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Author manuscript

JAMA. Author manuscript; available in PMC 2017 August 11.

Published in final edited form as:

JAMA. 2013 July 24; 310(4): 380–388. doi:10.1001/jama.2013.8278.

## Views of US Physicians About Controlling Health Care Costs

**Jon C. Tilburt, MD, MPH,**

Division of General Internal Medicine, Mayo Clinic, Rochester, Minnesota; Biomedical Ethics Program, Mayo Clinic; Knowledge & Evaluation Research Unit, Mayo Clinic; Healthcare Delivery Research Program, Center for the Science of Healthcare Delivery; Division of Health Care Policy and Research, Mayo Clinic

**Matthew K. Wynia, MD, MPH,**

Institute for Ethics, American Medical Association, Chicago, Illinois; Department of Medicine, University of Chicago, Chicago, Illinois

**Robert D. Sheeler, MD,**

Department of Family Medicine, Mayo Clinic

**Bjorg Thorsteinsdottir, MD,**

Biomedical Ethics Program, Mayo Clinic; Division of Primary Care Internal Medicine, Mayo Clinic

**Katherine M. James, MPH,**

Biomedical Ethics Program, Mayo Clinic

**Jason S. Egginton, MPH,**

Division of Health Care Policy and Research, Mayo Clinic

**Mark Liebow, MD, MPH,**

Division of General Internal Medicine, Mayo Clinic, Rochester, Minnesota

**Samia Hurst, MD,**

Institute for Biomedical Ethics, University of Geneva, Switzerland

**Marion Danis, MD, MPH, and**

Department of Bioethics, National Institutes of Health, Bethesda, Maryland

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Corresponding Author: Jon C. Tilburt, MD, MPH, Mayo Clinic, 200 First St SW, Rochester, MN 55905 (tilburt.jon@mayo.edu).

**Author Contributions:** Dr Tilburt 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. Study concept and design: Tilburt, Wynia, Sheeler, Thorsteinsdottir, Egginton, Hurst, Danis, Goold. Acquisition of data: Wynia, Sheeler, James. *Analysis and interpretation of data:* Tilburt, Wynia, Thorsteinsdottir, James, Egginton, Liebow, Hurst, Danis, Goold. *Drafting of the manuscript:* Tilburt, Wynia, James, Goold. *Critical revision of the manuscript for important intellectual content:* Wynia, Sheeler, Thorsteinsdottir, Egginton, Liebow, Hurst, Danis, Goold. *Statistical analysis:* James, Goold. *Obtained funding:* Tilburt. *Administrative, technical, or material support:* James. *Study supervision:* Goold.

**Conflict of Interest Disclosures:** All authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest and none were reported.

**Disclaimer:** The views expressed in this article are those of the authors and do not reflect the official position of the National Institutes of Health, Department of Health and Human Services, or the US government.

**Previous Presentations:** An earlier version of this work was presented as a poster at the 2013 Society of General Internal Medicine National Meeting, April 25, 2013, Denver, Colorado.

**Additional Contributions:** We are grateful to Bernie Lo, MD, and Christine Cassel, MD, for their thoughtful review of early versions of the manuscript.

**Correction:** This article was corrected on July 23, 2013, to add disclaimer information

**Susan Dorr Goold, MD, MHSA, MA**

Department of General Internal Medicine, University of Michigan Medical Center, Ann Arbor

## Abstract

**Importance**—Physicians' views about health care costs are germane to pending policy reforms.

**Objective**—To assess physicians' attitudes toward and perceived role in addressing health care costs.

**Design, Setting, and Participants**—A cross-sectional survey mailed in 2012 to 3897 US physicians randomly selected from the AMA Masterfile.

**Main Outcomes and Measures**—Enthusiasm for 17 cost-containment strategies and agreement with an 11-measure cost-consciousness scale.

**Results**—A total of 2556 physicians responded (response rate = 65%). Most believed that trial lawyers (60%), health insurance companies (59%), hospitals and health systems (56%), pharmaceutical and device manufacturers (56%), and patients (52%) have a “major responsibility” for reducing health care costs, whereas only 36% reported that practicing physicians have “major responsibility.” Most were “very enthusiastic” for “promoting continuity of care” (75%), “expanding access to quality and safety data” (51%), and “limiting access to expensive treatments with little net benefit” (51%) as a means of reducing health care costs. Few expressed enthusiasm for “eliminating fee-for-service payment models” (7%). Most physicians reported being “aware of the costs of the tests/treatments [they] recommend” (76%), agreed they should adhere to clinical guidelines that discourage the use of marginally beneficial care (79%), and agreed that they “should be solely devoted to individual patients' best interests, even if that is expensive” (78%) and that “doctors need to take a more prominent role in limiting use of unnecessary tests” (89%). Most (85%) disagreed that they “should sometimes deny beneficial but costly services to certain patients because resources should go to other patients that need them more.” In multivariable logistic regression models testing associations with enthusiasm for key cost-containment strategies, having a salary plus bonus or salary-only compensation type was independently associated with enthusiasm for “eliminating fee for service” (salary plus bonus: odds ratio [OR], 3.3, 99% CI, 1.8-6.1; salary only: OR, 4.3, 99% CI, 2.2-8.5). In multivariable linear regression models, group or government practice setting ( $\beta = 0.87$ , 95% CI, 0.29 to 1.45,  $P = .004$ ; and  $\beta = 0.99$ , 95% CI, 0.20 to 1.79,  $P = .01$ , respectively) and having a salary plus bonus compensation type ( $\beta = 0.82$ ; 95% CI, 0.32 to 1.33;  $P = .002$ ) were positively associated with cost-consciousness. Finding the “uncertainty involved in patient care disconcerting” was negatively associated with cost-consciousness ( $\beta = -1.95$ ; 95% CI, -2.71 to -1.18;  $P < .001$ ).

**Conclusion and Relevance**—In this survey about health care cost containment, US physicians reported having some responsibility to address health care costs in their practice and expressed general agreement about several quality initiatives to reduce cost but reported less enthusiasm for cost containment involving changes in payment models.

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The increasing cost of US health care strains the economy. Because physicians' decisions play a key role in overall health care spending and quality, several recent initiatives have called on physicians to reduce waste and exercise wise stewardship of resources.<sup>1-4</sup> Given their roles, physicians' perspectives on policies and strategies related to cost containment and

their perceived responsibilities as stewards of health care resources in general are increasingly germane to recent pending and proposed policy reforms.<sup>5</sup> We surveyed US physicians about their views on several potential proposed policies and strategies to contain health care spending, assessed physicians' perceived roles and responsibilities in addressing health care costs, and ascertained physician characteristics associated with those views.

## Methods

### Ethical Review

This study was reviewed and deemed exempt by the Mayo Clinic Institutional Review Board and the National Institutes of Health Clinical Center's Office of Human Subjects Research Protection.

### Study Participants and Data Collection

Using the AMA Physician Masterfile, we selected a simple random sample of 3900 physicians listed as currently practicing and representing all specialties, excluding residents, those whose primary specialty was listed as administration only, and those older than 65 years. In late May, June, and July 2012, we mailed a self-administered, 8-page survey titled "Physicians, Health Care Costs, and Society" to 3897 of the physicians in our original sampling frame (3 physicians had a primary mailing address outside of the United States and were therefore excluded), using the Tailored Design Method,<sup>6</sup> including a \$20 bill with the first mailing. Second and third mailings were sent to nonresponders at 6-week intervals.

### Survey Instrument

We reviewed the literature, conducted focus groups with physicians, formulated questions, conducted cognitive interviews in which draft survey instruments were administered to colleagues whose feedback on overall survey coherence, balance, and fairness was collated and incorporated into subsequent instrument versions, and revised questions, adapting existing measures whenever possible. The survey assessed perceived stakeholder responsibility for controlling costs, enthusiasm for cost-containment strategies, professional role in cost containment, and barriers to and consequences of cost-conscious practice (Appendix A in the Supplement). Enthusiasm for cost-containment strategies and professional role in cost containment were our 2 main outcome measures.

### Perceived Stakeholder Responsibility for Controlling Costs

We asked respondents' views on the relative perceived responsibility (no, some, and major responsibility) that different stakeholder groups (government, health insurance companies, patients, physician professional societies, individual practicing physicians, hospitals and health systems, employers, pharmaceutical and device manufacturers, and trial lawyers) have for reducing health care costs.

### Enthusiasm for Cost-Containment Strategies

Respondents rated their level of enthusiasm (not, somewhat, or very enthusiastic) toward 17 specific means of reducing health care costs, including but not limited to strategies proposed

in the Patient Protection and Affordable Care Act, divided into 4 main categories: improving the quality and efficiency of care, improving conditions for evidence-based decisions, changing how care gets paid for, and cutting payment to physicians directly. We avoided using those 4 category titles in the body of the survey to minimize biasing respondents.

### **Professional Role in Cost Containment**

This section included items and scales from peer-reviewed publications, including the 3-item Agreement with Rationing Scale (eg, “Cost to society is important in my decisions to use or not to use an intervention”),<sup>7</sup> the 6-item Cost-Consciousness Scale (eg, “There is currently too much emphasis on costs of tests and procedures”),<sup>8</sup> and 2 items from a Stewardship Scale developed by the American Medical Association's Institute for Ethics (“I am aware of the costs of the tests/treatments I recommend” and “I try not to think about the cost to the health care system when making treatment decisions”) (Matthew Wynia, MD, AMA Institute for Ethics, written communication, April 2012). We added several new items to assess the respondents' consideration of cost when making treatment decisions for individual patients (eg, “I should be solely devoted to my individual patients' best interests, even if that is expensive”).

### **Barriers to and Consequences of Cost-Conscious Practice**

We asked respondents their opinions about factors we hypothesized might be barriers to cost-conscious practice, including lack of continuity, as well as 1 measure each for uncertainty and fear of malpractice, borrowed from previously developed scales.<sup>8</sup> In addition we assessed physician reactions to possible consequences of following cost-conscious guidelines in their practice.

We also examined physician demographic characteristics (age, sex, region, specialty type, and political self-characterization) and practice characteristics (billing only, salary plus bonus, salary-only compensation, and predominant practice setting type).

### **Data Management and Analysis**

Responses were double entered and imported into SAS version 9.2. We used the American Association for Public Opinion Research RR2 response rate definition.<sup>9</sup> We assessed differences in response rates by physician sex, age, race, region, and specialty, using the Pearson  $\chi^2$  test.

To summarize the degree of physicians' cost-consciousness (defined as “the extent to which physicians pay attention to and feel an obligation to address health care cost in their practice”) with a single variable, we developed post hoc an 11-item scale with possible values ranging from 11 to 44, using standard methods of exploratory factor analysis (details in Appendix B in the Supplement). Higher scores on the scale reflect a greater degree of cost-consciousness, as defined above. A raw Cronbach  $\alpha$  score was calculated with SAS PROC CORR to assess the internal consistency of items included in the final scale. Scale results formed the dependent variable in multivariable linear regression modeling (using a significance level of 2-sided  $P < .01$ ), using variables manually selected according to their a priori importance, as well as suggestion of importance from unadjusted bivariate analyses.

This significance level was selected according to the Bonferroni method of correction for multiple comparisons.

We dichotomized enthusiasm ratings for cost-containment strategies into “very enthusiastic” vs “somewhat/not enthusiastic” and used multivariable logistic regression (with the same variable selection approach described above) to assess associations between physician characteristics (age group, sex, practice setting type, compensation type) and level of enthusiasm for each strategy, using the Bonferroni method of correction for multiple comparisons (specifying significance at  $P < .001$ , using 2-sided testing). In these models, missing data for a given observation resulted in that observation's being dropped from the model. For conciseness, results shown in the text summarize associations with enthusiasm for cost-containment strategies focused on the most policy-salient items from each of the following categories: improving quality and efficiency of care, improving conditions for evidence-based decisions, changing how care gets paid for, and cutting payment to physicians directly. Results from all 17 multivariable logistic regression models are shown in Appendix C in the Supplement. Model fit was assessed by examining the generalized  $R^2$  measures for the fitted models, using standard assumptions in the PROC GLM function of SAS.

## Results

Of the 3897 potential respondents, 2556 returned completed surveys (65%). Respondents were slightly older than nonrespondents (mean age 51 vs 50 years, respectively;  $P = .01$ ), but no other differences were found by sex, region, race, or specialty (Table 1). Respondent characteristics are reported in Table 2.

### Perceived Stakeholder Responsibility for Controlling Costs

Respondents rated trial lawyers (60%), health insurance companies (59%), hospitals and health systems (56%), and pharmaceutical and device manufacturers (56%) as having a major responsibility for reducing health care costs. Nearly all (98%) respondents reported that patients have either a major (52%) or some (46%) responsibility for reducing health care costs. Physicians assigned somewhat less relative responsibility to practicing physicians (36% major, 59% some responsibility), employers (19% major, 63% some), and physician professional societies (27% major, 61% some) (Table 3).

### Enthusiasm for Various Cost-Containment Strategies

For various means of reducing health care costs (Table 3), physicians expressed a high degree of enthusiasm for interventions that improve quality of care such as “promoting continuity of care” (75% very enthusiastic, 23% somewhat enthusiastic). More than 90% of physicians expressed some or strong enthusiasm for improving conditions for evidence-based decisions, including “expanding access to quality and safety data,” “promoting head-to-head trials of competing treatments,” and “limiting corporate influence on physician behavior.”

Respondents' ratings for changing how care gets paid for were more mixed. Although they expressed relatively strong support for strategies such as “limiting access to expensive

treatments with little net benefit” (51% very enthusiastic, 38% somewhat enthusiastic) and using cost-effectiveness data to determine available treatments (47% very enthusiastic, 42% somewhat enthusiastic), measures that reduce or limit reimbursement such as “penalizing providers for avoidable readmissions” and bundled payment schemes (“paying a network of practices a fixed, bundled price for managing all care for a defined population”) were less supported (59% and 65% not enthusiastic, respectively). Physicians expressed mixed enthusiasm for strategies that require greater patient financial contribution, including “higher patient co-pays” and “high-deductible health plans” (40% and 43% not enthusiastic, respectively). Strategies that might involve cutting payment to physicians directly such as “eliminating fee-for-service payment models,” “allowing Medicare payment cuts to doctors to take effect,” and “reducing compensation for the highest-paid specialties” received far less support (70%, 94%, and 44% not enthusiastic, respectively).

### **Professional Role in Cost-Containment and Cost-Consciousness Scale**

Physicians' perceived roles regarding paying attention to and addressing health care costs were mixed (Table 4). Most physicians reported being “aware of the costs of the tests/ treatments [they] recommend” (76%) and agreed they “should adhere to clinical guidelines that discourage the use of interventions that have a small proven advantage over standard interventions but cost much more” (79%) while endorsing that they “should be solely devoted to [their] individual patients' best interests, even if that is expensive” (78%).

Eighty-five percent of respondents disagreed that “[they] should sometimes deny beneficial but costly services to certain patients because resources should go to other patients that need them more.” However, an equal majority (85%) agreed “the cost of a test or medication is only important if the patient has to pay for it out of pocket.”

Respondents' scores in the 11-item cost-consciousness scale derived from the above-described measures (included measures highlighted in Table 4) ranged from 11 to 44, with mean and median scores of 31 and a raw Cronbach  $\alpha$  score of .77 (Appendix B in the Supplement).

### **Barriers to and Consequences of Cost-Conscious Practice**

Regarding the influence that lack of continuity may play in use, just under half of physicians reported that they “generally order more tests when [they] don't know the patient well” (43% moderately and strongly agree), whereas most expressed moderate or strong agreement with the role that uncertainty (56%) and worry about malpractice liability (70%) play in their practice. When asked about the consequences of following cost-conscious guidelines in practice, a majority reported that “it would be the right thing to do” (55%), but fewer thought it would be effective in limiting unreasonable patient demands (40%), whereas some thought it could undermine patients' trust (28%) or be unfair (24%).

### **Associations With Enthusiasm for Cost-Containment Strategies and Cost-Consciousness**

Table 5 depicts percentages and point estimates of the association between physician characteristics and enthusiasm for the top-ranking cost-containment strategies delineated in Table 3 (ie, “promoting continuity of care,” “expanding access to quality and safety data,”



“limiting access to expensive treatments with little net benefit,” and “eliminating fee-for-service payment models”).  $R^2$  values for each model ranged from 0.01 to 0.03, suggesting these models explain little of the variance in physician enthusiasm for cost-containment strategies. Physician sex was associated with “promoting continuity of care” (odds ratio [OR], 0.4, 99% CI, 0.3 to 0.6 for men compared with women). Older physicians were more likely than those younger than 50 years to be “very enthusiastic” about “limiting access to expensive treatments with little net benefit” (OR, 1.4; 99% CI, 1.1 to 1.8), whereas salaried physicians (with or without bonus) were significantly more likely than those with a billing-only compensation model to express enthusiasm for “eliminating fee-for-service” (salary plus bonus: OR, 3.3, 99% CI, 1.8 to 6.1; salary only: OR, 4.3, 99% CI, 2.2 to 8.5).

In unadjusted linear regression models (Table 6) examining relationships with our cost-consciousness scale, we found that physicians' practice settings, compensation types, degree of worry about malpractice lawsuits, and finding the uncertainty involved in patient care to be disconcerting were characteristics and attitudes associated with average levels of cost-consciousness. For example, after adjusting for age, sex, region, specialty, political self-characterization, and the other variables shown in Table 6, the overall mean level of cost-consciousness (as calculated by our scale) is 0.87 units higher (95% CI, 0.29 to 1.45) for physicians practicing in a group setting compared with those in a small/solo practice, whereas those with salary plus bonus compensation have a mean level of cost-consciousness 0.82 units higher (95% CI, 0.32 to 1.33) than those compensated via billing. These differences were found to be statistically significant. In contrast, greater malpractice worry and lower comfort with uncertainty were associated with lower mean cost-consciousness scores ( $\beta = -1.93$  vs  $-2.77$  and  $P < .001$  vs  $P < .001$ , respectively) after adjusting for age, sex, region, specialty, political self-characterization, and the other variables shown in Table 6.

In a single multivariate model with cost-consciousness as the dependent variable (Table 6), most of the above relationships remained independently significant after controlling for age, sex, and region, with particularly strong associations related to practicing with a salary plus bonus compensation model ( $\beta = 0.82$ ;  $P = .002$ ), and either moderately ( $\beta = -1.39$ ;  $P < .001$ ) or strongly ( $\beta = -1.95$ ,  $P < .001$ ) agreeing that the uncertainty involved in patient care is disconcerting.

## Discussion

US physicians' opinions about their role in containing health care costs are complex. In this survey, we found that they express considerable enthusiasm for several proposed cost-containment strategies that aim to enhance or promote high-quality care such as improved continuity of care. However, there is considerably less enthusiasm for more substantial financing reforms, including bundled payments, penalties for readmissions, and eliminating fee-for-service reimbursement; Medicare pay cuts are unpopular across the board. They were also more likely to identify other groups, rather than physicians, such as insurers, lawyers, hospitals, and health systems, as having a major responsibility to reduce cost. These data document professional sentiments about addressing health care costs and speak directly to the acceptability of several key policy strategies for curbing those costs.

Beyond these general conclusions, US physicians' attitudes and perceived obligations on issues related to cost control are complex. Their opinions are related to their practice setting and type of compensation. For instance, despite resistance to bundled payment schemes that typically include quality provisions, physicians appear to support quality of care initiatives such as enhancing continuity of care and chronic disease management as stand-alone measures.<sup>10-13</sup> These data also suggest that changing how physicians get paid is very unpopular in the profession. For instance, 70% of our respondents were not enthusiastic about eliminating fee-for-service reimbursement. Efforts to implement such changes, like the recent National Commission on Physician Payment Reform's recommendations to eliminate fee-for-service reimbursement, could face stiff opposition from within the profession.<sup>14</sup> These data speak to the feasibility and acceptability of key policy strategies outlined in recent and pending policy proposals.

Physicians also hold nuanced views about their perceived responsibility for health care costs. Most (78%) agree that they “should be solely devoted to [their] individual patients' best interests, even if that is expensive,” whereas 85% disagree that they “should sometimes deny beneficial but costly services to certain patients because resources should go to other patients that need them more.” Yet 85% also agree that “trying to contain costs is the responsibility of every physician,” and 89% agree that “doctors need to take a more prominent role in limiting use of unnecessary tests.” This apparent inconsistency may reflect inherent tensions in professional roles to serve patients individually and society as a whole. Previous smaller studies have suggested that US physicians endorse the ideal of prudent stewardship but are reluctant to withhold available but costly services that could benefit individual patients.<sup>15-18</sup> Similarly, Campbell et al found that 98% of physicians endorse “just distribution of finite resources” but 36% would order magnetic resonance imaging that is not indicated.<sup>19</sup> Antiel et al<sup>20</sup> found that a majority of US physicians were willing to accept lower reimbursement for expensive drugs and procedures if that would expand health insurance coverage, but 55% also objected to using cost-effectiveness analysis to guide what treatments are used in practice. Physicians clearly struggle with these tensions and how they can act individually and collectively to provide optimal, sustainable quality care. They also recognize themselves as just one component of a multifaceted system of stakeholders responsible for addressing increasing costs. Indeed, they ascribe a higher degree of responsibility for controlling costs to external forces such as health systems, insurance companies, and even patients and trial lawyers than they do to themselves.

How physicians resolve these tensions appears to be related to the structures, context, and nature of their work. Our results suggest there are subgroups within the profession with distinct identities and professional self-conceptualizations that shape their judgments about addressing health care costs. In particular, physicians who share a common way of receiving payment, a common type of work context, may share a similar sense of professional obligation. Such relationships are worthy of further investigation.

Whether, how, and to what extent physicians ought to consider broader societal health care concerns when caring for individual patients are challenging questions addressed by the ABIM Charter on Professionalism,<sup>21</sup> the *American College of Physicians' Ethics Manual*,<sup>22</sup> and a resolution from the American Medical Association's Council on Ethical and Judicial



Affairs.<sup>23</sup> How and to what extent physicians should ethically consider limited or expensive resources need additional study. Our data suggest that physicians struggle with navigating the tensions between their responsibilities to address overall health care resource use and their primary obligation to do what is best for individual patients.

Although this survey had a good response rate, reducing concerns about response bias, its findings should be treated with caution for several reasons. The AMA Masterfile is the most comprehensive listing of US physicians but relies on physician self-report for key practice characteristics. For instance, specialty data listed in the AMA Masterfile list self-reported specialty that is not verified with specialty boards. The descriptive statistics reported here may not fully reflect the opinions of all US physicians. Moreover, the significant associations we found do not explain most of the variance in physician perceived cost-consciousness, and cross-sectional surveys cannot establish cause-effect relationships. Moreover, physician opinions on these issues may be in flux, with group restructuring, emerging changes in electronic information systems, and value-based purchasing all being in a state of change. In light of these recent movements, as well as the ABIM Foundation's Choosing Wisely campaign,<sup>1</sup> such cross sectional data should be treated with caution.

Nevertheless, US physicians reported having some responsibility to address health care costs in their practice and expressed general agreement with quality initiatives that may also reduce cost, but they also expressed less enthusiasm for cost containment involving changes in payment models. Moving toward cost-conscious care in the current environment in which physicians practice starts with strategies for which there is widespread physician support might create momentum for such efforts, including improving quality and efficiency of care and bringing transparent cost information and evidence from comparative effectiveness research into electronic health records with decision support technology. More aggressive (and potentially necessary) financing changes may need to be phased in, with careful monitoring to ensure that they do not infringe on the integrity of individual clinical relationships.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

## Acknowledgments

**Funding/Support:** Dr Tilburt's research was funded by the Faculty Scholars Program of the Greenwall Foundation, Mayo Clinic Program in Professionalism and Ethics, and an Early Career Development Award from the Mayo Clinic Foundation. Dr Hurst is funded by a grant from the Swiss National Science Foundation (PP00P3\_123340).

**Role of the Sponsor:** None of the funders had a role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

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**Table 1**  
**Characteristics of US Physicians to Whom a Survey Was Mailed, Including Respondents and Nonrespondents<sup>a</sup>**

Characteristic	Overall Sample (N = 3897)	Respondents (n = 2556)	Nonrespondents (n = 1341)	P Value <sup>b</sup>
Age, mean (SD), y	50.8 (8.5)	51.0 (8.5)	50.3 (8.6)	.01
Male sex	2742 (70)	1784 (70)	958 (71)	.29
Region				
South	1295 (33)	829 (33)	466 (35)	.26
Midwest	876 (23)	594 (23)	282 (21)	
Northeast	822 (21)	548 (22)	274 (21)	
West	879 (23)	570 (22)	309 (23)	
All others	2476 (64)	1615 (63)	861 (64)	
Practice setting type				
Group/HMO	2553 (66)	1641 (64)	912 (68)	.17
Small/solo	731 (19)	498 (19)	233 (17)	
City/state/federal government	499 (13)	336 (13)	163 (12)	
Medical school	86 (2)	59 (2)	27 (2)	

Abbreviation: HMO, health maintenance organization.

<sup>a</sup>Numbers in each column may not sum to the total N for that column because of missing data.

<sup>b</sup> $\chi^2$  P values (and *t* test P value for age variable) for differences between respondents and nonrespondents.

**Table 2**  
**Self-reported Data From Survey (n=2556)<sup>a</sup>**

Characteristic	No. (%)
Race or ethnic group	
White or Caucasian	1958 (77)
Asian	369 (15)
Other	124 (5)
Black or African American	80 (3)
Practice compensation type	
Billing only	1036 (41)
Salary plus bonus	874 (35)
Salary only	460 (18)
Other	154 (6)
Political self-characterization	
Very conservative	254 (10)
Somewhat conservative	709 (28)
Independent/moderate	726 (29)
Somewhat liberal/progressive	495 (20)
Very liberal/progressive	247 (10)

<sup>a</sup>Numbers may not sum to 2556 because of missing data.

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**Table 3**  
**Self-reported Responsibility and Enthusiasm for Various Means of Reducing Health Care Costs Among 2556 US Physician Survey Respondents**

	No. (%) <sup>a</sup>		
	Major Responsibility	Some Responsibility	No Responsibility
Entities with potential responsibility to reduce cost of health care			
Trial lawyers (n = 2433)	1449 (60)	630 (26)	353 (15)
Health insurance companies (n = 2446)	1439 (59)	923 (38)	84 (3)
Pharmaceutical and device manufacturers (n = 2445)	1377 (56)	938 (38)	129 (5)
Hospitals and health systems (n = 2439)	1373 (56)	1037 (43)	29 (1)
Patients (n = 2439)	1265 (52)	1124 (46)	50 (2)
Government (n = 2440)	1073 (44)	1186 (49)	181 (7)
Individual practicing physicians (n = 2438)	889 (36)	1448 (59)	101 (4)
Physician professional societies (n = 2433)	667 (27)	1491 (61)	275 (11)
Employers (n = 2429)	457 (19)	1524 (63)	448 (18)
<b>Potential means of reducing health care costs</b>	<b>Very Enthusiastic</b>	<b>Somewhat Enthusiastic</b>	<b>Not Enthusiastic</b>
Improving quality and efficiency of care			
Promoting continuity of care (n = 2484)	1872 (75)	580 (23)	32 (1)
Rooting out fraud and abuse (n = 2487)	1736 (70)	575 (23)	176 (7)
Promoting chronic disease care coordination (n = 2487)	1723 (69)	715 (29)	49 (2)
Expanding access to free preventive care (n = 2472)	1174 (47)	939 (38)	359 (15)
Expanding electronic health records (n = 2476)	857 (35)	904 (37)	715 (29)
Improving conditions for evidence-based decisions			
Limiting corporate influence on physician behavior (n = 2458)	1535 (63)	653 (27)	252 (10)
Expanding access to quality and safety data (n = 2475)	1258 (51)	1017 (41)	200 (8)
Promoting head-to-head trials of competing treatments (n = 2474)	1243 (50)	1024 (41)	207 (8)
Changing how care gets paid for			
Limiting access to expensive treatments with little net benefit (n = 2472)	1265 (51)	945 (38)	262 (11)
Using cost-effectiveness data to determine available treatments (2480)	1170 (47)	1041 (42)	269 (11)
High-deductible health plans (n = 2474)	410 (17)	1005 (41)	1059 (43)
Higher patient co-pays (n = 2479)	419 (17)	1079 (44)	981 (40)
Paying a network of practices a fixed, bundled price for managing all care for a defined population (n = 2467)	160 (6)	696 (28)	1611 (65)
Penalizing providers for avoidable readmissions (n = 2472)	138 (6)	869 (35)	1465 (59)
Cutting payment to physicians directly			
Reducing compensation for the highest-paid specialties (n = 2474)	589 (24)	794 (32)	1091 (44)
Eliminating fee-for-service payment models (n = 2443)	175 (7)	550 (23)	1718 (70)

	No. (%) <sup>a</sup>		
	Major Responsibility	Some Responsibility	No Responsibility
Allowing Medicare payment cuts to doctors to take effect (n = 2480)	35 (1)	112 (5)	2333 (94)

<sup>a</sup>Percentages not all based on denominator of 2556 because of missing responses to some survey items.

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**Table 4**  
**Degree of Agreement/Disagreement Among 2556 Physician Respondents Regarding Their Role in Containing Health Care Costs and Potential Barriers to and Consequences of Cost-Conscious Practice**

	No. (%) <sup>a</sup>			
	Strongly Agree	Moderately Agree	Moderately Disagree	Strongly Disagree
Attention to and role in addressing health care costs				
I am aware of the costs of the tests/treatments I recommend (n = 2446)	556 (23)	1307 (53)	423 (17)	160 (7)
I try not to think about the cost to the health care system when making treatment decisions <sup>b</sup> (n = 2449)	265 (11)	747 (31)	935 (38)	502 (21)
I should sometimes deny beneficial but costly services to certain patients because resources should go to other patients that need them more (n = 2428)	61 (3)	305 (13)	748 (31)	1314 (54)
Cost to society is important in my decisions to use or not to use an intervention <sup>b</sup> (n = 2439)	268 (11)	1039 (43)	788 (32)	344 (14)
Physicians should adhere to clinical guidelines that discourage the use of interventions that have a small proven advantage over standard interventions but cost much more <sup>b</sup> (n = 2434)	807 (33)	1123 (46)	402 (17)	102 (4)
The cost of a test or medication is only important if the patient has to pay for it out of pocket <sup>b</sup> (n = 2449)	81 (3)	306 (13)	824 (34)	1238 (51)
Doctors are too busy to worry about costs of tests and procedures <sup>b</sup> (n = 2451)	138 (6)	515 (21)	761 (31)	1037 (42)
Trying to contain costs is the responsibility of every physician <sup>b</sup> (n = 2442)	900 (37)	1179 (48)	256 (10)	107 (4)
There is currently too much emphasis on costs of tests and procedures <sup>b</sup> (n = 2437)	244 (10)	598 (25)	1112 (46)	483 (20)
Doctors need to take a more prominent role in limiting use of unnecessary tests <sup>b</sup> (n = 2442)	1016 (42)	1146 (47)	214 (9)	66 (3)
It is unfair to ask physicians to be cost-conscious and still keep the welfare of their patients foremost in their minds <sup>b</sup> (n = 2439)	339 (14)	684 (28)	1007 (41)	409 (17)
I should be solely devoted to my individual patients' best interests, even if that is expensive <sup>b</sup> (n = 2438)	927 (38)	975 (40)	436 (18)	100 (4)
Decision support tools that show costs would be helpful in my practice <sup>b</sup> (n = 2461)	483 (20)	1240 (50)	487 (20)	251 (10)
Barriers to and consequences of cost-conscious practice				
I find the uncertainty involved in patient care disconcerting (n = 2449)	362 (15)	1008 (41)	649 (27)	430 (18)
I generally order more tests when I don't know the patient well (n = 2463)	185 (8)	868 (35)	769 (31)	641 (26)
My enjoyment of the practice of medicine is substantially lessened because of the threat of lawsuits (n = 2550)	696 (27)	1096 (43)	473 (19)	285 (11)

<sup>a</sup> Percentages not all based on denominator of 2556 because of missing responses to some survey items.

<sup>b</sup> Included in 11-item cost-consciousness scale.

**Table 5**  
**Respondents in Each Subgroup Who Selected “Very Enthusiastic” for the Top-Ranking Cost-Containment Strategies and Odds of Selecting “Very Enthusiastic” for Each Strategy From a Single Multivariable Logistic Regression Model Including All Listed Characteristics**

Characteristic	Cost-Containment Strategies							
	Promoting Continuity of Care		Expanding Access to Quality and Safety Data		Limiting Access to Expensive Treatments With Little Net Benefit		Eliminating Fee-for-Service Payment Models	
	No. (%)	OR (99% CI)	No. (%)	OR (99% CI)	No. (%)	OR (99% CI)	No. (%)	OR (99% CI)
<i>Age, y</i>								
<50	788 (76)	1 [Reference]	511 (49)	1 [Reference]	484 (47)	1 [Reference]	70 (7)	1 [Reference]
50	1084 (75)	1.1 (0.9-1.5)	747 (52)	1.2 (1.0-1.6)	781 (54)	1.4 (1.1-1.8) <sup>a</sup>	105 (7)	1.1 (0.7-1.7)
<i>Sex</i>								
Female	635 (85)	1 [Reference]	408 (55)	1 [Reference]	367 (49)	1 [Reference]	55 (8)	1 [Reference]
Male	1237 (71)	0.4 (0.3-0.6) <sup>a</sup>	850 (49)	0.8 (0.6-1.0)	898 (52)	1.1 (0.9-1.4)	120 (7)	1.0 (0.6-1.6)
<i>Region</i>								
South	597 (74)	1 [Reference]	410 (51)	1 [Reference]	381 (47)	1 [Reference]	36 (5)	1 [Reference]
Midwest	419 (73)	1.0 (0.7-1.4)	274 (48)	0.9 (0.7-1.2)	309 (55)	1.3 (0.9-1.7)	60 (11)	1.2 (0.6-2.4)
Northeast	420 (79)	1.2 (0.9-1.8)	275 (51)	1.0 (0.7-1.3)	254 (48)	1.0 (0.7-1.3)	45 (9)	1.7 (0.9-3.3)
West	422 (76)	1.1 (0.8-1.5)	284 (51)	1.1 (0.8-1.5)	316 (57)	1.4 (1.1-1.9)	33 (6)	3.0 (1.6-5.4) <sup>a</sup>
<i>Practice setting type</i>								
Small/solo	360 (74)	1 [Reference]	221 (46)	1 [Reference]	213 (44)	1 [Reference]	15 (3)	1 [Reference]
Group/HMO	1200 (76)	1.2 (0.9-1.7)	810 (51)	1.3 (1.0-1.7)	830 (53)	1.4 (1.0-1.9)	112 (7)	1.7 (0.8-4.0)
City/state/federal government	246 (75)	1.0 (0.6-1.6)	178 (54)	1.3 (0.9-2.0)	181 (55)	1.4 (0.9-2.1)	37 (12)	2.3 (0.9-6.0)
Medical school	48(83)	1.9 (0.7-5.1)	33 (57)	1.6 (0.7-3.9)	33 (57)	1.6 (0.7-3.4)	8 (14)	2.6 (0.7-10.1)
<i>Compensation type</i>								
Billing only	743 (74)	1 [Reference]	475 (47)	1 [Reference]	485 (48)	1 [Reference]	29 (3)	1 [Reference]
Salary plus bonus	639 (75)	1.0 (0.8-1.4)	386 (54)	1.3 (1.0-1.7)	437 (52)	1.1 (0.9-1.4)	78 (9)	3.3 (1.8-6.1) <sup>a</sup>
Salary only	345 (78)	1.2 (0.8-1.7)	228 (52)	1.1 (0.8-1.5)	246 (56)	1.2 (0.9-1.7)	57 (13)	4.3 (2.2-8.5) <sup>a</sup>

Abbreviation: HMO, health maintenance organization.

<sup>a</sup> *P* < .001.

**Table 6**  
**Associations Between Physician Characteristics and Attitudes Toward Malpractice and Uncertainty and Mean Cost-Consciousness Scores**

Characteristics and Attitudes	Mean Cost-Consciousness			
	Unadjusted		Adjusted <sup>a</sup>	
	$\beta$ Coefficient (95% CI)	P Value	$\beta$ Coefficient (95% CI)	P Value
Practice setting type				
Small/solo	1 [Reference]		1 [Reference]	
Group/HMO	1.00 (0.46 to 1.55)	<.001	0.87 (0.29 to 1.45)	.004
City/state/federal government	1.26 (0.51 to 2.01)	.001	0.99 (0.20 to 1.79)	.01
Medical school	1.85 (0.40 to 3.30)	.01	1.37 (-0.14 to 2.89)	.08
Other nonpatient care	1.38 (-0.88 to 3.65)	.23	1.02 (-1.25 to 3.29)	.38
Practice compensation type				
Billing only	1 [Reference]		1 [Reference]	
Salary plus bonus	0.91 (0.42 to 1.40)	<.001	0.82 (0.32 to 1.33)	.002
Salary only	0.96 (0.36 to 1.56)	.002	0.40 (-0.23 to 1.03)	.21
Other	0.42 (-0.53 to 1.36)	.39	0.06 (-0.90 to 1.01)	.90
My enjoyment of the practice of medicine is substantially lessened because of the threat of lawsuits				
Strongly disagree	1 [Reference]		1 [Reference]	
Moderately disagree	0.34 (-0.46 to 1.15)	.40	0.85 (0.05 to 1.65)	.04
Moderately agree	-0.77 (-1.49 to -0.06)	.03	-0.08 (-0.80 to 0.64)	.83
Strongly agree	-1.93 (-2.69 to -1.18)	<.001	-0.75 (-1.53 to 0.03)	.06
I find the uncertainty involved in patient care disconcerting				
Strongly disagree	1 [Reference]		1 [Reference]	
Moderately disagree	-0.75 (-1.39 to -0.10)	.02	-0.70 (-1.35 to -0.05)	.03
Moderately agree	-1.64 (-2.24 to -1.04)	<.001	-1.39 (-2.00 to -0.78)	<.001
Strongly agree	-2.77 (-3.51 to -2.03)	<.001	-1.95 (-2.71 to -1.18)	<.001

Abbreviation: HMO, health maintenance organization.

<sup>a</sup> Adjusted model includes all items shown in the table plus sex, age, region of practice, specialty, and political self-characterization.