



Published in final edited form as:

*Arch Intern Med.* 2010 September 13; 170(16): 1502–1504. doi:10.1001/archinternmed.2010.287.

## Patients' Willingness to Discuss Trade-offs to Lower Their Out-of-Pocket Drug Costs

Chien-Wen Tseng, MD, MPH<sup>1,2</sup>, Beth E Waitzfelder, PhD<sup>1</sup>, Edward F Tierney, MPH<sup>3</sup>, Robert B Gerzoff, MS<sup>3</sup>, David G Marrero, PhD<sup>4</sup>, John D Piette, PhD<sup>5</sup>, Andrew J Karter, PhD<sup>6</sup>, J. David Curb, MD MPH<sup>1,7</sup>, Richard Chung, MD<sup>8</sup>, Carol M Mangione, MD, MSPH<sup>9</sup>, Jesse C Crosson, PhD<sup>10</sup>, and R Adams Dudley, MD, MBA<sup>11</sup>

<sup>1</sup>Pacific Health Research Institute, Honolulu, HI.

<sup>2</sup>Department of Family Medicine and Community Health, John A. Burns School of Medicine, University of Hawaii, Honolulu, HI.

<sup>3</sup>Division of Diabetes Translation, Centers for Disease Control and Prevention (CDC), Atlanta, GA

<sup>4</sup>Department of Medicine, Indiana University School of Medicine, Indianapolis, IN

<sup>5</sup>Department of Veterans Affairs Center for Practice Management and Outcomes Research and Department of Internal Medicine, University of Michigan, Ann Arbor, MI.

<sup>6</sup>Division of Research, Kaiser Permanente Medical Care Program, Northern California, Oakland, CA

<sup>7</sup>Department of Geriatric Medicine, John A. Burns School of Medicine, University of Hawaii, Honolulu, HI.

<sup>8</sup>Hawaii Medical Services Association, Honolulu HI

<sup>9</sup>David Geffen School of Medicine and School of Public Health, University of California, Los Angeles, Los Angeles, CA

<sup>10</sup>Research Division, Department of Family Medicine and Community Health, UMDNJ-Robert Wood Johnson Medical School, Somerset, NJ

<sup>11</sup>Department of Medicine and Institute for Health Policy Studies, University of California, San Francisco, San Francisco, CA

---

Efforts to reform the U.S. health care system have placed considerable attention on patients' financial burden from out-of-pocket drug costs. Patients frequently have difficulty paying for medications and although they are encouraged to discuss ways to lower drug costs with physicians, such communication frequently fails to occur.<sup>1-4</sup> Physicians may be reluctant to initiate these cost discussions because some cost-cutting strategies involve potential trade-offs such as increased dosing frequency, or risk of side effects, or lower treatment effectiveness.<sup>1</sup> Knowing patients' willingness to consider such less than optimal cost-lowering strategies could encourage physicians to discuss drug costs with their patients.

---

**Corresponding Author (request for reprints):** Chien-Wen Tseng, MD MPH Pacific Health Research Institute c/o Univ. of Hawaii Dept. of Family Medicine and Community Health 677 Ala Moana Blvd, Ste. 815 Honolulu, HI 96813 (808) 692-0852, (808) 627-3262 fax, cwtseng@hawaii.edu.

**Financial disclosure :** There are no financial conflicts or other author conflicts to disclose.

## Methods

We conducted a 2004 patient survey as part of the longitudinal Translating Research Into Action for Diabetes study to examine diabetes quality of care in 10 health plans and six states.<sup>5</sup> Participants reported whether they wanted physicians to talk about medications that cost less but a) had to be taken more often, b) may have a slightly higher chance of side effects, or c) may not work as well.

## Results

Of the 5,085 patients (CASRO response rate 75%), two-thirds were willing to discuss at least one of the three trade-off strategies. Patients said they wanted to be told about lower cost drugs with higher chance of side-effects (38%), or lower effectiveness (32%), or higher dosing frequency (59%). Among the 712 participants (14%) who said they had reduced medication use because of cost, rates were 47%, 42%, and 82% respectively. Even among the 4,373 participants who had not reduced medication use because of cost, rates were 37%, 30%, and 56% respectively. Among those open to discussing trade-offs, only 19% said their physician usually or always discussed drug costs when prescribing. In multivariate analyses, participants with lower income, higher out-of-pocket drug costs, and poorer health were significantly more willing to discuss trade-offs (Table 1).

## Discussion

This is the first large-scale study to examine the willingness of patients with diabetes to discuss specific types of trade-offs to lower drug costs with their physicians. The majority wanted physicians to discuss ways to lower drug costs even if it required higher dosing frequency, and 1 in 3 wanted to know about lower cost drugs with potentially greater side-effects or lower effectiveness. Importantly, even among participants who did not decrease medication use because of cost, 1 in 4 wanted to know about cost-lowering strategies that could negatively affect health. Our findings are novel in that prior studies have only documented patients' willingness to discuss out-of-pocket drug costs in general and not specific strategies that would require trade-offs.<sup>3,4</sup> Physicians may be appropriately reluctant to discuss drug costs when they perceive cost-lowering strategies to be less optimal than patients' current medications.<sup>1</sup> However, physicians then risk patients reducing medication use to lower costs without telling their physicians' or getting their advice.<sup>2</sup> The fact that participants with poor (vs. good) health were significantly more willing to consider such trade-offs highlights further that physicians need to be actively involved in advising patients on the appropriateness of such trade-offs. A limitation of our study is that we did not present specific prescribing scenarios or measure patients' actual treatment choice. When faced with real rather than theoretical choices, patients may opt to pay more rather than making any trade-offs. Patients' willingness to make tradeoffs may also vary substantially across disease targets.<sup>6</sup> However, our results support that patients are at least open to such discussions with physicians.

## Conclusion

Given patients' financial burden from drug costs and willingness to discuss drug costs, physicians should not avoid initiating such cost discussions, even if the available strategies to lower drug costs could require patients to accept potential trade-offs.

## Acknowledgments

This study was jointly funded by Program Announcement number 04005 from the Centers for Disease Control and Prevention (Division of Diabetes Translation) and the National Institute of Diabetes and Digestive and Kidney

Diseases. The authors acknowledge the participation of our health plan partners. Significant contributions to this study were made by members of the Translating Research into Action for Diabetes (TRIAD) Study Group. The findings and conclusions in this report are those of the authors and do not necessarily represent the opinions of the funding organizations. Dr. Chien-Wen Tseng had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

## REFERENCES

1. Alexander GC, Casalino LP, Tseng CW, McFadden D, Meltzer DO. Barriers to patient-physician communication about out-of-pocket costs. *J Gen Intern Med.* 2004; 19:856–860. [PubMed: 15242471]
2. Piette JD, Heisler M, Wagner TH. Cost-related medication underuse: do patients with chronic illnesses tell their doctors? *Arch Intern Med.* 2004; 164:1749–1755. [PubMed: 15364667]
3. Alexander GC, Casalino LP, Meltzer DO. Patient-physician communication about out-of-pocket costs. *JAMA.* 2003; 290:953–958. [PubMed: 12928475]
4. Tseng CW, Dudley RA, Brook RH, et al. Elderly patients' preferences and experiences with providers in managing their drug costs. *J of Am Ger Soc.* 2007; 55:1974–1980.
5. Tseng CW, Tierney EF, Gerzoff RB, et al. Race/Ethnicity and economic differences in cost-related medication underuse among insured adults with diabetes. *Diabetes Care.* 2008; 31:261–266. [PubMed: 18000177]
6. Goldman DP, Joyce GF, Escarce JJ, Pace JE, Solomon MD, Laouri M, Landsman PB, Teutsch SM. Pharmacy benefits and the use of drugs by the chronically ill. *JAMA.* 2004; 291:2344–2350. [PubMed: 15150206]

**Table 1**

Patients' willingness to discuss trade-offs to lower out-of-pocket drug costs (Adjusted Predicted Percents) \* 1 of 2

	Higher dosing frequency		Higher risk of side effects		Lower effectiveness	
<b>Age</b>						
18-44 (reference)	63%	0.73	39%	0.99	31%	0.83
45-64	61%		39%		31%	
65+	62%		39%		33%	
<b>Gender</b>						
Female (reference)	63%	0.06	36%	<.01	30%	<b>0.02</b>
Male	60%		42%		34%	
<b>Ethnicity</b>						
White (reference)	62%	0.33	38%	<b>0.02</b>	27%	<.01
African American	60%		38%		38%	
Latino	58%		34%		30%	
Asian/Pacific Islander	64%		44%		38%	
Other	63%		46%		37%	
<b>Education</b>						
< High school	60%	0.19	40%	0.82	33%	0.49
High school graduate	60%		38%		38%	
Some college or higher (reference)	63%		39%		31%	
<b>Annual household income</b>						
< \$25,000	64%	<.01	41%	<.01	34%	<b>0.02</b>
\$25,000 to \$50,000	63%		42%		35%	
>\$50,000 (reference)	57%		34%		28%	
<b>Health status</b>						
Excellent/very good (reference)	55%	<.01	35%	<b>0.04</b>	29%	<b>0.049</b>
Good	63%		39%		32%	
Fair/poor	63%		41%		34%	
<b>Number of prescription medications</b>						

	Higher dosing frequency		Higher risk of side effects		Lower effectiveness	
1-5 medications (reference)	61%	0.42	40%	0.31	32%	0.63
6 or more medications	63%		38%		32%	
<b>Has prescription drug insurance</b>						
Yes	61%	0.18	38%	0.23	31%	<.01
No (reference)	63%		41%		36%	
<b>Out-of-pocket drug costs (per month)</b>						
\$.50 (reference)	55%	<.01	38%	<.01	32%	0.08
\$51 to \$100	61%		36%		29%	
\$101 to \$150	68%		42%		33%	
> \$150	77%		46%		37%	

\*. Adjusted for age, gender, race/ethnicity, education, income, health status, number of medications, have drug insurance, and monthly out-of-pocket drug costs