



ORIGINAL ARTICLE

# User accounts on received diabetes and mental health care in a Danish setting – An interview study

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**ABSTRACT:** People with coexisting type 1 and 2 diabetes and mental illness have a higher mortality rate compared to the general population, among other reasons due to unregulated diabetes. One explanation might be the complexity of managing both conditions. In this interview study, we explored the accounts of delivered diabetes and mental health care of 16 individuals living with coexisting diabetes and mental illness in Denmark. A thematic analysis by Braun and Clarke was applied in the analysis. Some of the participants described the care for diabetes and mental illness to be inextricably linked to each other. Therefore, health care providers ought to focus and knowledge of both conditions as essential components in the care provided. The participants accounted for support needs in other settings beyond diabetes and mental health outpatient clinics, such as the family doctor, residential institutions, and community care. However, the inefficient collaboration between these health care settings is one of the barriers to supporting the participants' self-management.

**KEY WORDS:** diabetes care, mental health care, mental illness, qualitative interviews, support needs, user accounts.

## INTRODUCTION

Living with a mental illness (MI) shortens a person's lifespan by 15–20 years compared with the general

population (Balogun-Katung *et al.* 2021; Cohen *et al.* 2018; Moore *et al.* 2015). People with MI have a high prevalence of type 2 diabetes, often due to metabolic conditions and being overweight (Stenov *et al.* 2020). People diagnosed with type 1 or type 2 diabetes often experience fluctuating levels of mental distress affecting their quality of life and social functioning, which increases the risk of developing depression (Rønne *et al.* 2020). Low health literacy levels are identified as psychological barriers among people with coexisting diabetes and MI, to self-management diabetes-related activities (Balogun-Katung *et al.* 2021) and health literacy is hampered by their MI and low priority to the diabetic condition

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(Mulligan *et al.* 2018; Rønne *et al.* 2020). People with both conditions face different challenges including polypharmacy, navigating different social and health care systems, and following diabetes-related recommendations such as engaging in physical activities, due to anxiety (Bellass *et al.* 2021). As a result, people with both conditions are more likely to be dependent on support from health care providers, compared to people without a MI (HCP) (Hamm *et al.* 2017; Mulligan *et al.* 2018; Stenov *et al.* 2020). However, limited knowledge of diabetes among mental HCP (Nash 2014; Stenov *et al.* 2020) often deprives this population of the recommended diabetes care and support of the individual (Holt & Mitchell 2015). Furthermore, the possibility of individualized health care is low as HCP who specializes in diabetes or/and mental health care have little focus on both conditions in care planning (Stenov *et al.* 2020; Zabell *et al.* 2021). One explanation of this might be that diabetes and mental health care often are managed in separate specialized health care settings, providing barriers to awareness of the support needs of both conditions (Stenov *et al.* 2020; Tabvuma *et al.* 2022). Users' accounts of care delivery are noted to be central sources of information to identify their priorities for care and self-management (Hamm *et al.* 2017; Kieft *et al.* 2014). Literature have so far focused on the description of mental health users' accounts of diabetes support needs and care (Nash 2014; Stenov *et al.* 2020) omitting the care needs of MI. The same literature highlights a need for training mental HCP in diabetes symptoms and physical deterioration, to provide sufficient diabetes and mental health care (Blixen *et al.* 2016; Nash 2014; Rønne *et al.* 2020; Stenov *et al.* 2020). However, focusing on diabetes as a single condition provides unequal attention to the two conditions, where diabetes overshadows the mental illness (Rønne *et al.* 2020; Zabell *et al.* 2021). The complexity of living with MI and diabetes seems to be neglected by HCP. To understand the complexity of managing the two conditions, it is important to understand the user's actual support needs and it is pivotal to know if user's support needs are met in diabetes and mental health care they receive.

### Research aim

This study aims to investigate accounts of delivered diabetes and mental health care from people living with coexisting diabetes and MI to understand their support needs and the complexity of managing both conditions.

## METHODS

### Design

This study is an interview study conducted in Denmark, and builds on social constructivism, where knowledge is situated and produced through interactions among people. (Brinkmann & Steiner 2015; Robson 2011).

### Participants and setting

Eligibility for participation required age of 18 or above, ability to communicate in Danish, MI diagnosis (schizophrenia, bipolar disorder, major depressive disorder, non-organic psychotic disorder (including schizoaffective disorder), and personality disorder), diagnosis of type 1 diabetes (T1DM) or type 2 diabetes (T2DM) and enrolled in diabetes and/or mental health outpatient clinics in Region Zealand, Denmark.

Convenience sampling was used to recruit participants for the study, where selected HCP working in the clinics acted as gatekeepers, allowing access to eligible participants. Using snowball sampling (Neuman 2014), the members of a user council (see *Research team*) also approached eligible participants to establish the first contact.

Eighteen people were approached for participation, whereas, two declined participation due to mental distress. Sixteen participants joined the study, six of whom were females and 10 were males aged between 23 and 78 years. For more detailed information on the participants see Table 1 *patient demographic* based on self-reported data.

### Interviewing and interview guide

The semi-structured interviews were conducted by use of an interview guide comprising of open-ended questions and recorded on audio. The guide was developed on the basis of a literature search of descriptions of diabetes and mental health care obtained from people diagnosed with coexisting diabetes and MI (Zabell *et al.* 2021), and with the involvement of the user council. After each interview, the interviewer (VZ) generated field notes of reflective analysis and contextual information (Phillippi & Lauderdale 2018). The interviews began by eliciting the participants to introduce themselves. All interview questions were open-ended: *What is your experience of coping with your illnesses?* and *What is your experience of receiving help from your family/friends with problems in daily life, as a consequence of*

**TABLE 1** Participant demographics

Participant no.	Gender	Age	Diabetes type	Insulin	Weekly injection	Oral medication or diet	Mental illness	Diabetes care			Mental care	
								Community diabetes and mental health care	Family doctor	Diabetes outpatient clinic	Psychologist with private practice	Psychiatric outpatient clinic
1	Female	46	2	X			Bipolar disorder			X		X
2	Male	78	2	X			Bipolar disorder		X			X
3	Male	23	1	X			Schizophrenia		X			X
4	Male	37	2		X		Bipolar disorder		X		X	
5	Male	40	2		X		Schizophrenia		X			X
6	Male	40	2	X			Bipolar disorder			X		X
7	Male	27	1	X			Schizophrenia			X		X
8	Female	37	1	X			Schizophrenia	X				X
9	Male	32	1	X			Schizophrenia			X		X
10	Female	53	2		X		Schizophrenia			X		X
11	Female	50	2	X			Major depression		X		X	X
12	Female	66	2		X		Major depression		X			X
13	Male	58	2				Schizophrenia	X				X
14	Female	60	2		X		Bipolar disorder		X			X
15	Male	36	2		X		Non-organic psychotic disorder	X			X	X
16	Male	56	2			X	Schizophrenia		X			X

*your illness/illnesses?* Interview questions were followed up by probing questions for elaboration. This is to make the interview situation as close to a conversation as possible (Brinkmann & Steiner 2015).

### Data collection

The interviews were conducted between October 2019 and July 2020, either face-to-face ( $n = 5$ ) or over the telephone ( $n = 11$ ), according to the participant's preference. Face-to-face interviews took place in an undisturbed room at a psychiatric hospital. The interviews lasted 20–60 min, depending on the participant's ability to maintain concentration due to cognitive abilities.

The concept of “information power” (Malterud *et al.* 2016) served as a guide to determine the adequacy of data saturation. Sufficient information power was assumed at interview number 16 on the basis of field notes and continuous analytic memo writing after each interview.

### Data analysis

The six-phased steps for the thematic analysis described by Braun and Clarke were used to inductively analyse data. Phase 1: Familiarizing yourself with the data, Phase 2: Generating initial codes, Phase 3: Searching for themes, Phase 4: Reviewing themes, Phase 5: Defining and naming themes, and Phase 6: Producing the report (Braun & Clarke 2006).

The interviews were transcribed verbatim by VZ. First, the transcripts were read to be familiarized with the data. Then initial codes were generated with the study aim as focus. VZ, RJ, and the user council discussed the codes according to interconnections, resulting in seven themes. The seven themes were revisited by VZ, SA, and RJ, which reduced the themes to three main themes, with four subthemes. Then names and descriptions of the themes were formulated. Lastly, all themes were reviewed by the research team and user council. The field notes and memos were revisited in each step for comparison with the first analytical reflections. The user council's feedback and participation in the analytical process were considered a way of validating the findings. See Table 2 for an example of the data analysis process.

### Research team and user council

The research team consisted of one endocrinologist PG, one psychiatrist SA, two Registered Nurses with

Ph.D. degrees (one an experienced mental health nurse RJ, the other with a background in physical health nursing DH), a Ph.D. student with a Master's in public health SR, and a Ph.D. student VZ with a Master's degree and nursing background. Except for last and RJ, all were employed at Slagelse Hospital. A user council of three people with diabetes and MI was established to incorporate users' perspectives of diabetes and mental health care services in the study with the purpose to explore the resonance of the findings with their experiences.

### Ethical considerations

Ethical approval was obtained from the Ethics Committee of Region Zealand (Jr.nr. 19-000067) and the study was reported to the Regional Data Security Agency, Denmark (REG-014-2019). The study conforms to the ethical guidelines reported in the Declaration of Helsinki (World Medical Association 2013). Participants and the user council received written and oral information about the study and written consent to participate in the study was obtained from all.

## FINDINGS

The accounts for diabetes and mental health care is given by people with coexisting diabetes and MI generated three themes and four subthemes. See Table 3 for an overview.

### Real-life entanglement is often un-supported

This theme revealed how living with coexisting diabetes and MI confronted the participants with a dual task in everyday illness management. Their perceptions of the complexities of handling that task appeared to vary considerably. Some considered the management of MI as a more complex task when compared with diabetes, whereas others viewed diabetes and MI to be inextricably interlinked, thereby intensifying the burden. Especially participants in insulin treatment described management as a very complex task. The participants described receiving diabetes-related support from family members, whereas their MI was often left unsupported.

The participants with MI and T2DM with oral treatment typically perceived MI as an interfering factor in their everyday life, as it forced them to plan social

**TABLE 2** Example of the process of data analysis

Extract from interview	Initial codes	Theme	Revisited theme
<i>But they do affect each other—that is, if I'm mentally unbalanced, it has the effect of raising my blood sugar . . . so now and then, it's hard to regulate my diabetes if I'm not feeling well. . . . They affect each other a lot—and likewise, if my blood sugar is too high, it actually affects my mental well-being. It's kind of like trying to figure out which is which, you know</i>	Difficult to cope with the two illnesses as they have an effect on each other Symptoms of the two illnesses are difficult to separate Living with diabetes Living with mental illness	Diabetes and mental illness- a mutual interference	The complexity of coping with two illnesses

**TABLE 3** Overview of theme characteristics

Main theme	Subthemes
Real-life entanglement is often un-supported	
Left alone with illness management and decisions	<ul style="list-style-type: none"> <li>• Disregard of the “other” illness and neglect of interconnectedness</li> <li>• Being the expert on the “other” illness during admissions</li> </ul>
Wishing for flexibility and peer support	<ul style="list-style-type: none"> <li>• Meeting dual expertise and collaboration on treatment goals</li> <li>• Needs and preferences for meeting with peers</li> </ul>

events with regard to their mental illness. This made it difficult to feel normal.

Participant 5: I'll take a lot of medicine just to get away from my own thoughts, you know. So that I won't feel that different from everyone else.

They did not consider the management of diabetes and MI as a complex task, as they did not notice diabetic symptoms in daily life. Not even if they occasionally forgot to follow diabetes recommendations, for example, diet and oral medications. Some even refused to view diabetes as an illness but expressed their MI being the main struggle in daily life.

Participant 15: When you say illnesses, are you thinking of diabetes as an illness? . . . OK, the reason I ask is that I find it easier to understand that mental illness is seen as an illness.

Participants with insulin-dependent diabetes had constantly to be aware of one or both illnesses, they emphasized their situation to be very complex, for example, when somatic (as opposed to mental) symptoms of diabetes exacerbated their MI, or the MI

affected their diabetes. This created an inextricable link between MI and diabetes, which some of the participants viewed as a negative relationship between the two illnesses, creating a mutual interference.

Participant 1: But they do affect each other—that is, if I'm mentally unbalanced, it has the effect of raising my blood sugar . . . so now and then, it's hard to regulate my diabetes if I'm not feeling well. . . . They affect each other a lot—and likewise, if my blood sugar is too high, it actually affects my mental well-being. It's kind of like trying to figure out which is which, you know.

In continuation, they expressed that diabetes required strong awareness of treatment recommendations, involving diet regulation and several daily blood sugar measurements, and that a constant focus on the diabetes treatment recommendations sometimes obstructed management of MI. Or the other way around, that worsening in MI symptoms could have negative consequences for their diabetes management, for example, following the diabetes recommendations, which in the worst case threatened their physical health. MI was thus perceived as directly linked with self-management capability and health status.

Participant 3: Yeah, there are periods when I don't feel like doing anything—I want to stay in bed and just sleep all day, and then I tend not to manage my diabetes properly.

In situations, where the MI influenced the participants' ability to self-manage their diabetes, they often looked for support from their families. The participants saw a close link between their families' understanding of diabetes recommendations and their level of support. This was exemplified at family dinners where diabetes recommendations had to be considered.

(P7): Take my mom—she's quite good at reminding me that "this [the diabetic condition] is just your everyday life now, and that's it." That it shouldn't make me feel worse. And there's my granny, she's got type 2 diabetes herself, and she is extremely aware of my needs even if she's the older one.

Several of the participants noted that they felt a stronger connection with family members who were familiar with diabetes themselves, most of them described diabetes recommendations on diet, exercise, and medication as easy to comprehend for families, and they reported a high level of family support, not only in daily life but also in connection with health care consultations and during hospitalizations.

In contrast to the remarks on the support of diabetic dieting, and so on, almost all participants spoke of their families' lack of support in connection with their MI, even when they had been invited to participate in mental health care consultations, visit during psychiatric hospital admissions, or provide support in daily life. The participants ascribed this to a poor understanding of their MI.

(P6): That time [when admitted to psychiatric treatment], my dad would bring me cigarettes. But he didn't have a clue, to tell you the truth. ... It's an invisible illness, isn't it? There's nothing to be done about that. ... This is true not just for me, it's true for everyone. The necessary understanding, it just isn't there.

### Left alone with illness management and decisions

This theme concerned the participants' accounts of health care consultations and treatments for their diabetes and MI. Several settings were involved, such as outpatient clinics, community care facilities, hospital wards, family doctor offices, and residential facilities, each of which entailed difficulties in communicating care treatment across the settings. This often provoked a feeling of frustration and being left alone to cope with the two illnesses. Even though the HCP focused on the condition within their area of expertise, the HCP's lack of knowledge of the other condition made the participants feel unsupported.

#### *Disregard of the "other" illness and neglect of interconnectedness*

Only a few of the participants with T2DM with oral treatment mentioned that they had received support

for their diabetes treatment at the outpatient mental health clinic, and when this had happened, they spoke of a close relationship with one HCP. However, they tended to think of this relationship as fragile and described frustration when their HCP was ill, on vacation, or no longer employed, as crucial information on their individualized treatment was often not shared with colleagues at the outpatient clinic or the family doctor. This led to knowledge gaps and gave them a feeling of standing alone.

Participants who viewed their diabetes and MI as inextricably linked reported frustrations occurring in the communication with mental health care and diabetes services, and family doctors. While in some cases it was possible to discuss both illnesses separately with the HCP in these settings, the discussions of mutual interference of diabetes and MI were rarely initiated by the HCP, and it was a frequent experience that they did not respond to symptom reports or illness complaints brought up by the participants.

Participant 1: The diabetes outpatient clinic that I visit ... when I talk to them about my blood sugar being too high and tell them it's because of my mental condition—what they focus on is the medication and me just needing a bit more insulin ... stuff like that which doesn't really take the mental aspect into consideration. ... I'm thinking that if everyone was better at considering both aspects, I might be in a better situation.

Many participants believed that this intense focus on diabetes outcomes overshadowed attention on their mental health, adding that this had a detrimental effect on their diabetes treatment, as the HCP had a focus on diabetes and not the two conditions as a mutual interference. The participants thus perceived their MI as a barrier to involvement in their own health care planning.

Participant 6: They will only consider one of your challenges, even if you're admitted with dual diagnosis ... if you have challenges beyond that [one of the illnesses], they [the physicians] will just come in and say that if you don't follow their recommendations, then they will say, "But that's because of his mental illness."

#### *Being the expert on the "other" illness during admissions*

Most of the participants had experienced frustrations during hospitalization in mental health settings. However, the severity of their frustrations was dependent on the type of diabetes treatment.

Some of the participants with T2DM with oral treatment mentioned a lack of awareness of their diabetes

from HCP during hospitalization, as their diabetes medication had not been administered on time. The insufficient attention had led to arguments with the HCP. Even though untreated diabetes did not manifest as physical symptoms in participants with T2DM, the lack of attention prompted a feeling of frustration and insecurity about the HCP's ability to care for them. Some participants, moreover, revealed episodes where the HCP had been unaware of their diabetes diagnosis.

Participant 14: Finally, they did give it [the diabetes medication] to me when they got what I was saying. But until then I was just a liar, you know. . . . It was a bit scary . . . not really what you expect from health care providers.

According to the participants with T2DM with insulin treatment, most HCP were aware that the participants were diagnosed with coexisting diabetes and MI, although there seemed to be a gap in skills and knowledge in delivering treatment for both conditions. In some cases, the HCP consulted the participants about their diabetes treatment.

Participant 8: If it [the blood sugar] is low, they'll ask me how much insulin I need. But I'm not supposed to get any insulin when it's low—that would only lower it further. They [the psychiatric staff] don't really get that.

Several of the participants had to assume responsibility for their diabetes treatment as the HCP's insufficient knowledge and skills in diabetes care had exposed them to serious risk of adverse events regarding their psychical health.

### Wishing for flexibility and peer support

This theme disclosed the participants' needs and preferences for support from HCP and peers. Speaking of insufficiencies in the present health care, the participants suggested ways in which providers could improve treatment or health care. This included greater involvement in planning their own care, ensuring HCP had insight into both diabetes and MI, and more flexible approaches to health care treatment. The need for help with meeting others with a similar illness history was also mentioned.

#### *Meeting dual expertise and collaboration on treatment goals*

HCP were seen as essential sources of support in navigating the complexities of living with MI and diabetes.

Almost all participants stated that involvement in their own care planning with a focus, including daily life with both illnesses, would reduce the feeling of stress in daily life. The participants described that combined diabetes and MI care could reduce their feeling of stress.

Participant 12: You risk having to go to the . . . hospital for one treatment—then you go home and sit down for half an hour or an hour . . . then you're off again [for another treatment]. It could be made easier.

The desired degree of involvement was highly individual. While some participants wished to be involved in care planning for mental health issues, this did not always apply to their diabetes treatment. Considering the complexity of diabetes treatment, involving blood sugar levels or dietary issues, many preferred to leave the decisions to their HCP. Others wanted no involvement during hospitalization, which they described as a stressful situation that made them incapable of making decisions related to their treatment. Most of the participants noted the need for HCP to become more knowledgeable of the complexities of coexisting diabetes and MI.

Some of the participants felt they needed the HCP's support outside scheduled consultations, as challenges in managing MI or/and diabetes would appear around the clock. Here, the participants wished that it was possible to contact HCP outside scheduled hours, with questions on diabetes medication or if they felt that their mental health status was poor.

Participant 6: You know, when you go see the doctor, you'll have some issues [on your mind], but it's far from always that you cover all of it—in fact, it never happens. Then it's nice that you can call them if you're in an acute situation of some sort—or you just need some advice or whatever, right?

Flexibility in health care support was seen as essential to coping with a dual challenge, as support from families or close friends was sometimes insufficient. Some of the participants mentioned the possibility of consulting with their doctor during weekends and holidays. They saw flexibility in health care support as essential to receive the necessary support for self-management.

#### *Needs and preferences for meeting with peers*

Several of the participants in insulin treatment noted that they felt lonely and missed the opportunity to meet with peers.

Yeah, there have been times where I felt lonely, I'd say. It's not because I myself have struggled with that, or whatever . . . but to a certain degree, I'd say I do, but it would be rather nice to meet someone who's struggling with some of the same issues.

Most of the participants were affected by loneliness. Loneliness among the participants not receiving insulin concerned their families' lack of understanding of MI, whereas the participants receiving insulin often associated loneliness with the complexity of living with diabetes and MI. This led to a strong desire to share their experiences with peers.

## DISCUSSION

This study aimed to understand the support needs of people living with coexisting diabetes and mental illness, based on their accounts of receiving diabetes and mental health care.

We found challenges on two levels: (1) *Insufficient knowledge of diabetes and mental illness among health care providers*. The participants felt left alone with illness management and decisions due to the HCP' disregard for their experiences of the interconnectedness between their conditions. This was accounted for in inpatient and outpatient care where the HCP focused on the condition within their area of expertise, which often forced the participants to deal with challenges of coexisting diabetes and MI alone (2) *Structural barriers to efficient illness management*. The participants described receiving care from multiple care settings due to their diabetes and MI. This forced them to be the coordinator of care plans across these settings. Applicable for both levels was a high degree of stressors faced by recipients of treatment for both conditions.

### Insufficient knowledge of diabetes and mental illness among health care providers

Although one in 10 psychiatric inpatients is diagnosed with diabetes mellitus (Roberts *et al.* 2017), mental HCP' knowledge of diabetes care is insufficient, causing people with coexisting diabetes and MI to receive insufficient diabetes treatment in mental health care services and primary care compared to people with diabetes (Blixen *et al.* 2016; Holt & Mitchell 2015; Nash 2014; Stenov *et al.* 2020). The lack of physical health care qualifications has been found to constitute a barrier to offering appropriate care and treatment of

physical illnesses such as diabetes, with serious consequences for people with coexisting MI and diabetes (Lerbæk *et al.* 2020; Nash 2014; Tabvuma *et al.* 2022) and highlights the need for support of HCP such as nurses to provide physical health care (Happell *et al.* 2014). In corroboration of these previous findings, our findings additionally demonstrate insufficient knowledge of diabetes care in residential institutions, and, in some cases, among family doctors. We found that this knowledge gap constitutes non-optimal care for people, who were left alone with illness management and decisions, especially concerning diabetes treatment. A knowledge gap has been known to exist in mental health hospitals for more than a decade (Cimo *et al.* 2012; Cimo & Dewa 2019). Lack of knowledge of one of the two conditions was not only present in the mental health care setting but also in the medical health care setting. Our study adds to previous research as our finding reveals a similar knowledge gap on MI among HCP in diabetes in- and outpatient clinics. Our findings contribute new knowledge that highlights the case of insufficient knowledge among HCP in the care of persons with diabetes and MI, and the dual task these persons face. The consequence of this is that people who live with both conditions are placed with multiple stressors. This challenge is not due to the siloed approach to diabetes and MI as isolated conditions alone, but a lack of focus on the importance of training HCP to combine diabetes and MI care rather than responding to one condition only. There is an urgent need for future research to investigate ways of unifying the training in diabetes care and mental health knowledge.

### Structural barriers to efficient illness management

We found that the participants received support for self-management outside diabetes and mental health outpatient clinics, for example, family doctors, residential institutions, and community care. Several participants described the fragmentation of diabetes care and mental health care, which exacerbated their feeling of stress and hampered self-management of their conditions, and accounted for combined diabetes and MI care as a way to reduce the stress. Previous research has indicated participants' need for integrated diabetes support in mental health services, as this could accommodate the fragmentation of diabetes and MI care, and a way to optimize diabetes support (Nash 2014; Stenov *et al.* 2020). These findings are consistent with ours,



however; the participants of our study also accounted for the possibility to contact HCP outside scheduled hours as a way to support the management of their diabetes and MI. This offers perspectives on one of the many reasons for the struggles of illness self-management among this population, indicating that self-management is hampered not only by insufficient knowledge among HCP but may also indicate systemic challenges. For example, the lack of allocation of responsibility of roles and responsibilities among HCP creates a barrier to the optimal provision of physical care (Tabvuma *et al.* 2022), and a lack of flexibility and combined care. Further research designed to strengthen collaboration across different health care settings is needed, to provide integrated diabetes and mental health care.

## RELEVANCE TO CLINICAL PRACTICE

The findings of this study support the further development of clinical practices and initiation of organizational changes to improve care and support of people with coexisting diabetes and MI in a variety of settings, such as family doctor offices, hospitals, and residential and community care facilities. Especially, that future practice is aware of the necessity to involve people in their own care planning with an equal focus on both conditions. Person-involving approaches have been highlighted in both diabetes and mental health services, as a way to include users' preferences and need for support in the development of care plans (American Diabetes Association 2019). The Danish National Board of Health recommends the use of coordinated action plans for people with MI to provide an overview of the needed services to support the users (National Board of Health 2022). Thus, by offering a comprehensive plan for treatment and care in collaboration with users and health care providers from different health care services, for example, outpatient clinics and residential institutions, where the plans are used as a primary tool for coordinating the cross-sectoral services (National Board of Health 2022). We recommend similar plans for people with coexisting diabetes and MI. Having a care plan that focuses on both diabetes and MI, might provide an overview of the users' needs and a joint prioritization of the initiatives to be launched with a focus on care goals for both conditions.

We further believe that our findings can inspire health care policymakers and directors in their efforts to develop and strengthen collaboration across health

care settings and training of HCP to better combine diabetes and MI care delivery.

## Strengths and limitations

To the best of our knowledge, this study is among the first to involve accounts of received diabetes and mental health care from multiple health care settings, such as diabetes and mental health outpatient clinics, community care, inpatient diabetes and mental health wards, family doctor offices, and residential institutions. Our sampling strategy constitutes a further strength, as we continuously evaluated the sample size based on the analytical reflections generated in the field notes. The study is also strengthened by our collaboration with a user council that was established for the purpose. Its members' contribution of personal insights into living with coexisting diabetes and MI was helpful in interview guide development and data interpretation. This study is strengthened by the variation in the participants' gender, diabetes condition, and age.

However, a limitation could be the representation of several mental illnesses as the management of diabetes might be affected by the specific mental illness itself. Hence, this should be taken into consideration in future research.

## CONCLUSION

This study aimed to investigate accounts of delivered diabetes and mental health care from people with coexisting diabetes and MI to understand their support needs and the complexity of managing the two conditions. Support needs of delivered diabetes and mental health care are closely linked to how people with coexisting diabetes and MI manage both conditions in everyday living. In some cases, management of diabetes and MI confronts the individual with a complex dual task that interferes with everyday living, especially if the diabetes is insulin dependent. In these cases, people are highly dependent on combined care and support, from both diabetes and mental health care providers. Self-management among this population could be improved by cultivating the understanding that diabetes and MI constitute more than two separate conditions and by increasing diabetes knowledge among HCP. Likewise, it seems imperative that collaboration across the range of health care settings should be strengthened to coordinate individualized health care treatment.

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## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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