

Group consultations in diabetes care: qualitative insights from patients and practitioners to inform service redesign

AZHAR ZAFAR,^{1-3*} CARINA SCARLATA,^{1,3*} ASIF MALIK HUMAYUN,⁴
MUHAMMAD IMRAN HASAN KHAN⁵

Abstract

Aims: To identify the barriers and enablers influencing the uptake and delivery of diabetes group consultations, drawing insights from patients' and healthcare professionals' perspectives.

Methods: Between September and May 2025, semi-structured interviews were conducted with patients and primary care healthcare professionals. Participants were interviewed to discuss facilitators and barriers to attending or referring patients to attend diabetes group consultations. Using thematic analysis, interviews were coded based on Braun and Clarke's six-phase framework.

Results: A total of 11 patients [eight attendees, three non-attendees] and 10 healthcare professionals [GPs, nurses, trainees] agreed to participate in this study. Key barriers identified include logistical challenges (such as scheduling and accessibility), difficulty relating to group dynamics, content relevance and unclear communication about session goals and benefits. Enablers to improve engagement, included structured education on medication management, diet and weight loss, patient segmentation and tailored group models. Peer support also emerged as a factor in reducing patient isolation and fostering shared learning.

Conclusions: Uptake of group consultations can be improved by enhancing communication strategies, implementing balanced structured education with facilitated peer sharing, and offering flexible attendance options such as virtual participation or rotational clinics. By addressing barriers and

leveraging enablers, group consultations can become a more effective and accessible resource for supporting diabetes management, enhancing patient outcomes and reducing pressures on individual clinical appointments.

Br J Diabetes 2025;ONLINE AHEAD OF PUBLICATION
<https://doi.org/10.15277/bjd.2025.493>

Key words: group consultations, diabetes management, qualitative research, primary care, patient engagement, structured education, tailored group models

Introduction

Over the decades, diabetes mellitus prevalence has risen continuously in the UK. There are now an estimated 4.7 million diagnosed individuals, 90% of whom have type 2 diabetes mellitus (T2DM).¹ This chronic condition presents a significant global health challenge and requires a comprehensive approach to care that extends beyond pharmacological interventions.²

While medications are crucial, their long-term effectiveness is enhanced by lifestyle modifications, including increased physical activity, dietary changes, stress management and regular sleep patterns.³ NICE recommends that individuals with diabetes undergo nine basic annual health checks to monitor and manage the disease effectively.⁴ However, compliance is suboptimal, with 42% of individuals with type 1 diabetes (T1DM) and 54.3% of those with T2DM receiving all recommended annual assessments in 2023/24.⁵ Only 24% and 35% of individuals with T1DM and T2DM achieved all three treatment targets, with rates in T2DM declining from 38% the previous year.⁶ Whicher *et al.* further underscore significant gaps in diabetes care provision, reporting that 28% of diabetes patients encounter difficulties in accessing medications or equipment needed for self-management.⁷

Although treatment targets are not being met, this is not due to a lack of healthcare resource utilisation. Hodgson *et al.* reported that people with T2DM use primary care services more frequently. Between 2013 and 2020, primary care service utilisation among T2DM patients increased by 8.3%, reflecting a growing demand for diabetes-related healthcare.⁸ Similarly, Abner *et al.* reported that consultation rates for T2DM patients averaged 13.5 per person per year, with even higher rates

* Joint first authors

¹ Diabetes and Cardiovascular Medicine, Research and Training Academy, General Practice Alliance Federation Northampton, UK

² Diabetes and Cardiovascular Medicine, Faculty of Health, Education and Society, University of Northampton, UK

³ Research and Training Academy, Danes Camp Medical Centre and Partners, UK

⁴ Diabetes, Endocrinology and General Internal Medicine, Milton Keynes University Hospital, UK

⁵ King Edward Medical University, Pakistan

Address for correspondence: Miss Carina Scarlata
Research and Training Academy, Danes Camp Medical Centre and Partners, Rowtree Road, East Hunsbury, Northampton, NN4 0NY, UK
E-mail: carina.scarlata@nhs.net

among those with co-morbidities such as cardiovascular disease.⁹

Beyond clinical care, diabetes presents a substantial financial burden in the UK, with the estimated total cost of diabetes in 2021/22 standing at £14 billion, with direct health system costs at £10.7 billion.¹⁰ While healthcare access and engagement are increasing, treatment target rates are not increasing alongside them. This, combined with the ever-present financial burden of diabetes, highlights the need to explore alternative care strategies. Group consultations have been proven effective in improving clinical outcomes in diabetes and can relieve strain on services by reducing workload burden.¹¹

A primary care setting in Northampton established a specialised diabetes hub to enhance the management and treatment of diabetes. The clinic served patients referred from five primary care networks (PCNs) in Northampton, offering a comprehensive range of services, including individual consultations (face-to-face and telephone) and group consultations, through a multi-disciplinary team. Group consultations provided an alternative care pathway in the hub, allowing the consolidation of multiple individual consultations into collective meetings, freeing up space for complicated cases. While a traditional clinician and patient appointment, such as a diabetes review, lasts around 10-15 minutes, group consultations can run for around 90 minutes, allowing patients to spend more time with their healthcare team and to connect with peers.^{12,13} Group sessions foster a sense of community between patients and staff, enabling participants to connect with others and motivating them to improve their self-management skills and behaviours.^{12,14}

During the clinic's operation, the practice observed a suboptimal utilisation of group consultations, indicating that overall attendance was low among patients and that healthcare professionals (HCPs) were not referring patients as expected. The lack of referrals to group sessions and minimal patient uptake suggests potential barriers or misalignments in perceptions that need to be addressed to optimise the clinic's resource utilisation and enhance patient care. Research has highlighted potential barriers such as physical barriers, lack of perceived benefit and feelings that one already had sufficient knowledge or 'amotivation', referring to the state of lacking any intention to act.^{15,16}

Barriers within this clinic's context and factors contributing to the low uptake are unclear, with limited UK-based mixed-method research exploring local diabetes hub settings. Understanding the perspectives of both HCPs and patients is critical to identifying these barriers and enablers to improve engagement from both sides of the health system. This study investigates the barriers that prevent clinicians and patients from utilising group consultation sessions in diabetes management, emphasising the need for ongoing efforts to bridge the utilisation gap, promote participation and inform service design.

Methodology

This study aimed to explore HCP and patient perspectives on

group consultation referrals and participation within the diabetes hub. Semi-structured interviews were conducted to capture in-depth insights into experiences, barriers and enablers influencing group session attendance.

The study used purposive sampling to recruit HCPs who had a role in referring patients to group sessions and patients who either attended a group consultation or had engaged with the diabetes hub through other services but declined or did not attend a group session. Patients were identified through retrospective review of their appointment history, and about 15 patients were randomly selected per month of the service. This approach combined purposive and random sampling to maximise relevance while enhancing representativeness reflective of the local PCN population.

Interviews were carried out from September 2024 to May 2025. Patients were contacted by Accurx messages; email was used to contact HCP participants. Based on participants' preferences, interviews were conducted either face-to-face or using Microsoft Teams. Prior to the interview, participants provided consent, either by signing a consent form or, in the case of some HCPs, via email.

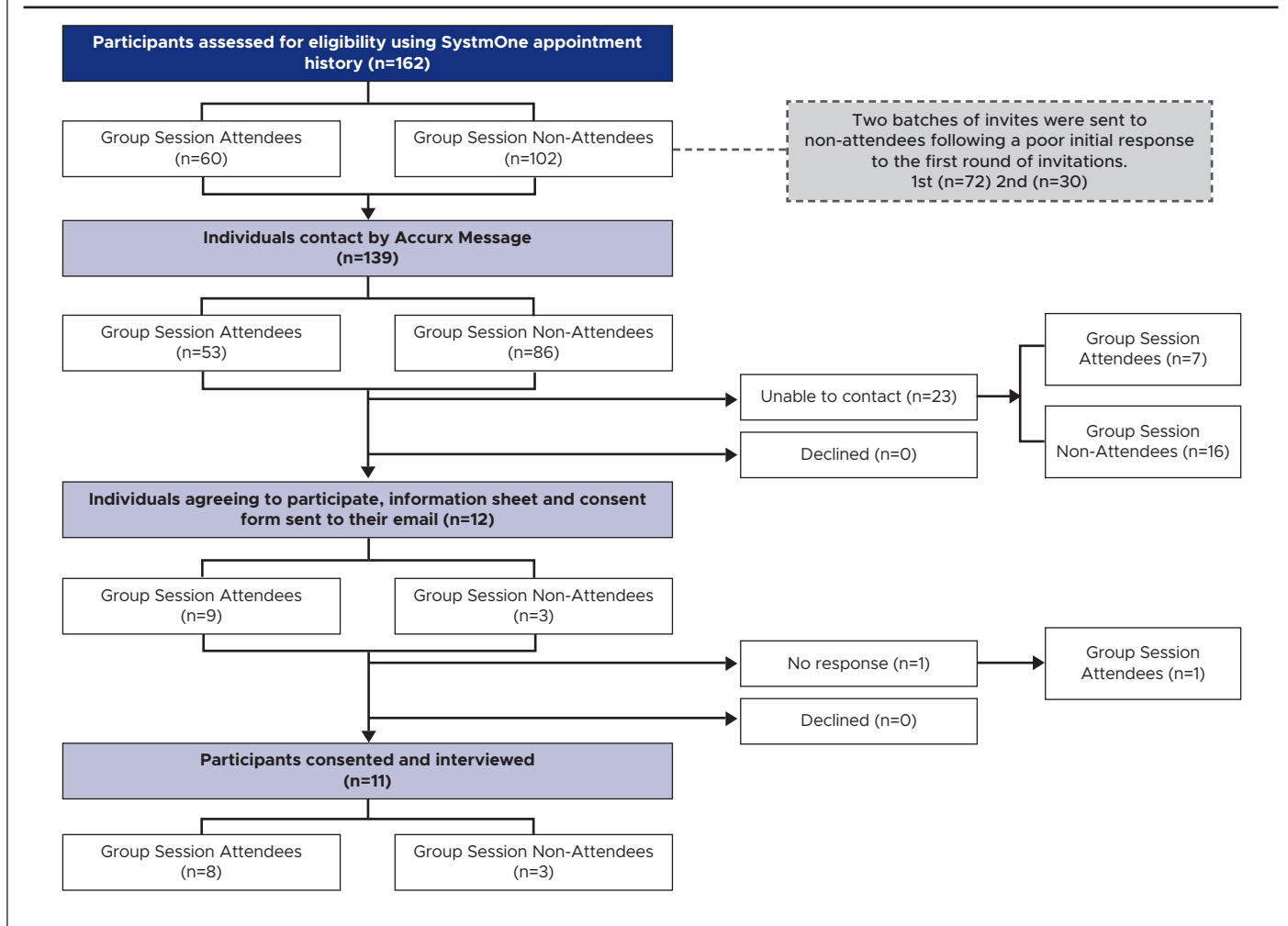
Each participant was assigned a unique identification number: attendees (G1.[x]), non-attendees (G2.[x]), and HCPs by role (e.g. PN.1, GP.2).

A primary care diabetes specialist and research assistant, familiar with group consultations, provided contextual insight and contributed to the study design and development of the interview schedules. A diabetes consultant and professor provided expert input during the analysis and writing phases. No prior relationships existed with participants. Reflexivity was maintained through regular discussions to minimise interpretive bias.

Each interview involved one participant. Patient interviews lasted an average of ~30 minutes (SD 11.33), while HCP interviews averaged ~12 minutes (SD 6.37). All interviews were conducted in English and were audio-recorded and transcribed for analysis.

Semi-structured interviews allowed flexibility to explore topics in greater depth while granting the ability to adapt the conversation based on the interviewee's responses.¹⁷ Patient interviews focused on patient awareness of hub services, experiences with group sessions and barriers and enablers to attendance. HCP interviews focused on HCP experiences and perceived barriers/enablers to referrals; the interview guides can be found in Appendices 1 and 2 (online at www.bjd-abcd.com).

A mixed-methods approach was used, combining thematic and descriptive statistical analysis to explore barriers and enablers to group consultation uptake. Thematic analysis followed Braun and Clarke's six-phase framework, which included data familiarisation with the interview transcripts. Researchers searched for basic observations and patterns in the data and coded them accordingly; they were then reviewed and grouped into themes.¹⁸ Descriptive statistical analysis was conducted to summarise patient awareness of diabetes clinic services and group session participation rates. Together, these methods analyses provide a comprehensive understanding of

Figure 1. Patient recruitment strategy

the factors influencing group session uptake, offering actionable insights for improving engagement.

The ethics committee of the Health Research Authority and Health Care Research Wales approved this study [REC 24/YH/0192].

Results

Overall, a total of 11 patients and 10 HCPs agreed to participate in this study (Figure 1). Findings from HCP and patient interviews are presented separately in the following sections. See Appendices 3 and 4 (online at www.bjd-abcd.com) for a summary of the HCPs' roles and patients' demographics.

Interview transcripts were deductively analysed across four core areas, exploring whether those patients who attended found the group sessions effective in managing their diabetes care, willingness to attend future sessions (for all patients), patients' understanding of the clinic's services and the support, and their views on the quality of communication and whether the quality of this communication acted as a barrier to attendance.

Only 18% of participants reported good communication

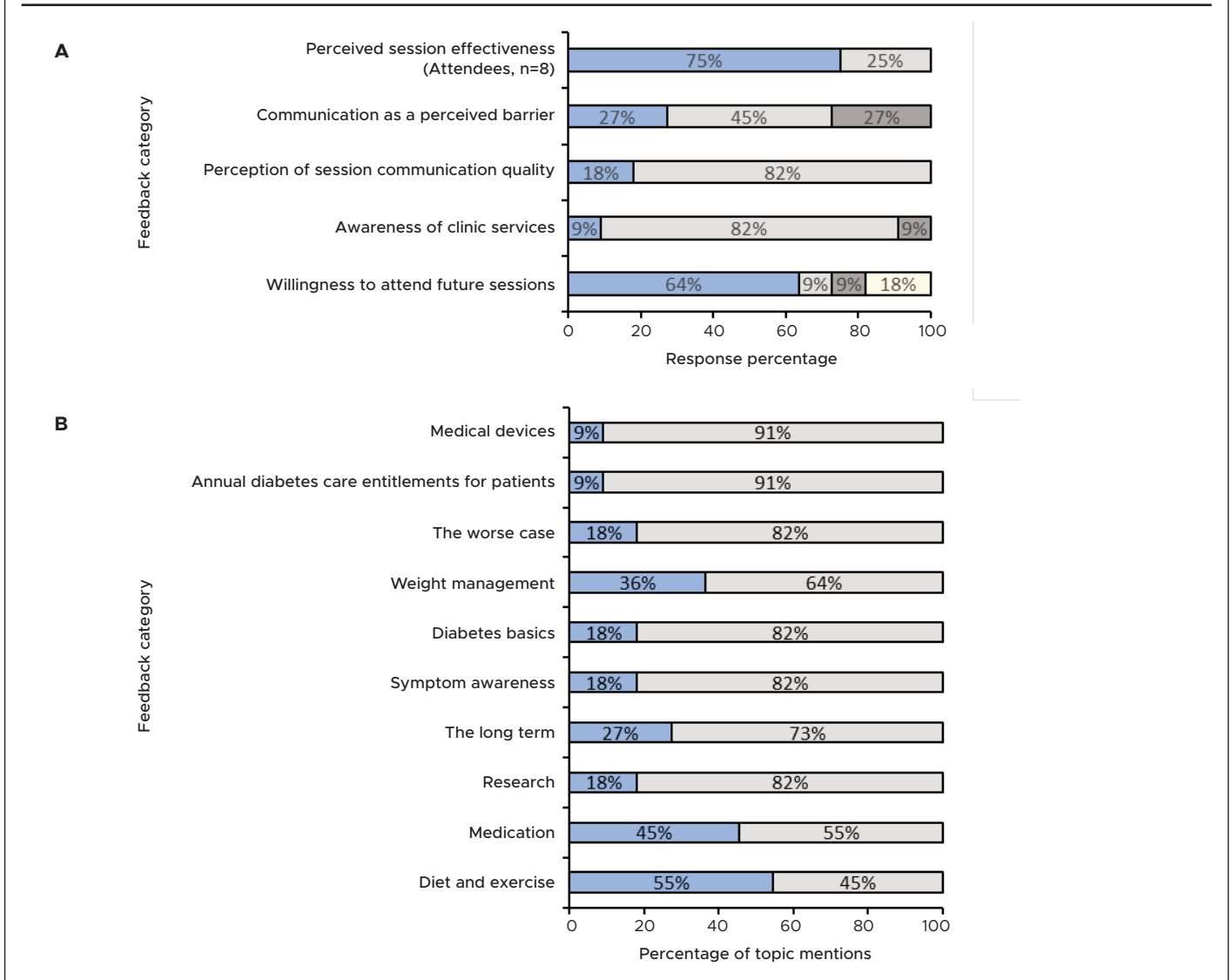
regarding what to expect during the sessions, and just 9% demonstrated a strong understanding of the diabetes hub's overall purpose and offerings (Figure 2a). Despite these communication shortcomings, 72% of participants did not perceive this as a barrier to their potential attendance. Encouragingly, 64% of participants expressed willingness to attend future sessions. Among attendees, 75% reported perceived session effectiveness.

Transcripts were also analysed to identify content areas that patients felt would benefit them. As seen in Figure 2b, diet and exercise (55%), medication (45%) and weight management (36%) were frequently mentioned. Conversely, less emphasis was placed on medical devices (9%) and annual diabetes care entitlements (9%), indicating either a lack of awareness or lower perceived relevance. Moderate interest was shown in foundational topics like diabetes basics (18%), long-term considerations, symptom awareness and complications (18%-27%).

Feedback from HCPs highlighted key areas that they believed should be included in diabetes group consultations, with diet and exercise, medication and weight management being priorities.

Figure 2. Participant feedback on diabetes group consultations

A: Summary of participant responses across five key areas, with positive responses (blue) representing affirmations (e.g. "Yes") or favourable opinions where patients expressed a positive view or perception of the topic. Negative responses (light grey) indicate disagreement, denial (e.g. "No"), or unfavourable feedback where patients expressed a negative view or perception. Tentative responses (yellow) reflect uncertainty, indecision or partial agreement (e.g. "Maybe"), where patients did not fully commit to a clear stance. Unspecified responses (dark grey) refer to cases where no clear opinion or stance was expressed, or the topic was not explicitly addressed. **B:** Summary of the frequency of topics mentioned by participants during interviews. Mentions (blue) represent topics that participants expressed a desire to include in group sessions, while the absence of mentions (grey) indicates topics that were not raised by participants.



Patient perspectives

The analysis of patient interviews identified four key themes (Table 1.). A supplementary table with additional quotations can be found in Appendix 5 (online at www.bjd-abcd.com).

Theme 1. Participant dynamics, segmentation and social support

This theme explores how group composition, participant engagement and social support influence the overall experience of diabetes group consultations. It highlights barriers such as difficulty relating to others, discomfort in sharing and session

structure while acknowledging the benefits of social support for participants. Struggling to accept a diabetes diagnosis fully emerged as a barrier for some participants, reducing their willingness to engage in group consultations. The condition's underlying nature often led to avoidance or denial, impacting management. Barriers also included difficulties in relating to other group members due to varying stages of diabetes and individual experiences. Patients suggested inviting patients based on shared characteristics, citing that group consultations may benefit from putting together patients who have similar experiences and approaches to diabetes. Negative perceptions

Table 1. Patient themes

Theme	Subtheme	Quotation
Participant dynamics, segmentation and social support	Acceptance of condition	"I know how serious it is, but when you got it, you just don't feel it because nothing's happening to you." G1.5 "I don't really want to be associated as somebody in a group of people with diabetes... I suppose I haven't really accepted it, but that in itself could be quite dangerous." G2.2
	Difficulty relating to group members	"Possibly all of the people were older than I was. It was more difficult to relate to some of their stories" G1.1 "Well, some of them, you know, 30–40-year diabetics have surely had far more problems and issues with it than I've had or will have probably. And they, you know, their experience is completely different to mine because I don't have any." G1.8 "Can like-minded people be put together or you know similar ages or approach to diabetes, approach to you know how they're dealing with it on a day-to-day basis." G1.1
	Negative perceptions of sharing	"The only impression I get of it is a talking session where people share their experiences. And I wasn't...I didn't really feel well... I don't know what I'm going to get from that." G2.2 "You tend to get a bit more nervous and a bit hesitant as to what you're going to say as if it's a one-to-one, it's different." G2.3 "But my experience in my situation and my body and not anybody else's, so I'm actually misleading people because what worked for me might not work for somebody else." G2.2
	Group sessions straying off-topic	"A couple of people, like, did waffle on about things that we weren't related, but obviously, you know, if they're lonely, all that's a bit of chance." G1.2 "For many of the people in the room, they saw it almost as an extension of access to their GP and it quite quickly became, everybody would have something to say. Everybody wanted to say something, but it also got quite specific about individuals as well." G1.1
	Value of social support	"There were people there that weren't much worse off than I was. But it made me, I shouldn't say this, but it made me feel better." G1.3 "I'm on my own a lot and that doesn't help the condition...But meeting people helps me, and I think when you've got the condition of diabetes if you talk to other people who've got it, you can see what you know. They can really, you know, understand how we're both all feeling about it." G1.7
	Relevance of session topics	Variation in information needs
Gaps in key content areas		"I would benefit from a good presentation or some information on perhaps better foods I should be eating and also weight loss." G1.5 "I think for me, the type of food that you should avoid" G1.3 "I think that it would be a great idea that you get a doctor or whoever to stand up there and say this is the reason for side effects, so make sure you do this. It would be so beneficial, and if I get that from a doctor, then I personally take things on board." G1.4
Session structure, accessibility, and communication	Accessibility and scheduling issues	"The course lasted at least 50% longer than it was originally scheduled to... even if there had been more on the agenda, obviously there was no time to delivery." G1.1 "There was no question of, you know, have you got any ambulatory problems getting upstairs? Wasn't asked. If I was in a wheelchair, I couldn't have gone." G1.6 "How can I afford to pay that [gym they were signposted to]?" G1.7 "A lot of stuff on the exercise front seems to be aimed at retired people where people can take a lot of time at work." G2.2
	Lack of communication and expectations	"Prior to that session, I guess I've got a fairly narrow view of what that [clinic support] was." G1.1 "I know what they are. What's the second part of how to get hold of it?" G1.6 "So, it probably if they had a regular, you know, once a month or once every two months or something like that, that would be probably good. Then you can probably fit [your schedule] to it a bit." G2.1 "What would be expected of me wasn't really clear." G2.2
	Structured communication and resources	"If there's some way that the parameters of what's available on the hub could be relayed to us then that's fine." G1.5 "A kind of a monthly, two monthly, three monthly newsletter kind of thing. That kind of thing, you know, with some like a tips page or look out for this," G1.8 "You could perhaps have an information page around diabetes on the website which will give you some posting to various things" G2.2
Perceived effectiveness of group consultations	Mixed perceptions of usefulness	"I found quite useful, actually." G1.3 "Having it up on the screen and showing everything and then with the doctor coming in afterwards. I thought that was really like good. I thought it was beneficial definitely." G1.2 "It was quite interesting, but I didn't really get a lot out of it, not as an individual, you know. So that's the honest truth." G1.4
	Facilitator influence	"The doctor or retired doctor [the facilitator] was very funny. Very well versed in the subject and it was very light-hearted. Amusing but instructional." G1.5 "He [the facilitator] also made it quite not serious, you know, interesting in a bit humorous and all that." G1.2 "The man who led it, who never introduced himself I'm afraid. So, I was a bit lost as to who he was and what he was." G1.6

of the sharing component were also raised. Some participants questioned its relevance to improving their diabetes care, others felt that being required to share their experiences discouraged their participation, and some were concerned that their contributions might negatively impact the outcomes of other participants. Additionally, sessions sometimes strayed off-topic or became overly focused on individual participants, reducing their overall perceived value and relevance.

Despite these challenges, many patients credited group sessions as a source of social support. Hearing others' experiences helped them feel better equipped to manage their diabetes, and the opportunity to connect with others reduced the isolation they felt in managing their condition.

Theme 2. Relevance of session topics

Patients who both attended and did not attend group sessions expressed concerns that the sessions did not (or would not) sufficiently address their individual needs, concerns or questions regarding diabetes management. These concerns included the perceived relevance of the session's content and the level of detail provided about key topics like medication and lifestyle adjustments.

Overall, patients highlighted the need for group sessions to include more focused and detailed discussions on specific topics such as diet, weight loss strategies, medications, and their side effects. However, patients' knowledge levels influenced their perceived value of group sessions. Patients who considered themselves well informed questioned the value of attending group consultations, noting that the sessions lacked the depth and relevance they were seeking. On the other hand, patients who were recently diagnosed with diabetes reported a need for more foundational topics to be covered to support their understanding of the condition.

Theme 3. Session structure, accessibility and communication

Patients highlighted logistical and communication challenges, reducing their ability or willingness to attend group sessions. These issues included unclear expectations, perceived poor session organisation and physical barriers to access. Patients raised concerns about the practical aspects of attending group sessions, such as session duration, scheduling conflicts, and the affordability and accessibility of signposted resources.

Patients expressed uncertainty about the session's purpose, agenda and participation expectations, as well as a broader lack of awareness about the Diabetes Hub's structure, frequency and support services. Many patients reported limited knowledge of what the group consultations entailed, while others were aware of available support but unsure how to access it. Additionally, there was uncertainty about follow-up and session frequency, with some suggesting they become a regular component of their ongoing care. To improve clarity, patients recommended consistent and clear communication, with suggestions of videos, newsletters, handouts and online content to keep them informed and engaged.

Theme 4. Perceived effectiveness of group consultations

The perceived effectiveness of group consultations varied among participants. While some found the sessions useful and informative, others reported minimal personal benefit, particularly when the content did not meet their individual needs. Some individuals found that visual aids and facilitator guidance made the information clearer. Others, however, felt the consultations did not provide enough value to justify attendance.

The effectiveness of group consultations depended on both the relevance of the content to individual needs and the quality of facilitation, with the facilitator highlighted as a key factor in making the sessions engaging and impactful. Patients valued a combination of humour, expertise and clear communication, but concerns were raised around content depth. Participants who found value in the sessions highlighted clear presentation methods and engaging facilitators as significant contributors to their positive experience.

HCP perspectives

The analysis of HCP interviews identified four key themes (Table 2). A supplementary table with additional quotations can be found in Appendix 6 (online at www.bjd-abcd.com).

Theme 1. Perceived value and understanding of the diabetes clinic and group sessions

HCPs expressed uncertainty about the added value of the diabetes hub, particularly for medication management and follow-ups. Limited understanding of the hub's purpose, processes and referral criteria further contributed to scepticism and underutilisation. HCPs noted variability in practice resources and skills, with some needing external support more than others. Practices with established pathways and specialist access often viewed the hub and group consultations as redundant. Concerns about patient receptiveness and care fatigue were also raised, citing previous experiences with low attendance for similar group programmes. HCPs recommended more active promotion and clearer communication of session benefits to improve engagement.

Theme 2. Logistical and structural challenges

Barriers related to practical implementation, scheduling and workload concerns were raised. HCPs worried that using the diabetes hub services and referring patients to group consultations would increase their workload, with competing priorities, information fatigue and misconceptions about the hub's processes and expectations amplifying this concern. Logistical issues were another key barrier, with HCPs believing that scheduling conflicts, work commitments and transport limitations prevent increased patient uptake. Suggestions to improve accessibility included rotating session locations and offering clear logistical information. Privacy concerns also emerged, with HCPs noting that patients may avoid group settings due to discomfort sharing personal health issues, having been used to the one-on-one format.

Table 2. HCP themes

Theme	Subtheme	Quotation
Perceived value and understanding of the diabetes clinic and group sessions	Lack of clear benefit perception	"If I've already got them on their appropriate medication or I've already got them on this, then I don't know what you're going to do. I don't know what I'm expecting you to be able to achieve". PN.1 "Your [the clinic] role, you kind of felt a bit like you were doing the same as we're doing anyway." LN.1 "I suppose it's just trying to establish, what are you offering that I can't get anywhere else?" PN.1
	Lack of understanding of clinic services	"Awareness, even from our side. I think a lot of doctors don't know it either, that you could refer someone for a group consultation." GP.1 "I don't think we have particularly promoted this service because we haven't really understood what it's about and who exactly you want sending there." LN.1 "I don't, maybe don't know enough about the group sessions and what's involved." DL.1 "As far as the group sessions, we couldn't really see where that was going to benefit our patients because I think they did say it was just a one-off. It wasn't necessarily a follow on any follow-ups." LN.1
	Recognition of variable need across practices	"I think what you're looking at, you're dealing probably with, you know, practices that perhaps maybe have different skill levels of nurses, I don't know. And there are some who perhaps don't do insulin, who don't do GLP1." PN.1 "That's the trouble, isn't it, with general practice, because you have different levels of people in each practice and what their uptake is and what they can do." PN.1 "An advice and guidance function for all the other GPS, because obviously I'm the diabetes lead GP for the surgery. You know, if it's the day that I'm not in or away for the week, they might struggle a bit to make sensible changes to treatments and things. So, I suppose if the other GPS were easily able to, you know, send an advice and guidance request by a SystmOne1 task to one of the [Clinic] doctors." – DL.1
	Doubts about patient receptiveness and patient fatigue	"We've got some who are keen, keen for further education. But then when you offer it to them, they don't take it up." LN.1 "I've offered talks. I've offered group sessions; I've offered many things about medications here. I could probably count on one hand the amount of people who turned up." PN.1 "The patients who think that group therapy or group consultation or talking to a group is not for them, they would like 1 to 1. So I think that the patient preference is the main hindrance or main blockage as well." PGP.4 "Some people don't like to be in a group consultation. It's not just for diabetes, for anything. They don't want to discuss their own conditions in front of a lot of people." PGP.1 "[The patient would say] then why do you want me to go and sit in a group? Because I've had my annual review. I've had my interim review. You've covered everything that needs covering. So tell me what I'm going to gain by going and sitting it with a group of other people." PN.1 "Information overload as well. Sometimes they [patients] get bombarded with so many text messages, and they see it as another text message from [the surgery]. Even though this may be 10 times better than the last 9 ones." ST3.1
	Logistical and structural challenges	Competing demands and workload pressures "We need to be confident that we're not just going to generate ourselves more work by having loads of tasks coming back saying, oh, we did this group session, now we need the surgery to do a list of 10 things." DL.1 "We were told that the service was only there for so long as well. So it was like, well, if you're changing something, then they're coming back to us anyway and we've got to then follow up and would still have to do our reviews as such, so it was it was like was an extra thing. But what do we use you for?" LN.1 "There's so much going on. There's this clinic and the menopause clinic and that, you know? So, in amongst all of this, how does the diabetes clinic, you know, sort of how does it stick its head above a parapet?" PGP.2 "More engagement. GP are such that they have short memories. They work within their own world. They need [the service] keep coming and knocking on the door. That's where we engage." PGP.3
Logistical barriers	Logistical barriers	"I think distance for some people." PGP.2 "But you've still got a lot of people who are working. They have to take a day off to come to their diabetic review, so they're not going to want to take more time off work to perhaps participate in something else." PN.1 "Transport's always going to be sort of a difficult one, anyone who doesn't drive and doesn't live next door to the surgery is going to have to get public transport. And I'd, I'd imagine sort of if you got a big load of people coming up to the surgery for a group session, you're going to struggle with the parking." DL.1 "To increase uptake generally, yeah, I suppose having a variety of days and times that the sessions have run on." DL.1
	Communication and cultural barriers	"There's lots of barrier language patients, and I wonder if English will be a problem." GP.2 "Majority of the ethnic minority diabetic patient, South Asians, we have a lot of them in my PCN and my practice so, it's been difficult and challenging to engage those patients and the language barriers and the cultural things you know." PGP.3
	Privacy concerns	"I think a loss of privacy." GP.1 "They think their confidentiality might be broken, you know, while other patients are sitting there." PGP.3 "I suppose the fact they don't want to perhaps feel embarrassed with their poor diabetes control or being overweight." LN.1 "And just sort of nervousness, you know, lots of lots of people are very nervous about going into a group session." DL.1 "They're used to the one to one and they don't want to share." LN.1
Improvement through education	Emphasis on education in group sessions "There's not many people with diabetes who don't need some sort of advice about diet and exercise and lifestyle changes, even if they're on all the medicine." DL.1 "We're quite limited in the time we have and yeah, I'd say we do our basic checks and things on feet and things, but yeah, to give more information rather than just handouts, which is what we do" LN.1 "Weight management is a big thing because of course everybody wants the magic injection at the moment. So, I think it's sort of information and education on that as well." LN.1	

Table 2. HCP themes continued

Theme	Subtheme	Quotation
		"I think one thing we're guilty of, because we've got only 10 minutes with the patient, we just very broadly put it through as you should work on your lifestyle. But what about your lifestyle or how much to eat, what to eat, what kind of foods, how many hours do I need to work out? What do I need to do? I think all those bits." GP.1
		"What lifestyle changes they would make, as well as probably a dietitian talking to them, or a nutritionist talking to them about their dietary changes." PGP.2
	Emphasis on medication	"We get quite a lot of patients who need to go on Mounjaro now, that's a bit of a bottleneck for us, sort of finding an appointment with the nurse to train them how to use them." DL.1
		"And also, other medications which go along hand in hand with type 2 diabetes, such as statins and things because with those, there's a lot of scepticism still." LN.1
		"Patients being able to discuss how they're getting on with their medications would be good because I think there's such a range of sort of how well people tolerate sort of the, you know, even just their metformin or, you know, the type of glycosate." DL.1
Peer influence, practice and patient outreach	Peer support and relatability	"When a patient is sitting in with us and we're advising the patient what to do, they're not really listening. They think about all the bad things that we're telling them. That you have fat and things like that, and that's what distracts them from the goal. But when they hear it from amongst, you know, their peers, other patients, who have done things and it's worked for them, I think that adds a bit more credibility." GP.1
		"Really just hearing from a doctor, you must do this. You must do that. Whereas if they've, if they're seeing peers, if they're seeing people who are like them. You know, it's always a case that if you are talking to somebody who has the same condition as you or the same car as you, or going to the same holiday destination as you, there's a little bit of a connection." PGP.2
	Patient involvement, communication and outreach	"I think I might be taking this back to the PPG meeting because they are, you know, those are the patients, and they can actually do these newsletters and speak to the patients." PGP.1
		"The patient PPGs we can involve, on the [display] boards, and we can send them messages or text." PGP.3
		"Whether it's Facebook, whether it's Instagram, whether it's YouTube, whether it's an Accurx [message], you just have to promote [the service]." ST3.1
		"And I think nowadays it's more about publicity-advertisement. And nowadays, I think the video clip would be very, very useful. So if the patient, the expert patient who's attended, makes a video that would be received by the other patients." PGP.4
		"Providing them [patients] with a leaflet and making them understand what a group consultation is." GP.1
		"Lots of surgeries are able to have material that you can display these days, a lot of people got TVs where things are running, etcetera. So in other words, patients can be self-selecting themselves." PGP.2

Theme 3. Improvement through education

HCPs emphasised the value of structured educational content within group consultations, particularly on topics such as diet, weight management and foot care. They identified medication management as a critical area, highlighting ongoing patient misconceptions, adherence challenges and the rising demand for "hot topic" medications like Mounjaro. HCPs expressed that discussions on their appropriate use and setting realistic expectations could be ideally explored in a group format. Education in these areas could ensure patients receive accurate information, set realistic expectations and improve self-management outcomes.

Theme 4. Peer support and community engagement

HCPs highlighted the value of peer-led influence in motivating behaviour change, noting that patients may respond better to care suggestions from those with lived experience, as such messages might be perceived as more relatable and credible than traditional clinician advice. HCPs suggested involving patients and PPGs in outreach strategies. A variety of communication channels (leaflets, social media, video testimonials and waiting room displays) were mentioned as ways to increase visibility and engagement with group consultations. The potential for patients to self-select based on this messaging was also emphasised.

Discussion

This study gathered insights from both patients and HCPs to understand the barriers and enablers influencing engagement with diabetes group consultations providing implementation data from a real-world local pilot primary care hub.

Unclear communication regarding consultation objectives and participation expectations left patients feeling uninformed; 82% of patients stated that communication was lacking, underscoring ineffective provider-patient communication as a persistent barrier to attendance.¹⁹ HCPs shared similar communication concerns, with the primary barrier to referring patients being a lack of clarity regarding the hub's offerings, follow-up processes, and tangible outcomes for participants.

Implementing a structured and multichannel approach to communication will aid in managing assumptions, privacy concerns, understating of hub services, goals and expectations. Incorporating suggestions such as newsletters, videos and webpages can serve as effective tools for keeping patients informed and up to date on scheduling, objectives, self-management tips, support services and access pathways. These resources can also provide ongoing support during the intervals between reviews or group sessions, bridging gaps in patient contact and ensuring they feel informed and supported.²⁰

HCPs voiced scepticism about patient uptake, suggesting that structural improvements might not sufficiently address

engagement issues. As Booth *et al.* note, in NHS patient culture there is an expectation of receiving individual consultations, as well as a reluctance to participate in group care activities.²¹ Proactively communicating that group sessions are supportive and that they respect patient privacy helps set expectations, fosters a sense of control, reduces anxiety and encourages participation.

Although pre-launch visits to inform practices about the service model, target cohorts and expected outcomes were conducted, findings suggest this approach was insufficient. To address HCP communication barriers, clear, accessible information on consultation purpose, structure, benefits and staff roles should be available through a reliable source. Regular briefings can reinforce understanding and provide opportunity to address questions in real time. Improved clarity will strengthen HCP confidence, leading to elevated patient perceptions,²² boost referrals and enhance engagement with group sessions.

Practical barriers also influenced attendance: scheduling conflicts, session length and logistical issues, including accessibility, were raised by patients.^{15,23} HCPs raised similar concerns, particularly regarding transport limitations for patients travelling from other practices. To address this, consultations should adhere to a structured format with clear time boundaries that balance educational and sharing components. Accessibility limitations should be communicated in advance, alongside a virtual attendance option to support individuals with physical or transport limitations and to provide scheduling flexibility. Virtual care has been documented to improve appointment attendance and increase patient knowledge and self-management,^{24,25} and has been increasingly adopted in post-COVID hybrid models.²⁶ However, digital literacy, internet accesses and reduced opportunities for live interaction may present limitations that must be addressed through flexible formats.²⁶ This hybrid approach ensures that logistical challenges do not exclude patients who could benefit from group consultations.

Our findings highlight group diversity, such as differences in age, diabetes stage or individual experiences, as a major factor in perceived value. Patients stated that overly diverse cohorts reduced participants' ability to connect with others, limiting engagement and perceived value. Newly diagnosed patients expressed interest in foundational information, while more knowledgeable patients sought advanced content or felt that the sessions offered limited benefit.^{27,28} Patients suggested targeted group segmentation where session cohorts are invited based on shared patient characteristics [e.g. stage of diabetes or age] to create a tailored and relevant experience. One HCP echoed this approach: *"I think it's invaluable when there's people of a certain cohort not too far apart. They've got similar sort of A1c, similar difficulties with weight loss, and now they meet up with peers who are in a similar group, share some ideas."* PGP.2

While this approach could improve relatability, the administrative burden of organising targeted groups, combined with the risk of reduced overall attendance due to overly narrow

segmentation, proves impractical. A more feasible alternative is to offer multiple session types [such as "beginner" consultations for patients within the first two years of diagnosis and "advanced" consultations for those seeking deeper insights into medication management, advanced diet strategies and long-term condition monitoring] that cater to diverse patient needs while inviting all patients. This allows individuals to self-select sessions based on their circumstances and preferences, ensuring broader appeal and relevance. This approach maintains inclusivity, accommodates diverse patient needs and enables individuals to make informed decisions about their participation.

Adopting a co-design approach in future service development can further align group consultations with patient needs. Actively involving patients, especially those from ethnic minority backgrounds, in designing content, delivery and communication materials will help overcome language and cultural barriers highlighted by HCPs, ensuring consultations are clinically effective, culturally sensitive and inclusive.²⁹

Despite these barriers, both patients and HCPs identified key enablers to improve participation and session value. Patients highlighted social support provided by group sessions as a key benefit, reducing isolation and enhancing their ability to manage their condition. The facilitator's role was also critical, with praise for a combination of expertise, humour and approachability. This supports previous findings in the NHS Low Carb Diabetes Programme, where participants valued the person-centredness of their coaches and highlighted the importance of the relationships built with facilitators.²⁹ HCPs further emphasised the importance of education as the cornerstone of group sessions, particularly in areas like diet, weight loss and medication, to maximise patient impact and improve uptake.

Unlike standard group education programmes such as DESMOND, the group consultation model piloted integrated peer support, education and clinical input within a single session.

For many patients, the educational components were strongly desirable, viewing group consultations as opportunities to gain actionable knowledge and expert advice to better manage their condition, underlining the importance of structured learning. Educational components were valued both by those lacking specific knowledge and by those seeking deeper insights. Topics of interest included medication benefits and side effects, advanced dietary strategies and long-term condition monitoring. Patients highlighted the need for education on key indicators such as HbA_{1c}, including healthy ranges, strategies for control and potential complications from poor management, to emphasise the importance of adherence.

HCPs echoed the importance of structured education on medication management, diet and weight loss. They also highlighted the importance of addressing misconceptions about treatments, including newer medications like Mounjaro, to improve understanding and adherence - an approach well-suited to group consultations due to their broader reach. Structured, expert-led education can provide reliable, evidence-based information in an accessible format suited to diverse knowledge levels.³⁰

Conversely, many patients valued group consultations primarily for peer support, where they could share experiences, reduce isolation and gain reassurance by connecting with others facing similar challenges. HCPs also cited peer support as a perceived enabler to patient uptake. This highlights the need for a balanced approach that incorporates both educational content and emotional support.¹³ However, while the benefits of group support were evident, concerns were raised about maintaining session structure, as discussions could stray off-topic or become overly focused on individual experiences. Implementing structured sharing approaches can address this by guiding discussions to ensure that topics remain relevant and that patient concerns are addressed. The facilitator could allocate specific time slots for sharing experiences while maintaining a clear agenda to cover key educational topics. This structured approach not only caters to varying participant needs but also prevents sessions from becoming dominated by individual stories. Such methods have been shown to improve learning outcomes, promote active participation and maximise the benefits of the group dynamic for all attendees.³¹ Alternatively, offering separate sessions for education and social support may allow patients to choose according to their preferences.

While group consultations have not been adopted by NHS England or NICE due to inconsistent evidence, reflecting policy uncertainty, this study contributes to the growing body of implementation research seeking to challenge that position. By examining a real-world primary care setting, it highlights practical barriers and enablers to delivery, supporting the case for broader evaluation and potential integration into routine diabetes care. While some of the HCP responses were expected, their consistency across roles highlights systemic implementation challenges rather than isolated experiences. These findings also have important local implications for PCNs and Integrated Care Systems diabetes care planning. Enhancing uptake of structured group consultations can directly support the achievement of Quality and Outcomes Framework metrics, for instance in areas related to structured education, care planning and patient empowerment.

A key methodological limitation is the overrepresentation of participants who attended diabetes group consultations, potentially overlooking barriers faced by non-attendees and introducing self-selection bias, as interviewees were likely more engaged. Expanding the HCP sample could provide a more comprehensive understanding of referral challenges across diverse practice settings. Future research should include a larger, more diverse sample with greater emphasis on non-attendees to better capture participation barriers. Comparison experiences of patients who have experienced both group and individual consultations would also provide valuable insight into preferences, perceived benefits and engagement drivers.

The study was limited to a single regional pilot diabetes hub in Northampton, investigating implementation, limiting generalisability. Future research should assess clinical and economic impact, such as changes in glycaemic control, QOF indicators or staff efficiency. Clear success criteria should be



Key messages

- ▲ Structured consultations with defined responsibilities for facilitators and participants improve relevance, engagement and perceived benefit
- ▲ Balancing structured education with guided peer sharing meets the diverse needs of patients and enhances session effectiveness
- ▲ Incorporating patient segmentation and tailored group models increases relevance and connection among participants
- ▲ Healthcare professional confidence in the service and referral behaviours are influenced by clarity around the consultation model and logistical pathways such as scheduling and follow-up responsibilities
- ▲ Optimising the design and delivery of group consultations could increase participant uptake and outcomes, and support more sustainable models of chronic disease management

established, including clinical (e.g. glycaemic control), and operational (e.g. reduced appointment demand) metrics, to guide evaluation and support broader commissioning and policy integration.

This study highlights key barriers and enablers influencing the uptake of diabetes group sessions from both patient and HCP perspectives. While challenges such as logistical issues, group dynamics and unclear communication hinder engagement, opportunities exist to address these concerns through targeted recommendations. By improving communication with both patients and HCPs, delivering structured and balanced session content that integrates education and peer support, and ensuring practical accessibility, group sessions can become a valuable tool in diabetes management. Implementing these changes can maximise participation, enhance patient experience and empower individuals to better manage their condition while alleviating pressures on individual consultations.



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Funding None to declare.

Acknowledgements The authors would like to thank all healthcare professionals and patients who participated in the interviews, as well as the members of the patient and public involvement group who contributed to the development of the patient interview guide.

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Appendix 1. Patient interview guide schedule

1. Awareness of diabetes clinic services

- How did you first learn about the diabetes hub at Danes Camp Medical Centre?
- What types of support and services do you think the clinic offers to patients with diabetes?
- Do you feel you have a good understanding of all the resources and support available to you through the clinic? If not, what additional information would you find helpful?

2. Group session participation

- Have you ever been invited to attend a group session at the diabetes hub?
 - If yes, can you describe the invitation process?
- Have you attended any group sessions?
 - If yes, how was your experience? What did you find helpful or unhelpful?
 - If you have not attended, what were your reasons for not participating?
- Are you open to attending group sessions in the future? What factors would influence your decision to participate?

3. Patient-perceived barriers

- What challenges or concerns do you have that might prevent you from joining group sessions? (e.g. privacy concerns, scheduling issues, feeling uncomfortable in a group setting)
- Do you feel that group sessions are relevant to your needs? Why or why not?
- How do you feel about sharing your experiences and learning in a group setting with other patients?

4. System-level barriers

- How well do you think the clinic communicates about group sessions? (e.g. information provided, clarity of communication, timeliness of information)
- Have you ever found the information about group sessions insufficient or unclear? Can you provide an example?
- Do you think the clinic offers enough flexibility in terms of scheduling and availability for group sessions?

5. Potential enablers for uptake

- What changes or improvements would make you more likely to attend group sessions? (e.g. different times, more personalised content, smaller groups)
- Are there any specific topics or areas of diabetes management that you would like to see covered in group sessions?
- How could the clinic make you feel more comfortable and motivated to join group sessions?

6. General feedback

- Is there anything else you would like to share about your experiences with the clinic or group sessions?
- Do you have any suggestions for how the clinic could better support your diabetes management?

Appendix 2. HCP interview guide schedule

1. Awareness of diabetes clinic services

- How familiar are you with the range of services provided by the diabetes clinic at Danes Camp Medical Centre?
- Scenario: you are having a consultation with a patient you will refer to the diabetes hub clinic.
 - In your experience, do patients leave consultations with a comprehensive understanding of the various support options available to them at the diabetes hub clinic, including group sessions?
 - How do you usually communicate the available resources and support options to your patients?

2. HCP experience with referrals to group sessions

- Can you describe your experiences with referring patients to group sessions at the diabetes clinic?
- Have you noticed any particular outcomes from patients who have attended group sessions compared to those who have not?
- What are the main reasons you choose to refer or not refer patients to group sessions?
- How do you assess whether a patient would benefit more from group sessions versus one-on-one consultations?
- Are there specific patient characteristics that make you more likely to refer them to a group session?

3. HCP-perceived barriers

- What challenges or barriers do you believe hinder patients from attending group sessions?
- Have you encountered any feedback from patients who were hesitant or refused to attend group sessions? What were their reasons?
- Do you feel there are any barriers within the clinic itself (e.g. scheduling, session content) that might prevent patients from participating?

4. Perceptions about responsibility for uptake

- In your opinion, what is your role in encouraging patient participation in group sessions?
- Are there any gaps or discrepancies you notice between your expectations and the reality of patient participation?

5. Patient-related barriers

- What are the most common reasons patients given for not wanting to attend group sessions?
- How do you usually address these concerns or barriers when they are brought up?
- Have you found any strategies effective in overcoming patient reluctance to participate in group sessions?

6. Potential enablers for uptake

- What do you think could be done to increase patient participation in group sessions?
- Are there specific resources, supports or changes that you believe would make group sessions more attractive or accessible to patients?
- How do you think the clinic could better support you in referring patients to group sessions??

6. General feedback

- Is there anything else you would like to share about your experiences with the diabetes clinic or the group sessions?
- Do you have any suggestions for how the clinic could better support your surgery's diabetes care provision?

Appendix 3. HCP participants roles

Health care providers (n=10)	Female (n=3)	Male (n=7)
Role		
Diabetes lead	0	1
Practice nurse	1	0
Lead nurse	1	0
General practitioner	1	1
3rd Year speciality trainee doctor		1
Partner general practitioner		4

Appendix 4. Demographics of patient participants

Patients (n=11)	Female (n=5)	Male (n=6)
Age group (years)		
46-64	2	3
65-80	2	3
81+	1	0
Group attendance		
Attended	3	5
Did not attend	2	1

Appendix 5. Patient themes and sub-themes

Theme	Subtheme	Quotation	
Participant dynamics, segmentation and social support	Acceptance of condition	"I know how serious it is, but when you got it, you just don't feel it because nothing's happening to you." – G1.5	
		"I don't really want to be associated as somebody in a group of people with diabetes... I suppose I haven't really accepted it, but that in itself could be quite dangerous." – G2.2	
		Difficulty relating to group members	"Possibly all of the people were older than I was. It was more difficult to relate to some of their sort of their stories" - G1.1
			"Well, some of them, you know, 30-40 year diabetics have surely had far more problems and issues with it than I've had or will have probably. And they you know their experience is completely different to mine because I don't have any." - G1.8
			"I've had diabetes for 30 years and most of them were. There were two years, three years, maybe six months. So their experiences were miles different to mine." - G1.6
			"Can like-minded people be put together or you know similar ages or approach to diabetes, approach to you know how they're dealing with it on a day-to-day basis." – G1.1
	Negative perceptions of sharing	"The only impression I get of it is a talking session where people share their experiences. And I wasn't...I didn't really feel well... I don't know what I'm going to get from that." - G2.2	
		"You tend to get a bit more nervous and a bit hesitant as to what you're going to say as if it's a one-to-one, it's different." - G2.3	
		"But my experience in my situation and my body and not anybody else's, so I'm actually misleading people because what worked for me might not work for somebody else." - G2.2	
	Group sessions straying off-topic	"A couple of people, like, did waffle on about things that we weren't related, but obviously, you know, if they're lonely, all that's a bit of chance." - G1.2	
		"For many of the people in the room, they saw it almost as an extension of access to their GP and it quite quickly became, everybody would have something to say. Everybody wanted to say something, but it also got quite, specific about individuals as well." - G1.1	
		Value of social support	"So I think that's quite good that if you share something, you might be able to help someone else." - G1.2
"There were people there that weren't much worse off than I was. But it made me, I shouldn't say this, but it made me feel better." - G1.3			
"I'm on my own a lot and that doesn't help the condition...But meeting people helps me and I think when you've got the condition of diabetes if you talk to other people who've got it, you can see what you know. They can really, you know, understand how we're both all feeling about it." – G1.7			
Relevance of session topics	Variation in information needs	"If you want me as a resource, I think I can feed quite a bit in from the experience of the use." - G1.6	
		"I'm not going to be massively well informed, but I'm quite well informed, so I kind of thought well, I'm not going to learn anything." - G2.2	
		"For me, it didn't go anywhere near far enough to satisfy my desire to understand."- G1.1	
		"It didn't really touch much on the like the medical side of it, the what it's doing to my body inside - But that could have been, you know, covered I think, to help people like who were like me, in that first throes of I've just been told [that they are diabetic]." – G1.8	
	Gaps in key content areas	"I would benefit from a good presentation or some information on perhaps better foods I should be eating and also weight loss." – G1.5	
		"I think for me, the type of food that you should avoid " – G1.3	
		"I think that it would be a great idea that you get a doctor or whoever to stand up there and say this is the reason for side effects, so make sure you do this. It would be so beneficial, and if I get that from a doctor, then I personally take things on board." – G1.4	

Appendix 5. Patient themes and sub-themes continued

Theme	Subtheme	Quotation
		"I prefer not to take medicines, but I don't know at what point that would be offered or what the benefits might be. Maybe it would mean, a bit of weight? I don't know. So, some stuff like that would be useful." – G2.2
		"Intermittent fasting or, you know, full diet or, you know the benefit of, you know, what's the contribution that carbohydrates are truly making versus actual sugars versus so again," – G1.1
Session structure, accessibility, and communication	Accessibility and scheduling issues	"The course lasted at least 50% longer than it was originally scheduled to... even if there have been more on the agenda, obviously there was no time to delivery." - G1.1
		"There was no question of, you know, have you got any ambulatory problems getting upstairs? Wasn't asked. If I was in a wheelchair, I couldn't have gone." - G1.6
		"How can I afford to pay that [gym they were signposted to]?" - G1.7
		"A lot of stuff on the exercise front seems to be aimed at retired people where people can take a lot of time at work." - G2.2
	Lack of communication and expectations	"Prior to that session, I guess I've got a fairly narrow view of what that [clinic support] was." - G1.1
		"I know what they are. What's the second part of how to get hold of it?" - G1.6
		"So, it probably if they had a regular, you know, once a month or once every two months or something like that, that would be probably good. Then you can probably fit [your schedule] to it a bit." - G2.1
	Structured communication and resources	"What would be expected of me wasn't really clear." - G2.2
		"If there's some way that the parameters of what's available on the hub could be relayed to us then that's fine."- G1.5
		"A kind of a monthly, two monthly, three monthly newsletter kind of thing. That kind of thing, you know, with some like a tips page or look out for this," - G1.8
		"You could perhaps have an information page around diabetes on the website which will give you some posting to various things" – G2.2
Perceived effectiveness of group consultations	Mixed perceptions of usefulness	"I found quite useful, actually." - G1.3
		"Having it up on the screen and showing everything and then with the doctor coming in afterwards. I thought that was really like good. I thought it was beneficial definitely." -G1.2
		" [Did you find the session helpful?] Honestly not massively." - G1.1
		"It was helpful for me." - G1.8
	Facilitator influence	"It was quite interesting, but I didn't really get a lot out of it, not as an individual, you know. So that's the honest truth." - G1.4
		" The doctor or retired doctor [the facilitator] was very funny. Very well versed in the subject and it was very light-hearted. Amusing but instructional." - G1.5
		"He [the facilitator] also made it quite not serious, you know, interesting in a bit humorous and all that." - G1.2
		"He's brilliant. Absolutely amazing." - G1.7
		"Thought the chappie was interesting and obviously knew his subject." - G1.3
		"The man who led it, who never introduced himself I'm afraid. So I was a bit lost as to who he was and what he was." G1.6
		"I remember telling him, kind of tell us who you are from the beginning and your relationship with the illness or I'm not a diabetic, but this is what I do. This is, you know, my background on it and that just helps us to understand who we've got, who's talking to us." - G1.8

Appendix 6. HCP themes and sub-themes.

Theme	Subtheme	Quotation
Perceived value and understanding of the diabetes clinic and group sessions	Lack of clear benefit perception	"If I've already got them on their appropriate medication or I've already got them on this, then I don't know what you're going to do. I don't know what I'm expecting you to be able to achieve". - PN.1
		"Your [the clinic] role, you kind of felt a bit like you were doing the same as we're doing anyway." - LN.1
		"I suppose it's just trying to establish, what are you offering that I can't get anywhere else?" - PN.1
		"From our perspective, when we've seen them anyway for a review and then we've got diabetic specialist nurses, community nurses, if we weren't sure how to do further management. So it's like really, you're kind of introducing a role, but it wasn't specific enough." - LN.1
		"I think the feedback from the diabetes nurses that it's maybe not have as much impact as they were hoping in terms of in terms of I don't know improving our overall QOF figures." - DL.1
		"If I've got to such a point as far as their management goes that I can't deal with it then I would generally contact a diabetic specialist nurse." - PN.1
		"When it comes to medication management, we've kind of done it here. There hasn't been an encounter where I've thought that's beyond what I can do." - PN.1
Lack of understanding on clinic services	Lack of understanding on clinic services	"Awareness, even from our side. I think a lot of doctors don't know it either, that you could refer someone for a group consultation." - GP.1
		"I think first of all is probably making sure that I know that they're available." - DL.1
		"I don't think we have particularly promoted this service because we haven't really understood what it's about and who exactly you want sending there." - LN.1
		"[] Can't give them a full explanation of what they're going to expect." - LN.1
		"It wasn't very clear exactly who you were targeting."- LN.1
		"I don't, maybe don't know enough about the group sessions and what's involved." - DL.1
		"As far as the group sessions, we couldn't really see where that was going to benefit our patients because I think they did say it was just a one-off. It wasn't necessarily a follow on any follow-ups." - LN.1
		"If it's [the clinic] just a one-off appointment and if you weren't following them up further, it's difficult for us to refer patients." - LN.1
		"But I've not really been aware of exactly what those group sessions do or you know or specifically how to refer into those." - DL.1
		"But actually, does it come back to me as an individual? Does it go to my practice nurse who deals with diabetes? Well, certainly it doesn't come to me, so I don't actually get involved. And if you don't get involved, then it's really difficult to kind of then steer or refer patients to a service that's available." - PGP.2
Recognition of variable need across practices	Recognition of variable need across practices	"I think what you're looking at, you're dealing probably with, you know, practices that perhaps maybe have different skill levels of nurses, I don't know. And there are some who perhaps don't do insulin, who don't do GLP1." - PN.1
		"That's the trouble, isn't it, with general practice, because you have different levels of people in each practice and what their uptake is and what they can do." PN.1
		"An advice and guidance function for all the other GPs, because obviously I'm the diabetes lead GP for the surgery, you know, if it's the day that I'm not in or away for the week. They might struggle a bit to make sensible changes to treatments and things. So, I suppose if the other GPs were easily able to, you know, send an advice and guidance request by a SystemOne1 task to one of the [clinic] doctors." - DL.1

Appendix 6. HCP themes and sub-themes continued.

Theme	Subtheme	Quotation
	Doubts about patient receptiveness and patient fatigue	<p>"We've got some who are keen, keen for further education. But then when you offer it to them, they don't take it up." - LN.1</p> <p>"If pulmonary rehab is anything to go by, they don't want to be, a lot of them don't want to be in group sessions."- PN.1</p> <p>"I've offered talks. I've offered group sessions; I've offered many things about medications here. I could probably count on one hand the amount of paid people who turned up." - PN.1</p> <p>"We're going to be having TVs up in the waiting rooms. And if it's a service that can be shown on that, then it that might be something a few people would be happy to do or inquire about more." - LN.1</p> <p>"I think if it's something that you want to advertise or promote as a group, then advertise it as a group. don't wait for them to come for their diabetic review." - PN.1</p> <p>"I don't know what their uptake would be." - PN.1</p> <p>"We mentioned it pre-COVID because this was what we were going to be running with four years ago and we kind of said that things might be changing and we might be doing more group work. I don't think the response was perhaps all that receptive." - PN.1</p> <p>"The patients who think that group therapy or group consultation or talking to a group is not for them, they would like 1 to 1. So I think that the patient preference is the main hindrance or main blockage as well."- PGP.4</p>
		<p>"Some people don't like to be in a group consultation. It's not just for diabetes, for anything. They don't want to discuss their own conditions in front of a lot of people." - PGP.1</p> <p>" [The patient would say] then why do you want me to go and sit in a group? Because I've had my annual review. I've had my interim review. You've covered everything that needs covering. So tell me what I'm going to gain by going and sitting with a group of other people." - PN.1</p> <p>"Information overload as well. Sometimes they [patients] get bombarded with so many text messages, and they see it as another text message from [the surgery]. Even though this may be 10 times better than the last nine ones." - ST3.1</p> <p>"I think there are also some people who, if you suggest a group session, they just, they immediately assume that that's being done as a cost-saving exercise."</p> <p>"I can lead him to the water. But I can't make him drink it. So if there's more water pools that I can lead them to and offer that." - PN.1</p>
Logistical and structural challenges	Competing demands and workload pressures	<p>"We need to be confident that we're not just going to generate ourselves more work by having loads of tasks coming back saying, oh, we did this group session, now we need the surgery to do a list of 10 things." - DL.1</p> <p>"We were told that the service was only there for so long as well. So it was like, well, if you're changing something, then they're coming back to us anyway and we've got to then follow up and would still have to do our reviews as such, so it was like an extra thing. But what do we use you for?"- LN.1</p> <p>"There's so much going on. There's this clinic and the menopause clinic and that, you know? So, in amongst all of this, how does the diabetes clinic, you know, sort of how does it stick its head above a parapet?" - PGP.2</p> <p>"[Discussing in-person service announcements] You can ask questions in real time. How does it work real time? Whereas if an e-mail goes out? It just goes on pile." - PGP.2</p> <p>"More engagement. GP are such that they have short memories. They work within their own world. They need [the service] keep coming and knocking on the door. That's where we engage." - PGP.3</p>

Appendix 6. HCP themes and sub-themes continued.

Theme	Subtheme	Quotation
	Logistical barriers	<p>"I think distance for some people." - PGP.2</p> <p>"But you've still got a lot of people who are working. They have to take a day off to come to their diabetic review, so they're not going to want to take more time off work to perhaps participate in something else." - PN.1</p> <p>"Transport's always going to be sort of a difficult one, anyone who doesn't drive and doesn't live next door to the surgery is going to have to get public transport. And I'd, I'd imagine sort of if you got a big load of people coming up to the surgery for a group session, you're going to struggle with the parking." - DL.1</p> <p>"I think obviously you're having it where you're based, so if you were sort of going to different surgeries at or even something for our PCN, so across the sub six surgeries that PCN covers."- LN.1</p> <p>"So, time and transport." - DL.1</p> <p>"Somebody who can easily attend because they're not based at this surgery. So, they've got to be able to get transport." - LN.1</p> <p>"To increase uptake generally, yeah, I suppose having a variety of days and times that the sessions have run on." - DL.1</p>
	Communication and cultural barriers	<p>"There's lots of barrier language patients, and I wonder if English will be a problem." - GP.2</p> <p>"Majority of the ethnic minority diabetic patient, South Asians, we have a lot of them in my PCN and my practice so, it's been difficult and challenging to engage those patients and the language barriers and the cultural things you know."- PGP.3</p>
	Privacy concerns	<p>"I think a loss of privacy." - GP.1</p> <p>"They think their confidentiality might be broken, you know, while other patients are sitting there."- PGP.3</p> <p>"I suppose the fact they don't want to perhaps feel embarrassed with their poor diabetes control or being overweight." - LN.1</p> <p>"And just sort of nervousness, you know, lots of lots of people are very nervous about going into a group session." - DL.1</p> <p>"They're used to the one to one and they don't want to share." - LN.1</p>
Improvement through education	Emphasis on education in group sessions	<p>"There's not many people with diabetes who don't need some sort of advice about diet and exercise and lifestyle changes, even if they're on all the medicine." - DL.1</p> <p>"We're quite limited in the time we have and yeah, I'd say we do our basic checks and things on feet and things, but yeah, to give more information rather than just handouts, which is what we do"- LN.1</p> <p>"Weight management is a big thing because of course everybody wants the magic injection at the moment. So, I think it's sort of information and education on that as well." - LN.1</p> <p>"But again, just a general topic of covering foot care and what they should be doing." - LN.1</p> <p>"I suppose all of those, sort of the lifestyle type things." - DL.1</p> <p>"That's good for a group session where they can compare recipes and swap recipes at the end of the session if they want to." - DL.1</p> <p>"I think one thing we're guilty of, because we've got only 10 minutes with the patient, we just very broadly put it through as you should work on your lifestyle. But what about your lifestyle or how much to eat, what to eat, what kind of foods, how many hours do I need to work out? What do I need to do? I think all those bits." - GP.1</p> <p>"What lifestyle changes they would make, as well as probably a dietitian talking to them, or a nutritionist talking to them about their dietary changes." - PGP.2</p> <p>"Obviously diet and exercise." - LN.1</p>

Appendix 6. HCP themes and sub-themes continued.

Theme	Subtheme	Quotation
	Emphasis on medication	<p>"We get quite a lot of patients who need to go on Mounjaro now, that's a bit of a bottleneck for us, sort of finding an appointment with the nurse to train them how to use them." - DL.1</p> <p>"And also, other medications which go along hand in hand with type 2 diabetes, such as statins and things because with those, there's a lot of scepticism still." - LN.1</p> <p>"Patients being able to discuss how they're getting on with their medications would be good because I think there's such a range of sort of how well people tolerate sort of the, you know, even just their metformin or, you know, the type of glyphosate." - DL.1</p> <p>"For group sessions, maybe from a more clinical perspective like I think sort of the new, the new GLP-1 injections like Mounjaro. If that could be done as group sessions to educate the patients about the medication and train them how to do the injections and to get them started on." - DL.1</p>
Peer support and community engagement	Peer support	<p>"When a patient is sitting in with us and we're advising the patient what to do, they're not really listening. They think about all the bad things that we're telling them. That you have fat and things like that, and that's what distracts them from the goal. But when they hear it from amongst, you know, their peers, other patients, who have done things and it's worked for them, I think that adds a bit more credibility." - GP.1</p> <p>"Really just hearing from a doctor, you must do this. You must do that. Whereas if they've, if they're seeing peers, if they're seeing people who are like them. You know, it's always a case that if you are talking to somebody who has the same condition as you or the same car as you, or going to the same holiday destination as you, there's a little bit of a connection." - PGP.2</p>
	Patient involvement, communication and outreach	<p>"I think I might be taking this back to the PPG meeting because they are, you know, those are the patients, and they can actually do these newsletters and speak to the patients." - PGP.1</p> <p>"The patient PPGs we can involve, on the [display] boards and we can send them messages or text." - PGP.3</p> <p>"Whether it's Facebook, whether it's Instagram, whether it's YouTube, whether it's a Accurx, you just have to promote [the service]." - ST3.1</p> <p>"And I think nowadays it's more about publicity - advertisement. And nowadays, I think the video clip would be very, very useful. So if the patient, the expert patient who's attended, makes a video that would be received by the other patients."- PGP.4</p> <p>"Providing them [patients] with a leaflet and making them understand what a group consultation is." - GP.1</p> <p>"Lots of surgeries are able to have material that you can display these days, a lot of people got TVs where things are running etcetera. So in other words patients can be self-selecting themselves." - PGP.2</p>