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Solutions to Address Diabetes-Related Financial Burden and Cost-Related Nonadherence: Results From a Pilot Study

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Abstract

Background—Cost-related nonadherence (CRN) to recommended self-management behaviors among adults with chronic conditions such as diabetes is prevalent. Few behavioral interventions to mitigate CRN have been tested and evaluated.

Aims—We developed a financial burden resource tool and examined its acceptability and the preliminary effects on patient-centered outcomes among adults with diabetes or prediabetes seen in a clinical setting.

Method—We report a pre–post one-group design pilot study. From an endocrinology clinic, we recruited 104 adults with diabetes who reported financial burdens with their diabetes management or engaged in CRN behaviors. We offered participants the financial burden resource tool we developed, which provided tailored, low-cost resource options for diabetes management and other social needs. Acceptability and self-reported outcomes were assessed 2 months after use of the tool.

Results—Mean age of participants was 50.5 years ($SD = 15.3$). Participants found the tool highly acceptable across 15 indicators (e.g., 93% “learned a lot,” 98% “topics relevant” 95% “applicable to their lives,” 98% “liked the information”). Significant improvements between baseline and 2-month followup were observed for discussion of cost concerns with nurses (19% to 29%, $p < .05$) and pharmacists (13% to 25.5%, $p < .01$), not skipping doses of medicines due to cost (11% to 4%, $p < .03$), and financial management (33.83 to 39.62, $p < .007$). There were no significant changes in perception of financial burden.

Conclusion—A financial burden resource tool is highly acceptable to patients, is easy to administer, and can prompt behavior change. This pilot study supports the need for well-powered trials with longer follow-up to further evaluate the effectiveness of such tools in improving CRN and key outcomes.

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Declaration of Conflicting Interests

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Keywords

access to care; cost-related nonadherence; diabetes; financial burden; patient–provider communication

In 2014, one in four families reported financial burdens from their out-of-pocket health care expenses (Richman & Brodie, 2014), and one in five reported trouble meeting basic needs (Berkowitz, Seligman, & Choudhry, 2014). Financial concerns are especially important for people managing diabetes and its associated complications (Li et al., 2014; Seaquist, 2014). Although many health plans are now required to cover some percentage of diabetes supplies, cost-sharing is highly variable. Our recent work shows that half of adults with diabetes in the United States report financial stress, and nearly a quarter experience high out-of-pocket health care burden and food insecurity (Patel, Piette, Resnicow, Kowalski-Dobson, & Heisler, 2016). Moreover, communication of these concerns occurs infrequently although important to patients (Schmittdiel et al., 2010).

Seven systematic reviews conclude that burdensome costs to the patient are a major deterrent to treatment adherence (Mathes, Jaschinski, & Pieper, 2014). High rates of cost-related nonadherence (CRN) are evident among individuals with diabetes (20% to 40%; Elliott, Robinson, Anthony, & Stillman, 2013; Piette, Wagner, Potter, & Schillinger, 2004), which includes taking a smaller dose of medication, taking medications less frequently, delaying or not fulfilling prescriptions, and borrowing medicines from someone else. These behaviors are associated with worse glycemic control, more symptoms, declines in functioning, and hospitalizations (Heerman et al., 2016; Heisler et al., 2010; Piette et al., 2004; Vijayaraghavan, Jacobs, Seligman, & Fernandez, 2011).

Diabetes is the seventh leading cause of death in the United States, and rates of comorbidity and treating complications in urgent care settings are high (American Diabetes Association, 2012). Most interventions that address cost-related issues to improve adherence have focused on price transparency and lowering insurance costs, rather than broader financial burdens (Korn, Reichert, Simon, & Halm, 2003). Increased screening of social determinants to improve health behaviors and health status has been championed (Gottlieb, Fichtenberg, & Adler, 2016), and findings from intervention show promise. A case management intervention that provided referrals for patient-identified social concerns showed an increased uptake in cancer screening among African American women in Boston; however, no longitudinal patterns were observed (Clark et al., 2009). Thompson, Kreuter, and Boyum (2016) found that individuals who had non–health-related issues resolved through 2-1-1 social services help line were more likely to follow-up with health referrals (Thompson et al., 2016). Hassan et al. (2015) found that a technology-based, patient-centered feedback and referral system for social determinants of health can facilitate screening and connect youth with resources to address health-related social problems. However, evidence-based, scalable interventions are still needed to address the broad spectrum of health-related financial burdens patients with complex chronic diseases experience and to assess whether such methods improve patient-centered outcomes. We were unable to locate any rigorously evaluated interventions attempting to address CRN specifically through improved screening

and patient activation, while also providing patients with the tools to successfully address the many financial barriers contributing to poor adherence and outcomes. The objective of this study was to determine the feasibility and acceptability of a financial burden resource tool that we developed with significant input from key stakeholders, and its effect on patient-centered outcomes among adults with diabetes or prediabetes.

Method

Study Design

A pre–post one-group design was used to evaluate the pre-visit CRN recommended resources tool. The study sample was drawn from patients seeking care at the Metabolism, Endocrinology & Diabetes clinic at the University of Michigan Health System who met study criteria. All study procedures were approved by the University of Michigan Medical School Institutional Review Board.

Sample and Study Procedures

Research staff approached patients in the clinic waiting room who were attending appointments at the Endocrinology clinic, and screened for eligibility via seven survey questions adapted from national surveys (Centers for Disease Control and Prevention, 2015): (1) Has a doctor ever told you have diabetes or prediabetes (y/n)? (2) Are you over the age of 18 (y/n)? (3) Do you have access to a telephone (y/n)? (4) Have you ever taken less or skipped doses of prescribed diabetes medications because of cost in the past 12 months (y/n)? (5) Have you ever delayed filling or not filled a prescription because of cost in the past 12 months (y/n)? (6) Are medical bills or out-of-pocket expenses for your diabetes cause you to worry during the past 12 months (y/n)? (7) Did you or a member of your family cut the size of or skip meals because there was not enough money for food in the past 30 days (y/n)? Eligible patients met the following criteria: (1) diagnosis of diabetes or prediabetes, (2b) indicated financial burden or CRN by responding positively to one of five screening questions, (3) 18 years of age or older, (4) had access to a telephone for follow-up, and (e) ability to read and understand English. Individuals with prediabetes were included since management may include taking medication and typically includes the same lifestyle modification recommendations for diabetes. Patients who met screening criteria and provided written, informed consent completed a self-administered baseline survey (15 minutes) and intervention (5 minutes) in the clinic waiting room. After their appointment, participants were asked to complete a brief survey to assess acceptability of the financial burden resource tool. Follow-up data collection was 2 months after baseline data collection via telephone interview. Participants were given \$20 for completing the baseline survey and intervention, and another \$20 for completing the follow-up 2 survey.

This pilot study aimed to primarily address feasibility and acceptability. Over the 1-month recruitment period (October 2015) a total of 852 patients were approached. Of those, 242 declined to participate, 495 were ineligible for the following reasons: language barrier ($n = 1$), no diabetes ($n = 349$), no access to telephone ($n = 1$), no financial burden or CRN ($n = 144$), and so 115 were eligible for the study. Of the 115 who were eligible and consented, 14 individuals were not able to complete study procedures because they did not have time

before their appointment. One hundred and four participants completed the baseline survey, and 101 participants completed the intervention and the acceptability assessment (97% participation rate among eligible patients). Ninety-five participants completed follow-up at 2 months postbaseline, resulting in a 94% retention rate. One participant dropped out of the study, and five were unreachable at follow-up despite multiple attempts.

Financial Burden Resource Tool: Theoretical Rationale

We used the behavioral capability component of social cognitive theory and the idea of reciprocal determinism to inform behavior change with the financial burden resource tool (see Figure 1; Bandura, 1986). Social cognitive theory posits that individuals must possess knowledge and skills (behavioral capability) to perform a specified behavior. Reciprocal determinism suggests that the interaction between people (their cognitive processes and the skills that they develop) and their environment can stimulate behavior change. Behavior change occurs when cognition, behavioral capability, or the environment are altered. The financial burden resource tool was thus designed to enhance behavioral capability to self-manage diabetes by providing information and awareness about resources to address both health and non-health-related financial burden. The focus of the tool on both diabetes-related resources as well as broader social needs aimed to also build financial literacy skills through access to resources that could begin to shape those behaviors. Providing specific information on how to access resources and the role of the provider in gaining access aimed to encourage dialogue with the care team.

The financial burden resource tool was developed using user-centered design (Blomkvist, 2005). It was developed with input from key stakeholders, including individuals who themselves had diabetes and experienced financial burdens, and health care providers who see diabetes patients. It resided on a website server, was self-administered on a tablet via wireless Internet access, and took approximately one session (5 minutes) to complete. Trained research assistants walked participants through how to use the tool in the clinic room waiting room prior to their health care visit. Participants were asked to select their broad type of health insurance and then select resources they would like more information on. The resource list comprised 29 items total that included 11 items specific to diabetes management and 18 items specific to a variety of social service resources that directly or indirectly affect health (see Figure 1 for full list). The tool then provided a list of resources based on the logic of health insurance and resource selection (see Figure 1 for an example of the resource list). The resource list included both local and national resources. Each resource included a brief description, eligibility, how to apply, and contact information. The tool created a customized list of resources for the participant, which was provided to them as a hard copy. All resources were researched and critically reviewed and refined by four clinic social workers.

Measures

Our primary outcome of interest was acceptability of the financial burden resource tool, and our exploratory outcomes included CRN behaviors, use of low-cost resources, patient-provider communication, financial management, perception of financial burden, and

diabetes-related distress. The following data were collected at baseline (self-administered on a tablet) and at 2-month follow-up via telephone by trained interviewers.

Acceptability of the Financial Burden Resource Tool—A total of 15 items from both the Intervention Evaluation Form (Harper, Contreras, Bangi, Pedraza, 2003) and the Client Satisfaction Questionnaire (Larsen, Attkisson, Hargreaves, & Nguyen, 1979) were used to assess acceptability of the financial burden resource tool. Measures of acceptability were dichotomized as yes/no responses.

Cost-Related Nonadherence Behaviors—CRN behaviors were measured using five items used in prior studies (Burcu, Alexander, Ng, & Harrington, 2015; Pierre-Jacques et al., 2008) that asked in the past 12 months, how often participants had “taken smaller doses,” “skipped doses,” “decided not to fill or refill a prescription,” “delayed to fill or refill a prescription,” or “spent less money on food, heat, or basic needs to pay for medicines” due to cost (*never, sometimes, always*). These behaviors were reported as individual items. We also measured general medication adherence using the validated four-item Morisky Medication Adherence Scale ($\alpha = .61$; 1 = *perfect adherence*, >1 but <4 = *less than perfect adherence*, 4 = *nonadherence*; Morisky, Green, & Levine, 1986).

Low-Cost Resources to Manage Diabetes—Participants were asked about their use of low-cost resources to manage diabetes over the past 12 months including use of assistance programs for blood glucose supplies or medications, medications savings club through a local retailer, online diabetes education resources, diabetes education classes, support groups, and farmer’s market or food assistance (y/n). These behaviors were reported as individual items.

Patient–Provider Communication About Cost/Affordability—We asked participants about their preference (“How important is it to you to talk with your doctor about your out-of-pocket costs?” 4-point ordinal scale—*very important* to *not at all important*) and frequency (“Do you talk with your doctor about your out-of-pocket health care costs when he/she recommends a test or treatment?” 5-point ordinal scale—*none of the time* to *all of the time*) of cost discussion with their doctor and others in the care team. These measures have been used in other work (Alexander, Casalino, Tseng, McFadden, & Meltzer, 2004). Based on the distribution, responses were dichotomized as yes/no. Participants were also asked to select among a list of seven allied health professionals with whom they typically discuss out-of-pocket costs.

Financial Management—Financial management behavior was assessed using the 15-item Financial Management Behavior Scale ($\alpha = .81$; Dew & Xiao, 2011). Participants were asked to report their financial management behaviors (e.g., staying within a budget or spending plan and saving money from each paycheck) on a 5-point Likert-type scale ranging from 1 *never* to 5 *always*. Overall summed scores could range from 15 to 75, with higher scores indicating positive financial management behavior. Scale scores are highly predictive of actual levels of savings and consumer debt (Hilton & Devall, 1997).

Financial Burden and Out-of-Pocket Costs—Several measures were used to assess participants' financial burden and out-of-pocket costs. General financial burden was measured using the Family Economic Strain questionnaire, a 12 item, validated scale with high reliability ($\alpha = .92$; Hilton & Devall, 1997). Participants indicated the frequency of their experiences of economic distress for each item (1 = *never* to 5 = *almost always*). Summed scores ranged from 12 to 60, with higher values indicating higher economic strain. Participants were also asked to indicate how much they have spent out-of-pocket over the past month and year on diabetes care and overall health, and the cost-sharing associated with aspects of diabetes care. On a 5-point Likert-type scale (*not burdensome* to *very burdensome*), participants were also asked to indicate their perceived level of burden for 11 items related to diabetes management (dichotomized as *burden/no burden*).

Diabetes Distress—Participants' diabetes distress was measured using the three-item Diabetes Distress Scale ($\alpha = .85$; Fisher, Glasgow, Mullan, Skaff, & Polonsky, 2008). Response choices were measured on a 6-point ordinal scale (*not a problem* to *a very serious problem*). A diabetes distress score was the mean of the three items, with a score greater than three indicating high stress.

Demographic and self-reported clinical data were also collected, including household income, and a depression score reflecting depressive symptoms measured using the Patient Health Questionnaire-2 (Löwe, Kroenke, & Gräfe, 2005).

Data Analysis

The sample size for this pilot trial provided 75% power to detect a 0.15 difference in proportions of CRN behaviors using a two-sided test of $p < .05$. Consistent with the pilot nature of our study, however, we sought to estimate the critical parameters required to generate sample size calculations for a larger trial.

Descriptive statistics were computed for all variables of interest. Frequencies were computed for 15 acceptability assessment items. To examine changes in our exploratory outcomes of interest (use of low-cost resources to manage diabetes, patient-provider communication around the cost of care, CRN behaviors, financial management behaviors, and patient-reported outcomes; general nonadherence; high diabetes-related distress) among participants at baseline and 2 months following the use of the financial burden resource tool, McNemar's chi-square test was used for dichotomous data and paired t tests were used with continuous variables. All analyses were computed in SAS 9.4. Alpha values of .05 or less were considered significant.

Results

Sample Characteristics

Table 1 shows demographic and clinical characteristics of the sample ($n = 104$). The mean age of the sample was 50.5 ($SD = 15.3$) years, and 45% ($n = 47$) were male. Forty-one percent ($n = 43$) of the sample had a college education or above, and 37.5% ($n = 39$) reported some college or having an associate's degree. Forty-seven percent ($n = 55$) of the sample reported an annual household income of less than \$40,000, 26% ($n = 25$) reported

\$40,001 to \$60,000, and 27% ($n = 26$) reported over \$60,000. Thirty-seven percent ($n = 39$) of the sample reported being unemployed. The sample was predominately privately insured (40%; $n = 41$). Twenty-four percent reported high depressive symptoms, the mean number of other chronic conditions in this sample was 4.09 ($SD = 2.71$), and 48% ($n = 50$) reported taking more than seven prescriptions daily.

Acceptability of the Financial Burden Resource Tool

Figure 2 shows that the financial burden resource tool was highly acceptable across 15 indicators. Specifically, the majority of participants learned a lot, found the topics relevant and applicable to their lives, liked the information provided, would use it again or recommend it to a friend, and reported that the tool met most or all of their needs.

Financial Burden and Out-of-Pocket Costs

Even though the majority of this sample was insured at baseline, over the prior year, 40% reported having out-of-pocket expenses over \$1,000 to manage their overall health, and 32% reported spending on average over \$100 out-of-pocket per month for their diabetes (Figure 3). About half of this sample was not paying anything for test strips, insulin, lancets, nutrition education, meters, and diabetes education (Figure 3). The majority of participants reported cost-sharing for health care visits and medications either via copays or deductibles.

Figure 4 shows aspects of diabetes management participants reported as financially burdensome. Ninety-five percent of participants reported facing at least one financial burden related to their diabetes. The most frequently reported burdensome components of diabetes included medications, followed by healthy food access, insulin pumps, and lost work time. Test strips, physical activity, and health care visits were also reported as financially burdensome by more than half of participants.

Of the diabetes resources selected by participants on the financial burden screening tool, food and meals were selected by the most participants, followed by carbohydrate counseling, general diabetes education, blood glucose supplies, medications or insulin, stress management, and general help with medical bills (Figure 5).

Exploratory Health and Behavioral Outcomes

At 2-month follow-up, significant changes in use of low-cost resources before and after the intervention were observed for use of online diabetes education (29% to 40%, $p < .05$) and use of assistance programs specific to blood glucose supplies (16% to 40%, $p < .03$; Table 2). Increased use of medication savings clubs at retailers, support groups, and farmer's market/food assistance, and decreased use of diabetes education classes were also observed but did not reach significance.

More participants reported that it was important for them to talk about out-of-pocket costs with their doctor after the intervention compared to baseline (84% to 88%), and more reported actually talking to their regular doctor about out-of-pocket costs (33% to 38%), but neither of these trends reached significance (Table 2). However, Figure 6 shows that there were significant increases between baseline and follow-up in the proportion of participants

who discussed their out-of-pocket cost concerns with allied health professionals, specifically nurses (19% to 29%, $p < .05$), and pharmacists (13% to 25.5%, $p < .01$).

At 2-month follow-up, fewer individuals reported skipping doses of medicines due to cost concerns (11% to 4%, $p < .03$; Table 3). Other CRN behaviors were reduced between baseline and follow-up, but they did not reach significance.

A significant increase was also observed in self-reported financial management behaviors (33.83 to 39.62, $p < .007$). Perceptions of general financial burden also significantly increased (36.54 to 39.62, $p < .002$; Table 3).

Finally, fewer participants reported high diabetes-related distress 2-months following the intervention (43% to 38%), but this reduction did not reach statistical significance (Table 3).

Discussion

The financial burden that results from complex requirements of diabetes management means that many patients must choose between facing significant financial burden or CRN, that is, taking less medicine, skipping doses, or foregoing treatment altogether. This trade-off undermines individual well-being and contributes to significant morbidity and mortality among individuals with diabetes. To our knowledge, this is the first study that has sought to address CRN by providing patients with streamlined resources to inform them of and activate them to seek out resources to help address the financial burdens they face managing their diabetes and other social needs. These findings reinforce other work that has shown that connecting individuals to address health and non-health-related issues have an impact on health (Clark et al., 2009; Hassan et al., 2015). Our findings suggest that a financial burden resource tool can encourage diabetes self-management by reducing barriers to adherence and is highly acceptable to patients.

We found changes in use of specific resources among adults with diabetes as a result of using the financial burden resource tool that directly mapped on to frequently reported burdensome components of diabetes management and selected resources in this sample such as diabetes education, blood glucose supplies, and healthy food access. Specifically, we saw significant increased uptake of online diabetes education, which may explain reductions in the use of in-person diabetes education. Although pre-post changes in lost work time were not assessed, online methods of education also provide flexibility that can minimize demands on work time, which was a frequently cited burdensome component of diabetes management. Internet-delivered diabetes education has become increasingly available over the past decade, leading both to improved access for many individuals and to improved glycemic control, diabetes knowledge, eating habits, and attendance at clinic appointments (Pereira, Phillips, Johnson, & Vorderstrasse, 2015).

An unexpected finding was a significant decrease in the use of blood glucose supplies between baseline and follow-up. This may have been driven by the sample size. Another potential explanation of this finding is that despite extensive verification of the resources suggested in the tool, the ones we offered related to blood glucose supplies may not have

been adequate. Different approaches may be required for some resources where access criteria and information may not be stable over time.

Of concern, perceptions of overall financial burden increased between baseline and follow-up. This finding needs to be explored in future research. One hypothesis is that the use of the tool increased participants' awareness of the range of financial burdens they faced. Thirty-eight percent of the sample reported being unemployed; therefore this awareness may have been especially salient for this sample. A more comprehensive intervention is needed. Onetime use of a tool may not be sufficient, and there needs to be follow-up support and assistance as individuals seek out resources and begin to make changes.

While participants' perceptions of overall financial burden increased over the study period, there was also a significant increase in reported positive financial management behaviors. Although the financial burden resource tool did not provide direct skills training on financial management, one possible mechanism is testing effect. Another reason for this increase may be attributable to selection and subsequent increased use of resources (e.g., general help with medical bills, budgeting, tax assistance, etc.) that facilitated improvements in specific financial management behaviors. Our other work has shown that a higher level of positive financial behaviors is associated with a lower likelihood of CRN behaviors. Future work may consider both providing more deliberate skills training in financial management as part of a financial burden resource tool and providing longer follow-up and a randomized design to make causal inferences on the role of financial management behaviors in influencing CRN.

Reported discussions of out-of-pocket cost concerns between physicians and patients increased after use of the financial burden resource tool but did not reach significance. However, there were significant increases in reported discussions with allied health professionals, specifically nurses and pharmacists. To date, much attention has focused on the role of the physician in having cost-related conversations with patients (Ubel et al., 2016). Allied health professionals are also fulfilling more primary care duties to meet patient demand in many delivery systems (Freund et al., 2015) and are increasingly important partners in care in patient-centered medical homes that are being encouraged in many health systems and by a growing number of payment models (Freund et al., 2015). Leveraging both the time and expertise of allied health professionals in the care team to facilitate patients' access to low-cost resources to manage their health may create more efficiencies to adequately address cost-related concerns within the clinical workflow.

There are limitations to this study that should be noted. This feasibility pilot study used an uncontrolled pre-posttest design with a short follow-up to assess the impact of a financial burden resource tool on outcomes. A larger scale trial using a randomized controlled design is necessary to assess the impact of the tool on outcomes over the long term compared to usual care. Because of the small sample size, we had limited power to assess whether there were significant changes in several outcomes. However, changes in secondary outcomes were aligned with the hypothesized direction of change. Data collection at baseline and follow-up used different modes, which may have affected response patterns. Self-reported outcomes were measured in this study, which may result in over or underestimation of

responses. Future work should examine objective measures and key clinical outcomes such as glycemic control, blood pressure control, and other key clinical and patient-centered outcomes.

Implications for Practice

Burdensome cost to the patient is a highly prevalent barrier to treatment adherence that often goes undetected in clinical care settings. A financial burden resource tool may serve as an important adjunct to self-management support, as it can identify which patients may be at risk for CRN, and provide low-cost resources to address burdens in a time efficient manner. Such tools can also increase dialogue between patients and members of the care team around cost-related concerns. This tool has potential for seamless integration into theory-based self-management interventions that include multiple components for addressing the broad spectrum of self-management barriers for individuals with chronic disease, and thus potential to increase their efficacy on improving health status.

In this pilot study, we systematically screened for CRN and evaluated a simple tool that (1) comprehensively identified both health-related and unmet basic needs contributing to CRN, (2) provided links to resources to address patients' specific needs, and (3) activated patients to discuss their needs with providers and follow-up with suggested resources. These findings suggest that a brief financial burden resource tool not only is highly acceptable to patients but can also facilitate behavior change in terms of communicating more about cost-related concerns, accessing available options to reduce financial burdens, and facilitating self-management of chronic disease, especially diabetes. The findings also support the need for larger scale trials to develop the evidence base around tools that directly address cost-related concerns and behaviors of patients.

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RESOURCE SELECTION

What insurance do you have? Please check all that apply.

☒ Employer insurance, Obamacare/marketplace, private insurance	☐ Healthy Michigan
☐ Medicare	☐ Other
☐ Medicaid	☐ No insurance
	☐ I don't know

Which of the following would you like to learn more about? Please check all that apply.

☒ Blood Glucose Supplies
☒ Medications/Insulin
☐ Blood Pressure & Cholesterol Management
☒ Food & Meals
☐ Transportation
☐ General Diabetes Education
☒ Online Diabetes Education
☐ Pregnancy & Diabetes Education
☐ Carbohydrate Counseling
☒ Glucose Monitoring Education
☒ Physical Activity
☐ General Help With Medical Bills
☐ Income Support
☒ Loan or Debt Help
☒ Budgeting
☐ Tax Assistance
☐ Employment
☐ Government Assistance Programs
☐ Stress Management
☐ Support Groups
☐ Health Care
☐ Mental Health & Addictions
☐ Individual, Family & Community Support
☐ Legal Help
☐ Housing & Utilities
☐ Child Care
☐ Clothing, Personal, & Household Needs
☐ Caring for an Older Relative/Parent
☐ Disaster Services

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RESOURCES

LOCAL RESOURCES

MEIJER PHARMACY

*Assistance may vary by location

SERVICES:

- Free metformin immediate release
- As prescribed by doctor, up to 30 day supply per fill with free refills

ELIGIBILITY:

- No requirements, available to everyone

TO APPLY:

- Enroll at your local pharmacy

CONTACT:
 Website: <http://www.meijer.com/content/content.jsp?pageName=DiabetesResources>
 Store Locator: http://www.meijer.com/customers/store_locator.asp

K-MART PHARMACY PRESCRIPTION SAVINGS CLUB

*Assistance may vary by location

SERVICES:

- 30 day supply price can range from \$5-\$10 and 90-day supply price can range from \$10-\$36
- Savings on non-preferred generics up to 65%
- Savings on brand name medications up to 20%

ELIGIBILITY:

- No requirements, available to everyone

TO APPLY:

- Enroll at your local pharmacy

CONTACT:
 Website: <https://pharmacy.kmart.com/shc/RxPageView.do?pa=prescriptionsavings>
 Phone: (866) 435-7958

TARGET PHARMACY

*Assistance may vary by location

SERVICES:

- Offers generics that are \$4 for a 30-day supply, or \$10 for 90-day supply

ELIGIBILITY:

- Persons receiving benefits from publicly funded health care programs are not eligible (e.g. Medicare, Medicaid or other state-sponsored health plans)

TO APPLY:

- Enroll at your local pharmacy

CONTACT:
 Website: <http://www.target.com/pharmacy/generics>
 Store Locator: <http://www.target.com/store-locator/find-stores>

WALMART PHARMACY

*Assistance may vary by location

SERVICES:

- Offers generics that are \$4 for a 30-day supply, or \$10 for 90-day supply

ELIGIBILITY:

- No requirements, available to everyone

TO APPLY:

- Enroll at your local pharmacy

CONTACT:
 Website: <http://www.walmart.com/cp/pharmacy/5431>

Figure 1.
Financial burden resource tool.

Figure 2.
Acceptability of the financial burden screening tool.

Figure 3. Participants' out-of-pocket health care expenses and cost-sharing to manage diabetes.

Figure 4.
Perceived financial burden with diabetes management.

Figure 5.
Resources selected from financial burden screening tool.

Figure 6.
Differences in health care providers engaged in out-of-pocket cost discussion between baseline and 2-month follow-up.

Table 1Baseline Demographic and Clinical Characteristics of Participants ($n = 104$).

Variable	<i>n</i>	%
Age, years, <i>M (SD)</i>	50.5 (15.3)	
Sex (% male)	47	45
Education		
<High school	7	7
High school	15	14.5
Some college or associate's degree	39	37.5
College or higher	43	41
Marital status (% married)	61	59
Income, \$		
<20,000	25	26
20,001-40,000	20	21
40,001-60,000	25	26
>60,000	26	27
Race		
White	79	76
Black or African American	14	13.5
Other	11	10.5
Employment		
Full-time	31	30
Part-time	11	10.5
Unemployed	39	37.5
Retired	23	22
Health insurance		
No insurance		2
Private	41	40
Medicare	10	10
Medicaid	16	15.5
State sponsored	2	2
Medicare + private supplemental	21	20
Medicare + public supplemental	11	10.5
High depressive symptoms	25	24
No. of other chronic conditions, <i>M (SD)</i>	4.09 (2.71)	
No. of prescriptions being taken daily		
1-2	18	17.5
3-4	16	15.5
5-6	20	19
>7	50	48

Table 2

Differences in Use of Low-Cost Resources to Manage Diabetes and Patient–Provider Communication Around Cost of Care Between Baseline and 2-Month Follow-Up.

	Baseline, <i>N</i> = 104, % (<i>n</i>)	2-month follow-up, <i>N</i> = 95, % (<i>n</i>)	<i>p</i> ^a
Low-cost resources to manage diabetes			
Assistance program for blood glucose supplies	16 (15)	6 (6)	.03
Assistance program for medications	14 (13)	13 (12)	.80
Online diabetes educational resources	29 (28)	40 (38)	.05
Medications savings club through a local retailer	9 (9)	15 (14)	.09
Support groups	10 (9)	16 (15)	.13
Diabetes education classes	67 (64)	58 (55)	.14
Farmer's market or grocer that accepts food assistance	32 (30)	36 (34)	.41
Patient–provider communication around cost of care			
Importance of talking about out-of-pocket cost of care with provider: yes, % (<i>n</i>)	84 (67)	88 (70)	.40
Talked to regular doctor about out-of-pocket costs with care: yes, % (<i>n</i>)	33 (31)	38 (36)	.35

^aMcNemar's chi-square test was used to examine differences between baseline and follow-up.

Table 3

Differences in Cost-Related Nonadherence Behaviors, Financial Management Behaviors, and Patient-Reported Outcomes Between Baseline and 2-Month Follow-Up.

Factors	Baseline (<i>N</i> = 104), % (<i>n</i>)	2-month follow-up (<i>N</i> = 95), % (<i>n</i>)	<i>p</i> ^a
CRN behaviors			
Taking smaller doses	8 (8)	6 (6)	.47
Skipping doses	11 (10)	4 (4)	.03
Deciding not to fill or refill prescription	13 (12)	11 (10)	.56
Delaying to fill or refill prescription	12 (11)	13 (12)	.76
Spending less money on food, heat, or basic needs to pay for medicines	15 (14)	9.5 (9)	.16
Financial management behaviors, <i>M</i> (<i>SD</i>)	33.83 (9.15)	39.62 (11.44)	.007
Patient-reported outcomes			
General nonadherence	10 (10)	9 (9)	.78
High diabetes-related distress	43 (45)	38 (40)	.31
Perception of general financial burden, <i>M</i> (<i>SD</i>)	36.54 (12.15)	39.62 (11.44)	.002

Note. CRN = cost-related nonadherence.

^aMcNemar's chi-square test was used to examine differences between baseline and follow-up.