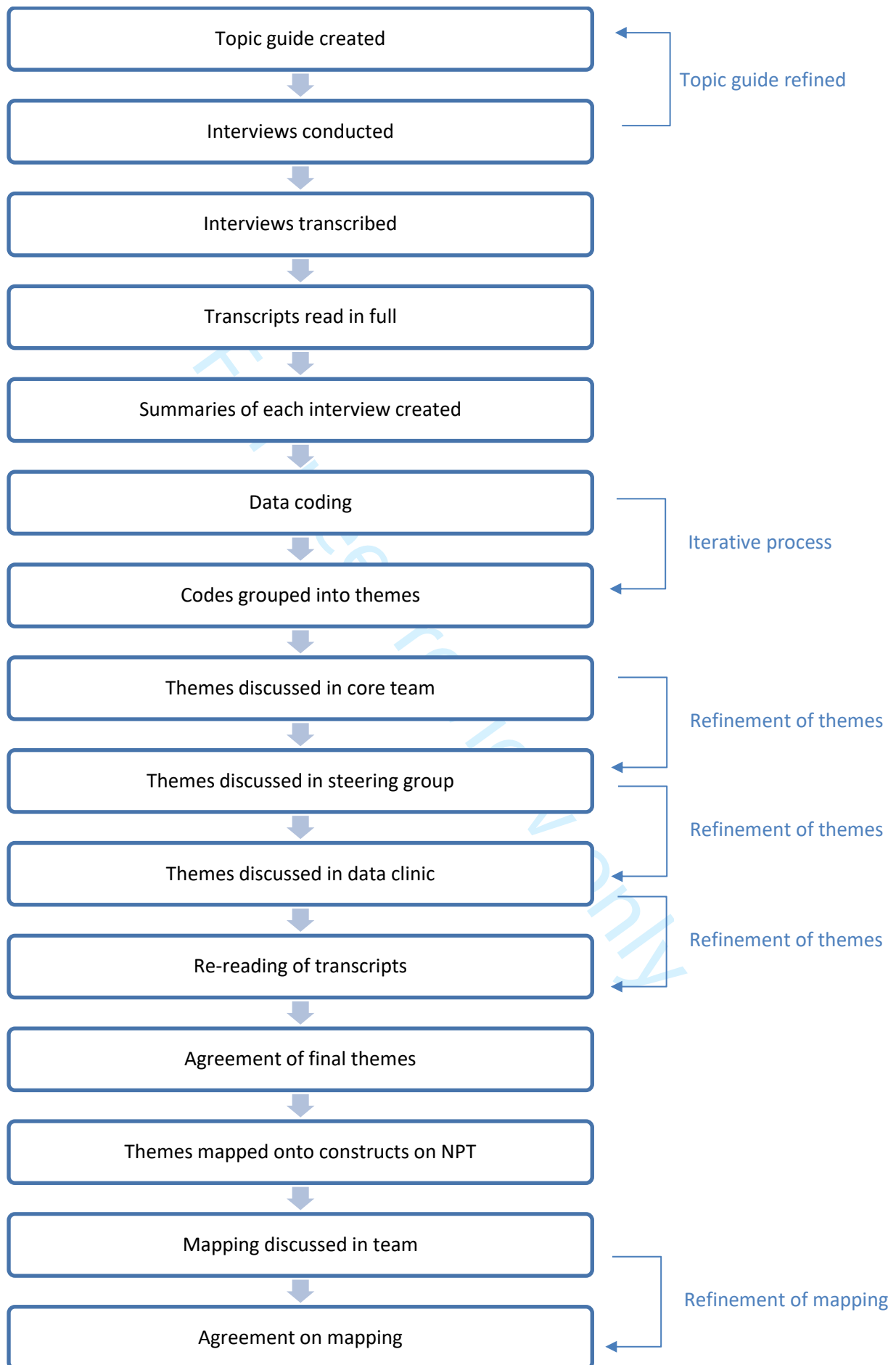
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Figure caption

Figure 1. Process of data analysis

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Figure 1. Process of data analysis



COREQ (COnsolidated criteria for REporting Qualitative research) Checklist

A checklist of items that should be included in reports of qualitative research. You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

Topic	Item No.	Guide Questions/Description	Reported on Page No.
Domain 1: Research team and reflexivity			
<i>Personal characteristics</i>			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	
Credentials	2	What were the researcher's credentials? E.g. PhD, MD	
Occupation	3	What was their occupation at the time of the study?	
Gender	4	Was the researcher male or female?	
Experience and training	5	What experience or training did the researcher have?	
<i>Relationship with participants</i>			
Relationship established	6	Was a relationship established prior to study commencement?	
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	
Interviewer characteristics	8	What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	
Domain 2: Study design			
<i>Theoretical framework</i>			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	
<i>Participant selection</i>			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	
Sample size	12	How many participants were in the study?	
Non-participation	13	How many people refused to participate or dropped out? Reasons?	
<i>Setting</i>			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	
<i>Data collection</i>			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	
Repeat interviews	18	Were repeat interviews carried out? If yes, how many?	
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	
Field notes	20	Were field notes made during and/or after the interview or focus group?	
Duration	21	What was the duration of the interviews or focus group?	
Data saturation	22	Was data saturation discussed?	
Transcripts returned	23	Were transcripts returned to participants for comment and/or	

Topic	Item No.	Guide Questions/Description	Reported on Page No.
		correction?	
Domain 3: analysis and findings			
<i>Data analysis</i>			
Number of data coders	24	How many data coders coded the data?	
Description of the coding tree	25	Did authors provide a description of the coding tree?	
Derivation of themes	26	Were themes identified in advance or derived from the data?	
Software	27	What software, if applicable, was used to manage the data?	
Participant checking	28	Did participants provide feedback on the findings?	
<i>Reporting</i>			
Quotations presented	29	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	
Data and findings consistent	30	Was there consistency between the data presented and the findings?	
Clarity of major themes	31	Were major themes clearly presented in the findings?	
Clarity of minor themes	32	Is there a description of diverse cases or discussion of minor themes?	

Developed from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

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