

Patient-Reported Healthcare Cost Conversations with Healthcare Professionals, and Implications for Cost-Cutting Behaviors among Insured People with Chronic Health Conditions

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Abstract

More than 90% of Americans have some form of insurance coverage. However, even though individuals may be insured, they are not sheltered from increasing financial obligation, and potentially, burden. While uninsured patients are certainly still a population of great concern when it comes to discussing and reducing healthcare expenditures, the assumption that insured patients are more likely to escape financial distress should not be heavily leaned on in current clinical practice. To investigate this topic, we conducted the cost of healthcare survey among individuals with chronic health conditions. Our results indicate that although nearly three-quarters of insured individuals with at least one chronic condition are experiencing financial strain, a much smaller proportion is having conversations with their physician about healthcare costs. Further, as a result of increasing financial pressures, potentially up to a half, or more, of chronically ill, insured individuals are practicing both beneficial and risky cost-cutting behaviors. Our results suggest that even though insured individuals may generally be perceived to be financially stable, and thus, potentially not targeted by their healthcare professionals (HCPs) for healthcare cost-related conversations, this may not always be the case. A lack of open conversation between physicians and patients, regardless of insurance status, may still facilitate financial hardship and risky cost-cutting behaviors.

The purpose of this research was to: 1. Identify strategies of treatment cost savings employed by people with chronic health conditions, 2. Understand how frequently patient and healthcare professional conversations about costs occur and 3. Assess differences in patient-versus healthcare professional-initiated conversations about cost.

Keywords: Healthcare cost; Chronic disease management; Healthcare communication; Healthcare consumerism

Introduction

As of early 2021, 11.1% of non-elderly Americans (roughly 30 million people) were uninsured, a number that has been on the rise since 2017; still significantly lower than 2010's high of 48.2 million [1].

However, even though individuals may be insured, they are not sheltered from increasing financial obligation, and potentially, burden. As of 2018, roughly 43% of Americans with employment-based coverage had a High Deductible Health Plan (HDHP), a sharp rise from approximately 15% in 2010, while enrollment in traditional insurance plans has continued to decrease over the last decade.

While cost-related considerations are more commonly ascribed to individuals who are uninsured, with the rise of increased cost-sharing, as well as HDHPs, insured populations may increasingly face financial hardship or distress as a result of their healthcare [1]. Previous research has suggested that physicians find it easier to have discussions about healthcare costs with their uninsured or disadvantaged patients than with their insured patients, and are less likely to talk about healthcare costs overall as the number of privately insured patients who patronize their practice increases [2-4]. Although uninsured patients are a population of great concern when it comes to discussing and reducing healthcare expenditures, Healthcare Professionals (HCPs) should not assume that insured patients do not experience or seek to avoid financial distress.

Some evidence suggests that personal healthcare expenditures have decreased for individuals in HDHPs. Unfortunately, it has been theorized that this is not because of consumer behaviors, such as price shopping, but rather, due to cutbacks on the quantity of services, including preventative care, to avoid high Out of Pocket Costs (OOPCs) [5,6]. In fact, unlike other paid-for services that may place a hardship on the budget, patients do not seem to be practicing beneficial, cost-saving behaviors when it comes to their healthcare. As an

example, Chernew *et al.*, found that of individuals who received an outpatient, non-emergent MRI of their lower limb, only 15% had their scan done at the least expensive facility within 30 minutes of their house, even though a price transparency tool was available for their use, and they could have saved up to 25% on OOPCs. Furthermore, the average patient passed six HCPs on their way to get their lower limb MRI who charged less than the facility they patronized [7].

Although surveys have suggested that Americans want to price shop when it comes to their healthcare, less than 15% actually seek out this information, compare prices for services, compare quality, or try to negotiate costs of care [8,9]. Similarly to Chernew *et al.*, others have found that even with the increase of price transparency tools, and the desire to save on healthcare, insured patients are not taking advantage of options that may help reduce OOPCs [10]. Reasons for this are unclear, and may be due to a lack of awareness of these tools, the desire to follow their physician's recommendations regardless of cost, suboptimal understanding of their coverage, or the perception that since they are insured, they will not be responsible for the majority of the bill, regardless of where they go [11].

One important aspect of the "patient-as-consumer" policy debate is whether patients should be expected to be consumers in the first place, with some arguing that individuals within the healthcare system are not in a place to act as deliberate consumers. In many situations, the patient's perception of timing may be critical and care may need to be emergent. Other times, the patient may not be able to exercise complete power or choice over their situation, or they may not want to jeopardize their relationship with their current HCP by ceasing care or ignoring recommendations [12].

Another trend in the healthcare insurance landscape in recent years is the narrowing of networks and the increase in surprise Out-of-Network (OON) costs, which can happen during emergency, inpatient, and outpatient care. These out-of-network costs can be quite high if the OON HCP can directly bill the patient for the difference between the amount covered by the insurer and the OON HCP's rate (also referred to as balance billing), or if OON costs are not covered at all. In some cases, the choice to visit an OON HCP may be intentional, such as when an individual has a preference for an OON HCP, wants to visit an HCP in a convenient location, needs specific specialty care that is sub-optimally covered under their current plan, seeks a second opinion, or has an overall lack of concern for cost [13]. However, some estimates have suggested that 40% of OON bills were unexpected, and 70% of individuals struggling with OON costs were unaware that their HCP was not in-network. In many cases, an individual may have even been visiting an in-network facility that had OON HCPs (such as radiologists, lab services, or anesthesiologists) practicing within them, or visiting an in-network HCP who had a practice location that was OON [14]. OON costs, along with HDHPs and increasing cost-sharing for patients, contribute to rising financial pressures on insured individuals, and should be considered by HCPs.

Estimates have suggested that roughly 50% of Americans have a chronic condition, and roughly a quarter have more than one chronic condition [15]. Thus, it is important to consider the

financial burden among those with chronic illness, regardless of their insurance status. Chronic conditions are associated with higher costs of care and frequent OOPCs, with the highest costs belonging to those with multiple chronic conditions [16-18]. While insurance may be helpful in covering some of their healthcare bills, OON costs, high deductibles, and even loss of regular employment may affect this population significantly, leading to financial burden.

Despite this, on a basic level, conversations about cost of care between HCPs and patients are happening at lackluster rates, potentially facilitating distressing levels of financial burden. Exact numbers have varied across the literature, especially across different patient populations; however, it has been suggested that anywhere from 50% to over 90% of patients want to talk with their HCP about the cost of their care or about their OOPCs before care is initiated, however, less than a third of patients have had such a conversation [1,9,19-21]. Past research has indicated that nearly 80% of physicians are aware that their patients want to discuss financial aspects of their care, specifically OOPCs, but only 15-35% are actually having these conversations [22].

Several barriers that reflect the disconnect between the desire to talk about healthcare costs and the actual rate at which these discussions are happening are identified in the literature. These barriers include: Both patient and HCP concerns with having time during visits to thoroughly address the topic, patient belief that their HCP does not have enough knowledge about costs to be helpful, HCP and patient discomfort with the subject matter, patient embarrassment or concerns of appropriateness of the topic of conversation, confusion over whether the patient or the HCP should initiate the conversation, concerns about the quality of care post-discussion, and a desire not to harm the patient-HCP relationship [2,4,23-25]. Of particular interest is the perception that physicians may be ill-equipped to answer questions about the cost of care, which, in many cases, is an accurate judgments, considering physicians often report discomfort with discussing these issues, not only due to incredible variation within different insurance plans and costs of services, but due to an insufficient exposure to healthcare cost-related issues during their medical training.

The purpose of this research was to: Identify strategies of medication cost savings employed by people with chronic health conditions, understand how frequently patient and HCP conversations about costs occur, and to assess differences in patient-versus HCP-initiated conversations about cost. We hypothesized that insured individuals may be perceived as more financially stable by their HCPs, and thus, are not targeted by their HCPs for cost-related conversations. As a result of this, and within the setting of increasing OON costs (both intentional and those that came as a surprise), we hypothesized that these individuals may be practicing both risky and beneficial cost-saving behaviors on their own to alleviate financial pressures.

Methods

The Cost of healthcare survey was conducted online among individuals with chronic health conditions. Overall, the survey

was designed to gain a deeper understanding of strategies used for cost savings, as well as to characterize conversations on healthcare spending based on how frequently they are occurring and who is initiating them. The 36-question survey contained frequency scale questions with content centered around healthcare cost-related discussions with HCPs, including questions on conversation initiation. Additionally, the survey asked questions on the financial impact of healthcare costs, as well as the frequency of cost-saving methods, including both beneficial consumer behaviors, such as comparing pharmacies' costs for a medication, and risky cost-cutting behaviors, such as not taking a medication as prescribed to "save" it or "stretch out" how long it will last. Demographic measures were reported using descriptive statistics and comparisons between nominal variables were evaluated using a Z-test. Data analysis used a $p < 0.05$ for determining statistical significance. The open-ended question data provided for structured text that was analyzed using a deductive approach. Comparisons of patient- versus HCP-initiated healthcare cost-related conversations were made using Z test analyses with a 95% confidence interval.

Survey Participants

In total 2,314 individuals, 18 years of age or older, who were diagnosed with a chronic health condition and living in the

United States participated in the online survey. Respondents were recruited as a convenience sample through 11 condition-specific online health communities hosted by Health Union, LLC. Including Migraine.com, RheumatoidArthritis.net, Type2Diabetes.com, among others. Respondents were 86.1% female, and 45.0% of participants were in their 50's through early 60's at the time of survey completion. An average household income of less than \$50,000 a year was reported by 52.7% of respondents and 71.8% reported a household income of less than \$75,000 per year. Slightly over a quarter (26.7%) was on disability, and 18.9% were retired.

The chronic health conditions reported most frequently included migraine (37.9%), multiple sclerosis (26.9%), and rheumatoid arthritis (18.5%), with other conditions reported by greater than 5% of participants including asthma, COPD, irritable bowel syndrome, type 2 diabetes, inflammatory bowel disease, and fibromyalgia. Over half of respondents had insurance coverage through a private insurer, and only 3.7% were uninsured or unsure of their insurance status at the time of survey completion. The most common insurance status by payor was group coverage through employer, followed by Medicare, reported by 48.4% and 30.5% of participants, respectively. (Exhibit 1)

Age, n (%) n=2,314	18-34	188 (8.1%)
	35-49	654 (28.3%)
	50-64	1,042 (45.0%)
	65+	430 (18.6%)
Gender, n (%) n=2,314	Female	1,992 (86.1%)
	Male	322 (13.9%)
Household Income, n (%) n=1,784	<\$30,000	555 (31.1%)
	\$30,000-\$49,999	385 (21.6%)
	\$50,000-\$74,999	340 (19.1%)
	\$75,000-\$99,999	216 (12.1%)
	\$100,000-\$149,999	195 (10.9%)
	\$150,000+	93 (5.2%)
Education, n (%) n=2,314	High School/GED or less than High School	346 (15.0%)
	College Degree, Trade/Vocational Training, or Some College	1,393 (60.2%)
	Graduate or Professional Degree	575 (24.8%)

Employment status, n (%) n=2,314	Employed (full-time, part-time, or self-employed)	951 (41.1%)
	On disability	618 (26.7%)
	Retired	437 (18.9%)
	Not employed outside of the home	308 (13.3%)
Health insurance, n (%) n=2,314	Group coverage through employer	1,120 (48.4%)
	Medicare	705 (30.5%)
	Health insurance exchange enrolled through ACA	142 (6.1%)
	Private insurance purchased directly	94 (4.1%)
	Medicaid	89 (3.8%)
	Do not have	86 (3.7%)
	VA or military coverage	56 (2.4%)
	Other/not sure	22 (1.0%)
Chronic Condition, n (%) n=2,314	Migraine	877 (37.9%)
	Multiple Sclerosis (MS)	622 (29.6%)
	Rheumatoid Arthritis	429 (18.5%)
	Asthma	383 (16.6%)
	COPD	367 (15.9%)
	Irritable Bowel Syndrome (IBS)	308 (13.3%)
	Type 2 Diabetes	244 (10.5%)
	Inflammatory Bowel Disease (Crohn's disease/ ulcerative colitis)	206 (8.9%)
	Psoriasis	77 (3.3%)
	Skin Cancer	49 (2.1%)
	Psoriatic Arthritis	44 (1.9%)
	Hepatitis C	42 (1.8%)
	Lung Cancer	12 (0.5%)
	Other	722 (31.2%)

Exhibit 1: Respondent demographics and chronic condition diagnoses, All survey respondents

Results

When analyzing these data, consideration was paid specifically to individuals with insurance coverage of some form.

Data related to overall financial burden as a result of healthcare costs, healthcare cost-saving behaviors (both risky and beneficial), and healthcare cost-related discussions form the basis for the analyses presented in this paper.

General perceptions and financial burden as a result of healthcare costs

Three quarters of insured patients (76.1%) reported that paying for care and treatment of their health condition(s) posed a financial strain on their or their family's budget. More than half (56.3%) indicated that if they were seriously ill, they would not

be able to afford the healthcare that they needed, and 53.8% reported spending a lot of time researching how to save money on healthcare-related expenses. When considering these same questions, insured patients with more than one chronic condition reported these issues more frequently than their peers who reported only a single chronic condition. (Exhibit 2)

	Insured respondents with one chronic health condition (n=1067)	Insured respondents with more than one chronic health condition (n=1161)	
Paying for the care and treatment of my health condition poses a financial strain to my/my family's budget	782 (73.3%)	913 (78.6%)	p< 0.05
If I become seriously ill, I will not be able to afford the healthcare that I need	574 (53.8%)	680 (58.6%)	p<0.05
I spend a lot of time researching how to save money on healthcare related expenses	540 (50.6%)	658 (56.7%)	p<0.05
I avoid going to the doctor unless it's absolutely necessary because of financial reasons	436 (40.9%)	549 (47.3%)	p<0.05
The cost of healthcare has prevented me from receiving the appropriate care or treatment	405 (38.0%)	581 (50.0%)	p<0.05

Exhibit 2: Financial strain of chronic health conditions, Insured respondents only; top two responses on a five-point Likert scale (often, always)

Healthcare consumerism: Beneficial and risky cost-saving behaviors

Several questions within the survey addressed the frequency of cost-saving behaviors. These were grouped into categories of "beneficial" and "risky" by the authors. Of the beneficial behaviors, 25.9% of insured respondents reported using a third-party co-pay assistance program to help pay for a prescription, and 31.1% reported using an online or mail order pharmacy to save money. And 28.6% of insured respondents said they compared pharmacy costs for a medication.

While there were no significant differences in use of mail order pharmacies or the practice of comparing pharmacy costs for medications, insured patients living with one chronic health condition were more likely than those with multiple conditions to use manufacturer-sponsored financial support programs (31.1% vs. 25.8%; p<.05) and third party co-pay assistance programs (27.8% vs. 24.0%, p<.05).

In regard to the potentially risky cost-cutting behaviors, 21.0% of insured individuals reported always or often avoiding using a medication because of cost. Of concern, 17.5% reported they often cut medication dosages in half in attempts to save it or stretch out how long it will last. While 12.1% said they always or often chose not to fill or refill a prescription to save money.

When comparing insured patients living with one chronic condition to those with more than one chronic health condition, those with multiple chronic conditions were more likely to practice certain risky cost-cutting behaviors including: Not taking a medication as directed in order to stretch how long it will last (23.0% vs. 26.9%, p<.05); not fill a prescription to save money (10.3% vs. 13.7%, p<.05); use an over-the-counter medication rather than a prescription medication (12.4% vs. 16.1%, p<.05); and purchase a medication online from another country (1.2% vs. 2.9%, p<.05). (Exhibit 3)

How frequently have you done each of the following in regard to your medications or treatments?	All insured respondents (n=2228)	Insured respondents with one chronic health condition (n=1067)	Insured respondents with more than one chronic health condition (n=1161)	
Beneficial cost-cutting behaviors				
Used a manufacturer-sponsored financial support program to help pay for a prescription medication	631 (28.3%)	332 (31.1%)	299 (25.8%)	p<0.05
Used a third-party co-pay assistance program to help pay for a prescription medication	576 (25.9%)	297 (27.8%)	279 (24.0%)	p<0.05
Used an online or mail-order pharmacy to save money	694 (31.1%)	348 (32.6%)	346 (29.8%)	p is 0.15
Compared pharmacies' costs for a medication	615 (27.6%)	278 (26.1%)	337 (29.0%)	p is 0.12
Potentially risky cost-cutting behaviors				
Not taking a medication to "save" it or "stretch out" how long it will last	557 (25.0%)	245 (23.0%)	312 (26.9%)	p<0.05
Not to fill or refill a prescription to save money	269 (12.1%)	110 (10.3%)	159 (13.7%)	p<0.05
Used an over-the-counter medication rather than use a prescription medication	319 (14.3%)	132 (12.4%)	187 (16.1%)	p<0.05
Purchased a medication online from another country	47 (2.1%)	13 (1.2%)	34 (2.9%)	p<0.05
Avoided using a medication because of cost	468 (21.0%)	209 (19.6%)	259 (22.3%)	p is 0.12
Cut a medication dosage in half to "stretch out" how long it will last	389 (17.5%)	174 (16.3%)	215 (18.5%)	p is 0.17

Exhibit 3: Beneficial vs Risky cost-cutting behaviors, Insured respondents only; top two responses on a five-point Likert scale (often, always)

Healthcare cost-related conversations: Who initiated, and content of discussion

When it comes to cost-related discussions, 54.8% of insured patients surveyed reported asking their HCP about less

expensive medications or generic options. More than a third (36.3%) of insured patients said they ask their HCP about the options and costs for medical or diagnostic testing, 41.2% asked

about the estimated costs of a prescription medication, 36.1% asked about the options and costs for a medical procedure or surgery, and 35.9% asked financial assistance programs for a medication. Only 25.4% of insured individuals reported asking their physician where they should fill a prescription in order to save money.

Patients reported their HCP offered information on similar issues far less frequently. For example, HCPs initiated conversations and provided information on financial assistance programs for a medication 21.1% of the time and suggestions

for where to have prescriptions filled to save money 10.0% of the time. HCPs provided information on the options and costs for medical or diagnostic testing only 13.6% of the time, the same frequency that they provided information on the options and costs for a medical procedure or surgery. The differences between patient- versus physician-initiated conversations about costs were significant, with patients being significantly more likely to initiate conversations than their HCPs ($p<0.05$). (Exhibit 4)

How frequently do you/your HCP ask/bring up the following?	Patient-Initiated	HCP-Initiated	
The options and costs for medical/diagnostic testing	808 (36.3%)	303 (13.6%)	$p<0.05$
Financial patient assistance programs for a medication	799 (35.9%)	470 (21.1%)	$p<0.05$
The options and costs for medical procedures/surgeries	804 (36.1%)	304 (13.6%)	$p<0.05$
Where to have a prescription filled to save money	567 (25.4%)	222 (10.0%)	$p<0.05$

Exhibit 4: Patient-Initiated vs HCP-Initiated cost discussions, Insured respondents only; top two responses on a five-point Likert scale (often, always); $n=2228$

Discussion

In line with our hypotheses, it appears as though insured individuals are not being targeted by HCPs for cost-related conversations. This may be due to the perception among HCPs that these patients have a greater level of financial stability than their uninsured peers. As a result, insured individuals are practicing both risky and beneficial cost-saving behaviors on their own to alleviate financial pressures.

Despite over three-quarters of insured patients reporting that they experience financial strain on their budget as a result of healthcare costs, far less are actually talking with their doctor about ways to reduce these costs. The conversations that are happening are those initiated by patients.

As shown in our analysis, there is often a disconnect between the costs of care and the actual frequency of healthcare cost-related discussions. As well, patients are frequently challenged by identifying those factors that may impact their healthcare costs, and the ease by which they can investigate ways to alleviate those costs.

Patients are most likely to initiate conversations about healthcare costs, and when they do not, HCPs are not filling in the gaps, even though these same patients may benefit from such conversations. Specifically, this research indicates that over half of the insured respondents feel as though they cannot afford to get seriously ill, and also spend a lot of time researching ways to save money on their healthcare costs. This suggests that there may be a fair amount of anxiety about

current and future costs that is not being addressed during HCP visits, which in turn may impact patients' mental health and overall quality of life.

When it comes to consumerism in healthcare, insured patients seem to be aware that there are aspects of cost that can be modified, yet the proportion of those engaging in positive consumer behaviors is not largely exceeding those who are engaging in more risky cost-cutting practices. As an example, although 72.4% of patients recognize that the cost of a procedure or service can vary based on where it is performed, 36.3% or less is actually asking about the options or costs of the services they're utilizing, and even fewer are having these conversations as a result of their HCP bringing them up.

Insured patients who are struggling with healthcare costs are often taking matters into their own hands and modifying treatment regimens or practicing non-adherence to save money. Of concern is the frequency of patients who resort to risky, potentially health-impacting cost-cutting behaviors and the fact that this increased among those with multiple chronic health conditions. While these patients may recognize that there are ways to impact the cost of their care, they are often not discussing these with their HCPs. Instead, these data suggest patients are frequently making self-guided, and potentially harmful, changes to their care as a way of managing the costs. This is an enhanced risk for those who have more than one chronic health condition and should be an important area for HCP awareness. This may provide additional challenges when these conditions are managed by different HCPs.

Although the frequency of engaging in risky cost-cutting behaviors amongst insured patients is concerning and needs to be addressed, the authors are encouraged that more than a quarter of individuals are making beneficial (and safe) cost-saving decisions, indicating that positive, healthcare consumerism may, in fact, be possible and feasible in some situations. This group of individuals reported comparing costs and investigating or participating in financial assistance programs to help cover the costs of care.

The exact amount of costs saved (if any at all) as a result of participating in both the risky and beneficial cost-saving behaviors was not investigated in this study, however, it is promising to see that risky behaviors were not being utilized on a much more frequent basis than the beneficial behaviors. This pattern may point toward patient desire to be adherent to their care, and willingness to try other, safer cost-saving practices.

Physician-patient conversations about costs may help uncover patient financial burden and help direct consumeristic behaviors toward safer options rather than patient self-directed non-adherence, thus potentially increasing overall health outcomes and treatment adherence, while decreasing OOPCs. Conversations about cost with insured patients are being initiated by physicians at incredibly low rates, perhaps due to the potentially incorrect perception that these individuals may be financially prepared for the cost of their care. However, identifying this population as one that would benefit from such conversations, despite having insurance, may help to decrease patient's overall financial burden and lead to greater healthcare outcomes and personal satisfaction (19).

While past research has suggested that insured patients are not taking advantage of options that may help reduce OOPCs, Our results highlight beneficial cost-saving behaviors in a significant proportion of patients (1,8-11).

In line with previous literature, we did find that concerns about finances and financial strain were more prevalent amongst individuals with a greater number of chronic conditions, and insurance status may not shield patients from this burden as much as anticipated (15,16-19). Also similar to previous studies, we did find that although many individuals may be struggling, much fewer are actually having conversations with their HCPs. Our results pointed toward a potentially higher frequency of cost-related conversations between patients and HCPs than other studies (perhaps higher than 50% depending on the type of cost discussed versus less than a third in the literature) (2,9, 20,21).

Of concern is the proportion of patients with chronic condition who engage in treatment non-adherence as a cost-cutting measure. This seemed to be a much higher percentage of patients that has been reported in the literature. Also providing a contrast to the literature is the large majority of insured individuals who report experiencing financial hardship, and a larger proportion of these individuals initiating cost-related conversations with their HCP than reported elsewhere.

Directions for future consideration

Unsurprisingly, although many chronically ill, insured individuals in our survey reported financial hardship, a much smaller percentage reported asking their physician about how to reduce costs, and even fewer reported their physician initiating such conversations. This indicates a severe need for conversations about costs with patients. Past research has suggested that a variety of barriers may exist that impede the frequency of these conversations, such as lack of time, concerns of appropriateness, embarrassment, confusion on who should initiate the conversation, physician or patient discomfort with the subject matter, and lack of physician knowledge on costs or cost-saving options [3,5,35,24]. We put forth several suggestions for facilitating these conversations that may lead to less stress for all involved.

In regard to issues of time, discomfort, or lack of knowledge, it may be beneficial for practices to enlist the support of a financial expert who specializes in healthcare costs. It may serve a practice well to have a dedicated professional for these conversations, thus avoiding any concerns about impacting the physician-patient relationship or discussing topics perceived as uncomfortable or inappropriate during clinical encounters. However, if physicians or their practice do not have the resources to enlist the support of a financial navigator, or if they feel as though cost conversations should occur between physician and patient, physician education should be encouraged. Exposure to finance-related issues are often insufficient during medical training, and costs of services can be difficult to find, even for those prescribing them [3,5,25]. Providing designated training during medical education to navigating healthcare costs and facilitating healthcare cost-related conversations may lead to increased physician comfort with these issues. This may lead to physicians feeling more confident in these matters, and lead to an increase in the perception that physicians can initiate these discussions, rather than deferring to a patient who may be in distress, yet too uncomfortable to bring financial issues up. Although this may not be feasible in all medical curricula, even optional training sessions or online modules may help start facilitating personal research around these topics that can be used in clinical practice. Price transparency tools and cost information that is standardized and easy to access by physicians may also be a positive step in providing physicians with adequate confidence and information to facilitate cost-related discussions. It's also plausible that patients are unaware that cost-saving options, like coupons or manufacturer-sponsored financial assistance programs exist, and as such, may benefit from physicians or other cost navigators sharing this information as well. Patient awareness of these programs may lead to a greater degree of use, lower OOPCs, and a decrease in risky cost-saving behaviors [26].

Limitations

Several limitations exist within the design of our study and survey responses. First, we recruited a convenience sample from Health Union, LLC's condition-specific community populations. Unsurprisingly, we had a large number of respondents who

reported specific chronic conditions represented by these communities, such as migraine, rheumatoid arthritis, and multiple sclerosis. Further, since survey participation and recruitment were all performed online, all of our respondents must have had access to the internet and frequent the online communities and/or social media. This may have impacted the socioeconomic level, insurance status, educational attainment, and age diversity of our sample. Our sample also had a large skew toward female respondents, with 86% of participants being female. This may be the result of the typical demographic of members of online communities dedicated to chronic illnesses.

Although an online survey was cost-effective and feasible, subsequent studies into this topic would benefit from a more balanced sample population that includes individuals with a wider variety of chronic conditions and a wider socioeconomic background. Future studies may also benefit from surveying a sample that is more heterogeneous in age and gender, including individuals from gender identities outside of the traditional male/female binary. These individuals may have further financial impacts or barriers to conversations and care that may be significant.

One other important limitation to our study was that it relied on patient-reported perceptions of conversations with their HCP. As mentioned, although an online survey may be beneficial for time or cost constraints, it is possible that self-reported data may be inaccurate. It's also possible that questions may not have been understood in the same manner by each participant, since responses were based on individual perception of the question, rather than asked in person to ensure understanding. For example, over 70% of insured respondents reported that they recognized that the cost of a medical service may vary based on the location it's performed at (such as in a doctor's office versus in a hospital). However, only about a third of individuals indicated that they've asked their physician about the options and costs for a medical service, including testing, procedures, or surgeries. This may be due to barriers related to cost-related discussions, as mentioned previously, or it could be that participants did not understand that "options" for a medical service may include inquiring about different locations.

Conclusion

This research indicates that although nearly three-quarters of insured individuals with a chronic condition experience financial strain, a much smaller proportion are asking their physician about healthcare costs. An even smaller proportion reports their physician initiating conversations about this topic.

In response to the costs of care, nearly half, or more, of chronically ill, insured individuals are practicing cost-saving behaviors that may be characterized as either beneficial or risky. Our findings indicate that patients may engage in both risky and beneficial cost-cutting behaviors with similar frequency. This suggests that patients may be open and interested in trying to practice more positive consumer behaviors before resorting to treatment non-adherence as a cost-saving measure. Treatment non-adherence or self-adjustment can pose a serious health risk and highlights the importance of facilitating cost-related

conversations between patients and physicians in order to preemptively address financial burdens before they arise.

One implication of this research is that there is a need for resources and services, such as a cost navigator, that can discuss cost-related issues with patients. Another important consideration is the need to increase HCP, and in particular, physician education on cost-related issues and how to initiate these patient discussions during medical training. Finally, there is a need to ensure that there are patient education efforts around positive consumeristic options they may be able to utilize (such as coupons or manufacturer-sponsored financial assistance programs). It is clear from our research that although insured individuals are often perceived to have financial means for their care and thus, not targeted by their HCPs for healthcare cost-related conversations, insurance does not equal financial stability. A lack of open conversation amongst all patients, regardless of insurance status, may inadvertently lead to financial hardship and risky cost-cutting behaviors.

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