Annals of Internal Medicine SUPPLEMENT: COST-OF-CARE CONVERSATIONS

Using Public Cost Information During Low Back Pain Visits

A Qualitative Study

Kimberley S. Fox, MPA; Carolyn E. Gray, MPH; Martha Elbaum Williamson, MPA; and Jennifer A. MacKenzie, BA

Background: Patients desire information about health care costs because they are increasingly responsible for these costs. Public Web sites that offer cost information could inform provider–patient discussions of costs at the point of care.

Objective: To evaluate tools to facilitate the use of publicly available cost information during clinical visits for low back pain (LBP).

Design: Qualitative study using individual and group interviews and surveys.

Setting: 6 rural primary care practices in 2 health systems in Maine.

Participants: Practice staff (*n* = 50) and adult patients with LBP (*n* = 72).

Intervention: Participating health systems and practices were offered financial incentives, a series of trainings, and technical assistance to pilot tools for discussing costs of LBP care using CompareMaine.org, Maine's cost and quality transparency Web site.

Measurements: Integration of tools into workflow, awareness and value to providers, and patient experience were identified through 11 group interviews with practice staff (*n* = 25) and health system leaders (*n* = 11), provider (*n* = 25), and patient (*n* = 47) surveys; patient interviews (*n* = 5); and administrative data.

Results: The intervention increased provider and consumer awareness of CompareMaine.org, but minimally changed use in clinical discussions as a result of fewer-than-expected patients with LBP, limited system support, workflow barriers, and providers' reluctance to adopt the tools because of perceptions of limited value for their patients. In contrast, patients valued cost conversations and found the tools useful, and over one half reported intending to use CompareMaine.org during future care decisions.

Limitations: Generalizability was limited by the small number of practices and participants. Lower-than-anticipated participation precluded examination of the effect of the tool on the frequency of cost-of-care conversations.

Conclusion: This multicomponent intervention to introduce publicly reported cost information into LBP clinical discussions had low provider uptake. Whereas cost conversations and CompareMaine.org were perceived as useful by participating patients with LBP, providers were uncomfortable discussing cost variation at the point of care. Successful use of public cost information during clinical visits will require normalizing use to a broader group of patients and greater provider outreach and health system engagement.

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For author affiliations, see end of text.

As patients cope with higher deductibles and copayments, they want to know how much health care costs when making care choices (1–9). Despite growing evidence of patients' desire to discuss costs with their doctors (2–5, 7) and the negative impact of financial barriers on treatment adherence (10, 11), physicians often do not discuss costs during clinical encounters. Physicians overlook or dismiss opportunities to discuss costs with patients because of time constraints, lack of patient-specific price information, uncertainty about how much procedures and treatments cost, or the belief that no cost-saving solution exists (12–16). The growing shared decision-making movement and focus on high-value care (17) creates an imperative to engage patients in discussing preference-sensitive treatments or to reduce inappropriate testing and treatments. Patients' financial concerns are one factor that could influence their treatment choices (18–20) and should be incorporated into shared decision making.

Policymakers, insurers, and purchasers have supported greater health care price transparency in an effort to help consumers shop for health care services that best meet their needs (21). Nearly all insurers offer some sort of cost calculator or price transparency tool for their members, and over one half of the U.S. states have passed price transparency laws, with many creating public Web sites to help consumers make more cost-informed choices (22–24). These Web sites, including CompareMaine.org, have received high ratings for helpfulness and ease of use (22, 25, 26), but evidence of their use by consumers or providers to inform cost conversations about treatment choice is mixed (21, 27, 28). Whereas some studies of price transparency tools

See also:

Editorial comments S33, S36

Web-Only
Visual Abstract
Supplement

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offered by private insurers to their members have found an association with choosing lower-cost providers for selected services (laboratory and imaging) (6, 29, 30), others have found little or no effect on overall outpatient spending, largely because of low awareness and use (31–36). Similarly, studies of state-supported cost and quality transparency Web sites have found that only 1% to 2% of consumers use them (6, 37). Consumers favor word of mouth and physician referrals when making health care choices, with only 3% of consumers consulting online costs before undergoing a procedure (38). More efforts are needed to raise consumer and provider awareness about cost and quality information and to assess how they might inform treatment choices at the point of care (1, 27, 39, 40).

This study aimed to evaluate the implementation of tools to facilitate the use of publicly available cost information during clinical visits for low back pain (LBP) and their value to providers and consumers.

METHODS

Study Design and Setting

The study evaluated the implementation of cost conversation tools in 6 primary care practices in 2 health systems by using qualitative interviews with staff and patients and a patient survey to learn 1) how practices integrate cost discussions into clinical workflow; 2) how access to and use of tools and trainings increase provider confidence and perceptions of the frequency of cost discussions with patients; and 3) how cost conversations affected patients' awareness of comparative cost information, care experience, and care choices. The study was approved by the University of Southern Maine Institutional Review Board.

The intervention focused on patients with LBP, one of the most common diagnoses treated in primary care that is estimated to cost more than $26 billion annually (41). Low back pain is a topic of Choosing Wisely recommendations that was previously piloted in Maine and associated with inappropriate service use, such as imaging, when lower-cost interventions are generally recommended (42). Although Choosing Wisely recommends discussing costs, providers have reported barriers to discussing costs with patients (43, 44). Because Maine's public cost Web site includes several recommended nonpharmacologic therapies for LBP (such as physical therapy and osteopathic manipulation) and diagnostic tests (such as radiography and magnetic resonance imaging [MRI]), we aimed to determine how this information informed LBP cost conversations at the point of care.

Data collection included interviews with practice staff and patients, a patient postvisit survey, a clinical provider (for example, physicians or medical assistants) postintervention survey, administrative tracking data collected by the practices, and CompareMaine.org Web-tracking reports.

Intervention

The intervention implemented workflow changes (**Figure 1** of the **Supplement**, available at Annals.org) to promote the use of provider and patient tools designed to facilitate cost conversations. Practices identified patients with LBP to offer them informational materials (**Figures 2** to **5** of the **Supplement**) at the start of the visit and have clinical providers ask about cost concerns during the visit, using sample scripts (**Figures 6** to **8** of the **Supplement**) and a provider LBP treatment algorithm reference card (**Figure 9** of the **Supplement**). Patient-focused tools included waiting and examination room posters encouraging them to talk with providers about cost concerns, a LBP treatment card showing average commercial insurer cost ranges for common LBP procedures, and additional CompareMaine.org (45) information. All materials were developed with consumer advisory board input. Practices were provided tablets that could be used to access CompareMaine.org and administer a patient survey.

Training offered to practice staff included 4 webinars, an online training module, and on-site technical assistance. The webinars/trainings focused on the reasons for having cost conversations with patients and ways to facilitate these discussions.

Participant Recruitment

Participating health systems and associated practices were recruited on the basis of a convenience sample. Two health systems that were originally approached declined to participate. Health systems were offered a financial incentive ($9975 each) for infrastructure changes to support practice workflow changes, such as electronic medical record (EMR) reminders to have cost conversations. Practices were offered smaller stipends ($300 per practice) to participate in trainings, facilitate cost conversations using newly developed tools, track patients with LBP and cost conversations, and offer a patient survey at the end of the visit. The intervention involved all staff at participating practices. Practice characteristics are shown in **Table 1**.

The patient target population was all adult English-speaking patients presenting with LBP during the intervention period (June 2017 to January 2018). There were no other exclusion criteria. Practices tracked the total count of patients with LBP receiving intervention materials and having conversations during the study period and the number of patients accepting or declining the survey.

Survey Methods and Analysis

A postvisit voluntary survey about their experience with the intervention was offered via tablet or paper to all patients with LBP before leaving the office visit (**Figure 10** of the **Supplement**). The survey was developed by project researchers on the basis of the study research questions and adapted from existing instruments, where possible (46–51). The survey also asked whether patients would be willing to be contacted for a phone interview to provide more information about their experiences. A gift card raffle was provided as an incentive to complete the survey.

A postintervention voluntary online survey was sent to all 50 clinical providers (for example, physicians and medical assistants) at participating sites about their experience having cost conversations with patients (**Figure 11** of the **Supplement**), because this was a practice-wide intervention. Respondents may not have interacted with patients with LBP during the intervention period. Survey questions and response options drew from existing questions where possible (52, 53). Practices were offered the incentive of keeping the tablet if all staff completed the survey.

Surveys were analyzed with descriptive statistics by using SAS software, version 9.4 (SAS Institute).

Interview Methods and Analysis

The research team conducted 11 group interviews with 25 practice staff and 11 health system leaders by phone or on-site at 3 intervals (baseline, midpoint, and postintervention) by using semistructured interview guides (**Figures 12** to **14** of the **Supplement**) informed by the Consolidated Framework for Implementation Research (54–56) constructs to evaluate intervention implementation. Practice staff interviewed were based on a convenience sample and may not have interacted with patients with LBP during the intervention period.

Patient interviewees were identified through the patient survey and interviewed by phone using a semistructured interview guide (**Figure 15** of the **Supplement**). Nonrespondent characteristics are not known as we separated the contact information from the survey responses to maintain anonymity.

Interviews with practices and patients were recorded, transcribed, and entered into NVivo software, version 11 (QSR International) for analysis. Researchers developed an initial (a priori) coding structure based on research and interview questions and reviewed a sample of transcripts to refine them, propose and agree on emergent codes, and develop coding decision rules to refine code definitions. Researchers coded each interview by using this final coding structure, analyzed coding data for themes, and identified thematic exemplar quotes.

Administrative Data and Analysis

Practices tracked the number of patients with LBP who received cost information during the intervention period by using a tablet or paper forms. The type of cost information used (that is, patient-focused tools) was not tracked. The health systems projected the total number of patients with LBP seen in 1 month to esti-

Table 1. Practice Characteristics and Intervention Participation

Characteristic	**Health System 1 (FQHC)**			**Health System 2 (CAH-Based)**		
	Practice A	**Practice B**	**Practice C**	**Practice D**	**Practice E**	**Practice F**
Practice						
Primary care provider FTEs	2.75	3.25	3.00	7.50	2.00	2.50
Patient insurance status						
MaineCare*	11%	11%	13%	10%	4%	12%
Medicare	25%	26%	23%	36%	52%	50%
Private insurance	59%	57%	58%	47%	40%	28%
Uninsured	5%	6%	6%	6%	4%	11%
Participation in intervention training sessions						
Online	1 practice manager for 3 sites			2 system representatives, 7 providers		
April webinar	2 providers			1 system representative		
May webinar/in-person	1 system representative and practice manager for 3 sites			2 system representatives, 3 practice managers, 1 provider, 1 medical assistant		
June webinar	1 outreach worker			1 system representative		
Patients with LBP, *n*						
Estimated patients with LBP†	64	64	64	96	64	32
Actual patients with LBP tracked	14	16	14	10	11	7
Interviews						
Group interviews						
Practice/health system leadership	5			6		
Practice staff		21			4	
Patients	5‡					
Survey respondents						
Clinical practice staff, *n (N)*§	25 (50)‡					
Physician/physician assistant/nurse practitioner	11 (22)‡					
Nurse/medical assistant	14 (28)‡					
Patients with LBP, *n (N)*‖	47 (72)‡					

CAH = critical access hospital; FQHC = Federally Qualified Health Center; FTE = full-time equivalent; LBP = low back pain.
* Maine's Medicaid program.
† Based on health system projected total number of patients with LBP seen in 1 mo (monthly estimate multiplied over 8-mo intervention period).
‡ Across all health systems.
§ Number of respondents (total number of staff).
‖ Number of respondents (total sample).

Table 2. Low Back Pain–Related Procedures Searched on CompareMaine.org

Procedure	Before the Intervention (April 2016–February 2017), *n*	During/After the Intervention (April 2017–February 2018), *n*	Change, %
MRI (upper/lower spinal canal)	840	1192	42
Radiography (spine)	147	150	2
Physical therapy	366	236	−36
Osteopathic	130	185	42
Total	1483	1763	19

MRI = magnetic resonance imaging.

mate initiative reach (monthly estimate multiplied over 8 months). The actual number of patients with LBP each month was not provided.

CompareMaine.org Web traffic reports of unique page views for LBP-specific procedures and treatments (for example, radiography, MRI, physical therapy, and osteopathic) during a comparable period before (April 2016 to February 2017) and during the intervention (April 2017 to February 2018) were provided by the Maine Health Data Organization and analyzed by researchers to assess Web site use.

Role of the Funding Source

Funding for this study was provided by the Robert Wood Johnson Foundation. The Foundation had no role in the design of the study, collection, analysis, and interpretation of the data, or the decision to approve the manuscript.

RESULTS

Use of Intervention

Engagement of patients with LBP in cost conversations was lower than expected, on the basis of the estimated number of patients with LBP and tracking data provided by all 6 practices. Collectively, practices had estimated more than 380 patients would present with LBP during the intervention period (actual unknown), but only 72 patients with LBP were reported as receiving the intervention (that is, either spoken to about costs or given materials) (**Table 1**). Low uptake of online training among staff and providers may have contributed to the lack of patient engagement in cost conversations. Although at least 1 representative from each system attended the trainings, the online module was viewed by 10 health system and practice staff, of which 8 fully completed the training. Despite low intervention participation rates, use of CompareMaine.org increased for most LBP-related procedures, according to Web site tracking data (**Table 2**).

Interview Findings

On the basis of the 11 group interviews with 25 clinical practice staff and 11 health system leaders and the interviews with 5 patients, we identified several barriers to integrating cost conversations into the LBP clinical workflow using publicly reported information that contributed to low uptake. Of the 47 patients surveyed, 13 agreed to be interviewed, of whom 5 participated (38% response rate).

Limited Health System Leadership and Infrastructure Support

Despite receiving financial incentives for infrastructure support, such as adding a cost question in the EMR, system leaders failed to fully integrate cost conversations into broader quality initiatives or make EMR changes that may have facilitated implementation. Systems reported using funds to support key personnel to oversee the pilot and provide staff support; one system used funds to pay providers for completing the training. The lack of top-down support for the intervention limited provider and practice buy-in relative to other system priorities (**Table 3**).

Difficulties Integrating New Workflow Process for One Condition

Given the unexpectedly low numbers of patients presenting with LBP, practices found it difficult to integrate workflow changes, particularly without EMR flags to ask about costs. Although the intervention targeted all patients with LBP, practices reported having difficulty identifying patients with chronic LBP if it was not the primary reason for the visit. Furthermore, clinical staff were reluctant to introduce cost-of-care conversations with patients with chronic LBP who were already treating or managing their condition (**Table 3**). The team-based approach also proved challenging; practice team members (such as medical assistants) felt awkward asking about cost concerns before patients discussed treatments with the provider. Some suggested that targeting all patients or all patients with orthopedic concerns, as part of the discussion around the risks and benefits of procedures, may have been preferable.

Providers Believed They Were Already Addressing Cost Concerns When Necessary

Working in rural Federally Qualified Health Centers and critical access hospital practices that serve a large proportion of economically disadvantaged patients, providers believed that they knew which patients had cost concerns (that is, those who were uninsured, self-paying, or in high-deductible plans) and were discussing costs or referring them to system supports (such as financial counselors) (**Table 3**). Providers did not see a need to discuss costs with patients covered by employer-based insurance, Medicare, or Medicaid. Most providers also felt they had already reduced LBP imaging rates by incorporating evidence-based guidelines into their clinical decision making, and so saw little room to reduce inappropriate imaging costs.

Differing Provider and Patient Perspectives About the Value of Publicly Reported Cost Information

Whereas some providers valued having publicly reported cost information to give to patients, others ex-

Table 3. Practice, Health System, and Patient Interview Key Themes and Example Quotes

Theme and Interviewee	Quotation
Workflow integration barriers	
Practices and health systems	“We really didn't have that many patients that fell into that category. So [the intervention] kind of fell off the radar screen because there [weren't] enough [LBP patients] to keep us engaged and it was a busy time.”
	“There's been a lot of education about back pain and it might be . . . that they're trying their own treatment before they come to us, which is great.”
	“[Sometimes chronic LBP is] not their primary problem, it's not their reason for the visit, but it's on their problem list. So when they come in they'll bring it up as part of the concern they have for that day.”
	“It was hard for our patients that have had a back pain for a long time that all of a sudden on their 20th visit in 30 years . . . we're starting to talk about cost of care of things they've already had done.”
	“And the one time I [asked a patient about cost concerns], it felt very awkward . . . . I was still a little bit confused about what the point was, so it didn't flow well from my standpoint. It didn't really fit in with how I wanted my visit to go.”
	“It would be really helpful if the [electronic medical records] were set up to 1) show the retail costs of procedures we order, 2) show the patients expected copay after deductible, 3) be able to add the costs with ”one click“ to the patient summary so its integral to the visit flow.”
Health system leadership and infrastructure support	
Practices and health systems	“There is no particular system-wide or systemic push to talk about [costs with patients].”
	“I feel like this [intervention] didn't really have a home within our existing structure of other projects . . . and it ended up feeling a little bit like the stepchild the whole way through.”
	“Well, to get our system to build in a link [to CompareMaine in the electronic medical record], to tell people to go outside the system, that's going to be a hard sell.”
	“It's theoretically possible [to build a cost concern question into the electronic medical record], but . . . we also need some good data to show it would be worth the work.”
Perceived value of and comfort with having cost conversations	
Practices and health systems	“Sometimes I'm not comfortable because I don't know the pricing of everything. Even when our patients have labs, I don't quote any amounts. That's why we have trained financial counselors, because they're trained in that department, but I don't know.”
	“It's hard to bring up the conversation, I'll be honest with you. They're here for their health, not money. I didn't go to medical school to . . . talk to people about their insurance.”
	“Typically [cost isn't part of the workflow] . . . unless it's initiated by the patient. I would say that'd be the primary driver right now to bring up cost.”
	“I'm just used to working with patients who don't even have insurance so I'm always talking about costs, no matter what.”
Patients	“. . . I just want to know what the options are, and if there are any particular alternatives . . . . I feel like maybe some of the doctors here are kind of apprehensive about explaining that.”
	“[Knowing the cost of options] is helpful to me to know beforehand around about a ballpark idea of where I am going to be in my testing . . . . That gives me a better idea on how far down the road I have to plan on scheduling out . . . [and] maybe work out some type of payment arrangement with them . . . . Not a lot of people know that if they take the time, the offices will work with you.”
Helpfulness of publicly available information	
Practices and health systems	“Because we can show them [CompareMaine] but that doesn't mean that's what they'll be paying, so that's another concern. People want to know, 'What's the cost to me?'”
	“. . . We don't have as many choices as there are in a lot of places. Insurance companies, insurance precertifications, there are all kinds of things that also limit [where someone can go]. Can they travel? . . . Our population can't shop around as much.”
	“The system is designed to not be transparent so that people can charge too much money . . . so it doesn't really do [me] much good to tell me how much [a procedure] is going to cost if it doesn't tell you what the patient will end up paying. It's just one more layer of nontransparency.”
	“I wasn't familiar with [CompareMaine] before. I've used it a handful of times but knowing about it is a good resource to give to the patients. I usually don't bring it up in the room to talk to them about it, because it takes that much time for it to load up. But I give them the information.”
	“It's nice to be able to give people something if you're going to refer them to imaging. They can go on the Web site and look at what's the least expensive for them . . . .”
	“As a critical access hospital, our costs look higher.... And so, when people compare us to someplace else, we sometimes look bad. So we're sort of shooting ourselves in the foot sometimes with some of these conversations. We're aware of that, but we're also very much advocating for our patients.”
	“The most educational thing is just that there's a big diversity in costs . . . . Patients don't always know that. It's great for that, for helping people understand.”
Patients	“[It] had a really nice tool where it showed comparisons . . . that I actually found to be quite helpful . . . [the CompareMaine Web site] was worth checking out. It was simple and straightforward for me.”
	“I liked [CompareMaine] a lot. It was helpful for me to see the comparison. I don't always like to go with the first phone call I make. I like to shop around. The comparison for me to look up was a real help.”

Table 4. Provider Survey

Survey Item	Respondents, *n (%)*					
		Yes	No	Not Sure		
Knowledge about intervention: aware of practice's participation in the study		24 (96.0)	1 (4.0)	0 (0.0)		
		Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
Knowledge about costs						
I have a firm understanding of the relative costs of tests and treatments		6 (24.0)	10 (40.0)	4 (16.0)	4 (16.0)	1 (4.0)
Costs of treatment can vary depending on where a patient goes for care		20 (80.0)	5 (20.0)	0 (0.0)	0 (0.0)	0 (0.0)
	All of the Time	Most of the Time	Sometimes	Not at All	Not Sure	Didn't Discuss Costs With Any Patients
For patients with LBP with whom you discussed costs in the past 6 months, how frequently would you say you:						
Talked about their cost concerns	3 (12.0)	3 (12.0)	9 (36.0)	4 (16.0)	2 (8.0)	4 (16.0)
Discussed lower-cost treatment options	4 (16.0)	3 (12.0)	7 (28.0)	3 (12.0)	2 (8.0)	6 (24.0)
Gave them materials about the costs of different treatment options and where to find additional cost information	1 (4.0)	2 (8.0)	10 (40.0)	5 (20.0)	3 (12.0)	4 (16.0)
Reviewed materials with patients	1 (4.0)	2 (8.0)	9 (36.0)	6 (24.0)	3 (12.0)	4 (16.0)
Topics discussed related to cost (select all that apply)						
Stopping/delaying intervention				11 (44.0)		
Using lower-cost LBP alternative therapies				10 (40.0)		
Referring to financial counselor				7 (28.0)		
Switching to a generic/lower-cost medication				4 (16.0)		
Changing logistics of care/referral location				3 (12.0)		
Changing dosage or frequency of intervention				2 (8.0)		
Referring to Patient Assistance Program coordinator				2 (8.0)		
Other				2 (8.0)		
Providing free samples				0 (0.0)		
Didn't discuss costs with any patients				9 (36.0)		
		Yes	No	Not Sure		
Knowledge of CompareMaine Web site						
Knew about CompareMaine before intervention		4 (16.0)	19 (76.0)	2 (8.0)		
Viewed CompareMaine during intervention		12 (48.0)	11 (44.0)	2 (8.0)		
Usefulness of CompareMaine Web site to provide cost information on LBP procedures and treatments						
Very helpful				2 (8.0)		
Moderately helpful				9 (36.0)		
Not helpful				2 (8.0)		
Not sure				2 (8.0)		
Have not looked at the CompareMaine Web site				10 (40.0)		
Compared with before the intervention, how often do clinical staff discuss the cost of care with patients?						
More often now than before the intervention				2 (8.0)		
About the same				22 (88.0)		
Less often now than before the intervention				1 (4.0)		

LBP = low back pain.

pressed concerns about its value to rural patients, given limited availability of lower-cost services nearby and, consistent with prior research, the information reflecting average insurer payments rather than the patient's actual costs (16). In contrast, most patients reported an interest in discussing costs with their doctors and appreciated the information on CompareMaine.org (Table 3).

Survey Results

Survey results indicated variation in perceived value of discussing costs and sharing publicly reported cost information between providers and patients. Twenty-five of the 50 clinical staff participated in the provider survey (50% response rate), including 11 clinical providers and 14 medical assistants. **Table 1** shows the characteristics of respondents and nonrespondents. Forty-seven of the 72 patients with LBP reported by practices as having received cost information completed the postvisit patient survey (65% response rate). Information about nonrespondents is not known.

Minimal Change in Perceived Frequency of or Provider Comfort With Cost Conversations

Despite provider awareness of practice participation in the intervention (96%), few providers reported a perceived increase in cost conversation frequency. About one third of providers surveyed indicated they never discussed costs with their patients with LBP during the intervention, and only 12% said they gave cost materials and reviewed them with patients (**Table 4**).

For those who addressed costs, providers surveyed were more likely to discuss delaying intervention, using lower-cost alternative therapies, or referring patients to a financial counselor than changing referrals to lower-cost locations. Most reported they had a basic understanding of the differences in costs between treatments and that costs can vary by location (**Table 4**).

More Patients Valued Discussing Costs Than Had Cost Conversations With Providers

In general, patients were more interested in discussing costs than practice staff believed. Most patients completing surveys during the intervention agreed that cost discussions with providers were important, but fewer reported having a conversation about LBP treatment costs during their visit. Although providers felt they were discussing costs, one third of patients had put off medical treatment in the past year because of costs, regardless of insurance status. In addition, although practice staff had expressed concern that the patient materials could overwhelm patients, most patients reported the material they received helped them choose how to treat their LBP (**Table 5**).

Intervention Increased Awareness of CompareMaine.org, but Patients Valued It More Than Providers

Before the intervention, the vast majority of patients and providers were unaware of CompareMaine.org. During the intervention, only 19% of providers viewed or discussed CompareMaine.org with their patients. However, those who did felt it helped show cost variation across facilities, empowering patients in choosing where to seek care. Of the patients and providers who viewed CompareMaine.org during the in-

Table 5. Patient Survey

Survey Item	**Respondents, *n* (%)**					
	Strongly Agree	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Not Sure**
It is important to talk about health care costs with my doctor or office staff when making health care decisions.	25 (58.1)	11 (25.6)	1 (2.3)	3 (7.0)	0 (0.0)	3 (7.0)
I am comfortable asking questions about the costs of medical care with my doctor or office staff.	22 (51.2)	16 (37.2)	2 (4.7)	2 (4.7)	0 (0.0)	1 (2.3)
During today's visit, the doctor or office staff explained the costs of different tests and treatments.	17 (40.5)	11 (26.2)	5 (11.9)	4 (9.5)	1 (2.4)	4 (9.5)
The materials and information I was given today helped me choose how to treat my LBP.	16 (38.1)	20 (47.6)	4 (9.5)	1 (2.4)	0 (0.0)	1 (2.4)
				Yes	**No**	**Not Sure**
Within the last 12 months, have you/family member put off medical treatment because of cost?				15 (34.1)	28 (63.6)	1 (2.3)
Before today's visit, knew about the CompareMaine Web site				2 (4.8)	39 (92.9)	1 (2.4)
During today's visit, viewed the CompareMaine Web site				8 (19.0)	30 (71.4)	4 (9.5)
			Very Helpful	**Moderately Helpful**	**Not Helpful**	**Not Sure**
CompareMaine Web site helpful providing cost information on LBP procedures and treatments			6 (60.0)	2 (20.0)	0 (0.0)	2 (20.0)
		Very Likely	**Somewhat Likely**	**Not Likely**	**Not Sure**	**Not Aware of the CompareMaine Web Site**
How likely are you to visit the CompareMaine Web site to find out about treatment cost options by location?		11 (26.2)	13 (31.0)	9 (21.4)	4 (9.5)	5 (11.9)

LBP = low back pain.

tervention, patients were far more likely than providers to report it was helpful. One half of the patients who viewed CompareMaine.org indicated that they were likely to revisit the Web site to find out about treatment cost options by location (Tables 4 and 5).

Intervention Informed Changes to CompareMaine.org

Input from the intervention helped inform changes to CompareMaine.org to improve usability and value to providers and consumers, including reducing minimum reporting thresholds to include more rural providers and increased outreach about the Web site to all primary care practices, hospitals, and other stakeholders (for example, employers and insurers).

DISCUSSION

This study found that a multicomponent intervention with financial incentives to integrate publicly available cost information into clinical discussions using CompareMaine.org, a public Web site of health care cost information, yielded low practice uptake. The generalizability of the study is limited by the small convenience sample, focus on a single clinical condition, reliance on voluntary self-reported provider and patient data, and lack of information about nonrespondents. However, the study offers some lessons that may be instructive for clinicians, health systems, policymakers, and payers hoping to get cost information to consumers at the point of care when it is likely to be most valuable.

We found that patients with LBP were more interested than providers were in discussing costs during clinical encounters. Our findings suggest that clinicians may be missing opportunities to discuss costs with patients, because of assumptions about which patients have cost concerns and what information patients want. Many clinicians believed that fully insured patients did not care about costs. They also questioned the value to patients of public cost Web sites on the basis of issues that patients did not indicate. To address this bias, future initiatives should normalize cost conversations, initiating them and sharing cost resources with all patients, regardless of insurance status or condition.

Cost variation discussions fall outside providers' usual scope of practice expertise, comfort, knowledge, and professional expectations. Providers were more comfortable discussing cost avoidance strategies with patients, such as postponing imaging or using self-care or alternative therapies, than cost variation between referral locations available on public cost Web sites. Provider reluctance to discuss costs with patients and refer to lower-cost settings may also be related to institutional expectations of within-system referrals, particularly in hospital-based practices. Helping consumers "shop" for lower-cost settings is unlikely to be embraced by practices unless system leadership strongly supports it and aligns having cost conversations with other quality improvement and institutional priorities.

As federal and state policymakers consider broadening transparency requirements (57–61), they need to invest in greater public and provider training on the value of these resources and their use during clinical encounters. Promoting cost transparency in rural areas may be more difficult, given the limited ability to "shop" for health services, additional patient costs (such as travel and lost worktime) to access them, and the higher cost of providing services in rural areas. The MRI services offered by the critical access hospital participating in this intervention were among the highest cost in their area. Practice and system leaders acknowledged highlighting these cost variations could affect the viability of their health care organization, further limiting local access. Policymakers may seek to engage other health care stakeholders, such as employers, health plans, and consumer advocacy organizations, in educating consumers about cost and quality transparency tools. Simply mandating price transparency does not guarantee patient and provider use of this information. These efforts should be coupled with guidance about how this cost information should be used at the point of clinical decision making.

From Cutler Institute for Health and Social Policy, Muskie School of Public Service, University of Southern Maine, Portland, Maine (K.S.F., C.E.G., M.E.W., J.A.M.).

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Corresponding Author: Kimberley S. Fox, MPA, Cutler Institute for Health and Social Policy, Muskie School of Public Service, University of Southern Maine, P.O. Box 9300, Portland, ME 04104-9300; e-mail, kimberley.s.fox@maine.edu.

Current author addresses and author contributions are available at Annals.org.

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Current Author Addresses: Ms. Fox, Ms. Gray, Ms. Elbaum Williamson, and Ms. MacKenzie: Cutler Institute for Health and Social Policy, Muskie School of Public Service, University of Southern Maine, PO Box 9300, Portland, ME 04104-9300.

Author Contributions: Conception and design: K.S. Fox, C.E. Gray, J.A. MacKenzie.
Analysis and interpretation of the data: K.S. Fox, C.E. Gray, M. Elbaum Williamson.
Drafting of the article: K.S. Fox, C.E. Gray, M. Elbaum Williamson, J.A. MacKenzie.
Critical revision of the article for important intellectual content: K.S. Fox, C.E. Gray.
Final approval of the article: K.S. Fox, C.E. Gray.
Statistical expertise: C.E. Gray.
Obtaining of funding: K.S. Fox, C.E. Gray.
Administrative, technical, or logistic support: C.E. Gray, J.A. MacKenzie.
Collection and assembly of data: K.S. Fox, C.E. Gray, M. Elbaum Williamson, J.A. MacKenzie.