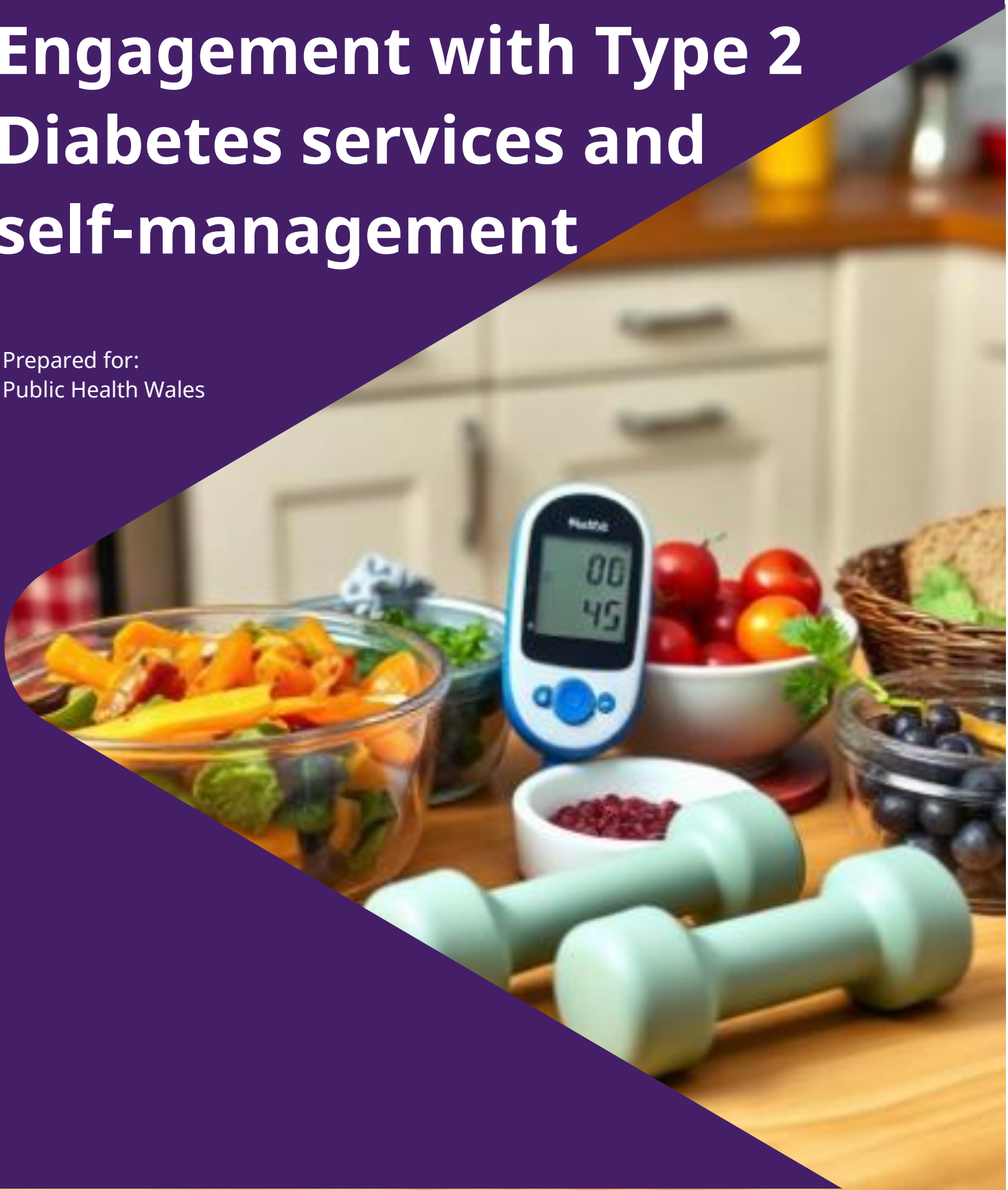
Beaufort

RESEARCH REPORT

Engagement with Type 2 Diabetes services and self-management

Prepared for:
Public Health Wales



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1. Executive summary and conclusions

1.1 Introduction

Diabetes is a national priority. The increasing prevalence of adults with Type 2 Diabetes Mellitus in Wales presents various challenges across health, social, and economic domains. Projections indicate that these challenges will only worsen unless effective interventions are made. Public Health Wales has developed the **Tackling Diabetes Together Programme**[1]. It aims to achieve a step-change in diabetes management and prevention by December 2028. This step-change needs to achieve two strategic ambitions, that Wales will:

- Have more people living well with diabetes (Types 1 and 2) as measured through a reduction in amputations and other diabetes pathways
- Have stopped the prevalence of diabetes increasing, focusing principally on Type 2 Diabetes.

To help shape activity across the system wide programme, Beaufort was commissioned to explore influences on T2DM patients engagement with:

- **Health services** (behaviours such as attending appointments, seeking support when required from a range of professionals such as GPs, practice nurses, diabetes specialist nurses, dietitians, diabetic eye screeners, podiatrists, and hospital consultants – among others - to help people live well with and manage their diabetes)
- **Self-management of Type 2 Diabetes** (behaviours such as taking medication as prescribed, checking blood sugar levels, and being active everyday).

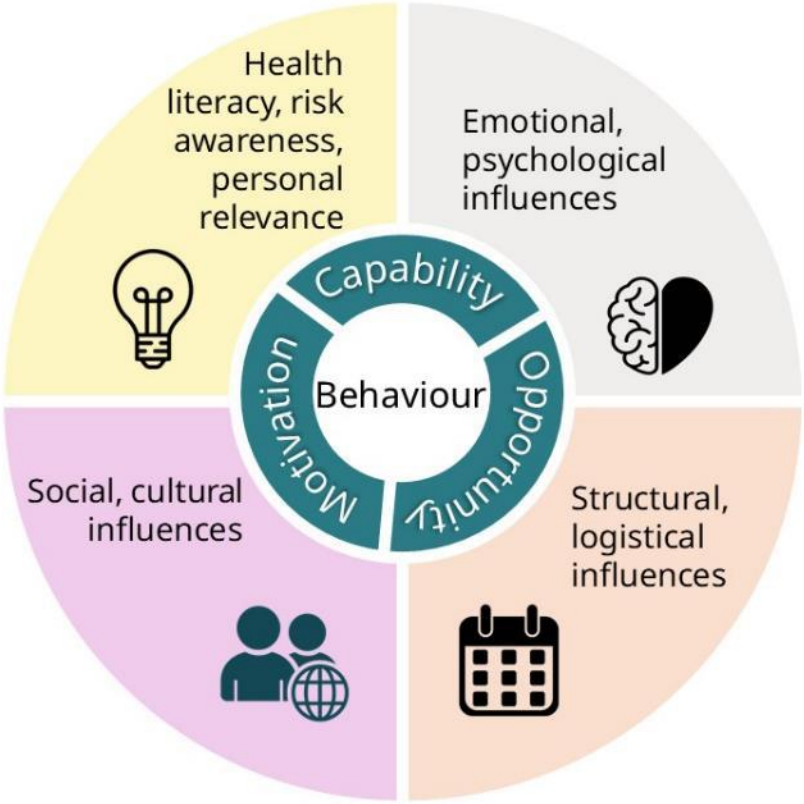
Beaufort conducted **50 qualitative in-depth interviews with adults in Wales with Type 2 Diabetes** and **15 with healthcare professionals** in Wales mostly involved in directly supporting patients with Type 2 Diabetes. Fieldwork took place February to May 2025.

[1] See https://phw.nhs.wales/services-and-teams/tackling-diabetes-together-programme/

1.2 Key findings

The diagram below highlights the four main themes to emerge from the research that were found to influence behaviours relating to engagement with healthcare and efficient self-management. These themes have been considered in the context of the COM-B Model[2] (Capability, Opportunity, Motivation - Behaviour). It allows for an evidence-informed approach to understanding determinants of behaviour and enables the development of recommendations.

Key research themes



The tables overleaf provide a summary of the findings for each theme identified.

[2] The COM-B model is a behaviour change framework that suggests behaviour is influenced by three key components: Capability (physical and psychological ability), Opportunity (external factors like environment and social support), and Motivation (internal drivers such as habits, beliefs, and emotions). See https://pmc.ncbi.nlm.nih.gov/articles/PMC3096582/

***Health literacy* played a significant role in influencing participants' perceptions of diabetes including risk awareness, and personal relevance[3].**

Facilitators of engagement associated with health literacy	*Barriers to engagement associated with health literacy*
• Knowledge and skills were built through healthcare professional advice, personal research, and learning from others' experiences. • Diet and exercise were central areas of self-management focus. • Growing understanding sometimes boosted confidence, habit formation, and engagement. • New treatments (e.g. GLP-1s[4] like Ozempic) and technologies (e.g. continuous glucose monitors[5]) helped engagement / re-engagement. • Participants valued healthcare professionals who explained diabetes in ways that made sense and felt relevant.	• Common knowledge gaps centred on diet management and food misconceptions. • Some struggled to absorb information, especially around the time of diagnosis. • Seemingly rushed interactions or limited opportunity for dialogue could restrict understanding and not feel very tailored. • Some felt that the disease and its risk of complications had not been sufficiently explained to them. • Perceptions of personal risk varied; lower perceptions of risk were sometimes linked to disengagement with services and self-management. • Healthcare professionals sometimes felt patients struggled to understand diabetes and its risks despite health service efforts. • Awareness of available health services and access routes was often limited.

[3] Health literacy, risk awareness, and personal relevance refer to how well someone understands their condition, how serious they believe it could become (risk awareness), and whether they feel the risks could apply personally to them (personal relevance).
[4] These drugs can be prescribed to lower blood sugar levels in people living with Type 2 Diabetes. They can also be prescribed to support some people with weight loss.
[5] Continuous glucose monitors (CGM) let users check their blood sugar levels without having to prick their fingers.

***Emotional and psychological factors* were deeply embedded influences on participants' engagement with health services and self-management.**

Positive emotional / psychological influences	*Emotional / psychological barriers*
• Emotional support and encouragement from family, friends, or colleagues helped sustain motivation for some participants. • Positive, supportive interactions with healthcare professionals that were tailored to the individual (including reassurance, encouragement, and recognition of effort) supported engagement for some participants. • Trust in professional expertise encouraged engagement for some. • Healthcare professionals also highlighted the importance of adapting advice based on patient preferences and circumstances, offering non-judgemental support, and building trust. • Personal responsibility, willpower, and a desire for control helped drive self-management and service engagement for some. • Maintaining or improving quality of life, often for the sake of family, was a key motivational factor for some. • Seeing positive results from personal efforts to control diabetes (e.g. improved health outcomes) reinforced ongoing engagement. • The shock of diagnosis sometimes acted as a catalyst for reflection and behaviour change.	• A lack of understanding or support from others could emotionally undermine efforts to control the condition. • Negative personal or family experiences led a few to express mistrust in services. • Mental health challenges, such as low mood or bereavement, could disrupt routines and reduce engagement. • Changing dietary habits and maintaining physical activity were emotionally challenging for some. • For a few, the initial shock of diagnosis led to denial or delayed acceptance of the condition. • A few participants feared judgement from health professionals or others, which could affect service use. • Competing demands, such as other health conditions or caring responsibilities, also limited capacity to engage.

Structural and logistical influences[6] *regularly shaped participants' ability to engage with diabetes-related services and self-management.*

Positive influences on engagement	*Barriers to engagement*
• Engagement was supported when services were accessible, convenient, and flexible (e.g. easy travel, appointment reminders, responsive healthcare professionals). • Being routinely called for reviews helped some to develop engagement routines.	• Difficulties accessing services were common, including securing appointments, limited availability, inconvenient timings, and transport issues. • Healthcare professionals also described systemic pressures (e.g. workload, staff shortages, limited psychological support for patients) that affected service delivery. • Workplace-related challenges sometimes limited participants' ability to attend appointments or manage their condition. • Environmental barriers, like the widespread availability of unhealthy food and perceived cost of healthier food choices, made dietary change harder for some. • Language barriers occasionally made it difficult to interact with healthcare professionals or participate fully in group sessions.

Social and cultural influences played a smaller but notable role in determining how participants engaged with self-management

Positive influences on engagement	*Barriers to engagement*
• Family members often provided practical (in addition to emotional) support, such as adapting meals, helping with education, and assisting with care routines. • Work colleagues occasionally supported personal efforts to control diabetes, for example describing their own experiences.	• Cultural and religious practices sometimes conflicted with dietary recommendations, particularly during times of celebration. • Managing health advice from a patient's country of origin and from healthcare professionals in Wales could create uncertainty around self-management approaches.

[6] Structural and logistical influences refer to the practical or environmental factors that affect how easy or difficult it is for someone to use health services or manage their condition. This includes things like appointment availability, travel or time constraints, how services are organised, and how common unhealthy food options are in everyday surroundings.

***Participants' suggestions for better supporting patients* largely reflect the themes above: improving understanding, enhancing access / services, and strengthening emotional support**

Improving education and understanding	• Some patients and healthcare professionals felt that patients should be provided with more information about the condition. The information could also be provided earlier in patients' diabetes journey to help prevent health complications. • More tailored dietary advice and better education on the risks of complications were sometimes requested by patients.
Enhancing access and service design	• Some patients wanted easier and more consistent access to health services; healthcare professionals echoed this. • Suggestions from patients included more flexible appointment times, longer appointments, more regular check-ins and, from among healthcare professionals, more standardised reviews. • Giving patients more clarity earlier on regarding the care to expect would also help, mentioned among healthcare professionals. • Some healthcare professionals and patients proposed delivering services closer to home and in one location for greater convenience and to encourage engagement.
Strengthening emotional support	• More emotional and psychological support was suggested among patients and healthcare professionals as likely to improve motivation and sustained engagement e.g. helping patients who knew what they needed to do to control their diabetes but struggled to do it. • Peer and group-based support, whether led by healthcare professionals or involving other patients, was also put forward by patients and healthcare professionals.
Harnessing technology	• Greater use of digital tools, such as continuous glucose monitor devices or apps, said some patients, was expected to help with self-management and support engagement.

Conclusions and recommendations

Using topic guides informed by behaviour change models, this research explored influences on patient engagement with health services and personal efforts to control the condition among adults with Type 2 Diabetes and healthcare professionals. The findings highlight that key influences on engagement are linked to what people know and understand about the condition including experiences with health services; emotional drivers; service accessibility and design; and the practical and social conditions around them.

The Behaviour Change Wheel[7] (BCW) has been used to develop conclusions and recommendations based on the research findings. Specifically, the tables overleaf apply the BCW to the four key themes and their barriers that emerged. For each theme, the table highlights:

- Barriers associated with the theme
- Which component of the COM-B model the barriers links to
- Potential intervention types and policy options according to the BCW framework
- Recommendations to consider
- Behaviour related goals and intended outcomes arising from the recommendations.

When reviewing the information below, it should be remembered that there were good levels of positive feedback from participants on the services and healthcare professional staff they engaged with.

Theme	Issue	COM-B component	Potential intervention types and policy options	Recommendation to consider
Health literacy challenges, behaviour related goals, and intended outcomes				
Limited understanding of condition, diet, and diabetes risks	Knowledge gaps about diet management, misconceptions about food, limited understanding of the disease and its complications	Psychological capability	**Intervention**: education, training **Policy**: using communications / marketing, creating and disseminating guidelines	• Develop tailored, accessible communications / information for people with Type 2 Diabetes – co-produce requirements with patients, family member(s) • Ensure information is psychologically, emotionally, culturally, and behaviourally informed[8]
Difficulty processing or receiving information	Struggling to absorb information at diagnosis; rushed or unclear conversations with HCPs; limited dialogue during appointments	Psychological capability, social opportunity (targeting healthcare professional behaviour)	**Intervention**: education, enablement, environmental restructuring **Policy**: providing a service, using communications / marketing	• Ensure patients are effectively informed about the condition and its risks early on in their diabetes journey and with staggered learning / periodic reminders • As far as possible, offer service flexibility to personalise the timing and amount of information given
Variable perceptions of personal risk	Some did not feel at risk or believed complications	Reflective motivation	**Intervention**: education, persuasion,	• Ensure patient education on risk is psychologically,

[7] See https://pmc.ncbi.nlm.nih.gov/articles/PMC3096582/
[8] See https://phwwhocc.co.uk/resources/developing-behaviourally-informed-communications/

	were unlikely to happen to them		incentivisation, modelling **Policy**: using communications / marketing, creating and disseminating guidelines	emotionally, and culturally informed • Highlight tailored quality-of-life outcomes linked to reducing risk and taking ownership
Limited awareness of services and access routes	Lack of knowledge about services, education courses, tech options, and how to access them	Physical opportunity, psychological capability	**Intervention**: education, training, enablement **Policy**: using communications / marketing, creating and disseminating guidelines	• Improve quality and accessibility of information available on services • Ensure patients have a clear roadmap around diagnosis time of what to expect in terms of care processes and appointments; and are provided with periodic reminders of what is involved (e.g. a checklist of essential appointments to complete and prompts about wider services available) • Ensure they are aware of the services available, what each one does, why each is important, and how to access them. • Ensure healthcare professionals are aware of services / support available for referral / signposting.
Limited use of technology to support patients	A sense that more could be done via technology to improve self-management / service engagement	Psychological capability, physical opportunity	**Intervention**: education, enablement **Policy**: providing a service	• Develop / promote use of diabetes apps e.g. with advice, care process reminders (including for those who manage their diabetes well), and videos • Consider whether continuous glucose monitoring devices could be accessed more widely where appropriate

The recommendations for consideration above are intended to support the following behaviour related goals:

- Patients are eating healthier food, doing suitable exercise, and adhering to medication
- Patients continue to practise self-management behaviours and seek advice when symptoms linked to possible complications arise
- Patients' regularly attend appointments for care processes and services.

The intended outcomes include:

- Improved understanding of how Type 2 Diabetes can affect the body and health over time
- More informed decision-making about lifestyle, diet, and engagement with health services
- More confidence and capability to self-manage diabetes
- Reduced confusion or misinformation (e.g. around diet or symptoms) that might hinder self-management
- Stronger sense of ownership and personal relevance, supported by a more tailored approach to communication from health services
- More consistent uptake of the care processes and attendance at key appointments
- Improved clarity for patients on what support is available, when to use it, and how it can help
- Reduced disengagement linked to low perceived severity or lack of understanding
- How more technology use could reduce to an extent the burden on healthcare professionals from patients who are managing but feel they need more healthcare professional interaction.

Theme	Issue	COM-B component	Potential intervention types and policy options	Recommendations to consider
Emotional and psychological challenges, behaviour related goals, and intended outcomes				
A lack of understanding or support from others	Family / friends / workplaces can emotionally undermine efforts to control the condition	Reflective motivation, social opportunity	**Intervention**: education, enablement **Policy**: providing a service, creating and disseminating guidelines, using communications / marketing	• Develop ways of engaging family / peers on how to support the family member with diabetes • Develop and enable peer support • Explore how best to offer group support • Develop workplace guidance on supporting colleagues with diabetes • Develop campaigns to tackle societal perceptions of Type 2 Diabetes
Mistrust in services (negative personal / family experiences)	Mistrust can discourage service use and reduce belief in their value	Reflective motivation, social opportunity	**Intervention**: persuasion, modelling, enablement **Policy**: using communications / marketing	• Share positive service experiences via patient stories • Involve patients in service feedback or co-design
Mental health challenges affecting routines and engagement	Periods of low mood, depression, or bereavement can reduce emotional capacity	Reflective motivation, psychological capability	**Intervention**: enablement, training, environmental restructuring	• Create joined-up pathways linking diabetes and mental health support

	to self-manage and engage with services		**Policy**: providing a service	• Embed psychological support in services / ensure services are psychologically informed • Review staff training for identifying and responding to patients' emotional needs
Emotional / psychological difficulties making and maintaining changes	Factors like comfort eating, prior habits or self-doubt can make change harder to maintain	Automatic motivation, reflective motivation	**Intervention**: enablement, modelling **Policy**: creating and disseminating guidelines, using communications / marketing, providing a service	• Create joined-up pathways linking diabetes and psychology support • Embed psychological support in services / ensure services are psychologically informed • Co-produce small, achievable goals with patients – and recognise progress • Share relatable success stories • Highlight tailored emotional benefits of maintaining changes • Make use of key moments (diagnosis, treatment changes) to (re-)engage
Fear of judgement	Anticipated stigma or embarrassment can deter patients from accessing services or being open about difficulties	Automatic motivation, social opportunity (through targeting healthcare professional behaviours)	**Intervention**: training, persuasion, environmental restructuring **Policy**: using communications / marketing, providing a service	• Create joined-up pathways linking diabetes and psychology support • Embed psychological support in services / ensure services are psychologically informed • Review service communications language to ensure they sound supportive • Ensure staff training encourages empathy and covers stigma awareness • Develop campaigns to tackle societal perceptions of Type 2 Diabetes.

The recommendations for consideration above are intended to support the following behaviour related goals:

- Continued engagement in self-management behaviours (e.g. eating healthy food, doing suitable exercise, medication adherence) despite emotional and mental health challenges
- Attending diabetes-related appointments and engaging with services even during periods of low mood, stress, or competing demands
- Seeking and accepting emotional / psychological support from healthcare professionals, family, and peers
- Communicating openly with healthcare professionals about emotional wellbeing and self-care challenges.

The intended outcomes include:

- Increased patient activation to self-manage / access support
- Improved emotional resilience and motivation to continue self-management
- Increased access to and use of emotional and psychological support

- Ensuring awareness among healthcare professionals of the emotional / psychological struggles people with Type 2 Diabetes may face
- Strengthened trust and rapport between patients and healthcare professionals
- Increased uptake of support services and peer networks that can sustain behaviour change
- A more holistic approach to diabetes care that reflects the reality of patients' emotional lives and competing demands
- Reduced emotional resistance to making lifestyle changes or engaging with services
- Minimised fear of judgement or mistrust in services.

Theme	Issue	COM-B component	Potential intervention types and policy options	Recommendations to consider
Structural and logistical challenges, behaviour related goals, and intended outcomes				
Difficulties accessing services	Issues such as securing appointments, limited availability, inconvenient timings, and transport issues	Physical opportunity	**Intervention**: environmental restructuring, enablement **Policy**: environmental and social planning, providing a service	• Explore how service models could improve access and continuity, for example with more flexible hours, easier ways to book appointments and the potential for more co-location / community care hub based services. This could also help with reaching patients who have entirely disengaged from health services and attempting to control their diabetes
Systemic pressures affecting healthcare delivery	Challenges like staff workload and staff shortages can make it difficult for staff to always deliver an effective service	Physical opportunity	**Intervention**: environmental restructuring, enablement **Policy**: environmental and social planning, providing a service	• Explore to what extent care hub based services could deliver services more efficiently • Explore how technology could support more efficient service delivery (e.g. to reduce admin) • Explore how consistently services and support are being delivered so that there is greater clarity for patients and healthcare professionals • Ensure healthcare professionals feel supported to deliver empathetic and encouraging interactions that increase patient confidence
Patients' workplace-related challenges limiting engagement	Inflexible schedules, limited peer understanding of diabetes-related needs	Physical opportunity	**Intervention**: enablement **Policy**: using communications / marketing	• Develop awareness campaigns tailored for employers • Share case studies of supportive employer approaches

Environmental barriers to healthy eating	Widespread availability of unhealthy diet options, expense of healthier options	Physical opportunity, reflective motivation	**Intervention**: education **Policy**: using communications / marketing	• Deliver (more) food budgeting workshops with diabetes-specific examples
Language barriers can limit interaction	Can be difficult to interact with services without adequate language support	Physical opportunity	**Intervention**: enablement, training **Policy**: using communications / marketing, creating and disseminating guidelines	• Ensure core diabetes communication materials can be made available in different languages • Explore potential for training bilingual peer volunteers to co-deliver support group sessions

The recommendations for consideration above are intended to support the following behaviour related goals:

- More regular and sustained attendance at health appointments
- Patients making more informed and cost-conscious food choices that suit diabetes self-management
- Patients with limited English language skills feel more encouraged to access services.

The intended outcomes include:

- Increased patient completion of recommended care processes (e.g. HbA1c checks, eye screening)
- More diabetes-friendly working environments
- Increased patient confidence and skills in producing budgeting for healthy meals
- Improved service access and engagement for patients from diverse linguistic backgrounds.

Theme	Issue	COM-B component	Potential intervention types and policy options	Recommendations to consider
Social and cultural challenges, behaviour related goals, and intended outcomes				
Cultural / religious practices can conflict with dietary recommendations	Challenges with religious / cultural norms around food, fasting, and celebrations	Social opportunity, reflective motivation	**Intervention**: education, persuasion, enablement **Policy**: using communications / marketing, creating and disseminating guidelines	• Provide culturally sensitive dietary advice • Offer support ahead of common celebration periods to help people plan their diabetes management
Conflicting or mixed messages from different sources	Differing health advice from country of origin and from Wales healthcare professionals can create uncertainty	Psychological capability	**Intervention**: education, training, modelling **Policy**: using communications / marketing, creating and disseminating guidelines	• Support healthcare professionals to understand / acknowledge patients' cultural backgrounds • Reinforce evidence-based self-management approaches • Use culturally relatable case studies

The recommendations for consideration above are intended to support the following behaviour related goals:

- Patients communicating with healthcare professionals when they need help managing diabetes in relation to cultural practices
- Patients following a suitable diet while observing cultural or religious practices
- Patients confidently following Wales healthcare professionals' advice despite differing guidance from other cultural or national contexts.

The intended outcomes include:

- Improved adherence to self-management behaviours during culturally significant periods
- Increased clarity and confidence in following appropriate diabetes guidance
- More inclusive and accessible health communications and services for diverse groups.

2. Plain English project summary

Supporting people with Type 2 Diabetes in Wales to live well with the condition

Why we did the research
Type 2 Diabetes is a common health condition in Wales, and it can be hard to live with and manage the condition. Managing diabetes means using diabetes health services for things such as regular checkups, blood tests and eye screenings. It also requires personal efforts like eating healthily, staying active, taking medication, and checking blood sugar levels. If type 2 Diabetes is not managed well over a long period of time, it can lead to other serious health problems with the heart, eyes, feet and kidneys. It is important to understand how to support people with Type 2 Diabetes to live well with the condition.

What we did
Public Health Wales asked Beaufort Research to find out what helps and what makes it harder for people with Type 2 Diabetes to look after their health and use diabetes health services. Beaufort spoke to 50 adults in Wales living with Type 2 Diabetes and 20 healthcare professionals who work in Wales.

To make positive changes, people need the right knowledge and skills, the support and resources around them, and the motivation to take action. If any of these are missing, it can be hard to change behaviour. This research looked at all three of these areas to understand what helps or gets in the way of managing Type 2 diabetes and using support services.

What people said helped them manage their diabetes
- Clear, supportive advice from healthcare professionals helped people understand their condition and why check-ups and self-care are important.
- Many participants understood the value of a healthy diet and regular exercise.
- Family encouragement, practical help at home, feeling personally responsible for their health, and seeing improvements in their own health motivated people to keep going.
- Positive service experiences, such as supportive staff, easy access to services, appointment reminders and flexible appointments encouraged people to stay engaged.

What people said made it harder to manage diabetes

- Not fully understanding diabetes, its risks, or how to manage their diet – and not knowing what support is available.
- Emotional challenges such as stress, low mood, or worry about being judged.
- Difficulty changing long-standing habits and sticking to new routines.
- Practical problems like limited appointment availability, travel difficulties, busy health services, and the high cost of healthy food.
- Cultural and social factors sometimes made it difficult to follow dietary advice, for example during celebrations.

What this means

This research gives new insight for Wales into how people with Type 2 Diabetes manage their condition and engage with support. It suggests that people are more likely to stay on track when information is clear, relevant to their lives, and when services are accessible and encouraging.

But people said this isn't always happening. They don't always fully understand what support is available, what care to expect, or why it matters. Emotional struggles and service access issues also get in the way. Healthcare professionals highlighted the need for more time, and more joined-up support to meet these needs.

The findings indicate a need for information and services that consider the emotional impact of living with diabetes. There is also a need for clearer signposting of services, and support that is more flexible and feels more relevant.

Relatively small changes, like clearer and suitably timed communications or enabling peer and family support, could also make a positive difference to how people live with and manage their diabetes in the long term.

3. Project background, objectives, and method

3.1 Research background

Diabetes is a national priority. In 2023, Wales had the highest prevalence of Diabetes in the UK, with an estimated 1 in 13 adults living with the condition (1). About 90% of these adults have Type 2 Diabetes Mellitus (2). Public Health Wales projects that the prevalence of Type 2 Diabetes in Wales will likely increase to 1 in 11 adults by 2035 without effective intervention (1). Also, it is estimated that over 65,000 people in Wales are living with undiagnosed diabetes (3). Living with undiagnosed and untreated Type 2 Diabetes is associated with poor health outcomes such as foot ulcers, damage to the eyes, cardiovascular disease, and chronic kidney disease.

The increasing prevalence of adults with Type 2 Diabetes in Wales presents various challenges across health, social, and economic domains. The health challenges include comorbidities, their management, and the additional stress they put on healthcare resources, and access to and quality of care (4). Social challenges also exist, such as the impact on the quality of life of individuals with Type 2 Diabetes, inequities with the condition often being more prevalent in socioeconomically deprived areas, and the burden on carers (5). Type 2 Diabetes also presents broader, economic challenges with increased healthcare costs (4) (e.g. medication, frequent hospital visits, and long-term management of diabetes complications), productivity loss in the workforce (6) and increased reliance on welfare support systems (7).

Wales is therefore taking action. A Tackling Diabetes Together Programme[9] has been developed as a collaborative initiative. It aims to achieve a step-change in diabetes management and prevention by December 2028. This step-change needs to achieve two strategic ambitions, that Wales will:

- Have more people living well with diabetes (Types 1 and 2) as measured through a reduction in amputations and other diabetes pathways
- Have stopped the prevalence of diabetes increasing, focusing principally on Type 2 Diabetes.

[9] See https://phw.nhs.wales/services-and-teams/tackling-diabetes-together-programme/

Two core strands have been highlighted that will help tackle the problem: encouraging sustained effective self-management behaviours[10] and encouraging regular and consistent engagement with health services[11].

To feed into this programme, Public Health Wales commissioned Beaufort to undertake qualitative research to explore the barriers and facilitators to engagement with services and with self-management behaviours.

3.2 Research aim and objectives

The overall aim of the research was to understand the determinants of engagement with self-management behaviours and healthcare services for people living with Type 2 Diabetes in Wales, including the identification of barriers and facilitators experienced by those living with the condition and provision of this support by healthcare professionals. The findings will help inform approaches and potential interventions that could optimise and sustain engagement with services by people living with Type 2 Diabetes.

The main objectives set were:

- To explore the beliefs and attitudes of adults living with Type 2 Diabetes towards their condition using the Health Belief Model[12]
- To explore the determinants of engagement with health services for adults living with Type 2 Diabetes in Wales using the COM-B model[13]
- To explore determinants of self-management behaviours of Type 2 Diabetes amongst those living with the condition using the COM-B model
- To understand how communication by healthcare professionals about a diagnosis of Type 2 Diabetes and/or risk of developing complications influences engagement with health services/self-management

[10] 'Self-management behaviours' are activities that can be described as the everyday things people do to help manage their health and condition. For someone with Type 2 Diabetes, it can include making healthy food choices, staying active, taking medication, and in some cases checking blood sugar levels themselves.

[11] 'Health services' refer to the care and support provided by professionals such as GPs, practice nurses, diabetes specialist nurses, dietitians, diabetic eye screeners, podiatrists, and hospital consultants – among others - to help people manage their diabetes.

[12] The Health Belief Model proposes that people's engagement in health behaviours is shaped by their beliefs about a condition's seriousness, their susceptibility to it, the benefits and barriers to taking action, and cues to trigger that action.

[13] The COM-B model is a behaviour change framework that suggests behaviour is influenced by three key components: Capability (physical and psychological ability), Opportunity (external factors like environment and social support), and Motivation (internal drivers such as habits, beliefs, and emotions). See https://pmc.ncbi.nlm.nih.gov/articles/PMC3096582/

- To understand how healthcare professionals can support diagnosis of adults at risk of developing Type 2 Diabetes as well as support adults living with Type 2 Diabetes to engage consistently with health services
- To explore healthcare professionals' practice, and the associated determinants that are associated with the delivery of optimal care for those with Type 2 Diabetes, using the Theoretical Domains Framework[14]
- To develop a set of behaviourally informed recommendations for optimising delivery of and engagement in treatment and support for those living with Type 2 Diabetes in Wales.

3.3 Research method and sample

Study design

This qualitative study addressed the objectives using in depth semi-structured interviews of adults with lived experience of diabetes. This approach is particularly well-suited for in-depth exploration and generating rich data, to understand the context and experience of patients and healthcare professionals in diabetes care and service provision; and to help further inform policy and practice (8).

Further benefits to this project of a qualitative method were:

- The ability to explore the diversity around the topics of interest in more depth than would be possible via a quantitative approach
- The ability to reach groups of interest who would otherwise be difficult to include using a quantitative method
- The ability to give adults with Type 2 Diabetes the opportunity to discuss in confidence their perceptions and experiences of living with the condition
- The greater likelihood that it will generate actionable insights.

Potential constraints of this qualitative research are that those who are entirely disengaged with health services and self-management, or who have significant concerns regarding stigma and judgement, are less likely to volunteer to take part. There is also the limited ability to draw decisive inferences from the feedback obtained that can be applied to a population, as the sample is not, by design, representative. However, the sample still delivers a broad range of experiences and perceptions among adults with Type 2 Diabetes in Wales.

[14] The Theoretical Domains Framework consists of 14 domains, which are broad categories of influences on behaviour. These include knowledge, skills, social/professional role and identity, beliefs about capabilities, beliefs about consequences, motivation and goals, memory, attention and decision processes, environmental context and resources, social influences, emotions, and behavioural regulation.

Qualitative investigation is intended to provide in-depth understanding which was required for exploring the research objectives. Its strengths lie in the ability to identify themes across diverse groups, provide illustrative examples of experiences and opinions and indicate the convergence or divergence of views or reported experiences. Additionally, the research still identified influences linked to disengagement like health literacy, mental health, and stigma.

Qualitative insights

Public Health Wales contracted Beaufort Research to conduct **50 in-depth interviews** with adults in Wales living with Type 2 Diabetes, and **15 interviews with professionals** who provide care to people living with Type 2 Diabetes in Wales.

Sample sizes for qualitative studies into lived experience of diabetes vary significantly. Studies that interviewed people living with diabetes have previously recruited between 10 (9) and 52 (10) participants. The majority of these studies include 20-35 participants (11-14), indicating that a maximum of 50 would be sufficient, given that the aim was to ensure the study captured views from a wide range of individuals across the purposeful sampling groups.

Sample sizes also vary in studies where healthcare practitioners were interviewed around their perspectives of providing diabetes care, but a number of studies have found 10-15 interviews to be sufficient (15-18).

The in-depth interviews were carried out mainly online (with Zoom or Teams) and occasionally by phone to suit participant preference. The majority of interviews lasted 45-60 minutes. Fieldwork took place 20 February to 1 May 2025.

The interviews with people living with Type 2 Diabetes examined the process of receiving a Type 2 Diabetes diagnosis, engaging or disengaging with services or programmes that can help to prevent Type 2 Diabetes related complications, reverse or put Type 2 Diabetes into remission, perceptions about Type 2 Diabetes as a medical condition including self-management, risk of developing complications and what can be done personally and across the system to improve early diagnosis and engagement with health services. Interviews with healthcare professionals examined experiences of providing care and support to people living with Type 2 Diabetes. They also examined the perceived factors that affect engagement with adults living with diabetes as well as perceptions about improving diagnosis and sustained engagement with services by people living with Type 2 Diabetes.

Sample details

The sample of 50 **patients** included an almost equal number of men and women. Fewer than five participants identified in another way, so these numbers are not reported separately to protect anonymity. There was a mix of ages, time since diagnosis, socio-economic grouping, and Welsh Index of Multiple Deprivation[15] quintiles. Also contained within the sample were minority ethnic participants including those with African / African-Caribbean, East Asian, and South Asian heritage. The table below provides a breakdown of the patient sample achieved.

Research sample of adults with Type 2 Diabetes

Socio-economic grouping	
AB	7
C1C2	27
DE	16
Time since diagnosis	
0-2 years	11
3-5 years	13
6-10 years	7
11+ years	19
Age group	
18-39	12
40-59	20
60+	18

WIMD quintiles ('Q')	
Q1	20
Q2	18
Q3+	12
Socio-economic grouping DE and Q1/Q2	13
Minority ethnic participants	
Including participants with South Asian, African / African-Caribbean, and East Asian heritage	17

Healthcare professional job roles in the sample of 15 healthcare professionals covered Chronic Conditions Specialist Nurse, Clinical Psychologist, Diabetes Specialist Nurse, Diabetes Transitional Care Co-ordinator, Dietitian (e.g. Community, Deputy Head, Lead), General Practice Nurse, GP Partner, Podiatrist, and Senior Clinical Fellow. Further sample detail is provided overleaf.

[15] Welsh Index of Multiple Deprivation. See https://www.gov.wales/welsh-index-multiple-deprivation

Research sample of healthcare professionals

Number of health boards	6
Number of years' experience in this field	Fewer than 5 years - 5
	6+ years - 10
Working in primary / secondary care	Primary care - 6
	Secondary care or across both - 9

We recruited patients in two ways:

- Via Beaufort's network of qualitative research recruiters based in Wales
- Via a flyer shared by Public Health Wales and Beaufort with health support organisations and organisations involved with certain groups of interest (e.g. minority ethnic participants).

A large majority of participants were recruited using Beaufort's network of recruiters. Including this recruitment method was intended to serve two purposes: the first was to increase the chances of achieving the required sample size and within the project's timelines. The second was to help us achieve a broader range of perceptions and experiences than might have been possible had we only spoken with patients who were already engaged with support organisations; and who were self-selecting.

In line with best practice, a financial token of appreciation for taking part in the study, was provided to patients and healthcare professionals in recognition for their time and effort in taking part in the study.

Topic guide, analysis, and report

PHW designed a topic guide for patients that was informed by the COM-B Model and Health Belief Model. These models are well-established behavioural science frameworks that help explore the factors influencing health-related behaviours, such as perceived risks, motivations, and barriers to engagement. They provide a practical foundation for identifying intervention opportunities to support self-management and service use.

The guide for healthcare professionals was informed by the Theoretical Domains Framework. The framework is particularly useful for identifying barriers and facilitators to implementation in healthcare settings, making it well

suited for informing practical improvements. Both topic guides are provided in the appendices.

Verbal consent to participate from participants was digitally recorded at interview. Written consent to take part was also received from all participants. All interviews were recorded and transcribed using intelligent verbatim transcription. Transcripts formed the basis for the analysis which was supported by using NVivo to code their content. A deductive approach was applied with an initial hierarchical coding framework, alongside a data driven approach where new 'free codes' emerging from the data could also be generated. Once initial coding was completed, the themes and the initial coding framework were brought together into overarching themes. The themes were then written up to develop the findings.

The report content is organised by the key themes that emerged. Each theme can be a facilitator and barrier to engagement with health services and personal efforts to control diabetes. The feedback from healthcare professionals is incorporated within these themes. The way in which each key theme links to the COM-B Model is highlighted at the start of each chapter. The research findings focus on the COM-B Model because it offers a clear, practical structure for understanding and influencing behaviour, and provides a direct link to intervention planning through its connection to the Behaviour Change Wheel[16].

Bold text is used in the report to identify themes and change of topic. Anonymous verbatim comments made by participants are included in the report. These comments should not be interpreted as defining the views of all. Instead they give insight into individual views on the points identified. Each comment has an attribution which indicates the participant's characteristics. For patients, it gives their gender, how long ago they were diagnosed, and their age. Healthcare professionals are identified as 'HCP'. Roles are not provided by default to protect anonymity.

[16] See https://pmc.ncbi.nlm.nih.gov/articles/PMC3096582/

4. Health literacy, risk awareness, and personal relevance

Health literacy, risk awareness, and personal relevance refer to how well someone understands their condition, how serious they believe it could become, and whether they feel the risks could apply personally to them. This chapter explores their influences on participants' perceptions and behaviours regarding diabetes. It broadly reflects the 'Capability' element of the COM-B Model which in this context relates to whether participants have the knowledge, understanding and skills to engage with health services and self-management effectively.

4.1 Understanding of self-management requirements

Positive knowledge-building and skills development
There were three main influences that helped to build participants' knowledge and skills for their own efforts to control their diabetes:

- Advice and support from healthcare professionals and the materials they provided; and structured education delivered through health services
- Families' experiences with Type 2 Diabetes
- From doing their own research – mainly online and occasionally reading books.

The support provided by **health services** in educating participants on lifestyle changes often positively influenced participants' engagement and motivation to change. Key areas highlighted were the benefits of **improvements in dietary** and **physical activity** habits. References were made to the benefit of learning new information, helpful advice, attending group sessions, and receiving printed material and links with support information. A small number who were diagnosed many years ago added that they felt such information and support had **improved over time**.

> *When I first met with the diabetic nurse when I was diagnosed, she said, 'You will have a more in depth conversation with someone else, but for now, try and eat carbs only for one meal a day, take these tablets, make sure you exercise, look after your feet, and then when you have your extra support, you'll be able to discuss it more'. (M, diagnosed 0-2 years ago, 18-39)*

> *My GP mostly help me at the start because she tell me what do I need to do from the diet side, and then from the exercise side. (M, diagnosed 0-2 years ago, 40-54)*

Learning that the condition can be **reversed**, said a number of participants, was a further factor that encouraged personal efforts to control their diabetes.

> *My parents' doctor says that 'you are young, you are not at that age where you can't reverse it, so you can easily reverse it', . . . It might come eventually after a few years, but with that age gap, I am [late 20s], I can easily reverse my diabetes; I can be a normal person again. (F, diagnosed 3-5 years ago, 18-39)*

Healthcare professionals also felt that education from health services and the support available played an important role in shaping patients' views, developing self-management skills, and encouraging engagement. The more knowledgeable patients were about their condition, the more they were able to manage it effectively and remain engaged.

> *I think it's really important because I firmly believe you have to understand why you need to do it before you're going to do it; so I think getting the right education at the right time for the patient is key. (HCP)*

Diet

Through all three main sources listed above, participants had often developed an understanding in particular of the importance of **managing blood sugar levels through dietary adjustments** as well as the need in some cases to lose weight. They regularly referred to learning about the need to reduce sugar and carbohydrate consumption, and a few talked about learning to pay more attention to food labelling as a result. Portion control was a further step that a number of participants reported taking to help manage their diet. They explained that certain foods could still be eaten, just in lower quantities. Having such knowledge and understanding sometimes helped with **confidence** in personal efforts to control the condition. Female participants were more likely than male participants to raise this point about dietary changes.

> *From my own research, I Googled it and just looked at the effects that certain foods have on blood sugar spikes. Just making choices myself. (F, diagnosed 11+ years ago, 18-39)*

To help make dietary changes, several participants were trying to be **more prepared with their meals**, for example using meal plans suggested by healthcare professionals, batch cooking, and thinking ahead about what food they had in the house. Learning to plan in this way had been especially beneficial for a participant with autism in reducing anxiety levels about making change. They referred to how it 'reduced my stress about everything massively. . . . I'm just simply not very well and not capable of cooking every night' without a meal planner.

Some healthcare professionals highlighted how helping patients to **better understand the required dietary adjustments** was a key influence on engagement. Examples of areas covered included dietary advice and meal patterns, carbohydrate distribution, and carbohydrate counting courses. The community dietitian format of assessment and follow-up appointments was considered appropriate as well, provided patients attended the follow-ups. Patients would be educated by the dietitian on diabetes, especially if they appeared to know very little, and the healthcare professional would get to know them, before considering interventions. Visual aids were thought to help with patients' understanding of what they needed to do as well.

> *I do think that we are providing the best that we can at the moment. Either it's through group sessions or clinics. We have a lot of resources available for the patients as well, which we always signpost to them after the clinics. (HCP)*

Learning to be more active

The need to be **more active**, along with dietary changes and taking medication, was a further key behaviour that participants regularly associated with controlling their diabetes. They had gained this knowledge from healthcare professionals as well as sometimes family and online sources. A few had also learned that they could reduce glucose 'spikes' by exercising after eating.

> *If I have a spike, I will take steps either through more walking, . . . watching what I eat for the next few days, and then generally it comes down. . . . [I learnt it all] through talking to a nurse. (M, diagnosed 3-5 years ago, 60-79)*

The influence of emerging technologies and treatments on engagement

Access to new technology with continuous glucose monitoring devices also helped with a few participants' diabetes engagement, understanding and management. As well as providing participants with information on their blood sugar levels, the devices allowed healthcare professionals to monitor participants' readings remotely. The participants felt it helped them to have

more confidence controlling blood sugar levels, as well as providing them with a general sense of reassurance.

> *This has been an absolute miracle, because now I haven't got to worry about checking my bloods when I think I'm having a low; this goes off when it's low enough for me to have glucose or a sweet. I've got jelly babies in my pocket. This has been a great help. (M, diagnosed 11+ years ago, 60-79)*

Some healthcare professionals were also noting the impact on patients of this technology. It made information readily available to patients which helped with understanding and motivation.

Also, the emergence of **GLP-1 agonists**[17] was seen by some healthcare professionals to be triggering increased levels of engagement, and even re-engagement, as patients learned about the treatments and their benefits, and wanted to try them. However, it was also sometimes thought to be viewed by patients as an easy solution for their condition.

> *Some of the medication options we've got now have got benefits for helping diabetes like Mounjaro, Ozempic. That's been a good shift actually because for the first time in my career I've had people come in wanting to go on medication. (HCP)*

Forming habits

For some participants, gaining a better understanding of their diabetes helped build **confidence** in their ability to make informed decisions. This knowledge appeared to strengthen motivation and support a sense of control in developing **positive routines**.

> *They are routine, it just becomes the norm for me, which I suppose is the same with anything in life really. You do something repetitively like that, it just becomes your normal routine. It doesn't feel like you're doing anything different or out of the ordinary. (M, diagnosed 3-5 years ago, 18-39)*

Gaps in understanding self-management behaviours

Knowledge gaps emerged, however, as participants discussed personal efforts to control their diabetes. Some were concerned with **how to manage their diet**, other than just to try to avoid sugar. They wanted to know more about what exactly they could eat, suitable recipes / meals, the role of fruit and, for

[17] See https://www.diabetes.org.uk/about-diabetes/looking-after-diabetes/treatments/tablets-and-medication/glp-1

one participant, how to cook such meals. There was also an instance of a participant who thought they were making appropriate dietary changes, but it seemed that their adjustments were not necessarily suitable (e.g. switching to eating more fruit and swapping pasties for bread).

> *I understand the science behind why I need to switch to wholewheat pasta and that sort of thing. I think the thing I really struggle with the most is knowing what to eat. . . . Literally, I've no idea what I want to eat. I need meal ideas. (F, diagnosed 0-2 years ago, 18-39)*

Such gaps were also noted among **healthcare professionals**. Patients often reportedly held misconceptions about diet, and lacked a basic understanding of healthy nutrition, sugars, and the skills or equipment to prepare suitable meals, all of which affected their ability to self-manage effectively. Interactions with patients could therefore involve **unpicking misconceptions** about diabetes, such as needing to adopt a sugar-free diet. Some felt there was not enough formal education given to patients although some patients appeared to struggle to comprehend any educational information they were given.

> *They don't seem to take on board anything that you've said and any of the recommendations that you've made. . . . They all ask for a diet plan, they all want to know exactly what they should be eating. They don't want to take responsibility for looking at anything themselves. . . . It's predominantly middle aged men. (HCP)*

A further example emerged where the patient appeared to lack clarity about the different roles and responsibilities for patients and for healthcare professionals. The patient did not feel they were being **held accountable by healthcare professionals**. This in turn affected their effort and motivation in managing their condition. They wondered if they would only experience more engagement if their symptoms became more severe. This perception could also be interpreted as not taking ownership for their own health, which healthcare professionals referred to as an issue from time to time.

> *If I'm not being held to account on something, I won't bother. Because the diabetes doesn't make me ill as in I'm having to have my foot amputated, because I'm in the stage of my blood sugars are high but not high enough to cause eye issues, heart conditions etc., and I'm not yet in that space. I guess I'm just being left. (F, diagnosed 11+ years ago, 40-59)*

Further self-management understanding barriers

The following barriers also emerged among patients but were mostly individual comments:

- Feeling that a healthcare professional in early conversations did not cover **what it means to live with diabetes**, instead focusing on medication and referencing complications
- Initially believing that taking medication meant they could **eat whatever they want**, indicating that medication in their mind offset the need for dietary restraint
- Not understanding about **blood sugar levels** and not knowing how to interpret the numbers involved
- Not knowing what they should be doing now that their HbA1c[18] is in the '**normal range**'
- According to a healthcare professional, believing there is a patient perception that as long as they **attend appointments, they will be fine** and need not do too much in between.

4.2 Understanding of Type 2 Diabetes and its complications

Effective communication and comprehension

Participants regularly appreciated how different healthcare professionals had explained Type 2 Diabetes during conversations in a way that they thought **made sense**. Examples included the need for lifestyle changes for the long term, an easy-to-follow explanation of what was happening to the body, an overview of how carbohydrates work, and how diabetes medication might affect them. Gaining such knowledge helped with managing the condition.

> *My doctor said to me the changes that I make and things that I do, there may come a day when I'm not taking medication, but that does not mean I can slip into those old habits because I'll be right back where I started then. So, I know that a lot of these changes I'm going to have to make is going to be for life, it's not going to be quick fixes. . . . Knowledge is power, and I just think having all the information that you can explained to you in a way that you understand will only benefit you. (F, diagnosed 0-2 years ago, 40-59)*

[18] See https://www.diabetes.org.uk/about-diabetes/looking-after-diabetes/hba1c

In a similar vein, the view was expressed among **healthcare professionals** that their approach to topics such as explaining blood results, complication risks and why they were giving treatments helped with patient motivation.

> *I do tend to bring up diagrams that we have as resources, and it highlights all the possible links around the body. And you could see some people going, 'Oh, I didn't know that'. . . . I try to explain it that you almost have to think of it as a disease of your blood vessels in a way, the fact that every part of your body needs a blood supply. . . . It can potentially affect every part of your body. (HCP)*

The **care processes** were comprehensively covered, said a couple of healthcare professionals, during annual reviews which provided a structure to follow, ensuring nothing was missed. They would also recap so the patient had a 'clear plan' on next steps. They would then revisit the plan and steps the patient had said they would take. A healthcare professional explained further that revisiting plans and checking progress in-between reviews was also beneficial and motivating for patients. It was tailored based on how well the patient was thought to be controlling their condition.

Similarly, a couple of dietitians explained how they found it helped if they tailored patient interactions as much as possible, for example with some needing more support and follow-up than others; or providing individualised interventions (e.g. based on Ramadan).

A few patients said that they had attended **X-PERT courses**[19] which take place over a number of weeks. The courses had been informative and helpful, they said, covering a broad range of topics. Some (but not all) **healthcare professionals** concurred, deeming the courses helpful for delivering a comprehensive understanding of diabetes and managing the condition.

In addition to conversations, **printed material** received from healthcare professionals, including at or shortly after diagnosis, was helpful, recalled a few patients, with its content on diet and footcare, for example. It was also beneficial during the period when participants were coming to terms with their diagnosis because it could be difficult to absorb what the healthcare professional was saying about diabetes at an emotional time.

[19] See https://www.xperthealth.org.uk/. X-PERT Health is a UK based charity which aims to help people with diabetes by offering diabetes, insulin, and weight loss education programmes.

> *I think massive helps were the leaflets and stuff they gave out because even though they explained it, I can't even really remember being sat in there and what they were saying whereas I took that home, I read it with [my partner], I read it with my mum. (F, diagnosed 0-2 years ago, 18-39)*

From a **foreign language perspective**, one participant had very much welcomed the provision of clear printed material in Arabic which helped them to understand the condition and symptoms to look out for. Also, a translator was present at a workshop they attended which helped with motivation to improve self-management.

Some participants also highlighted the helpful role that **official health websites** had played which healthcare professionals sometimes signposted. NHS and Diabetes UK websites were supporting them in developing their awareness and understanding of Type 2 Diabetes, the changes they needed to make, and forming healthier habits. The sites were considered to be useful, 'fantastic', easy to understand, educational, accurate, authoritative, and motivating.

> *[My father] always goes to the NHS website because it's very simple, it's not a complicated website, he knows. It's good for his age to get online. . . . He uses the NHS websites for any information or if he wants to double-check the symptoms or anything like that. (Translating for parent, M, diagnosed 3-5 years ago, 40-59)*

The experiences of **family members** with diabetes also helped some participants to understand the condition and what management involves. **Healthcare professionals** recognised this influence, too.

A healthcare professional who gave diagnoses had noticed that patients seemed to be **increasingly aware of and knowledgeable** about diabetes. They thought it could be to do with family history, seeing health related campaigns and also the impact of prior blood tests and HbA1cs covering other health issues – so it was not so much of a surprise for some to be diagnosed.

Challenges in absorbing or receiving information

As outlined earlier, the **impact of diagnosis**, mentioned among patients and healthcare professionals, made it difficult for some to absorb information about risks and complications. However, some patients still said that they felt the disease and its risk of complications had **not been explained to them sufficiently**. Some continued to engage despite feeling the condition and its

risks had not been satisfactorily explained or why it was important to manage the disease effectively. Participants were sometimes still very conscious that Type 2 Diabetes was a serious illness, even if they did not feel they had a very good grasp of its risks.

> *They haven't mentioned anything [about complications], but I don't think they're too over-concerned at the moment because I'm just over rather than quite a bit over [with HbA1c readings]. (Male, diagnosed 3-5 years ago, 60-79)*

A few recalled that they had been given leaflets or signposted to websites, but that they had **not had a conversation about complications**. As examples, in one instance, the participant acknowledged they had not comprehended the risk to their eyes and assumed that their optician visits were sufficient. A further participant thought that perhaps risks were only raised in conversations if the patient was not thought to be managing the disease effectively. A final example was of a participant who felt that healthcare professionals only focused on the individual's weight versus the broader picture. Feedback on this issue included participants who had been living with diabetes for several years.

> *No, I don't think they have [explained why managing diabetes is important]. It was all about diet, that is managing your diabetes management, then it's the information telling you how bad the high blood sugars are. So, the only information that I think that I've got, it emphasised on diet. . . . It's clear with the diet, it's not clear with the dangers. (M, diagnosed 11+ years ago, 60-79)*

More broadly, a few patients highlighted a perceived **lack of meaningful communication** during appointments, including reportedly limited explanations of the condition and limited opportunity for dialogue about how to control their diabetes. Appointments with consultants, GPs, or at eye-screening clinics were occasionally described as rushed or lacking in personalised discussion. This contributed to a perception that some services were reactive, procedural, or 'box-ticking' in nature, rather than genuinely responsive to individual needs. Support could therefore feel insufficient, insufficiently tailored, or absent altogether, which sometimes affected confidence in self-management.

> *With the lack of support where they're so rushed and they're overstretched as it is, the appointments just feel like an inconvenience [for me] sometimes. It feels like a wasted journey. . . . You've gone all the way there and you've seen [the consultant] for about five minutes. . . . It just doesn't feel like you're listened to. (F, diagnosed 11+ years ago, 60-79)*

A small number of patients also commented that they had noticed a reduction in the frequency of retinopathy appointments, but it had not been explained to them why this was the case. They were concerned they might not catch any eye problems early.

> *The first year and a half no support whatsoever. . . . I was just given an appointment, given medication and I was passed on to a dietitian team. They never even got in contact with me or anything like that; it was only seeing the specialist nurse. (F, diagnosed 3-5 years ago, 18-39)*

In parallel (and also linked to structural issues in chapter 6), the point was occasionally made among healthcare professionals that insufficiently tailored support posed issues as well, for example in relation to weight management programmes, and dietary advice that was not necessarily sensitive to patients' financial realities. Also, **increasing workloads** were thought on occasion to make it difficult to provide the care and support diabetes patients required, particularly those who needed it most. Limited resource could mean patients did not always have long enough with certain healthcare professionals (e.g. with GPs, podiatrists) or there not always being enough resource to deliver in-depth consultations that could make a real difference (e.g. on a low carbohydrate diet or being able to cover complication risks).

Patients on occasion had **done their own research** to better understand the condition, having felt that healthcare professionals had not explained risks and complications to them. According to one patient, this led to increased anxiety on reading about the possibility of facing amputation.

From a self-efficacy perspective, a number of participants explained that they were controlling their diabetes effectively. They felt that they **did not need to know more about the complications** or did not need to see a healthcare professional so often. A newly diagnosed participant, for example, felt they knew enough to be able to self-manage and therefore did not need any additional support to what they had experienced to date.

> *I do feel more involved and more in control and heathier with my diabetes, so I haven't felt the need to ask in depth about complications. (F, diagnosed 11+ years ago, 40-59)*

Similarly, healthcare professionals reported noting very **variable levels of patient understanding** of aspects of their condition. Examples of challenges

included patients seeming to struggle with absorbing any information received, not grasping terminology used in conversations, not understanding the risks and why higher blood sugar levels were problematic and not knowing why they had been referred to a podiatrist. One dietitian observed that some patients at their first appointment with them knew very little about it even though they had been diagnosed and were taking medication. The dietitian would have to initially focus on providing education about diabetes. A concerted effort from healthcare professionals on early education was deemed key.

> *Most patients don't know any better, despite telling them, despite teaching them, they just don't know what it means. (HCP)*

According to one healthcare professional, there did not appear to be a clear structure for how patients are given information when they are newly diagnosed.

> *When you're diagnosed with diabetes, a lot of people have said, 'It's just so much information'. It's a lot to deal with, they don't even know what they have to think about. There's no clear structure to it really; it's a lot for them to take in. (HCP)*

Additionally, a small number of **healthcare professionals** expressed concern that patients did not always receive clear explanations about **how their medication works**, such as metformin or insulin, or the meaning of their eye-screening results. They felt that better education in these areas could help improve motivation to self-manage, by giving patients a clearer understanding of how their treatment supports their health.

> *I don't think I've come across a single patient that's been told how metformin works. . . . By telling them that [metformin] increases their sensitivity to the insulin, and it slows down the release of the glucose from the liver, this starts to get people thinking in the realms of . . . diabetes management. (HCP)*

Perceived severity and personal risk

Where risk is recognised and can prompt action

Despite the uncertainties described above, patients were mainly aware that the condition posed **risks of complications that could be severe.** This was not necessarily the case for all, however, with a small number of more recently diagnosed participants showing less awareness of complications.

In addition to education from health professionals and online research, the following **facilitators** to understanding the personal risk of Type 2 Diabetes complications emerged among patients and healthcare professionals:

- Experiencing symptoms or complications firsthand
- Fear of progressing to insulin treatment
- Hearing about severe health outcomes from others
- Witnessing complications in family members or friends.

> *This [consultant], he sort of put it in my head that it's serious, it's not just something you can ignore, which is probably what I was doing, is ignoring the fact that I was diabetic. It's so easy just to say, 'Oh, so what', and carry on doing what I normally do. (M, diagnosed 6-10 years ago, 60-79)*

> *If somebody has had a family history that they had amputations, renal issues, loss of sight or heart disease associated, they are quite vigilant about their diabetes. (HCP)*

Perceptions of the **personal risk** associated with Type 2 Diabetes regularly motivated patients to want to engage with self-management as well as health services. References were made to concerns about their eyes, feet, and the risk of amputation, although it was not always clear to participants how exactly their feet were at risk. Further perceived complications associated with Type 2 Diabetes (broadly using participants' terminology) included heart issues / stroke, kidney problems, neuropathy, circulatory problems, gum issues, high blood pressure and coma. Perceived symptoms were also mentioned by patients such as fatigue, frequently needing to urinate, being thirsty, slow-healing cuts, thrush, joint pain, and impotence.

> *Yeah [fear is a motivator], it's all fear, fear of having those complications and having to go under serious health conditions because of diabetes, so I was like, I will never allow this to happen, so I have to control. (M, diagnosed 3-5 years ago, 40-59)*

> *It was only once I'd started to feel poorly and having symptoms that I thought actually, this is affecting me now, so I need to change lifestyle and take it a bit more serious. (F, diagnosed, 3-5 years ago, 18-39)*

Where risk perception is minimised and disengagement can occur

Some participants appeared to **underestimate** the severity of the disease and their **personal risk** or acknowledged doing so in the past. Healthcare professionals also commented that they regularly encountered a 'blasé'

attitude to the risks among patients which could be challenging to overcome. Examples mentioned among patients and healthcare professionals included:

- As a result of not having a clear understanding on the topic or the risks and not comprehending its seriousness; and therefore not always adhering to medication. Additionally, it was suggested by a couple of healthcare professionals that one reason for struggling to fill X-PERT sessions was a lack of understanding among some patients about the seriousness of Type 2 Diabetes
- Being reluctant to accept the diagnosis
- Believing that Type 1 Diabetes was the disease they should worry about; and it is not so serious until insulin treatment is required
- Competing health issues or stressful situations in their lives
- Demonstrating optimism bias in believing complications would not happen to them
- Linking with the self-management understanding barriers described above, expecting that medication alone would control it
- Feeling more 'complacent' over time, thinking all was fine and the condition becoming normalised; there was no need for further support until a symptom occurred
- Finding it difficult to differentiate between natural ageing health issues and the gradual development of complications
- Not experiencing symptoms
- Seeing family members who seemingly were not experiencing any issues.

> *For me, I don't see it as a serious condition. I see it as like if I can get it back under control, I can live a normal healthy life. I am living a normal healthy life now by just taking some tablets in the morning and some tablets in the evening. (M, diagnosed 11+ years ago, 40-59)*
>
> *I hear a lot, 'Oh, I've got a little bit of diabetes'. And I try to say that it's like pregnancy. You're not a little bit pregnant. You either are or you're not. (HCP)*

Healthcare professionals made additional observations regarding beliefs concerning reduced perceptions of personal risk:

- Assuming that limited contact from health services indicated that everything was fine
- Further family related barriers: intergenerational normalisation despite severe complications for family members; not seeing family members control their diabetes or improve, so left feeling what was the point of engaging

- Gestational diabetes patients sometimes felt that the condition would only last for as long as they were pregnant which did not reflect the healthcare professional's experience
- Levels of early education and intervention for Type 1 Diabetes reportedly being more effective than for Type 2 Diabetes which was part of the reason why adults with Type 1 seemed more aware of personal risk and complications than those with Type 2
- Reflecting that a number of their patients from South Asian backgrounds appeared to place their health outcomes in religious or spiritual context, sometimes expressing the belief that their condition was in 'God's hands'
- The gradual accumulation of complications could lead to a sense of normalisation, with the initial shock diminishing and a disconnection from the condition's seriousness setting in.

Some healthcare professionals added that **socio-economic background** and **low education levels** could have a bearing on understanding the disease and its risks.

> *I think those that struggle the most are less able to take on board changes, or even sometimes understand the information, are from more socio-economically deprived areas. (HCP)*

Perceived self-efficacy, combined with perceived low need for support and limited awareness of severity, meant that a few patients felt **others were more in need** of health services than themselves. A belief was also expressed that support from health services was for those who struggled to manage their diabetes rather than a means of preventing the condition from worsening.

Also, a small number of participants viewed diagnosis or complications as **inevitable**, based on family history. This belief influenced their perception of risk and shaped their expectations of future health. Healthcare professionals noted this belief as well.

> *I knew it was coming because it's in the family, but I didn't think it was going to be at the age I was then. . . . My uncle's recently . . . had an amputation. I just thought, well, that's my future now then, isn't it? In the next 20 years, I'm going to go blind or lose my leg or both. (F, diagnosed 0-2 years ago, 40-59)*

Furthermore, a few participants explained that they **did not wish to look into or dwell on the complications** in too much detail in case they became overly anxious. They felt they were coping well in any case.

4.3 Awareness and navigation of services

Limited awareness of services
Some participants, with more recent and less recent diagnoses, reported **limited awareness of available health services** and how to access them, indicating a lack of exposure to cues to action that might otherwise prompt engagement. Examples included how to access a dietitian and podiatry services and peer group support, knowing what care is planned for them, or simply how to find out what else is available.

> *I don't know what support there is for me to go and ask for it. . . . Free eye tests, I knew about that, that was good. . . . Besides that, I don't know what's available so it's hard to engage with any of it. (M, Diagnosed 0-2 years ago, 18-39)*

> *Sometimes your GP cannot actually refer you because he's too busy dealing with the clinic. . . There is no awareness about the service, nobody has told you, the professionals did not mention. . . . I write in once and I ask him if [my partner – translating for him] can access the chiropodist. (M, diagnosed 11+ years ago, 60-79)*

For a couple of participants, one more recently and one less recently diagnosed, this included not knowing when they were **next due to interact** with a health service. There was also a reference to reportedly not receiving appointment invitations to certain reviews such as foot checks.

A number of **healthcare professionals** concurred with this engagement barrier. They believed that there was no clear way for patients to help them **understand the health support landscape** available to them. This included why patients were seen in different settings, and what services were available. This in turn was thought to affect patient confidence in using diabetes services.

> *A lot of people don't know what dietitians are, so how on earth would they know how to access one if you don't know what one is? (HCP)*

> *In a nutshell, I think it's just the clarity on the pathway and care at the right time, in the right place, in the right format. (HCP)*

> *In general, I think a big thing would be the accessibility of the programmes themselves. Even as a healthcare professional I don't know, it's not very clear to me what's available in the health board, even to refer onto. (HCP)*

However, according to a couple of healthcare professional participants, efforts were made during some group education sessions delivered via dietetics to help patients **understand the support available and what to expect**. This could also involve informing them of what should happen at their annual reviews and signposting to services. The intention was to empower them to ask for support or checks if necessary, and to ensure that they left dietetic related sessions with an action plan.

Chapter summary: health literacy, risk awareness, and personal relevance - key points include factors that supported and hindered engagement

Facilitators of engagement

- Knowledge and skills were built through healthcare professional advice, personal research, and learning from others' experiences.
- Diet and exercise were central areas of self-management focus.
- Growing understanding sometimes boosted confidence, habit formation, and engagement.
- New treatments (e.g. GLP-1s like Ozempic) and technologies (e.g. continuous glucose monitors) helped engagement / re-engagement.
- Participants valued healthcare professionals who explained diabetes in ways that made sense and felt relevant.

Barriers to engagement

- Common knowledge gaps centred on diet management and food misconceptions.
- Some struggled to absorb information, especially around the time of diagnosis.
- Seemingly rushed interactions or limited opportunity for dialogue could restrict understanding and not feel very tailored.
- Some felt that the disease and its risk of complications had not been sufficiently explained to them.
- Perceptions of personal risk varied; lower perceptions of risk were sometimes linked to disengagement with services and self-management.
- Healthcare professionals sometimes felt patients struggled to understand diabetes and its risks despite health service efforts.
- Awareness of available health services and access routes was often limited.

5. Emotional and psychological influences on engagement

This chapter explores emotional and psychological influences on engagement, a prominent theme in the research. These factors mainly relate to 'Motivation' in the COM-B Model (internal processes that affect behaviour including emotions, habits, and decision-making). Some also intersect with 'Capability' (e.g. mental health affecting decision-making) and 'Opportunity' (e.g. the role of social support or competing demands).

5.1 Emotional support and social undermining

Emotional support from others
Emotional encouragement from family mainly, but also sometimes friends or work colleagues, helped sustain motivation for some participants. This included in the face of dietary temptations, discouragement, or during low moments. Male participants were more likely than female participants to mention emotional support from family. As an example, one participant explained how other family members adopted the same dietary changes for meals to show support.

> *They support me a lot and show me that they care. They're checking on me to make sure that when I'm down, or when I say to them I don't want to go to hospital, they'll tell me that I have to go. (M, diagnosed 6-10 years ago, 40-59)*

Social undermining of self-management efforts
Some participants, however, described encountering a **lack of understanding** from others about the seriousness of Type 2 Diabetes which could sometimes make it more difficult to sustain lifestyle changes. Examples included being offered inappropriate food or drink or being told that lapses 'wouldn't hurt.' As well as it creating practical barriers to maintaining dietary control, some participants referred to **emotional challenges** of feeling awkward and a degree of pressure to conform socially. Being offered food and pressured to 'not worry about it' put an individual in a social dilemma.

> *Extended family and friends, they just don't get it really. If you go for tea at their house and they've done like a lasagne and chips and garlic bread, that's not what I'm meant to eat. It's things like that, and then you feel like you're*

being awkward and offending them by saying you can't eat it. (F, diagnosed 11+ years ago, 40-59)

Such experiences could leave the individual feeling unsupported, misunderstood, or dismissed; and undoing significant efforts made to change habits. Healthcare professionals had also noted these positive and negative influences.

5.2 Mental health challenges

Engaging with health services
Instances emerged where participants' mental health condition arose as a barrier to engaging with health services. Examples included PTSD and negative associations with clinical environments and the prospect of a rushed and perceived inadequate interaction. Another participant stated they had avoided an annual review because they were experiencing depression, and their blood sugar levels were high during this time. They wanted to be able to show that they were in control of the condition when they saw the diabetes nurse.

I haven't seen [the diabetes nurse] for a year now because I had this six months where my diabetes was not controlled. But then my mental health was very poor. . . . I think I would like a little more support. I mean I must admit I'm due to go and see my diabetic nurse, but I have avoided it because I went through a bit of a bad patch at the end of last year, and my blood sugars went out of control again. (M, diagnosed 11+ years ago, 60-79)

Mental health challenges were taken into account by one healthcare professional who recognised that certain patients **might not feel able to attend** services on occasion. They reassured them that they understood (whereas some services were thought to ask non-attendees to leave the sessions permanently). Those who do disengage are also reassured that they can contact the service when they feel ready and that the healthcare professional would be happy to see them again.

Impact of mental health challenges on self-management
There were also cases where participants described how mental health challenges made it difficult to take steps to **control their diabetes**. This could mean not following a suitable diet (e.g. resorting to comfort eating), not taking medication, and not exercising.

I have had bouts of depression which has led to binge eating, which affects the control of your diabetes. So your mental health does affect you. The

classic 'why me' scenario, so you feel sorry for yourself. (F, diagnosed 11+ years ago, 60-79)

Healthcare professionals also recognised the significance of mental health's impact on patients' general engagement. Examples given included how depression could develop where a patient struggled to manage blood sugar levels, patients who did not want to leave home, those who 'emotionally eat' when feeling down, and stressful life events or situations.

I'm not very confident that [patients] would be able to really change, because there's so many barriers, and so many people with low mood. That's a huge thing, low mood, and turn to food to try and take the edge off. (HCP)

5.3 Motivation and personal responsibility

Self-motivation to learn and taking responsibility
Some participants described an **internal drive** and **personal responsibility**, combined with **willpower**, as key to their engagement with self-management and health services. It arose through an understanding of the risks of having Type 2 Diabetes, wanting to improve or maintain health, and wanting to take responsibility for their own health. Diagnosis or experiencing symptoms were sometimes the cue to seek out information and take control of their condition proactively.

I consider this my problem, I don't go and say, 'Give me a pill, fix me'. This is my problem, so I will do as much as I can to sort my problem out. . . . I don't like to feel helpless. (M, diagnosed 11+ years ago, 60-79)

For several participants, this internal accountability was formed through a belief that they were **at fault** for their condition based on lifestyle choices. It was therefore up to them to try to take control and manage it as best they could.

I put a lot of blame on myself for my lifestyle choices and because I developed it, so I knew I had to change it. (F, diagnosed 0-2 years ago, 18-39)

Healthcare professionals also recognised these levels of motivation in some of their patients, especially on or soon after diagnosis. However, levels of self-motivation were believed to be **very variable** and patient dependent. Some found that patients often appeared to refuse to take responsibility for their condition and had unrealistic expectations of what healthcare professionals could do.

Quality of life and family responsibilities
Some participants were influenced to engage with services and make the effort to control their diabetes by a desire to maintain or improve their quality of life, not only for their **own wellbeing** but also in relation to **family**. This could be to maintain their own health so that they can enjoy a long life with their children or grandchildren, to be there for family members over time, to minimise the chance of becoming a burden on the rest of the family, and to protect their independence and dignity.

> *It took me a few years . . . to realise what I'm doing [with my lack of self-management], and I have to be there for my son. (F, diagnosed 6-10 years ago, 40-59)*

Healthcare professionals also encountered this source of motivation where personal health was a priority. Promoting patient ownership and tailored goals (e.g. with exercise) could sustain such engagement, a couple added.

Sense of control and confidence
Building on the theme of self-motivation, some participants described a growing sense of **control** over their diabetes through their efforts, often accompanied by increased **confidence** in managing the condition. These feelings appeared to strengthen motivation and support continued self-management.

> *I feel in control. . . . My weight is under control, my diet is under control, my health is as good as it's likely to be. I've had life-changing surgery, so I eat healthily, I take the medication I'm supposed to, I do all the reviews I'm supposed to, I get my foot care looked after, I do everything by the book. (F, diagnosed 11+ years ago, 40-59)*

5.4 Perceived emotional benefits of engagement

Seeing or feeling improvements
Seeing or feeling Type 2 Diabetes management **improvements** contributed to engagement with health services for some participants and instilled confidence in efforts to keep their diabetes under control. Healthcare professionals observed this effect, too. Examples among patients included seeing blood sugar levels reduce, improved dietary habits, improved weight management, improved vision, medication reduction, 'going into remission', and generally feeling better in themselves. More broadly, there was sometimes agreement

that attending diabetes services would make a **positive difference to their health**.

> *The fact that I've lost weight, the fact that I'm managing it, that's all positive, that has given me confidence. (M, diagnosed 3-5 years ago, 40-59)*

> *Especially when they see differences in the management of their blood sugars, when they monitor blood sugars at home, or with the HbA1c being improved, they do think that this is helping, and they want to be more involved then. (HCP)*

To illustrate the point further, a participant had received counselling for their depression. This in turn was helping the participant to **adjust their dietary habits** as they had previously been turning to comfort food. Similarly, another participant, recently diagnosed, had already been receiving cognitive behavioural therapy for managing grief. The therapy included **creating new routines**. The participant had been able to transfer these skills to their approach to managing their diabetes and felt it was making a difference.

Supportive interactions with healthcare professionals

Additionally, some participants said that part of the reason they engaged with health services was because healthcare professionals were a source of **reassurance** and **encouragement**. This helped to build confidence and reinforce engagement in some instances as well.

> *Because everything was going really, really well, they were just encouraging me, and I think that was a really nice thing, me going to the doctor's and them encouraging me, and it was nice to come out knowing, okay, I need to keep going. They're backing me. So yeah, there's that incentive really. (M, diagnosed 11+ years ago, 40-59)*

Reassurance could also take the form of **how the risks of complication were positioned** by healthcare professionals. Examples included saying that the condition can be reversed or to focus on managing it rather than stressing potential complications. A few participants described how healthcare professionals had taken different but motivating approaches to the risk conversations. In a couple of examples, the healthcare professional had provided encouragement in a what was described as a **positive and supportive** manner. In a few other examples, healthcare professionals offered a more direct approach by focusing on the **potential consequences** of poor diabetes control which helped to bring home its severity.

Furthermore, a small number of participants had welcomed how healthcare professionals had encouraged them to **ask questions** and not to hesitate to get in touch should they feel the need to.

Linked to the theme of reassurance, the ways in which some healthcare professionals developed **rapport** positively influenced service engagement and confidence in using the services, for some participants. There was also appreciation of having more time with certain healthcare professionals like the diabetes nurse, and being able to talk in more depth than was possible with the GP.

> *The nurse actually explained it more than the GP. . . . I could talk to her; she became my mate in the sense that I told her about my impotency and stuff like that, and it's hard for a man to turn around and say that to a woman. (M, diagnosed 3-5 years ago, 60-79)*

There were also cases where participants explained how they had felt able to **talk with a healthcare professional about other issues** going on in their lives that were affecting their diabetes control; and this had a positive impact on engagement. In addition, seeing the same diabetes nurse and other staff over time meant that the healthcare professional got to know the participant and further develop rapport.

Healthcare professionals echoed the patient-centred themes described above, believing that it was important to build relationships, recognise patient efforts, be non-judgemental, reassure patients and be empathetic, especially if their attendance at appointments was inconsistent. It was also deemed important to give patients a 'hopeful' message particularly during early conversations. Reference was made to the need to give patients 'ownership' of the condition and time to digest information.

> *The most successes that I've had is if I call them, so if they've not turned up to an appointment, I will phone and ask. . . . I'd say the other area for engagement as well is writing to them and acknowledging that they might have missed an appointment, but again just wording it in a way that they feel they can always contact us if they need us. (HCP)*

Having the flexibility to **tailor** the amount of information imparted on diagnosis was essential, added a healthcare professional, so as to adapt to the patient's **need and emotions** at the time. On a similar theme, a couple of healthcare professionals added that they adopted a holistic perspective so they could

better understand the patient's situation, such as asking about their social situation and wellbeing.

> *When they get that individualised approach, they do want to come back, because then they feel like they're being prioritised as well. (HCP)*

It also emerged among healthcare professionals that how, in paediatric services for young patients, having a **psychologist embedded** in the diabetes team was deemed much more effective than previous arrangements. Psychology was becoming normalised as part of routine care for young patients.

Additionally, according to one healthcare professional, some young patients seemed able to **talk more openly** with a psychologist about their health service experiences than they might do with the diabetes staff (e.g. revealing how a member of staff's language had upset them). Where they might have previously resisted offers of psychological support, joint appointments with diabetes staff and the psychologist present helped overcome this barrier to engagement.

Further emotional benefits

Also, knowing that taking actions advised by healthcare professionals would help to prevent complications was deemed a benefit and motivating for some.

> *I guess the main benefit is that you stop things getting worse before you get there. I feel lucky to have been diagnosed early because I'm okay, I'm not finding out because something really bad has happened. (M, diagnosed 0-2 years ago, 18-39)*

According to a couple of patients, being able to discuss experiences with other people in a **group** who were in a similar situation was very much welcomed as an emotional as well as educational benefit.

> *When I went on my first course a number of years back, that was psychologically helpful because you realise all the other people in this room are in the same boat as you, all at different stages. (F, diagnosed 11+ years ago, 60-79)*

Similarly, healthcare professionals on occasion noted that group programmes could be particularly effective, as they allowed for the efficient delivery of key information given the limited resource available while offering opportunities for peer support and shared experience.

Adjusting to a healthier lifestyle was also seen to **benefit family members** more broadly, said a few participants. This included the family eating more healthily, the hope of preventing their children from developing Type 2 Diabetes in the future, and realising change was needed to maintain the ability to care for a disabled child.

In isolated contrast, a couple of patients revealed that there were times when they wondered if the **effort to control their diabetes was worth it**, noting that despite taking steps, they still had spikes in their blood sugar levels. Similarly, healthcare professionals on occasion had encountered patients who were discouraged from engaging by a perceived lack of improvement. Support that felt repetitive or insufficiently tailored only added to the disengagement.

> *I think it's that kind of repetitive nature of the same advice not changing, not nuanced, just wears people down. (HCP)*

5.5 The influence of trust

Trust in healthcare professionals' professional expertise contributed to some participants' willingness to engage. Healthcare professionals were regarded by some as an **authoritative** source of information and support, as described above.

> *That's a big benefit, yeah, because the information we are given is always medically approved and they are really helpful. (M, diagnosed 3-5 years ago, 40-59)*

Healthcare professional participants also on occasion mentioned the importance of building trust with patients. It was believed to encourage consistent engagement and confidence in services. Realistic targets and small steps were deemed beneficial rather than expecting a patient to make a significant change that they had not achieved in several years.

> *If they trust the person they've met in the services, they get really engaged, want to use it again and again; they know how to approach. If the person that they've met at the first instance, they don't appreciate them, it's really hard to change their mind to come back. (HCP)*

Trust issues

Less positively, several patients expressed a degree of mistrust towards health services, normally shaped by **personal or family experiences**. One younger participant, recently diagnosed, reported some scepticism based on their parent's negative care experiences during a serious illness. Similarly, a participant had experienced poor support in the past in relation to diabetes complications which had proved traumatic for them. Another described a long-standing distrust of health services and pharmaceutical companies, which stemmed from previous adverse NHS encounters and a general fear of medication side effects.

> *I don't really want to be prescribed if I can actually do something myself. . . . If after [making lifestyle changes], the condition was getting worse, then I would probably go and see the doctor. . . . I've found them completely unhelpful as far as my [other condition] is concerned. (M, diagnosed 0-2 years ago, 40-59)*

A couple of **healthcare professionals** also highlighted the impact of trust issues on engagement. These included finding it difficult to engage patients who had experienced negative interactions with other healthcare professionals in the past, and how patients sometimes say what they believe the healthcare professional wants to hear at review, and in turn, the healthcare professional may be inclined to accept this at face value. This mutual 'collusion' could delay necessary changes such as medication adjustments.

5.6 Emotional challenges in changing behaviours

Food habits

For some participants, it was proving difficult or had for a time been difficult, to **change long-standing dietary behaviours** and to sustain them. This difficulty was sometimes coupled with a belief that it was hard to avoid sugar in everyday foods, and hard to lose weight and then maintain that loss. Resisting temptation and cravings and a lack of willpower were regularly mentioned. Having to restrict food after reportedly a lifetime of freedom around eating was difficult to implement.

> *I ate cake yesterday. I bought it for somebody, and they didn't like cake, so I ate it. If they hadn't been coming round, I wouldn't have got the cake. . . . Custard tart. Big one. (F, diagnosed 0-2 years ago, 60-79)*

A small number also acknowledged that they sometimes used sugary food or sugar in a hot drink as **comfort** when experiencing low mood or dealing with a stressful situation. In another couple of examples, participants were struggling to **reduce portion sizes**. They still felt hungry after eating.

Some also said they found it **tiring to remain motivated** with sustained lifestyle changes and to live with the condition generally. It became particularly difficult, explained one participant, after a long day at work and the idea of having to prepare a healthy meal was sometimes too much. The way in which diabetes could also make a sufferer feel fatigued adversely affected motivation. These types of factors, combined with living alone with no immediate family support at home, led one participant to 'binge eat' from time to time.

> *If I'm really tired, I'll just skip and just put some, you know emergency food like just cook the pasta or cook the noodles. I do that, but yeah, once I have eaten that, I am full, then I regret, I shouldn't have done this. I could have taken half an hour, should have cooked something healthier. (F, diagnosed in last 3-5 years, 18-39)*

Such challenges were reiterated on occasion among healthcare professionals. One who worked in a deprived area explained how patients' **engrained behaviours and habits** since childhood added to the challenges healthcare professionals faced in supporting patients to control their diabetes.

> *From most of the patients, from their childhood days, they have been building up their weight, building up unhealthy behaviours, unhealthy relationships with food, and lifestyle, so that makes it a bit difficult to address as well as change, . . . modify their behaviours. (HCP)*

Physical activity

Efforts to be more active came with **challenges** for some. For example, one participant admitted that they had an aversion to physical activity generally, which made this element of self-management difficult to fulfil. Another struggled to develop or sustain routines independently and wondered if healthcare professionals were able to refer them to activities. A further participant felt that they were 'lazy' and lacked the willpower to get more active.

5.7 Emotional impact of diagnosis

Some commented that the **shock** of being diagnosed, sometimes accompanied by personal risk concerns, served as an **emotional trigger** that prompted

immediate reflection and a shift in priorities. Responses to diagnosis, therefore, could mark the starting point for engaging in self-management behaviours, including seeking information and adopting healthier habits with a view to minimising risks.

> *The minute they told me I was diabetic it was like somebody standing on my chest. . . . I just thought, man, if I can't get a control of it, I'm going to end up having to do injections. . . . I can't be doing with that the way the wife does [injecting insulin], because it really gets my wife down. So I just thought, I can't do that, I've really got to try and get a hold of it. (M, diagnosed 11+ years ago, 40-59)*

However, diagnosis could also prompt an initial phase of **reluctance to accept it** and the assumption that a mistake had been made. It was hard for a few participants to align their diagnosis with the reasonably healthy life they felt they led at the time.

> *I didn't think in reality they'd got it right; I was in denial a little bit over it and just carried on being stupid in what I ate. (M, diagnosed 11+ years ago, 60-79)*

Some **healthcare professionals** observed similar emotions. They said they saw some of the highest levels of motivation at the point of diagnosis. It was also possible, however, that high levels of self-management activity could progress to fatigue and boredom. Furthermore, diagnosis could be overwhelming for patients, difficult to accept and therefore challenging to behaviours that help to manage their diabetes.

> *Based on first conversations, [I'm] pretty confident they won't make changes. It's a hard diagnosis to accept, a lot of people don't want to listen to it. (HCP)*

5.8 Experiences of stigma and judgement

In a small number of cases, participants said they felt or had felt uneasy about using health services through fear of being **judged** by healthcare professionals. This fear was more likely to be voiced among female participants.

It could involve feeling embarrassed to engage with services as they felt they were at fault for their condition and might be judged accordingly. One newly diagnosed participant was worried about this prospect at future appointments. Another was uncertain how they would feel, describing themselves as a 'private

person' and wondering if they would feel the need to try to manage without support. A further example involved feeling judged by a class convenor.

> *To be quite honest, I haven't really had much time to really absorb the information, and I think I was quite embarrassed because I'm quite young and I didn't really know that it could be a thing for younger people. (F, diagnosed 0-2 years ago, 18-39)*

This obstacle could include feeling **deflated** by a healthcare professional's approach in an appointment when some recognition of effort and the journey the participant was on would have been beneficial.

> *I do feel like [being judged]. For example, when I have blood testings and stuff done and people go, 'Oh, this is high, this is high', I always feel like it's a bit judgy. When they look at you, they think you've only just walked through the door, and you've only just been diagnosed. They don't realise that you've been on a journey already and you've got to a good point and you're proud of yourself. It's like sometimes professionals will give you a bit of a knock kind of thing. (F, diagnosed 3-5 years ago, 18-39)*

Perceptions of stigma and judgement could also be felt beyond health services. A few participants, for example, **refrained from telling others** (e.g. work colleagues) they had diabetes through fear of being judged for having a 'self-inflicted' condition.

Judgement and stigma were raised by some **healthcare professionals** as important reason for a lack of engagement with health services. For example, feelings of shame and social anxiety and the anticipated emotional discomfort of support prevented some patients from fully engaging with services. They believed that some patients had the attitude that they might be criticised for their lifestyle, or that the role of a dietitian is simply to tell patients what to eat and to lose weight.

A couple of other healthcare professional participants also felt that they encountered indications of **negativity towards patients with Type 2 Diabetes among healthcare professionals**. In the first example, it could reportedly manifest as the way in which a referral to a dietitian is worded, for example, 'this person has uncontrolled diabetes; they don't care about their diabetes'. The participant strongly believed it was more the case that the patient did not have the tools to manage their condition.

In the second example, a participant explained that healthcare professionals sometimes needed to be more explicit in reassuring patients that they would not be judged and that they would be in a 'safe space' when interacting with healthcare professionals. Another healthcare professional participant acknowledged that it was sometimes difficult to have the diagnosis conversation about Type 2 Diabetes while ensuring not to portray any unintended judgement.

5.9 Emotional and practical effects of competing demands

Impact of other health conditions

Some participants reported that **other health conditions** affected their ability to manage diabetes. In certain cases, this involved prioritising what was perceived as a more serious health issue. In others, physical limitations or illness made it difficult to follow dietary or exercise routines. For an autistic participant, a change in their gym layout made it particularly difficult to return, highlighting how seemingly small disruptions could significantly affect routine and engagement.

> *It's just I'm more worried about my COPD[20] tell the truth. . . . With the diabetes I'm not worried about it, it's just a change in diet. (M, diagnosed 3-5 years ago, 60-79)*

Caring for others

Looking after others made managing diabetes more challenging for a small number of participants. Caring for a partner, parent or disabled child was sometimes prioritised. An individual explained how their life tended to revolve around their disabled child, their illness and hospital appointments. The participant acknowledged that they neglected their own health and wellbeing as a result. In another case, having to care full-time for a parent meant the participant could not work. It was expensive to maintain their blood sugar monitoring device which they found essential for looking after their condition.

> *Some of [the appointments] I cancelled as well, so I wasn't even going. . . . I was too busy with my son. I was very, very, very busy, so I wasn't really taking care of myself. Days turned to weeks, weeks turned to months, months turned*

[20] Chronic obstructive pulmonary disease (COPD) is the name for a group of lung conditions that cause breathing difficulties.

to years. There was even a point where I was literally, it started affecting me really badly. (F, diagnosed 6-10 years ago, 40-59)

On the same theme, one parent described stumbling with their self-management due to poor sleep, caused by **parenting demands** which affected energy levels, exercise, and eating habits. More broadly, a **busy life** could also make it difficult to exercise or to attend an appointment or local support group.

Healthcare professionals recognised the challenge of competing priorities, too, which overshadowed patients' perceived need or ability to manage their diabetes. Social deprivation, for example, could mean that other factors were more influential than personal health.

I think those with multiple comorbidities struggle because they've got so much going on. I think as well for those people who have got a lot going on at home socially, it becomes much more difficult to manage their diabetes because it's just one more thing on top of a list of other really important things. (HCP)

5.10 Further emotional and psychological barriers

The following insightful challenges were isolated mentions among patients:

- **Forgetfulness** - an older participant described forgetting on occasion to eat meals, which in turn led to symptoms such as dizziness
- **Modifying** or rejecting medication based on personal experiences and emotional reactions - this included only taking one metformin a tablet a day to reduce constipation versus the prescribed amount; and no longer taking it because it made them feel unwell and caused other side effects
- **Neurodevelopmental challenges** - having to contend with the challenges that come with their autism spectrum condition, such as difficulty with change, impulse control, and feeling the need to make sensory influenced purchases such as buying crunchy food. The combination of impulse control and limited ability to be active through illness affected this participant's confidence in managing their diabetes.

Additionally, a couple of healthcare professionals reflected on how **written communication** from services could affect patients emotionally. Letters, for example, used to correspond with patients did not come across as very encouraging or friendly and could act as a barrier to engagement. Also, the

retinopathy results letter was thought by one healthcare professional to risk frightening some patients.

> *I have one right here, 'Your photograph shows some retinopathy diabetic eye disease. We will monitor this at your next screening appointment', okay. So it just says that. So you don't get anything else. And that letter really, really frightens people because this is your eyesight. (HCP)*

Chapter summary: emotional and psychological influences on engagement - key points include factors that supported and hindered engagement

Positive emotional / psychological influences

- Emotional support and encouragement from family, friends, or colleagues helped sustain motivation for some participants.
- Positive, supportive interactions with healthcare professionals that were tailored to the individual (including reassurance, encouragement, and recognition of effort) supported engagement for some participants.
- Trust in professional expertise encouraged engagement for some.
- Healthcare professionals also highlighted the importance of adapting advice based on patient preferences and circumstances, offering non-judgemental support, and building trust.
- Personal responsibility, willpower, and a desire for control helped drive self-management and service engagement for some.
- Maintaining or improving quality of life, often for the sake of family, was a key motivational factor for some.
- Seeing positive results from personal efforts to control diabetes (e.g. improved health outcomes) reinforced ongoing engagement.
- The shock of diagnosis sometimes acted as a catalyst for reflection and behaviour change.

Emotional / psychological barriers

- A lack of understanding or support from others could emotionally undermine efforts to control the condition.
- Negative personal or family experiences led a few to express mistrust in services.
- Mental health challenges, such as low mood or bereavement, could disrupt routines and reduce engagement.
- Changing dietary habits and maintaining physical activity were emotionally challenging for some.
- For a few, the initial shock of diagnosis led to denial or delayed acceptance of the condition.

- A few participants feared judgement from health professionals or others, which could affect service use.
- Competing demands, such as other health conditions or caring responsibilities, also limited capacity to engage.

6. Structural and logistical influences on engagement

This chapter is concerned with the practical and system-level factors that influenced participants' ability to engage with diabetes-related services and managing their condition. These issues mainly relate to the 'Opportunity' domain of the COM-B Model, that is, the external circumstances that enable or constrain behaviour, such as service availability, accessibility, and wider environmental factors.

6.1 Access and routine contact with services

Accessible services
Participants' engagement with health services was regularly positively influenced by **logistical and structural facilitators**. These included the GP surgery / other health centre or course location being easy enough to reach, a convenient online appointment booking system, healthcare professionals making themselves available (e.g. via phone call, text, email, and following up on messages received), and receiving text or letter reminders about appointments. Participants living in urban areas were more likely to identify this engagement facilitator.

> *A nurse has said that I can ring any time if I need to speak, if I'm ever worried about anything, 'Just give a ring and then we'll ring you back', and the doctors have said the same thing. (F, diagnosed 0-2 years ago, 18-39)*

Further logistical and structural facilitators mentioned included diabetes services being flexible on appointment days and times to fit with participant routines, information provided on where to attend, and the offer of drop-in support that included blood sugar tests, a foot clinic, sometimes retinopathy, and the chance just to chat with someone.

Healthcare professional participants also occasionally referred to factors that they believed supported accessibility and therefore engagement. Examples

included a degree of appointment scheduling flexibility in primary care to fit around patients, the offer of phone follow-ups a month after an appointment, text message reminders, and community health services that patients could approach directly. Convenient settings helped with care delivery, for example patients being seen close to home or via virtual appointments. This was deemed especially helpful given the geography in one part of North West Wales.

> *Patients have said that to me, that knowing that they were going to be checked up on makes them feel accountable to know that they're going to have that phone call in a month's time and see how they're doing. (HCP)*

Issues with accessing services

However, there were also many instances of participants describing challenges accessing support and services for their diabetes which in turn affected their ability to fully engage with them. A common theme was difficulty securing a **GP appointment** including when seeking a referral to additional services. The prospect of difficulty getting through by phone was on occasion given as a deterrent to making the call.

Also, some participants noted that **service availability during standard working hours** limited their ability to attend sessions, particularly for those in full-time employment. (While not explicit from the research, this barrier could also indicate limited perceived seriousness of the condition and / or understanding of the potential impact the support could have, given that efforts were likely still made to attend GP appointments during working weeks when needed.)

> *I never went to the dietitian appointments because they clashed with work. . . . It was like a Wednesday at 12 o'clock. (F, diagnosed 3-5 years ago,18-39)*

> *They said, 'Do you want to come to these group sessions?', but they were in the middle of the day and that didn't work with me working, and that's been it. They said, 'If you don't want that then we've got nothing else for you'. (M, diagnosed 0-2 years ago, 18-39)*

In further accessibility issue examples, **waiting times** to see a healthcare professional for a diabetes related complication had resulted in one participant paying for private care instead. Another had been on a waiting list for a diabetes related course before it was eventually cancelled. Such accessibility issues **tempered confidence** in accessing support for a few participants, especially if a referral was required via the GP.

I think it goes back to it's all through the GP and it's not easy to access, so if there was other services that's not directly through them, that would be less of a barrier. (F, diagnosed 0-2 years ago, 40-59)

Also, **travel challenges** were voiced by some participants, including healthcare professionals. These centred on the inconvenience of public transport, the distance to an appointment (e.g. for retinopathy), parking difficulties, and having to rely on others for a lift if they did not drive or if they were having eye tests.

The following accessibility barriers also emerged among patients but were isolated comments:

- The **limited days** available for services like retinopathy appointments (because the service was delivered via a mobile unit) or seeing the diabetes nurse. An appointment with the latter could take many weeks to secure
- Ineffective **external prompts** to attend appointments. This participant had sometimes forgotten to attend appointments and wondered why they could not receive email or WhatsApp reminders
- A perceived **lack of availability** of services such as the X-PERT Diabetes Self-Management Course and diabetes peer support groups in their area.

Limitations in service delivery and system strain (healthcare professional feedback)

Appointment timings were not deemed to be very flexible for patients, said some healthcare professionals, with increasing numbers of patients working full-time. An inconvenient time of day could deter some from attending. More generally, getting appointments could be problematic, for example at the GP surgery or organising a dietitian appointment, acting as barriers to seeking support. Waiting times for appointments to get bloods done or following referral could be frustrating for patients as well.

At the moment, it takes a month to get an appointment for a routine blood test, which is ridiculous, so that throws everything out, doesn't it? (HCP)

Illustrating system issues further, there were reportedly **not enough diabetes healthcare professionals** to deal with the volume of patients, and the increasing complexities associated with treatment, according to a few healthcare professionals. Recruitment (diabetes dietitians) and retention (practice nurses) issues were also raised. Illustrating the impact, it was very

difficult to implement follow-up processes with patients because there were so few staff, explained a healthcare professional. Increasing workloads, as outlined earlier in the report, were a concern on occasion as well.

> *The sheer number of people living with diabetes and the small number of dietitians and how essential that role is, is a massive problem. (HCP)*

Healthcare professionals on occasion also stated that there was **not enough psychological support** for Type 2 Diabetes patients. In particular, continuity of care became an issue for any young people transitioning to adult services from paediatrics where they were receiving psychological support.

> *I think the biggest barrier is the lack of psychologists. Diabetes is not an easy diagnosis to accept; we're not giving them any mental health support when we tell them. We're just telling them; we're asking them to make big changes. (HCP)*

Additionally, not all **care processes** were believed to be carried out as effectively as they could be, said a couple of healthcare professionals. One referred to patients sometimes not having their HbA1c tests while another commented that not all patients left reviews, carried out by practice nurses, with goals for managing their condition. Further reference was made to how some annual reviews could reportedly be more thorough than others because of time and resource pressures.

The point was also made among healthcare professionals that reportedly not enough was always done with **follow-ups** on management plans and goals from reviews. A primary care healthcare professional acknowledged that they did not always leave participants with a clear plan at review, even though everyone was given the opportunity to have one, because the patient did not want it or they had other concerns such as dealing with other health issues.

The challenges of **delivering joined-up services** were sometimes believed to further hinder effective care and support delivery, added a couple of healthcare professionals. It could also be confusing for patients seeing different healthcare professionals and potentially receiving repeated and conflicting guidance.

Being called for appointments

It became apparent that some participants were developing **habits** of attending periodic appointments which also helped with health services engagement. Gaining reassurance from the healthcare professionals about the efforts being

made to control the condition, as described in chapter 5, helped to reinforce such habits, as did the prospect of staying up to date on their treatment and self-management approaches. A few **healthcare professionals** also noted the impact of invitations to regular appointments helping to form habits and confidence in using services.

> *They're kind of used to being called in [to the surgery] and coming in and know that if they don't, [administrative support] will keep ringing them until they do, so I think we've got good patient relationships. (HCP)*

Improved support over time, with an annual review, tests, and biannual blood tests, according to a couple of patients diagnosed over 10 years ago, had also helped to cement routine health services engagement.

Similarly, healthcare professionals occasionally noted that **patient confidence** in using services tended to grow over time as individuals became more familiar with them. However, they also observed the opposite dynamic in some cases, where confidence and motivation to engage with services diminished over time. In secondary care, having a diabetes specialist nurse helpline and email address was believed to help with confidence, said one healthcare professional, as was giving patients the phone number for consultants' secretaries.

6.2 Workplace and scheduling barriers

Workplace rules and types of work role were problematic for a few participants. These included:

- The awkwardness of having to eat at set times, as well as having to leave the room to check blood sugars
- Work tasks changing at short notice between manual labour and long periods driving. This would affect their planning on taking insulin
- Sedentary roles as a security guard on long shifts or spending the working day on a laptop
- Difficulty having a suitable quick snack when driving their truck for long periods if they did not have appropriate food to hand.

An **unsympathetic workplace**, according to one patient, added to the challenge of engaging with health services. They had had to cancel their annual review because of workload. It then meant waiting several weeks before the new appointment could take place.

You were [in a stressful work situation], so then I'm cancelling my appointment, they can't give me an appointment then for another six weeks, so before I know it, I'm not having them every year, I'm having them every two, or I'd have to book an annual leave and use my annual leave to get to an appointment. (F, diagnosed11+ years ago, 40-59)

6.3 Environmental factors

Challenges in adapting to dietary changes
Patients regularly commented that it was difficult to manage their diet effectively even though they were aware that they needed to do so (see also chapter 5 on emotional and psychological barriers). There was a perceived **prevalence of unhealthy options** around them and finding suitable food could be a challenge as well (also noted among healthcare professionals). This could include encountering unhealthy food in the retail environment, such as end-of-aisle promotions in supermarkets or sweet treats at the work canteen checkout and seeing unsuitable food on TV.

Additionally, said a couple of participants, it was frustrating when faced with **unclear food labelling** and a lack of clearly identified diabetic-friendly options. The perceived **expense of healthier** options also posed a barrier, said a few.

At the end of day, you walk into a shop, you're paying, say for instance, £3 for a bowl of salad. You can go to KFC and get £1.90, £2.19, a Mini Fillet Burger. I'm only saying that because I had a Mini Fillet Burger yesterday with cheese in it. (F, diagnosed 6-10 years ago, 40-59)

Additionally, **gym membership prices** were prohibitive, according to a few participants who had wanted to use it as a motivation to be active.

In contrast, there was occasional reference among patients to **improvements over time** in availability of more suitable food, better food labelling, and new diets which had helped with keeping diabetes under control. They referred to bread with a low glycaemic index, the development of the ketogenic diet, and traffic light food labelling.

6.4 Supporting specific populations

Language-related barriers to engagement were also occasionally voiced. A couple of older participants who were not first-language English speakers explained how they sometimes found interacting with healthcare professionals

difficult. This was the case for one participant unless the healthcare professional spoke their South Asian language. As a result, said the participant, they relied a good deal on doing their own research about the condition. Another had found group sessions useful but had sometimes struggled to follow the English conversations.

Limitations providing support to further specific populations were raised by a couple of healthcare professionals. There were limited translated/culturally relevant resources available for one healthcare professional in a region of Wales they described as not very diverse. Another acknowledged that they were unable to cater for language needs in group settings.

Services tailored for patients with learning difficulties were also thought to be very limited in one health board. Additionally, some older patients had poor IT literacy and struggled with online service engagement - supporting them proved to be very resource-intensive. In a final example from healthcare professionals, managing diabetes could be very challenging for young patients moving from paediatrics to adult services. They no longer had psychology support and there were different expectations of the individual. It was also likely to be a very busy and transitional stage in their lives.

Chapter summary: structural and logistical influences on engagement - key points include factors that supported and hindered engagement

Positive influences on engagement

- Engagement was supported when services were accessible, convenient, and flexible (e.g. easy travel, appointment reminders, responsive healthcare professionals).
- Being routinely called for reviews helped some to develop engagement routines.

Barriers to engagement

- Difficulties accessing services were common, including securing appointments, limited availability, inconvenient timings, and transport issues.
- Healthcare professionals also described systemic pressures (e.g. workload, staff shortages, limited psychological support for patients) that affected service delivery.
- Workplace-related challenges sometimes limited participants' ability to attend appointments or manage their condition.

- Environmental barriers, like the widespread availability of unhealthy food, made dietary change harder for some.
- Language barriers occasionally made it difficult to interact with healthcare professionals or participate fully in group sessions.

7. Social and cultural influences on engagement

Social and cultural influences were relatively less prevalent but still notable in affecting how participants engaged with self-management. These influences reflect a mix of COM-B domains for example the social and cultural environments people live in ('Opportunity'), and how they interpreted and applied advice ('Capability').

7.1 Influence of others on self-management practicalities

Support from family and friends
As well as emotional support from others, more **practical** support from those around them was helping many participants' personal efforts to control their diabetes. Family and friends often acted as sources of information and advice. This could be based on their own experiences such as what symptoms the participant could expect, choosing to learn about the condition alongside the participant, knowing what the risks of complications are, raising an alert to get checked as the family member had been diagnosed, or encouraging a change in dietary or exercise habits.

> *I get on and do it. I don't feel as if I've got to do anything special because I've got somebody looking over my shoulder all the time. My wife . . . she makes sure I don't do anything too daft. (M, diagnosed 6-10 years ago, 60-79)*

There were also instances of partners, children or friends directly **facilitating self-management behaviours**. Examples included helping to control diet through shopping and cooking, monitoring blood sugar levels, ensuring medication was taken, suggesting healthier habits or options, checking feet, and assisting during episodes of hypoglycaemia.

If I have hypos in the night, which I've had a few, it goes, 'Beep, beep, beep', all the time, like an alarm then, and then my husband's good, he gets me some cereal, and it goes up then. (F, diagnosed 11+ years ago, 60-79)

Support from work colleagues

Work colleagues were also a positive influence with self-management, added a small number of participants. This included **learning** from others who had experience and an employer who had decided to provide a list of symptoms for other staff to keep an eye out for, so they could support the participant if necessary.

7.2 Cultural and religious influences on self-management practicalities

Cultural and religious influences were occasionally embedded within practical and emotional barriers, such as **traditional dietary practices** and expectations around communal eating. These influences sometimes conflicted with diabetes self-management recommendations, creating practical challenges and emotional pressures.

Christmas, Easter, Chinese New Year, and **Diwali** were deemed difficult periods to navigate as a diabetic with the range of unsuitable food and drink available. As a result, it was considered easy to let healthy habits slip during these periods.

If it was Diwali and I was being handed an Indian sweet or something, I might just have some. Not loads but I would try and not over-indulge. (F, diagnosed 11+ years ago, 40-59)

Additionally, fasting during **Ramadan** had taken its toll on one participant. They recalled how they had felt extremely tired, lost weight and nagged their partner to cook more carbohydrates than usual at the end of the fast. They had subsequently realised that it was something they needed to control, and they had managed to revert to minimising their sugar intake with their partner's support.

A further cultural perspective emerged from a small number of minority ethnic participants. They described difficulties resisting **traditional foods** from their cultural heritage, some of which was less aligned with dietary guidelines for

controlling diabetes. Examples included elements of Caribbean, South Asian and East Asian cuisine.

> *Because the rice I eat, after meal the figure of my blood sugar always go very high, and because of that I don't know what else I can do because I feel I do as much as I can to change that. It's a bit hard to entirely change my eating habit because as a family we eat the same food. It's hard to prepare just for me and then prepare for my wife and my son. (M, diagnosed 0-2 years ago, 40-59)*

There were also a couple of examples given where participants found themselves with **advice on Type 2 Diabetes from their country of origin** that was different from their experiences in Wales. One participant had originally been diagnosed in South Asia. Professional dietary advice had centred on what foods they could eat and what to avoid. In the UK, they were having to adjust this knowledge to a perceived focus on portion control, rather than necessarily avoiding certain foods at all costs. Another participant had experienced **medical advice** from their East Asian country of origin via the media, family, and friends. It was difficult to decide how to progress when receiving both Western and East Asian medical guidance.

Chapter summary: social and cultural influences on engagement - key points include factors that supported and hindered engagement

Positive influences on engagement

- Family members often provided practical (in addition to emotional) support, such as adapting meals, helping with education, and assisting with care routines.
- Work colleagues occasionally supported personal efforts to control diabetes, for example describing their own experiences.

Barriers to engagement

- Cultural and religious practices sometimes conflicted with dietary recommendations, particularly during times of celebration.
- Managing health advice from a patient's country of origin and from healthcare professionals in Wales could create uncertainty around self-management approaches.

8. Improving patient support

This final findings chapter presents suggestions from patients and healthcare professionals for improving engagement with Type 2 Diabetes services and the steps patients need to take to control it. The ideas reflect a range of COM-B domains, including 'Capability' (e.g. improved education), 'Opportunity' (e.g. easier access to services), and 'Motivation' (e.g. psychological and group support).

8.1 More education and contact

Some patients asked for more **information about diabetes** or wished they had received more information **earlier** in their diabetes journey. A similar point was made among **healthcare professionals**: early education and a clear pathway for patients at diagnosis (e.g. like a 'Bounty pack') with an explanation of the different healthcare professionals' roles and what to expect would likely help with engagement and understanding risks. A dietitian added that when they engaged with patients, they felt that in some cases, their diabetes could have been avoided if the patients had received better support and communication when they were on the prediabetes range. More broadly, there was also a belief that education on Type 2 Diabetes needed to begin in schools to encourage **preventative** behaviour development.

> *I just wish they'd given me a bit more information when I received the diagnosis. . . . If there was any way to prevent it or things like that. (F, diagnosed 0-2 years ago, 18-39)*

> *I think that if there was more of a vehicle to be able to get newly diagnosed people into education. I know the NICE guidance says that it's there, but to somehow get them on there more quickly, I think we would see a lot of people being able to put themselves into remission in those early days. (HCP)*

More specifically, some patients wanted a more **tailored** approach to learning and support that fully recognised and planned for the needs of the individual. A particular emphasis was placed on improving education and support on **dietary** needs (e.g. weight management, food ideas, and cooking).

> *If I could afford to go private I think the services they'd have would be a lot better. I'd have regular meetings; we'd work together on plans. So if money wasn't an option I think that would definitely be better for me. . . . What would*

be massively beneficial would be to get the chance to meet a dietitian. (M, diagnosed 0-2 years ago, 18-39)

Accompanying the education theme, some participants wanted more information on the **risks** associated with uncontrolled Type 2 Diabetes and the importance of making lifestyle changes. More interpretation and information on the implications of test results would also be welcome, for example to know what it means to have HbA1c levels 'back in the normal range', as would knowing more about the potential side effects of medication. On a similar theme, a **healthcare professional** believed routinely giving patients their HbA1c reading could help empower them to take control of their condition.

What I would have liked at that time [of diagnosis] was to be told more about how serious a condition it can be. (M, diagnosed 6-10 years ago, 18-39)

I wish I would be given more information because on your annual review, they check your kidney functions and things like that. It's all fair and well to say, 'Your kidney functions are fine', but I know from my mum, where she had CKD [chronic kidney disease], her kidneys were slowly deteriorating. I don't know what the percentage is that you're in the okay, the middle and, 'We need to be looking at things like that'. (F, diagnosed 11+ years ago, 40-59)

It's a challenge [to convey personal risk]. That is a really big challenge. Obviously, it needs to be person centred and done sensitively but honestly. And also reiterated at annual reviews. (HCP)

More regular support, appointments, follow-ups, or 'check-ins' for lifestyle help were suggested by some patients. It would help with accountability, blood sugar monitoring, any changes needed, and keeping abreast of treatment and self-management developments. More regular support could also help to reassure participants with tips and advice so that they felt more confident about controlling the condition. Also, thought some, it would further help with remaining motivated to avoid unhealthy food habits that were hard to control (e.g. with more blood sugar tests).

The support I think should be every six months where you get called in and you sit there and you talk about it, talk about what you've been doing, just to know that you've been doing it right and I think mentally, that does a lot for a person. (F, diagnosed 3-5 years ago, 40-59)

I think it would help if it was more regular, just if you're accountable to somebody as well, it helps. . . . I think they'd help keep me on track; I think they'd make me more accountable for my actions. . . . If they offered a session where they checked your blood sugars, gave you pointers on what you can do to get them better. (F, diagnosed 6-10 years ago, 40-59)

Longer appointments, said a small number of patients, would mean better quality conversations, the chance to learn more, and the opportunity for the healthcare professional to check if the patient understands the information received. A number of **healthcare professionals** concurred with this suggestion.

I think [at] the initial GP appointment, I should have had a more informative discussion with him, rather than him just saying, 'Oh you're diabetic, here's your medication'. I think if he had had the time. (F, diagnosed 3-5 years ago, 18-39)

They must spend more time to explain, if they know the patient will not understand 100% what they try to tell the patient. Sometimes professionals have very limited time, they try to rush, they say something to you, they thought you understand what they mean and, as a patient, we say 'yes' but it might be just that we don't want to bother and ask for an explanation. (F, 11+ years ago, 60-79)

8.2 More opportunity to engage with others

More opportunities to **attend a group** were put forward by some participants, more so by female than male participants and those aged 40-59. This could include **group sessions with a healthcare professional**. The session would need to be friendly, informal, and not in a clinical setting. This could also involve a group for newly diagnosed people where a health professional was present to talk about the condition and its risks. Alternatively, suggested a participant who had lived with diabetes for half their life, it could provide the chance to refresh their knowledge or gain new information. Groups might also encourage a sense of accountability to attendees, felt a few participants, and help to counter weak willpower. Online options would help with accessibility for some who would struggle to attend face-to-face sessions.

Explain things more, you might want to ask more questions; there could be other people there so it's not just me one-to-one, other people who have just been diagnosed with it, you're in this like class together with the nurse or the

doctor. . . . My nurse never told me nothing about the feet problems, it was me seeing the poster when I went for my other appointment. (F, diagnosed 3-5 years ago, 40-59)

Peer group support opportunities were also suggested from time to time. They would help attendees to realise that others were in a similar position; and they could draw on each other's support.

I want to look for something like that myself at this moment. . . . It would make people feel a lot better about diabetes. And knowing, because it's knowing how to deal with it, isn't it, and that now and again you get down. (F, diagnosed 11+ years ago, 60-79)

These two points also emerged among **healthcare professionals** who believed group work and peer support would help with engagement and motivation.

8.3 Better access

Some participants wanted **easier access** to health and support services generally – something that healthcare professionals suggested as well. Participants of working age were more likely to make this point. Included within this requirement was the perceived need for increasing **awareness** of support available and how to access it, and more **availability** of health-related services (e.g. an insulin management course). Suggestions for improving access included appointments / support being available outside typical working hours, improved ease of making first contact with a healthcare professional, the ability to log on and book a diabetes healthcare professional appointment, and cheaper or free gym access.

When I go and have my appointment at the hospital for my retina screening or when I go and have my diabetic check-up in the doctor's, why can't they there and then just book my next one in my calendar? Why is it that I've got to ring, arrange it, or wait for a letter? (M, diagnosed 11+ years ago, 40-59)

In my area I haven't seen anything advertised for any support groups, so not in my clinics, not in my surgery, I've never seen a poster. . . . I would definitely say, even now I would still go to a network, to a diabetes support group of some sort, and find out what was good, bad, what could be improved, with people like me. (F, diagnosed 11+ years ago, 40-59)

Community-based health services closer to home could help with accessibility, added a few patients, perhaps as a drop-in centre or one-stop shop that did not always mean having to go via the GP. Related to this point, some **healthcare professionals** called for a more **joined-up** approach to care either digitally (e.g. with an app, or better patient notes sharing) or physically with more co-location. It could further encourage patients to take ownership of their health. Some therefore suggested a convenient centralised location for care processes. A hub approach could also introduce patients to other services that could help them. A point of care testing initiative, recalled one healthcare professional, had been very well received by patients and helped with engagement; but it had not been able to continue. The concept 'had the potential to revolutionise diabetes care everywhere'.

> *I think if we [dietitians] could work more closely with the GP practices, that would be better, definitely, more joined-up care. (HCP)*

> *Co-location element or MDT working. . . . They're referred to everyone, have all these different appointments, the note systems aren't even joined up. . . . If they could just get referred to, say, a centre where everyone is based there and everyone can perhaps do the basics and then you get passed to the relevant specialisms as needed. But yeah, we're so far off that really. (HCP)*

More effective **external prompts** to engage with services were occasionally suggested by patients. For example, text message reminders would be easier for one participant to be able to organise appointments because they were unable to make phone calls at work. Texts could also be used to inform patients about a service that might suit them. Another participant wanted email or WhatsApp reminders rather than physical letters which were easily lost. They could then be added to digital calendars much more efficiently.

Linked to accessibility, more support available in **minority languages** was also mentioned among patients. Similarly, having more information available in different languages was raised among healthcare professionals.

The patient experience of accessing services could also be improved with more **consistency / standardisation** of reviews and healthcare checks, suggested some healthcare professionals. This could mean seeing the same healthcare professionals, consistent pathways, more standardisation of education, knowing what to expect and when appointments were likely to happen. Patients would then find it easier to develop engagement habits.

Longer term is probably helping us to standardise what we've got available to make sure that we're all doing the same thing, all the pathways are indicating the same thing really, because yeah, I know that some GP surgeries do their own in-house education. (HCP)

8.4 More emotional / psychological support

Suggested improvements on this theme were raised by a small number of patients. They could include the opportunity to talk to someone about why the individual **continues to make poor lifestyle decisions** even when they know what they should be doing.

I don't think any of it is anything to do with my knowledge of being able to lose weight. It's a blockage of continuing to do it once you've lost that, so that's got to be something that's psychological. So I think some kind of support. . . . some kind of figuring out what's triggering the wanting to eat again. (M, diagnosed 6-10 years ago, 40-59)

Similarly, some healthcare professionals wanted to see **psychology** related services developed for Type 2 Diabetes patients to be embedded within diabetes services. The psychologist could collaborate with other diabetes healthcare professionals where needed. Regarding young people moving from paediatric to adult support, it was noted that they sometimes only became ready to properly engage with managing their diabetes and with psychological support around the time they were due to transition to adult services. Introducing the flexibility not to have a 'hard cut-off' for transition, would be beneficial there, if it was felt to be in the patient's interest to continue with their current psychologist; or to be taken on by the adult psychologist slightly earlier if they were ready.

It's recognised on the ground in diabetes services [that psychology support] is desperately needed, so we need something to drive it, really. (HCP)

Improved tone of information delivery, said a few patients, would help with engagement. It could be neutral or positive and friendly rather than 'doom and gloom'. A reassurance that healthcare professionals will be non-judgemental would be welcomed as well.

Just that it's okay that if you do have diabetes, nobody's going to judge you, it's quite a common thing to have. . . . They just didn't make me feel like it was an okay thing to have. (F, diagnosed 0-2 years ago, 18-39)

8.5 More use of technology

Greater use of **technology**, according to some, would improve their engagement with services and their own efforts to manage the condition. It could mean more convenient access to support, for example through an app with practical hints and tips. An app would also mean less time spent searching online for reliable information as it would likely be already contained in the platform. Technology could facilitate more convenient appointment booking as well.

> *If there was an app I think that would be perfect. . . . I'd want the facts on there, I want case studies with real-life, I'd want helpful tips, I'd want meal plans. I'd want a list of different medications, recognised side-effects and symptoms, just those type of things. (M, diagnosed 0-2 years ago, 18-39)*

Some patients felt that continuous **glucose monitoring** devices would help with engagement. They were thought to help patients to understand and take responsibility for their condition, be more accountable, have a more up to date indication of their progress which would provide reassurance, and to improve confidence levels in self-management.

> *It would support my own efforts, I think that's the big one for me. I do have a tendency to get into a regime and then, whether it's laziness or lack of motivation, that regime can peter off. If I was having a negative reading on a blood glucose level, I'd think, you need to get back into your exercise; a bit of a kick up the backside. (M, diagnosed 0-2 years ago, 40-59)*

It should be noted that some participants still favoured **printed material** such as a leaflet to pick up at the surgery and easily refer back to, preferring larger print over online because of failing eyesight, or because they were not digitally literate. Some were also open to the idea of short videos that could help with their understanding of the condition and how to self-manage effectively.

Healthcare professionals occasionally made a similar suggestion about technology and motivation: empower patients by giving them more data about themselves.

Chapter summary: Improving patient support - key points

Improving education and understanding

- Some patients and healthcare professionals felt that patients should be provided with more information about diabetes. Information could also be provided earlier in patients' diabetes journey to help prevent health complications.
- More tailored dietary advice and better education on the risks of complications were sometimes requested.

Enhancing access and service design

- Some patients wanted easier and more consistent access to health services, echoed by healthcare professionals.
- Suggestions included more flexible appointment times, longer appointments, more regular check-ins and, among healthcare professionals, more standardised reviews.
- Giving patients more clarity earlier on regarding the care to expect would help.
- Some healthcare professionals and patients proposed delivering services closer to home, in one location for greater convenience and to encourage engagement.

Strengthening emotional support

- More emotional and psychological support was suggested as likely to improve motivation and sustain engagement e.g. helping patients who knew what they needed to do to control their diabetes but struggled to do it.
- Peer and group-based support, whether led by healthcare professionals or involving other patients, was also put forward.

Harnessing technology

- Greater use of digital tools, such as continuous glucose monitors devices or apps, was expected to help with self-management and support engagement.

9. Conclusions

Conclusions and recommendations

Using topic guides informed by behaviour change models, this research explored influences on patient engagement with health services and personal efforts to control the condition among adults with Type 2 Diabetes and healthcare professionals. The findings highlight that key influences on engagement are linked to what people know and understand about the condition including experiences with health services; emotional drivers; service accessibility and design; and the practical and social conditions around them.

The Behaviour Change Wheel[21] (BCW) has been used to develop conclusions and recommendations based on the research findings. Specifically, the tables overleaf apply the BCW to the four key themes and their barriers that emerged. For each theme, the table highlights:

- Barriers associated with the theme
- Which component of the COM-B model the barriers links to
- Potential intervention types and policy options according to the BCW framework
- Recommendations to consider
- Behaviour related goals and intended outcomes arising from the recommendations.

When reviewing the information below, it should be remembered that there were good levels of positive feedback from participants on the services and healthcare professional staff they engaged with.

Theme	Issue	COM-B component	Potential intervention types and policy options	Recommendation to consider
Health literacy challenges, behaviour related goals, and intended outcomes				
Limited understanding of condition, diet, and diabetes risks	Knowledge gaps about diet management, misconceptions about food, limited understanding of the disease and its complications	Psychological capability	**Intervention**: education, training **Policy**: using communications / marketing, creating and disseminating guidelines	• Develop tailored, accessible communications / information for people with Type 2 Diabetes – co-produce requirements with patients, family member(s) • Ensure information is psychologically, emotionally,

[21] See https://pmc.ncbi.nlm.nih.gov/articles/PMC3096582/

				culturally, and behaviourally informed[22]
Difficulty processing or receiving information	Struggling to absorb information at diagnosis; rushed or unclear conversations with HCPs; limited dialogue during appointments	Psychological capability, social opportunity (targeting healthcare professional behaviour)	**Intervention**: education, enablement, environmental restructuring **Policy**: providing a service, using communications / marketing	• Ensure patients are effectively informed about the condition and its risks early on in their diabetes journey and with staggered learning / periodic reminders • As far as possible, offer service flexibility to personalise the timing and amount of information given
Variable perceptions of personal risk	Some did not feel at risk or believed complications were unlikely to happen to them	Reflective motivation	**Intervention**: education, persuasion, incentivisation, modelling **Policy**: using communications / marketing, creating and disseminating guidelines	• Ensure patient education on risk is psychologically, emotionally, and culturally informed • Highlight tailored quality-of-life outcomes linked to reducing risk and taking ownership
Limited awareness of services and access routes	Lack of knowledge about services, education courses, tech options, and how to access them	Physical opportunity, psychological capability	**Intervention**: education, training, enablement **Policy**: using communications / marketing, creating and disseminating guidelines	• Improve quality and accessibility of information available on services • Ensure patients have a clear roadmap around diagnosis time of what to expect in terms of care processes and appointments; and are provided with periodic reminders of what is involved (e.g. a checklist of essential appointments to complete and prompts about wider services available) • Ensure they are aware of the services available, what each one does, why each is important, and how to access them. • Ensure healthcare professionals are aware of services / support available for referral / signposting.
Limited use of technology to support patients	A sense that more could be done via technology to	Psychological capability,	**Intervention**: education, enablement	• Develop / promote use of diabetes apps e.g. with advice, care process reminders

[22] See https://phwwhocc.co.uk/resources/developing-behaviourally-informed-communications/

	improve self-management / service engagement	physical opportunity	**Policy**: providing a service	(including for those who manage their diabetes well), and videos • Consider whether continuous glucose monitoring devices could be accessed more widely where appropriate

The recommendations for consideration above are intended to support the following behaviour related goals:

- Patients are eating healthier food, doing suitable exercise, and adhering to medication
- Patients continue to practise self-management behaviours and seek advice when symptoms linked to possible complications arise
- Patients' regularly attend appointments for care processes and services.

The intended outcomes include:

- Improved understanding of how Type 2 Diabetes can affect the body and health over time
- More informed decision-making about lifestyle, diet, and engagement with health services
- More confidence and capability to self-manage diabetes
- Reduced confusion or misinformation (e.g. around diet or symptoms) that might hinder self-management
- Stronger sense of ownership and personal relevance, supported by a more tailored approach to communication from health services
- More consistent uptake of the care processes and attendance at key appointments
- Improved clarity for patients on what support is available, when to use it, and how it can help
- Reduced disengagement linked to low perceived severity or lack of understanding
- How more technology use could reduce to an extent the burden on healthcare professionals from patients who are managing but feel they need more healthcare professional interaction.

Theme	Issue	COM-B component	Potential intervention types and policy options	Recommendations to consider
Emotional and psychological challenges, behaviour related goals, and intended outcomes				
A lack of understanding or support from others	Family / friends / workplaces can emotionally undermine efforts to control the condition	Reflective motivation, social opportunity	**Intervention**: education, enablement **Policy**: providing a service, creating and disseminating guidelines, using communications / marketing	• Develop ways of engaging family / peers on how to support the family member with diabetes • Develop and enable peer support • Explore how best to offer group support • Develop workplace guidance on supporting colleagues with diabetes • Develop campaigns to tackle societal perceptions of Type 2 Diabetes
Mistrust in services (negative personal /	Mistrust can discourage service use and reduce belief in their value	Reflective motivation, social opportunity	**Intervention**: persuasion, modelling, enablement	• Share positive service experiences via patient stories • Involve patients in service feedback or co-design

family experiences)			**Policy**: using communications / marketing	
Mental health challenges affecting routines and engagement	Periods of low mood, depression, or bereavement can reduce emotional capacity to self-manage and engage with services	Reflective motivation, psychological capability	**Intervention**: enablement, training, environmental restructuring **Policy**: providing a service	• Create joined-up pathways linking diabetes and mental health support • Embed psychological support in services / ensure services are psychologically informed • Review staff training for identifying and responding to patients' emotional needs
Emotional / psychological difficulties making and maintaining changes	Factors like comfort eating, prior habits or self-doubt can make change harder to maintain	Automatic motivation, reflective motivation	**Intervention**: enablement, modelling **Policy**: creating and disseminating guidelines, using communications / marketing, providing a service	• Create joined-up pathways linking diabetes and psychology support • Embed psychological support in services / ensure services are psychologically informed • Co-produce small, achievable goals with patients – and recognise progress • Share relatable success stories • Highlight tailored emotional benefits of maintaining changes • Make use of key moments (diagnosis, treatment changes) to (re-)engage
Fear of judgement	Anticipated stigma or embarrassment can deter patients from accessing services or being open about difficulties	Automatic motivation, social opportunity (through targeting healthcare professional behaviours)	**Intervention**: training, persuasion, environmental restructuring **Policy**: using communications / marketing, providing a service	• Create joined-up pathways linking diabetes and psychology support • Embed psychological support in services / ensure services are psychologically informed • Review service communications language to ensure they sound supportive • Ensure staff training encourages empathy and covers stigma awareness • Develop campaigns to tackle societal perceptions of Type 2 Diabetes.

The recommendations for consideration above are intended to support the following behaviour related goals:

- Continued engagement in self-management behaviours (e.g. eating healthy food, doing suitable exercise, medication adherence) despite emotional and mental health challenges
- Attending diabetes-related appointments and engaging with services even during periods of low mood, stress, or competing demands
- Seeking and accepting emotional / psychological support from healthcare professionals, family, and peers

- Communicating openly with healthcare professionals about emotional wellbeing and self-care challenges.

The intended outcomes include:

- Increased patient activation to self-manage / access support
- Improved emotional resilience and motivation to continue self-management
- Increased access to and use of emotional and psychological support
- Ensuring awareness among healthcare professionals of the emotional / psychological struggles people with Type 2 Diabetes may face
- Strengthened trust and rapport between patients and healthcare professionals
- Increased uptake of support services and peer networks that can sustain behaviour change
- A more holistic approach to diabetes care that reflects the reality of patients' emotional lives and competing demands
- Reduced emotional resistance to making lifestyle changes or engaging with services
- Minimised fear of judgement or mistrust in services.

Theme	Issue	COM-B component	Potential intervention types and policy options	Recommendations to consider
Structural and logistical challenges, behaviour related goals, and intended outcomes				
Difficulties accessing services	Issues such as securing appointments, limited availability, inconvenient timings, and transport issues	Physical opportunity	**Intervention**: environmental restructuring, enablement **Policy**: environmental and social planning, providing a service	• Explore how service models could improve access and continuity, for example with more flexible hours, easier ways to book appointments and the potential for more co-location / community care hub based services. This could also help with reaching patients who have entirely disengaged from health services and attempting to control their diabetes
Systemic pressures affecting healthcare delivery	Challenges like staff workload and staff shortages can make it difficult for staff to always deliver an effective service	Physical opportunity	**Intervention**: environmental restructuring, enablement **Policy**: environmental and social planning, providing a service	• Explore to what extent care hub based services could deliver services more efficiently • Explore how technology could support more efficient service delivery (e.g. to reduce admin) • Explore how consistently services and support are being delivered so that there is greater clarity for patients and healthcare professionals • Ensure healthcare professionals feel supported to deliver empathetic and encouraging interactions that increase patient confidence

Patients' workplace-related challenges limiting engagement	Inflexible schedules, limited peer understanding of diabetes-related needs	Physical opportunity	**Intervention**: enablement **Policy**: using communications / marketing	• Develop awareness campaigns tailored for employers • Share case studies of supportive employer approaches
Environmental barriers to healthy eating	Widespread availability of unhealthy diet options, expense of healthier options	Physical opportunity, reflective motivation	**Intervention**: education **Policy**: using communications / marketing	• Deliver (more) food budgeting workshops with diabetes-specific examples
Language barriers can limit interaction	Can be difficult to interact with services without adequate language support	Physical opportunity	**Intervention**: enablement, training **Policy**: using communications / marketing, creating and disseminating guidelines	• Ensure core diabetes communication materials can be made available in different languages • Explore potential for training bilingual peer volunteers to co-deliver support group sessions

The recommendations for consideration above are intended to support the following behaviour related goals:

- More regular and sustained attendance at health appointments
- Patients making more informed and cost-conscious food choices that suit diabetes self-management
- Patients with limited English language skills feel more encouraged to access services.

The intended outcomes include:

- Increased patient completion of recommended care processes (e.g. HbA1c checks, eye screening)
- More diabetes-friendly working environments
- Increased patient confidence and skills in producing budgeting for healthy meals
- Improved service access and engagement for patients from diverse linguistic backgrounds.

Theme	Issue	COM-B component	Potential intervention types and policy options	Recommendations to consider
Social and cultural challenges, behaviour related goals, and intended outcomes				
Cultural / religious practices can conflict with dietary recommendations	Challenges with religious / cultural norms around food, fasting, and celebrations	Social opportunity, reflective motivation	**Intervention**: education, persuasion, enablement **Policy**: using communications / marketing, creating and disseminating guidelines	• Provide culturally sensitive dietary advice • Offer support ahead of common celebration periods to help people plan their diabetes management
Conflicting or mixed messages from different sources	Differing health advice from country of origin and from Wales healthcare	Psychological capability	**Intervention**: education, training, modelling **Policy**: using communications /	• Support healthcare professionals to understand / acknowledge patients' cultural backgrounds

	professionals can create uncertainty		marketing, creating and disseminating guidelines	• Reinforce evidence-based self-management approaches • Use culturally relatable case studies

The recommendations for consideration above are intended to support the following behaviour related goals:

- Patients communicating with healthcare professionals when they need help managing diabetes in relation to cultural practices
- Patients following a suitable diet while observing cultural or religious practices
- Patients confidently following Wales healthcare professionals' advice despite differing guidance from other cultural or national contexts.

The intended outcomes include:

- Improved adherence to self-management behaviours during culturally significant periods
- Increased clarity and confidence in following appropriate diabetes guidance
- More inclusive and accessible health communications and services for diverse groups.

10. Appendices

10.1 Interview topic guides

Adults with Type 2 Diabetes

Researchers are not expected to cover every prompt. Ensure main questions asked and use prompts as follow-ups where suitable.

Welcome

Thank you for agreeing to participate in this interview. My name is [insert], and I'm a researcher at Beaufort Research. We're an independent research agency and as you know we've been asked by Public Health Wales to carry out this research.

So we'll be talking about diabetes, including aspects influencing how people engage with services to manage it. However, before we start, I wanted to quickly run through a couple of things to ensure you are happy with everything. Is that okay?

Checklist:

- *Check that the participant has received the information sheet and has no further questions.*
- *Mention:*
    - *There are no right or wrong answers.*
    - *The discussion will take up to 60 minutes.*
    - *Explain that they can stop the interview at any time.*
    - *Explain that Beaufort adheres to the Market Research Society Code of Conduct and ensure confidentiality for all their participants*
- *Ask for consent to record the interview - to have an accurate note of what they say (switch on the recorder if agreed by the participant or take notes).*
- Now the recording is on, can I check that you're happy to continue? *If yes* I'd like to run through some statements to see if you agree with them. If you agree with all of them, it means we have your consent to continue with the interview. *Go through consent form, obtain verbal consent / signature if face to face*

Introductory question – warming up

1. Before we start, I would like to learn a bit about you. Could you tell me something about you?
   Prompt: job or hobbies.

Diagnosis

2. Let's think back to when you were first diagnosed with diabetes. Roughly how long ago was it? *Prompt*
    - How did you immediately feel when you learned you had diabetes?

3. How did being diagnosed with diabetes affect your life back then? *Probe*

4. And how did you decide on the best way to manage it?
    - *Prompt: What changes, if any, did you make in your daily life after being diagnosed?*

- *Prompt :What or who helped you decide on the steps to take to manage your condition in that early period after diagnosis?*

5. Looking back to when you were diagnosed, do you feel the healthcare professionals explained diabetes in a way that made sense to you?
   - *Prompt: What parts of the information were clear or helpful for you?*
   - *Prompt: Was there anything you didn't understand or wish they had explained differently?*

Beliefs and attitudes towards diabetes

6. Thinking about how you currently feel about diabetes, what are your thoughts on how serious diabetes is as a condition for you?
   - *Prompt: Can you tell me more about why you feel that way?*
   - *Prompt: Are there any complications you associate with having diabetes?*
   - *Prompt: How likely do you feel you are to experience these complications?*
   - *Prompt: How do you feel about the impact of these complications on your life?*
   - *Prompt: How serious do you think these complications are?*

7. Have the healthcare professionals you've ever seen about your condition explained the risks of complications in a way that made sense to you?
   - *Prompt: Was there anything in particular that helped you understand the risks better?*
   - *Prompt: What would have made those conversations more helpful or clearer for you?*

Self-management behaviours

8. Tell me more about the kinds of things you do to manage your diabetes day-to-day?
   - *Prompt: Can you tell me about any skills or new information you've learned since your diagnosis that help you with this?*
   - *Prompt: What has helped you manage your diabetes successfully?*
   - *Prompt: What gets in the way or makes it harder for you to manage your condition?*
   - *Prompt: What would make it easier?*

9. Do you feel confident managing your diabetes on your own, or would you prefer more regular help from healthcare professionals?
   - *Prompt: With the information you have now, do you feel able to make decisions about your diabetes?*
   - *Prompt: What do you think affects your confidence in managing diabetes?*

10. Where do you usually get your information about managing diabetes?
    - *Prompt: Do you rely on healthcare professionals, family, friends, online information or something else?*

Engagement with health services

As you may know, the NHS provides some services to help people to manage their diabetes and prevent health complications. This can include things like attending appointments to avoid complications with your eyes or feet, providing you with information about diet, exercise, or smoking, and guiding you on how to self-manage your medication and prevent complications. We're going to talk about the kind of things that might affect whether people use these services.

11. Do you use any support from the NHS or other health services to manage your diabetes? *If yes, ask Q12*
    - *If no Tell me more about that? Refer to Q17 as appropriate and then return to Q13 if not already covered earlier*

12. What support from the NHS or other health services do you currently use to manage your diabetes?
    - *Prompt: What things makes it easier for you to use these services?*
    - *Prompt: What things can make it harder for you to use these services?*
    - *If not already covered: Do you feel healthcare professionals have helped* you understand why managing your diabetes is important?
    - *Prompt: Was the information they gave you clear and easy to understand?*
    - *Prompt: Do you feel you understand how managing your diabetes can benefit your health?*

Perceived benefits of engaging with services

13. What do you think are the main benefits of using diabetes support services? *Try to ensure it's clear which services participants have in mind*

    Prompt: here are examples of benefits that some other people talk about: they believe it's beneficial to get medically approved information (for example, about diet), get peer or psychological support, get medical reassurance that everything is well, to see the benefits from making lifestyle changes (for example, in weight), improve their health for children or contribute to reducing NHS demand.
    - *Prompt: how do you feel about any of these benefits?*

      Have your views on any benefits changed over time?
    - *Prompt: if use services Have you noticed any improvements in your health or confidence after using these services?*

Perceived barriers to engaging with services

14. What are the biggest challenges for you in using / continuing to use diabetes services?

    Probe, use prompts as appropriate
    - *Prompt: How easy or difficult have you found fitting in appointments with your day-to-day life?*
    - *Prompt: Do you think any physical, emotional, or financial barriers play a role?*
    - *Prompt: Do you feel you have the physical capacity and skills needed to manage your diabetes as recommended by diabetes services?*

- *Prompt: Are there any logistical issues with getting to certain venues or appointments around current life commitments, or issues with the format of the services (for example, online or group sessions or sessions that take a long-time commitment)?*
- *Prompt: Some people perceive it's difficult to use services if they don't feel they know enough or if they haven't received sufficient information from a GP or clinician. Can you relate to this at all?*
- *Prompt: Some people are unclear on how important these services are, are concerned about being judged or feel that using these services might make them feel bad. Can you relate to this at all?*
- *Prompt: how easy do you think it would be for you to make a habit of regularly engaging with services?*
- *Prompt: lastly, some people mention difficulty managing their diabetes due to mental health issues or other illnesses, the cost of changing some behaviours like diet or exercise, or the fact that these changes might interfere with their culture/religious celebrations. What do you think of these?*

15. Do the people around you, family, friends, or your workplace, help you stay engaged with managing your diabetes or can they make things harder in any way?
    - *Prompt: What kind of support do you find most helpful?*
    - *Prompt: Is there anything you wish they could do differently to help you?*

16. How confident are you that attending diabetes services will make a positive difference in your health?
    - *Prompt: What makes you feel confident, or less confident—about these services?*

17. Do you feel confident finding and using the services and information you need to manage your diabetes?
    - *Prompt: What makes accessing these services easier or harder for you?*

Cues to action

18. What could healthcare professionals say or do to make you want to use diabetes services?
    - *Prompt: What kind of information do you think is most helpful or motivating?*
    - *Prompt: Is there anything they've said in the past that discouraged you?*

19. What's the best way for you to get information about managing diabetes—online, printed materials, or something else?
    - *Prompt: Do you think text messages, videos, or apps might be helpful?*

20. Is there anything else that encourages you to engage with these services?
    - *Prompt: Some people say it's helpful to use devices that monitor their progress, or having follow-ups about their progress can help. How do you feel about these ideas?*

Closing question

Lastly, is there anything else that Public Health Wales can do to support you with diabetes that will mean:

- You use support services more?
- You're able to self-manage your diabetes better?

Next steps

Thank you very much for your time today and for sharing your views and perspectives with us on this topic.

Just to let you know, we will next analyse the results and then write the findings into a final report. If you'd like me to, I can send you a summary of the findings once these are ready.

- *Inform them about how and when they will receive their incentives.*
- *Direct to support/self-care if needed.*

Sources of support for participants if needed.

https://www.diabetes.org.uk/support-for-you/diabetes-uk-in-your-area/wales
https://executive.nhs.wales/functions/networks-and-planning/diabetes/
https://111.wales.nhs.uk/encyclopaedia/d/article/diabetes/

Healthcare professionals topic guide

Researchers are not expected to cover every prompt. Ensure main questions asked and use prompts as follow-ups where suitable.

Welcome

Thank you for agreeing to participate in this interview. My name is [insert], and I'm a researcher at Beaufort Research. We're an independent research agency and as you know we've been asked by Public Health Wales to carry out this research.

So we'll be talking about diabetes, including aspects influencing how people engage with services to manage it. However, before we start, I wanted to quickly run through a couple of things to ensure you are happy with everything. Is that okay?

Checklist:

- *Check that the participant has received the information sheet and has no further questions.*
- *Mention:*
    - *There are no right or wrong answers.*
    - *The discussion will take approximately 60 minutes.*
    - *Explain that they can stop the interview at any time.*
    - *Explain that Beaufort adheres to the Market Research Society Code of Conduct and ensure confidentiality for all their participants*
- *Ask for consent to record the interview - to have an accurate note of what they say (switch on the recorder if agreed by the participant or take notes).*
- Now the recording is on, can I check that you're happy to continue? *If yes* I'd like to run through some statements to see if you agree with them. If you agree with all of them, it means we have your consent to continue with the interview. *Go through consent form, obtain verbal consent / signature if face to face*

Role in providing support to people with T2D

1. Could you tell me about your role?

2. What kind of care and support do you provide to patients with Type 2 Diabetes?
    - *Prompt: How does your role fit in with diabetes services?*
3. What helps you to deliver care and support to people with diabetes?
4. What gets in the way of you being able to provide the care and support you want for people?

Supporting early Diagnosis

5. Do you ever deliver diabetes diagnoses to people or have very early conversations with them soon after diagnosis? *If no, move on to Q6. If yes* How does it feel for you when you're delivering a diabetes diagnosis or having those first conversations with someone about their condition? (Emotion/ Social professional role)

    - *Prompt*: What's the most memorable experience you've had in one of these conversations?
    - *Prompt*: Do you find those conversations challenging, or do they come naturally to you? Why?
    - *Prompt:* When you have these conversations how confident are you that your patients will be able to take action to make the changes suggested?
    - *Prompt:* What sort of reactions are people having to these early discussions/their diagnoses?
        - How optimistic are they that they will be able to manage their diabetes?

6. What are some of the discussions you have with patients in their annual diabetes review, if you are involved in reviews?
    - *Prompt: Following these discussions, do patients leave with clear plans or goals to manage their diabetes or can it vary?*
    - *Prompt: Are these plans/goals ever revisited? If so, what impact do you find this has on the patient's motivation to engage and act?*
    - *Prompt: How confident are you in your knowledge and skills around diabetes management and ability to help patients manage their diabetes?*

7. When you talk to patients during diagnosis or check-ups, what sense do you get about how serious they think diabetes is? (optimism, beliefs about consequences)
    - *Prompt: Do they seem worried or more relaxed about the diagnosis? Why do you think that is?*
    - *Prompt: How do patients usually respond when you talk to them about the risks or complications of diabetes?*
    - *Prompt: What are some of the patients' views on how likely it is to develop health complications?*
    - *Prompt: How motivated do you believe patients are to take action to manage their diabetes?*

8. Why do you think patients see diabetes the way they do? (beliefs about consequences, knowledge, behavioural regulation)
    - *Prompt: Do you think patients' understanding comes from personal experiences, family or something else?*
    - *Prompt: What role do you think education or information from health services plays in shaping their view?*
    - *Prompt: What do you think influences their views on the severity of diabetes? How do their social influences affect their views?*

9. How easy is it to reinforce people's understanding of what the consequences of unmanaged diabetes are? *Probe*

As you may know, the NHS provides some services to help people to manage their diabetes and prevent health complications. This can include things like attending appointments to avoid complications with their eyes or feet, providing them with information about diet, exercise or smoking, and guiding them on how to self-manage their medication and prevent complications. We're going to talk about aspects that influence whether patients engage in these services.

Supporting T2D patients to engage with health services

10. What do you think encourages patients to use diabetes services or programmes? (beliefs about consequences, motivation and goals, reinforcement)
    - *Prompt: Do you think specific services or aspects make a big difference in patients' lives? If so, what are they?*
    - *Prompt: What have you noticed about patients who consistently engage with services? What keeps them coming back?*

11. How effective do you think these services are in helping patients manage their diabetes? (knowledge, beliefs about consequences, skills)
    - *Prompt: Have you seen any noticeable changes in patients who use these services? What stands out to you?*
    - *Prompt: Are there any areas where you think these services could do more or work differently?*
    - *Prompt: To what extent do these services provide patients with the information and skills they need to manage their diabetes?*
    - *Prompt: Do you think patients share the same view?*

12. Why do you think people don't engage or disengage with these services?
    - *Prompt: Some people suggest issues with getting convenient appointments or getting to certain venues, issues with the format of the services (for example, online or group sessions), not knowing about these sessions or their details, or concerns about being judged at these services. What do you think of these aspects?*
    - *Prompt: To what extent do you feel a person's broader life situation (e.g. comorbidities, family/friends, workplace arrangements) influences their capacity to engage with these services?*

- *Prompt: Conversely, what can facilitate people engaging with these services?*
- *Prompt: Some people mention difficulty managing their diabetes due to mental health issues or other illnesses, the cost of changing some behaviours like diet or exercise or the fact that these changes might interfere with their culture/religious celebrations. What do you think of these?*
- *Prompt: Are there any barriers to diabetes services that are specific to particular groups of patients? E.g. based on demographic factors such as age, gender, socio-economic status, race etc.*
- *Prompt: Do you think life circumstances, like work or family, play a role in why people don't engage?*
- *Prompt: Are there emotional or psychological reasons you've observed that stop patients from staying involved?*

13. Have you ever tried to bring patients back into diabetes care or programmes? If so, how did that go? (behavioural regulation, social influence, emotion)
    - *Prompt: If you haven't had those experiences, do you feel re-engaging patients is difficult?*
    - *Prompt: What worked or didn't work when you tried to reengage patients?*
    - *Prompt: What makes re-engaging patients particularly hard in your experience?*
    - *Prompt: For people who disengaged, are their common "triggers" that encourage them to re-engage?*

14. How confident do you feel most patients are when it comes to using diabetes services? (beliefs about capabilities, reinforcement, emotion)
    - *Prompt: Do you think confidence changes as patients get more familiar with services?*
    - *Prompt: What do you notice about patients who seem unsure about getting involved?*
        - *Prompt*: Do you think they feel they need support from healthcare professionals?

15. What could diabetes care or annual reviews do to make it easier for patients to stay involved with their services? (environmental context and resources, social influence, skills)
    - *Prompt: Are there small changes you think would make a big difference in keeping patients engaged?*
    - *Prompt: How do you think care processes could better support patients' specific challenges or needs?*
    - *Prompt: What are the strengths of these processes?*
    - *Prompt: What needs to be improved in these processes to engage people?*
    - *Prompt: What would need to be in place for these improvements to occur?*

Closing question

Lastly, is there anything else that Public Health Wales can do to support people with diabetes to engage with services and self-manage their diabetes?

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