


Integration of Behavioral Health and Medical Services: Using Patient Experience as a Guide

Journal of Patient Experience
2015, Vol. 2(2) 6-13
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DOI: 10.1177/2374373515615976
jpx.sagepub.com


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Abstract

Objectives: This study aimed to assess patient satisfaction with behavioral health consultation in a primary and specialty care setting and to gauge patient interest in other behavioral health services. **Methods:** We surveyed patients with type 2 diabetes mellitus (N = 65), following a brief behavioral health consultation about their satisfaction with the experience and their interest in various behavioral health services. Doctoral students with master's degrees in clinical psychology provided the consultations. **Results:** Patients were highly satisfied with behavioral health consultations and expressed moderate to high interest in various potential behavioral health services. Patients with more diabetes-related concerns were less satisfied with brief behavioral health consultations but reported greater interest in other behavioral health services. **Conclusions:** Results were used to build stakeholder support and guide expansion of integrated behavioral health services. Examining patient experience can help identify patients who need more extensive services and ensure that services are patient centered.

Keywords

patient satisfaction, patient interest, integrated care, behavioral health services, behavioral health consultations, type 2 diabetes, patient-centered care

Almost half of Americans have chronic medical conditions (1). Additionally, our health care system is the most expensive in the world and does not always meet patient needs (2). To address these issues, the Institute for Healthcare Improvement has proposed the triple aim of improving population health, improving patient experience, and decreasing the per capita cost of health care (3). Alternatives to our current treatment delivery approach are needed to achieve the triple aim. The chronic care model (CCM) (4,5) is one alternative that emphasizes collaborative treatment planning and delivery, incorporating medical, behavioral, and psychological services (6). This integrative approach is well supported in the literature and appears to be particularly effective in treating type 2 diabetes mellitus (DMII) (7).

Using the triple aim and CCM as guidance, our group sought to integrate behavioral health interventions into a new primary and specialty care practice lacking these services.

Because DMII is highly comorbid with affective and anxiety disorders and is perpetuated by lifestyle factors that are challenging to manage over time, we collaborated with an endocrinologist to target patients with DMII (8-10). We offered voluntary consultations to patients following their

appointment with the endocrinologist, including brief assessment of the patient's DMII and self-care knowledge along with psychoeducation to address any potential knowledge gaps. Information about patient experience was gathered.

Brief empirically supported interventions, including basic psychoeducation, relaxation training (11), behavioral activation (12), biofeedback (13), values clarification (14), and motivational interviewing (15), have been shown to assist in treatment adherence and improving health and wellness for individuals with chronic conditions. Furthermore, studies of cost-effectiveness have confirmed this model of treatment provides a substantial cost savings above traditional modes of treatment (16, 17). However, evidence regarding patient satisfaction with team-based care is mixed and warrants further study (18). Potential sources of variability in

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satisfaction have not been studied sufficiently. For services to be truly patient centered, it is also crucial to examine specific patient interest in various behavioral health care treatment opportunities. This topic is also not well understood (19). This study aimed to address these gaps in the literature by examining the following questions:

1. Are patients satisfied with brief behavioral interventions in the context of collaborative treatment delivery?
2. In which behavioral health services are patients with DMII interested?

The purpose of this study was 3-fold: To address gaps in the literature regarding patient satisfaction and interest with behavioral health services, to support the development of further behavioral interventions and additional modes of treatment (eg, group interventions and shared medical appointments) consistent with the CCM, and to address administrative concerns that adding behavioral health consultants (BHCs) to treatment teams might adversely affect patient attitudes and the physicians' patient panel. Despite the progress that has been made toward integrative care, stigma surrounding psychological services remains a barrier (20).

Methods

Patients, Setting, and Treatment Team

The ongoing efforts of this team take place at a joint physician practice that offers primary and specialty care services to patients, including endocrinology. Initial efforts toward integrated health care were focused toward patients with DMII ($n = 65$). The mean age of the sample was 57.34 years (standard deviation [SD] = 9.47) and was predominantly female (60%). Patients identified themselves as Caucasian/non-Hispanic origin (69.2%), Latino/Hispanic (18.5%), Black/African American (7.7%), Asian (3.1%), and other race (1.5%), and more than half of the patients were married (58.5%).

The treatment team consisted of a board-certified endocrinologist, medical assistants, and BHCs. The BHCs were advanced clinical health psychology doctoral students with master's degrees in clinical psychology, trained in best practice guidelines set forth by the American Diabetes Association, and supervised by a licensed clinical psychologist. The study was approved by the university's institutional review board, and all patients consented to participate.

Procedure

Patients with DMII attended their regularly scheduled appointments with their endocrinologist. During their appointment, the endocrinologist offered patients the opportunity to receive brief consultation with a BHC. For 3 consecutive months, the endocrinologist offered consultations to all patients with DMII. Consultations were offered to 67

patients and 65 agreed to participate. The 2 who declined cited time constraints as their reason.

Once a patient agreed to the consultation visit, a BHC would enter the examination room, introduce themselves, and briefly describe their role. Consultation visits were semistructured and began with a brief initial assessment of diabetes-related self-care and screening for mood concerns. The next portion of the consultation visit was tailored to the individual patient based on the area in which they expressed greatest concern (eg, blood glucose monitoring). The BHC addressed identified concerns via collaborative, action-oriented behavioral interventions adapted from empirical literature (21). In general, the BHC assessed for the barriers to DMII self-management (e.g., having a variable schedule), offered psychoeducation to address identified knowledge gaps, and problem solved with patients to collaboratively identify a behavioral goal (eg, set phone reminders to check blood glucose levels). Patients were offered follow-up phone calls from the BHC to review goal progress and problem solve any difficulties. At the conclusion of the consultation visit, patients were given a patient care survey to complete. Consultation visits lasted between 10 and 45 minutes (mean [M] = 24.30, SD = 9.09). See Figure 1 for a diagram of patient flow. Consultation visits were free of charge to patients.

Measures

Initial assessment. The initial assessment was delivered in interview format and began with 4 items that assessed DMII-specific self-management domains. Items included "How concerned are you about how frequently you currently monitor your blood glucose levels?" "How concerned are you about your current diet?" "How concerned are you about your current level of activity?" and "How concerned are you about how manage your oral medications/insulin?" Answer choices ranged from 0 (*not at all*) to 10 (*extremely*). Subsequently, patients were asked about mood and anxiety symptoms using the 4-item Patient Health Questionnaire (PHQ-4) (22).

Patient care survey. The patient care survey consisted of several brief self-report measures including assessments of (1) patient satisfaction with their medical care (5 items), (2) satisfaction with the consultation visit (5 items), (3) treatment attitudes (3 items), (4) patient interest in various behavioral health services (5 items), and (5) DMII-related distress (Problem Areas in Diabetes [PAID] Scale; 20 items) (23). Individual items regarding satisfaction with the consultation visit and treatment attitudes are listed in Table 1 and Appendix A. According to the authors, a score of 40 or above on the PAID indicates "emotional burnout" that may warrant additional treatment.

Results

Prior to analyses, data were subject to quality management and missing value replacement. Data that were observed to

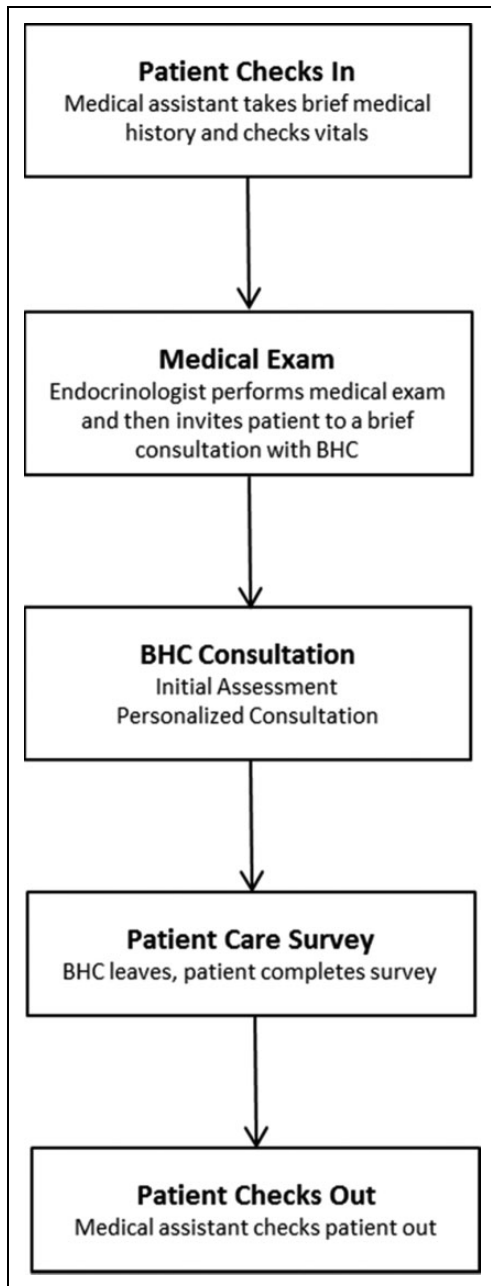


Figure 1. Flow of patient experience during medical visit with added behavioral health consultant (BHC) visit.

be missing completely at random were replaced using local averaging. Nine patients had missing data, with 8 missing 4 data points or less. One patient had 22 data points missing.

Patient Characteristics

Almost all patients who were approached for BHC service agreed to participate (67 approached, $n = 65$). Approximately 23% of our sample ($n = 15$) scored at or above the clinical cutoff on the PAID, indicating emotional burnout. Burnout occurs in response to the unrelieved

stress of managing diabetes and may manifest as emotional exhaustion and indifference (24). Table 2 contains descriptive information on scale scores from the full PAID and the PHQ-4, separated by symptoms cluster (ie, depression and anxiety).

Figure 2 presents mean patient scores of their level of concern within 4 diabetes-specific self-management domains. Exploration of patient's current treatment satisfaction revealed high levels of satisfaction with treatment overall ($M = 5.56$, $SD = .90$) and perception of convenience ($M = 5.05$, $SD = 1.35$). Patients also reported high levels of satisfaction with treatment flexibility ($M = 4.92$, $SD = 1.40$), but reported some concern over unacceptably high blood sugar readings ($M = 3.37$, $SD = 1.69$). The patients reported little concern over unacceptably low blood sugar readings ($M = 1.14$, $SD = 1.02$).

Question 1: Are patients satisfied with brief behavioral interventions in the context of collaborative treatment delivery?

We examined patient response to the brief behavioral intervention across all patients and as a function of group membership (ie, below and above the clinical cutoff score). This enabled us to identify unique response patterns based on the degree of DMII-specific concerns included in the PAID.

Across all patients, we found high levels of satisfaction with regard to needs addressing, active participation, information provision, emotional support, and overall satisfaction ($M = 8.98-9.25$, $SD = 0.92-1.48$), with no responses lower than 4 on the 0 to 10 scale. To compare groups, a multivariate analysis of variance (MANOVA) was performed with mean scores on consultation satisfaction as the dependent variable. Omnibus tests revealed significant differences between groups, $F_{5,59} = 3.63$, $P = .006$, partial $\eta^2 = .24$. Planned comparisons revealed lower satisfaction ratings in the emotional burnout group on items related to involvement, $F_{1,63} = 8.68$, $P = .004$, partial $\eta^2 = .12$; information satisfaction, $F_{1,63} = 4.35$, $P = .041$, partial $\eta^2 = .07$; and emotional support, $F_{1,63} = 6.36$, $P = .014$, partial $\eta^2 = .09$. The groups did not differ on items related to needs addressing, $P = .062$, or overall satisfaction, $P = .349$. Between-group ratings on these items are presented in Table 1.

Finally, we examined the patient's response to continuing the form of treatment provided by the BHC both between groups and collapsed across the full sample. Again, we detected a high level of satisfaction with continuing the form of treatment ($M = 5.60$, $SD = 0.86$, 0-6 scale) across the full sample. All patients also reported they would recommend the form of treatment to a friend ($M = 6.68$, $SD = 0.74$) and were very satisfied with their understanding of DMII ($M = 5.57$, $SD = 0.63$). The MANOVA performed on these variables revealed no significant between-group differences on any of these responses, $F_{3,61} = .305$, $P = .82$. Collectively, these results indicate that while those in the emotional burnout group reported lower satisfaction readings statistically, all

Table 1. Between-Group Item Descriptives and Significance Levels of Patient Satisfaction Ratings.

Item	Nonclinical (n = 50)		Emotional Burnout (n = 15)		P
	M (SD)	SEM	M (SD)	SEM	
1. How well did the specialist address your needs?	9.32 (1.29)	.191	8.57 (1.24)	.347	.062
2. How actively were you involved in talking and participating in the interaction?	9.49 (0.80)	.123	8.66 (0.90)	.225	.004
3. How satisfied are you with the adequacy of the information you received from this specialist?	9.35 (1.12)	0.173	8.46 (1.30)	0.315	.041
4. How satisfied are you with the (emotional) support you received from the specialist?	9.31 (1.10)	0.176	8.31 (1.46)	0.32	.014
5. Overall, how satisfied are you with the interaction?	9.14 (1.57)	0.222	8.50 (1.29)	0.403	.349

Abbreviation: M, mean; SEM, standard error of the mean; PAID, Problem Areas in Diabetes.

^aPatients were placed in the “emotional burnout” group if their PAID total score was ≥ 40 .

Table 2. Patient Clinical Characteristics as Measured by the PAID and PHQ-4 as Well as Zero-Order Correlations Among Scale Scores.^a

Scale	Mean (SD)	SEM	Range	1	2	3
1. PAID	26.88 (18.80)	2.33	0-70	–		
2. ANX	1.56 (1.71)	0.22	0-6	.300*	–	
3. DEP	1.14 (1.64)	0.21	0-6	.370**	.410**	–

Abbreviations: ANX, PHQ-4 anxiety items; DEP, PHQ-4 depression items; PAID, Problem Area in Diabetes Scale; PHQ-4, 4-item Patient Health Questionnaire.

^aN = 65.

*Correlation significant at $P < .05$ level.

**Correlation significant at $P < .01$ level.

patients reported a high level of satisfaction with continuing the form of treatment provided by the physician and BHC.

Question 2: In which behavioral health services are patients with DMII interested?

In order to identify patient needs for future treatments, we explored the patients’ responses to additional types of behavioral health services. Across all patients, brief behavioral health consultations were rated with the highest interest. Mean interest ratings for individual behavioral health services are presented in Figure 3. A global interest score was computed by summing patient interest across each of the behavioral health services. Global interest scores between the nonclinical and emotional burnout groups were compared using an independent samples *t* test. Results suggest individuals in the emotional burnout group reported greater overall interest in the behavioral health services ($M = 26.14$, $SD = 6.21$) than the nonclinical group ($M = 20.10$, $SD = 6.93$, $t_{63} = -3.03$, $P = .004$).

Discussion

In general, patients were highly satisfied with the brief behavioral health consultations and expressed moderate to high interest in various potential behavioral health services. Individuals in the emotional burnout group had statistically

lower satisfaction ratings for some aspects of the consultation, though their ratings suggested that they were still very satisfied (lowest mean satisfaction rating = 8.31 of 10). This clinical group is defined by higher distress related to DMII problems and reported more depression and anxiety symptoms than the nonclinical group. They also reported significantly greater interest in behavioral health services than the nonclinical group. Taken together, these data suggest that patients with emotional burnout perceive some benefit from brief consultations but feel a need for more extensive behavioral health services to address their diabetes-related problems and comorbidities.

Using these data on patient satisfaction and interest, we expanded our services at the medical practice. Examining the data on patient interest in more detail, there appeared to be a trend whereby patients were generally more interested in services that required less time investment. Given the high level of satisfaction with and general interest in the brief behavioral health consultations among patients with DMII, we worked with physicians in primary and specialty care at the practice to make these services available to all patients, with referral based on physician assessment of need. To address the needs of patients with more extensive problems and comorbidities such as those in the emotional burnout group, we now offer individual therapy at the medical practice. Group treatments are currently being implemented and refined to meet the needs of patient populations with great need. Thus far, group treatments have addressed diabetes management, chronic pain in rheumatoid arthritis, and caregiver support. Shared medical appointments for individuals with DMII are currently being pilot tested. Assessment of patient experience is ongoing at this medical practice and will continue to be used to shape our integrative care program.

This study is limited by the relatively small sample size and by the fact that only patients with DMII were surveyed. Therefore, broad conclusions should be drawn with caution. Further research is needed to investigate the generalizability of results to other settings and patient populations. However, our experiences with designing and implementing a program of integrated care are

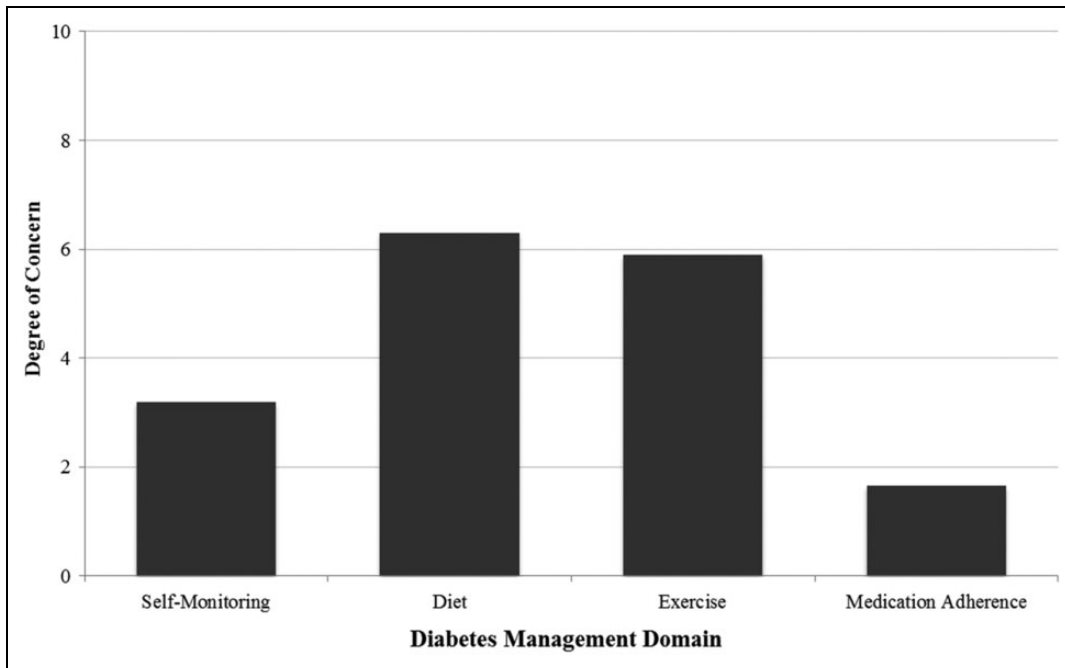


Figure 2. Patients' self-reported concern in 4 diabetes management domains. These responses were obtained during the initial assessment by the BHC. Participants rated their concern in each domain using a scale ranging from 0 (*not at all*) to 10 (*extremely*).

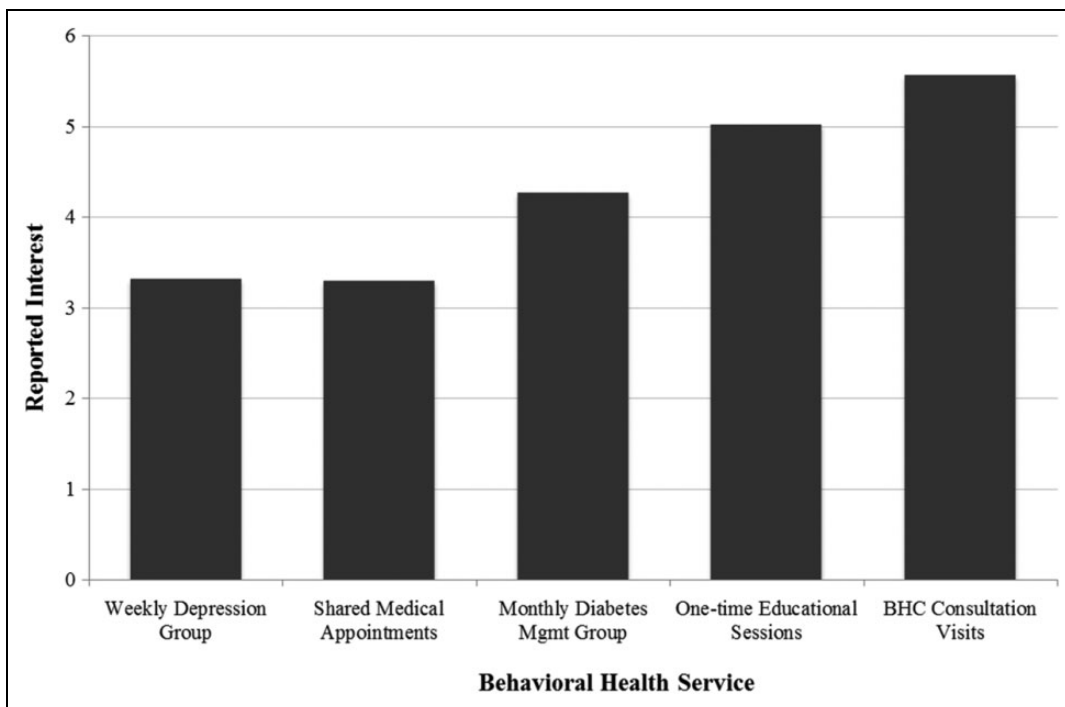


Figure 3. Patients' self-reported interest in behavioral health service. These responses were obtained after the patient visit with the BHC. Patients rated their interest in each service on a scale ranging from 1 (*not at all*) to 7 (*extremely*). Means depicted represent responses across all participants.

illustrative of the potential benefits of examining patient experience.

Focusing on patient experience has been integral in ensuring that the services we build are truly patient centered and in

helping to demonstrate the importance of these services to key stakeholders at the medical practice, such as physicians and administrators. This project aided in assessing and establishing crucial stakeholder support to ensure the success of

our preliminary efforts toward integrating care and our long-term goal of establishing a practicum site for doctoral students to receive training in integrative care. Our data demonstrated to physicians and administrators that including BHCs in routine practice was not viewed negatively by patients but was actually appreciated.

Based on our experience and the guidance of the triple aim, gathering information on patient satisfaction and interest in services should be a part of any efforts toward integration of services. Using assessment tools such as the PAID can also be helpful for identifying subgroups of individuals with different needs or levels of need. Finally, consistent with the collaborative nature of the CCM, assessment of patient experience should be ongoing to identify new needs and refine the services offered to patients.

Appendix A

Patient Care Survey

The following questions are about your recent diabetes treatment. When you answer these questions, please think about and consider your experiences with your typical treatment. Please answer each question by circling the appropriate number on each of the scales.

-
1. How satisfied have you been with your diabetes treatment?
Very Dissatisfied 0 1 2 3 4 5 *Very Satisfied* 6
 2. How often have you felt that your blood sugars have been unacceptably high recently?
None of the Time 0 1 2 3 4 5 *Most of the Time* 6
 3. How often have you felt that your blood sugars have been unacceptably low recently?
None of the Time 0 1 2 3 4 5 *Most of the Time* 6
 4. How convenient have you been finding your treatment recently?
Very Inconvenient 0 1 2 3 4 5 *Very Convenient* 6
 5. How flexible have you been finding your treatment recently?
Very Inflexible 0 1 2 3 4 5 *Very Flexible* 6
-

Next, we want to know about your experiences this session. When you answer these questions, please think about the conversation you just had with the Behavioral Health Consultant.

-
1. How well did the specialist address your needs
Not Well at All 0 1 2 3 4 5 6 7 8 9 *Extremely Well* 10

2. How actively were you involved in talking and participating in the interaction?
Not at All Involved 0 1 2 3 4 5 6 7 8 9 *Extremely Involved* 10
 3. How satisfied are you with the adequacy of the information you received from this
Not at All Satisfied 0 1 2 3 4 5 6 7 8 9 *Extremely Satisfied* 10
 4. How satisfied are you with the (emotional) support you received from the specialist?
Not at All Satisfied 0 1 2 3 4 5 6 7 8 9 *Extremely Satisfied* 10
 5. Overall, how satisfied are you with the interaction?
Not at All Satisfied 0 1 2 3 4 5 6 7 8 9 *Extremely Satisfied* 10
-

We also wish to know if you hold any new attitudes toward your treatment. When you consider these questions, please think about your whole experience today.

-
1. How satisfied are you with your current understanding of your diabetes?
Very Dissatisfied 0 1 2 3 4 5 *Very Satisfied* 6
 2. Would you recommend this form of treatment to someone else with diabetes?
No, Definitely Not 0 1 2 3 4 5 *Yes, Definitely* 6
 3. How satisfied would you be to continue with this form of treatment?
Very Dissatisfied 0 1 2 3 4 5 *Very Satisfied* 6
-

Next, we want to learn about which additional services our patients would benefit from the most. For each of these items, please use the following scale to rate how important you think that the service would be as well as how interested you would be in receiving this service as part of your care.

Not at all				Moderately			Extremely
1	2	3	4	5	6	7	

-
1. Brief (5-15 min) consultations with a behavioral health specialist at the end of your regular visits
Importance: 1 2 3 4 5 6 7
Interest: 1 2 3 4 5 6 7
 2. A one-time class to learn more about your health, diabetes, treatment, and lifestyle changes
Importance: 1 2 3 4 5 6 7
Interest: 1 2 3 4 5 6 7

3. Monthly group meetings with different topics that are designed to help you manage your diabetes

<i>Importance:</i>	1	2	3	4	5	6	7
<i>Interest:</i>	1	2	3	4	5	6	7

4. Shared medical appointments with other patients. These appointments allow greater access to health care providers and offers the benefit of support from other patients with similar problems

<i>Importance:</i>	1	2	3	4	5	6	7
<i>Interest:</i>	1	2	3	4	5	6	7

5. Weekly group sessions that are designed to help people with health problems cope with depression

<i>Importance:</i>	1	2	3	4	5	6	7
<i>Interest:</i>	1	2	3	4	5	6	7

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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Angela Mazza is board certified in internal medicine, diabetes, endocrinology and metabolism and is heavily involved in clinical research. Her special interests include diabetes care, thyroid disorders, lipid management and Polycystic Ovarian Syndrome. During

the course of this study, Dr. Mazza worked at the UCF College of Medicine outpatient practice. She is currently affiliated with the Metabolic Center for Wellness.

Jeffrey Cassisi is a licensed Clinical Psychologist and Chair of the Department of Psychology at the University of Central Florida. He has made extensive research contributions to the area of Clinical Health Psychology. Specifically, he is interested in biofeedback, ambulatory monitoring, and program evaluation for a variety of chronic illnesses.