



**Shared Decision Making as a Cost-Containment Strategy:  
U.S. Physician Reactions From a Cross-Sectional Survey**

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## Shared Decision Making as a Cost-Containment Strategy: U.S. Physician Reactions From a Cross-Sectional Survey

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**ABSTRACT**

**Objective:** To assess U.S. physicians' attitudes toward using shared decision-making (SDM) to achieve cost-containment.

**Design:** Cross-sectional mailed survey.

**Setting:** U.S. medical practice.

**Participants:** 3897 physicians randomly selected from the AMA Physician Masterfile. 2556 completed the survey.

**Main Outcome Measures:** Level of enthusiasm for "Promoting better conversations with patients as a means of lowering health care costs"; perceived barriers to SDM; degree of agreement with "Decision support tools that show costs would be helpful in my practice"; and agreement with "Should promoting shared decision-making be legislated to control overall health care costs".

**Results:** Of 2556 respondents (RR 65%), two-thirds (67%) were "very enthusiastic" about promoting SDM as a means of reducing health care costs. Most (70%) agreed decision support tools that show costs would be helpful in their practice, but only 24% agreed with legislating SDM to control costs. Physicians cited patient confusion (65%) and lack of patient interest (59%) as common barriers to SDM. Compared to physicians with billing-only compensation, respondents with salary compensation were more likely to agree that decision support tools showing costs would be helpful (OR 1.5; 95% CI 1.3 to 1.9). Primary care physicians (vs. surgeons, OR 1.4; 95% CI 1.0 to 1.6) expressed more enthusiasm for SDM being legislated as a means to address health care costs.

**Conclusions:** Most U.S. physicians express enthusiasm about using SDM to help contain costs. They believe decision support tools that show costs would be useful. Few agree that SDM should be legislated as a means to control health care costs.

## ARTICLE SUMMARY

### Article focus:

- Shared decision making (SDM), a process of patient engagement and mutual deliberation between health care providers and patients, has been advanced as a way to promote respect for patients, encourage greater patient engagement in their care, and improve adherence and outcomes.
- While barriers to SDM have been previously described, US physicians' views about SDM as a means of reducing health care costs are unknown.

### Key messages:

- Our study suggests that most US physicians are enthusiastic about SDM and see it as a promising avenue for controlling costs.
- Only a minority of physicians agree that SDM should be legislated to help control health care costs.

### Strengths and limitations of this study:

- First study to provide a current glimpse into U.S. physicians views about SDM in the context of cost-containment.
- While this cross-sectional survey had a solid response rate, its findings should be treated with caution due to the nature of the topic area. Social desirability may lead physicians to say positive things about shared decision making, but whether their behavior follows remains unknown.

## INTRODUCTION

Since at least the 1980s, shared decision making (SDM), defined as a process of patient engagement and mutual deliberation between health care providers and patients,<sup>1</sup> has been advanced as a way to promote respect for patients, encourage greater patient engagement in their care, and improve adherence and outcomes.<sup>2</sup> Shared decision making interventions such as decision aids (DAs) enhance patient knowledge, assist patients in forming realistic expectations, clarify their preferences, and decrease decisional conflict.<sup>3-5</sup> In addition, there is some evidence that using certain SDM tools like DAs can reduce utilization of discretionary procedures<sup>6</sup> and perhaps even reduce overall health care expenditures and utilization.<sup>5-7</sup>

Efforts are underway to use SDM as a means of addressing healthcare costs. Some advocates propose including physicians' use of decision aids as a quality measure aimed at controlling discretionary healthcare spending.<sup>8</sup> The Patient Protection and Affordable Care Act (ACA) introduced several provisions to promote the use of SDM<sup>9</sup> including CMS innovation initiatives aimed at testing SDM as a means of reducing discretionary procedures and lowering costs.<sup>8</sup> While general barriers to SDM in physician practice have been described,<sup>10</sup> it is not known whether physicians charged with carrying out SDM find it an attractive means of reducing health care costs, whether they would endorse using decision support tools that show costs, or whether they endorse the idea of legislation promoting SDM for the purpose of controlling health care costs as an appropriate means of achieving cost savings.

## METHODS

The Mayo Clinic Institutional Review Board approved this study. In May 2012, we mailed a self-administered, 8-page survey entitled, "Physicians, Health Care Costs, and Society" to a random sample of 3,897 practicing US physicians representing all specialties listed in the AMA

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3 Physician Masterfile using the Tailored Design Method<sup>11</sup> including a \$20 bill with the first mailing  
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5 only. Second and third mailings were sent to non-responders at six-week intervals.  
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### 8 9 10 *Survey Instrument*

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12 To develop our instrument we reviewed the literature, conducted focus groups with  
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14 physicians, formulated questions, conducted cognitive interviews, and revised questions,  
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16 adapting or adopting existing measures whenever possible. The final survey includes questions  
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18 assessing physicians' perspectives on health care reform, their societal responsibilities, medical  
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20 decision-making, cost of health care, and cost-conscious practices. This report focuses on  
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22 measures pertaining to the use of and barriers to shared decision-making in particular. (Full  
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24 instrument for reviewers available in Appendix A)  
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### 27 28 *Measures*

29  
30 Specific items assessed in this manuscript include respondents' level of enthusiasm  
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32 (not, somewhat, very) for several potential strategies to reduce health care costs. In this list we  
33  
34 operationalized the idea of SDM in the phrase, "Promoting better conversations with patients" as  
35  
36 a means of lowering health care costs. We also asked respondents' degree of agreement with  
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38 "Decision support tools that show costs would be helpful in my practice" (strongly disagree,  
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40 moderately disagree, moderately agree, strongly agree); and "Should promoting shared  
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42 decision-making be legislated to control overall health care costs" (yes/no).  
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46 We examined physician demographics (age, sex, region, specialty type, and political  
47  
48 self-characterization), practice characteristics (compensation type, predominant practice setting  
49  
50 type), and perceived barriers to SDM drawn from the literature ("Which of the following is a  
51  
52 major barrier to you more actively engaging patients in a process of shared decision making?"  
53  
54 [mark all that apply] *patient confusion, inability to individualize risk, lack of patient interest in*  
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3 *playing an active role, lack of supportive systems, lack of adequate time with the patient,*  
4  
5 *administrative burdens, financial pressure to do better paying activities, other).*  
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### 8 9 10 *Analysis*

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12 Using SAS 9.2 (Cary, NC), we calculated response distributions for all items related to  
13  
14 SDM previously described. We performed bivariate and multivariate tests of association (i.e.  
15  
16 unadjusted and adjusted logistic regression models) to examine associations between physician  
17  
18 characteristics (sex, age, region of practice, specialty, practice setting type, compensation type,  
19  
20 and political self-characterization) as well as attitudes about barriers to SDM (independent  
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22 measures) and their views on each of the three dimensions of SDM as a cost-containment  
23  
24 strategy (dependent measures) described above.  
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28 Variables included in multivariate logistic regression models were determined based  
29  
30 upon those characteristics of physicians that we *a priori* hypothesized would be associated with  
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32 our dependent variables (i.e. age, sex, region of practice, specialty type, and political self-  
33  
34 characterization), as well as physician characteristics and survey items that were empirically  
35  
36 found in bivariate analyses to be significantly associated with our three dependent variables of  
37  
38 interest (i.e. practice setting, practice compensation type, and perceived barriers to  
39  
40 implementing SDM). Therefore, for each dependent variable, we first ran a “base model”  
41  
42 containing only those variables for which we were adjusting (age, sex, region of practice,  
43  
44 specialty type, and political self-characterization), and then subsequently conducted separate  
45  
46 multivariable models testing the association between each individual characteristic/attitude and  
47  
48 the dependent variable while controlling for age, sex, region of practice, specialty type, and  
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50 political self-characterization.  
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53  
54 The funding source had no role in the development, implementation, or analysis of data  
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56 in this study.  
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## RESULTS

2556 physicians responded to the survey (65% response rate).<sup>12</sup> Respondents were largely male (70%), age 50 years or older (58%) and white (77%) (Table 1). Respondents were slightly older than non-respondents (58% vs 54% older than 50 years, respectively;  $X^2= 5.4$ ;  $p = 0.02$ ) but otherwise representative of the overall U.S. physician population<sup>13</sup>. Most (67%) were “very enthusiastic” about promoting better conversations with patients as a means of reducing health care costs. A majority somewhat or strongly agreed that decision support tools that show costs would be helpful in their practice (70%). In contrast, just one in four respondents (24%) agreed that promoting SDM should be legislated as a means of controlling health care costs (Table 2). The most common barriers cited to “actively engaging patients in a process of shared decision making” included patient confusion (65%), lack of patient interest in playing an active role (59%), and lack of adequate time with the patient (56%).

When stratifying respondents by demographic characteristics (age, sex, region, specialty, and political self-characterization), we found that a majority of respondents from all subgroups expressed enthusiasm about SDM as a cost-containment strategy and decision support tools that show costs. In contrast, a consistent minority of respondents across all subgroups agreed that promoting SDM should be legislated (Table 3).

In bivariate analyses, female physicians (OR 1.7; 95% CI 1.4 to 2.1) and those identifying as politically liberal (OR 1.8; 95% CI 1.5 to 2.3) had significantly greater odds of being very enthusiastic about promoting better conversations as a means to reduce health care costs. Surgeons had lower odds than primary care providers to express enthusiasm for promoting better conversations as a means of cost-containment (OR 0.7; 95% CI 0.6 to 0.9), while responding physicians’ region of practice, age, and type of practice setting did not appear to be associated with their views on this item.



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3 In separate multivariable models adjusted for age, sex, region, specialty and political  
4 self-characterization, respondents reporting salary/salary + bonus compensation compared with  
5 billing-only had a greater odds of agreeing that decision support tools that show costs would be  
6 helpful in their practice (OR 1.5; 95% CI 1.3 to 1.9). Respondents identifying themselves as  
7 “very or somewhat liberal or progressive” also had higher odds than those self-described as  
8 “very or somewhat conservative” of agreeing that decision support tools that show cost would  
9 be helpful (ORs 1.7; 95% CIs 1.3 to 2.1), as well as expressing strong enthusiasm for promoting  
10 better conversations with patients (OR 1.7; 95% CI 1.4 to 2.1). (Table 4)  
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20 Several perceived barriers to shared decision making were independently associated  
21 with respondents’ enthusiasm about promoting better conversations with patients as a cost-  
22 containment strategy, whether decision support tools showing costs would be helpful, and  
23 whether SDM should be legislated to control health care costs. In logistic regression models  
24 adjusted for sex, age, region, specialty, and political self-characterization, those who selected  
25 “lack of supportive systems” as a perceived barrier to SDM had twice the odds (OR 2.1; 95% CI  
26 1.4 to 3.0) as others to be very enthusiastic about promoting better conversations with patients  
27 as a means of reducing health care costs. Respondents who perceived lack of adequate time  
28 with patients (OR 1.2; 95% CI 1.0 to 1.5) and financial pressures (OR 1.4; 95% CI 1.0 to 1.8) as  
29 barriers to SDM also had significantly higher odds of agreeing agree decision support tools that  
30 show costs would be helpful in their practice. Finally, respondents who selected administrative  
31 burdens (OR 1.4; 95% CI 1.1 to 1.7), an inability to individualize risk (OR 1.5; 95% CI 1.2 to  
32 1.9), financial pressure to do better-paying activities (OR 1.6; 95% CI 1.2-2.1), and lack of  
33 supportive systems (OR 2.0; 95% CI 1.5 to 2.7) as perceived barriers to SDM had greater odds  
34 of believing that SDM should be legislated. (Table 4)  
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## DISCUSSION

Most US physicians express strong enthusiasm for promoting better conversations with patients as a means to control health care costs and believe decision support tools showing costs would be useful. A minority of physicians agree that SDM should be legislated to help control health care costs. Although certain subgroups of respondents (e.g. self-described liberals; females) appear more likely to express enthusiasm for SDM and cost-transparency compared to other subgroups, majorities of respondents in all subgroups were, overall, supportive of both promoting better conversations as well as using decision tools that show costs.

### *Comparison With Other Studies*

Given the significant variability of cost and lack of cost-transparency in the US health system,<sup>14-18</sup> decision support tools that show total costs and patient out-of-pocket costs could be a means to empower both physicians and patients as informed health care consumers. Support for SDM with cost transparency also might reflect physicians' views of patient responsibility for reducing health care costs. In any event, promoting tools to achieve better conversations with patients and cost transparency appears to be a physician-supported, patient-centered strategy to achieve cost-containment.

Lack of time with patients and administrative barriers pose obstacles to engaging patients in SDM, according to our respondents. Two of the barriers to SDM that physicians cited – patient confusion and patients' lack of interest - stand in contrast to studies of patients' views. The national 2009 DECISIONS study<sup>19</sup> of nine medical decisions found patients say they are ready for involvement and desire it. There are multiple explanations for this gap. First, while patients say, when asked, they want to play a greater role in decision making, doctors may interpret their behavior during encounters otherwise. Expressions of preference for decision

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3 making could vary depending on the decision faced, from those with high stakes (e.g., major  
4 surgery) to more routine circumstances (treatment for allergic rhinitis). In addition, physicians  
5 may misjudge patient confusion for lack of interest in playing an active role, or may exhibit recall  
6 bias when responding to items about barriers to SDM. Moreover, how questions about SDM are  
7 framed – in this and in other studies – could lead to discrepant results.  
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### 13 14 15 *Strengths and Limitations of This Study*

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18 The limited nature of the single item measures presented here restrict our inferences. In  
19 particular, it is unclear why physicians disagree with legislating SDM. Do physicians resist  
20 infringement on their autonomy? Do they resist any potentially punitive regulatory measures?  
21 Do they fear “big brother” government intrusion? It is possible that physicians may not be  
22 comfortable with the idea of any behaviors, including SDM, being legislated even if they  
23 embrace the potential positive consequences of doing so. Some physicians may fear that using  
24 SDM as a means of reducing health care costs could tarnish its patient-centered end in itself.  
25 Ascertaining such motivations would require further in-depth qualitative work beyond the scope  
26 of this survey.  
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38 While this cross-sectional survey had a solid response rate, reducing concerns about  
39 response bias, its findings should still be treated with caution due to the nature of the topic area.  
40 Social desirability may lead physicians to say very glowing things about shared decision  
41 making. Whether, however, their behavior follows is what is of ultimate concern. Although the  
42 face validity of our measures (*Which of the following is a major barrier to you more actively*  
43 *engaging patients in a process of shared decision-making?\**; *Promoting SDM should be*  
44 *legislated as a means of controlling health care costs*; *Decision support tools that show costs*  
45 *would be helpful in my practice*; *Level of enthusiasm for “promoting better conversations with*  
46 *patients” as a means to promote cost-containment*) do not evoke a clear social desirability bias,  
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3 that possibility cannot be excluded. This approach did not (and arguable could not accurately)  
4 assess actual behavior. The AMA Masterfile is the most comprehensive listing of US physicians,  
5 but relies on physician self-report for key practice characteristics. For instance, specialty data  
6 listed in the AMA Masterfile lists self-reported specialty that is not verified with specialty boards.  
7 Furthermore, the descriptive statistics reported here may not fully reflect all US physician  
8 opinion.  
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### 20 *Conclusions and Policy Implications*

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23 Since its emergence in the President's Commission 30 years ago, shared decision  
24 making has promoted empowering patients in their care as an intrinsic good. Should policy also  
25 support, or require, SDM to achieve cost-savings? Doing so can be justified as a win-win  
26 proposition if SDM improves quality and lowers (or stabilizes) health care spending. Yet, if SDM  
27 is viewed – by physicians, patients, or both – as primarily aimed at cost control, or as an effort  
28 to save money masquerading as quality improvement, then an important, patient-centered tool  
29 may well be left in the toolbox unused. These and other unanswered questions about what the  
30 appropriate policy rationale for SDM should be will need to be addressed to assure that its  
31 ethical ideals are preserved in the coming years. At present, however, it appears most  
32 physicians are enthusiastic about shared decision making and see it as a promising avenue for  
33 controlling costs.  
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**Data Sharing Statement:**

Full dataset and statistical code available from the corresponding author at  
tilburt.jon@mayo.edu. Consent was not obtained but the presented data are anonymized and  
risk of identification is low.

For peer review only

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**Table 1.** Characteristics of 2556 responding U.S. physicians.

| Characteristic                          | No. (%)    |
|---|------------|
| <b>Age, Mean [SD], years</b>            | 51.0 [8.5] |
| <b>Male sex</b>                         | 1784 (70)  |
| <b>Race or ethnic group*</b>            |            |
| White or Caucasian                      | 1958 (77)  |
| Asian                                   | 369 (15)   |
| Other                                   | 124 (5)    |
| Black or African-American               | 80 (3)     |
| <b>Region†</b>                          |            |
| South                                   | 829 (33)   |
| Midwest                                 | 594 (23)   |
| Northeast                               | 548 (22)   |
| West                                    | 570 (22)   |
| <b>Primary Specialty</b>                |            |
| Primary Care                            | 1034 (40)  |
| Surgery                                 | 571 (22)   |
| Procedural Specialty                    | 486 (19)   |
| Nonprocedural Specialty                 | 399 (16)   |
| Non-Clinical                            | 44 (2)     |
| <b>Practice Setting Type</b>            |            |
| Group/HMO                               | 1641 (64)  |
| Small/solo                              | 498 (19)   |
| City/state/federal government           | 336 (13)   |
| Medical school                          | 59 (2)     |
| <b>Practice Compensation Type‡</b>      |            |
| Billing only                            | 1036 (41)  |
| Salary plus bonus                       | 874 (35)   |
| Salary only                             | 460 (18)   |
| Other                                   | 154 (6)    |
| <b>Political Self-Characterization§</b> |            |
| Very Conservative                       | 254 (10)   |
| Somewhat Conservative                   | 709 (28)   |
| Independent/Moderate                    | 726 (29)   |
| Somewhat Liberal/Progressive            | 495 (20)   |
| Very Liberal/Progressive                | 247 (10)   |

\* Percentages based on a denominator of 2532

† Percentages based on a denominator of 2541

‡ Percentages based on a denominator of 2524

§ Percentages based on a denominator of 2497

**Table 2.** Distribution of responses to SDM and cost items from 2556 US physicians

| Survey Item  | No. (%)   |
|--|-----------|
| <i>Level of enthusiasm for “promoting better conversations with patients” as a means to promote cost-containment.(n = 2486)</i>            |           |
| Not enthusiastic   | 80 (3)    |
| Somewhat enthusiastic  | 745 (30)  |
| Very enthusiastic  | 1661 (67) |
| <i>Decision support tools that show costs would be helpful in my practice.(n = 2461)</i>   |           |
| Strongly disagree  | 251 (10)  |
| Somewhat disagree  | 487 (20)  |
| Somewhat agree   | 1240 (50) |
| Strongly agree   | 483 (20)  |
| <i>Promoting SDM should be legislated as a means of controlling health care costs.(n = 2435)</i>   |           |
| Yes  | 593 (24)  |
| No   | 1842 (76) |
| <i>Which of the following is a major barrier to you more actively engaging patients in a process of shared decision-making?*(n = 2402)</i> |           |
| Patient Confusion  | 1558 (65) |
| Lack of patient interest in playing an active role   | 1425 (59) |
| Lack of adequate time with the patient   | 1349 (56) |
| Administrative burdens   | 808 (34)  |
| Inability to individualize risk  | 499 (21)  |
| Financial pressure to do better paying activities  | 349 (15)  |
| Other  | 268 (11)  |
| Lack of supportive systems   | 216 (9)   |

\*Item was “Mark all that apply”; hence percentages here were calculated with the denominator as the total number of respondents who answered this question (i.e. selected at least one of the response category options).

**Table 3.** Distribution of physician responses to SDM-related survey items stratified by demographic characteristics.

|  | No. (row %)   |         |  |         |                                    |         |
|--|---|---------|--|---------|------------------------------------|---------|
|  | Very enthusiastic about promoting better conversations as means to reduce health care costs |         | Agree decision support tools showing costs would be helpful in my practice |         | Promoting SDM should be legislated |         |
|  | No. (row %)   | P-value | No. (row %)  | P-value | No. (row %)                        | P-value |
| <b>Age (years)</b>                           |   | 0.48    |  | 0.82    |                                    | <0.0001 |
| Less than 50 years (n=1043)                  | 705 (68)  |         | 710 (69)   |         | 293 (29)                           |         |
| 50 years or greater (n = 1443)               | 956 (66)  |         | 1013 (71)  |         | 300 (21)                           |         |
| <b>Sex</b>                                   |   | <0.0001 |  | 0.24    |                                    | 0.19    |
| Male (n=1734)                                | 1097 (63)   |         | 1199 (70)  |         | 405 (24)                           |         |
| Female (n=752)                               | 564 (75)  |         | 524 (70)   |         | 188 (26)                           |         |
| <b>Region</b>                                |   | 0.99    |  | 0.01    |                                    | 0.69    |
| Midwest (n=570)                              | 379 (66)  |         | 420 (74)   |         | 133 (24)                           |         |
| South (n=809)                                | 539 (67)  |         | 550 (69)   |         | 183 (23)                           |         |
| West (n=555)                                 | 369 (66)  |         | 392 (72)   |         | 132 (24)                           |         |
| Northeast (n=537)                            | 361 (67)  |         | 351 (66)   |         | 136 (26)                           |         |
| <b>Primary Specialty</b>                     |   | 0.05    |  | 0.26    |                                    | 0.02    |
| Primary Care (n=1003)                        | 693 (69)  |         | 711 (71)   |         | 247 (25)                           |         |
| Surgery (n=558)                              | 348 (62)  |         | 369 (67)   |         | 104 (19)                           |         |
| Procedural Specialty (n=473)                 | 310 (66)  |         | 334 (72)   |         | 126 (27)                           |         |
| Nonprocedural Specialty (n=390)              | 273 (70)  |         | 264 (68)   |         | 99 (26)                            |         |
| Non-Clinical (n=42)                          | 25 (60)   |         | 29 (73)  |         | 12 (29)                            |         |
| Other (n=20)                                 | 12 (60)   |         | 16 (80)  |         | 5 (25)                             |         |
| <b>Political Self-Characterization</b>       |   | <0.0001 |  | 0.0001  |                                    | 0.04    |
| Very/Somewhat Conservative (n=937)           | 576 (61)  |         | 610 (66)   |         | 204 (22)                           |         |
| Independent/Moderate (n=707)                 | 479 (68)  |         | 486 (69)   |         | 171 (25)                           |         |
| Very/Somewhat Liberal or Progressive (n=719) | 535 (74)  |         | 538 (75)   |         | 192 (27)                           |         |

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**Table 4.** Unadjusted and adjusted associations between physician characteristics/attitudes and their views on SDM from bivariate and multivariate logistic regression models.

|  | Very enthusiastic about promoting better conversations as means to reduce health care costs |         |                       | Agree decision support tools showing costs would be helpful in my practice |         |                       | Promoting SDM should be legislated |         |                       |
|--|---|---------|-----------------------|--|---------|-----------------------|------------------------------------|---------|-----------------------|
|  | Unadjusted OR (95% CI)  | p-value | Adjusted OR (95% CI)  | Unadjusted OR (95% CI)   | p-value | Adjusted OR (95% CI)  | Unadjusted OR (95% CI)             | p-value | Adjusted OR (95% CI)  |
| <b>Age (years)</b>                     | 1.0<br>(0.99 to 1.01)   |         | 1.0<br>(0.98 to 1.01) | 1.0<br>(0.99 to 1.01)  |         | 1.0<br>(0.99 to 1.02) | 0.98*<br>(0.97 to 0.99)            |         | 0.98<br>(0.97 to 1.0) |
| <b>Sex</b>                             |   | <0.0001 |                       |  | 0.24    |                       |                                    | <0.0001 |                       |
| Male                                   | Ref   |         | Ref                   | Ref  |         | Ref                   | Ref                                |         | Ref                   |
| Female                                 | 1.7*<br>(1.4 to 2.1)  |         | 1.7*<br>(1.3 to 2.0)  | 1.0<br>(0.8 to 1.2)  |         | 1.0<br>(0.8 to 1.2)   | 1.1<br>(0.9 to 1.4)                |         | 1.0<br>(0.8 to 1.2)   |
| <b>Region</b>                          |   | 0.99    |                       |  | 0.01    |                       |                                    | 0.99    |                       |
| Midwest                                | Ref   |         | Ref                   | Ref  |         | Ref                   | Ref                                |         | Ref                   |
| South                                  | 1.0<br>(0.8 to 1.3)   |         | 1.0<br>(0.8 to 1.2)   | 0.8*<br>(0.6 to 1.0)   |         | 0.8<br>(0.6 to 1.0)   | 1.0<br>(0.7 to 1.2)                |         | 0.9<br>(0.7 to 1.2)   |
| West                                   | 1.0<br>(0.8 to 1.3)   |         | 0.9<br>(0.7 to 1.1)   | 0.9<br>(0.7 to 1.2)  |         | 0.8<br>(0.6 to 1.1)   | 1.0<br>(0.8 to 1.4)                |         | 1.0<br>(0.8 to 1.3)   |
| Northeast                              | 1.0<br>(0.8 to 1.3)   |         | 0.9<br>(0.7 to 1.2)   | 0.7*<br>(0.5 to 0.9)   |         | 0.7<br>(0.6 to 1.1)   | 1.1<br>(0.9 to 1.5)                |         | 1.1<br>(0.8 to 1.5)   |
| <b>Primary Specialty</b>               |   | 0.05    |                       |  | 0.26    |                       |                                    | 0.05    |                       |
| Primary Care                           | Ref   |         | Ref                   | Ref  |         | Ref                   | Ref                                |         | Ref                   |
| Surgery                                | 0.7*<br>(0.6 to 0.9)  |         | 0.9<br>(0.7 to 1.1)   | 0.8<br>(0.6 to 1.0)  |         | 0.9<br>(0.7 to 1.1)   | 0.7*<br>(0.5 to 0.9)               |         | 0.7*<br>(0.6 to 1.0)  |
| Procedural Specialty                   | 0.9<br>(0.7 to 1.1)   |         | 1.0<br>(0.8 to 1.2)   | 1.0<br>(0.8 to 1.3)  |         | 1.0<br>(0.8 to 1.3)   | 1.1<br>(0.9 to 1.4)                |         | 1.2<br>(0.9 to 1.5)   |
| Nonprocedural Specialty                | 1.0<br>(0.8 to 1.3)   |         | 1.1<br>(0.8 to 1.4)   | 0.8<br>(0.6 to 1.1)  |         | 0.8<br>(0.6 to 1.0)   | 1.0<br>(0.8 to 1.4)                |         | 1.3<br>(0.8 to 1.4)   |
| Non-Clinical                           | 0.7<br>(0.4 to 1.2)   |         | 0.6<br>(0.3 to 1.2)   | 1.1<br>(0.5 to 2.1)  |         | 0.9<br>(0.5 to 1.9)   | 1.2<br>(0.6 to 2.3)                |         | 1.3<br>(0.7 to 2.7)   |
| Other                                  | 0.7<br>(0.3 to 1.7)   |         | 0.7<br>(0.3 to 1.9)   | 0.6<br>(0.5 to 4.8)  |         | 2.1<br>(0.6 to 7.2)   | 1.0<br>(0.4 to 2.7)                |         | 1.0<br>(0.3 to 2.8)   |
| <b>Political Self-Characterization</b> |   | <0.0001 |                       |  | 0.0001  |                       |                                    | <0.0001 |                       |

|   |                      |       |                      |                      |         |                      |                      |        |                      |
|---|----------------------|-------|----------------------|----------------------|---------|----------------------|----------------------|--------|----------------------|
| Very/Somewhat Conservative                                    | Ref                  |       | Ref                  | Ref                  |         | Ref                  | Ref                  |        | Ref                  |
| Independent/Moderate  | 1.3*<br>(1.1 to 1.6) |       | 1.3*<br>(1.1 to 1.6) | 1.2<br>(1.0 to 1.5)  |         | 1.2<br>(1.0 to 1.5)  | 1.2<br>(0.9 to 1.5)  |        | 1.1<br>(0.9 to 1.4)  |
| Very/Somewhat Liberal or Progressive                          | 1.8*<br>(1.5 to 2.3) |       | 1.7*<br>(1.4 to 2.1) | 1.6*<br>(1.3 to 2.0) |         | 1.7*<br>(1.3 to 2.1) | 1.3*<br>(1.1 to 1.7) |        | 1.3<br>(1.0 to 1.6)  |
| <b>Practice Setting Type</b>                                  |                      | 0.59  |                      |                      | 0.17    |                      |                      | 0.20   |                      |
| Small/solo  | Ref                  |       | Ref                  | Ref                  |         | Ref                  | Ref                  |        | Ref                  |
| Group/HMO   | 1.1<br>(0.9 to 1.4)  |       | 1.1<br>(0.8 to 1.3)  | 1.2<br>(1.0 to 1.5)  |         | 1.1<br>(0.9 to 1.4)  | 1.0<br>(0.8 to 1.3)  |        | 0.9<br>(0.7 to 1.2)  |
| City/state/federal government                                 | 1.2<br>(0.9 to 1.7)  |       | 1.1<br>(0.8 to 1.5)  | 1.4*<br>(1.1 to 2.0) |         | 1.3<br>(1.0 to 1.8)  | 1.3<br>(1.0 to 1.8)  |        | 1.2<br>(0.8 to 1.7)  |
| Medical school  | 1.3<br>(0.7 to 2.4)  |       | 1.2<br>(0.6 to 2.2)  | 1.3<br>(0.7 to 2.4)  |         | 1.2<br>(0.6 to 2.2)  | 0.7<br>(0.4 to 1.5)  |        | 0.6<br>(0.2 to 1.2)  |
| Other non-patient care  | 1.5<br>(0.6 to 3.8)  |       | 1.1<br>(0.4 to 3.0)  | 1.7<br>(0.6 to 4.8)  |         | 1.8<br>(0.6 to 5.5)  | 0.7<br>(0.2 to 2.2)  |        | 0.7<br>(0.2 to 2.3)  |
| <b>Practice Compensation Type</b>                             |                      |       |                      |                      | <0.0001 |                      |                      | 0.14   |                      |
| Billing only  | Ref                  | 0.06  | Ref                  | Ref                  |         | Ref                  | Ref                  |        | Ref                  |
| Salary/Salary plus bonus                                      | 1.2<br>(1.0 to 1.5)  |       | 1.2<br>(1.0 to 1.4)  | 1.5*<br>(1.3 to 1.8) |         | 1.5*<br>(1.3 to 1.9) | 1.2*<br>(1.0 to 1.5) |        | 1.2<br>(0.9 to 1.4)  |
| Other   | 1.1<br>(0.6 to 1.5)  |       | 1.1<br>(0.8 to 1.7)  | 1.4<br>(1.0 to 2.1)  |         | 1.5<br>(1.0 to 2.3)  | 1.1<br>(0.8 to 1.6)  |        | 1.0<br>(0.7 to 1.6)  |
| <b>Major Barriers to Engaging Patients in SDM<sup>†</sup></b> |                      |       |                      |                      |         |                      |                      |        |                      |
| Patient Confusion   | 1.0<br>(0.8 to 1.2)  | 0.89  | 1.0<br>(0.9 to 1.2)  | 0.9<br>(0.8 to 1.1)  | 0.54    | 1.0<br>(0.8 to 1.2)  | 1.0<br>(0.8 to 1.2)  | 0.86   | 1.0<br>(0.8 to 1.2)  |
| Lack of patient interest in playing an active role            | 1.1<br>(0.9 to 1.3)  | 0.50  | 1.1<br>(0.9 to 1.4)  | 1.0<br>(0.9 to 1.2)  | 0.69    | 1.1<br>(0.9 to 1.3)  | 1.0<br>(0.8 to 1.2)  | 0.88   | 1.0<br>(0.8 to 1.3)  |
| Lack of adequate time with the patient                        | 1.3*<br>(1.1 to 1.5) | 0.008 | 1.2<br>(1.0 to 1.4)  | 1.3*<br>(1.1 to 1.5) | 0.009   | 1.2*<br>(1.0 to 1.5) | 1.1<br>(0.9 to 1.3)  | 0.45   | 1.0<br>(0.9 to 1.3)  |
| Administrative burdens  | 1.0<br>(0.8 to 1.2)  | 0.92  | 1.0<br>(0.9 to 1.3)  | 1.0<br>(0.8 to 1.2)  | 0.90    | 1.0<br>(0.9 to 1.3)  | 1.4*<br>(1.1 to 1.7) | 0.001  | 1.4*<br>(1.1 to 1.7) |
| Inability to individualize risk                               | 0.9<br>(0.8 to 1.2)  | 0.61  | 0.9<br>(0.8 to 1.2)  | 1.2<br>(0.9 to 1.4)  | 0.19    | 1.1<br>(0.9 to 1.4)  | 1.5*<br>(1.2 to 1.8) | 0.0007 | 1.5*<br>(1.2 to 1.9) |

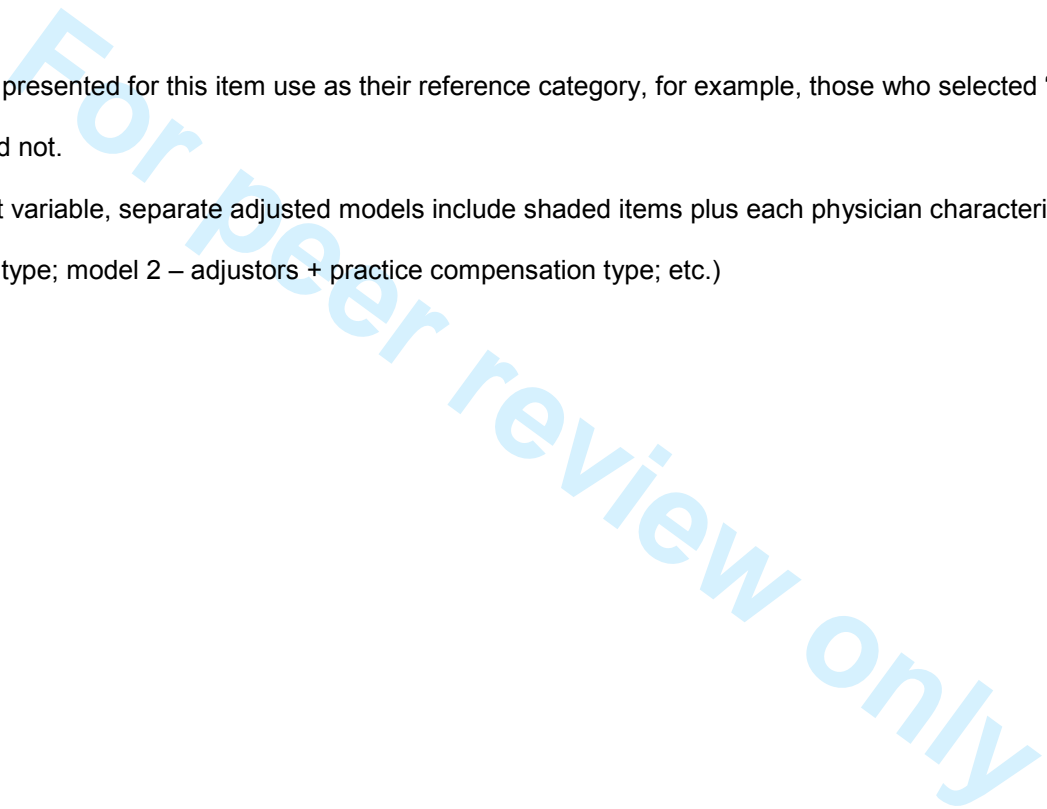
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|---|---------------------|---------|----------------------|---------------------|------|----------------------|----------------------|---------|----------------------|
| Financial pressure to do better paying activities | 1.0<br>(0.8 to 1.3) | 0.98    | 1.0<br>(0.8 to 1.3)  | 1.3<br>(1.0 to 1.7) | 0.06 | 1.4*<br>(1.0 to 1.8) | 1.7*<br>(1.3 to 2.2) | <0.0001 | 1.6*<br>(1.2 to 2.1) |
| Lack of supportive systems                        | 2.1*<br>(1.5-2.9)   | <0.0001 | 2.1*<br>(1.4 to 3.0) | 1.1<br>(0.8 to 1.4) | 0.70 | 1.0<br>(0.7 to 1.4)  | 2.1*<br>(1.5 to 2.8) | <0.0001 | 2.0*<br>(1.5 to 2.7) |

\* p-value < 0.05

† Odds ratios and 95% CIs presented for this item use as their reference category, for example, those who selected “patient confusion” as a major barrier versus those who did not.

NOTE: For each dependent variable, separate adjusted models include shaded items plus each physician characteristic/attitude (e.g. model 1 – adjustors + practice setting type; model 2 – adjustors + practice compensation type; etc.)



(THIS PAGE IS FOR SURVEY RESEARCH TRACKING AND FILING PURPOSES ONLY)

# PHYSICIAN ATTITUDES ON SHARED DECISION MAKING HEALTH CARE REFORM

INVESTIGATOR: JON TILBURT, MD

VERSION AS OF:

APRIL 18, 2012 WLD

APRIL 20, 2012 WLD

APRIL 23, 2012 WLD

APRIL 24, 2012 WLD

APRIL 25, 2012 WLD

APRIL 26, 2012 WLD

APRIL 27, 2012 WLD

APRIL 30, 2012 WLD

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# Physicians, Health Care Costs, and Society

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## YOU & YOUR PRACTICE

Please check the appropriate box or fill in the blank as indicated.

1. How would you classify your race? (Choose ONE)

1  Asian or Asian-American

2  Black or African-American

3  White or Caucasian

4  Other, please specify: \_\_\_\_\_

2. Do you consider yourself Hispanic/Latino?

1  Yes

2  No

4. Which ONE of the following best describes the primary compensation for your practice?

1  Billing only

2  Salary only

3  Salary plus bonus

4  Other, please specify: \_\_\_\_\_

5. Please indicate your degree of agreement or disagreement with the following statement:

"My enjoyment of the practice of medicine is substantially lessened because of the threat of lawsuits."

1  Strongly disagree

2  Moderately disagree

3  Moderately agree

4  Strongly agree

6. How would you describe your average level of fatigue during the past week, including today?

0  No fatigue      1       2       3       4       5       6       7       8       9       10  Constant tiredness

**HEALTH CARE REFORM**

Please respond to the following statements in a way that best reflects your opinions about the 2010 Patient Protection and Affordable Care Act.

7. The Affordable Care Act, if fully implemented, would turn United States health care in the right direction.

- 1  Strongly disagree
- 2  Moderately disagree
- 3  Moderately agree
- 4  Strongly agree

8. The Affordable Care Act, if fully implemented, would make physician reimbursement...

- 1  More fair
- 2  Less fair
- 3  Neither more nor less fair
- 4  Not sure

9. Should religiously affiliated institutions that object to the use of contraceptives be required to cover contraceptives in their health plans?

- 1  Yes
- 2  No

10. During the last 6 months, how often did you personally refrain, because of cost to the health care system, from using the following interventions when they would have been the best intervention for your patient?

|                          | Never                      | Less than monthly          | Monthly                    | Weekly                     | Daily                      | Not applicable             |
|--------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Lab tests                | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Routine X-ray            | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| MRI                      | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Screening test           | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Referral to a specialist | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Referral to an ICU       | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Prescription drugs       | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Referral for surgery     | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Referral for dialysis    | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Hospital admission       | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |

**PHYSICIAN RESPONSIBILITIES & SOCIETY**

Please indicate your degree of agreement or disagreement with the following statements.

11. I would favor limiting coverage for expensive drugs and procedures if that would help expand access to basic health care for those currently lacking such care.

- 1  Strongly disagree
- 2  Moderately disagree
- 3  Moderately agree
- 4  Strongly agree

12. Every physician is professionally obligated to care for the uninsured and underinsured.

- 1  Strongly disagree
- 2  Moderately disagree
- 3  Moderately agree
- 4  Strongly agree

13. Addressing societal health policy issues, as important as that may be, falls outside the scope of my professional obligations as a physician.

- 1  Strongly disagree
- 2  Moderately disagree
- 3  Moderately agree
- 4  Strongly agree

14. Please rate the degree of responsibility (if any) each of these entities should have in reducing the cost of health care:

|  | No<br>responsibility       | Some<br>responsibility     | Major<br>responsibility    |
|--|----------------------------|----------------------------|----------------------------|
| <b>Government</b> .....                              | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Health insurance companies</b> .....              | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Patients</b> .....                                | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Physician professional societies</b> .....        | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Individual practicing physicians</b> .....        | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Hospitals and health systems</b> .....            | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Employers</b> .....                               | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Pharmaceutical and device manufacturers</b> ..... | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Trial lawyers</b> .....                           | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |

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|--------------------------------|
| <b>MEDICAL DECISION-MAKING</b> |
|--------------------------------|

Please answer the following questions about different dimensions of medical decision-making.

15. I find the uncertainty involved in patient care disconcerting.

- 36
- 1  Strongly disagree  
 2  Moderately disagree  
 3  Moderately agree  
 4  Strongly agree

16. I generally order more tests when I don't know the patient well.

- 37
- 1  Strongly disagree  
 2  Moderately disagree  
 3  Moderately agree  
 4  Strongly agree

17. Which of the following is a major barrier to you more actively engaging patients in a process of shared decision-making? (Mark ALL that apply)

- 38-45
- 1  Patient confusion  
 1  Inability to individualize risk  
 1  Lack of patient interest in playing an active role  
 1  Lack of supportive systems (eg, computers)  
 1  Lack of adequate time with the patient  
 1  Administrative burdens  
 1  Financial pressure to do better paying activities (eg, procedures)  
 1  Other, please specify: \_\_\_\_\_

18. Should promoting shared decision-making be legislated to control overall health care costs?

- 46
- 1  Yes  
 2  No

19. "If I tried to follow cost-conscious guidelines in my daily decision-making with individual patients..." (Mark ALL that apply)

- 47-54
- 1  "Patients would welcome this"  
 1  "It would be the right thing to do"  
 1  "I would not know where to start"  
 1  "It would be haphazard"  
 1  "It would likely make little difference"  
 1  "It could be unfair"  
 1  "It would likely undermine my patients' trust in me"  
 1  "It would help me limit unreasonable patient demands"

20. Please indicate your degree of agreement or disagreement with the following statement:

"Decision support tools that show costs would be helpful in my practice."

- 55
- 1  Strongly disagree  
 2  Moderately disagree  
 3  Moderately agree  
 4  Strongly agree

**COST OF HEALTH CARE**

A variety of practices have been proposed to control health care costs to society.

21. Please indicate your degree of enthusiasm for the following potential means of lowering health care costs (assume each is effective in lowering costs).

|    |  | Not<br>enthusiastic        | Somewhat<br>enthusiastic   | Very<br>enthusiastic       |
|----|--|----------------------------|----------------------------|----------------------------|
| 56 | Expanding access to free preventive care. . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 57 | Promoting head-to-head trials of competing treatments. . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 58 | Paying a network of practices a fixed, "bundled" price for managing all care for a defined population. . . . . | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 59 | Expanding electronic health records. . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 60 | Allowing Medicare payment cuts to doctors to take effect. . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 61 | Rooting out fraud and abuse . . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 62 | Eliminating fee-for-service payment models. . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 63 | Penalizing providers for avoidable readmissions. . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 64 | Expanding access to quality and safety data . . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 65 | Promoting better conversations with patients. . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 66 | High deductible health plans . . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 67 | Higher patient co-pays . . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 68 | Promoting continuity of care . . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 69 | Limiting corporate influence on physician behavior . . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 70 | Reducing compensation for the highest-paid specialties. . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 71 | Limiting access to expensive treatments with little net benefit  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 72 | Promoting chronic disease care coordination . . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 73 | Using cost-effectiveness data to determine available treatments  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |

22. Suppose a new device is proven effective at treating a serious illness compared to a placebo. If an insurance plan covers treatment for this serious illness, under which of the following circumstances, if any, would it be acceptable for the insurance plan to limit coverage for this new device? (Mark ALL that apply)

- 1  Never, insurance plans should cover any effective treatments for covered illnesses.
- 1  If the plan covers another treatment that is about equally effective, but costs less.
- 1  If the plan covers another treatment that is marginally less effective but costs much less.
- 1  If the plan already covers another treatment that is even more efficacious than the new device.

23. Please indicate your degree of agreement or disagreement with the following statements about health care costs:

|    |    | Strongly disagree          | Moderately disagree        | Moderately agree           | Strongly agree             |
|----|----|----------------------------|----------------------------|----------------------------|----------------------------|
| 1  |    |                            |                            |                            |                            |
| 2  |    |                            |                            |                            |                            |
| 3  |    |                            |                            |                            |                            |
| 4  |    |                            |                            |                            |                            |
| 5  |    |                            |                            |                            |                            |
| 6  | 78 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 7  |    |                            |                            |                            |                            |
| 8  |    |                            |                            |                            |                            |
| 9  | 79 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 10 |    |                            |                            |                            |                            |
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| 13 | 80 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
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| 18 | 81 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 19 |    |                            |                            |                            |                            |
| 20 |    |                            |                            |                            |                            |
| 21 |    |                            |                            |                            |                            |
| 22 | 82 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 23 |    |                            |                            |                            |                            |
| 24 |    |                            |                            |                            |                            |
| 25 |    |                            |                            |                            |                            |
| 26 | 83 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 27 |    |                            |                            |                            |                            |
| 28 |    |                            |                            |                            |                            |
| 29 |    |                            |                            |                            |                            |
| 30 | 84 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 31 |    |                            |                            |                            |                            |
| 32 |    |                            |                            |                            |                            |
| 33 |    |                            |                            |                            |                            |
| 34 | 85 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 35 |    |                            |                            |                            |                            |
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| 40 | 86 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
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| 44 | 87 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
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| 48 | 88 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 49 |    |                            |                            |                            |                            |
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| 52 | 89 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 53 |    |                            |                            |                            |                            |
| 54 |    |                            |                            |                            |                            |
| 55 |    |                            |                            |                            |                            |
| 56 | 90 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 57 |    |                            |                            |                            |                            |
| 58 |    |                            |                            |                            |                            |
| 59 |    |                            |                            |                            |                            |
| 60 |    |                            |                            |                            |                            |



**YOUR BELIEFS**

In the following questions, we are interested in understanding some of your thoughts about life in general. Some items may seem odd or irrelevant, but answer each as best you can.

**24. How relevant are each of the following circumstances in determining whether an action is right or wrong?**

Not at all relevant    Not very relevant    Slightly relevant    Somewhat relevant    Very relevant    Extremely relevant

WHETHER OR NOT SOMEONE...

|    |  |                            |                            |                            |                            |                            |                            |
|----|--|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 91 | Suffered emotionally . . . . .               | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 92 | Was treated differently than others. . . . . | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 93 | Violates standards of purity and decency     | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 94 | Is good at math. . . . .                     | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 95 | Cared for someone weak or vulnerable . .     | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 96 | Acts unfairly . . . . .                      | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 97 | Does something disgusting. . . . .           | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |

**25. Indicate your degree of agreement with the following statements based on your initial reaction.**

Strongly disagree    Moderately disagree    Slightly disagree    Slightly agree    Moderately agree    Strongly agree

IN LIFE IN GENERAL...

|     |   |                            |                            |                            |                            |                            |                            |
|-----|---|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 98  | Compassion for those who are suffering is the most crucial virtue . . . . .                                     | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 99  | When the government makes laws, the number one principle should be ensuring that everyone is treated fairly . . | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 100 | People should not do things that are disgusting, even if no one is harmed . . . .                               | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 101 | It is better to do good than to do bad . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 102 | One of the worst things a person could do is hurt a defenseless animal . . . . .                                | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 103 | Justice is the most important requirement for a society . . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 104 | Some acts are wrong on the grounds that they are unnatural . . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
|     | Others' needs are more important than my own  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
|     | Government should do more to help the needy   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |

**MORE ABOUT YOU****26. Overall, how satisfied are you with practicing medicine?**

- 1  Very dissatisfied  
2  Somewhat dissatisfied  
3  Satisfied  
4  Very satisfied

**27. What, if any, is your religious affiliation?**

- 1  None  
2  Protestant, mainline  
3  Protestant, evangelical  
4  Roman Catholic  
5  Jewish  
6  Buddhist  
7  Hindu  
8  Muslim  
9  Other, please specify: \_\_\_\_\_

**28. How often do you attend religious services?**

- 1  Never  
2  Less than once a year  
3  About once or twice a year  
4  Several times a year  
5  About once a month  
6  Two to three times a month  
7  Nearly every week  
8  Every week  
9  Several times a week

**29. Are you registered to vote?**

- 1  Yes  
2  No

**30. How would you characterize yourself politically most of the time?**

- 1  Very Conservative  
2  Somewhat Conservative  
3  Independent/Moderate  
4  Somewhat Liberal/Progressive  
5  Very Liberal/Progressive  
6  Other, please specify: \_\_\_\_\_

**Thank you for completing the survey!**  
**Please return in the enclosed, self-addressed envelope.**

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For peer review only

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For peer review only



**Shared Decision Making as a Cost-Containment Strategy:  
U.S. Physician Reactions From a Cross-Sectional Survey**

|                                    |   |
|------------------------------------|---|
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| Keywords:                          | Health policy < HEALTH SERVICES ADMINISTRATION & MANAGEMENT,<br>Quality in health care < HEALTH SERVICES ADMINISTRATION &<br>MANAGEMENT, MEDICAL ETHICS   |
|                                    |   |

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## Shared Decision Making as a Cost-Containment Strategy: U.S. Physician Reactions From a Cross-Sectional Survey

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**ABSTRACT**

**Objective:** To assess U.S. physicians' attitudes toward using shared decision-making (SDM) to achieve cost-containment.

**Design:** Cross-sectional mailed survey.

**Setting:** U.S. medical practice.

**Participants:** 3897 physicians randomly selected from the AMA Physician Masterfile. 2556 completed the survey.

**Main Outcome Measures:** Level of enthusiasm for "Promoting better conversations with patients as a means of lowering health care costs"; degree of agreement with "Decision support tools that show costs would be helpful in my practice"; and agreement with "Should promoting shared decision-making be legislated to control overall health care costs".

**Results:** Of 2556 respondents (RR 65%), two-thirds (67%) were "very enthusiastic" about promoting SDM as a means of reducing health care costs. Most (70%) agreed decision support tools that show costs would be helpful in their practice, but only 24% agreed with legislating SDM to control costs. Physicians cited patient confusion (65%) and lack of patient interest (59%) as common barriers to SDM. Compared to physicians with billing-only compensation, respondents with salary compensation were more likely to strongly agree that decision support tools showing costs would be helpful (OR 1.4; 95% CI 1.1 to 1.7). Primary care physicians (vs. surgeons, OR 1.4; 95% CI 1.0 to 1.6) expressed more enthusiasm for SDM being legislated as a means to address health care costs.

**Conclusions:** Most U.S. physicians express enthusiasm about using SDM to help contain costs. They believe decision support tools that show costs would be useful. Few agree that SDM should be legislated as a means to control health care costs.

## Article Summary

### Strengths and Limitations of this Study

- While barriers to shared decision making (SDM) have been previously described, this is the first study to our knowledge describing US physicians' views about SDM as a means of reducing health care costs.
- Our study suggests that most US physicians are enthusiastic about SDM and see it as a promising avenue for controlling costs, but only a minority of physicians agree that SDM should be legislated to help control health care costs.
- While this cross-sectional survey had a solid response rate, reducing concerns about response bias, its findings should still be treated with caution due to the nature of the topic area. Social desirability may lead physicians to say very glowing things about shared decision making; whether their behavior follows was not addressed.
- Ascertaining motivations behind the opinions we report here would require further in-depth qualitative work beyond the scope of this survey.



## INTRODUCTION

Since at least the 1980s, shared decision making (SDM), defined as a process of patient engagement and mutual deliberation between health care providers and patients,<sup>1</sup> has been advanced as a way to promote respect for patients, encourage greater patient engagement in their care, and improve adherence and outcomes.<sup>2</sup> Shared decision making interventions such as decision aids (DAs) enhance patient knowledge, assist patients in forming realistic expectations, clarify their preferences, and decrease decisional conflict.<sup>3-5</sup> In addition, there is some evidence that using certain SDM tools like DAs can reduce utilization of discretionary procedures<sup>6</sup> and perhaps even reduce overall health care expenditures and utilization.<sup>5-7</sup>

Efforts are underway to use SDM as a means of addressing healthcare costs. Some advocates propose including physicians' use of decision aids as a quality measure aimed at controlling discretionary healthcare spending.<sup>8</sup> The Patient Protection and Affordable Care Act (ACA) introduced several provisions to promote the use of SDM<sup>9</sup> including CMS innovation initiatives aimed at testing SDM as a means of reducing discretionary procedures and lowering costs.<sup>8</sup> While general barriers to SDM in physician practice have been described,<sup>10</sup> it is not known whether physicians charged with carrying out SDM find it an attractive means of reducing health care costs, whether they would endorse using decision support tools that show costs, or whether they endorse the idea of legislation promoting SDM for the purpose of controlling health care costs as an appropriate means of achieving cost savings.

## METHODS

The Mayo Clinic Institutional Review Board approved this study. In May 2012, we mailed a self-administered, 8-page survey entitled, "Physicians, Health Care Costs, and Society" to a random sample of 3,897 practicing US physicians representing all specialties listed in the AMA

1  
2  
3 Physician Masterfile using the Tailored Design Method<sup>11</sup> including a \$20 bill with the first mailing  
4  
5 only. Second and third mailings were sent to non-responders at six-week intervals.  
6  
7

### 8 9 10 *Survey Instrument*

11  
12 To develop our instrument we reviewed the literature, conducted five focus groups with  
13  
14 physicians, formulated questions, conducted eight cognitive interviews, and revised questions,  
15  
16 adapting or adopting existing measures whenever possible including the Agreement with  
17  
18 Rationing Scale,<sup>12</sup> the six-item Cost-Consciousness Scale,<sup>13</sup> and two items from a Stewardship  
19  
20 Scale developed by the American Medical Association's Institute for Ethics.<sup>14</sup> The final survey  
21  
22 includes questions assessing physicians' perspectives on health care reform, their societal  
23  
24 responsibilities, medical decision-making, cost of health care, and cost-conscious practices.  
25  
26 The results focusing on those measures are reported elsewhere.<sup>15</sup> This report focuses on  
27  
28 measures pertaining to the use of and barriers to shared decision-making in particular  
29  
30 particularly as it relates to healthcare costs. (Full instrument for reviewers available in Appendix  
31  
32  
33  
34 A)

### 35 36 37 *Measures*

38  
39 Three outcome measures assessed respondents attitudes toward SDM and cost. First  
40  
41 we assessed respondents' level of enthusiasm (not, somewhat, very) for SDM as a strategy to  
42  
43 reduce health care costs. We operationalized that idea in the phrase, "Promoting better  
44  
45 conversations with patients" as a means of lowering health care costs. Second, we also asked  
46  
47 respondents' degree of agreement with "Decision support tools that show costs would be helpful  
48  
49 in my practice" (strongly disagree, moderately disagree, moderately agree, strongly agree); and  
50  
51 finally, we asked "Should promoting shared decision-making be legislated to control overall  
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53 health care costs" (yes/no).  
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3 We examined physician demographics (age, sex, region, specialty type, and political  
4 self-characterization), practice characteristics (compensation type, predominant practice setting  
5 type), as well as perceived barriers to SDM drawn from the literature (“Which of the following is a  
6 major barrier to you more actively engaging patients in a process of shared decision making?”  
7 [mark all that apply] *patient confusion, inability to individualize risk, lack of patient interest in*  
8 *playing an active role, lack of supportive systems, lack of adequate time with the patient,*  
9 *administrative burdens, financial pressure to do better paying activities, other*) as important  
10 covariates.  
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### 21 22 23 *Analysis*

24  
25 Using SAS 9.2 (Cary, NC), we calculated response distributions for all items related to  
26 SDM previously described. We performed bivariate and multivariate tests of association (i.e.  
27 unadjusted and adjusted logistic regression models) to examine associations between physician  
28 characteristics (sex, age, region of practice, specialty, practice setting type, compensation type,  
29 and political self-characterization) as well as attitudes about barriers to SDM (independent  
30 measures) and their views on each of the three dimensions of SDM as a cost-containment  
31 strategy (dependent measures) described above. The dependent measures assessing  
32 enthusiasm for “better conversations” as a cost-containment strategy and “Decision support  
33 tools that show costs would be helpful in my practice” were subsequently dichotomized for ease  
34 of presentation (very enthusiastic vs. all others and strongly agree vs. all others, respectively).  
35 Variables included in multivariate logistic regression models were determined based upon those  
36 characteristics of physicians that we *a priori* hypothesized would be associated with our  
37 dependent variables (i.e. age, sex, region of practice, specialty type, and political self-  
38 characterization), as well as physician characteristics and survey items that were empirically  
39 found in bivariate analyses to be significantly associated with our three dependent variables of  
40 interest (i.e. practice setting, practice compensation type, and perceived barriers to  
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3 implementing SDM). Therefore, for each dependent variable, we first ran a “base model”  
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5 containing only those variables for which we were adjusting (age, sex, region of practice,  
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7 specialty type, and political self-characterization), and then subsequently conducted separate  
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9 multivariable models testing the association between each individual characteristic/attitude and  
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11 the dependent variable while controlling for age, sex, region of practice, specialty type, and  
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13 political self-characterization.  
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## 16 17 18 RESULTS

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21 2556 physicians responded to the survey (65% response rate).<sup>16</sup> Respondents were  
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23 largely male (70%), age 50 years or older (58%) and white (77%) (Table 1). Respondents were  
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25 slightly older than non-respondents (58% vs 54% older than 50 years, respectively;  $X^2= 5.4$ ;  $p =$   
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27 0.02) but otherwise representative of the overall U.S. physician population<sup>17</sup>. Most (67%) were  
28  
29 “very enthusiastic” about promoting better conversations with patients as a means of reducing  
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31 health care costs. A majority somewhat or strongly agreed that decision support tools that show  
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33 costs would be helpful in their practice (70%). In contrast, just one in four respondents (24%)  
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35 agreed that promoting SDM should be legislated as a means of controlling health care costs  
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37 (Table 2). The most common barriers cited to “actively engaging patients in a process of shared  
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39 decision making” included patient confusion (65%), lack of patient interest in playing an active  
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41 role (59%), and lack of adequate time with the patient (56%).  
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45 When stratifying respondents by demographic characteristics (age, sex, region,  
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47 specialty, and political self-characterization), we found that a majority of respondents from all  
48  
49 subgroups expressed enthusiasm about SDM as a cost-containment strategy and decision  
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51 support tools that show costs. In contrast, a consistent minority of respondents across all  
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53 subgroups agreed that promoting SDM should be legislated (Table 3).  
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56 In bivariate analyses, female physicians (OR 1.7; 95% CI 1.4 to 2.1) and those  
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58 identifying as politically liberal (OR 1.8; 95% CI 1.5 to 2.3) had significantly greater odds of  
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3 being very enthusiastic about promoting better conversations as a means to reduce health care  
4 costs. Surgeons had lower odds than primary care providers to express enthusiasm for  
5 promoting better conversations as a means of cost-containment (OR 0.7; 95% CI 0.6 to 0.9),  
6 while responding physicians' region of practice, age, and type of practice setting did not appear  
7 to be associated with their views on this item.  
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14 In separate multivariable models adjusted for age, sex, region, specialty and political  
15 self-characterization, respondents reporting salary/salary + bonus compensation compared with  
16 billing-only had a greater odds of strongly agreeing that decision support tools that show costs  
17 would be helpful in their practice (OR 1.4; 95% CI 1.1 to 1.7). Respondents identifying  
18 themselves as "very or somewhat liberal or progressive" also had higher odds than those self-  
19 described as "very or somewhat conservative" of strongly agreeing that decision support tools  
20 that show cost would be helpful (ORs 2.2; 95% CIs 1.7 to 2.9), as well as expressing strong  
21 enthusiasm for promoting better conversations with patients (OR 1.7; 95% CI 1.4 to 2.1). (Table  
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34 Several perceived barriers to shared decision making were independently associated  
35 with respondents' enthusiasm about promoting better conversations with patients as a cost-  
36 containment strategy, whether decision support tools showing costs would be helpful, and  
37 whether SDM should be legislated to control health care costs. In logistic regression models  
38 adjusted for sex, age, region, specialty, and political self-characterization, those who selected  
39 "lack of supportive systems" as a perceived barrier to SDM had twice the odds (OR 2.1; 95% CI  
40 1.4 to 3.0) as others to be very enthusiastic about promoting better conversations with patients  
41 as a means of reducing health care costs. Respondents who perceived administrative burdens  
42 (OR 1.3; 95% CI 1.0 to 1.6) and lack of supportive systems (OR 1.5; 95% CI 1.1 to 2.1) as  
43 barriers to SDM also had significantly higher odds of strongly agreeing that decision support  
44 tools showing costs would be helpful in their practice. Finally, respondents who selected  
45 administrative burdens (OR 1.4; 95% CI 1.1 to 1.7), an inability to individualize risk (OR 1.5;  
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3 95% CI 1.2 to 1.9), financial pressure to do better-paying activities (OR 1.6; 95% CI 1.2-2.1),  
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5 and lack of supportive systems (OR 2.0; 95% CI 1.5 to 2.7) as perceived barriers to SDM had  
6  
7 greater odds of believing that SDM should be legislated. (Table 4)  
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## 10 11 12 **DISCUSSION**

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14 Most US physicians express strong enthusiasm for promoting better conversations with  
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16 patients as a means to control health care costs and believe decision support tools showing  
17  
18 costs would be useful. A minority of physicians agree that SDM should be legislated to help  
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20 control health care costs. Although certain subgroups of respondents (e.g. self-described  
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22 liberals; females) appear more likely to express enthusiasm for SDM and cost-transparency  
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24 compared to other subgroups, majorities of respondents in all subgroups were, overall,  
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26 supportive of both promoting better conversations as well as using decision support tools that  
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28 show costs.  
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### 31 32 *Comparison With Other Studies*

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35 Given the significant variability of cost and lack of cost-transparency in the US health  
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37 system,<sup>18-22</sup> decision support tools that show total costs and patient out-of-pocket costs could be  
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39 a means to empower both physicians and patients as informed health care consumers. Support  
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41 innovations that promote cost transparency also might reflect physicians' views of patient  
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43 responsibility for reducing health care costs. In any event, promoting tools to achieve better  
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45 conversations with patients and cost transparency appears to be a physician-supported, patient-  
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47 centered strategy for achieving higher quality care that may also achieve cost-containment as  
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49 well.  
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53 Lack of time with patients and administrative barriers pose obstacles to engaging  
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55 patients in SDM, according to our respondents. Two of the barriers to SDM that physicians cited  
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3 – patient confusion and patients' lack of interest - stand in contrast to studies of patients' views.  
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5 The national 2009 DECISIONS study<sup>23</sup> of nine medical decisions found patients say they are  
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7 ready for involvement and desire it. There are multiple explanations for this gap. First, while  
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9 patients say, when asked, they want to play a greater role in decision making, doctors may  
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11 interpret their behavior during encounters otherwise. Expressions of preference for decision  
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13 making could vary depending on the decision faced, from those with high stakes (e.g., major  
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15 surgery) to more routine circumstances (treatment for allergic rhinitis). In addition, physicians  
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17 may misjudge patient confusion for lack of interest in playing an active role, or may exhibit recall  
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19 bias when responding to items about barriers to SDM. Moreover, how questions about SDM are  
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21 framed – in this and in other studies – could lead to discrepant results. Furthermore, these data  
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23 suggest that a majority of US physicians are fully on-board with SDM despite data from the  
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25 DECISIONS study and others like it suggesting SDM is by no means the norm in routine  
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27 practice.  
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### 32 *Strengths and Limitations of This Study*

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35 The limited nature of the single item self-reported measures presented here restrict our  
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37 inferences. Regarding the substantive findings of the study, several questions persist. , It is  
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39 unclear why physicians disagree with legislating SDM as a means of controlling health care  
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41 costs when they are enthusiastic about it as a cost-containment measure. Do physicians resist  
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43 infringement on their autonomy generally? Do they resist any potentially punitive regulatory  
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45 measures? Do they fear “big brother” government intrusion? It is possible that physicians may  
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47 not be comfortable with the idea of any behaviors, including SDM, being legislated even if they  
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49 embrace the potential positive consequences of doing so. Some physicians may fear that using  
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51 SDM as a means of reducing health care costs could tarnish its patient-centered primary  
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53 objective. These data do not answer whether physicians resist legislating SDM, but only that  
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55 they oppose such actions as a cost-containment strategy. Ascertaining motivations behind the  
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3 opinions we report would require further in-depth qualitative work beyond the scope of this  
4 survey. In content areas like this, survey items may have been ambiguous despite rigorous pilot  
5 testing. For instance our item, “decision support tools that show cost would be helpful in my  
6 practice” was presented in a section on medical decision making, creating some ambiguity  
7 about whether respondent endorsement of this item really constitutes an endorsement of shared  
8 decision making as a cost-containment strategy or a general endorsement of the innovation for  
9 patient-centered care.  
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19 While this cross-sectional survey had a solid response rate, reducing concerns about  
20 response bias, its findings should still be treated with caution due to the nature of the topic area.  
21 Social desirability may lead physicians to say very glowing things about shared decision  
22 making. Belying their broad endorsement, physicians may hold divergent views of shared  
23 decision making. The survey did not stipulate a definitive definition of SDM. Whether, however,  
24 their behavior follows is what is of ultimate concern and was not addressed in this survey. The  
25 contrast between physicians’ self-reported enthusiasm and the documented failures to promote  
26 SDM in studies of physician behavior suggest our respondents may uphold an ideal they  
27 themselves do not achieve, or may operate with a different functional definition of SDM. Surveys  
28 alone cannot resolve this discrepancy. Although the face validity of our measures (*Which of the*  
29 *following is a major barrier to you more actively engaging patients in a process of shared*  
30 *decision-making?\**; *Promoting SDM should be legislated as a means of controlling health care*  
31 *costs*; *Decision support tools that show costs would be helpful in my practice*; *Level of*  
32 *enthusiasm for “promoting better conversations with patients” as a means to promote cost-*  
33 *containment*) do not evoke a clear social desirability bias, that possibility cannot be excluded.  
34 This approach did not (and arguably could not accurately) assess actual behavior. The AMA  
35 Masterfile is the most comprehensive listing of US physicians, but relies on physician self-report  
36 for key practice characteristics. For instance, specialty data listed in the AMA Masterfile lists  
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3 self-reported specialty that is not verified with specialty boards. The estimates reported here  
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5 may not fully reflect all US physician opinion.  
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### 8 *Conclusions and Policy Implications*

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11 Since its emergence in the President's Commission 30 years ago, shared decision  
12 making has promoted empowering patients in their care as an intrinsic good. Should policy also  
13 support, or require, SDM to achieve cost-savings? Doing so can be justified as a win-win  
14 proposition if SDM improves quality and lowers (or stabilizes) health care spending. Yet, if SDM  
15 is viewed – by physicians, patients, or both – as primarily aimed at cost control, or as an effort  
16 to save money masquerading as quality improvement, then an important, patient-centered tool  
17 may well be left in the toolbox unused. These and other unanswered questions about what the  
18 appropriate policy rationale for SDM should be will need to be addressed to assure that its  
19 ethical ideals are preserved in the coming years. At present, however, it appears most  
20 physicians are enthusiastic about shared decision making and see it as a promising avenue for  
21 controlling costs.  
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## CONTRIBUTORSHIP STATEMENT

JT, MK, VM, BT, JE, RB, ML, and SG made substantial contributions to the conception and design of the study. KJ, JT, SG, and MK assisted with analysis and interpretation of data. All authors contributed to drafting the article and revising it critically for important intellectual content. All authors provided final approval of the version to be published.

## DATA SHARING STATEMENT

Full dataset and statistical code available from the corresponding author at [tilburt.jon@mayo.edu](mailto:tilburt.jon@mayo.edu). Consent was not obtained but the presented data are anonymized and risk of identification is low.

## COMPETING INTERESTS

There are no competing interests

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For peer review only

## WHAT THIS RESEARCH ADDS

### What is already known on this subject?

Shared decision making (SDM), a process of patient engagement and mutual deliberation between health care providers and patients, has been advanced as a way to promote respect for patients, encourage greater patient engagement in their care, and improve adherence and outcomes.

For peer review only

**Table 1.** Characteristics of 2556 responding U.S. physicians, as well as their perceived barriers to shared decision making.

| Characteristic  | No. (%)    |
|---|------------|
| <b>Age, Mean [SD], years</b>  | 51.0 [8.5] |
| <b>Male sex</b>   | 1784 (70)  |
| <b>Race or ethnic group*</b>  |            |
| White or Caucasian  | 1958 (77)  |
| Asian   | 369 (15)   |
| Other   | 124 (5)    |
| Black or African-American   | 80 (3)     |
| <b>Region†</b>  |            |
| South   | 829 (33)   |
| Midwest   | 594 (23)   |
| Northeast   | 548 (22)   |
| West  | 570 (22)   |
| <b>Primary Specialty</b>  |            |
| Primary Care  | 1034 (40)  |
| Surgery   | 571 (22)   |
| Procedural Specialty  | 486 (19)   |
| Nonprocedural Specialty   | 399 (16)   |
| Non-Clinical  | 44 (2)     |
| <b>Practice Setting Type</b>  |            |
| Group/HMO   | 1641 (64)  |
| Small/solo  | 498 (19)   |
| City/state/federal government   | 336 (13)   |
| Medical school  | 59 (2)     |
| <b>Practice Compensation Type‡</b>  |            |
| Billing only  | 1036 (41)  |
| Salary plus bonus   | 874 (35)   |
| Salary only   | 460 (18)   |
| Other   | 154 (6)    |
| <b>Political Self-Characterization§</b>   |            |
| Very Conservative   | 254 (10)   |
| Somewhat Conservative   | 709 (28)   |
| Independent/Moderate  | 726 (29)   |
| Somewhat Liberal/Progressive  | 495 (20)   |
| Very Liberal/Progressive  | 247 (10)   |
| <i>Which of the following is a major barrier to you more actively engaging patients in a process of shared decision-making? (n = 2402)¶</i> |            |
| Patient Confusion   | 1558 (65)  |
| Lack of patient interest in playing an active role  | 1425 (59)  |
| Lack of adequate time with the patient  | 1349 (56)  |
| Administrative burdens  | 808 (34)   |
| Inability to individualize risk   | 499 (21)   |
| Financial pressure to do better paying activities   | 349 (15)   |
| Other   | 268 (11)   |
| Lack of supportive systems  | 216 (9)    |

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Percentages based on a denominator of 2532

† Percentages based on a denominator of 2541

‡ Percentages based on a denominator of 2524

§ Percentages based on a denominator of 2497

¶ Item was "Mark all that apply"; hence percentages here were calculated with the denominator as the total number of respondents who answered this question (i.e. selected at least one of the response category options).

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**Table 2.** Distribution of responses to SDM and cost items from 2556 US physicians

| Survey Item   | No. (%)   |
|---|-----------|
| <i>Level of enthusiasm for “promoting better conversations with patients” as a means to promote cost-containment.(n = 2486)</i> |           |
| Not enthusiastic  | 80 (3)    |
| Somewhat enthusiastic   | 745 (30)  |
| Very enthusiastic   | 1661 (67) |
| <i>Decision support tools that show costs would be helpful in my practice.(n = 2461)</i>  |           |
| Strongly disagree   | 251 (10)  |
| Somewhat disagree   | 487 (20)  |
| Somewhat agree  | 1240 (50) |
| Strongly agree  | 483 (20)  |
| <i>Promoting SDM should be legislated as a means of controlling health care costs.(n = 2435)</i>                                |           |
| Yes   | 593 (24)  |
| No  | 1842 (76) |

**Table 3.** Distribution of physician responses to SDM-related survey items stratified by demographic characteristics.

|  | No. (row %)   |         |  |         |                                    |         |
|--|---|---------|--|---------|------------------------------------|---------|
|  | Very enthusiastic about promoting better conversations as means to reduce health care costs |         | Agree decision support tools showing costs would be helpful in my practice |         | Promoting SDM should be legislated |         |
|  | No. (row %)   | P-value | No. (row %)  | P-value | No. (row %)                        | P-value |
| <b>Age (years)</b>                           |   | 0.48    |  | 0.82    |                                    | <0.0001 |
| Less than 50 years (n=1043)                  | 705 (68)  |         | 710 (69)   |         | 293 (29)                           |         |
| 50 years or greater (n = 1443)               | 956 (66)  |         | 1013 (71)  |         | 300 (21)                           |         |
| <b>Sex</b>                                   |   | <0.0001 |  | 0.24    |                                    | 0.19    |
| Male (n=1734)                                | 1097 (63)   |         | 1199 (70)  |         | 405 (24)                           |         |
| Female (n=752)                               | 564 (75)  |         | 524 (70)   |         | 188 (26)                           |         |
| <b>Region</b>                                |   | 0.99    |  | 0.01    |                                    | 0.69    |
| Midwest (n=570)                              | 379 (66)  |         | 420 (74)   |         | 133 (24)                           |         |
| South (n=809)                                | 539 (67)  |         | 550 (69)   |         | 183 (23)                           |         |
| West (n=555)                                 | 369 (66)  |         | 392 (72)   |         | 132 (24)                           |         |
| Northeast (n=537)                            | 361 (67)  |         | 351 (66)   |         | 136 (26)                           |         |
| <b>Primary Specialty</b>                     |   | 0.05    |  | 0.26    |                                    | 0.02    |
| Primary Care (n=1003)                        | 693 (69)  |         | 711 (71)   |         | 247 (25)                           |         |
| Surgery (n=558)                              | 348 (62)  |         | 369 (67)   |         | 104 (19)                           |         |
| Procedural Specialty (n=473)                 | 310 (66)  |         | 334 (72)   |         | 126 (27)                           |         |
| Nonprocedural Specialty (n=390)              | 273 (70)  |         | 264 (68)   |         | 99 (26)                            |         |
| Non-Clinical (n=42)                          | 25 (60)   |         | 29 (73)  |         | 12 (29)                            |         |
| Other (n=20)                                 | 12 (60)   |         | 16 (80)  |         | 5 (25)                             |         |
| <b>Political Self-Characterization</b>       |   | <0.0001 |  | 0.0001  |                                    | 0.04    |
| Very/Somewhat Conservative (n=937)           | 576 (61)  |         | 610 (66)   |         | 204 (22)                           |         |
| Independent/Moderate (n=707)                 | 479 (68)  |         | 486 (69)   |         | 171 (25)                           |         |
| Very/Somewhat Liberal or Progressive (n=719) | 535 (74)  |         | 538 (75)   |         | 192 (27)                           |         |

**Table 4.** Unadjusted and adjusted associations between physician characteristics/attitudes and their views on SDM from bivariate and multivariate logistic regression models.

|  | Very enthusiastic about promoting better conversations as means to reduce health care costs |         |                       | Strongly agree decision support tools showing costs would be helpful in my practice |         |                       | Promoting SDM should be legislated |         |                       |
|--|---|---------|-----------------------|---|---------|-----------------------|------------------------------------|---------|-----------------------|
|  | Unadjusted OR (95% CI)  | p-value | Adjusted OR (95% CI)  | Unadjusted OR (95% CI)  | p-value | Adjusted OR (95% CI)  | Unadjusted OR (95% CI)             | p-value | Adjusted OR (95% CI)  |
| <b>Age (years)</b>                     | 1.0<br>(0.99 to 1.01)   |         | 1.0<br>(0.98 to 1.01) | 1.0<br>(0.99 to 1.02)   |         | 1.0<br>(0.99 to 1.02) | 0.98*<br>(0.97 to 0.99)            |         | 0.98<br>(0.97 to 1.0) |
| <b>Sex</b>                             |   | <0.0001 |                       |   | 0.13    |                       |                                    | <0.0001 |                       |
| Male                                   | Ref   |         | Ref                   | Ref   |         | Ref                   | Ref                                |         | Ref                   |
| Female                                 | 1.7*<br>(1.4 to 2.1)  |         | 1.7*<br>(1.3 to 2.0)  | 1.2<br>(1.0-1.5)  |         | 1.1<br>(0.9 to 1.4)   | 1.1<br>(0.9 to 1.4)                |         | 1.0<br>(0.8 to 1.2)   |
| <b>Region</b>                          |   | 0.99    |                       |   | 0.002   |                       |                                    | 0.99    |                       |
| Midwest                                | Ref   |         | Ref                   | Ref   |         | Ref                   | Ref                                |         | Ref                   |
| South                                  | 1.0<br>(0.8 to 1.3)   |         | 1.0<br>(0.8 to 1.2)   | 0.7*<br>(0.5 to 0.9)  |         | 0.7*<br>(0.5 to 0.9)  | 1.0<br>(0.7 to 1.2)                |         | 0.9<br>(0.7 to 1.2)   |
| West                                   | 1.0<br>(0.8 to 1.3)   |         | 0.9<br>(0.7 to 1.1)   | 1.0<br>(0.8 to 1.4)   |         | 0.9<br>(0.7 to 1.3)   | 1.0<br>(0.8 to 1.4)                |         | 1.0<br>(0.8 to 1.3)   |
| Northeast                              | 1.0<br>(0.8 to 1.3)   |         | 0.9<br>(0.7 to 1.2)   | 0.7*<br>(0.5 to 0.9)  |         | 0.6*<br>(0.5 to 0.9)  | 1.1<br>(0.9 to 1.5)                |         | 1.1<br>(0.8 to 1.5)   |
| <b>Primary Specialty</b>               |   | 0.05    |                       |   | 0.33    |                       |                                    | 0.05    |                       |
| Primary Care                           | Ref   |         | Ref                   | Ref   |         | Ref                   | Ref                                |         | Ref                   |
| Surgery                                | 0.7*<br>(0.6 to 0.9)  |         | 0.9<br>(0.7 to 1.1)   | 0.8<br>(0.6 to 1.1)   |         | 0.9<br>(0.7 to 1.2)   | 0.7*<br>(0.5 to 0.9)               |         | 0.7*<br>(0.6 to 1.0)  |
| Procedural Specialty                   | 0.9<br>(0.7 to 1.1)   |         | 1.0<br>(0.8 to 1.2)   | 0.8<br>(0.6 to 1.0)   |         | 0.8<br>(0.6 to 1.1)   | 1.1<br>(0.9 to 1.4)                |         | 1.2<br>(0.9 to 1.5)   |
| Nonprocedural Specialty                | 1.0<br>(0.8 to 1.3)   |         | 1.1<br>(0.8 to 1.4)   | 0.8<br>(0.6 to 1.0)   |         | 0.8<br>(0.5 to 1.0)   | 1.0<br>(0.8 to 1.4)                |         | 1.3<br>(0.8 to 1.4)   |
| Non-Clinical                           | 0.7<br>(0.4 to 1.2)   |         | 0.6<br>(0.3 to 1.2)   | 0.8<br>(0.3 to 1.7)   |         | 0.7<br>(0.3 to 1.7)   | 1.2<br>(0.6 to 2.3)                |         | 1.3<br>(0.7 to 2.7)   |
| Other                                  | 0.7<br>(0.3 to 1.7)   |         | 0.7<br>(0.3 to 1.9)   | 0.6<br>(0.2 to 2.2)   |         | 0.7<br>(0.2 to 2.3)   | 1.0<br>(0.4 to 2.7)                |         | 1.0<br>(0.3 to 2.8)   |
| <b>Political Self-Characterization</b> |   | <0.0001 |                       |   | <0.0001 |                       |                                    | <0.0001 |                       |
| Very/Somewhat                          | Ref   |         | Ref                   | Ref   |         | Ref                   | Ref                                |         | Ref                   |

|   |                      |       |                      |                      |       |                      |                      |         |                      |
|---|----------------------|-------|----------------------|----------------------|-------|----------------------|----------------------|---------|----------------------|
| Conservative  |                      |       |                      |                      |       |                      |                      |         |                      |
| Independent/<br>Moderate  | 1.3*<br>(1.1 to 1.6) |       | 1.3*<br>(1.1 to 1.6) | 1.2<br>(0.9 to 1.6)  |       | 1.2<br>(0.9 to 1.6)  | 1.2<br>(0.9 to 1.5)  |         | 1.1<br>(0.9 to 1.4)  |
| Very/Somewhat<br>Liberal or<br>Progressive                            | 1.8*<br>(1.5 to 2.3) |       | 1.7*<br>(1.4 to 2.1) | 2.3*<br>(1.8 to 2.9) |       | 2.2*<br>(1.7 to 2.9) | 1.3*<br>(1.1 to 1.7) |         | 1.3<br>(1.0 to 1.6)  |
| <b>Practice Setting<br/>Type</b>                                      |                      | 0.59  |                      |                      | 0.07  |                      |                      | 0.20    |                      |
| Small/solo  | Ref                  |       | Ref                  | Ref                  |       | Ref                  | Ref                  |         | Ref                  |
| Group/HMO   | 1.1<br>(0.9 to 1.4)  |       | 1.1<br>(0.8 to 1.3)  | 1.3<br>(1.0 to 1.7)  |       | 1.2<br>(0.9 to 1.7)  | 1.0<br>(0.8 to 1.3)  |         | 0.9<br>(0.7 to 1.2)  |
| City/state/federal<br>government                                      | 1.2<br>(0.9 to 1.7)  |       | 1.1<br>(0.8 to 1.5)  | 1.4*<br>(1.0 to 2.1) |       | 1.4<br>(0.9 to 2.0)  | 1.3<br>(1.0 to 1.8)  |         | 1.2<br>(0.8 to 1.7)  |
| Medical school  | 1.3<br>(0.7 to 2.4)  |       | 1.2<br>(0.6 to 2.2)  | 1.4<br>(0.7 to 2.7)  |       | 1.2<br>(0.6 to 2.5)  | 0.7<br>(0.4 to 1.5)  |         | 0.6<br>(0.2 to 1.2)  |
| Other non-patient<br>care   | 1.5<br>(0.6 to 3.8)  |       | 1.1<br>(0.4 to 3.0)  | 2.9*<br>(1.2 to 7.2) |       | 3.0*<br>(1.2 to 7.8) | 0.7<br>(0.2 to 2.2)  |         | 0.7<br>(0.2 to 2.3)  |
| <b>Practice<br/>Compensation Type</b>                                 |                      |       |                      |                      | 0.005 |                      |                      | 0.14    |                      |
| Billing only  | Ref                  | 0.06  | Ref                  | Ref                  |       | Ref                  | Ref                  |         | Ref                  |
| Salary/Salary plus<br>bonus   | 1.2<br>(1.0 to 1.5)  |       | 1.2<br>(1.0 to 1.4)  | 1.4*<br>(1.1 to 1.7) |       | 1.4*<br>(1.1 to 1.7) | 1.2*<br>(1.0 to 1.5) |         | 1.2<br>(0.9 to 1.4)  |
| Other   | 1.1<br>(0.6 to 1.5)  |       | 1.1<br>(0.8 to 1.7)  | 1.1<br>(0.7 to 1.8)  |       | 1.0<br>(0.6 to 1.6)  | 1.1<br>(0.8 to 1.6)  |         | 1.0<br>(0.7 to 1.6)  |
| <b>Major Barriers to<br/>Engaging Patients<br/>in SDM<sup>†</sup></b> |                      |       |                      |                      |       |                      |                      |         |                      |
| Patient Confusion   | 1.0<br>(0.8 to 1.2)  | 0.89  | 1.0<br>(0.9 to 1.2)  | 1.0<br>(0.8 to 1.2)  | 0.99  | 1.0<br>(0.8 to 1.3)  | 1.0<br>(0.8 to 1.2)  | 0.86    | 1.0<br>(0.8 to 1.2)  |
| Lack of patient<br>interest in playing<br>an active role              | 1.1<br>(0.9 to 1.3)  | 0.50  | 1.1<br>(0.9 to 1.4)  | 1.0<br>(0.8 to 1.2)  | 0.80  | 1.0<br>(0.8 to 1.3)  | 1.0<br>(0.8 to 1.2)  | 0.88    | 1.0<br>(0.8 to 1.3)  |
| Lack of adequate<br>time with the patient                             | 1.3*<br>(1.1 to 1.5) | 0.008 | 1.2<br>(1.0 to 1.4)  | 1.2<br>(0.9 to 1.4)  | 0.16  | 1.1<br>(0.9 to 1.4)  | 1.1<br>(0.9 to 1.3)  | 0.45    | 1.0<br>(0.9 to 1.3)  |
| Administrative<br>burdens   | 1.0<br>(0.8 to 1.2)  | 0.92  | 1.0<br>(0.9 to 1.3)  | 1.2<br>(1.0 to 1.5)  | 0.10  | 1.3*<br>(1.0 to 1.6) | 1.4*<br>(1.1 to 1.7) | 0.001   | 1.4*<br>(1.1 to 1.7) |
| Inability to<br>individualize risk                                    | 0.9<br>(0.8 to 1.2)  | 0.61  | 0.9<br>(0.8 to 1.2)  | 1.2<br>(1.0 to 1.6)  | 0.09  | 1.2<br>(0.9 to 1.6)  | 1.5*<br>(1.2 to 1.8) | 0.0007  | 1.5*<br>(1.2 to 1.9) |
| Financial pressure  | 1.0                  | 0.98  | 1.0                  | 1.1                  | 0.39  | 1.2                  | 1.7*                 | <0.0001 | 1.6*                 |

|                                |                   |         |                      |                      |       |                      |                      |         |                      |
|--------------------------------|-------------------|---------|----------------------|----------------------|-------|----------------------|----------------------|---------|----------------------|
| to do better paying activities | (0.8 to 1.3)      |         | (0.8 to 1.3)         | (0.9 to 1.5)         |       | (0.9 to 1.6)         | (1.3 to 2.2)         |         | (1.2 to 2.1)         |
| Lack of supportive systems     | 2.1*<br>(1.5-2.9) | <0.0001 | 2.1*<br>(1.4 to 3.0) | 1.5*<br>(1.1 to 2.1) | 0.008 | 1.5*<br>(1.1 to 2.1) | 2.1*<br>(1.5 to 2.8) | <0.0001 | 2.0*<br>(1.5 to 2.7) |

\* p-value < 0.05

† Odds ratios and 95% CIs presented for this item use as their reference category, for example, those who selected “patient confusion” as a major barrier versus those who did not.

NOTE: For each dependent variable, separate adjusted models include shaded items plus each physician characteristic/attitude (e.g. model 1 – adjustors + practice setting type; model 2 – adjustors + practice compensation type; etc.)

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## Shared Decision Making as a Cost-Containment Strategy: U.S. Physician Reactions From a Cross-Sectional Survey

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**ABSTRACT**

**Objective:** To assess U.S. physicians' attitudes toward using shared decision-making (SDM) to achieve cost-containment.

**Design:** Cross-sectional mailed survey.

**Setting:** U.S. medical practice.

**Participants:** 3897 physicians randomly selected from the AMA Physician Masterfile. 2556 completed the survey.

**Main Outcome Measures:** Level of enthusiasm for "Promoting better conversations with patients as a means of lowering health care costs"; [perceived barriers to SDM](#); degree of agreement with "Decision support tools that show costs would be helpful in my practice"; and agreement with "Should promoting shared decision-making be legislated to control overall health care costs".

**Results:** Of 2556 respondents (RR 65%), two-thirds (67%) were "very enthusiastic" about promoting SDM as a means of reducing health care costs. Most (70%) agreed decision support tools that show costs would be helpful in their practice, but only 24% agreed with legislating SDM to control costs. Physicians cited patient confusion (65%) and lack of patient interest (59%) as common barriers to SDM. Compared to physicians with billing-only compensation, respondents with salary compensation were more likely to [strongly](#) agree that decision support tools showing costs would be helpful (OR 1.54; 95% CI 1.31 to 1.97). Primary care physicians (vs. surgeons, OR 1.4; 95% CI 1.0 to 1.6) expressed more enthusiasm for SDM being legislated as a means to address health care costs.

**Conclusions:** Most U.S. physicians express enthusiasm about using SDM to help contain costs. They believe decision support tools that show costs would be useful. Few agree that SDM should be legislated as a means to control health care costs.

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## Article Summary

### Strengths and Limitations of this Study

- While barriers to shared decision making (SDM) have been previously described, this is the first study to our knowledge describing US physicians' views about SDM as a means of reducing health care costs.
- Our study suggests that most US physicians are enthusiastic about SDM and see it as a promising avenue for controlling costs, but only a minority of physicians agree that SDM should be legislated to help control health care costs.
- While this cross-sectional survey had a solid response rate, reducing concerns about response bias, its findings should still be treated with caution due to the nature of the topic area. Social desirability may lead physicians to say very glowing things about shared decision making; whether their behavior follows was not addressed.
- Ascertaining motivations behind the opinions we report here would require further in-depth qualitative work beyond the scope of this survey.



## INTRODUCTION

Since at least the 1980s, shared decision making (SDM), defined as a process of patient engagement and mutual deliberation between health care providers and patients,<sup>1</sup> has been advanced as a way to promote respect for patients, encourage greater patient engagement in their care, and improve adherence and outcomes.<sup>2</sup> Shared decision making interventions such as decision aids (DAs) enhance patient knowledge, assist patients in forming realistic expectations, clarify their preferences, and decrease decisional conflict.<sup>3-5</sup> In addition, there is some evidence that using certain SDM tools like DAs can reduce utilization of discretionary procedures<sup>6</sup> and perhaps even reduce overall health care expenditures and utilization.<sup>5-7</sup>

Efforts are underway to use SDM as a means of addressing healthcare costs. Some advocates propose including physicians' use of decision aids as a quality measure aimed at controlling discretionary healthcare spending.<sup>8</sup> The Patient Protection and Affordable Care Act (ACA) introduced several provisions to promote the use of SDM<sup>9</sup> including CMS innovation initiatives aimed at testing SDM as a means of reducing discretionary procedures and lowering costs.<sup>8</sup> While general barriers to SDM in physician practice have been described,<sup>10</sup> it is not known whether physicians charged with carrying out SDM find it an attractive means of reducing health care costs, whether they would endorse using decision support tools that show costs, or whether they endorse the idea of legislation promoting SDM for the purpose of controlling health care costs as an appropriate means of achieving cost savings.

## METHODS

The Mayo Clinic Institutional Review Board approved this study. In May 2012, we mailed a self-administered, 8-page survey entitled, "Physicians, Health Care Costs, and Society" to a random sample of 3,897 practicing US physicians representing all specialties listed in the AMA

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9 Physician Masterfile using the Tailored Design Method<sup>11</sup> including a \$20 bill with the first mailing  
10 only. Second and third mailings were sent to non-responders at six-week intervals.  
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#### 12 13 14 *Survey Instrument*

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16 To develop our instrument we reviewed the literature, conducted five focus groups with  
17 physicians, formulated questions, conducted eight cognitive interviews, and revised questions,  
18 adapting or adopting existing measures whenever possible including the ~~These existing items~~  
19 and scales from peer-reviewed publications included the three-item Agreement with Rationing  
20 Scale,<sup>12</sup> the six-item Cost-Consciousness Scale,<sup>13</sup> and two items from a Stewardship Scale  
21 developed by the American Medical Association's Institute for Ethics.<sup>14</sup> The final survey includes  
22 questions assessing physicians' perspectives on health care reform, their societal  
23 responsibilities, medical decision-making, cost of health care, and cost-conscious practices.  
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26 The results focusing on those measures are reported elsewhere.<sup>15</sup> This report focuses on  
27 measures pertaining to the use of and barriers to shared decision-making in particular  
28 particularly as it relates to healthcare costs. (Full instrument for reviewers available in Appendix  
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#### 36 37 *Measures*

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39 Three Specific outcome measures items assessed respondents attitudes toward SDM  
40 and cost. First we assessed in this manuscript include respondents' level of enthusiasm (not,  
41 somewhat, very) for SDM as a several potential strategies to reduce health care costs. WIn  
42 this list we operationalized that e idea of SDM in the phrase, "Promoting better conversations  
43 with patients" as a means of lowering health care costs. Second, wWe also asked respondents'  
44 degree of agreement with "Decision support tools that show costs would be helpful in my  
45 practice" (strongly disagree, moderately disagree, moderately agree, strongly agree); and  
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9 | [finally, we asked](#) "Should promoting shared decision-making be legislated to control overall  
10 health care costs" (yes/no).  
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12 We examined physician demographics (age, sex, region, specialty type, and political  
13 self-characterization), practice characteristics (compensation type, predominant practice setting  
14 type), [as well as](#) perceived barriers to SDM drawn from the literature ("Which of the following  
15 is a major barrier to you more actively engaging patients in a process of shared decision  
16 making?" [mark all that apply] *patient confusion, inability to individualize risk, lack of patient*  
17 *interest in playing an active role, lack of supportive systems, lack of adequate time with the*  
18 *patient, administrative burdens, financial pressure to do better paying activities, other*) [as](#)  
19 [important covariates](#).  
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#### 27 Analysis

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29 Using SAS 9.2 (Cary, NC), we calculated response distributions for all items related to  
30 SDM previously described. We performed bivariate and multivariate tests of association (i.e.  
31 unadjusted and adjusted logistic regression models) to examine associations between physician  
32 characteristics (sex, age, region of practice, specialty, practice setting type, compensation type,  
33 and political self-characterization) as well as attitudes about barriers to SDM (independent  
34 measures) and their views on each of the three dimensions of SDM as a cost-containment  
35 strategy (dependent measures) described above. [The dependent measures assessing](#)  
36 [enthusiasm for "better conversations" as a cost-containment strategy and "Decision support](#)  
37 [tools that show costs would be helpful in my practice" were subsequently dichotomized for ease](#)  
38 [of presentation \(very enthusiastic vs. all others and strongly agree vs. all others, respectively\).](#)  
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47 Variables included in multivariate logistic regression models were determined based  
48 upon those characteristics of physicians that we *a priori* hypothesized would be associated with  
49 our dependent variables (i.e. age, sex, region of practice, specialty type, and political self-  
50 characterization), as well as physician characteristics and survey items that were empirically  
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9 found in bivariate analyses to be significantly associated with our three dependent variables of  
10 interest (i.e. practice setting, practice compensation type, and perceived barriers to  
11 implementing SDM). Therefore, for each dependent variable, we first ran a “base model”  
12 containing only those variables for which we were adjusting (age, sex, region of practice,  
13 specialty type, and political self-characterization), and then subsequently conducted separate  
14 multivariable models testing the association between each individual characteristic/attitude and  
15 the dependent variable while controlling for age, sex, region of practice, specialty type, and  
16 political self-characterization.  
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22 ~~The funding source had no role in the development, implementation, or analysis of data~~  
23 ~~in this study.~~  
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## 27 RESULTS

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29 2556 physicians responded to the survey (65% response rate).<sup>16</sup> Respondents were  
30 largely male (70%), age 50 years or older (58%) and white (77%) (Table 1). Respondents were  
31 slightly older than non-respondents (58% vs 54% older than 50 years, respectively;  $X^2 = 5.4$ ;  $p =$   
32 0.02) but otherwise representative of the overall U.S. physician population<sup>17</sup>. Most (67%) were  
33 “very enthusiastic” about promoting better conversations with patients as a means of reducing  
34 health care costs. A majority somewhat or strongly agreed that decision support tools that show  
35 costs would be helpful in their practice (70%). In contrast, just one in four respondents (24%)  
36 agreed that promoting SDM should be legislated as a means of controlling health care costs  
37 (Table 2). The most common barriers cited to “actively engaging patients in a process of shared  
38 decision making” included patient confusion (65%), lack of patient interest in playing an active  
39 role (59%), and lack of adequate time with the patient (56%).  
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49 When stratifying respondents by demographic characteristics (age, sex, region,  
50 specialty, and political self-characterization), we found that a majority of respondents from all  
51 subgroups expressed enthusiasm about SDM as a cost-containment strategy and decision  
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9 support tools that show costs. In contrast, a consistent minority of respondents across all  
10 subgroups agreed that promoting SDM should be legislated (Table 3).

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12 In bivariate analyses, female physicians (OR 1.7; 95% CI 1.4 to 2.1) and those  
13 identifying as politically liberal (OR 1.8; 95% CI 1.5 to 2.3) had significantly greater odds of  
14 being very enthusiastic about promoting better conversations as a means to reduce health care  
15 costs. Surgeons had lower odds than primary care providers to express enthusiasm for  
16 promoting better conversations as a means of cost-containment (OR 0.7; 95% CI 0.6 to 0.9),  
17 while responding physicians' region of practice, age, and type of practice setting did not appear  
18 to be associated with their views on this item.

19  
20 In separate multivariable models adjusted for age, sex, region, specialty and political  
21 self-characterization, respondents reporting salary/salary + bonus compensation compared with  
22 billing-only had a greater odds of **strongly** agreeing that decision support tools that show costs  
23 would be helpful in their practice (OR 1.54; 95% CI 1.31 to 1.97). Respondents identifying  
24 themselves as "very or somewhat liberal or progressive" also had higher odds than those self-  
25 described as "very or somewhat conservative" of **strongly** agreeing that decision support tools  
26 that show cost would be helpful (ORs 1.72; 95% CIs 1.37 to 2.19), as well as expressing  
27 strong enthusiasm for promoting better conversations with patients (OR 1.7; 95% CI 1.4 to 2.1).  
28 (Table 4)

29  
30 Several perceived barriers to shared decision making were independently associated  
31 with respondents' enthusiasm about promoting better conversations with patients as a cost-  
32 containment strategy, whether decision support tools showing costs would be helpful, and  
33 whether SDM should be legislated to control health care costs. In logistic regression models  
34 adjusted for sex, age, region, specialty, and political self-characterization, those who selected  
35 "lack of supportive systems" as a perceived barrier to SDM had twice the odds (OR 2.1; 95% CI  
36 1.4 to 3.0) as others to be very enthusiastic about promoting better conversations with patients  
37 as a means of reducing health care costs. Respondents who perceived ~~lack of adequate time~~

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with patients administrative burdens (OR 1.23; 95% CI 1.0 to 1.56) and financial pressures lack of supportive systems (OR 1.45; 95% CI 1.01 to 2.11-8) as barriers to SDM also had significantly higher odds of strongly agreeing that decision support tools that show showing costs would be helpful in their practice. Finally, respondents who selected administrative burdens (OR 1.4; 95% CI 1.1 to 1.7), an inability to individualize risk (OR 1.5; 95% CI 1.2 to 1.9), financial pressure to do better-paying activities (OR 1.6; 95% CI 1.2-2.1), and lack of supportive systems (OR 2.0; 95% CI 1.5 to 2.7) as perceived barriers to SDM had greater odds of believing that SDM should be legislated. (Table 4)

## DISCUSSION

Most US physicians express strong enthusiasm for promoting better conversations with patients as a means to control health care costs and believe decision support tools showing costs would be useful. A minority of physicians agree that SDM should be legislated to help control health care costs. Although certain subgroups of respondents (e.g. self-described liberals; females) appear more likely to express enthusiasm for SDM and cost-transparency compared to other subgroups, majorities of respondents in all subgroups were, overall, supportive of both promoting better conversations as well as using decision support tools that show costs.

### *Comparison With Other Studies*

Given the significant variability of cost and lack of cost-transparency in the US health system,<sup>18-22</sup> decision support tools that show total costs and patient out-of-pocket costs could be a means to empower both physicians and patients as informed health care consumers. Support innovations that promote for SDM with cost transparency also might reflect physicians' views of patient responsibility for reducing health care costs. In any event, promoting tools to achieve better conversations with patients and cost transparency appears to be a physician-supported,

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9 patient-centered strategy [for achieving higher quality care that may also](#) achieve cost-  
10 containment [as well](#).  
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13 Lack of time with patients and administrative barriers pose obstacles to engaging  
14 patients in SDM, according to our respondents. Two of the barriers to SDM that physicians cited  
15 – patient confusion and patients' lack of interest - stand in contrast to studies of patients' views.  
16 The national 2009 DECISIONS study<sup>23</sup> of nine medical decisions found patients say they are  
17 ready for involvement and desire it. There are multiple explanations for this gap. First, while  
18 patients say, when asked, they want to play a greater role in decision making, doctors may  
19 interpret their behavior during encounters otherwise. Expressions of preference for decision  
20 making could vary depending on the decision faced, from those with high stakes (e.g., major  
21 surgery) to more routine circumstances (treatment for allergic rhinitis). In addition, physicians  
22 may misjudge patient confusion for lack of interest in playing an active role, or may exhibit recall  
23 bias when responding to items about barriers to SDM. Moreover, how questions about SDM are  
24 framed – in this and in other studies – could lead to discrepant results. [Furthermore, these data](#)  
25 [suggest that a majority of US physicians are fully on-board with SDM despite data from the](#)  
26 [DECISIONS study and others like it suggesting SDM is by no means the norm in routine](#)  
27 [practice](#).  
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#### 39 *Strengths and Limitations of This Study*

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42 The limited nature of the single item [self-reported](#) measures presented here restrict our  
43 inferences. [Regarding the substantive findings of the study, several questions persist. In](#)  
44 [particular, it](#) is unclear why physicians disagree with legislating SDM [as a means of controlling](#)  
45 [health care costs when they are enthusiastic about it as a cost-containment measure](#). Do  
46 physicians resist infringement on their autonomy [generally](#)? Do they resist any potentially  
47 punitive regulatory measures? Do they fear “big brother” government intrusion? It is possible  
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that physicians may not be comfortable with the idea of any behaviors, including SDM, being legislated even if they embrace the potential positive consequences of doing so. Some physicians may fear that using SDM as a means of reducing health care costs could tarnish its patient-centered ~~primary objective~~ ~~end in itself~~. [These data do not answer whether physicians resist legislating SDM, but only that they oppose such actions as a cost-containment strategy.](#) Ascertaining ~~such~~ motivations [behind the opinions we report](#) would require further in-depth qualitative work beyond the scope of this survey. [In content areas like this, survey items may have been ambiguous despite rigorous pilot testing. For instance our item, "decision support tools that show cost would be helpful in my practice" was presented in a section on medical decision making, creating some ambiguity about whether respondent endorsement of this item really constitutes an endorsement of shared decision making as a cost-containment strategy or a general endorsement of the innovation for patient-centered care.](#)

While this cross-sectional survey had a solid response rate, reducing concerns about response bias, its findings should still be treated with caution due to the nature of the topic area. Social desirability may lead physicians to say very glowing things about shared decision making. [Belying their broad endorsement, physicians may hold divergent views of shared decision making. The survey did not stipulate a definitive definition of SDM.](#) Whether, however, their behavior follows is what is of ultimate concern [and was not addressed in this survey.](#) [The contrast between physicians' self-reported enthusiasm and the documented failures to promote SDM in studies of physician behavior suggest our respondents may uphold an ideal they themselves do not achieve, or may operate with a different functional definition of SDM. Surveys alone cannot resolve this discrepancy.](#) Although the face validity of our measures (*Which of the following is a major barrier to you more actively engaging patients in a process of shared decision-making?\**; *Promoting SDM should be legislated as a means of controlling health care costs*; *Decision support tools that show costs would be helpful in my practice*; *Level of*



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9 *enthusiasm for “promoting better conversations with patients” as a means to promote cost-*  
10 *containment)* do not evoke a clear social desirability bias, that possibility cannot be excluded.

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12 This approach did not (and arguable-arguably could not accurately) assess actual behavior. The  
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14 AMA Masterfile is the most comprehensive listing of US physicians, but relies on physician self-  
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16 report for key practice characteristics. For instance, specialty data listed in the AMA Masterfile  
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18 lists self-reported specialty that is not verified with specialty boards. The estimates. Furthermore,  
19 the descriptive statistics reported here may not fully reflect all US physician opinion.  
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#### 22 23 24 *Conclusions and Policy Implications*

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26 Since its emergence in the President’s Commission 30 years ago, shared decision  
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28 making has promoted empowering patients in their care as an intrinsic good. Should policy also  
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30 support, or require, SDM to achieve cost-savings? Doing so can be justified as a win-win  
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32 proposition if SDM improves quality and lowers (or stabilizes) health care spending. Yet, if SDM  
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34 is viewed – by physicians, patients, or both – as primarily aimed at cost control, or as an effort  
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36 to save money masquerading as quality improvement, then an important, patient-centered tool  
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38 may well be left in the toolbox unused. These and other unanswered questions about what the  
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40 appropriate policy rationale for SDM should be will need to be addressed to assure that its  
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42 ethical ideals are preserved in the coming years. At present, however, it appears most  
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44 physicians are enthusiastic about shared decision making and see it as a promising avenue for  
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46 controlling costs.  
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**Data Sharing Statement:**

Full dataset and statistical code available from the corresponding author at  
tilburt.jon@mayo.edu. Consent was not obtained but the presented data are anonymized and  
risk of identification is low.

For peer review only

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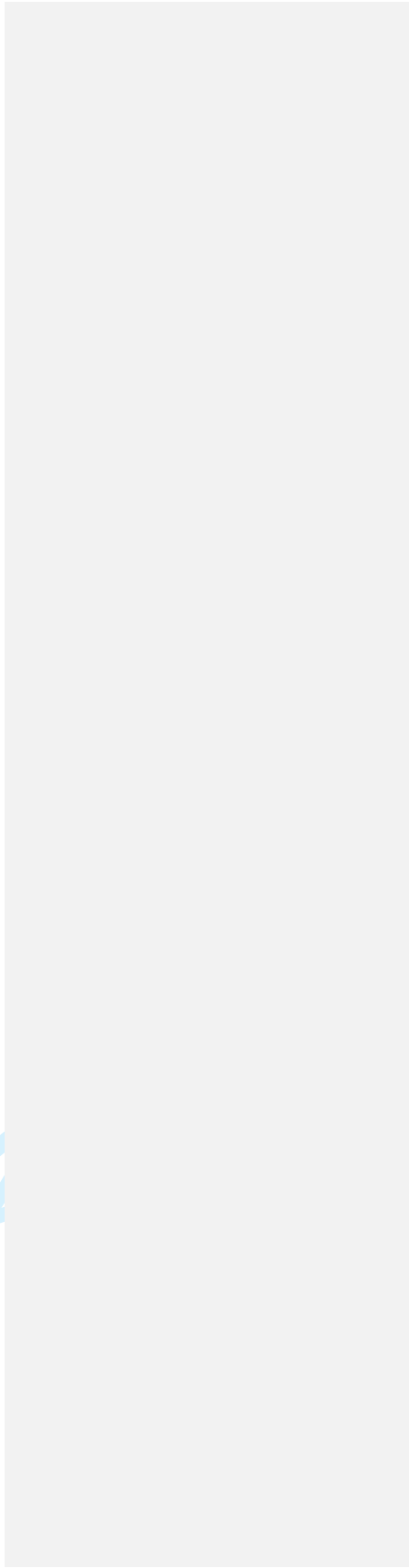
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## WHAT THIS RESEARCH ADDS

### What is already known on this subject?

Shared decision making (SDM), a process of patient engagement and mutual deliberation between health care providers and patients, has been advanced as a way to promote respect for patients, encourage greater patient engagement in their care, and improve adherence and outcomes.

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**Table 1.** Characteristics of 2556 responding U.S. physicians, as well as [their perceived barriers to shared decision making](#).

| Characteristic   | No. (%)    |
|--|------------|
| <b>Age, Mean [SD], years</b>   | 51.0 [8.5] |
| <b>Male sex</b>  | 1784 (70)  |
| <b>Race or ethnic group*</b>   |            |
| White or Caucasian   | 1958 (77)  |
| Asian  | 369 (15)   |
| Other  | 124 (5)    |
| Black or African-American  | 80 (3)     |
| <b>Region<sup>†</sup></b>  |            |
| South  | 829 (33)   |
| Midwest  | 594 (23)   |
| Northeast  | 548 (22)   |
| West   | 570 (22)   |
| <b>Primary Specialty</b>   |            |
| Primary Care   | 1034 (40)  |
| Surgery  | 571 (22)   |
| Procedural Specialty   | 486 (19)   |
| Nonprocedural Specialty  | 399 (16)   |
| Non-Clinical   | 44 (2)     |
| <b>Practice Setting Type</b>   |            |
| Group/HMO  | 1641 (64)  |
| Small/solo   | 498 (19)   |
| City/state/federal government  | 336 (13)   |
| Medical school   | 59 (2)     |
| <b>Practice Compensation Type<sup>‡</sup></b>  |            |
| Billing only   | 1036 (41)  |
| Salary plus bonus  | 874 (35)   |
| Salary only  | 460 (18)   |
| Other  | 154 (6)    |
| <b>Political Self-Characterization<sup>§</sup></b>   |            |
| Very Conservative  | 254 (10)   |
| Somewhat Conservative  | 709 (28)   |
| Independent/Moderate   | 726 (29)   |
| Somewhat Liberal/Progressive   | 495 (20)   |
| Very Liberal/Progressive   | 247 (10)   |
| <i>Which of the following is a major barrier to you more actively engaging patients in a process of shared decision-making?<sup>‡</sup> (n = 2402)<sup>‡</sup></i> |            |
| <a href="#">Patient Confusion</a>  | 1558 (65)  |
| <a href="#">Lack of patient interest in playing an active role</a>   | 1425 (59)  |
| <a href="#">Lack of adequate time with the patient</a>   | 1349 (56)  |
| <a href="#">Administrative burdens</a>   | 808 (34)   |
| <a href="#">Inability to individualize risk</a>  | 499 (21)   |
| <a href="#">Financial pressure to do better paying activities</a>  | 349 (15)   |
| <a href="#">Other</a>  | 268 (11)   |
| <a href="#">Lack of supportive systems</a>   | 216 (9)    |



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Percentages based on a denominator of 2532

† Percentages based on a denominator of 2541

‡ Percentages based on a denominator of 2524

§ Percentages based on a denominator of 2497

¶ Item was "Mark all that apply": hence percentages here were calculated with the denominator as the total number of respondents who answered this question (i.e. selected at least one of the response category options).

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**Table 2.** Distribution of responses to SDM and cost items from 2556 US physicians

| Survey Item  | No. (%)   |
|--|-----------|
| <i>Level of enthusiasm for "promoting better conversations with patients" as a means to promote cost-containment. (n = 2486)</i>               |           |
| Not enthusiastic   | 80 (3)    |
| Somewhat enthusiastic  | 745 (30)  |
| Very enthusiastic  | 1661 (67) |
| <i>Decision support tools that show costs would be helpful in my practice. (n = 2461)</i>  |           |
| Strongly disagree  | 251 (10)  |
| Somewhat disagree  | 487 (20)  |
| Somewhat agree   | 1240 (50) |
| Strongly agree   | 483 (20)  |
| <i>Promoting SDM should be legislated as a means of controlling health care costs. (n = 2435)</i>  |           |
| Yes  | 593 (24)  |
| No   | 1842 (76) |
| <i>Which of the following is a major barrier to you more actively engaging patients in a process of shared decision-making?*</i><br>(n = 2402) |           |
| Patient Confusion  | 1558 (65) |
| Lack of patient interest in playing an active role   | 1425 (59) |
| Lack of adequate time with the patient   | 1349 (56) |
| Administrative burdens   | 808 (34)  |
| Inability to individualize risk  | 499 (21)  |
| Financial pressure to do better paying activities  | 349 (15)  |
| Other  | 268 (11)  |
| Lack of supportive systems   | 216 (9)   |

\*Item was "Mark all that apply"; hence percentages here were calculated with the denominator as the total number of respondents who answered this question (i.e. selected at least one of the response category options).

**Table 3.** Distribution of physician responses to SDM-related survey items stratified by demographic characteristics.

|  | No. (row %)   |         |  |         |                                    |         |
|--|---|---------|--|---------|------------------------------------|---------|
|  | Very enthusiastic about promoting better conversations as means to reduce health care costs |         | Agree decision support tools showing costs would be helpful in my practice |         | Promoting SDM should be legislated |         |
|  | No. (row %)   | P-value | No. (row %)  | P-value | No. (row %)                        | P-value |
| <b>Age (years)</b>                           |   | 0.48    |  | 0.82    |                                    | <0.0001 |
| Less than 50 years (n=1043)                  | 705 (68)  |         | 710 (69)   |         | 293 (29)                           |         |
| 50 years or greater (n = 1443)               | 956 (66)  |         | 1013 (71)  |         | 300 (21)                           |         |
| <b>Sex</b>                                   |   | <0.0001 |  | 0.24    |                                    | 0.19    |
| Male (n=1734)                                | 1097 (63)   |         | 1199 (70)  |         | 405 (24)                           |         |
| Female (n=752)                               | 564 (75)  |         | 524 (70)   |         | 188 (26)                           |         |
| <b>Region</b>                                |   | 0.99    |  | 0.01    |                                    | 0.69    |
| Midwest (n=570)                              | 379 (66)  |         | 420 (74)   |         | 133 (24)                           |         |
| South (n=809)                                | 539 (67)  |         | 550 (69)   |         | 183 (23)                           |         |
| West (n=555)                                 | 369 (66)  |         | 392 (72)   |         | 132 (24)                           |         |
| Northeast (n=537)                            | 361 (67)  |         | 351 (66)   |         | 136 (26)                           |         |
| <b>Primary Specialty</b>                     |   | 0.05    |  | 0.26    |                                    | 0.02    |
| Primary Care (n=1003)                        | 693 (69)  |         | 711 (71)   |         | 247 (25)                           |         |
| Surgery (n=558)                              | 348 (62)  |         | 369 (67)   |         | 104 (19)                           |         |
| Procedural Specialty (n=473)                 | 310 (66)  |         | 334 (72)   |         | 126 (27)                           |         |
| Nonprocedural Specialty (n=390)              | 273 (70)  |         | 264 (68)   |         | 99 (26)                            |         |
| Non-Clinical (n=42)                          | 25 (60)   |         | 29 (73)  |         | 12 (29)                            |         |
| Other (n=20)                                 | 12 (60)   |         | 16 (80)  |         | 5 (25)                             |         |
| <b>Political Self-Characterization</b>       |   | <0.0001 |  | 0.0001  |                                    | 0.04    |
| Very/Somewhat Conservative (n=937)           | 576 (61)  |         | 610 (66)   |         | 204 (22)                           |         |
| Independent/Moderate (n=707)                 | 479 (68)  |         | 486 (69)   |         | 171 (25)                           |         |
| Very/Somewhat Liberal or Progressive (n=719) | 535 (74)  |         | 538 (75)   |         | 192 (27)                           |         |

Table 4. Unadjusted and adjusted associations between physician characteristics/attitudes and their views on SDM from bivariate and multivariate logistic regression models.

|  | Very enthusiastic about promoting better conversations as means to reduce health care costs |         |                       | Strongly agree decision support tools showing costs would be helpful in my practice |         |                       | Promoting SDM should be legislated |         |                       |
|--|---|---------|-----------------------|---|---------|-----------------------|------------------------------------|---------|-----------------------|
|  | Unadjusted OR (95% CI)  | p-value | Adjusted OR (95% CI)  | Unadjusted OR (95% CI)  | p-value | Adjusted OR (95% CI)  | Unadjusted OR (95% CI)             | p-value | Adjusted OR (95% CI)  |
| <b>Age (years)</b>                     | 1.0<br>(0.99 to 1.01)   |         | 1.0<br>(0.98 to 1.01) | 1.0<br>(0.99 to 1.02)   |         | 1.0<br>(0.99 to 1.02) | 0.98*<br>(0.97 to 0.99)            |         | 0.98<br>(0.97 to 1.0) |
| <b>Sex</b>                             |   | <0.0001 |                       |   | 0.13    |                       |                                    | <0.0001 |                       |
| Male                                   | Ref   |         | Ref                   | Ref   |         | Ref                   | Ref                                |         | Ref                   |
| Female                                 | 1.7*<br>(1.4 to 2.1)  |         | 1.7*<br>(1.3 to 2.0)  | 1.2<br>(1.0-1.5)  |         | 1.1<br>(0.9 to 1.4)   | 1.1<br>(0.9 to 1.4)                |         | 1.0<br>(0.8 to 1.2)   |
| <b>Region</b>                          |   | 0.99    |                       |   | 0.002   |                       |                                    | 0.99    |                       |
| Midwest                                | Ref   |         | Ref                   | Ref   |         | Ref                   | Ref                                |         | Ref                   |
| South                                  | 1.0<br>(0.8 to 1.3)   |         | 1.0<br>(0.8 to 1.2)   | 0.7*<br>(0.5 to 0.9)  |         | 0.7*<br>(0.5 to 0.9)  | 1.0<br>(0.7 to 1.2)                |         | 0.9<br>(0.7 to 1.2)   |
| West                                   | 1.0<br>(0.8 to 1.3)   |         | 0.9<br>(0.7 to 1.1)   | 1.0<br>(0.8 to 1.4)   |         | 0.9<br>(0.7 to 1.3)   | 1.0<br>(0.8 to 1.4)                |         | 1.0<br>(0.8 to 1.3)   |
| Northeast                              | 1.0<br>(0.8 to 1.3)   |         | 0.9<br>(0.7 to 1.2)   | 0.7*<br>(0.5 to 0.9)  |         | 0.6*<br>(0.5 to 0.9)  | 1.1<br>(0.9 to 1.5)                |         | 1.1<br>(0.8 to 1.5)   |
| <b>Primary Specialty</b>               |   | 0.05    |                       |   | 0.33    |                       |                                    | 0.05    |                       |
| Primary Care                           | Ref   |         | Ref                   | Ref   |         | Ref                   | Ref                                |         | Ref                   |
| Surgery                                | 0.7*<br>(0.6 to 0.9)  |         | 0.9<br>(0.7 to 1.1)   | 0.8<br>(0.6 to 1.1)   |         | 0.9<br>(0.7 to 1.2)   | 0.7*<br>(0.5 to 0.9)               |         | 0.7*<br>(0.6 to 1.0)  |
| Procedural Specialty                   | 0.9<br>(0.7 to 1.1)   |         | 1.0<br>(0.8 to 1.2)   | 0.8<br>(0.6 to 1.0)   |         | 0.8<br>(0.6 to 1.1)   | 1.1<br>(0.9 to 1.4)                |         | 1.2<br>(0.9 to 1.5)   |
| Nonprocedural Specialty                | 1.0<br>(0.8 to 1.3)   |         | 1.1<br>(0.8 to 1.4)   | 0.8<br>(0.6 to 1.0)   |         | 0.8<br>(0.5 to 1.0)   | 1.0<br>(0.8 to 1.4)                |         | 1.3<br>(0.8 to 1.4)   |
| Non-Clinical                           | 0.7<br>(0.4 to 1.2)   |         | 0.6<br>(0.3 to 1.2)   | 0.8<br>(0.3 to 1.7)   |         | 0.7<br>(0.3 to 1.7)   | 1.2<br>(0.6 to 2.3)                |         | 1.3<br>(0.7 to 2.7)   |
| Other                                  | 0.7<br>(0.3 to 1.7)   |         | 0.7<br>(0.3 to 1.9)   | 0.6<br>(0.2 to 2.2)   |         | 0.7<br>(0.2 to 2.3)   | 1.0<br>(0.4 to 2.7)                |         | 1.0<br>(0.3 to 2.8)   |
| <b>Political Self-Characterization</b> |   | <0.0001 |                       |   | ≤0.0001 |                       |                                    | <0.0001 |                       |
| Very/Somewhat                          | Ref   |         | Ref                   | Ref   |         | Ref                   | Ref                                |         | Ref                   |

|   |                      |       |                      |                      |       |                      |                      |         |                      |
|---|----------------------|-------|----------------------|----------------------|-------|----------------------|----------------------|---------|----------------------|
| Conservative  |                      |       |                      |                      |       |                      |                      |         |                      |
| Independent/<br>Moderate  | 1.3*<br>(1.1 to 1.6) |       | 1.3*<br>(1.1 to 1.6) | 1.2<br>(0.9 to 1.6)  |       | 1.2<br>(0.9 to 1.6)  | 1.2<br>(0.9 to 1.5)  |         | 1.1<br>(0.9 to 1.4)  |
| Very/Somewhat<br>Liberal or<br>Progressive                            | 1.8*<br>(1.5 to 2.3) |       | 1.7*<br>(1.4 to 2.1) | 2.3*<br>(1.8 to 2.9) |       | 2.2*<br>(1.7 to 2.9) | 1.3*<br>(1.1 to 1.7) |         | 1.3<br>(1.0 to 1.6)  |
| <b>Practice Setting<br/>Type</b>                                      |                      | 0.59  |                      |                      | 0.07  |                      |                      | 0.20    |                      |
| Small/solo  | Ref                  |       | Ref                  | Ref                  |       | Ref                  | Ref                  |         | Ref                  |
| Group/HMO   | 1.1<br>(0.9 to 1.4)  |       | 1.1<br>(0.8 to 1.3)  | 1.3<br>(1.0 to 1.7)  |       | 1.2<br>(0.9 to 1.7)  | 1.0<br>(0.8 to 1.3)  |         | 0.9<br>(0.7 to 1.2)  |
| City/state/federal<br>government                                      | 1.2<br>(0.9 to 1.7)  |       | 1.1<br>(0.8 to 1.5)  | 1.4*<br>(1.0 to 2.1) |       | 1.4<br>(0.9 to 2.0)  | 1.3<br>(1.0 to 1.8)  |         | 1.2<br>(0.8 to 1.7)  |
| Medical school  | 1.3<br>(0.7 to 2.4)  |       | 1.2<br>(0.6 to 2.2)  | 1.4<br>(0.7 to 2.7)  |       | 1.2<br>(0.6 to 2.5)  | 0.7<br>(0.4 to 1.5)  |         | 0.6<br>(0.2 to 1.2)  |
| Other non-patient<br>care   | 1.5<br>(0.6 to 3.8)  |       | 1.1<br>(0.4 to 3.0)  | 2.9*<br>(1.2 to 7.2) |       | 3.0*<br>(1.2 to 7.8) | 0.7<br>(0.2 to 2.2)  |         | 0.7<br>(0.2 to 2.3)  |
| <b>Practice<br/>Compensation Type</b>                                 |                      |       |                      |                      | 0.005 |                      |                      | 0.14    |                      |
| Billing only  | Ref                  | 0.06  | Ref                  | Ref                  |       | Ref                  | Ref                  |         | Ref                  |
| Salary/Salary plus<br>bonus   | 1.2<br>(1.0 to 1.5)  |       | 1.2<br>(1.0 to 1.4)  | 1.4*<br>(1.1 to 1.7) |       | 1.4*<br>(1.1 to 1.7) | 1.2*<br>(1.0 to 1.5) |         | 1.2<br>(0.9 to 1.4)  |
| Other   | 1.1<br>(0.6 to 1.5)  |       | 1.1<br>(0.8 to 1.7)  | 1.1<br>(0.7 to 1.8)  |       | 1.0<br>(0.6 to 1.6)  | 1.1<br>(0.8 to 1.6)  |         | 1.0<br>(0.7 to 1.6)  |
| <b>Major Barriers to<br/>Engaging Patients<br/>in SDM<sup>†</sup></b> |                      |       |                      |                      |       |                      |                      |         |                      |
| Patient Confusion   | 1.0<br>(0.8 to 1.2)  | 0.89  | 1.0<br>(0.9 to 1.2)  | 1.0<br>(0.8 to 1.2)  | 0.99  | 1.0<br>(0.8 to 1.3)  | 1.0<br>(0.8 to 1.2)  | 0.86    | 1.0<br>(0.8 to 1.2)  |
| Lack of patient<br>interest in playing<br>an active role              | 1.1<br>(0.9 to 1.3)  | 0.50  | 1.1<br>(0.9 to 1.4)  | 1.0<br>(0.8 to 1.2)  | 0.80  | 1.0<br>(0.8 to 1.3)  | 1.0<br>(0.8 to 1.2)  | 0.88    | 1.0<br>(0.8 to 1.3)  |
| Lack of adequate<br>time with the patient                             | 1.3*<br>(1.1 to 1.5) | 0.008 | 1.2<br>(1.0 to 1.4)  | 1.2<br>(0.9 to 1.4)  | 0.16  | 1.1<br>(0.9 to 1.4)  | 1.1<br>(0.9 to 1.3)  | 0.45    | 1.0<br>(0.9 to 1.3)  |
| Administrative<br>burdens   | 1.0<br>(0.8 to 1.2)  | 0.92  | 1.0<br>(0.9 to 1.3)  | 1.2<br>(1.0 to 1.5)  | 0.10  | 1.3*<br>(1.0 to 1.6) | 1.4*<br>(1.1 to 1.7) | 0.001   | 1.4*<br>(1.1 to 1.7) |
| Inability to<br>individualize risk                                    | 0.9<br>(0.8 to 1.2)  | 0.61  | 0.9<br>(0.8 to 1.2)  | 1.2<br>(1.0 to 1.6)  | 0.09  | 1.2<br>(0.9 to 1.6)  | 1.5*<br>(1.2 to 1.8) | 0.0007  | 1.5*<br>(1.2 to 1.9) |
| Financial pressure  | 1.0                  | 0.98  | 1.0                  | 1.1                  | 0.39  | 1.2                  | 1.7*                 | <0.0001 | 1.6*                 |

|                                |                   |         |                      |                                    |       |                                    |                      |         |                      |
|--------------------------------|-------------------|---------|----------------------|------------------------------------|-------|------------------------------------|----------------------|---------|----------------------|
| to do better paying activities | (0.8 to 1.3)      |         | (0.8 to 1.3)         | <u>(0.9 to 1.5)</u>                |       | <u>(0.9 to 1.6)</u>                | (1.3 to 2.2)         |         | (1.2 to 2.1)         |
| Lack of supportive systems     | 2.1*<br>(1.5-2.9) | <0.0001 | 2.1*<br>(1.4 to 3.0) | <u>1.5*</u><br><u>(1.1 to 2.1)</u> | 0.008 | <u>1.5*</u><br><u>(1.1 to 2.1)</u> | 2.1*<br>(1.5 to 2.8) | <0.0001 | 2.0*<br>(1.5 to 2.7) |

\* p-value < 0.05

† Odds ratios and 95% CIs presented for this item use as their reference category, for example, those who selected "patient confusion" as a major barrier versus those who did not.

NOTE: For each dependent variable, separate adjusted models include shaded items plus each physician characteristic/attitude (e.g. model 1 – adjustors + practice setting type; model 2 – adjustors + practice compensation type; etc.)

For peer review only

(THIS PAGE IS FOR SURVEY RESEARCH TRACKING AND FILING PURPOSES ONLY)

# PHYSICIAN ATTITUDES ON SHARED DECISION MAKING HEALTH CARE REFORM

INVESTIGATOR: JON TILBURT, MD

VERSION AS OF:

APRIL 18, 2012 WLD

APRIL 20, 2012 WLD

APRIL 23, 2012 WLD

APRIL 24, 2012 WLD

APRIL 25, 2012 WLD

APRIL 26, 2012 WLD

APRIL 27, 2012 WLD

APRIL 30, 2012 WLD

CODING CHECK:

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# Physicians, Health Care Costs, and Society

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**YOU & YOUR PRACTICE**

Please check the appropriate box or fill in the blank as indicated.

1. How would you classify your race? (Choose ONE)

1  Asian or Asian-American

2  Black or African-American

3  White or Caucasian

4  Other, please specify: \_\_\_\_\_

2. Do you consider yourself Hispanic/Latino?

1  Yes

2  No

4. Which ONE of the following best describes the primary compensation for your practice?

1  Billing only

2  Salary only

3  Salary plus bonus

4  Other, please specify: \_\_\_\_\_

5. Please indicate your degree of agreement or disagreement with the following statement:

"My enjoyment of the practice of medicine is substantially lessened because of the threat of lawsuits."

1  Strongly disagree

2  Moderately disagree

3  Moderately agree

4  Strongly agree

6. How would you describe your average level of fatigue during the past week, including today?

0   
No  
fatigue

1

2

3

4

5

6

7

8

9

10   
Constant  
tiredness

**HEALTH CARE REFORM**

Please respond to the following statements in a way that best reflects your opinions about the 2010 Patient Protection and Affordable Care Act.

7. The Affordable Care Act, if fully implemented, would turn United States health care in the right direction.

- 1  Strongly disagree
- 2  Moderately disagree
- 3  Moderately agree
- 4  Strongly agree

8. The Affordable Care Act, if fully implemented, would make physician reimbursement...

- 1  More fair
- 2  Less fair
- 3  Neither more nor less fair
- 4  Not sure

9. Should religiously affiliated institutions that object to the use of contraceptives be required to cover contraceptives in their health plans?

- 1  Yes
- 2  No

10. During the last 6 months, how often did you personally refrain, because of cost to the health care system, from using the following interventions when they would have been the best intervention for your patient?

|                               | Never                      | Less than monthly          | Monthly                    | Weekly                     | Daily                      | Not applicable             |
|-------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Lab tests.....                | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Routine X-ray.....            | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| MRI.....                      | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Screening test.....           | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Referral to a specialist..... | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Referral to an ICU.....       | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Prescription drugs.....       | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Referral for surgery.....     | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Referral for dialysis.....    | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Hospital admission.....       | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |

**PHYSICIAN RESPONSIBILITIES & SOCIETY**

Please indicate your degree of agreement or disagreement with the following statements.

11. I would favor limiting coverage for expensive drugs and procedures if that would help expand access to basic health care for those currently lacking such care.

- 1  Strongly disagree
- 2  Moderately disagree
- 3  Moderately agree
- 4  Strongly agree

12. Every physician is professionally obligated to care for the uninsured and underinsured.

- 1  Strongly disagree
- 2  Moderately disagree
- 3  Moderately agree
- 4  Strongly agree

13. Addressing societal health policy issues, as important as that may be, falls outside the scope of my professional obligations as a physician.

- 1  Strongly disagree
- 2  Moderately disagree
- 3  Moderately agree
- 4  Strongly agree

14. Please rate the degree of responsibility (if any) each of these entities should have in reducing the cost of health care:

|  | No<br>responsibility       | Some<br>responsibility     | Major<br>responsibility    |
|--|----------------------------|----------------------------|----------------------------|
| <b>Government</b> .....                              | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Health insurance companies</b> .....              | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Patients</b> .....                                | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Physician professional societies</b> .....        | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Individual practicing physicians</b> .....        | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Hospitals and health systems</b> .....            | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Employers</b> .....                               | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Pharmaceutical and device manufacturers</b> ..... | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Trial lawyers</b> .....                           | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |

|                                |
|--------------------------------|
| <b>MEDICAL DECISION-MAKING</b> |
|--------------------------------|

Please answer the following questions about different dimensions of medical decision-making.

**15. I find the uncertainty involved in patient care disconcerting.**

- 36
- 1  Strongly disagree  
 2  Moderately disagree  
 3  Moderately agree  
 4  Strongly agree

**16. I generally order more tests when I don't know the patient well.**

- 37
- 1  Strongly disagree  
 2  Moderately disagree  
 3  Moderately agree  
 4  Strongly agree

**17. Which of the following is a major barrier to you more actively engaging patients in a process of shared decision-making? (Mark ALL that apply)**

- 38-45
- 1  Patient confusion  
 1  Inability to individualize risk  
 1  Lack of patient interest in playing an active role  
 1  Lack of supportive systems (eg, computers)  
 1  Lack of adequate time with the patient  
 1  Administrative burdens  
 1  Financial pressure to do better paying activities (eg, procedures)  
 1  Other, please specify: \_\_\_\_\_

**18. Should promoting shared decision-making be legislated to control overall health care costs?**

- 46
- 1  Yes  
 2  No

**19. "If I tried to follow cost-conscious guidelines in my daily decision-making with individual patients..." (Mark ALL that apply)**

- 47-54
- 1  "Patients would welcome this"  
 1  "It would be the right thing to do"  
 1  "I would not know where to start"  
 1  "It would be haphazard"  
 1  "It would likely make little difference"  
 1  "It could be unfair"  
 1  "It would likely undermine my patients' trust in me"  
 1  "It would help me limit unreasonable patient demands"

**20. Please indicate your degree of agreement or disagreement with the following statement:**

"Decision support tools that show costs would be helpful in my practice."

- 55
- 1  Strongly disagree  
 2  Moderately disagree  
 3  Moderately agree  
 4  Strongly agree

**COST OF HEALTH CARE**

A variety of practices have been proposed to control health care costs to society.

21. Please indicate your degree of enthusiasm for the following potential means of lowering health care costs (assume each is effective in lowering costs).

|    |  | Not<br>enthusiastic        | Somewhat<br>enthusiastic   | Very<br>enthusiastic       |
|----|--|----------------------------|----------------------------|----------------------------|
| 56 | Expanding access to free preventive care. . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 57 | Promoting head-to-head trials of competing treatments. . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 58 | Paying a network of practices a fixed, "bundled" price for managing all care for a defined population. . . . . | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 59 | Expanding electronic health records. . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 60 | Allowing Medicare payment cuts to doctors to take effect. . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 61 | Rooting out fraud and abuse . . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 62 | Eliminating fee-for-service payment models. . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 63 | Penalizing providers for avoidable readmissions. . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 64 | Expanding access to quality and safety data . . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 65 | Promoting better conversations with patients. . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 66 | High deductible health plans . . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 67 | Higher patient co-pays . . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 68 | Promoting continuity of care . . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 69 | Limiting corporate influence on physician behavior . . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 70 | Reducing compensation for the highest-paid specialties. . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 71 | Limiting access to expensive treatments with little net benefit  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 72 | Promoting chronic disease care coordination . . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 73 | Using cost-effectiveness data to determine available treatments  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |

22. Suppose a new device is proven effective at treating a serious illness compared to a placebo. If an insurance plan covers treatment for this serious illness, under which of the following circumstances, if any, would it be acceptable for the insurance plan to limit coverage for this new device? (Mark ALL that apply)

- 1  Never, insurance plans should cover any effective treatments for covered illnesses.
- 1  If the plan covers another treatment that is about equally effective, but costs less.
- 1  If the plan covers another treatment that is marginally less effective but costs much less.
- 1  If the plan already covers another treatment that is even more efficacious than the new device.

23. Please indicate your degree of agreement or disagreement with the following statements about health care costs:

|    |    | Strongly disagree          | Moderately disagree        | Moderately agree           | Strongly agree             |
|----|----|----------------------------|----------------------------|----------------------------|----------------------------|
| 1  |    |                            |                            |                            |                            |
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| 3  |    |                            |                            |                            |                            |
| 4  |    |                            |                            |                            |                            |
| 5  |    |                            |                            |                            |                            |
| 6  | 78 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 7  |    |                            |                            |                            |                            |
| 8  |    |                            |                            |                            |                            |
| 9  | 79 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 10 |    |                            |                            |                            |                            |
| 11 |    |                            |                            |                            |                            |
| 12 |    |                            |                            |                            |                            |
| 13 | 80 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
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| 15 |    |                            |                            |                            |                            |
| 16 |    |                            |                            |                            |                            |
| 17 |    |                            |                            |                            |                            |
| 18 | 81 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 19 |    |                            |                            |                            |                            |
| 20 |    |                            |                            |                            |                            |
| 21 |    |                            |                            |                            |                            |
| 22 | 82 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 23 |    |                            |                            |                            |                            |
| 24 |    |                            |                            |                            |                            |
| 25 |    |                            |                            |                            |                            |
| 26 | 83 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 27 |    |                            |                            |                            |                            |
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| 30 | 84 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
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| 34 | 85 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
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| 40 | 86 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
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| 48 | 88 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
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| 52 | 89 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
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| 56 | 90 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
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| 60 |    |                            |                            |                            |                            |



**YOUR BELIEFS**

In the following questions, we are interested in understanding some of your thoughts about life in general. Some items may seem odd or irrelevant, but answer each as best you can.

**24. How relevant are each of the following circumstances in determining whether an action is right or wrong?**

Not at all relevant    Not very relevant    Slightly relevant    Somewhat relevant    Very relevant    Extremely relevant

WHETHER OR NOT SOMEONE...

|    |  |                            |                            |                            |                            |                            |                            |
|----|--|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
|    |  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 91 | Suffered emotionally . . . . .               |                            |                            |                            |                            |                            |                            |
| 92 | Was treated differently than others. . . . . |                            |                            |                            |                            |                            |                            |
| 93 | Violates standards of purity and decency     |                            |                            |                            |                            |                            |                            |
| 94 | Is good at math. . . . .                     |                            |                            |                            |                            |                            |                            |
| 95 | Cared for someone weak or vulnerable . .     |                            |                            |                            |                            |                            |                            |
| 96 | Acts unfairly . . . . .                      |                            |                            |                            |                            |                            |                            |
| 97 | Does something disgusting. . . . .           |                            |                            |                            |                            |                            |                            |

**25. Indicate your degree of agreement with the following statements based on your initial reaction.**

Strongly disagree    Moderately disagree    Slightly disagree    Slightly agree    Moderately agree    Strongly agree

IN LIFE IN GENERAL...

|     |   |                            |                            |                            |                            |                            |                            |
|-----|---|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
|     |   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 98  | Compassion for those who are suffering is the most crucial virtue . . . . .                                     |                            |                            |                            |                            |                            |                            |
| 99  | When the government makes laws, the number one principle should be ensuring that everyone is treated fairly . . |                            |                            |                            |                            |                            |                            |
| 100 | People should not do things that are disgusting, even if no one is harmed . . . .                               |                            |                            |                            |                            |                            |                            |
| 101 | It is better to do good than to do bad . . . .  |                            |                            |                            |                            |                            |                            |
| 102 | One of the worst things a person could do is hurt a defenseless animal . . . . .                                |                            |                            |                            |                            |                            |                            |
| 103 | Justice is the most important requirement for a society . . . . .   |                            |                            |                            |                            |                            |                            |
| 104 | Some acts are wrong on the grounds that they are unnatural . . . . .  |                            |                            |                            |                            |                            |                            |
|     | Others' needs are more important than my own  |                            |                            |                            |                            |                            |                            |
|     | Government should do more to help the needy   |                            |                            |                            |                            |                            |                            |

**MORE ABOUT YOU****26. Overall, how satisfied are you with practicing medicine?**

- 1  Very dissatisfied  
2  Somewhat dissatisfied  
3  Satisfied  
4  Very satisfied

**27. What, if any, is your religious affiliation?**

- 1  None  
2  Protestant, mainline  
3  Protestant, evangelical  
4  Roman Catholic  
5  Jewish  
6  Buddhist  
7  Hindu  
8  Muslim  
9  Other, please specify: \_\_\_\_\_

**28. How often do you attend religious services?**

- 1  Never  
2  Less than once a year  
3  About once or twice a year  
4  Several times a year  
5  About once a month  
6  Two to three times a month  
7  Nearly every week  
8  Every week  
9  Several times a week

**29. Are you registered to vote?**

- 1  Yes  
2  No

**30. How would you characterize yourself politically most of the time?**

- 1  Very Conservative  
2  Somewhat Conservative  
3  Independent/Moderate  
4  Somewhat Liberal/Progressive  
5  Very Liberal/Progressive  
6  Other, please specify: \_\_\_\_\_

**Thank you for completing the survey!**  
**Please return in the enclosed, self-addressed envelope.**

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For peer review only

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For peer review only



**Shared Decision Making as a Cost-Containment Strategy:  
U.S. Physician Reactions From a Cross-Sectional Survey**

|                                    |   |
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| Journal:                           | <i>BMJ Open</i>   |
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| Article Type:                      | Research  |
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| Keywords:                          | Health policy < HEALTH SERVICES ADMINISTRATION & MANAGEMENT,<br>Quality in health care < HEALTH SERVICES ADMINISTRATION &<br>MANAGEMENT, MEDICAL ETHICS   |
|                                    |   |

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## Shared Decision Making as a Cost-Containment Strategy: U.S. Physician Reactions From a Cross-Sectional Survey

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**ABSTRACT**

**Objective:** To assess U.S. physicians' attitudes toward using shared decision-making (SDM) to achieve cost-containment.

**Design:** Cross-sectional mailed survey.

**Setting:** U.S. medical practice.

**Participants:** 3897 physicians randomly selected from the AMA Physician Masterfile. 2556 completed the survey.

**Main Outcome Measures:** Level of enthusiasm for "Promoting better conversations with patients as a means of lowering health care costs"; degree of agreement with "Decision support tools that show costs would be helpful in my practice"; and agreement with "Should promoting shared decision-making be legislated to control overall health care costs".

**Results:** Of 2556 respondents (RR 65%), two-thirds (67%) were "very enthusiastic" about promoting SDM as a means of reducing health care costs. Most (70%) agreed decision support tools that show costs would be helpful in their practice, but only 24% agreed with legislating SDM to control costs. Compared to physicians with billing-only compensation, respondents with salary compensation were more likely to strongly agree that decision support tools showing costs would be helpful (OR 1.4; 95% CI 1.1 to 1.7). Primary care physicians (vs. surgeons, OR 1.4; 95% CI 1.0 to 1.6) expressed more enthusiasm for SDM being legislated as a means to address health care costs.

**Conclusions:** Most U.S. physicians express enthusiasm about using SDM to help contain costs. They believe decision support tools that show costs would be useful. Few agree that SDM should be legislated as a means to control health care costs.

**Article Summary**

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2  
3 Strengths and Limitations of this Study  
4  
5

- 6 • While barriers to shared decision making (SDM) have been previously described, this is  
7 the first study to our knowledge describing US physicians' views about SDM as a means  
8 of reducing health care costs.  
9
- 10 • Our study suggests that most US physicians are enthusiastic about SDM and see it as a  
11 promising avenue for controlling costs, but only a minority of physicians agree that SDM  
12 should be legislated to help control health care costs.  
13
- 14 • While this cross-sectional survey had a solid response rate, reducing concerns about  
15 response bias, its findings should still be treated with caution due to the nature of the  
16 topic area. Social desirability may lead physicians to say very glowing things about  
17 shared decision making; whether their behavior follows was not addressed.  
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- 19 • Ascertaining motivations behind the opinions we report here would require further in-  
20 depth qualitative work beyond the scope of this survey.  
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## INTRODUCTION

Since at least the 1980s, shared decision making (SDM), defined as a process of patient engagement and mutual deliberation between health care providers and patients,<sup>1</sup> has been advanced as a way to promote respect for patients, encourage greater patient engagement in their care, and improve adherence and outcomes.<sup>2</sup> Shared decision making interventions such as decision aids (DAs) enhance patient knowledge, assist patients in forming realistic expectations, clarify their preferences, and decrease decisional conflict.<sup>3-5</sup> In addition, there is some evidence that using certain SDM tools like DAs can reduce utilization of discretionary procedures<sup>6</sup> and perhaps even reduce overall health care expenditures and utilization.<sup>5-7</sup>

Efforts are underway to use SDM as a means of addressing healthcare costs. Some advocates propose including physicians' use of decision aids as a quality measure aimed at controlling discretionary healthcare spending.<sup>8</sup> The Patient Protection and Affordable Care Act (ACA) introduced several provisions to promote the use of SDM<sup>9</sup> including CMS innovation initiatives aimed at testing SDM as a means of reducing discretionary procedures and lowering costs.<sup>8</sup> While general barriers to SDM in physician practice have been described,<sup>10</sup> it is not known whether physicians charged with carrying out SDM find it an attractive means of reducing health care costs, whether they would endorse using decision support tools that show costs, or whether they endorse the idea of legislation promoting SDM for the purpose of controlling health care costs as an appropriate means of achieving cost savings.

## METHODS

The Mayo Clinic Institutional Review Board approved this study. In May 2012, we mailed a self-administered, 8-page survey entitled, "Physicians, Health Care Costs, and Society" to a random sample of 3,897 practicing US physicians representing all specialties listed in the AMA

1  
2  
3 Physician Masterfile using the Tailored Design Method<sup>11</sup> including a \$20 bill with the first mailing  
4  
5 only. Second and third mailings were sent to non-responders at six-week intervals.  
6  
7

### 8 9 10 *Survey Instrument*

11  
12 To develop our instrument we reviewed the literature, conducted five focus groups with  
13  
14 physicians, formulated questions, conducted eight cognitive interviews, and revised questions,  
15  
16 adapting or adopting existing measures whenever possible including the Agreement with  
17  
18 Rationing Scale,<sup>12</sup> the six-item Cost-Consciousness Scale,<sup>13</sup> and two items from a Stewardship  
19  
20 Scale developed by the American Medical Association's Institute for Ethics.<sup>14</sup> The final survey  
21  
22 includes questions assessing physicians' perspectives on health care reform, their societal  
23  
24 responsibilities, medical decision-making, cost of health care, and cost-conscious practices.  
25  
26 The results focusing on those measures are reported elsewhere.<sup>15</sup> This report focuses on  
27  
28 measures pertaining to the use of and barriers to shared decision-making particularly as it  
29  
30 relates to healthcare costs. (Full instrument for reviewers available in Appendix A)  
31  
32

### 33 34 *Measures*

35  
36 Three outcome measures assessed respondents' attitudes toward SDM and cost. First  
37  
38 we assessed respondents' level of enthusiasm (not, somewhat, very) for SDM as a strategy to  
39  
40 reduce health care costs. We operationalized that idea in the phrase, "Promoting better  
41  
42 conversations with patients" as a means of lowering health care costs. Second, we also asked  
43  
44 for respondents' degree of agreement with "Decision support tools that show costs would be  
45  
46 helpful in my practice" (strongly disagree, moderately disagree, moderately agree, strongly  
47  
48 agree); and finally, we asked "Should promoting shared decision-making be legislated to control  
49  
50 overall health care costs" (yes/no).  
51  
52

53  
54 We examined physician demographics (age, sex, region, specialty type, and political  
55  
56 self-characterization), practice characteristics (compensation type, predominant practice setting  
57  
58  
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1  
2  
3 type), as well as perceived barriers to SDM drawn from the literature (“Which of the following is  
4 a major barrier to you more actively engaging patients in a process of shared decision making?”  
5 [mark all that apply] *patient confusion, inability to individualize risk, lack of patient interest in*  
6 *playing an active role, lack of supportive systems, lack of adequate time with the patient,*  
7 *administrative burdens, financial pressure to do better paying activities, other*) as important  
8 covariates of their receptivity to SDM being used as a cost-containment strategy.  
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### 19 Analysis

20 Using SAS 9.2 (Cary, NC), we calculated response distributions for all items related to  
21 SDM previously described. We performed bivariate and multivariate tests of association (i.e.  
22 unadjusted and adjusted logistic regression models) to examine associations between physician  
23 characteristics (sex, age, region of practice, specialty, practice setting type, compensation type,  
24 and political self-characterization) as well as attitudes about barriers to SDM (independent  
25 measures) and their views on each of the three dimensions of SDM as a cost-containment  
26 strategy (dependent measures) described above. The dependent measures assessing  
27 enthusiasm for “better conversations” as a cost-containment strategy and “Decision support  
28 tools that show costs would be helpful in my practice” were subsequently dichotomized for ease  
29 of presentation (very enthusiastic vs. all others and strongly agree vs. all others, respectively).  
30 Variables included in multivariate logistic regression models were determined based upon those  
31 characteristics of physicians that we *a priori* hypothesized would be associated with our  
32 dependent variables (i.e. age, sex, region of practice, specialty type, and political self-  
33 characterization), as well as physician characteristics and survey items that were empirically  
34 found in bivariate analyses to be significantly associated with our three dependent variables of  
35 interest (i.e. practice setting, practice compensation type, and perceived barriers to  
36 implementing SDM). Therefore, for each dependent variable, we first ran a “base model”  
37 containing only those variables for which we were adjusting (age, sex, region of practice,  
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3 specialty type, and political self-characterization), and then subsequently conducted separate  
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5 multivariable models testing the association between each individual characteristic/attitude and  
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7 the dependent variable while controlling for age, sex, region of practice, specialty type, and  
8  
9 political self-characterization.  
10

## 11 12 13 14 RESULTS

15  
16 2556 physicians responded to the survey (65% response rate).<sup>16</sup> Respondents were  
17  
18 largely male (70%), age 50 years or older (58%) and white (77%) (Table 1). Respondents were  
19  
20 slightly older than non-respondents (58% vs 54% older than 50 years, respectively;  $X^2 = 5.4$ ;  $p =$   
21  
22 0.02) but otherwise representative of the overall U.S. physician population<sup>17</sup>. Most (67%) were  
23  
24 “very enthusiastic” about promoting better conversations with patients as a means of reducing  
25  
26 health care costs. A majority somewhat or strongly agreed that decision support tools that show  
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28 costs would be helpful in their practice (70%). In contrast, just one in four respondents (24%)  
29  
30 agreed that promoting SDM should be legislated as a means of controlling health care costs  
31  
32 (Table 2). The most common barriers to shared decision making” are summarized in Table 1.  
33  
34

35  
36 When stratifying respondents by demographic characteristics (age, sex, region,  
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38 specialty, and political self-characterization), we found that a majority of respondents from all  
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40 subgroups expressed enthusiasm about SDM as a cost-containment strategy and decision  
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42 support tools that show costs. In contrast, a consistent minority of respondents across all  
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44 subgroups agreed that promoting SDM should be legislated (Table 3).  
45

46  
47 In bivariate analyses, female physicians (OR 1.7; 95% CI 1.4 to 2.1) and those  
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49 identifying as politically liberal (OR 1.8; 95% CI 1.5 to 2.3) had significantly greater odds of  
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51 being very enthusiastic about promoting better conversations as a means to reduce health care  
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53 costs. Surgeons had lower odds than primary care providers to express enthusiasm for  
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55 promoting better conversations as a means of cost-containment (OR 0.7; 95% CI 0.6 to 0.9),  
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3 while responding physicians' region of practice, age, and type of practice setting did not appear  
4 to be associated with their views on this item.  
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7  
8 In separate multivariable models adjusted for age, sex, region, specialty and political  
9 self-characterization, respondents reporting salary/salary + bonus compensation compared with  
10 billing-only had a greater odds of strongly agreeing that decision support tools that show costs  
11 would be helpful in their practice (OR 1.4; 95% CI 1.1 to 1.7). Respondents identifying  
12 themselves as "very or somewhat liberal or progressive" also had higher odds than those self-  
13 described as "very or somewhat conservative" of strongly agreeing that decision support tools  
14 that show cost would be helpful (ORs 2.2; 95% CIs 1.7 to 2.9), as well as expressing strong  
15 enthusiasm for promoting better conversations with patients (OR 1.7; 95% CI 1.4 to 2.1). (Table  
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28 Several perceived barriers to shared decision making were independently associated  
29 with respondents' enthusiasm about promoting better conversations with patients as a cost-  
30 containment strategy, whether decision support tools showing costs would be helpful, and  
31 whether SDM should be legislated to control health care costs. In logistic regression models  
32 adjusted for sex, age, region, specialty, and political self-characterization, those who selected  
33 "lack of supportive systems" as a perceived barrier to SDM had twice the odds (OR 2.1; 95% CI  
34 1.4 to 3.0) as others to be very enthusiastic about promoting better conversations with patients  
35 as a means of reducing health care costs. Respondents who perceived administrative burdens  
36 (OR 1.3; 95% CI 1.0 to 1.6) and lack of supportive systems (OR 1.5; 95% CI 1.1 to 2.1) as  
37 barriers to SDM also had significantly higher odds of strongly agreeing that decision support  
38 tools showing costs would be helpful in their practice. Finally, respondents who selected  
39 administrative burdens (OR 1.4; 95% CI 1.1 to 1.7), an inability to individualize risk (OR 1.5;  
40 95% CI 1.2 to 1.9), financial pressure to do better-paying activities (OR 1.6; 95% CI 1.2-2.1),  
41 and lack of supportive systems (OR 2.0; 95% CI 1.5 to 2.7) as perceived barriers to SDM had  
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60 greater odds of believing that SDM should be legislated. (Table 4)

## DISCUSSION

Most US physicians express strong enthusiasm for promoting better conversations with patients as a means to control health care costs and believe decision support tools showing costs would be useful. A minority of physicians agree that SDM should be legislated to help control health care costs. Although certain subgroups of respondents (e.g. self-described liberals; females) appear more likely to express enthusiasm for SDM and cost-transparency compared to other subgroups, majorities of respondents in all subgroups were, overall, supportive of both promoting better conversations as well as using decision support tools that show costs.

### *Comparison With Other Studies*

Given the significant variability of cost and lack of cost-transparency in the US health system,<sup>18-22</sup> decision support tools that show total costs and patient out-of-pocket costs could be a means to empower both physicians and patients as informed health care consumers. Support innovations that promote cost transparency also might reflect physicians' views of patient responsibility for reducing health care costs. In any event, promoting tools to achieve better conversations with patients and cost transparency appears to be a physician-supported, patient-centered strategy for achieving higher quality care that may also achieve cost-containment as well.

Lack of time with patients and administrative barriers pose obstacles to engaging patients in SDM, according to our respondents. Two of the barriers to SDM that physicians cited – patient confusion and patients' lack of interest - stand in contrast to studies of patients' views. The national 2009 DECISIONS study<sup>23</sup> of nine medical decisions found patients say they are ready for involvement and desire it. There are multiple explanations for this gap. First, while

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3 patients say, when asked, they want to play a greater role in decision making, doctors may  
4 interpret their behavior during encounters otherwise. Expressions of preference for decision  
5 making could vary depending on the decision faced, from those with high stakes (e.g., major  
6 surgery) to more routine circumstances (treatment for allergic rhinitis). In addition, physicians  
7 may misjudge patient confusion for lack of interest in playing an active role, or may exhibit recall  
8 bias when responding to items about barriers to SDM. Moreover, how questions about SDM are  
9 framed – in this and in other studies – could lead to discrepant results. Furthermore, these data  
10 suggest that a majority of US physicians are fully on-board with SDM despite data from the  
11 DECISIONS study and others like it suggesting SDM is by no means the norm in routine  
12 practice.  
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#### 24 25 26 *Strengths and Limitations of This Study* 27

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29 The limited nature of the single item self-reported measures presented here restrict our  
30 inferences. Regarding the substantive findings of the study, several questions persist. , It is  
31 unclear why physicians disagree with legislating SDM as a means of controlling health care  
32 costs when they are enthusiastic about it as a cost-containment measure. Do physicians resist  
33 infringement on their autonomy generally? Do they resist any potentially punitive regulatory  
34 measures? Do they fear “big brother” government intrusion? It is possible that physicians may  
35 not be comfortable with the idea of any behaviors, including SDM, being legislated even if they  
36 embrace the potential positive consequences of doing so. Some physicians may fear that using  
37 SDM as a means of reducing health care costs could tarnish its patient-centered primary  
38 objective. These data do not answer whether physicians resist legislating SDM, but only that  
39 they oppose such actions as a cost-containment strategy. Ascertaining motivations behind the  
40 opinions we report would require further in-depth qualitative work beyond the scope of this  
41 survey. In content areas like this, survey items may have been ambiguous despite rigorous pilot  
42 testing. For instance our item, “decision support tools that show cost would be helpful in my  
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3 practice” was presented in a section on medical decision making, creating some ambiguity  
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5 about whether respondent endorsement of this item really constitutes an endorsement of shared  
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7 decision making as a cost-containment strategy or a general endorsement of the innovation for  
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9 patient-centered care. And while self-reported barriers to SDM were not the focus of this survey,  
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11 we thought it was important to include them as potential key covariates for respondents’  
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13 judgments about SDM as a cost-containment strategy. For instance, those who feel their work  
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15 environment is not supportive of SDM may find legislating it the only viable option for change.  
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20 While this cross-sectional survey had a solid response rate, reducing concerns about  
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22 response bias, its findings should still be treated with caution due to the nature of the topic area.  
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24 Social desirability may lead physicians to say very glowing things about shared decision  
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26 making. Belying their broad endorsement, physicians may hold divergent views of shared  
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28 decision making. The survey did not stipulate a definitive definition of SDM. Whether, however,  
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30 their behavior follows is what is of ultimate concern and was not addressed in this survey. The  
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32 contrast between physicians’ self-reported enthusiasm and the documented failures to promote  
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34 SDM in studies of physician behavior suggest our respondents may uphold an ideal they  
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36 themselves do not achieve, or may operate with a different functional definition of SDM. Surveys  
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38 alone cannot resolve this discrepancy. Although the face validity of our measures (*Which of the*  
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40 *following is a major barrier to you more actively engaging patients in a process of shared*  
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42 *decision-making?\**; *Promoting SDM should be legislated as a means of controlling health care*  
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44 *costs*; *Decision support tools that show costs would be helpful in my practice*; *Level of*  
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46 *enthusiasm for “promoting better conversations with patients” as a means to promote cost-*  
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48 *containment*) do not evoke a clear social desirability bias, that possibility cannot be excluded.  
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50 This approach did not (and arguably could not accurately) assess actual behavior. The AMA  
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52 Masterfile is the most comprehensive listing of US physicians, but relies on physician self-report  
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54 for key practice characteristics. For instance, specialty data listed in the AMA Masterfile lists  
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3 self-reported specialty that is not verified with specialty boards. The estimates reported here  
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5 may not fully reflect all US physician opinion.  
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### 8 *Conclusions and Policy Implications*

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11 Since its emergence in the President's Commission 30 years ago, shared decision  
12 making has promoted empowering patients in their care as an intrinsic good. Should policy also  
13 support, or require, SDM to achieve cost-savings? Doing so can be justified as a win-win  
14 proposition if SDM improves quality and lowers (or stabilizes) health care spending. Yet, if SDM  
15 is viewed – by physicians, patients, or both – as primarily aimed at cost control, or as an effort  
16 to save money masquerading as quality improvement, then an important, patient-centered tool  
17 may well be left in the toolbox unused. These and other unanswered questions about what the  
18 appropriate policy rationale for SDM should be will need to be addressed to assure that its  
19 ethical ideals are preserved in the coming years. At present, however, it appears most  
20 physicians are enthusiastic about shared decision making and see it as a promising avenue for  
21 controlling costs.  
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JT, MK, VM, BT, JE, RB, ML, and SG made substantial contributions to the conception and design of the study. KJ, JT, SG, and MK assisted with analysis and interpretation of data. All authors contributed to drafting the article and revising it critically for important intellectual content. All authors provided final approval of the version to be published.

**Data Sharing Statement:**

Full dataset and statistical code available from the corresponding author at [tilburt.jon@mayo.edu](mailto:tilburt.jon@mayo.edu).

Consent was not obtained but the presented data are anonymized and risk of identification is low.

**Competing Interests:**

All authors have completed the ICMJE uniform disclosure form at [www.icmje.org/coi\\_disclosure.pdf](http://www.icmje.org/coi_disclosure.pdf) and declare that they have no non-financial interests that may be relevant to the submitted work.

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For peer review only

## WHAT THIS RESEARCH ADDS

### What is already known on this subject?

Shared decision making (SDM), a process of patient engagement and mutual deliberation between health care providers and patients, has been advanced as a way to promote respect for patients, encourage greater patient engagement in their care, and improve adherence and outcomes.

For peer review only

**Table 1.** Characteristics of 2556 responding U.S. physicians, as well as their perceived barriers to shared decision making.

| Characteristic  | No. (%)    |
|---|------------|
| <b>Age, Mean [SD], years</b>  | 51.0 [8.5] |
| <b>Male sex</b>   | 1784 (70)  |
| <b>Race or ethnic group*</b>  |            |
| White or Caucasian  | 1958 (77)  |
| Asian   | 369 (15)   |
| Other   | 124 (5)    |
| Black or African-American   | 80 (3)     |
| <b>Region†</b>  |            |
| South   | 829 (33)   |
| Midwest   | 594 (23)   |
| Northeast   | 548 (22)   |
| West  | 570 (22)   |
| <b>Primary Specialty</b>  |            |
| Primary Care  | 1034 (40)  |
| Surgery   | 571 (22)   |
| Procedural Specialty  | 486 (19)   |
| Nonprocedural Specialty   | 399 (16)   |
| Non-Clinical  | 44 (2)     |
| <b>Practice Setting Type</b>  |            |
| Group/HMO   | 1641 (64)  |
| Small/solo  | 498 (19)   |
| City/state/federal government   | 336 (13)   |
| Medical school  | 59 (2)     |
| <b>Practice Compensation Type‡</b>  |            |
| Billing only  | 1036 (41)  |
| Salary plus bonus   | 874 (35)   |
| Salary only   | 460 (18)   |
| Other   | 154 (6)    |
| <b>Political Self-Characterization§</b>   |            |
| Very Conservative   | 254 (10)   |
| Somewhat Conservative   | 709 (28)   |
| Independent/Moderate  | 726 (29)   |
| Somewhat Liberal/Progressive  | 495 (20)   |
| Very Liberal/Progressive  | 247 (10)   |
| <i>Which of the following is a major barrier to you more actively engaging patients in a process of shared decision-making? (n = 2402)¶</i> |            |
| Patient Confusion   | 1558 (65)  |
| Lack of patient interest in playing an active role  | 1425 (59)  |
| Lack of adequate time with the patient  | 1349 (56)  |
| Administrative burdens  | 808 (34)   |
| Inability to individualize risk   | 499 (21)   |
| Financial pressure to do better paying activities   | 349 (15)   |
| Other   | 268 (11)   |
| Lack of supportive systems  | 216 (9)    |



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Percentages based on a denominator of 2532

† Percentages based on a denominator of 2541

‡ Percentages based on a denominator of 2524

§ Percentages based on a denominator of 2497

¶ Item was "Mark all that apply"; hence percentages here were calculated with the denominator as the total number of respondents who answered this question (i.e. selected at least one of the response category options).

For peer review only

**Table 2.** Distribution of responses to SDM and cost items from 2556 US physicians

| Survey Item   | No. (%)   |
|---|-----------|
| <i>Level of enthusiasm for “promoting better conversations with patients” as a means to promote cost-containment.(n = 2486)</i> |           |
| Not enthusiastic  | 80 (3)    |
| Somewhat enthusiastic   | 745 (30)  |
| Very enthusiastic   | 1661 (67) |
| <i>Decision support tools that show costs would be helpful in my practice.(n = 2461)</i>  |           |
| Strongly disagree   | 251 (10)  |
| Somewhat disagree   | 487 (20)  |
| Somewhat agree  | 1240 (50) |
| Strongly agree  | 483 (20)  |
| <i>Promoting SDM should be legislated as a means of controlling health care costs.(n = 2435)</i>                                |           |
| Yes   | 593 (24)  |
| No  | 1842 (76) |

**Table 3.** Distribution of physician responses to SDM-related survey items stratified by demographic characteristics.

|  | No. (row %)   |         |  |         |                                    |         |
|--|---|---------|--|---------|------------------------------------|---------|
|  | Very enthusiastic about promoting better conversations as means to reduce health care costs |         | Agree decision support tools showing costs would be helpful in my practice |         | Promoting SDM should be legislated |         |
|  | No. (row %)   | P-value | No. (row %)  | P-value | No. (row %)                        | P-value |
| <b>Age (years)</b>                           |   | 0.48    |  | 0.82    |                                    | <0.0001 |
| Less than 50 years (n=1043)                  | 705 (68)  |         | 710 (69)   |         | 293 (29)                           |         |
| 50 years or greater (n = 1443)               | 956 (66)  |         | 1013 (71)  |         | 300 (21)                           |         |
| <b>Sex</b>                                   |   | <0.0001 |  | 0.24    |                                    | 0.19    |
| Male (n=1734)                                | 1097 (63)   |         | 1199 (70)  |         | 405 (24)                           |         |
| Female (n=752)                               | 564 (75)  |         | 524 (70)   |         | 188 (26)                           |         |
| <b>Region</b>                                |   | 0.99    |  | 0.01    |                                    | 0.69    |
| Midwest (n=570)                              | 379 (66)  |         | 420 (74)   |         | 133 (24)                           |         |
| South (n=809)                                | 539 (67)  |         | 550 (69)   |         | 183 (23)                           |         |
| West (n=555)                                 | 369 (66)  |         | 392 (72)   |         | 132 (24)                           |         |
| Northeast (n=537)                            | 361 (67)  |         | 351 (66)   |         | 136 (26)                           |         |
| <b>Primary Specialty</b>                     |   | 0.05    |  | 0.26    |                                    | 0.02    |
| Primary Care (n=1003)                        | 693 (69)  |         | 711 (71)   |         | 247 (25)                           |         |
| Surgery (n=558)                              | 348 (62)  |         | 369 (67)   |         | 104 (19)                           |         |
| Procedural Specialty (n=473)                 | 310 (66)  |         | 334 (72)   |         | 126 (27)                           |         |
| Nonprocedural Specialty (n=390)              | 273 (70)  |         | 264 (68)   |         | 99 (26)                            |         |
| Non-Clinical (n=42)                          | 25 (60)   |         | 29 (73)  |         | 12 (29)                            |         |
| Other (n=20)                                 | 12 (60)   |         | 16 (80)  |         | 5 (25)                             |         |
| <b>Political Self-Characterization</b>       |   | <0.0001 |  | 0.0001  |                                    | 0.04    |
| Very/Somewhat Conservative (n=937)           | 576 (61)  |         | 610 (66)   |         | 204 (22)                           |         |
| Independent/Moderate (n=707)                 | 479 (68)  |         | 486 (69)   |         | 171 (25)                           |         |
| Very/Somewhat Liberal or Progressive (n=719) | 535 (74)  |         | 538 (75)   |         | 192 (27)                           |         |

**Table 4.** Unadjusted and adjusted associations between physician characteristics/attitudes and their views on SDM from bivariate and multivariate logistic regression models.

|  | Very enthusiastic about promoting better conversations as means to reduce health care costs |         |                       | Strongly agree decision support tools showing costs would be helpful in my practice |         |                       | Promoting SDM should be legislated |         |                       |
|--|---|---------|-----------------------|---|---------|-----------------------|------------------------------------|---------|-----------------------|
|  | Unadjusted OR (95% CI)  | p-value | Adjusted OR (95% CI)  | Unadjusted OR (95% CI)  | p-value | Adjusted OR (95% CI)  | Unadjusted OR (95% CI)             | p-value | Adjusted OR (95% CI)  |
| <b>Age (years)</b>                     | 1.0<br>(0.99 to 1.01)   |         | 1.0<br>(0.98 to 1.01) | 1.0<br>(0.99 to 1.02)   |         | 1.0<br>(0.99 to 1.02) | 0.98*<br>(0.97 to 0.99)            |         | 0.98<br>(0.97 to 1.0) |
| <b>Sex</b>                             |   | <0.0001 |                       |   | 0.13    |                       |                                    | <0.0001 |                       |
| Male                                   | Ref   |         | Ref                   | Ref   |         | Ref                   | Ref                                |         | Ref                   |
| Female                                 | 1.7*<br>(1.4 to 2.1)  |         | 1.7*<br>(1.3 to 2.0)  | 1.2<br>(1.0-1.5)  |         | 1.1<br>(0.9 to 1.4)   | 1.1<br>(0.9 to 1.4)                |         | 1.0<br>(0.8 to 1.2)   |
| <b>Region</b>                          |   | 0.99    |                       |   | 0.002   |                       |                                    | 0.99    |                       |
| Midwest                                | Ref   |         | Ref                   | Ref   |         | Ref                   | Ref                                |         | Ref                   |
| South                                  | 1.0<br>(0.8 to 1.3)   |         | 1.0<br>(0.8 to 1.2)   | 0.7*<br>(0.5 to 0.9)  |         | 0.7*<br>(0.5 to 0.9)  | 1.0<br>(0.7 to 1.2)                |         | 0.9<br>(0.7 to 1.2)   |
| West                                   | 1.0<br>(0.8 to 1.3)   |         | 0.9<br>(0.7 to 1.1)   | 1.0<br>(0.8 to 1.4)   |         | 0.9<br>(0.7 to 1.3)   | 1.0<br>(0.8 to 1.4)                |         | 1.0<br>(0.8 to 1.3)   |
| Northeast                              | 1.0<br>(0.8 to 1.3)   |         | 0.9<br>(0.7 to 1.2)   | 0.7*<br>(0.5 to 0.9)  |         | 0.6*<br>(0.5 to 0.9)  | 1.1<br>(0.9 to 1.5)                |         | 1.1<br>(0.8 to 1.5)   |
| <b>Primary Specialty</b>               |   | 0.05    |                       |   | 0.33    |                       |                                    | 0.05    |                       |
| Primary Care                           | Ref   |         | Ref                   | Ref   |         | Ref                   | Ref                                |         | Ref                   |
| Surgery                                | 0.7*<br>(0.6 to 0.9)  |         | 0.9<br>(0.7 to 1.1)   | 0.8<br>(0.6 to 1.1)   |         | 0.9<br>(0.7 to 1.2)   | 0.7*<br>(0.5 to 0.9)               |         | 0.7*<br>(0.6 to 1.0)  |
| Procedural Specialty                   | 0.9<br>(0.7 to 1.1)   |         | 1.0<br>(0.8 to 1.2)   | 0.8<br>(0.6 to 1.0)   |         | 0.8<br>(0.6 to 1.1)   | 1.1<br>(0.9 to 1.4)                |         | 1.2<br>(0.9 to 1.5)   |
| Nonprocedural Specialty                | 1.0<br>(0.8 to 1.3)   |         | 1.1<br>(0.8 to 1.4)   | 0.8<br>(0.6 to 1.0)   |         | 0.8<br>(0.5 to 1.0)   | 1.0<br>(0.8 to 1.4)                |         | 1.3<br>(0.8 to 1.4)   |
| Non-Clinical                           | 0.7<br>(0.4 to 1.2)   |         | 0.6<br>(0.3 to 1.2)   | 0.8<br>(0.3 to 1.7)   |         | 0.7<br>(0.3 to 1.7)   | 1.2<br>(0.6 to 2.3)                |         | 1.3<br>(0.7 to 2.7)   |
| Other                                  | 0.7<br>(0.3 to 1.7)   |         | 0.7<br>(0.3 to 1.9)   | 0.6<br>(0.2 to 2.2)   |         | 0.7<br>(0.2 to 2.3)   | 1.0<br>(0.4 to 2.7)                |         | 1.0<br>(0.3 to 2.8)   |
| <b>Political Self-Characterization</b> |   | <0.0001 |                       |   | <0.0001 |                       |                                    | <0.0001 |                       |
| Very/Somewhat                          | Ref   |         | Ref                   | Ref   |         | Ref                   | Ref                                |         | Ref                   |

|   |                      |       |                      |                      |       |                      |                      |         |                      |
|---|----------------------|-------|----------------------|----------------------|-------|----------------------|----------------------|---------|----------------------|
| Conservative  |                      |       |                      |                      |       |                      |                      |         |                      |
| Independent/<br>Moderate  | 1.3*<br>(1.1 to 1.6) |       | 1.3*<br>(1.1 to 1.6) | 1.2<br>(0.9 to 1.6)  |       | 1.2<br>(0.9 to 1.6)  | 1.2<br>(0.9 to 1.5)  |         | 1.1<br>(0.9 to 1.4)  |
| Very/Somewhat<br>Liberal or<br>Progressive                            | 1.8*<br>(1.5 to 2.3) |       | 1.7*<br>(1.4 to 2.1) | 2.3*<br>(1.8 to 2.9) |       | 2.2*<br>(1.7 to 2.9) | 1.3*<br>(1.1 to 1.7) |         | 1.3<br>(1.0 to 1.6)  |
| <b>Practice Setting<br/>Type</b>                                      |                      | 0.59  |                      |                      | 0.07  |                      |                      | 0.20    |                      |
| Small/solo  | Ref                  |       | Ref                  | Ref                  |       | Ref                  | Ref                  |         | Ref                  |
| Group/HMO   | 1.1<br>(0.9 to 1.4)  |       | 1.1<br>(0.8 to 1.3)  | 1.3<br>(1.0 to 1.7)  |       | 1.2<br>(0.9 to 1.7)  | 1.0<br>(0.8 to 1.3)  |         | 0.9<br>(0.7 to 1.2)  |
| City/state/federal<br>government                                      | 1.2<br>(0.9 to 1.7)  |       | 1.1<br>(0.8 to 1.5)  | 1.4*<br>(1.0 to 2.1) |       | 1.4<br>(0.9 to 2.0)  | 1.3<br>(1.0 to 1.8)  |         | 1.2<br>(0.8 to 1.7)  |
| Medical school  | 1.3<br>(0.7 to 2.4)  |       | 1.2<br>(0.6 to 2.2)  | 1.4<br>(0.7 to 2.7)  |       | 1.2<br>(0.6 to 2.5)  | 0.7<br>(0.4 to 1.5)  |         | 0.6<br>(0.2 to 1.2)  |
| Other non-patient<br>care   | 1.5<br>(0.6 to 3.8)  |       | 1.1<br>(0.4 to 3.0)  | 2.9*<br>(1.2 to 7.2) |       | 3.0*<br>(1.2 to 7.8) | 0.7<br>(0.2 to 2.2)  |         | 0.7<br>(0.2 to 2.3)  |
| <b>Practice<br/>Compensation Type</b>                                 |                      |       |                      |                      | 0.005 |                      |                      | 0.14    |                      |
| Billing only  | Ref                  | 0.06  | Ref                  | Ref                  |       | Ref                  | Ref                  |         | Ref                  |
| Salary/Salary plus<br>bonus   | 1.2<br>(1.0 to 1.5)  |       | 1.2<br>(1.0 to 1.4)  | 1.4*<br>(1.1 to 1.7) |       | 1.4*<br>(1.1 to 1.7) | 1.2*<br>(1.0 to 1.5) |         | 1.2<br>(0.9 to 1.4)  |
| Other   | 1.1<br>(0.6 to 1.5)  |       | 1.1<br>(0.8 to 1.7)  | 1.1<br>(0.7 to 1.8)  |       | 1.0<br>(0.6 to 1.6)  | 1.1<br>(0.8 to 1.6)  |         | 1.0<br>(0.7 to 1.6)  |
| <b>Major Barriers to<br/>Engaging Patients<br/>in SDM<sup>†</sup></b> |                      |       |                      |                      |       |                      |                      |         |                      |
| Patient Confusion   | 1.0<br>(0.8 to 1.2)  | 0.89  | 1.0<br>(0.9 to 1.2)  | 1.0<br>(0.8 to 1.2)  | 0.99  | 1.0<br>(0.8 to 1.3)  | 1.0<br>(0.8 to 1.2)  | 0.86    | 1.0<br>(0.8 to 1.2)  |
| Lack of patient<br>interest in playing<br>an active role              | 1.1<br>(0.9 to 1.3)  | 0.50  | 1.1<br>(0.9 to 1.4)  | 1.0<br>(0.8 to 1.2)  | 0.80  | 1.0<br>(0.8 to 1.3)  | 1.0<br>(0.8 to 1.2)  | 0.88    | 1.0<br>(0.8 to 1.3)  |
| Lack of adequate<br>time with the patient                             | 1.3*<br>(1.1 to 1.5) | 0.008 | 1.2<br>(1.0 to 1.4)  | 1.2<br>(0.9 to 1.4)  | 0.16  | 1.1<br>(0.9 to 1.4)  | 1.1<br>(0.9 to 1.3)  | 0.45    | 1.0<br>(0.9 to 1.3)  |
| Administrative<br>burdens   | 1.0<br>(0.8 to 1.2)  | 0.92  | 1.0<br>(0.9 to 1.3)  | 1.2<br>(1.0 to 1.5)  | 0.10  | 1.3*<br>(1.0 to 1.6) | 1.4*<br>(1.1 to 1.7) | 0.001   | 1.4*<br>(1.1 to 1.7) |
| Inability to<br>individualize risk                                    | 0.9<br>(0.8 to 1.2)  | 0.61  | 0.9<br>(0.8 to 1.2)  | 1.2<br>(1.0 to 1.6)  | 0.09  | 1.2<br>(0.9 to 1.6)  | 1.5*<br>(1.2 to 1.8) | 0.0007  | 1.5*<br>(1.2 to 1.9) |
| Financial pressure  | 1.0                  | 0.98  | 1.0                  | 1.1                  | 0.39  | 1.2                  | 1.7*                 | <0.0001 | 1.6*                 |

|                                |                   |         |                      |                      |       |                      |                      |         |                      |
|--------------------------------|-------------------|---------|----------------------|----------------------|-------|----------------------|----------------------|---------|----------------------|
| to do better paying activities | (0.8 to 1.3)      |         | (0.8 to 1.3)         | (0.9 to 1.5)         |       | (0.9 to 1.6)         | (1.3 to 2.2)         |         | (1.2 to 2.1)         |
| Lack of supportive systems     | 2.1*<br>(1.5-2.9) | <0.0001 | 2.1*<br>(1.4 to 3.0) | 1.5*<br>(1.1 to 2.1) | 0.008 | 1.5*<br>(1.1 to 2.1) | 2.1*<br>(1.5 to 2.8) | <0.0001 | 2.0*<br>(1.5 to 2.7) |

\* p-value < 0.05

† Odds ratios and 95% CIs presented for this item use as their reference category, for example, those who selected “patient confusion” as a major barrier versus those who did not.

NOTE: For each dependent variable, separate adjusted models include shaded items plus each physician characteristic/attitude (e.g. model 1 – adjustors + practice setting type; model 2 – adjustors + practice compensation type; etc.)

For Peer review only

## Shared Decision Making as a Cost-Containment Strategy: U.S. Physician Reactions From a Cross-Sectional Survey

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**ABSTRACT**

**Objective:** To assess U.S. physicians' attitudes toward using shared decision-making (SDM) to achieve cost-containment.

**Design:** Cross-sectional mailed survey.

**Setting:** U.S. medical practice.

**Participants:** 3897 physicians randomly selected from the AMA Physician Masterfile. 2556 completed the survey.

**Main Outcome Measures:** Level of enthusiasm for "Promoting better conversations with patients as a means of lowering health care costs"; degree of agreement with "Decision support tools that show costs would be helpful in my practice"; and agreement with "Should promoting shared decision-making be legislated to control overall health care costs".

**Results:** Of 2556 respondents (RR 65%), two-thirds (67%) were "very enthusiastic" about promoting SDM as a means of reducing health care costs. Most (70%) agreed decision support tools that show costs would be helpful in their practice, but only 24% agreed with legislating SDM to control costs. ~~Physicians cited patient confusion (65%) and lack of patient interest (59%) as common barriers to SDM.~~ Compared to physicians with billing-only compensation, respondents with salary compensation were more likely to strongly agree that decision support tools showing costs would be helpful (OR 1.4; 95% CI 1.1 to 1.7). Primary care physicians (vs. surgeons, OR 1.4; 95% CI 1.0 to 1.6) expressed more enthusiasm for SDM being legislated as a means to address health care costs.

**Conclusions:** Most U.S. physicians express enthusiasm about using SDM to help contain costs. They believe decision support tools that show costs would be useful. Few agree that SDM should be legislated as a means to control health care costs.



## Article Summary

### Strengths and Limitations of this Study

- While barriers to shared decision making (SDM) have been previously described, this is the first study to our knowledge describing US physicians' views about SDM as a means of reducing health care costs.
- Our study suggests that most US physicians are enthusiastic about SDM and see it as a promising avenue for controlling costs, but only a minority of physicians agree that SDM should be legislated to help control health care costs.
- While this cross-sectional survey had a solid response rate, reducing concerns about response bias, its findings should still be treated with caution due to the nature of the topic area. Social desirability may lead physicians to say very glowing things about shared decision making; whether their behavior follows was not addressed.
- Ascertaining motivations behind the opinions we report here would require further in-depth qualitative work beyond the scope of this survey.

## INTRODUCTION

Since at least the 1980s, shared decision making (SDM), defined as a process of patient engagement and mutual deliberation between health care providers and patients,<sup>1</sup> has been advanced as a way to promote respect for patients, encourage greater patient engagement in their care, and improve adherence and outcomes.<sup>2</sup> Shared decision making interventions such as decision aids (DAs) enhance patient knowledge, assist patients in forming realistic expectations, clarify their preferences, and decrease decisional conflict.<sup>3-5</sup> In addition, there is some evidence that using certain SDM tools like DAs can reduce utilization of discretionary procedures<sup>6</sup> and perhaps even reduce overall health care expenditures and utilization.<sup>5-7</sup>

Efforts are underway to use SDM as a means of addressing healthcare costs. Some advocates propose including physicians' use of decision aids as a quality measure aimed at controlling discretionary healthcare spending.<sup>8</sup> The Patient Protection and Affordable Care Act (ACA) introduced several provisions to promote the use of SDM<sup>9</sup> including CMS innovation initiatives aimed at testing SDM as a means of reducing discretionary procedures and lowering costs.<sup>8</sup> While general barriers to SDM in physician practice have been described,<sup>10</sup> it is not known whether physicians charged with carrying out SDM find it an attractive means of reducing health care costs, whether they would endorse using decision support tools that show costs, or whether they endorse the idea of legislation promoting SDM for the purpose of controlling health care costs as an appropriate means of achieving cost savings.

## METHODS

The Mayo Clinic Institutional Review Board approved this study. In May 2012, we mailed a self-administered, 8-page survey entitled, "Physicians, Health Care Costs, and Society" to a random sample of 3,897 practicing US physicians representing all specialties listed in the AMA

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2  
3 Physician Masterfile using the Tailored Design Method<sup>11</sup> including a \$20 bill with the first mailing  
4 only. Second and third mailings were sent to non-responders at six-week intervals.  
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### 9 10 *Survey Instrument*

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12 To develop our instrument we reviewed the literature, conducted five focus groups with  
13 physicians, formulated questions, conducted eight cognitive interviews, and revised questions,  
14 adapting or adopting existing measures whenever possible including the Agreement with  
15 Rationing Scale,<sup>12</sup> the six-item Cost-Consciousness Scale,<sup>13</sup> and two items from a Stewardship  
16 Scale developed by the American Medical Association's Institute for Ethics.<sup>14</sup> The final survey  
17 includes questions assessing physicians' perspectives on health care reform, their societal  
18 responsibilities, medical decision-making, cost of health care, and cost-conscious practices.  
19 The results focusing on those measures are reported elsewhere.<sup>15</sup> This report focuses on  
20 measures pertaining to the use of and barriers to shared decision-making-in-particular  
21 particularly as it relates to healthcare costs. (Full instrument for reviewers available in Appendix  
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34 A)

### 35 36 37 *Measures*

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39 Three outcome measures assessed respondents' attitudes toward SDM and cost. First  
40 we assessed respondents' level of enthusiasm (not, somewhat, very) for SDM as a strategy to  
41 reduce health care costs. We operationalized that idea in the phrase, "Promoting better  
42 conversations with patients" as a means of lowering health care costs. Second, we also asked  
43 for respondents' degree of agreement with "Decision support tools that show costs would be  
44 helpful in my practice" (strongly disagree, moderately disagree, moderately agree, strongly  
45 agree); and finally, we asked "Should promoting shared decision-making be legislated to control  
46 overall health care costs" (yes/no).  
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3 We examined physician demographics (age, sex, region, specialty type, and political  
4 self-characterization), practice characteristics (compensation type, predominant practice setting  
5 type), as well as perceived barriers to SDM drawn from the literature (“Which of the following is  
6 a major barrier to you more actively engaging patients in a process of shared decision making?”  
7 [mark all that apply] *patient confusion, inability to individualize risk, lack of patient interest in*  
8 *playing an active role, lack of supportive systems, lack of adequate time with the patient,*  
9 *administrative burdens, financial pressure to do better paying activities, other*) as important  
10 covariates [of their receptivity to SDM being used as a cost-containment strategy](#).  
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### 22 Analysis

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24 Using SAS 9.2 (Cary, NC), we calculated response distributions for all items related to  
25 SDM previously described. We performed bivariate and multivariate tests of association (i.e.  
26 unadjusted and adjusted logistic regression models) to examine associations between physician  
27 characteristics (sex, age, region of practice, specialty, practice setting type, compensation type,  
28 and political self-characterization) as well as attitudes about barriers to SDM (independent  
29 measures) and their views on each of the three dimensions of SDM as a cost-containment  
30 strategy (dependent measures) described above. The dependent measures assessing  
31 enthusiasm for “better conversations” as a cost-containment strategy and “Decision support  
32 tools that show costs would be helpful in my practice” were subsequently dichotomized for ease  
33 of presentation (very enthusiastic vs. all others and strongly agree vs. all others, respectively).  
34 Variables included in multivariate logistic regression models were determined based upon those  
35 characteristics of physicians that we *a priori* hypothesized would be associated with our  
36 dependent variables (i.e. age, sex, region of practice, specialty type, and political self-  
37 characterization), as well as physician characteristics and survey items that were empirically  
38 found in bivariate analyses to be significantly associated with our three dependent variables of  
39 interest (i.e. practice setting, practice compensation type, and perceived barriers to  
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3 implementing SDM). Therefore, for each dependent variable, we first ran a “base model”  
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5 containing only those variables for which we were adjusting (age, sex, region of practice,  
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7 specialty type, and political self-characterization), and then subsequently conducted separate  
8  
9 multivariable models testing the association between each individual characteristic/attitude and  
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11 the dependent variable while controlling for age, sex, region of practice, specialty type, and  
12  
13 political self-characterization.  
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## 16 17 18 RESULTS

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20 2556 physicians responded to the survey (65% response rate).<sup>16</sup> Respondents were  
21  
22 largely male (70%), age 50 years or older (58%) and white (77%) (Table 1). Respondents were  
23  
24 slightly older than non-respondents (58% vs 54% older than 50 years, respectively;  $X^2= 5.4$ ;  $p =$   
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26 0.02) but otherwise representative of the overall U.S. physician population<sup>17</sup>. Most (67%) were  
27  
28 “very enthusiastic” about promoting better conversations with patients as a means of reducing  
29  
30 health care costs. A majority somewhat or strongly agreed that decision support tools that show  
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32 costs would be helpful in their practice (70%). In contrast, just one in four respondents (24%)  
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34 agreed that promoting SDM should be legislated as a means of controlling health care costs  
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36 (Table 2). The most common barriers ~~to cited to “actively engaging patients in a process of~~  
37  
38 ~~“shared decision making” are summarized in Table 1. included patient confusion (65%), lack of~~  
39  
40 ~~patient interest in playing an active role (59%), and lack of adequate time with the patient (56%).~~  
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45 When stratifying respondents by demographic characteristics (age, sex, region,  
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47 specialty, and political self-characterization), we found that a majority of respondents from all  
48  
49 subgroups expressed enthusiasm about SDM as a cost-containment strategy and decision  
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51 support tools that show costs. In contrast, a consistent minority of respondents across all  
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53 subgroups agreed that promoting SDM should be legislated (Table 3).  
54

55 In bivariate analyses, female physicians (OR 1.7; 95% CI 1.4 to 2.1) and those  
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57 identifying as politically liberal (OR 1.8; 95% CI 1.5 to 2.3) had significantly greater odds of  
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3 being very enthusiastic about promoting better conversations as a means to reduce health care  
4 costs. Surgeons had lower odds than primary care providers to express enthusiasm for  
5 promoting better conversations as a means of cost-containment (OR 0.7; 95% CI 0.6 to 0.9),  
6 while responding physicians' region of practice, age, and type of practice setting did not appear  
7 to be associated with their views on this item.  
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14 In separate multivariable models adjusted for age, sex, region, specialty and political  
15 self-characterization, respondents reporting salary/salary + bonus compensation compared with  
16 billing-only had a greater odds of strongly agreeing that decision support tools that show costs  
17 would be helpful in their practice (OR 1.4; 95% CI 1.1 to 1.7). Respondents identifying  
18 themselves as "very or somewhat liberal or progressive" also had higher odds than those self-  
19 described as "very or somewhat conservative" of strongly agreeing that decision support tools  
20 that show cost would be helpful (ORs 2.2; 95% CIs 1.7 to 2.9), as well as expressing strong  
21 enthusiasm for promoting better conversations with patients (OR 1.7; 95% CI 1.4 to 2.1). (Table  
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34 Several perceived barriers to shared decision making were independently associated  
35 with respondents' enthusiasm about promoting better conversations with patients as a cost-  
36 containment strategy, whether decision support tools showing costs would be helpful, and  
37 whether SDM should be legislated to control health care costs. In logistic regression models  
38 adjusted for sex, age, region, specialty, and political self-characterization, those who selected  
39 "lack of supportive systems" as a perceived barrier to SDM had twice the odds (OR 2.1; 95% CI  
40 1.4 to 3.0) as others to be very enthusiastic about promoting better conversations with patients  
41 as a means of reducing health care costs. Respondents who perceived administrative burdens  
42 (OR 1.3; 95% CI 1.0 to 1.6) and lack of supportive systems (OR 1.5; 95% CI 1.1 to 2.1) as  
43 barriers to SDM also had significantly higher odds of strongly agreeing that decision support  
44 tools showing costs would be helpful in their practice. Finally, respondents who selected  
45 administrative burdens (OR 1.4; 95% CI 1.1 to 1.7), an inability to individualize risk (OR 1.5;  
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3 95% CI 1.2 to 1.9), financial pressure to do better-paying activities (OR 1.6; 95% CI 1.2-2.1),  
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5 and lack of supportive systems (OR 2.0; 95% CI 1.5 to 2.7) as perceived barriers to SDM had  
6  
7 greater odds of believing that SDM should be legislated. (Table 4)  
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## 10 11 12 **DISCUSSION**

13  
14 Most US physicians express strong enthusiasm for promoting better conversations with  
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16 patients as a means to control health care costs and believe decision support tools showing  
17  
18 costs would be useful. A minority of physicians agree that SDM should be legislated to help  
19  
20 control health care costs. Although certain subgroups of respondents (e.g. self-described  
21  
22 liberals; females) appear more likely to express enthusiasm for SDM and cost-transparency  
23  
24 compared to other subgroups, majorities of respondents in all subgroups were, overall,  
25  
26 supportive of both promoting better conversations as well as using decision support tools that  
27  
28 show costs.  
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### 31 32 *Comparison With Other Studies*

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35 Given the significant variability of cost and lack of cost-transparency in the US health  
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37 system,<sup>18-22</sup> decision support tools that show total costs and patient out-of-pocket costs could be  
38  
39 a means to empower both physicians and patients as informed health care consumers. Support  
40  
41 innovations that promote cost transparency also might reflect physicians' views of patient  
42  
43 responsibility for reducing health care costs. In any event, promoting tools to achieve better  
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45 conversations with patients and cost transparency appears to be a physician-supported, patient-  
46  
47 centered strategy for achieving higher quality care that may also achieve cost-containment as  
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49 well.  
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53 Lack of time with patients and administrative barriers pose obstacles to engaging  
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55 patients in SDM, according to our respondents. Two of the barriers to SDM that physicians cited  
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3 – patient confusion and patients' lack of interest - stand in contrast to studies of patients' views.  
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5 The national 2009 DECISIONS study<sup>23</sup> of nine medical decisions found patients say they are  
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7 ready for involvement and desire it. There are multiple explanations for this gap. First, while  
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9 patients say, when asked, they want to play a greater role in decision making, doctors may  
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11 interpret their behavior during encounters otherwise. Expressions of preference for decision  
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13 making could vary depending on the decision faced, from those with high stakes (e.g., major  
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15 surgery) to more routine circumstances (treatment for allergic rhinitis). In addition, physicians  
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17 may misjudge patient confusion for lack of interest in playing an active role, or may exhibit recall  
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19 bias when responding to items about barriers to SDM. Moreover, how questions about SDM are  
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21 framed – in this and in other studies – could lead to discrepant results. Furthermore, these data  
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23 suggest that a majority of US physicians are fully on-board with SDM despite data from the  
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25 DECISIONS study and others like it suggesting SDM is by no means the norm in routine  
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27 practice.  
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### 32 *Strengths and Limitations of This Study*

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35 The limited nature of the single item self-reported measures presented here restrict our  
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37 inferences. Regarding the substantive findings of the study, several questions persist. , It is  
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39 unclear why physicians disagree with legislating SDM as a means of controlling health care  
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41 costs when they are enthusiastic about it as a cost-containment measure. Do physicians resist  
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43 infringement on their autonomy generally? Do they resist any potentially punitive regulatory  
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45 measures? Do they fear “big brother” government intrusion? It is possible that physicians may  
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47 not be comfortable with the idea of any behaviors, including SDM, being legislated even if they  
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49 embrace the potential positive consequences of doing so. Some physicians may fear that using  
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51 SDM as a means of reducing health care costs could tarnish its patient-centered primary  
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53 objective. These data do not answer whether physicians resist legislating SDM, but only that  
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55 they oppose such actions as a cost-containment strategy. Ascertaining motivations behind the  
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3 opinions we report would require further in-depth qualitative work beyond the scope of this  
4 survey. In content areas like this, survey items may have been ambiguous despite rigorous pilot  
5 testing. For instance our item, “decision support tools that show cost would be helpful in my  
6 practice” was presented in a section on medical decision making, creating some ambiguity  
7 about whether respondent endorsement of this item really constitutes an endorsement of shared  
8 decision making as a cost-containment strategy or a general endorsement of the innovation for  
9 patient-centered care. And while self-reported barriers to SDM were not the focus of this survey,  
10 we thought it was important to include them as potential key covariates for respondents’  
11 judgments about SDM as a cost-containment strategy. For instance, those who feel their work  
12 environment is not supportive of SDM may find legislating it the only viable option for change.  
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26 While this cross-sectional survey had a solid response rate, reducing concerns about  
27 response bias, its findings should still be treated with caution due to the nature of the topic area.  
28 Social desirability may lead physicians to say very glowing things about shared decision  
29 making. Belying their broad endorsement, physicians may hold divergent views of shared  
30 decision making. The survey did not stipulate a definitive definition of SDM. Whether, however,  
31 their behavior follows is what is of ultimate concern and was not addressed in this survey. The  
32 contrast between physicians’ self-reported enthusiasm and the documented failures to promote  
33 SDM in studies of physician behavior suggest our respondents may uphold an ideal they  
34 themselves do not achieve, or may operate with a different functional definition of SDM. Surveys  
35 alone cannot resolve this discrepancy. Although the face validity of our measures (*Which of the*  
36 *following is a major barrier to you more actively engaging patients in a process of shared*  
37 *decision-making?\**; *Promoting SDM should be legislated as a means of controlling health care*  
38 *costs; Decision support tools that show costs would be helpful in my practice; Level of*  
39 *enthusiasm for “promoting better conversations with patients” as a means to promote cost-*  
40 *containment*) do not evoke a clear social desirability bias, that possibility cannot be excluded.  
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3 This approach did not (and arguably could not accurately) assess actual behavior. The AMA  
4 Masterfile is the most comprehensive listing of US physicians, but relies on physician self-report  
5 for key practice characteristics. For instance, specialty data listed in the AMA Masterfile lists  
6 self-reported specialty that is not verified with specialty boards. The estimates reported here  
7 may not fully reflect all US physician opinion.  
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### 13 14 15 *Conclusions and Policy Implications* 16

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18 Since its emergence in the President's Commission 30 years ago, shared decision  
19 making has promoted empowering patients in their care as an intrinsic good. Should policy also  
20 support, or require, SDM to achieve cost-savings? Doing so can be justified as a win-win  
21 proposition if SDM improves quality and lowers (or stabilizes) health care spending. Yet, if SDM  
22 is viewed – by physicians, patients, or both – as primarily aimed at cost control, or as an effort  
23 to save money masquerading as quality improvement, then an important, patient-centered tool  
24 may well be left in the toolbox unused. These and other unanswered questions about what the  
25 appropriate policy rationale for SDM should be will need to be addressed to assure that its  
26 ethical ideals are preserved in the coming years. At present, however, it appears most  
27 physicians are enthusiastic about shared decision making and see it as a promising avenue for  
28 controlling costs.  
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**Data Sharing Statement:**

Full dataset and statistical code available from the corresponding author at  
tilburt.jon@mayo.edu. Consent was not obtained but the presented data are anonymized and  
risk of identification is low.

For peer review only

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## WHAT THIS RESEARCH ADDS

### What is already known on this subject?

Shared decision making (SDM), a process of patient engagement and mutual deliberation between health care providers and patients, has been advanced as a way to promote respect for patients, encourage greater patient engagement in their care, and improve adherence and outcomes.

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**Table 1.** Characteristics of 2556 responding U.S. physicians, as well as their perceived barriers to shared decision making.

| Characteristic  | No. (%)    |
|---|------------|
| <b>Age, Mean [SD], years</b>  | 51.0 [8.5] |
| <b>Male sex</b>   | 1784 (70)  |
| <b>Race or ethnic group*</b>  |            |
| White or Caucasian  | 1958 (77)  |
| Asian   | 369 (15)   |
| Other   | 124 (5)    |
| Black or African-American   | 80 (3)     |
| <b>Region†</b>  |            |
| South   | 829 (33)   |
| Midwest   | 594 (23)   |
| Northeast   | 548 (22)   |
| West  | 570 (22)   |
| <b>Primary Specialty</b>  |            |
| Primary Care  | 1034 (40)  |
| Surgery   | 571 (22)   |
| Procedural Specialty  | 486 (19)   |
| Nonprocedural Specialty   | 399 (16)   |
| Non-Clinical  | 44 (2)     |
| <b>Practice Setting Type</b>  |            |
| Group/HMO   | 1641 (64)  |
| Small/solo  | 498 (19)   |
| City/state/federal government   | 336 (13)   |
| Medical school  | 59 (2)     |
| <b>Practice Compensation Type‡</b>  |            |
| Billing only  | 1036 (41)  |
| Salary plus bonus   | 874 (35)   |
| Salary only   | 460 (18)   |
| Other   | 154 (6)    |
| <b>Political Self-Characterization§</b>   |            |
| Very Conservative   | 254 (10)   |
| Somewhat Conservative   | 709 (28)   |
| Independent/Moderate  | 726 (29)   |
| Somewhat Liberal/Progressive  | 495 (20)   |
| Very Liberal/Progressive  | 247 (10)   |
| <i>Which of the following is a major barrier to you more actively engaging patients in a process of shared decision-making? (n = 2402)¶</i> |            |
| Patient Confusion   | 1558 (65)  |
| Lack of patient interest in playing an active role  | 1425 (59)  |
| Lack of adequate time with the patient  | 1349 (56)  |
| Administrative burdens  | 808 (34)   |
| Inability to individualize risk   | 499 (21)   |
| Financial pressure to do better paying activities   | 349 (15)   |
| Other   | 268 (11)   |
| Lack of supportive systems  | 216 (9)    |

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Percentages based on a denominator of 2532

† Percentages based on a denominator of 2541

‡ Percentages based on a denominator of 2524

§ Percentages based on a denominator of 2497

¶ Item was "Mark all that apply"; hence percentages here were calculated with the denominator as the total number of respondents who answered this question (i.e. selected at least one of the response category options).

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**Table 2.** Distribution of responses to SDM and cost items from 2556 US physicians

| Survey Item   | No. (%)   |
|---|-----------|
| <i>Level of enthusiasm for “promoting better conversations with patients” as a means to promote cost-containment.(n = 2486)</i> |           |
| Not enthusiastic  | 80 (3)    |
| Somewhat enthusiastic   | 745 (30)  |
| Very enthusiastic   | 1661 (67) |
| <i>Decision support tools that show costs would be helpful in my practice.(n = 2461)</i>  |           |
| Strongly disagree   | 251 (10)  |
| Somewhat disagree   | 487 (20)  |
| Somewhat agree  | 1240 (50) |
| Strongly agree  | 483 (20)  |
| <i>Promoting SDM should be legislated as a means of controlling health care costs.(n = 2435)</i>                                |           |
| Yes   | 593 (24)  |
| No  | 1842 (76) |

**Table 3.** Distribution of physician responses to SDM-related survey items stratified by demographic characteristics.

|  | No. (row %)   |         |  |         |                                    |         |
|--|---|---------|--|---------|------------------------------------|---------|
|  | Very enthusiastic about promoting better conversations as means to reduce health care costs |         | Agree decision support tools showing costs would be helpful in my practice |         | Promoting SDM should be legislated |         |
|  | No. (row %)   | P-value | No. (row %)  | P-value | No. (row %)                        | P-value |
| <b>Age (years)</b>                           |   | 0.48    |  | 0.82    |                                    | <0.0001 |
| Less than 50 years (n=1043)                  | 705 (68)  |         | 710 (69)   |         | 293 (29)                           |         |
| 50 years or greater (n = 1443)               | 956 (66)  |         | 1013 (71)  |         | 300 (21)                           |         |
| <b>Sex</b>                                   |   | <0.0001 |  | 0.24    |                                    | 0.19    |
| Male (n=1734)                                | 1097 (63)   |         | 1199 (70)  |         | 405 (24)                           |         |
| Female (n=752)                               | 564 (75)  |         | 524 (70)   |         | 188 (26)                           |         |
| <b>Region</b>                                |   | 0.99    |  | 0.01    |                                    | 0.69    |
| Midwest (n=570)                              | 379 (66)  |         | 420 (74)   |         | 133 (24)                           |         |
| South (n=809)                                | 539 (67)  |         | 550 (69)   |         | 183 (23)                           |         |
| West (n=555)                                 | 369 (66)  |         | 392 (72)   |         | 132 (24)                           |         |
| Northeast (n=537)                            | 361 (67)  |         | 351 (66)   |         | 136 (26)                           |         |
| <b>Primary Specialty</b>                     |   | 0.05    |  | 0.26    |                                    | 0.02    |
| Primary Care (n=1003)                        | 693 (69)  |         | 711 (71)   |         | 247 (25)                           |         |
| Surgery (n=558)                              | 348 (62)  |         | 369 (67)   |         | 104 (19)                           |         |
| Procedural Specialty (n=473)                 | 310 (66)  |         | 334 (72)   |         | 126 (27)                           |         |
| Nonprocedural Specialty (n=390)              | 273 (70)  |         | 264 (68)   |         | 99 (26)                            |         |
| Non-Clinical (n=42)                          | 25 (60)   |         | 29 (73)  |         | 12 (29)                            |         |
| Other (n=20)                                 | 12 (60)   |         | 16 (80)  |         | 5 (25)                             |         |
| <b>Political Self-Characterization</b>       |   | <0.0001 |  | 0.0001  |                                    | 0.04    |
| Very/Somewhat Conservative (n=937)           | 576 (61)  |         | 610 (66)   |         | 204 (22)                           |         |
| Independent/Moderate (n=707)                 | 479 (68)  |         | 486 (69)   |         | 171 (25)                           |         |
| Very/Somewhat Liberal or Progressive (n=719) | 535 (74)  |         | 538 (75)   |         | 192 (27)                           |         |

**Table 4.** Unadjusted and adjusted associations between physician characteristics/attitudes and their views on SDM from bivariate and multivariate logistic regression models.

|  | Very enthusiastic about promoting better conversations as means to reduce health care costs |         |                       | Strongly agree decision support tools showing costs would be helpful in my practice |         |                       | Promoting SDM should be legislated |         |                       |
|--|---|---------|-----------------------|---|---------|-----------------------|------------------------------------|---------|-----------------------|
|  | Unadjusted OR (95% CI)  | p-value | Adjusted OR (95% CI)  | Unadjusted OR (95% CI)  | p-value | Adjusted OR (95% CI)  | Unadjusted OR (95% CI)             | p-value | Adjusted OR (95% CI)  |
| <b>Age (years)</b>                     | 1.0<br>(0.99 to 1.01)   |         | 1.0<br>(0.98 to 1.01) | 1.0<br>(0.99 to 1.02)   |         | 1.0<br>(0.99 to 1.02) | 0.98*<br>(0.97 to 0.99)            |         | 0.98<br>(0.97 to 1.0) |
| <b>Sex</b>                             |   | <0.0001 |                       |   | 0.13    |                       |                                    | <0.0001 |                       |
| Male                                   | Ref   |         | Ref                   | Ref   |         | Ref                   | Ref                                |         | Ref                   |
| Female                                 | 1.7*<br>(1.4 to 2.1)  |         | 1.7*<br>(1.3 to 2.0)  | 1.2<br>(1.0-1.5)  |         | 1.1<br>(0.9 to 1.4)   | 1.1<br>(0.9 to 1.4)                |         | 1.0<br>(0.8 to 1.2)   |
| <b>Region</b>                          |   | 0.99    |                       |   | 0.002   |                       |                                    | 0.99    |                       |
| Midwest                                | Ref   |         | Ref                   | Ref   |         | Ref                   | Ref                                |         | Ref                   |
| South                                  | 1.0<br>(0.8 to 1.3)   |         | 1.0<br>(0.8 to 1.2)   | 0.7*<br>(0.5 to 0.9)  |         | 0.7*<br>(0.5 to 0.9)  | 1.0<br>(0.7 to 1.2)                |         | 0.9<br>(0.7 to 1.2)   |
| West                                   | 1.0<br>(0.8 to 1.3)   |         | 0.9<br>(0.7 to 1.1)   | 1.0<br>(0.8 to 1.4)   |         | 0.9<br>(0.7 to 1.3)   | 1.0<br>(0.8 to 1.4)                |         | 1.0<br>(0.8 to 1.3)   |
| Northeast                              | 1.0<br>(0.8 to 1.3)   |         | 0.9<br>(0.7 to 1.2)   | 0.7*<br>(0.5 to 0.9)  |         | 0.6*<br>(0.5 to 0.9)  | 1.1<br>(0.9 to 1.5)                |         | 1.1<br>(0.8 to 1.5)   |
| <b>Primary Specialty</b>               |   | 0.05    |                       |   | 0.33    |                       |                                    | 0.05    |                       |
| Primary Care                           | Ref   |         | Ref                   | Ref   |         | Ref                   | Ref                                |         | Ref                   |
| Surgery                                | 0.7*<br>(0.6 to 0.9)  |         | 0.9<br>(0.7 to 1.1)   | 0.8<br>(0.6 to 1.1)   |         | 0.9<br>(0.7 to 1.2)   | 0.7*<br>(0.5 to 0.9)               |         | 0.7*<br>(0.6 to 1.0)  |
| Procedural Specialty                   | 0.9<br>(0.7 to 1.1)   |         | 1.0<br>(0.8 to 1.2)   | 0.8<br>(0.6 to 1.0)   |         | 0.8<br>(0.6 to 1.1)   | 1.1<br>(0.9 to 1.4)                |         | 1.2<br>(0.9 to 1.5)   |
| Nonprocedural Specialty                | 1.0<br>(0.8 to 1.3)   |         | 1.1<br>(0.8 to 1.4)   | 0.8<br>(0.6 to 1.0)   |         | 0.8<br>(0.5 to 1.0)   | 1.0<br>(0.8 to 1.4)                |         | 1.3<br>(0.8 to 1.4)   |
| Non-Clinical                           | 0.7<br>(0.4 to 1.2)   |         | 0.6<br>(0.3 to 1.2)   | 0.8<br>(0.3 to 1.7)   |         | 0.7<br>(0.3 to 1.7)   | 1.2<br>(0.6 to 2.3)                |         | 1.3<br>(0.7 to 2.7)   |
| Other                                  | 0.7<br>(0.3 to 1.7)   |         | 0.7<br>(0.3 to 1.9)   | 0.6<br>(0.2 to 2.2)   |         | 0.7<br>(0.2 to 2.3)   | 1.0<br>(0.4 to 2.7)                |         | 1.0<br>(0.3 to 2.8)   |
| <b>Political Self-Characterization</b> |   | <0.0001 |                       |   | <0.0001 |                       |                                    | <0.0001 |                       |
| Very/Somewhat                          | Ref   |         | Ref                   | Ref   |         | Ref                   | Ref                                |         | Ref                   |

|   |                      |       |                      |                      |       |                      |                      |         |                      |
|---|----------------------|-------|----------------------|----------------------|-------|----------------------|----------------------|---------|----------------------|
| Conservative  |                      |       |                      |                      |       |                      |                      |         |                      |
| Independent/<br>Moderate  | 1.3*<br>(1.1 to 1.6) |       | 1.3*<br>(1.1 to 1.6) | 1.2<br>(0.9 to 1.6)  |       | 1.2<br>(0.9 to 1.6)  | 1.2<br>(0.9 to 1.5)  |         | 1.1<br>(0.9 to 1.4)  |
| Very/Somewhat<br>Liberal or<br>Progressive                            | 1.8*<br>(1.5 to 2.3) |       | 1.7*<br>(1.4 to 2.1) | 2.3*<br>(1.8 to 2.9) |       | 2.2*<br>(1.7 to 2.9) | 1.3*<br>(1.1 to 1.7) |         | 1.3<br>(1.0 to 1.6)  |
| <b>Practice Setting<br/>Type</b>                                      |                      | 0.59  |                      |                      | 0.07  |                      |                      | 0.20    |                      |
| Small/solo  | Ref                  |       | Ref                  | Ref                  |       | Ref                  | Ref                  |         | Ref                  |
| Group/HMO   | 1.1<br>(0.9 to 1.4)  |       | 1.1<br>(0.8 to 1.3)  | 1.3<br>(1.0 to 1.7)  |       | 1.2<br>(0.9 to 1.7)  | 1.0<br>(0.8 to 1.3)  |         | 0.9<br>(0.7 to 1.2)  |
| City/state/federal<br>government                                      | 1.2<br>(0.9 to 1.7)  |       | 1.1<br>(0.8 to 1.5)  | 1.4*<br>(1.0 to 2.1) |       | 1.4<br>(0.9 to 2.0)  | 1.3<br>(1.0 to 1.8)  |         | 1.2<br>(0.8 to 1.7)  |
| Medical school  | 1.3<br>(0.7 to 2.4)  |       | 1.2<br>(0.6 to 2.2)  | 1.4<br>(0.7 to 2.7)  |       | 1.2<br>(0.6 to 2.5)  | 0.7<br>(0.4 to 1.5)  |         | 0.6<br>(0.2 to 1.2)  |
| Other non-patient<br>care   | 1.5<br>(0.6 to 3.8)  |       | 1.1<br>(0.4 to 3.0)  | 2.9*<br>(1.2 to 7.2) |       | 3.0*<br>(1.2 to 7.8) | 0.7<br>(0.2 to 2.2)  |         | 0.7<br>(0.2 to 2.3)  |
| <b>Practice<br/>Compensation Type</b>                                 |                      |       |                      |                      | 0.005 |                      |                      | 0.14    |                      |
| Billing only  | Ref                  | 0.06  | Ref                  | Ref                  |       | Ref                  | Ref                  |         | Ref                  |
| Salary/Salary plus<br>bonus   | 1.2<br>(1.0 to 1.5)  |       | 1.2<br>(1.0 to 1.4)  | 1.4*<br>(1.1 to 1.7) |       | 1.4*<br>(1.1 to 1.7) | 1.2*<br>(1.0 to 1.5) |         | 1.2<br>(0.9 to 1.4)  |
| Other   | 1.1<br>(0.6 to 1.5)  |       | 1.1<br>(0.8 to 1.7)  | 1.1<br>(0.7 to 1.8)  |       | 1.0<br>(0.6 to 1.6)  | 1.1<br>(0.8 to 1.6)  |         | 1.0<br>(0.7 to 1.6)  |
| <b>Major Barriers to<br/>Engaging Patients<br/>in SDM<sup>†</sup></b> |                      |       |                      |                      |       |                      |                      |         |                      |
| Patient Confusion   | 1.0<br>(0.8 to 1.2)  | 0.89  | 1.0<br>(0.9 to 1.2)  | 1.0<br>(0.8 to 1.2)  | 0.99  | 1.0<br>(0.8 to 1.3)  | 1.0<br>(0.8 to 1.2)  | 0.86    | 1.0<br>(0.8 to 1.2)  |
| Lack of patient<br>interest in playing<br>an active role              | 1.1<br>(0.9 to 1.3)  | 0.50  | 1.1<br>(0.9 to 1.4)  | 1.0<br>(0.8 to 1.2)  | 0.80  | 1.0<br>(0.8 to 1.3)  | 1.0<br>(0.8 to 1.2)  | 0.88    | 1.0<br>(0.8 to 1.3)  |
| Lack of adequate<br>time with the patient                             | 1.3*<br>(1.1 to 1.5) | 0.008 | 1.2<br>(1.0 to 1.4)  | 1.2<br>(0.9 to 1.4)  | 0.16  | 1.1<br>(0.9 to 1.4)  | 1.1<br>(0.9 to 1.3)  | 0.45    | 1.0<br>(0.9 to 1.3)  |
| Administrative<br>burdens   | 1.0<br>(0.8 to 1.2)  | 0.92  | 1.0<br>(0.9 to 1.3)  | 1.2<br>(1.0 to 1.5)  | 0.10  | 1.3*<br>(1.0 to 1.6) | 1.4*<br>(1.1 to 1.7) | 0.001   | 1.4*<br>(1.1 to 1.7) |
| Inability to<br>individualize risk                                    | 0.9<br>(0.8 to 1.2)  | 0.61  | 0.9<br>(0.8 to 1.2)  | 1.2<br>(1.0 to 1.6)  | 0.09  | 1.2<br>(0.9 to 1.6)  | 1.5*<br>(1.2 to 1.8) | 0.0007  | 1.5*<br>(1.2 to 1.9) |
| Financial pressure  | 1.0                  | 0.98  | 1.0                  | 1.1                  | 0.39  | 1.2                  | 1.7*                 | <0.0001 | 1.6*                 |

|                                |                   |         |                      |                      |       |                      |                      |         |                      |
|--------------------------------|-------------------|---------|----------------------|----------------------|-------|----------------------|----------------------|---------|----------------------|
| to do better paying activities | (0.8 to 1.3)      |         | (0.8 to 1.3)         | (0.9 to 1.5)         |       | (0.9 to 1.6)         | (1.3 to 2.2)         |         | (1.2 to 2.1)         |
| Lack of supportive systems     | 2.1*<br>(1.5-2.9) | <0.0001 | 2.1*<br>(1.4 to 3.0) | 1.5*<br>(1.1 to 2.1) | 0.008 | 1.5*<br>(1.1 to 2.1) | 2.1*<br>(1.5 to 2.8) | <0.0001 | 2.0*<br>(1.5 to 2.7) |

\* p-value < 0.05

† Odds ratios and 95% CIs presented for this item use as their reference category, for example, those who selected “patient confusion” as a major barrier versus those who did not.

NOTE: For each dependent variable, separate adjusted models include shaded items plus each physician characteristic/attitude (e.g. model 1 – adjustors + practice setting type; model 2 – adjustors + practice compensation type; etc.)

(THIS PAGE IS FOR SURVEY RESEARCH TRACKING AND FILING PURPOSES ONLY)

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# PHYSICIAN ATTITUDES ON SHARED DECISION MAKING HEALTH CARE REFORM

INVESTIGATOR: JON TILBURT, MD

## VERSION AS OF:

APRIL 18, 2012 WLD

APRIL 20, 2012 WLD

APRIL 23, 2012 WLD

APRIL 24, 2012 WLD

APRIL 25, 2012 WLD

APRIL 26, 2012 WLD

APRIL 27, 2012 WLD

APRIL 30, 2012 WLD

CODING CHECK:

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# Physicians, Health Care Costs, and Society

For peer review only

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For peer review only

1-4

## YOU & YOUR PRACTICE

Please check the appropriate box or fill in the blank as indicated.

1. How would you classify your race? (Choose ONE)

1  Asian or Asian-American

2  Black or African-American

3  White or Caucasian

4  Other, please specify: \_\_\_\_\_

2. Do you consider yourself Hispanic/Latino?

1  Yes

2  No

4. Which ONE of the following best describes the primary compensation for your practice?

1  Billing only

2  Salary only

3  Salary plus bonus

4  Other, please specify: \_\_\_\_\_

5. Please indicate your degree of agreement or disagreement with the following statement:

"My enjoyment of the practice of medicine is substantially lessened because of the threat of lawsuits."

1  Strongly disagree

2  Moderately disagree

3  Moderately agree

4  Strongly agree

6. How would you describe your average level of fatigue during the past week, including today?

0  No fatigue      1       2       3       4       5       6       7       8       9       10  Constant tiredness

**HEALTH CARE REFORM**

Please respond to the following statements in a way that best reflects your opinions about the 2010 Patient Protection and Affordable Care Act.

7. The Affordable Care Act, if fully implemented, would turn United States health care in the right direction.

- 1  Strongly disagree
- 2  Moderately disagree
- 3  Moderately agree
- 4  Strongly agree

8. The Affordable Care Act, if fully implemented, would make physician reimbursement...

- 1  More fair
- 2  Less fair
- 3  Neither more nor less fair
- 4  Not sure

9. Should religiously affiliated institutions that object to the use of contraceptives be required to cover contraceptives in their health plans?

- 1  Yes
- 2  No

10. During the last 6 months, how often did you personally refrain, because of cost to the health care system, from using the following interventions when they would have been the best intervention for your patient?

|                               | Never                      | Less than monthly          | Monthly                    | Weekly                     | Daily                      | Not applicable             |
|-------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Lab tests.....                | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Routine X-ray.....            | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| MRI.....                      | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Screening test.....           | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Referral to a specialist..... | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Referral to an ICU.....       | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Prescription drugs.....       | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Referral for surgery.....     | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Referral for dialysis.....    | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Hospital admission.....       | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |

## PHYSICIAN RESPONSIBILITIES & SOCIETY

Please indicate your degree of agreement or disagreement with the following statements.

11. I would favor limiting coverage for expensive drugs and procedures if that would help expand access to basic health care for those currently lacking such care.

- 1  Strongly disagree  
 2  Moderately disagree  
 3  Moderately agree  
 4  Strongly agree

12. Every physician is professionally obligated to care for the uninsured and underinsured.

- 1  Strongly disagree  
 2  Moderately disagree  
 3  Moderately agree  
 4  Strongly agree

13. Addressing societal health policy issues, as important as that may be, falls outside the scope of my professional obligations as a physician.

- 1  Strongly disagree  
 2  Moderately disagree  
 3  Moderately agree  
 4  Strongly agree

14. Please rate the degree of responsibility (if any) each of these entities should have in reducing the cost of health care:

|  | No<br>responsibility       | Some<br>responsibility     | Major<br>responsibility    |
|--|----------------------------|----------------------------|----------------------------|
| <b>Government</b> .....                              | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Health insurance companies</b> .....              | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Patients</b> .....                                | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Physician professional societies</b> .....        | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Individual practicing physicians</b> .....        | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Hospitals and health systems</b> .....            | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Employers</b> .....                               | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Pharmaceutical and device manufacturers</b> ..... | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| <b>Trial lawyers</b> .....                           | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |

## MEDICAL DECISION-MAKING

Please answer the following questions about different dimensions of medical decision-making.

15. I find the uncertainty involved in patient care disconcerting.

- 36
- 1  Strongly disagree  
 2  Moderately disagree  
 3  Moderately agree  
 4  Strongly agree

16. I generally order more tests when I don't know the patient well.

- 37
- 1  Strongly disagree  
 2  Moderately disagree  
 3  Moderately agree  
 4  Strongly agree

17. Which of the following is a major barrier to you more actively engaging patients in a process of shared decision-making? (Mark ALL that apply)

- 38-45
- 1  Patient confusion  
 1  Inability to individualize risk  
 1  Lack of patient interest in playing an active role  
 1  Lack of supportive systems (eg, computers)  
 1  Lack of adequate time with the patient  
 1  Administrative burdens  
 1  Financial pressure to do better paying activities (eg, procedures)  
 1  Other, please specify: \_\_\_\_\_

18. Should promoting shared decision-making be legislated to control overall health care costs?

- 46
- 1  Yes  
 2  No

19. "If I tried to follow cost-conscious guidelines in my daily decision-making with individual patients..." (Mark ALL that apply)

- 47-54
- 1  "Patients would welcome this"  
 1  "It would be the right thing to do"  
 1  "I would not know where to start"  
 1  "It would be haphazard"  
 1  "It would likely make little difference"  
 1  "It could be unfair"  
 1  "It would likely undermine my patients' trust in me"  
 1  "It would help me limit unreasonable patient demands"

20. Please indicate your degree of agreement or disagreement with the following statement:

"Decision support tools that show costs would be helpful in my practice."

- 55
- 1  Strongly disagree  
 2  Moderately disagree  
 3  Moderately agree  
 4  Strongly agree

|                            |
|----------------------------|
| <b>COST OF HEALTH CARE</b> |
|----------------------------|

A variety of practices have been proposed to control health care costs to society.

21. Please indicate your degree of enthusiasm for the following potential means of lowering health care costs (assume each is effective in lowering costs).

|    |  | Not<br>enthusiastic        | Somewhat<br>enthusiastic   | Very<br>enthusiastic       |
|----|--|----------------------------|----------------------------|----------------------------|
| 56 | Expanding access to free preventive care. . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 57 | Promoting head-to-head trials of competing treatments. . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 58 | Paying a network of practices a fixed, "bundled" price for managing all care for a defined population. . . . . | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 59 | Expanding electronic health records. . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 60 | Allowing Medicare payment cuts to doctors to take effect. . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 61 | Rooting out fraud and abuse . . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 62 | Eliminating fee-for-service payment models. . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 63 | Penalizing providers for avoidable readmissions. . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 64 | Expanding access to quality and safety data . . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 65 | Promoting better conversations with patients. . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 66 | High deductible health plans . . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 67 | Higher patient co-pays . . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 68 | Promoting continuity of care . . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 69 | Limiting corporate influence on physician behavior . . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 70 | Reducing compensation for the highest-paid specialties. . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 71 | Limiting access to expensive treatments with little net benefit  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 72 | Promoting chronic disease care coordination . . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 73 | Using cost-effectiveness data to determine available treatments  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |

22. Suppose a new device is proven effective at treating a serious illness compared to a placebo. If an insurance plan covers treatment for this serious illness, under which of the following circumstances, if any, would it be acceptable for the insurance plan to limit coverage for this new device? (Mark ALL that apply)

- 74-77
- 1  Never, insurance plans should cover any effective treatments for covered illnesses.
  - 1  If the plan covers another treatment that is about equally effective, but costs less.
  - 1  If the plan covers another treatment that is marginally less effective but costs much less.
  - 1  If the plan already covers another treatment that is even more efficacious than the new device.



23. Please indicate your degree of agreement or disagreement with the following statements about health care costs:

|    |    | Strongly disagree          | Moderately disagree        | Moderately agree           | Strongly agree             |
|----|----|----------------------------|----------------------------|----------------------------|----------------------------|
| 1  |    |                            |                            |                            |                            |
| 2  |    |                            |                            |                            |                            |
| 3  |    |                            |                            |                            |                            |
| 4  |    |                            |                            |                            |                            |
| 5  |    |                            |                            |                            |                            |
| 6  | 78 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 7  |    |                            |                            |                            |                            |
| 8  |    |                            |                            |                            |                            |
| 9  | 79 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 10 |    |                            |                            |                            |                            |
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| 12 |    |                            |                            |                            |                            |
| 13 | 80 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 14 |    |                            |                            |                            |                            |
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| 17 |    |                            |                            |                            |                            |
| 18 | 81 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 19 |    |                            |                            |                            |                            |
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| 22 | 82 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 23 |    |                            |                            |                            |                            |
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| 26 | 83 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
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| 30 | 84 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
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| 34 | 85 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
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| 39 |    |                            |                            |                            |                            |
| 40 | 86 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
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| 43 |    |                            |                            |                            |                            |
| 44 | 87 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 45 |    |                            |                            |                            |                            |
| 46 |    |                            |                            |                            |                            |
| 47 |    |                            |                            |                            |                            |
| 48 | 88 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 49 |    |                            |                            |                            |                            |
| 50 |    |                            |                            |                            |                            |
| 51 |    |                            |                            |                            |                            |
| 52 | 89 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 53 |    |                            |                            |                            |                            |
| 54 |    |                            |                            |                            |                            |
| 55 |    |                            |                            |                            |                            |
| 56 | 90 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 57 |    |                            |                            |                            |                            |
| 58 |    |                            |                            |                            |                            |
| 59 |    |                            |                            |                            |                            |
| 60 |    |                            |                            |                            |                            |

**YOUR BELIEFS**

In the following questions, we are interested in understanding some of your thoughts about life in general. Some items may seem odd or irrelevant, but answer each as best you can.

**24. How relevant are each of the following circumstances in determining whether an action is right or wrong?**

Not at all relevant    Not very relevant    Slightly relevant    Somewhat relevant    Very relevant    Extremely relevant

WHETHER OR NOT SOMEONE...

|    |  |                            |                            |                            |                            |                            |                            |
|----|--|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 91 | Suffered emotionally . . . . .               | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 92 | Was treated differently than others. . . . . | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 93 | Violates standards of purity and decency     | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 94 | Is good at math. . . . .                     | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 95 | Cared for someone weak or vulnerable . .     | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 96 | Acts unfairly . . . . .                      | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 97 | Does something disgusting. . . . .           | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |

**25. Indicate your degree of agreement with the following statements based on your initial reaction.**

Strongly disagree    Moderately disagree    Slightly disagree    Slightly agree    Moderately agree    Strongly agree

IN LIFE IN GENERAL...

|     |   |                            |                            |                            |                            |                            |                            |
|-----|---|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 98  | Compassion for those who are suffering is the most crucial virtue . . . . .                                     | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 99  | When the government makes laws, the number one principle should be ensuring that everyone is treated fairly . . | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 100 | People should not do things that are disgusting, even if no one is harmed . . . .                               | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 101 | It is better to do good than to do bad . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 102 | One of the worst things a person could do is hurt a defenseless animal . . . . .                                | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 103 | Justice is the most important requirement for a society . . . . .   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 104 | Some acts are wrong on the grounds that they are unnatural . . . . .  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
|     | Others' needs are more important than my own  | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
|     | Government should do more to help the needy   | 0 <input type="checkbox"/> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |

**MORE ABOUT YOU****26. Overall, how satisfied are you with practicing medicine?**

- 1  Very dissatisfied  
2  Somewhat dissatisfied  
3  Satisfied  
4  Very satisfied

**27. What, if any, is your religious affiliation?**

- 1  None  
2  Protestant, mainline  
3  Protestant, evangelical  
4  Roman Catholic  
5  Jewish  
6  Buddhist  
7  Hindu  
8  Muslim  
9  Other, please specify: \_\_\_\_\_

**28. How often do you attend religious services?**

- 1  Never  
2  Less than once a year  
3  About once or twice a year  
4  Several times a year  
5  About once a month  
6  Two to three times a month  
7  Nearly every week  
8  Every week  
9  Several times a week

**29. Are you registered to vote?**

- 1  Yes  
2  No

**30. How would you characterize yourself politically most of the time?**

- 1  Very Conservative  
2  Somewhat Conservative  
3  Independent/Moderate  
4  Somewhat Liberal/Progressive  
5  Very Liberal/Progressive  
6  Other, please specify: \_\_\_\_\_

**Thank you for completing the survey!**  
**Please return in the enclosed, self-addressed envelope.**

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For peer review only

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