Physician–Patient Communication on Cost and Affordability in Asthma Care

Who Wants to Talk about It and Who Is Actually Doing It

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Abstract

Rationale: Patient perceptions of financial burden and rates of cost-related nonadherence are high among individuals with asthma across the socioeconomic spectrum. Little is known about preferences and frequency of physician–patient discussions about cost/affordability among individuals managing respiratory conditions.

Objectives: To examine who has a preference to discuss the cost of their asthma care with their physician, how often physician–patient communication about cost/affordability actually is occurring, and what clinical and demographic characteristics of patients are predictive of communication.

Methods: Data came from 422 African American adult women with asthma who were asked about communication preferences and practices around cost and affordability with their physician. Data were analyzed using descriptive statistics and multiple variable logistic regression models.

Measurements and Main Results: Fifty-two percent ($n = 219$) of this sample perceived financial burden. Seventy-two percent ($n = 300$) reported a preference to discuss cost with their health-care provider. Thirty-nine percent ($n = 163$) reported actually having a conversation with their physician about cost. Among the 61% who reported no discussion, 40% ($n = 103$) reported financial burden, and 55% ($n = 140$) reported a preference for discussion.

Lower household income ($P < 0.001$), perception of financial burden ($P < 0.001$), and higher out-of-pocket expenses for medicines ($P < 0.05$) were significantly predictive of greater preference to communicate about cost/affordability with the doctor when adjusted for clinical and demographic characteristics. Perception of financial burden ($P < 0.001$), preference to discuss affordability ($P < 0.001$), and greater number of chronic conditions ($P < 0.001$) were significantly predictive of greater likelihood of communication about cost/affordability with the doctor when adjusted for clinical and demographic characteristics. Bivariate analyses revealed that patients who reported a discussion of cost were more likely to report worse asthma control and lower asthma-related quality of life.

Conclusions: An imbalance is evident between patients who would like to discuss cost with their doctor and those who actually do. Patients are interested in low-cost options and a venue for addressing their concerns with a care provider; therefore, a greater understanding is needed in how to effectively and efficiently integrate these conversations and viable solutions into the delivery of health care. Additional research is necessary to determine whether communication about the cost of therapy is associated with health outcomes.

Keywords: financial burden; cost-related nonadherence; patient preferences; self-management

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The management of chronic diseases requires a long-term, ongoing partnership between physicians and families to actively monitor the therapeutic regimen and make adjustments to the treatment plan to gain optimum control of the condition (1). Health insurance, and even recent policy reforms to make health care more affordable, do not fully shield individuals from out-of-pocket costs (2). Increases in out-of-pocket costs from the financially strained health-care climate may make disease management more financially burdensome.

Recent data from the National Health Interview Survey show that one in five families in the United States experiences financial burden with medical care (3). Financial burden from out-of-pocket health-care expenses poses significant safety concerns and risk of poor outcomes to patients and society when patients use risky strategies, such as nonadherence, to address these burdens. Affordability challenges are one of the primary reasons that patients do not adhere to therapeutic recommendations (4). In the general population, about 20% of chronically ill adults report cost-related nonadherence (CRN) behaviors, defined as underusing medications or taking them less frequently, delaying or not fulfilling therapeutic recommendations or prescriptions, and sharing medicines (5). A growing body of evidence has demonstrated that CRN behaviors have detrimental effects on health outcomes (6, 7).

The discussion with patients of possible problems paying for medications as part of broader assessments of medication adherence occurs infrequently in the clinical encounter (8). Among individuals managing chronic illness, two-thirds of patients who restrict their medication use never tell their physicians (9), and physicians' identification of such patients remains poor (10). More than half of patients want to discuss their out-of-pocket costs with their physician, yet these discussions only occur about one-third of the time (8). From both physician and patient perspectives, lack of time, perception of no viable solutions, and discomfort are reasons offered to justify why physician-patient discussions of cost occur infrequently.

General communication plays an integral role in shaping the relationship between physicians and patients and

self-management behaviors (11). The discussion of financial strain as an important side effect of therapies may similarly support patients' self-management and build trust between clinician and patient. When patients trust their physician, they are less likely to engage in CRN behaviors in the face of cost pressures (12). Health-care providers can assist patients with health-related affordability concerns by prescribing equally effective but less expensive medicines, splitting higher-dose pills, or encouraging participation in community assistance programs (13), which are often underused (14). These actions do not require the physician to know the actual cost of medicines. However, for physicians to promote such solutions, the issue of patient affordability requires an opportunity for discussion, especially because they are often the prescribing clinician who is able to make adjustments to the treatment plan.

Asthma affects 8% of U.S. adults and requires complex disease management by the individual to keep the condition under control (15). A variety of reasons explain the high rates of medication nonadherence among individuals with respiratory conditions. Out-of-pocket expenses for asthma management can be highly variable, with individuals reporting between \$1 and \$500 per month (16). Among high- and low-income patients with asthma, regardless of type of health insurance, rates of CRN behaviors and perceptions of financial burden are high (17, 18). Little is known about preferences and frequency of physician-patient discussions about cost/affordability among individuals managing respiratory conditions such as asthma, especially in high-risk groups such as African Americans, where response rates were low in previous work (9, 10, 19, 20). The purpose of this study was to examine who has a preference to discuss the cost of their asthma care with their physician, how often physician-patient communication about cost/affordability is actually occurring, and what clinical and demographic characteristics of patients are predictive of communication. Understanding communication practices around affordability in the care of asthma will provide important information for developing efficiencies in clinical care to support patient self-management in the face of cost-related pressures.

Methods

Data Source

This study was a secondary data analysis. Item-specific survey data came from the baseline assessment of a randomized controlled trial evaluating a self-management program for women with asthma (21). Study procedures were approved by the Institutional Review Board of the University of Michigan Medical School (HUM00033784).

Sample

Participants were African American women with physician-diagnosed, persistent asthma, based on National Asthma Education and Prevention Program (NAEPP) Expert Guidelines on the Diagnosis and Management of Asthma (22). Participants were recruited from clinics within the University of Michigan Health System (UMHS), through Blue Cross Blue Shield of Michigan (BCBSM), and through the community. Study eligibility criteria for women were: (1) self-identify as African American; (2) 18 years of age or older; (3) listed on the UMHS Asthma Patient Registry, or within the asthma registry of BCBSM, or receive care through the UMHS or a provider contracted with BCBSM; (4) access to a telephone; and (5) not pregnant. A total of 1,315 women were identified and were mailed recruitment materials. Of those, 843 women were successfully reached via telephone, and a total of 444 (53%) women consented to participate. Women who declined participation ($n = 301$) did so primarily due to lack of interest ($n = 63$), perception of no asthma diagnosis ($n = 52$), and feeling too busy ($n = 43$). Women who declined with no reason ($n = 136$) did so either via telephone or by mailing in a decline postcard. Ineligible women ($n = 98$) were largely women who had intermittent or no asthma symptoms in the past 12 months ($n = 58$) or an exclusionary respiratory disease ($n = 21$). Failure to contact women via telephone was attributable to nonworking or changed telephone numbers ($n = 146$) or multiple unsuccessful call attempts and unreturned voice messages ($n = 250$). Ultimately, 422 of those who consented to participate provided baseline data. Participants provided written informed consent to provide data and have their medical records reviewed.

Measures

Physician–patient communication about cost/affordability. We asked participants about their preference to discuss cost with their doctor, how often they actually have this conversation with their physician, and, when this conversation occurs, who initiates the discussion (the participant or the doctor). To measure preference for cost-related discussion with a doctor, participants were asked the following question: “how important it is to you to talk with your doctor about your out-of-pocket costs?” Response choices were measured on a 4-point ordinal scale (“very important” to “not at all important”). Similar measures have been used in other work (19, 23). To measure if participants actually talk to their doctor about the cost of their care, participants were asked the following question: “Do you talk with your doctor about your out-of-pocket health-care costs when he/she recommends a test or treatment?” Response choices were measured on a 5-point ordinal scale (“none of the time” to “all of the time”). Similar measures have been used in other work (23, 24). Based on the distribution of responses, measures of preference and actual cost-related discussion were both dichotomized as yes/no responses.

Perception of financial burden.

Perceptions of health-related financial burden measured subjective experience of financial difficulties and hardship experienced by the participant due to resources required for asthma management. The single-item measure was: “Do you consider cost to be a problem in managing your asthma?” The interviewer prompt defined “problem” as either not paying the bills because they were not affordable or paying bills despite financial hardship, and response options were assessed on a 5-point Likert scale. A similar subjective measure to assess patient financial burden with a general population of adults was used in previous work (25). Self-report measures are appropriate and preferred measures for perception of health-related financial burden because they capture a subjective experience. Based on the distribution of responses, perception of financial burden was dichotomized as burden versus no burden.

Quality of life. Asthma-related quality of life was an outcome of interest in this study. It was measured using the 15-item, validated, Mini Asthma Quality of Life Questionnaire (26).

Asthma control. In this study, level of asthma control was another outcome of interest that served as a proxy for adherence to the prescribed treatment regimen. The NAEPP guidelines define asthma control as the degree to which adverse manifestations of asthma are minimized and the goals of therapy are met (22). Asthma control was measured using the 5-item, validated, Asthma Control Test (27). The NAEPP asthma guidelines were used to classify asthma control into three categories: poorly controlled, not well controlled, or well controlled (22).

Other clinically relevant data, such as number of medications prescribed and multiple chronic conditions, and demographic data were also collected from participants. Participants were asked to provide their out-of-pocket costs related to medicine refills for each asthma medication they were prescribed and the frequency of their refills. These were summed to generate a variable for total out-of-pocket expenses for medicines over the last year. We also assessed asthma-related urgent care use (emergency department visits, hospitalizations, and urgent office visits) over the past 12 months, which were verified with participants’ medical record.

Data Analysis

Student *t* test for continuous variables and contingency tables with chi-square and Fisher exact tests for categorical variables were used to examine differences in economic, demographic, and clinical factors among the sample by preference and actual communication on cost with a physician.

Two multiple variable logistic regression models were used to examine relationships between physician–patient communication about cost/affordability and preference for physician–patient communication (dependent variables) and demographic and clinical characteristics (independent variables). Specifically, we looked at age, years since asthma diagnosis, household income, type of health insurance, perception of financial burden, asthma control, multiple chronic conditions, total number of medications across all conditions, quality of life, out-of-pocket expenses for medication, and occurrence of an urgent health-care episode (emergency department visits, hospitalization, and urgent care use) as predictors of preference and self-reported

physician–patient communication about cost. In the model examining self-reported physician–patient communication about cost, preference for discussion was included as a predictor. All analyses were computed in SAS 9.3. α values of 0.05 or less were considered significant.

Results

Survey Sample Characteristics

In the total sample, the mean age of participants was 42.68 years (SD = 14.99 yr). Twenty-nine percent ($n = 120$) reported being married, and 68% ($n = 282$) reported being heads of their household. Seventy-nine percent ($n = 276$) of the sample had an annual household income of less than \$40,000. Ninety percent ($n = 333$) reported educational attainment above the high school level. Forty-four percent ($n = 183$) reported having private health insurance coverage, and 19% ($n = 78$) had Medicare and supplemental insurance, 1% ($n = 4$) had Medicare only, 26% ($n = 107$) had Medicaid, 6% ($n = 24$) had other government-sponsored insurance, and 4% ($n = 17$) reported no insurance coverage. The mean total out-of-pocket expenses for asthma medications in a year was \$143.46 (SD = 289.05), and the range was \$0 to \$2,840.

Based on NAEPP classification, 39% ($n = 163$) had poorly controlled asthma. The mean number of other medical conditions with asthma was 3.67 (SD = 2.59), and the mean number of medications prescribed for all medical conditions including asthma was 5.18 (SD = 2.87). The mean asthma-related quality of life score was 4.85 (SD = 1.21), which is an average report of quality of life (range of 1 is low and 7 is high)

Preference and Discussion of Cost of Asthma Care with Physician

Fifty-two percent ($n = 219$) of women in this sample perceived financial burden. Seventy-two percent ($n = 300$) reported a preference to discuss cost with their health-care provider. Thirty-nine percent ($n = 163$) reported actually having a conversation with their physician about cost, and among this group, 76% ($n = 122$) report that they bring up the conversation, whereas 20% ($n = 32$) report that their doctor brings up the discussion.

Table 1 describes demographic, economic, and clinical characteristics of

Table 1. Economic, demographic, and clinical characteristics of preferences and actual discussion of cost between physician and patient

Variable	Discuss Cost with Physician (N = 163)	Do Not Discuss Cost with Physician (N = 254)	t Test or χ^2 Test	Preference to Discuss Cost with physician (n = 300)	Preference to Not Discuss Cost with Physician (n = 118)	t Test or χ^2 Test
Age, mean (SD)	45.83 (14.60)	41.0 (14.87)	$t = 3.26^*$	43.57 (14.92)	41.0 (14.92)	$t = 1.58$, NS
Marital status, % married	29 (48)	28 (71)	$\chi^2 (1) = 0.09$, NS	29 (88)	27 (31)	$\chi^2 (1) = 0.33$, NS
Head of household, % yes	66 (107)	69 (175)	$\chi^2 (1) = 0.44$, NS	67 (201)	69 (81)	$\chi^2 (1) = 0.05$, NS
Educational attainment			$\chi^2 (2) = 1.40$, NS			$\chi^2 (2) = 2.17$, NS
High school/GED or less	19 (31)	21 (52)		19 (57)	23 (27)	
Some college, associate's degree, or vocational school	46 (74)	50 (126)		50 (150)	42 (50)	
≥College	35 (57)	30 (75)		31 (91)	35 (41)	
Employment status			$\chi^2 (2) = 4.66$ NS			$\chi^2 (2) = 3.74$, NS
Part-time	29 (46)	25 (64)		27 (85)	22 (26)	
Full-time	33 (53)	44 (111)		37 (109)	47 (55)	
No employment	38 (61)	31 (79)		35 (103)	31 (37)	
Household income			$\chi^2 (5) = 0.15$, NS			$\chi^2 (3) = 17.44^*$
<\$20,000	52 (74)	47 (98)		50 (129)	47 (44)	
\$20,001–\$40,000	32 (45)	28 (58)		33 (84)	20 (19)	
\$40,001–\$60,000	7 (10)	7 (15)		7 (18)	7 (7)	
>\$60,001	9 (13)	18 (37)		10 (25)	26 (25)	
Health insurance			$\chi^2 (6) = 14.51^\dagger$			$\chi^2 (3) = 1.39$, NS
No insurance	4 (6)	4 (10)		5 (15)	1 (1)	
Private	39 (64)	48 (119)		42 (126)	49 (57)	
Medicare only	1 (1)	1 (3)		1 (3)	1 (1)	
Medicare + supplemental coverage	23 (38)	16 (40)		20 (58)	17 (20)	
Medicaid only	23 (37)	28 (70)		25 (74)	29 (33)	
Other government	10 (16)	3 (7)		7 (15)	3 (3)	
Out-of-pocket expenses, mean (SD)	\$168.18 (288.15)	\$130.47 (291.37)	$t = 1.29$, NS	\$165.02 (321.01)	\$93.28 (180.60)	$t = 2.87^\ddagger$
Range	\$0–\$2,040	\$0–\$2,840		\$0–\$2,840	\$0–\$1,080	
Perception of financial burden, % yes	71 (115)	40 (103)	$\chi^2 (1) = 35.81^*$	62 (186)	27 (32)	$\chi^2 (1) = 41.75^*$
Preference for cost of care-related communication, % yes	98 (159)	55 (140)	$\chi^2 (1) = 116.01^*$			
Specialty of care			$\chi^2 (3) = 2.32$, NS			$\chi^2 (3) = 3.38$, NS
Primary care and specialist	35 (57)	28 (72)		33 (99)	25 (30)	
Primary care only	58 (94)	63 (159)		59 (177)	64 (76)	
Specialist only	5 (7)	6 (15)		5 (14)	8 (9)	
No doctor	3 (5)	3 (7)		3 (9)	3 (3)	
Time since asthma diagnosis, yr, mean (SD)	19.99 (15.82)	15.59 (12.07)	$t = 2.92^\ddagger$			
Frequency of symptoms			$\chi^2 (2) = 1.66$ NS			$\chi^2 (2) = 3.42$, NS
<2 d/wk	59 (96)	65 (165)		60 (181)	69 (81)	
≥3 d/wk	30 (49)	25 (63)		28 (83)	25 (29)	
Throughout the day	11 (18)	10 (26)		12 (36)	6 (8)	
Asthma control			$\chi^2 (2) = 6.60^\dagger$			$\chi^2 (2) = 2.29$, NS
Well controlled	26 (42)	34 (86)		29 (87)	36 (42)	
Not well controlled	27 (45)	32 (81)		30 (90)	30 (36)	
Very poorly controlled	47 (76)	34 (87)		41 (123)	34 (40)	
Asthma medications			$\chi^2 (1) = 0.67$, NS [§]			$\chi^2 (2) = 0.12$, NS
Controller and rescue	68 (111)	67 (171)		68 (204)	67 (79)	
Controller only	3 (4)	2 (6)		3 (9)	1 (1)	
Rescue only	18 (30)	22 (57)		20 (61)	22 (26)	
Total number of medications, mean (SD)	5.90 (2.87)	4.75 (2.77)	$t = 4.06^*$	5.35 (2.81)	4.83 (2.97)	$t = 1.69$, NS
Total number of other chronic conditions, mean (SD)	4.30 (2.61)	3.29 (2.51)	$t = 3.93^*$	3.78 (2.59)	3.45 (2.60)	$t = 1.14$, NS
Asthma-related emergency department visits, ≥1 visit	44 (71)	40 (102)	$\chi^2 (1) = 0.50$, NS	40 (119)	46 (54)	$\chi^2 (1) = 1.39$, NS
Asthma-related hospitalizations, ≥1 visit	16 (25)	17 (43)	$\chi^2 (1) = 0.12$, NS	17 (49)	16 (19)	$\chi^2 (1) = 0.01$, NS
Asthma-related urgent office visits, ≥1 visit	65 (104)	60 (149)	$\chi^2 (1) = 0.84$, NS	61 (182)	63 (71)	$\chi^2 (1) = 0.08$, NS
Asthma-related quality of life, mean (SD)	4.62 (1.19)	5.00 (1.22)	$t = 3.09^\ddagger$	4.74 (1.21)	5.12 (1.19)	$t = 2.84^\ddagger$

Definition of abbreviation: NS = not significant.

Data are presented as % (n) unless otherwise noted. Chi-square tests were performed on clinical variables of interest to identify differences between the groups.

* $P < 0.001$.

$^\dagger P < 0.05$.

$^\ddagger P < 0.01$.

[§]Due to low cell count, chi-square test is based on the associations between private, Medicare, and supplemental coverage, and Medicaid.

those who do and do not report a preference to discuss cost with their health-care provider and do and do not report discussing cost with their physician. Economic, demographic, and clinical factors significantly associated with a preference to discuss cost with a health-care provider included: more out-of-pocket expenses ($P < 0.01$), lower income ($P < 0.001$), and lower asthma-related quality of life ($P < 0.01$).

Economic, demographic, and clinical factors significantly associated with discussion of cost with a physician included: older age ($P < 0.001$), greater proportion of individuals with Medicare and supplemental coverage and other government-sponsored insurance ($P < 0.05$), living longer with asthma ($P < 0.01$), worse asthma control ($P < 0.05$), more medications ($P < 0.001$), more chronic conditions ($P < 0.001$), lower asthma-related quality of life ($P < 0.01$), perception of financial burden ($P < 0.001$), and a preference to discuss cost with a health-care provider ($P < 0.001$).

Demographic and Clinical Characteristics Predictive of Preference for Physician–Patient Communication about Cost/Affordability

Table 2 shows multiple variable logistic regression models of demographic and clinical characteristics predictive of preference for physician–patient communication about cost/affordability. Household income, perception of financial burden, and total out-of-pocket expenses for medicines were significantly predictive of preferences to communicate

about cost/affordability with the doctor. Specifically, those with higher household income (odds ratio [OR], 0.71; 95% confidence interval [CI], 0.55–0.91) were less likely to report a preference to discuss cost, whereas those who perceived financial burden (OR, 3.41; 95% CI, 1.89–6.15), and had more out-of-pocket expenses (OR, 1.002; 95% CI, 1.00–1.004) were more likely to report a preference, when accounting for age, years since asthma diagnosis, type of health insurance, asthma control, multiple chronic conditions, total number of medications across all conditions, quality of life, and urgent health-care episodes in the previous year.

Table 3 shows multiple variable logistic regression models of demographic and clinical characteristics predictive of physician–patient communication about cost/affordability. Perception of financial burden, preference to discuss affordability, and multiple chronic conditions were significantly predictive of communication about cost/affordability with the doctor. Specifically, those who perceived financial burden (OR, 2.75; 95% CI, 1.58–4.78), had a preference to discuss cost (OR, 17.70; 95% CI, 6.03–51.94), and had more chronic conditions (OR, 1.22; 95% CI, 1.09–1.36) were more likely to report communication with the doctor when accounting for age, years since asthma diagnosis, household income, type of health insurance, asthma control, total number of medications across all conditions, quality of life, out-of-pocket expenses for medication, and urgent health-care episodes.

Discussion

To our knowledge, this is the first study that has examined communication preferences and practices around cost/affordability among individuals with respiratory conditions from a vulnerable population. The majority of participants reported a preference to discuss the cost of their care with their doctor, yet less than half reported that they actually do have these conversations. Given the high prevalence of CRN evident in the general population (5, 28–30), inquiring about affordability with all patients when providing therapeutic recommendations may constitute a high-priority discussion alongside information concerning risks and benefits of treatment recommendations.

Similar patient characteristics are evident in terms of who prefers to discuss cost and affordability with their doctors compared with those who report actually engaging in these conversations. In adjusted models, factors most predictive of a preference to discuss cost were lower household income, greater out-of-pocket expenses for medicines, and perceptions of financial burden. Those who actually engage in these conversations from the views of patients are those who perceive financial burden, those who have a preference for such conversations, and those who have multiple chronic conditions, which is likely indicative of greater out-of-pocket costs with multiple disease-management regimens. These data may provide important proxies for clinicians or screening tools to identify patients who may appreciate a discussion about affordability during their clinic visit.

Patients report initiating the dialogue on affordability concerns more often than their doctors. Among patients who reported no discussion of cost with their doctor, half reported perceptions of financial burden and a preference for such discussions. These findings suggest that half of patients who do not discuss the cost of their care with their doctor want to have these discussions but may face barriers in initiating and engaging in such conversations. Providers may also either be unaware of the patient need for such communication or they also face barriers in having such conversations (8). The social distance observed between clinician and patient may have precluded

Table 2. Multiple variable logistic regression models of clinical and demographic characteristics predictive of preference of physician–patient communication about cost/affordability

Predictor	Preference for Physician–Patient Communication about Cost/Affordability OR (95% CI)
Household income	0.71 (0.55–0.91)*
Perception of financial burden	3.41 (1.89–6.15)*
Total out-of-pocket expenses for medicines	1.002 (1.00–1.004) [†]

Definition of abbreviations: CI = confidence interval; OR = odds ratio.

Estimates of control variables not shown (age, years since asthma diagnosis, type of health insurance, asthma control, multiple chronic conditions, total number of medications across all conditions, quality of life, and occurrence of an urgent health care episode [emergency department visits, hospitalization, and urgent care use]).

* $P < 0.001$.

[†] $P < 0.05$.

Table 3. Multiple variable regression models of clinical and demographic characteristics predictive of actual physician–patient communication about cost/affordability

Predictor	Physician–Patient Communication about Cost/Affordability OR (95% CI)
Perception of financial burden	2.75 (1.58–4.78)*
Preference to discuss cost/affordability with the doctor	17.70 (6.03–51.94)*
Multiple chronic conditions	1.22 (1.09–1.36)*

Definition of abbreviations: CI = confidence interval; OR = odds ratio.

Estimates of control variables not shown (age, years since asthma diagnosis, household income, type of health insurance, asthma control, total number of medications across all conditions, quality of life, out-of-pocket expenses for medication, and occurrence of an urgent health care episode [emergency department visits, hospitalization, and urgent care use]).

* $P < 0.05$.

the occurrence of these conversations for some participants in this sample. Across dozens of studies, social inequalities between physician and patient have led to communication deficiencies (31). Alternatively, individuals with economic resources or whose situations suggest economic security may perceive or have actually experienced their perceptions of burden not taken seriously by their provider, because resources typically increase expectations to pay out of pocket. Regardless, these findings show that for many patients, their communication preferences are not being met. Clinicians provide therapeutic and disease management recommendations; therefore, their role in ensuring that patients are equipped to access their recommendations appears necessary. Eliciting clinician perspectives is imperative in further understanding and potentially promoting physician–patient communication about cost as a potential intervention for mitigating perception of financial burden.

Our findings showed that those who reported actually discussing cost/affordability with their doctor have worse asthma control and lower asthma-related quality of life. There may be no real relationship between communication on affordability and health outcomes. Another possibility may be that starting a conversation about cost with a doctor indicates a patient who is financially burdened, and the discussion provides a marker to the worse outcomes they are experiencing. Alternatively, relationships to disease control may be dependent on the

quality of the communication and what immediately results from the dialogue. We asked participants how often they talk to their *doctor* about cost. It may be that communication may not be coming from the right person in the care team, or patients may be discussing their affordability concerns with another care provider. Measurements may consider assessing communication across the care team as well as the quality, content, and outcome of communication to figure out the right person and processes for addressing these concerns during clinical visits that could potentially lead to improved outcomes.

There are several limitations in this study that should be noted. The ability to note subtle distinctions in variables collapsed via Likert response scales or response distribution may have been lost. Collapsed variables were checked and results demonstrated similar results in the same direction. The data were cross-sectional. Therefore, the true direction of association between some variables may not be easily discerned. Because this study used secondary data, limitations were that items may have been measured differently than anticipated, limited to what already exists, incomplete, or subject to recall bias given the self-report nature of the data. This may have been especially evident for the measure for cost-related discussions, which would benefit from greater measurement precision in future work. Finally, the study sample comprised African American women receiving care in one region. As a result, findings may not be generalizable to all women or all adults with asthma or those

receiving care in other regions. However, the findings can be generalizable to high-risk groups managing asthma.

Given that communication preferences for patients around cost are not being fully met, the findings from this study have a number of implications for clinical practice. Health-care reform through the Affordable Care Act is migrating toward aligning provider incentives with quality and better patient outcomes; therefore, engaging patients as full partners in their care will become critical for providers in the care they deliver. There is good reason to increase physician–patient communication on cost in an efficient way now, even if the currently available evidence cannot draw definitive conclusions about relationships between communication and disease control. First, patient preferences are not being fully met; therefore, engaging patients in conversations around factors that may impact their ability to manage their health becomes imperative in providing patient-centered care. Second, patients need to communicate with health-care providers to access affordable options (e.g., free samples, verification to access community assistance programs), and other work suggests that patients with asthma, in particular, find this helpful (32). Third, engaging in cost-related discussions with patients may potentially self-regulate health-care providers to provide appropriate and cost-efficient care.

One step toward increasing the evidence base for routine practice of physician–patient communication on cost is to develop and evaluate clinician interventions that aid in seamlessly incorporating such discussions and helpful and available strategies to address these concerns into practice. Techniques for having cost-related conversations during the clinical visit have been described in the literature but have not been incorporated into routine clinical practice (33, 34). Potential interventions would screen for patient financial burden and teach health-care providers how to engage in potentially sensitive discussions with their patients about cost and affordability and how to clarify or intervene on their perceptions of financial burden.

Less than half of the sample reported discussing the cost of their asthma care with their health-care provider, although more than three-fourths of participants reported preferences for such discussions. Patients are interested in low-cost options and

a venue for addressing their concerns with a care provider. A greater understanding is needed in how to effectively and efficiently integrate these conversations and viable solutions into the delivery of health care to encourage patient compliance with treatment regimens. ■

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