FEATURE ARTICLE

Diabetes Care Provider Perceptions Regarding Emerging Adults' Diabetes Self-Management Influences and Patient-Provider Visit Interactions Within a Safety-Net Hospital

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The increasing number of emerging adults with diabetes (EAWD) being cared for in adult health care settings requires a better understanding of the needs of EAWD and their interactions with adult health care providers (HCPs). This article describes findings from interviews with endocrinologists and diabetes nurses from a safety-net health care system to investigate HCPs' perspectives regarding influences on EAWD self-management and HCP interactions with EAWD. HCPs frequently perceived lower EAWD engagement in diabetes management, which was complicated by barriers such as the emotional burden of diabetes, busy lives and multiple responsibilities, and limited access to resources; however, HCPs valued the role of information and communication at visits in tailoring care for EAWD. Measures to tailor care should address the psychosocial burden related to the life stage goals and priorities of EAWD, identification of resources for EAWD and HCPs, and further elucidation of effective self-management guidance and communication strategies to support EAWD in safety-net settings.

Emerging adulthood (18–30 years of age) is a developmentally distinct period in life during which individuals with diabetes may be learning to manage and cope with diabetes while simultaneously transitioning from adolescence to the independence and responsibilities of adulthood, including navigating the tasks of identity exploration, establishing gainful employment, and forming adult relationships and family units (1). As the prevalence of diabetes among adolescents and young adults grows, adult diabetes care providers are seeing an increasing number of younger patients with diabetes, especially among minority youth (2). In recent years, estimates have suggested an incidence of 452,000 per year for adults aged 18–44 years and 210,000 per year for youth <20 years (3,4).

Emerging adulthood offers opportunity for development of lifelong habits promoting effective diabetes self-management and early intervention to ameliorate complications of diabetes. However, research suggests that emerging adults with diabetes (EAWD) may have needs and challenges that differ from those in other age-groups (5–7). Moreover, although clinicians and EAWD alike identify the importance of caring for EAWD within the context of this life stage to improve diabetes care and outcomes (8,9), specific diabetes management considerations to ensure the quality and effectiveness of care for EAWD have yet to be fully elucidated. For disadvantaged and minority EAWD, this dearth of knowledge is even more pronounced (10–12).

Health care providers (HCPs) who care for EAWD play an important role in diabetes management. The quality of patient-HCP communication has been shown to improve diabetes self-management, follow-up, and health outcomes (10,13,14). Prior research findings suggest that EAWD value these interactions as important to their diabetes self-management (15,16) but may desire a different approach to care at visits (6,13,17). As key members of health care teams of EAWD, HCPs offer valuable insight to optimize diabetes care specific to the needs of these individuals. Moreover, HCPs'

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perspectives inform the care they provide to EAWD, and understanding these perspectives may help to align the goals of EAWD and HCPs and to improve communication between them.

However, few studies have examined perceptions of HCPs in the adult health care system regarding their interactions with EAWD (18,19), and, to the authors' knowledge, no studies have specifically investigated HCPs' perceptions within safety-net care settings. The purpose of this study was to explore perceptions of HCPs working with EAWD in an outpatient safety-net health care setting to gain insight into how the needs of HCPs and EAWD can be better addressed to improve diabetes care for EAWD. In particular, this study focused on HCPs' perceptions of factors influencing diabetes self-management of EAWD and HCP interactions with EAWD during diabetes care visits.

Research Design and Methods

Study Design and Participant Recruitment

This qualitative study of HCPs was the first phase of a larger sequential study to develop a diabetes visit intake questionnaire designed to improve the care of EAWD at visits within a safety-net setting based on HCP interviews and EAWD focus groups. All research activities were approved by the Emory University Institutional Review Board, and administrative approval was obtained from the hospital system in which participants were employed. HCPs were recruited via convenience sampling from a diabetes care center in metropolitan Atlanta, GA, that provides comprehensive diabetes care in a safety-net health care system. This facility was selected because HCPs see a large number of people with diabetes and were likely to interact with EAWD at a greater frequency. Endocrinologists, diabetes nurse providers, and diabetes nurse educators providing outpatient diabetes care to EAWD were invited to participate in the study, as their roles in this facility offered the broadest perspective of EAWD. Endocrinologists and nurse diabetes educators were recruited via e-mail invitation. Nurse providers were recruited during a group informational session. Target recruitment was 10–12 participants based on prior research regarding sample sizes required to identify the majority of themes in qualitative studies but allowing for flexibility in that target number based on ongoing review of data for sufficient redundancy, consideration of the study aims, and a finite pool of HCPs within this single setting (20,21).

Data Collection

A semistructured interview guide was developed to assess HCPs' perspectives on *1*) factors influencing diabetes self-management of EAWD based on a simplified socioecological perspective of personal, social, and environmental influences (22) and *2*) visit interactions with EAWD, including communication at visits. Key topics guiding interviews are presented in Supplementary Figure S1. Questions were adapted for EAWD based on prior work by study author K.K.M. to identify psychosocial factors relevant to patient care and visit interaction among emerging adults in prenatal care (23). To ensure relevance to HCPs' interactions with EAWD, the interview guide was piloted with an endocrinologist at the diabetes center and revised with study team feedback. Interviews were conducted between October 2019 and January 2020 on the hospital campus. All interviews were conducted by the same individual on the research team. After written informed consent was obtained, interviews were held in person in participants' private offices, audio-recorded, and transcribed verbatim.

Data Analysis

Data analysis consisted of a six-step process of data organization/preparation, initial review of data, coding, description, representation, and interpretation (24). Both deductive and inductive coding were used to analyze interviews (25). Data were transcribed, reviewed, and imported into MAXQDA 2020 software (VERBI Software, Berlin, Germany). After the initial review of transcripts, conceptual categories broadly reflected by interview questions were used to organize transcript data for additional analysis. Multiple cycles of inductive coding were used to identify themes within this conceptual framework and to allow for identification of additional themes regarding HCPs' perceptions of their interactions with EAWD. Coding was performed by author R.A.W. Codes and coding strategies were then presented to a second researcher (L.P.K.) for secondary review. Strategies used to facilitate data analysis and transparency included the use of memos and reflective notetaking throughout data collection and analysis to document observations and decision-making processes and to assist with transcript coding. A codebook was created to refine and organize codes. A record trail of iterative concept mapping and tables was used to identify, organize, and collapse codes throughout data analysis (26).

Results

Description of Participants

A total of 11 HCPs participated in interviews. Participants included five nurses providing care to a designated caseload of patients at the diabetes center, as well as four endocrinologists caring for patients at the center. The endocrinologists reported an average of 24 years (SD 17 years) in practice. Nurses reported an average of 15 years (SD 13 years) in practice. Two nurses serving as the hospital's diabetes educators and providing group outpatient diabetes education classes and inpatient diabetes education also participated. Interviews lasted a mean of 45 minutes (range 20–83 minutes).

Qualitative Findings

HCPs were asked about and described their perceptions regarding factors influencing engagement of EAWD in diabetes self-management behaviors. Using the socioecological perspective, these influences were categorized into intrapersonal, interpersonal, and structural factors. Self-management influences are presented briefly below and described further in Table 1, along with exemplary quotes. HCP were also asked to describe their interactions with EAWD at visits. HCPs' descriptions of these interactions included four major topics of focus: engagement of EAWD in diabetes care, goals of EAWD and HCPs at visits, visit productivity, and strategies for engaging EAWD in diabetes management. Visit interaction topics are presented in the narrative below.

Self-Management Influences of EAWD

HCPs identified a variety of intrapersonal, interpersonal, and structural factors perceived to influence the self-management of EAWD. Intrapersonal influences were subcategorized into Mental Health and Emotional Burden and Perception of Risk as a Young Adult. Interpersonal factors included Busy Lives and Multiple Responsibilities and Social Norms and Activities of EAWD. Structural factors included Access to Resources, Technology, and Health Care "Adulting" and a New Environment. Busy Lives and Multiple Responsibilities—especially work (n = 11) and school (n = 7)—and Access to Resources were the most frequently cited influences on self-management for EAWD. HCPs' observations also illustrated how intrapersonal, interpersonal, and structural barriers acted synergistically to complicate diabetes self-management, particularly with regard to the lack of access to appropriate resources (e.g., healthy food options, tailored medications/monitoring, and income) on intrapersonal and interpersonal barriers.

Visit Interactions

Engagement of EAWD in Diabetes Care

Engagement was an overriding theme among HCPs when discussing their perceptions of EAWD. Most HCPs (n = 9) felt that the level of engagement in diabetes management often distinguished EAWD from older people with diabetes. Diabetes clinic nurses, especially, observed that EAWD may not be as engaged in managing diabetes during visits or in taking ownership for self-management outside of visits. As one put it, "I feel like my young adult patients are more in a hurry to get in and out of here. I don't know if it's apathy or sometimes if they don't understand how important it is. But I feel like, sometimes, the older patients care a little bit more. The younger patients are always on their phone and give yes-and-no answers instead of big explanations" (HCP #3).

Goals of EAWD and HCPs at Visits

Two themes were identified related to HCPs' perceptions of goals for diabetes care visits. Those included perceptions of goals of EAWD and progress and a sense of accomplishment as a shared goal.

Perceptions of goals of EAWD. The majority of HCPs (n = 10) believed that a goal of many EAWD was to get in and out of the clinic quickly and return to their daily activities. Most HCPs (n = 8) thought EAWD came for visits primarily for supplies. As one said, "It's not uncommon that you don't feel that you have really touched them in [a way that will help them] . . . improve diabetes control because they are just there because they have an appointment. They just need the insulin, the prescription, but they are not really prone to listen to you, and you know that from the beginning" (HCP #11).

Progress and a sense of accomplishment as a shared goal. HCPs perceived that EAWD (n = 7) and HCPs (n = 8) alike often desire progress in diabetes management, which for HCPs included meeting A1C targets, observing incremental progress toward those goals during visits, or taking steps during visits to enable achieving progress. When discussing interactions at visits, many HCPs (n = 5) indicated that both HCPs and EAWD may feel frustrated by a lack of progress and stagnation in managing diabetes at and between visits.

Several HCPs described how they managed visits to ensure a sense of accomplishment for EAWD. For

TABLE 1 HCPs' Perceptions of Influences on Diabetes Self-Management Among EAWD

Self-Management Influence	Description	Exemplar Quotes
Intrapersonal		
Mental Health and Emotional Burden (n = 10)	Mental health and the emotional burden and fatigue of living with diabetes on a daily basis may serve as barriers to diabetes self-management activities.	"You're uncontrolled, and you go to the doctor, and they say you have to do this and this, and if you don't have the means to implement that plan, I think you probably get more depressed and feel more helpless, like, 'Oh I can't do this. They want me to do more. It's just too much. I can't do it, so I won't do anything' . . . . So, I think there is that apathy/diabetes distress." (HCP #7) "From day one when I started work here, that was something that I saw—that, if the mental health is not being treated, then the diabetes is never going to be treated until we get to the mental health together." (HCP #5)
Perception of Risk as a Young Adult (n = 7)	EAWD often fail to perceive the health risks associated with diabetes and the importance of their behaviors in decreasing risk.	"They haven't seen any complications yet, so they're doubtful that it's doing anything to them. 'I feel fine, and everything is good.'" (HCP #5)
Interpersonal		
Busy Lives and Multiple Responsibilities (n = 11)	EAWD take on many roles and responsibilities such as work, school, and parenting, which may take priority in their lives.	"It's not just diabetes that they have going on in their lives. So, sometimes, I feel like it takes the back burner [to] everything else that goes on in their life." (HCP #3) "It's hard when you have little kids, and they want a lot of fast food. And you've got a single mom who is working. Fast food is easy, it's quick, and it feeds the family, but it's not necessarily a healthy thing." (HCP #8)
Social Norms and Activities of EAWD (n = 8)	The social activities and norms associated with being a young adult may interfere with diabetes self-management.	"I think with the younger group, peer acceptance is hard . . . sometimes to tell your friends that you can't go out and hang out and do the things they're doing . . . . They just wanted to forget that they were diabetic for a little bit . . . . So, I think it is really hard for the younger group to tell their friends, their family, 'I can't do this, or I have to stop because I have to go take my insulin.'" (HCP #9)
Structural		
Access to Resources (n = 11)	EAWD may have limited access to resources such as medications, healthy food, stable housing, income, and insurance that would allow for better diabetes self-management.	"They get tired of sticking their finger. Unfortunately, . . . [a continuous glucose monitoring (CGM) system is] just unaffordable for so many people, but I think compliance would be so much better if some of the tools for diabetes were less expensive. But that's a whole other issue. If everybody could get [a CGM system] and check their blood sugar without sticking their finger, or if it was just more affordable, I think they would do it all the time. [A] patient I had just yesterday who wanted pens . . . said, 'I'll take it if I can get a pen.'" (HCP #8)

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TABLE 1 HCPs' Perceptions of Influences on Diabetes Self-Management Among EAWD (Continued)

Self-Management Influence	Description	Exemplar Quotes
		"The bulk of the younger folks have non-office jobs [and are] frequently, almost always, without insurance." (HCP #6) "People want to have income. They want to have stability. You have to have those things before you can take care of diabetes adequately . . . . Education, people really want to pursue it, . . . but it is not always feasible given financial and social constraints." (HCP #10)
Technology (*n* = 9)	EAWD often have greater interest in and knowledge of technology such as smartphones and diabetes management technologies, which may be helpful for self-management, but which is sometimes seen as a distraction at visits.	"They are very interested, the younger adults, in how to treat diabetes with technology, the use of CGM . . . . I think younger adults are more prone to [interest in] technology compared to the older adults." (HCP #11) "When they come in, they have their cell phone in their hand. I'm asking them [for] information. . . . They'll look up [then] go back to their cell phone . . . . [They] may have to take a call in the visit. That's what I get a lot." (HCP #2)
Health Care "Adulting" and a New Environment (*n* = 5)	EAWD may lack understanding of how to navigate the adult health care system.	"Some of the responsibilities . . . . I think older patients understand things about how the systems work: insurance, Medicare, Medicaid, those type of things. How to acquire things: money, finances, that type of thing. [With a] lot of our younger patients, I'm not sure they have a great understanding of . . . practical aspects of how medical care would work, and I think that's a difference, because it does impact things. Having the ability to know what you could get, so, if you could qualify for insurance [or] if you could qualify for aid, and having that thought in your mind . . . . Adults are faced with that on a daily basis." (HCP #10)

example, calling EAWD before appointments allowed nurses to adjust visits for maximum productivity. One HCP said, "I may tell them, 'Let's reschedule that appointment to a later time when you've had a chance to take your medicines and get things a little in control before you come back so [you] won't be frustrated that you left here 2 weeks ago with a 400 [mg/dL] blood sugar, you still haven't picked up your medicines, and when you come in 4 weeks, it's still going to be 400 [mg/dL]. So, you won't be frustrated, [and] I won't be frustrated'" (HCP #1).

Visit Productivity

HCPs described visit productivity related to three themes. Two themes were related to the level of engagement of EAWD at visits: showing up matters and showing up is not enough. A third theme related to visit productivity was that relationships and understanding matter.

Showing up matters. Several HCPs (*n* = 6) commented on the importance and significance of EAWD attending appointments, acknowledging that showing up is often more difficult and requires additional motivation and organization, especially given the social roles and responsibilities of EAWD. One HCP observed, "I believe the younger adults miss more appointments than the older adults. What happens if your kids are sick or you have so many things going on?" (HCP #11). However, when EAWD show up, HCPs can tailor management and help them navigate the health care system. One HCP said, "It's the first step. You have the resources. [Now you are not only] . . . just going by symptoms of how you feel, but now we have numbers

because we are watching your A1C [and] we are looking at your blood sugars. The doctors might draw more labs. So, you are just getting a little bit better care" (HCP #9).

Showing up is not enough. Nevertheless, HCPs also believed that showing up was not enough to maximize diabetes care visits. They described visits as a necessary opportunity for engaging EAWD in assessment for both medical decision-making and guidance.

Need for hard data from EAWD. For all HCPs, assessment data (whether from the laboratory, from a blood glucose meter, or self-reported by the EAWD) allowed HCPs to make informed medical decisions and to engage in problem-solving around self-management. All nurses observed that EAWD may not bring their meter and blood glucose logs. As one put it, "They may come in with no numbers to show me, and then they'd tell me about the times when they're experiencing things. But if you don't have anything to show us, then the doctor doesn't have . . . an accurate way to adjust your medications. So, I kind of feel like sometimes it's not pointless, but it's not good that you don't come in with any information for us, because how can we help you if you're not keeping the record of your numbers?" (HCP #3).

Need for active engagement from EAWD. For the majority of HCPs ($n = 9$), the difference between productive and less productive visits depended on the engagement of EAWD at the visits. Productive visits were frequently defined by the level of engagement, in addition to a sense of progress. Less productive visits with EAWD were all defined by a lack of active engagement. Active engagement included EAWD actively processing information and actively participating in conversations. As one HCP described, "I like it when I feel like I am not just talking at them but that they are actually involved in it, and they are playing it back and figuring out ways . . . they are going to balance it all out in their day-to-day life" (HCP #9). Even active resistance to change during a visit was appreciated over nonengagement. One HCP said, "I think when patients are like, 'Okay, all right. Okay, fine.' Like, you tell them whatever, and they don't want to talk. I'm okay even with arguing because that means you are somewhat engaged. I think a bad visit is when [I hear], 'All right, okay,' [and] nothing [else]" (HCP #7).

HCPs ($n = 8$) often observed that EAWD did not voluntarily share information, although HCPs described the importance of querying EAWD for information to identify barriers, and particularly those related to problems with glycemic control ($n = 9$). As one HCP put it, "I need feedback in order to tell them what to do moving forward, how to make changes, how to improve. Without knowing where they stand, it's kind of hard to help them improve the situation" (HCP #4). The more accurate and granular the information provided, the more confident the HCPs felt in being able to provide useful guidance.

Relationships and understanding matter. HCPs ($n = 9$) described the value of building a therapeutic relationship with EAWD. Listening to and hearing EAWD were described as vital to addressing the anxieties, frustrations, and fears these patients may bring to visits. A therapeutic relationship meant understanding the individual's past experiences, present situation, and goals. Many expressed empathy for the challenges of living with diabetes as a young adult and acknowledged the importance of validation and understanding. As one noted, "It's an interesting thing because sometimes you want to scold them, [and] sometimes you want to hug them and make them understand that, 'Okay. I feel you. I know what you're going through'" (HCP #5). Several HCPs ($n = 6$) observed that EAWD often fear judgment and needed their HCP to provide nonjudgmental care.

HCPs also noted that continuity (i.e., an ongoing relationship) with an HCP furthers the relationship and allows HCPs to better individualize care, motivate EAWD, and make interactions more productive. One said, "And I think that really does help if you [the patient] are not retelling the story every single time; I think that's part of breaking that barrier because you have to repeat yourself every time. It's frustrating. You don't feel like you are getting anywhere" (HCP #10). Diabetes center staff had started making phone calls between visits, and one HCP reflected positively on this outreach, saying, "It's really been helping. They are very thankful, grateful, that you did call them. They are appreciative. [They say], 'Oh, well thank you for calling me [and] checking up on me'" (HCP #1).

Strategies for Engaging EAWD in Diabetes Management

In describing their interactions with EAWD and information exchange during visits, all HCPs reflected on their role beyond the performance of standard visit procedures, and especially their role as a facilitator of self-management for EAWD. Several different approaches were identified in HCPs' descriptions of visits with

EAWD. Table 2 summarizes different strategies they described for engaging EAWD in self-management and presents exemplar quotes representing the use of these strategies. Although most HCPs had distinct overall styles for approaching self-management guidance, most described using a combination of strategies in their interactions with EAWD.

Discussion

In this exploration of the HCPs' perceptions of caring for EAWD within a safety-net health care setting, HCPs observed that engagement in diabetes self-management often represented a distinguishing difference between EAWD and older people with diabetes. Emotional burden, multiple responsibilities such as work and school, limited access to resources, and challenges in adapting to an adult health care setting were identified as frequent barriers to self-management for EAWD. HCPs also viewed diabetes care visits with EAWD as an opportunity to improve their diabetes management through the use of strategies to identify and address barriers to self-management. Yet, HCPs acknowledged the need for active engagement on the part of EAWD and for cultivation of the patient-HCP relationship to provide the most appropriate care for EAWD during visits.

In a multilevel framework for engagement, patient engagement has been defined as "patients, families, their representatives, and health professionals working in active partnership at various levels across the health care system . . . to improve health and health care" (27). In this study, HCPs described engagement at the patient level in terms of EAWD participating in diabetes care activities and in information processing and exchange at visits with a view that these actions facilitate diabetes care and health outcomes. Evidence that EAWD may not be as engaged in daily diabetes self-management tasks or in regular clinic attendance for routine diabetes care has been presented in surveys of EAWD but not necessarily corroborated by HCPs themselves (7,28). This study suggests that HCPs in a safety-net setting also perceive lack of engagement as a challenge especially pertinent to EAWD.

Yet, importantly, when describing self-management influences, HCPs observed that lack of active engagement may not be an entirely personal decision for EAWD, who may be confronting many social and structural factors that hinder engagement at and between visits. Every HCP in this study acknowledged the broader context of both interpersonal barriers such as balancing work and family and structural barriers such as a lack of insurance, limited finances, or difficulty navigating the complex health care system in which self-management occurred. In a study of younger, lower-income women with gestational diabetes (29), HCPs observed that patients' inability to effect change given these barriers may lead to further disengagement in care, a reflection echoed by the HCPs in this study. Moreover, the perceptions of HCPs in this study align in many respects with the views of EAWD; they, too, have described how diabetes fatigue and burnout, lack of time, and multiple responsibilities hinder diabetes self-management (16,17,30). This concordance indicates that HCPs and EAWD have some degree of shared perception that reflects an interdependent socioecological context of intrapersonal, social, and structural barriers to engagement in care.

Despite revealing a shared understanding of several barriers to self-management, the study findings suggest that, although HCPs recognize the roles of effective communication and a strong patient-provider relationship in diabetes management for EAWD, these conditions may not always be optimal. HCPs reported relying on information collected from EAWD to optimize care. They needed contextualized and open communication but reported not always being fully informed of pertinent life context issues of EAWD. HCPs here and elsewhere have reported that patients may not always share information, either unintentionally or deliberately, because of a fear of being judged (29,31).

For EAWD, too, a positive and trusting relationship with their HCP and continuity of care are important, yet they describe challenges engaging in open discussion with HCPs (13,15,17,32). For example, a desire among EAWD to prioritize certain topics during their limited clinic time may be an influencing factor in information exchange (17). In a study of uninsured EAWD, despite EAWD having a high number of psychosocial stressors, HCPs were unaware of many of these stressors (33). Better assessment and communication strategies may therefore be needed to provide appropriate care to EAWD, especially within safety-net settings.

With regard to self-management guidance during communication at diabetes visits, some research indicates that HCPs regularly offer such guidance as a component of diabetes care, although the extent to which this occurs may vary (34). In this study, HCPs frequently described their role in encouraging EAWD in diabetes self-management and gave additional insight into strategies they used to engage EAWD. HCPs detailed offering not just informational support but also affective and

TABLE 2 Strategies HCPs Reported Using to Engage EAWD in Diabetes Self-Management

Strategy	Description	Example
Education/reinforcing education (n = 7)	Providing core diabetes education and/or reiterating diabetes management basics for self-management	"We normally tell them about goals as far as getting your A1C down below 7[%], exercising throughout the week, making sure your eyes are [examined] once a year, and then taking your medications." (HCP #3)
Emphasizing why (n = 7)	Explaining the connections between a person's self-management behaviors and health outcomes	"I hear so much of, 'Oh, I don't check my sugar. I'm tired of sticking my finger.' And, 'I can tell'—so many times—'I can tell when my sugar is up.' It's like, 'Well how can you tell how high it is or how low it is?' 'Well, I can't really tell that, but I can tell if it is high.' So, it's like that. We talk about that and why it's important to actually know the exact number and not just go by feelings and symptoms." (HCP #8)
Problem-solving barriers (n = 10)	Identifying specific barriers to self-management and helping a patient identify specific actions to overcome these barriers	"A lot of times, they do have a clue or know what it is, but they haven't really, themselves, made the logical steps to fix it. [One patient] said when he works on the ladder, he just doesn't take his insulin. 'Well, okay, you don't have to not take it. Why don't you just take half as much?' So, you problem-solve those kinds of things." (HCP #6)
Reframing (n = 8)	Reframing a patient's affective or cognitive perception of diabetes self-management (e.g., making the task seem doable and normalizing diabetes self-management within life goals/activities)	"Typically, the way I approach the really hard ones is, 'Just do one thing.' . . . . If I approach them saying, 'If you just do this, just do this one thing,' they are like, 'That's manageable. I can do it.'" (HCP #7) 'What I encourage them to do is to make it unique to [themselves]. 'This is something that you have, and it is different, and it can be complicated, but it doesn't have to be if you go ahead and do what you need to do. So, you're unique. So, make the disease and the way you handle it unique. You're a football player. You are a basketball player . . . . You are doing what you need to do in order to be able to stay on the team. So, use that as your motivator to take your medicine, eat right, and eat carbs . . . . Diabetes is no longer a disease that is like a monster in the closet that's going to devour you.'" (HCP #5)
Navigating care (n = 5)	Helping a patient navigate the health care system through education or linkage to resources	"A lot of times, I will tell them when we are doing—even with the insulins—when we are ordering it, I say, 'If [you] want, make sure when the pharmacy tells you [that] your insurance won't pay for this medication, you need to call your insurance to see what they will pay for, and then call me back, and then we can send the correct drug [order] to the pharmacy.'" (HCP #1)

cognitive support (through reframing and problem-solving strategies). Given the relationship of adaptive coping skills and outcomes in EAWD and the call for HCPs to work with EAWD to identify more individualized, short-term motivators for realistic self-management practices, these communication strategies may be particularly appropriate (35–37). Moreover, affective strategies such as reframing diabetes self-management may be useful given that EAWD report the need for encouragement from HCPs and experience a high psychosocial burden associated with diabetes (7,9). Problem-solving and adaptive coping skills have also been associated with better diabetes outcomes among EAWD, a population that may still be maturing with regard to executive function skills (35,38,39). Further investigation of these various communication strategies could be instructional in guiding both individual HCPs and multidisciplinary teams in caring for EAWD.

With respect to visit goals, HCPs expressed that both they and their patients who are EAWD desire progress. However, EAWD and HCPs may conceive different definitions of progress, which require alignment. For example, HCPs often evaluate progress based on biometric outcomes and recommend tighter glycemic management for younger adults, with an understanding that this goal can prevent complications later. In contrast, EAWD report a need and desire to evaluate progress based on more individualized goals and nonnumerical standards adapted to their life situation (17). Proposed shifts from more paternalistic approaches to working alliances with patients may be a more effective approach to bridging such differences in perspective and facilitating care for EAWD (40). Moreover, "person-centered care" has been distinguished from "patient-centered care" in that person-centered care recognizes individual goals of a meaningful life beyond the metrics of functional living (41). Although patient-centered care is now recognized as integral to diabetes care practices that include medication selection, glycemic targets, and diabetes education (8,42–44), for EAWD especially, an expanded conceptualization of person-centered may be particularly salient, and whole-person approaches such as life coaching may be useful in facilitating such care (45).

HCPs' recognition of the complex interactions between unmet resource needs and life challenges of EAWD within this study further reflects that facilitation of care may also depend on resources and system structures available to EAWD and HCPs, particularly for EAWD in safety-net care settings. Even interventions specifically designed for socioeconomically disadvantaged EAWD may underestimate the role of resource barriers to diabetes self-management (46). Given some of these challenges, an adaptive, multilevel, multifaceted approach may improve diabetes management and engagement on the part of EAWD. For example, flexible appointment times offered within a short-term time frame and virtual or telephone contact between visits could better adapt to the busy, more rigid, and less predictable work/life schedules of EAWD and help to ensure continuity of care. EAWD may also require additional support systems for navigating unfamiliar health care systems and accessing resources. For socioeconomically disadvantaged EAWD, these support systems may be even more crucial (47).

Although this study offers a better understanding of the views of HCPs working in a safety-net care facility regarding their patients who are EAWD, the findings may not represent the views and experiences of all diabetes HCPs. Interviews were limited to available participants within one facility, and additional interviews may have led to expansion and refinement of study findings.

Although prior literature suggests that the views of these HCPs are similar in some respects to the views of EAWD regarding self-management challenges, these views represent only a partial perspective on diabetes management by EAWD and require follow-up in other settings and among other stakeholders interacting with EAWD in safety-net settings, as well as EAWD themselves, who may have different responses and insights into the same issues. Other providers with key roles in diabetes care such as dietitians, pharmacists, and social workers were not included in this study and may offer additional insight.

These findings were limited to self-report, and HCPs' views may be influenced by particularly salient encounters with EAWD. Observation of encounters between EAWD and HCPs may be useful to confirm and elaborate on the nature of HCPs' interactions with EAWD, especially in comparison with HCPs' interactions with older adults with diabetes. Additionally, although this study did identify social and structural determinants of self-management that serve as facilitators (e.g., technology) and barriers (e.g., limited access to resources and difficulty navigating health care systems), the study was exploratory and focused especially on interpersonal communication at visits. A systematic investigation focused on social and structural determinants of self-management would provide a more detailed

understanding of these barriers, particularly given the patient population under study.

Conclusion

HCPs caring for EAWD in adult care safety-net settings offer insight into the needs of EAWD within such settings. HCPs in this study observed that many intrapersonal, interpersonal, and structural barriers affect self-management for EAWD, including their roles, priorities, and resource limitations. HCPs value communication with their patients who are EAWD, particularly because it allows for better decision-making regarding care of and the provision of self-management guidance to these patients. Diabetes requires a large degree of patient engagement, and HCPs acknowledge that engagement for EAWD is often challenging. However, interventions tailored to the self-management barriers of EAWD and interventions that facilitate improved communication between EAWD and HCPs at visits may offer an opportunity to optimize diabetes management during this life stage and to positively affect health care behaviors and quality of life beyond young adulthood.

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DUALITY OF INTEREST

No potential conflicts of interest relevant to this article were reported.

AUTHOR CONTRIBUTIONS

R.A.W. wrote the manuscript and researched data. S.H. and K.K.M. contributed to the discussion and reviewed and edited the manuscript. L.P.K. researched data, contributed to the discussion, and reviewed and edited the manuscript. R.A.W. is the guarantor of this work and, as such, had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

REFERENCES

1. Arnett JJ. Emerging adulthood: a theory of development from the late teens through the twenties. Am Psychol 2000;55:469–480

2. Mayer-Davis EJ, Lawrence JM, Dabelea D, et al.; SEARCH for Diabetes in Youth Study. Incidence trends of type 1 and type 2 diabetes among youths, 2002–2012. N Engl J Med 2017;376:1419–1429

3. Centers for Disease Control and Prevention. *National Diabetes Statistics Report 2020: Estimates of Diabetes and Its Burden in the United States*. Available from https://www.cdc.gov/diabetes/pdfs/data/statistics/national-diabetes-statistics-report.pdf. Accessed 15 October 2021

4. Centers for Disease Control and Prevention. *Diabetes Report Card* 2019. Available from https://www.cdc.gov/diabetes/pdfs/library/Diabetes-Report-Card-2019-508.pdf. Accessed 22 November 2020

5. Lake AJ, Browne JL, Rees G, Speight J. What factors influence uptake of retinal screening among young adults with type 2 diabetes? A qualitative study informed by the theoretical domains framework. J Diabetes Complications 2017;31:997–1006

6. Dovey-Pearce G, Hurrell R, May C, Walker C, Doherty Y. Young adults' (16–25 years) suggestions for providing developmentally appropriate diabetes services: a qualitative study. Health Soc Care Community 2005;13:409–419

7. Vallis M, Willaing I, Holt RIG. Emerging adulthood and type 1 diabetes: insights from the DAWN2 Study. Diabet Med 2018;35:203–213

8. Peters A; American Diabetes Association Transitions Working Group. Diabetes care for emerging adults: recommendations for transition from pediatric to adult diabetes care systems: a position statement of the American Diabetes Association, with representation by the American College of Osteopathic Family Physicians, the American Academy of Pediatrics, the American Association of Clinical Endocrinologists, the American Osteopathic Association, the Centers for Disease Control and Prevention, Children with Diabetes, The Endocrine Society, the International Society for Pediatric and Adolescent Diabetes, Juvenile Diabetes Research Foundation International, the National Diabetes Education Program, and the Pediatric Endocrine Society (formerly Lawson Wilkins Pediatric Endocrine Society). Diabetes Care 2011;34:2477–2485

9. Hessler DM, Fisher L, Mullan JT, Glasgow RE, Masharani U. Patient age: a neglected factor when considering disease management in adults with type 2 diabetes. Patient Educ Couns 2011;85:154–159

10. Monaghan M, Hilliard M, Sweenie R, Riekert K. Transition readiness in adolescents and emerging adults with diabetes: the role of patient-provider communication. Curr Diab Rep 2013;13:900–908

11. Gee L, Smith TL, Solomon M, Quinn MT, Lipton RB. The clinical, psychosocial, and socioeconomic concerns of urban youth living with diabetes. Public Health Nurs 2007;24:318–328

12. Butler AM, Weller BE, Rodgers CRR, Teasdale AE. Type 1 diabetes self-management behaviors among emerging adults: racial/ethnic differences. Pediatr Diabetes 2020;21:979–986

13. Kibbey KJ, Speight J, Wong JLA, Smith LA, Teede HJ. Diabetes care provision: barriers, enablers and service needs of young adults with type 1 diabetes from a region of social disadvantage. Diabet Med 2013;30:878–884

14. Corathers SD, Kichler JC, Fino NF, et al. High health satisfaction among emerging adults with diabetes: factors predicting resilience. Health Psychol 2017;36:206–214

15. Ramchandani N, Way N, Melkus GD, Sullivan-Bolyai S. Challenges to diabetes self-management in emerging adults with type 1 diabetes. Diabetes Educ 2019;45:484–497

16. Ng AH, Crowe TC, Ball K, Rasmussen B. Transitional needs of Australian young adults with type 1 diabetes: mixed methods study. JMIR Diabetes 2017;2:e29

17. Pyatak EA, Florindez D, Weigensberg MJ. Adherence decision making in the everyday lives of emerging adults with type 1 diabetes. Patient Prefer Adherence 2013;7:709–718

18. Garvey KC, Telo GH, Needleman JS, Forbes P, Finkelstein JA, Laffel LM. Health care transition in young adults with type 1 diabetes: perspectives of adult endocrinologists in the U.S. Diabetes Care 2016;39:190–197

19. Agarwal S, Garvey KC, Raymond JK, Schutta MH. Perspectives on care for young adults with type 1 diabetes transitioning from pediatric to adult health systems: a national survey of pediatric endocrinologists. Pediatr Diabetes 2017;18:524–531

20. Guest G, Namey E, McKenna K. How many focus groups are enough? Building an evidence base for nonprobability sample sizes. Field Methods 2017;29:3–22

21. Saunders B, Sim J, Kingstone T, et al. Saturation in qualitative research: exploring its conceptualization and operationalization. Qual Quant 2018;52:1893–1907

22. McLeroy KR, Bibeau D, Steckler A, Glanz K. An ecological perspective on health promotion programs. Health Educ Q 1988;15:351–377

23. Yi CH, Lori J, Martyn K. Development of prenatal event history calendar for Black women. J Obstet Gynecol Neonatal Nurs 2008;37:464–473

24. Creswell J. *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. 4th ed. Boston, MA, Pearson, 2012

25. Elo S, Kyngäs H. The qualitative content analysis process. J Adv Nurs 2008;62:107–115

26. Merriam S, Tisdell E. *Qualitative Research: A Guide to Design and Implementation*. 4th ed. San Francisco, CA, Jossey Bass, 2016

27. Carman KL, Dardess P, Maurer M, et al. Patient and family engagement: a framework for understanding the elements and developing interventions and policies. Health Aff (Millwood) 2013;32:223–231

28. Hynes L, Byrne M, Dinneen SF, McGuire BE, O'Donnell M, Mc Sharry J. Barriers and facilitators associated with attendance at hospital diabetes clinics among young adults (15–30 years) with type 1 diabetes mellitus: a systematic review. Pediatr Diabetes 2016;17:509–518

29. Yee LM, Leziak K, Jackson J, Niznik CM, Simon MA. Health care providers' perspectives on barriers and facilitators to care for low-income pregnant women with diabetes. Diabetes Spectr 2020;33:190–200

30. Browne JL, Scibilia R, Speight J. The needs, concerns, and characteristics of younger Australian adults with type 2 diabetes. Diabet Med 2013;30:620–626

31. Ritholz MD, Beverly EA, Brooks KM, Abrahamson MJ, Weinger K. Barriers and facilitators to self-care communication during medical appointments in the United States for adults with type 2 diabetes. Chronic Illn 2014;10:303–313

32. Simms M, Baumann K, Monaghan M. Health communication experiences of emerging adults with type 1 diabetes. Clin Pract Pediatr Psychol 2017;5: 415–425

33. Pyatak EA, Sequeira P, Peters AL, Montoya L, Weigensberg MJ. Disclosure of psychosocial stressors affecting diabetes care among uninsured young adults with type 1 diabetes. Diabet Med 2013;30:1140–1144

34. Kruse RL, Olsberg JE, Oliver DP, Shigaki CL, Vetter-Smith MJ, LeMaster JW. Patient-provider communication about diabetes self-care activities. Fam Med 2013;45: 319–322

35. Luyckx K, Vanhalst J, Seiffge-Krenke I, Weets I. A typology of coping with type 1 diabetes in emerging adulthood: associations with demographic, psychological, and clinical parameters. J Behav Med 2010;33: 228–238

36. Kruse RL, Olsberg JE, Shigaki CL, et al. Communication during patient-provider encounters regarding diabetes self-management. Fam Med 2013;45:475–483

37. de Wit M, Versloot J, Zenlea I, Goethals ER. Using person-reported outcomes (PROs) to motivate young people with diabetes. Curr Diab Rep 2020;20:23

38. Majumder E, Cogen FR, Monaghan M. Self-management strategies in emerging adults with type 1 diabetes. J Pediatr Health Care 2017;31:29–36

39. Schwartz SJ. Turning point for a turning point: advancing emerging adulthood theory and research. Emerg Adulthood 2016;4:307–317

40. Jones A, Vallis M, Cooke D, Pouwer F. Working together to promote diabetes control: a practical guide for diabetes health care providers in establishing a working alliance to achieve self-management cupport. J Diabetes Res 2015; 2016:e2830910

41. Håkansson Eklund J, Holmström IK, Kumlin T, et al. "Same same or different?" A review of reviews of person-centered and patient-centered care. Patient Educ Couns 2019;102:3–11

42. American Diabetes Association. 6. Glycemic targets: *Standards of Medical Care in Diabetes—2020*. Diabetes Care 2020;43(Suppl. 1):S66–S76

43. American Diabetes Association. 9. Pharmacologic approaches to glycemic treatment: *Standards of Medical Care in Diabetes—2020*. Diabetes Care 2020;43(Suppl. 1): S98–S110

44. American Diabetes Association. 5. Facilitating behavior change and well-being to improve health outcomes: *Standards of Medical Care in Diabetes—2020*. Diabetes Care 2020;43(Suppl. 1):S48–S65

45. Ammmentorp J, Thomsen J, Kofoed P-E, Gregersen TA, Bassett B, Timmermann C. Understanding how different

mechanism of life coaching offered to young adults with type 1 diabetes can improve their ability to see opportunities and overcome barriers. Patient Educ Couns 2020;103:544–548

46. Pyatak EA, Carandang K, Vigen CLP, et al. Occupational therapy intervention improves glycemic control and quality of life among young adults with diabetes: the Resilient, Empowered, Active Living With Diabetes (REAL Diabetes) randomized controlled trial. Diabetes Care 2018;41:696–704

47. Agarwal S, Hilliard M, Butler A. Disparities in care delivery and outcomes in young adults with diabetes. Curr Diab Rep 2018;18:65