Physicians' Perceptions of Barriers to Cardiovascular Disease Risk Factor Control among Patients with Diabetes: Results from the Translating Research into Action for Diabetes (TRIAD) Study

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Introduction: **Many patients with diabetes have poorly controlled blood glucose, lipid, or blood pressure levels, increasing their risk for cardiovascular disease (CVD) and other complications. Relatively little is known about what physicians perceive to be barriers to good CVD risk factor control or their own role in helping patients achieve good control.**

Methods: **We interviewed 34 primary care physicians in 4 states to assess their perceptions of patients' barriers to CVD risk factor control. Interviews were coded and analyzed for emergent themes.**

Results: **Physicians attributed barriers primarily to patients (socioeconomic issues, competing medical conditions, and lack of motivation) or to health system barriers (cost of care or lack of a multidisciplinary team). Physicians also expressed high levels of frustration with their efforts to address barriers.**

Conclusions: **Physicians felt that barriers to CVD risk factor control often were beyond their abilities to address. Training physicians or other members of the primary health care team to address patients' personal barriers and health system barriers to good control could help alleviate high frustration levels, improve relationships with patients, and improve the treatment of diabetes. Supporting such efforts with adequate reimbursement should be a focus of health care reform. (J Am Board Fam Med 2010;23:171–178.)**

Keywords: **Patient/Physician Relations, Diabetes Control, Primary Health Care, Qualitative**

Diabetes affects approximately 8% of the US population and is the fifth leading cause of death among US adults, with annual total health-related costs estimated at $132 billion.[1–5] Much of the diabetes-related morbidity and mortality is caused by cardiovascular disease (CVD) such as heart disease and stroke, which can be prevented through optimal control of glycemia, blood pressure, and lipids. However, patients with diabetes often fail to

This article was externally peer reviewed.
Submitted 22 May 2009; revised 29 July 2009; accepted 4 August 2009.

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Funding: This research was supported by the Centers for Disease Control and Prevention and the National Institute of Diabetes and Digestive and Kidney Diseases (U58/CCU223529). The Robert Wood Johnson Foundation Generalist Physician Faculty Scholars Program provided additional support for Dr. Tseng.
Conflict of interest: none declared.
Disclaimer: The contents of this paper are solely the responsibility of the authors and do not necessarily represent the official views of The Centers for Disease Control and Prevention and the National Institute of Diabetes and Digestive and Kidney Diseases.

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achieve good control of these CVD risk factors.[1,2,6–9] Because the majority of adults with diabetes seek their care from primary care physicians,[10,11] improving the management and control of CVD risk factors among patients with diabetes in primary care settings could significantly improve their health.

Our current understanding of the barriers to CVD risk factor control comes primarily from empirical studies demonstrating that patient financial barriers to care, physician failure to appropriately intensify clinical treatment, lack of adequate and sustained support for patient self-management, and patient nonadherence to medication regimens all play significant roles.[12–18] Others have focused on patients' self-report of barriers to controlling CVD risk factors (eg, financial barriers, the lack of a connection between treatment regimens and perceived health, and the complexity of medication therapies).[19] However, little is known about primary care physicians' perceptions of the barriers to good CVD risk factor control faced by patients with diabetes. This gap is concerning because previous research has shown that patients and physicians understand diabetes differently and have generally poor levels of agreement on definitions of "good diabetes control,"[20] goals, and treatment.[21,22] If physicians' beliefs about key barriers to good control differ from patients' beliefs, this could prevent effective patient-physician partnerships to improve diabetes outcomes. Accordingly, we sought to assess how primary care physicians caring for patients with diabetes perceive barriers to good CVD risk factor control and their role in helping patients achieve good control. Better understanding of these perceptions will help with the design of effective interventions to improve the primary care management of diabetes.

Methods

We conducted in-depth interviews with 34 primary care physicians who were caring for patients with diabetes in a variety of practice environments (solo, group practice, integrated health care delivery system).[23] Physicians practiced in California, Indiana, Michigan, and New Jersey. Interviews were conducted between April 2006 and February 2007 as part of Translating Research into Action for Diabetes; a multicenter study focusing on the quality of diabetes care in managed care organizations involving 6 translational research centers (TRCs) in partnership with 10 health plans and 68 provider groups.[24] Participants were selected from managed care plans at 4 TRCs; these physicians regularly provided outpatient primary care (general internists or family physicians) for adult patients with diabetes. The first 10 respondents to the participation request at each TRC were selected for interview and received a $150 participation incentive. Interviewers were trained by the lead author (JCC) and interviews were conducted at central locations or in physicians' offices.

Participants were asked about their experiences caring for patients with diabetes and barriers to good CVD risk factor control. Interviewers prompted physicians to discuss the last person with diabetes for whom they had provided care and then another patient who they thought had achieved "poor outcomes." (See the Appendix for the Interview Guide.) Physicians were then asked to discuss 3 of their patients with diabetes who had been identified from health plan claims as having poor CVD risk factor control.

Interviews (ranging from 30 minutes to 1 hour) were audiotaped and transcripts were entered into ATLAS.ti (ATLAS.ti Scientific Software Development GmBH, Berlin, Germany) for coding and analysis.[25] A primary care physician, a health services researcher with qualitative methods expertise, a health educator, an endocrinologist, and a cardiologist coded transcripts. This group coded 4 interviews using a template-organizing style, in which a template created from a preliminary scan of the interviews by the lead author (JCC) was used for initial coding to identify examples of barriers faced by patients, reports of the approaches used to help patients achieve good control, and attitudes toward patients with diabetes.[26] This template was expanded using a grounded theory approach in which new codes were derived to represent specific barriers to good control that emerged from the coding process.[27] To check for agreement, coders used this revised template to independently code 6 interviews. Coding decisions were compared and disagreements reconciled through group consensus. Each coder independently coded a subset of the remaining 24 interviews. Coding reports were generated and reviewed to identify representative statements. This study was reviewed and approved by the Institutional Review Boards at the 4 TRC sites.

Results

All 34 participants were primary care physicians: 29 general internists, 4 family physicians, and 1 medicine-pediatrics doctor, with an average of 16 years of clinical experience after their training (range, 4–32 years). Participants reported their race/ethnicity as white (n = 23), Asian/Pacific Islander (n = 7), African American (n = 1), and African American/Asian (n = 1). Two did not report race/ethnicity.

Barriers to good CVD risk factor control identified by physicians fell into 2 general areas: patient-related and system-related barriers. Patient-related barriers were mentioned by all participants and were categorized as a lack of socioeconomic resources; competing demands from medical and physical conditions other than diabetes; and patients' personal beliefs, behavior, and knowledge. The second major category of barriers represented health system–related barriers that limited either the physicians' ability to deliver care or the ability of patients to access appropriate care.

Socioeconomic Barriers

Many physicians identified financial difficulties and family-related issues as interfering with patients' ability to control their CVD risk factors. A commonly reported problem was that patients with limited economic resources were unable to adopt the complex medical and lifestyle regimens required for good CVD risk factor control. As one physician put it: "When people are dealing with not having a job, not having insurance, just trying to put food on the table and having a place to stay . . . it's difficult for them to take medical issues that are not causing acute problems very seriously." Such barriers prevented patients from adopting healthier lifestyles because, as another physician reported, "I have a lot of patients who find it's very expensive to buy food that's good for you, . . . so they'll just eat what they can afford."

Patients responsible for caring for others were commonly reported to neglect their own health. One such patient was "caring for her grandchild . . . who's living with her because her daughter has substance abuse problems . . . her other children are still living with her . . . [and] she's trying to do the best she can to keep it all together . . . I think that takes most of her energy . . . its too much for her in terms of taking care of herself." In some cases family members resisted changes to a more healthy lifestyle. As one doctor put it, "[family members] say 'I don't want to eat that stuff . . . you can cook that for you, but make sure mine is fried' . . . 'the doctor said you have to quit smoking; why do I have to?'" Overall, physicians in this study were well aware that socioeconomic problems and competing responsibilities posed significant barriers for patients trying to achieve good CVD risk control.

Competing Medical Conditions

Other medical conditions, such as pain or depression, competed with patients' efforts to control CVD risk factors. Pain—sometimes diabetes-related (ie, diabetic neuropathy) and sometimes caused by comorbidities such as obesity or arthritis—affected CVD risk control in 3 major ways. First, by limiting exercise ability: "It's become something . . . of a spiral here . . . [arthritis] has reduced his ability to exercise, which has made his weight go up, which has made his diabetic control worse." Second, pain as a symptom sometimes dominated office visits and made it difficult to address diabetes and CVD risk control. One physician summarized: "Every time he comes and sees me, we talk for about 5 minutes about his medical problems: diabetes and heart disease . . . then we spend 10 to 15 minutes talking about his pain." Third, some physicians felt that pain led to depression, which made it even more difficult for patients to control their diabetes. "Everything seems to be around his pain . . . chronic pain leads to depression, depression leads to lack of motivation . . . he doesn't work, he's at home all the time, he's bored, he eats."

Depression and anxiety were often mentioned as barriers. As one doctor put it, "I think half the people out there have some sort of depression, or . . . psychological stuff, and they don't take care of [it] and that impedes their ability to take care of the disease . . . Diabetes to me is a behavioral disease and . . . if you have behavioral problems, you're going to have problems with it." Depression was seen to add "a layer of difficulty" to self-management, leading patients to "let things go, especially in terms of . . . diet." As one doctor noted, "I think when people are clearly depressed they don't have motivation and they don't have energy [they] just don't care [and] I think that's some fraction of . . . the folks with poor outcomes."

Other medical conditions commonly mentioned as presenting barriers to good CVD risk factor control included chronic conditions such as arthritis, asthma, Crohn disease, and emphysema. These health conditions affected risk factor control either directly (eg, steroid treatments affecting glucose levels) or indirectly through limitations they placed on patient mobility and their demand for attention.

Patients' Motivation

Many physicians identified what they termed lack of patient "motivation" to take care of themselves as a barrier. A common sentiment was that "a lot of the control comes from the internal drive to take care of yourself, how resilient you are, how positive you are, and how much you take responsibility for your own health and well being." Physicians typically referred to motivation as intrinsic to a particular patient and not something that they could affect with their own actions. As one put it, "some patients are more interested than others and I don't have a good feeling for why . . . (but) it is probably not related to something that I've done to motivate them, even though I wish that it were." This lack of patient motivation was a source of physician frustration because "the people who are not motivated are the ones who are the hardest to take care of." One physician described a patient with poor motivation: "She wanted to continue smoking . . . didn't want to bother to take shots . . . didn't want to go to the doctor . . . didn't want to try to lose weight . . . I looked in her face and said 'You know you can lose your leg' . . . but nothing happened."

Systems-Related Barriers to Delivering Care

System-related barriers preventing physicians from delivering care included inadequate information technology, poor coordination with other providers of care, lack of time for clinical work, and insufficient financial reimbursement. Many talked about how clinical information systems failed to make records from previous visits, consultants, and laboratory tests accessible at the point of care, which made it difficult for doctors to be alerted to clinical situations that required attention and follow-up. As one physician put it, "Our system's terrible . . . if the [glycated hemoglobin] isn't right, there's no system in place to make sure that somebody follows it up . . . [and] make sure the patient knows what their test results are . . . these are systems problems that are fixable."

Doctors also reported insufficient access to a multidisciplinary team to provide care for patients. This ranged from having inadequate nursing staff in the office to not having a "team" of diabetes educators and specialists to work with. As one put it, "With primary care we certainly don't have a lot of the resources available like an endocrinologist [does] as far as ancillary support . . . the time is being taken up with acute problem management and not with . . . following up on our diabetic patients." Even when such support was available, lack of communication about care plans and ambiguity about who was responsible for managing diabetes care contributed to difficulty coordinating care with other providers such as pharmacists, diabetes educators, and endocrinologists.

Physicians also mentioned as barriers insufficient time and lack of reimbursement for time spent counseling patients. As one physician said, "It is really hard as a primary care doctor to take care of a diabetic patient in a 15-minute appointment. It's almost ridiculous . . . I know I could say that every diabetic patient should have a half hour but that affects our billing."

System-Related Barriers to Accessing Care

Systems-related barriers affecting patients included difficulties getting appointments and referrals, transportation, time, financial barriers, and confusion surrounding health system requirements for accessing care. In some systems physicians reported that "it's often hard getting an appointment . . . because (patients) don't get past the first person they call that says there are no appointments available." Physicians mentioned the difficulty faced by patients in some systems in having to travel to different locations to access their primary care doctors and other specialists. For patients who relied on public transportation, it "can be very expensive or inconvenient if someone has to take the bus for an hour to get here; if you wanted them to come back every 3 or 4 weeks, they might not be able to do that."

Financial barriers such as medication costs and disruptions in insurance coverage were seen as preventing patients with diabetes from getting needed care. "I had one patient who called me [to ask] which medication could she stop. She said 'I can't afford all my medications, so you tell me which one I have to take' . . . I get angry at the system because that should not happen. . . . The cost of medication is so high . . . I wish there was cheaper alter-

natives . . . the drug companies, they'll give me samples, but if I don't prescribe the drug, they stop giving me samples." Insurance disruptions affected treatment because "it's a matter of accessibility to the system. If people lose their job, change their job, change their insurance . . . continuity of care is just a mess." Even for patients without insurance problems, it can be difficult to navigate health benefit plans. For example, "[It has been] very confusing for so many of our patients with their myriad of [Medicare Part D] plans . . . I think probably 40 plans or something."

Physicians' Frustration

The dominant theme seen among physicians' attitudes about the barriers they reported was one of frustration. This frustration arose from a perceived inability to address patients' motivation for maintaining good health, patients' resistance to treatment recommendations, and a belief that the barriers faced by patients were outside of the physicians' control. For patients lacking motivation, one physician admitted that "I just honestly don't think anything is going to work." Another physician said, "if I could distinguish the difference between people that are really motivated [and] interested in their health care versus the people that are not . . . I [could] make a lot of money."

Others identified patient resistance to recommendations as a source of frustration. One physician described these patients: "we just give them the medicine . . . and the next time they come in we ask them if they've taken it and they say 'No.' That frustrates us [because] . . . the patient doesn't want to change for the better." Other patients reportedly "waver on wanting to be healthy and not wanting to be healthy . . . [for] people like that diabetes is not really under control ever." Another physician reported patient resistance to treatment recommendations: "It was always a difficult visit because she didn't want to take the medications . . . she didn't want to exercise . . . and she didn't want to try . . . to lose weight . . . we were on opposite sides of the fence and it was frustrating for her and it was frustrating for me." Many saw the barriers to good control that were faced by their patients as outside of their control, further increasing their frustration with the complex management of diabetes and CVD risk. As one physician put it, "there's a whole array of personal situations there that goes beyond my chances of improving at all." Another reported that "you work very hard, you do good care and you just don't get to goal . . . it's not easy to get everybody to goal." Behavioral or lifestyle changes were seen as particularly challenging because "it's almost easier to give medications, get the numbers down, but . . . it's hard to get the people . . . to lose the weight. And the hardest is the smokers, trying to get them to quit. [Those are] the most frustrating . . . thing[s] . . . in treating these conditions."

When faced with barriers and the frustration they often engendered, physicians reported that they did not have effective strategies. As one put it, "every time I see him I keep hammering but I'm not going to drive myself crazy." As another physician put it, "there are some patients that I just can't get to make changes, despite my best efforts, and . . . that's frustrating." One physician did offer a rare hopeful note: "Sometimes you have influence, and sometimes you have none at all, but unless you . . . maintain a relationship you have no chance of getting through."

Discussion

Physicians in this study were aware of many of the barriers identified in studies of patients with diabetes, such as the role of financial difficulties, social support, and demands on time that managing diabetes and CVD risks requires. However, physicians did not mention the need to identify and work collaboratively with patients to address these barriers, and many reported frustration with their efforts to improve patients' adherence to treatment recommendations. Similar frustrations were found in a recent study of general practitioners in Belgium, indicating that these frustrations are probably only partly attributable to problems with the health system.[28] Such frustration may stem from being faced with patients whose symptoms or illnesses are chronic because their focus must be on relieving symptoms or containing the effects of illness over time rather than resolving an acute care problem.[29] It is important to know if, as a result of this frustration, physicians' care for their patients is affected. For instance, literature shows part of poor CVD risk control results from failing to intensify medication therapy.[12,14,15] Surprisingly, none of the physician participants identified their action or inaction in providing care as barriers to good control. Instead, physicians often felt that "nothing I do will change anything." This potential effect of physician frustration on behavior should be consid-

ered in future studies or interventions to improve treatment.

Training physicians or other members of the primary care team in patient motivation skills could improve care and lower frustration levels. Others have found that collaborative and autonomy-supportive physician communication results in higher patient satisfaction and better adherence to treatment plans. In addition, patient-provider agreement on treatment goals and strategies is associated with greater diabetes self-efficacy and better self-management.[22,30,31] Evidence is growing for the effectiveness of one such approach—motivational interviewing—to help patients build the motivation and confidence to undertake necessary behavioral changes.[30,32–37] However, many physicians and primary care practice team members still have little knowledge of or training in such approaches. Like the physicians in this and other studies, they continue to rely on ineffective approaches such as attempting to pressure or shock patients into compliance with recommendations.[28] Addressing this gap is especially important in training the next generation of physicians and for enhancing the skills of other members of the primary care team.

In some cases, as physicians in this study observed, the barriers to good control are not under the control of physicians or patients. These barriers, such as costs of treatment, poor coordination of health care teams, and inadequate access to care, will require system-level solutions. Physicians may be able to help individual patients overcome these barriers (eg, help them access pharmacy assistance programs to lower medication costs), but more comprehensive solutions will need to come from insurers and policymakers through the creation of payment environments and insurance coverage systems that encourage care coordination and improve access to needed care.

This study is limited in that our participants came from convenience sampling rather than a stratified sampling that would have represented all primary care physicians caring for patients with diabetes. However, our physicians were selected from among primary care physicians who were providing care to large numbers of patients with diabetes and were diverse in geographical location, experience, clinical sites, and race/ethnicity. Although we did not seek to determine the frequency with which patients faced particular obstacles to good CVD risk factor control, the barriers identified here are likely to be important ones to address and are clearly the source of much physician frustration. We studied only patients in managed care environments; however, the managed care systems participating in the Translating Research into Action for Diabetes study represented a variety of delivery models from integrated delivery systems to fee-for-service arrangements with private physicians. Finally, we did not interview patients to examine if their perceptions of barriers to CVD risk control matched their physicians' perceptions of barriers.

Primary care physicians in this study had a complex understanding of the barriers to good CVD risk factor control typically faced by their patients, but they felt that these were primarily patient- and systems-related. Many of these physicians felt that their own actions had little impact on patients' health. Few physicians reported success in helping patients overcome these barriers, and this led many physicians to describe high levels of frustration. Although some barriers are indeed not under physicians' control and may need system-level solutions (eg, lack of access to a multidisciplinary team), other barriers (eg, lack of patient motivation) may be decreased with support from physicians. Thus our findings highlight the need to help educate physicians in effective strategies to reduce these barriers to good CVD risk factor control. Based on physicians' comments, devising payment mechanisms that can effectively support these important efforts should also be a focus of health care reform.

The authors acknowledge the participation of our health plan partners. Members of the Translating Research Into Action for Diabetes (TRIAD) study group made significant contributions to this study.

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Appendix: Interview Guide

Questions in italics were planned prompts used to remind interviewers of important topics or contrasts. When unplanned prompts elicited the desired information, planned prompts were not used.

Opening statement

In this interview we will focus on issues relating to how you treat your patients who have diabetes, hypertension, and high cholesterol together.

1. I'd like you to think about the last patient you treated who has all 3 of these illnesses. Tell me about that person.
   a. *How have you tried to help this person achieve good control of their illnesses?*
   b. *What do you think explains the outcomes that they have achieved so far?*
2. Now I'd like you to think about a different patient with these 3 illnesses who has achieved good outcomes. Tell me about that person.
   a. *What do you think has made it possible for this patient to have good outcomes?*
   b. *What has been your role in helping the patient achieve those outcomes?*
3. Next, I'd like you to think about a different patient with these 3 illnesses who has achieved poor outcomes. Tell me about that person.
   a. *What do you think has prevented this patient from achieving better outcomes?*
   b. *What is your plan for helping this person achieve better outcomes in the future?*
4. Describe for me what it is like for you working with patients who have these 3 chronic illnesses?
   a. *What are your biggest challenges?*
   b. *What do you most enjoy about this part of your job?*
5. What does the phrase "good outcomes" mean to you in the context of care for patients with these 3 illnesses?
   a. *What are some other things besides numbers (reaching goals) that would mean good outcomes?*
6. Is there anything else you think I should know about working with patients who have these 3 chronic illnesses?

   Finally, I'd like to get some background information about you.
7. In what year did you graduate from medical school?
8. What is your specialty?
9. In what year were you born?
10. What do you consider to be your race or ethnicity?