BMJ open

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| Journal: | *BMJ Open* |
| Manuscript ID: | bmjopen-2013-004027 |
| Article Type: | Research |
| Date Submitted by the Author: | 13-Sep-2013 |
| Complete List of Authors: | Tilburt, Jon; Mayo Clinic,<br>Wynia, Matthew; American Medical Association, Institute for Ethics<br>Montori, Victor; Mayo Clinic, Knowledge and Encounter Research Unit<br>Thorsteinsdottir, Bjorg; Mayo Clinic,<br>Egginton, Jason; Mayo Clinic,<br>Sheeler, Robert; Mayo Clinic,<br>Liebow, Mark; Mayo Clinic,<br>James, Katherine; Mayo Clinic,<br>Goold, Susan; University of Michigan, |
| Primary Subject Heading: | Health policy |
| Secondary Subject Heading: | Patient-centred medicine, Ethics |
| Keywords: | Health policy < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Quality in health care < HEALTH SERVICES ADMINISTRATION & 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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**Keywords:** Shared decision making, health care costs, physicians

**Word count:** 2264

## 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,[1] has been advanced as a way to promote respect for patients, encourage greater patient engagement in their care, and improve adherence and outcomes.[2] 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.[3-5] In addition, there is some evidence that using certain SDM tools like DAs can reduce utilization of discretionary procedures [6] and perhaps even reduce overall health care expenditures and utilization.[5-7]

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.[8] The Patient Protection and Affordable Care Act (ACA) introduced several provisions to promote the use of SDM[9] including CMS innovation initiatives aimed at testing SDM as a means of reducing discretionary procedures and lowering costs.[8] While general barriers to SDM in physician practice have been described,[10] 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

Physician Masterfile using the Tailored Design Method[11] including a $20 bill with the first mailing only. Second and third mailings were sent to non-responders at six-week intervals.

*Survey Instrument*

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

*Measures*

Specific items assessed in this manuscript include respondents' level of enthusiasm (not, somewhat, very) for several potential strategies to reduce health care costs. In this list we operationalized the idea of SDM in the phrase, "Promoting better conversations with patients" as a means of lowering health care costs. We also asked respondents' degree of agreement with "Decision support tools that show costs would be helpful in my practice" (strongly disagree, moderately disagree, moderately agree, strongly agree); and "Should promoting shared decision-making be legislated to control overall health care costs" (yes/no).

We examined physician demographics (age, sex, region, specialty type, and political self-characterization), practice characteristics (compensation type, predominant practice setting type), and perceived barriers to SDM drawn from the literature ("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] *patient confusion, inability to individualize risk, lack of patient interest in*

*playing an active role, lack of supportive systems, lack of adequate time with the patient, administrative burdens, financial pressure to do better paying activities, other*).

*Analysis*

Using SAS 9.2 (Cary, NC), we calculated response distributions for all items related to SDM previously described. We performed bivariate and multivariate tests of association (i.e. unadjusted and adjusted logistic regression models) to examine associations between physician characteristics (sex, age, region of practice, specialty, practice setting type, compensation type, and political self-characterization) as well as attitudes about barriers to SDM (independent measures) and their views on each of the three dimensions of SDM as a cost-containment strategy (dependent measures) described above.

Variables included in multivariate logistic regression models were determined based upon those characteristics of physicians that we *a priori* hypothesized would be associated with our dependent variables (i.e. age, sex, region of practice, specialty type, and political self-characterization), as well as physician characteristics and survey items that were empirically found in bivariate analyses to be significantly associated with our three dependent variables of interest (i.e. practice setting, practice compensation type, and perceived barriers to implementing SDM). Therefore, for each dependent variable, we first ran a "base model" containing only those variables for which we were adjusting (age, sex, region of practice, specialty type, and political self-characterization), and then subsequently conducted separate multivariable models testing the association between each individual characteristic/attitude and the dependent variable while controlling for age, sex, region of practice, specialty type, and political self-characterization.

The funding source had no role in the development, implementation, or analysis of data in this study.

## RESULTS

2556 physicians responded to the survey (65% response rate).[12] 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[13]. 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.

In separate multivariable models adjusted for age, sex, region, specialty and political self-characterization, respondents reporting salary/salary + bonus compensation compared with billing-only had a greater odds of agreeing that decision support tools that show costs would be helpful in their practice (OR 1.5; 95% CI 1.3 to 1.9). Respondents identifying themselves as "very or somewhat liberal or progressive" also had higher odds than those self-described as "very or somewhat conservative" of agreeing that decision support tools that show cost would be helpful (ORs 1.7; 95% CIs 1.3 to 2.1), as well as expressing strong enthusiasm for promoting better conversations with patients (OR 1.7; 95% CI 1.4 to 2.1). (Table 4)

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

*Comparison With Other Studies*

Given the significant variability of cost and lack of cost-transparency in the US health system,[14-18] 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[19] 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

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

*Strengths and Limitations of This Study*

The limited nature of the single item measures presented here restrict our inferences. In particular, it is unclear why physicians disagree with legislating SDM. Do physicians resist infringement on their autonomy? Do they resist any potentially punitive regulatory measures? Do they fear "big brother" government intrusion? It is possible 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 end in itself. Ascertaining such motivations would require further in-depth qualitative work beyond the scope of this survey.

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, however, their behavior follows is what is of ultimate concern. 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 enthusiasm for "promoting better conversations with patients" as a means to promote cost-containment)* do not evoke a clear social desirability bias,

that possibility cannot be excluded. This approach did not (and arguable could not accurately) assess actual behavior. The AMA Masterfile is the most comprehensive listing of US physicians, but relies on physician self-report for key practice characteristics. For instance, specialty data listed in the AMA Masterfile lists self-reported specialty that is not verified with specialty boards. Furthermore, the descriptive statistics reported here may not fully reflect all US physician opinion.

*Conclusions and Policy Implications*

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

## ACKNOWLEDGEMENTS

All authors have completed the ICMJE uniform disclosure form at www.icmje.org/coi_disclosure.pdf and declare that they have no non-financial interests that may be relevant to the submitted work. This work was funded by a grant from the Faculty Scholars Program of the Greenwall Foundation, the Mayo Clinic Program in Professionalism and Ethics, and an Early Career Development Award from the Mayo Clinic Foundation. Dr. Hurst is funded by a grant from the Swiss National Science Foundation (PP00P3_123340). None of the funders had a role in the design and conduct of the study; collection, management, and interpretation of the data; and preparation, review or approval of the manuscript. All authors, external and internal, had full access to all the data (including statistical reports and tables) in the study and can take responsibility for the integrity of the data and the accuracy of the data analysis.

**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.

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

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

* 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. (%) |
|---|---|
| *Level of enthusiasm for "promoting better conversations with patients" as a means to promote cost-containment.(n = 2486)* | |
| Not enthusiastic | 80 (3) |
| Somewhat enthusiastic | 745 (30) |
| Very enthusiastic | 1661 (67) |
| *Decision support tools that show costs would be helpful in my practice.(n = 2461)* | |
| Strongly disagree | 251 (10) |
| Somewhat disagree | 487 (20) |
| Somewhat agree | 1240 (50) |
| Strongly agree | 483 (20) |
| *Promoting SDM should be legislated as a means of controlling health care costs.(n = 2435)* | |
| Yes | 593 (24) |
| No | 1842 (76) |
| *Which of the following is a major barrier to you more actively engaging patients in a process of shared decision-making?* (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** |
| **Age (years)** | | 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) | |
| **Sex** | | <0.0001 | | 0.24 | | 0.19 |
| Male (n=1734) | 1097 (63) | | 1199 (70) | | 405 (24) | |
| Female (n=752) | 564 (75) | | 524 (70) | | 188 (26) | |
| **Region** | | 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) | |
| **Primary Specialty** | | 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) | |
| **Political Self-Characterization** | | <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 | | | 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)** |
| **Age (years)** | 1.0 (0.99 to 1.01) | | 1.0 (0.98 to 1.01) | 1.0 (0.99 to 1.01) | | 1.0 (0.99 to 1.02) | 0.98* (0.97 to 0.99) | | 0.98 (0.97 to 1.0) |
| **Sex** | | <0.0001 | | | 0.24 | | | <0.0001 | |
| Male | Ref | | Ref | Ref | | Ref | Ref | | Ref |
| Female | 1.7* (1.4 to 2.1) | | 1.7* (1.3 to 2.0) | 1.0 (0.8 to 1.2) | | 1.0 (0.8 to 1.2) | 1.1 (0.9 to 1.4) | | 1.0 (0.8 to 1.2) |
| **Region** | | 0.99 | | | 0.01 | | | 0.99 | |
| Midwest | Ref | | Ref | Ref | | Ref | Ref | | Ref |
| South | 1.0 (0.8 to 1.3) | | 1.0 (0.8 to 1.2) | 0.8* (0.6 to 1.0) | | 0.8 (0.6 to 1.0) | 1.0 (0.7 to 1.2) | | 0.9 (0.7 to 1.2) |
| West | 1.0 (0.8 to 1.3) | | 0.9 (0.7 to 1.1) | 0.9 (0.7 to 1.2) | | 0.8 (0.6 to 1.1) | 1.0 (0.8 to 1.4) | | 1.0 (0.8 to 1.3) |
| Northeast | 1.0 (0.8 to 1.3) | | 0.9 (0.7 to 1.2) | 0.7* (0.5 to 0.9) | | 0.7 (0.6 to 1.1) | 1.1 (0.9 to 1.5) | | 1.1 (0.8 to 1.5) |
| **Primary Specialty** | | 0.05 | | | 0.26 | | | 0.05 | |
| Primary Care | Ref | | Ref | Ref | | Ref | Ref | | Ref |
| Surgery | 0.7* (0.6 to 0.9) | | 0.9 (0.7 to 1.1) | 0.8 (0.6 to 1.0) | | 0.9 (0.7 to 1.1) | 0.7* (0.5 to 0.9) | | 0.7* (0.6 to 1.0) |
| Procedural Specialty | 0.9 (0.7 to 1.1) | | 1.0 (0.8 to 1.2) | 1.0 (0.8 to 1.3) | | 1.0 (0.8 to 1.3) | 1.1 (0.9 to 1.4) | | 1.2 (0.9 to 1.5) |
| Nonprocedural Specialty | 1.0 (0.8 to 1.3) | | 1.1 (0.8 to 1.4) | 0.8 (0.6 to 1.1) | | 0.8 (0.6 to 1.0) | 1.0 (0.8 to 1.4) | | 1.3 (0.8 to 1.4) |
| Non-Clinical | 0.7 (0.4 to 1.2) | | 0.6 (0.3 to 1.2) | 1.1 (0.5 to 2.1) | | 0.9 (0.5 to 1.9) | 1.2 (0.6 to 2.3) | | 1.3 (0.7 to 2.7) |
| Other | 0.7 (0.3 to 1.7) | | 0.7 (0.3 to 1.9) | 0.6 (0.5 to 4.8) | | 2.1 (0.6 to 7.2) | 1.0 (0.4 to 2.7) | | 1.0 (0.3 to 2.8) |
| **Political Self-Characterization** | | <0.0001 | | | 0.0001 | | | <0.0001 | |

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

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



Coding Check:

Include:

# Physicians, Health Care Costs, and Society

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)

5
- 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?**

6
- 1 ☐ Yes
- 2 ☐ No

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

7
- 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."

8
- 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?**

9-10
0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐
No fatigue — 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.**

11
- 1 ☐ Strongly disagree
- 2 ☐ Moderately disagree
- 3 ☐ Moderately agree
- 4 ☐ Strongly agree

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

12
- 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?**

13
- 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 |
|---|---|---|---|---|---|---|
| 14 **Lab tests** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 15 **Routine X-ray** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 16 **MRI** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 17 **Screening test** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 18 **Referral to a specialist** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 19 **Referral to an ICU** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 20 **Prescription drugs** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 21 **Referral for surgery** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 22 **Referral for dialysis** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 23 **Hospital admission** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |

## 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.**

24
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.**

25
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.**

26
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 responsibility | Some responsibility | Major responsibility |
|---|---|---|---|
| 27 **Government** | 0 ☐ | 1 ☐ | 2 ☐ |
| 28 **Health insurance companies** | 0 ☐ | 1 ☐ | 2 ☐ |
| 29 **Patients** | 0 ☐ | 1 ☐ | 2 ☐ |
| 30 **Physician professional societies** | 0 ☐ | 1 ☐ | 2 ☐ |
| 31 **Individual practicing physicians** | 0 ☐ | 1 ☐ | 2 ☐ |
| 32 **Hospitals and health systems** | 0 ☐ | 1 ☐ | 2 ☐ |
| 33 **Employers** | 0 ☐ | 1 ☐ | 2 ☐ |
| 34 **Pharmaceutical and device manufacturers** | 0 ☐ | 1 ☐ | 2 ☐ |
| 35 **Trial lawyers** | 0 ☐ | 1 ☐ | 2 ☐ |

## 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

## 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 enthusiastic | Somewhat enthusiastic | Very enthusiastic |
|---|---|---|---|---|
| 56 | Expanding access to free preventive care | 0 ☐ | 1 ☐ | 2 ☐ |
| 57 | Promoting head-to-head trials of competing treatments | 0 ☐ | 1 ☐ | 2 ☐ |
| 58 | Paying a network of practices a fixed, "bundled" price for managing all care for a defined population | 0 ☐ | 1 ☐ | 2 ☐ |
| 59 | Expanding electronic health records | 0 ☐ | 1 ☐ | 2 ☐ |
| 60 | Allowing Medicare payment cuts to doctors to take effect | 0 ☐ | 1 ☐ | 2 ☐ |
| 61 | Rooting out fraud and abuse | 0 ☐ | 1 ☐ | 2 ☐ |
| 62 | Eliminating fee-for-service payment models | 0 ☐ | 1 ☐ | 2 ☐ |
| 63 | Penalizing providers for avoidable readmissions | 0 ☐ | 1 ☐ | 2 ☐ |
| 64 | Expanding access to quality and safety data | 0 ☐ | 1 ☐ | 2 ☐ |
| 65 | Promoting better conversations with patients | 0 ☐ | 1 ☐ | 2 ☐ |
| 66 | High deductible health plans | 0 ☐ | 1 ☐ | 2 ☐ |
| 67 | Higher patient co-pays | 0 ☐ | 1 ☐ | 2 ☐ |
| 68 | Promoting continuity of care | 0 ☐ | 1 ☐ | 2 ☐ |
| 69 | Limiting corporate influence on physician behavior | 0 ☐ | 1 ☐ | 2 ☐ |
| 70 | Reducing compensation for the highest-paid specialties | 0 ☐ | 1 ☐ | 2 ☐ |
| 71 | Limiting access to expensive treatments with little net benefit | 0 ☐ | 1 ☐ | 2 ☐ |
| 72 | Promoting chronic disease care coordination | 0 ☐ | 1 ☐ | 2 ☐ |
| 73 | Using cost-effectiveness data to determine available treatments | 0 ☐ | 1 ☐ | 2 ☐ |

**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 |
|---|---|---|---|---|---|
| 78 | I am aware of the costs of the tests/treatments I recommend | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 79 | I try not to think about the cost to the health care system when making treatment decisions | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 80 | I should sometimes deny beneficial but costly services to certain patients because resources should go to other patients that need them more | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 81 | I should be solely devoted to my individual patients' bests interests, even if that is expensive | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 82 | The cost of a test or medication is only important if the patient has to pay for it out of pocket | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 83 | Doctors are too busy to worry about costs of tests and procedures | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 84 | Cost to society is important in my decisions to use or not to use an intervention | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 85 | Physicians should adhere to clinical guidelines that discourage the use of interventions that have a small proven advantage over standard interventions but cost much more | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 86 | It is my responsibility to promote cost consciousness in my daily care of patients | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 87 | Trying to contain costs is the responsibility of every physician | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 88 | There is currently too much emphasis on costs of tests and procedures | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 89 | Doctors need to take a more prominent role in limiting use of unnecessary tests | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 90 | It is unfair to ask physicians to be cost-conscious and still keep the welfare of their patients foremost in their minds | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |

## 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?**

| | WHETHER OR NOT SOMEONE... | Not at all relevant | Not very relevant | Slightly relevant | Somewhat relevant | Very relevant | Extremely relevant |
|---|---|---|---|---|---|---|---|
| 91 | Suffered emotionally | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 92 | Was treated differently than others | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 93 | Violates standards of purity and decency | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 94 | Is good at math | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 95 | Cared for someone weak or vulnerable | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 96 | Acts unfairly | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 97 | Does something disgusting | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |

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

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

## MORE ABOUT YOU

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

105
- 1 ☐ Very dissatisfied
- 2 ☐ Somewhat dissatisfied
- 3 ☐ Satisfied
- 4 ☐ Very satisfied

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

106
- 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?**

107
- 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?**

108
- 1 ☐ Yes
- 2 ☐ No

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

109
- 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.**

BMJ open

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



| | |
|---|---|
| Journal: | *BMJ Open* |
| Manuscript ID: | bmjopen-2013-004027.R1 |
| Article Type: | Research |
| Date Submitted by the Author: | 20-Nov-2013 |
| Complete List of Authors: | Tilburt, Jon; Mayo Clinic,<br>Wynia, Matthew; American Medical Association, Institute for Ethics<br>Montori, Victor; Mayo Clinic, Knowledge and Encounter Research Unit<br>Thorsteinsdottir, Bjorg; Mayo Clinic,<br>Egginton, Jason; Mayo Clinic,<br>Sheeler, Robert; Mayo Clinic,<br>Liebow, Mark; Mayo Clinic,<br>James, Katherine; Mayo Clinic,<br>Goold, Susan; University of Michigan, |
| Primary Subject Heading: | Health policy |
| Secondary Subject Heading: | Patient-centred medicine, Ethics |
| Keywords: | Health policy < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Quality in health care < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, MEDICAL ETHICS |
| | |

# 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,[1] has been advanced as a way to promote respect for patients, encourage greater patient engagement in their care, and improve adherence and outcomes.[2] 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.[3-5] In addition, there is some evidence that using certain SDM tools like DAs can reduce utilization of discretionary procedures [6] and perhaps even reduce overall health care expenditures and utilization.[5-7]

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.[8] The Patient Protection and Affordable Care Act (ACA) introduced several provisions to promote the use of SDM[9] including CMS innovation initiatives aimed at testing SDM as a means of reducing discretionary procedures and lowering costs.[8] While general barriers to SDM in physician practice have been described,[10] 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

Physician Masterfile using the Tailored Design Method[11] including a $20 bill with the first mailing only. Second and third mailings were sent to non-responders at six-week intervals.

*Survey Instrument*

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

*Measures*

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

We examined physician demographics (age, sex, region, specialty type, and political self-characterization), practice characteristics (compensation type, predominant practice setting type), as well asperceived barriers to SDM drawn from the literature ("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] *patient confusion, inability to individualize risk, lack of patient interest in playing an active role, lack of supportive systems, lack of adequate time with the patient, administrative burdens, financial pressure to do better paying activities, other*) as important covariates.

*Analysis*

Using SAS 9.2 (Cary, NC), we calculated response distributions for all items related to SDM previously described. We performed bivariate and multivariate tests of association (i.e. unadjusted and adjusted logistic regression models) to examine associations between physician characteristics (sex, age, region of practice, specialty, practice setting type, compensation type, and political self-characterization) as well as attitudes about barriers to SDM (independent measures) and their views on each of the three dimensions of SDM as a cost-containment strategy (dependent measures) described above. The dependent measures assessing enthusiasm for "better conversations" as a cost-containment strategy and "Decision support tools that show costs would be helpful in my practice" were subsequently dichotomized for ease of presentation (very enthusiastic vs. all others and strongly agree vs. all others, respectively). Variables included in multivariate logistic regression models were determined based upon those characteristics of physicians that we *a priori* hypothesized would be associated with our dependent variables (i.e. age, sex, region of practice, specialty type, and political self-characterization), as well as physician characteristics and survey items that were empirically found in bivariate analyses to be significantly associated with our three dependent variables of interest (i.e. practice setting, practice compensation type, and perceived barriers to

implementing SDM). Therefore, for each dependent variable, we first ran a "base model" containing only those variables for which we were adjusting (age, sex, region of practice, specialty type, and political self-characterization), and then subsequently conducted separate multivariable models testing the association between each individual characteristic/attitude and the dependent variable while controlling for age, sex, region of practice, specialty type, and political self-characterization.

## RESULTS

2556 physicians responded to the survey (65% response rate).[16] 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[17]. 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.

In separate multivariable models adjusted for age, sex, region, specialty and political self-characterization, respondents reporting salary/salary + bonus compensation compared with billing-only had a greater odds of strongly agreeing that decision support tools that show costs would be helpful in their practice (OR 1.4; 95% CI 1.1 to 1.7). Respondents identifying themselves as "very or somewhat liberal or progressive" also had higher odds than those self-described as "very or somewhat conservative" of strongly agreeing that decision support tools that show cost would be helpful (ORs 2.2; 95% CIs 1.7 to 2.9), as well as expressing strong enthusiasm for promoting better conversations with patients (OR 1.7; 95% CI 1.4 to 2.1). (Table 4)

Several perceived barriers to shared decision making were independently associated with respondents' enthusiasm about promoting better conversations with patients as a cost-containment strategy, whether decision support tools showing costs would be helpful, and whether SDM should be legislated to control health care costs. In logistic regression models adjusted for sex, age, region, specialty, and political self-characterization, those who selected "lack of supportive systems" as a perceived barrier to SDM had twice the odds (OR 2.1; 95% CI 1.4 to 3.0) as others to be very enthusiastic about promoting better conversations with patients as a means of reducing health care costs. Respondents who perceived administrative burdens (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 barriers to SDM also had significantly higher odds of strongly agreeing that decision support tools 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,[18-22] 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[23] 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 making could vary depending on the decision faced, from those with high stakes (e.g., major surgery) to more routine circumstances (treatment for allergic rhinitis). In addition, physicians may misjudge patient confusion for lack of interest in playing an active role, or may exhibit recall bias when responding to items about barriers to SDM. Moreover, how questions about SDM are framed – in this and in other studies – could lead to discrepant results. Furthermore, these data suggest that a majority of US physicians are fully on-board with SDM despite data from the DECISIONS study and others like it suggesting SDM is by no means the norm in routine practice.

*Strengths and Limitations of This Study*

The limited nature of the single item self-reported measures presented here restrict our inferences. Regarding the substantive findings of the study, several questions persist. , It is unclear why physicians disagree with legislating SDM as a means of controlling health care costs when they are enthusiastic about it as a cost-containment measure. Do physicians resist infringement on their autonomy generally? Do they resist any potentially punitive regulatory measures? Do they fear "big brother" government intrusion? It is possible 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-centeredprimary objective. These data do not answer whether physicians resist legislating SDM, but only that they oppose such actions as a cost-containment strategy. Ascertaining 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 enthusiasm for "promoting better conversations with patients" as a means to promote cost-containment)* do not evoke a clear social desirability bias, that possibility cannot be excluded. This approach did not (and arguably could not accurately) assess actual behavior. The AMA Masterfile is the most comprehensive listing of US physicians, but relies on physician self-report for key practice characteristics. For instance, specialty data listed in the AMA Masterfile lists

self-reported specialty that is not verified with specialty boards. The estimates reported here may not fully reflect all US physician opinion.

*Conclusions and Policy Implications*

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

## ACKNOWLEDGEMENTS

All authors have completed the ICMJE uniform disclosure form at www.icmje.org/coi_disclosure.pdf and declare that they have no non-financial interests that may be relevant to the submitted work. This work was funded by a grant from the Faculty Scholars Program of the Greenwall Foundation, the Mayo Clinic Program in Professionalism and Ethics, and an Early Career Development Award from the Mayo Clinic Foundation. Dr. Hurst is funded by a grant from the Swiss National Science Foundation (PP00P3_123340). None of the funders had a role in the design and conduct of the study; collection, management, and interpretation of the data; and preparation, review or approval of the manuscript. All authors, external and internal, had full access to all the data (including statistical reports and tables) in the study and can take responsibility for the integrity of the data and the accuracy of the data analysis.

## 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. 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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## 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.

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

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

| | |
|---|---|

* 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).

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

| Survey Item | No. (%) |
|---|---|
| *Level of enthusiasm for "promoting better conversations with patients" as a means to promote cost-containment.(n = 2486)* | |
| Not enthusiastic | 80 (3) |
| Somewhat enthusiastic | 745 (30) |
| Very enthusiastic | 1661 (67) |
| *Decision support tools that show costs would be helpful in my practice.(n = 2461)* | |
| Strongly disagree | 251 (10) |
| Somewhat disagree | 487 (20) |
| Somewhat agree | 1240 (50) |
| Strongly agree | 483 (20) |
| *Promoting SDM should be legislated as a means of controlling health care costs.(n = 2435)* | |
| 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** |
| **Age (years)** | | 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) | |
| **Sex** | | <0.0001 | | 0.24 | | 0.19 |
| Male (n=1734) | 1097 (63) | | 1199 (70) | | 405 (24) | |
| Female (n=752) | 564 (75) | | 524 (70) | | 188 (26) | |
| **Region** | | 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) | |
| **Primary Specialty** | | 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) | |
| **Political Self-Characterization** | | <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)** |
| **Age (years)** | 1.0 (0.99 to 1.01) | | 1.0 (0.98 to 1.01) | 1.0 (0.99 to 1.02) | | 1.0 (0.99 to 1.02) | 0.98* (0.97 to 0.99) | | 0.98 (0.97 to 1.0) |
| **Sex** | | <0.0001 | | | 0.13 | | | <0.0001 | |
| Male | Ref | | Ref | Ref | | Ref | Ref | | Ref |
| Female | 1.7* (1.4 to 2.1) | | 1.7* (1.3 to 2.0) | 1.2 (1.0-1.5) | | 1.1 (0.9 to 1.4) | 1.1 (0.9 to 1.4) | | 1.0 (0.8 to 1.2) |
| **Region** | | 0.99 | | | 0.002 | | | 0.99 | |
| Midwest | Ref | | Ref | Ref | | Ref | Ref | | Ref |
| South | 1.0 (0.8 to 1.3) | | 1.0 (0.8 to 1.2) | 0.7* (0.5 to 0.9) | | 0.7* (0.5 to 0.9) | 1.0 (0.7 to 1.2) | | 0.9 (0.7 to 1.2) |
| West | 1.0 (0.8 to 1.3) | | 0.9 (0.7 to 1.1) | 1.0 (0.8 to 1.4) | | 0.9 (0.7 to 1.3) | 1.0 (0.8 to 1.4) | | 1.0 (0.8 to 1.3) |
| Northeast | 1.0 (0.8 to 1.3) | | 0.9 (0.7 to 1.2) | 0.7* (0.5 to 0.9) | | 0.6* (0.5 to 0.9) | 1.1 (0.9 to 1.5) | | 1.1 (0.8 to 1.5) |
| **Primary Specialty** | | 0.05 | | | 0.33 | | | 0.05 | |
| Primary Care | Ref | | Ref | Ref | | Ref | Ref | | Ref |
| Surgery | 0.7* (0.6 to 0.9) | | 0.9 (0.7 to 1.1) | 0.8 (0.6 to 1.1) | | 0.9 (0.7 to 1.2) | 0.7* (0.5 to 0.9) | | 0.7* (0.6 to 1.0) |
| Procedural Specialty | 0.9 (0.7 to 1.1) | | 1.0 (0.8 to 1.2) | 0.8 (0.6 to 1.0) | | 0.8 (0.6 to 1.1) | 1.1 (0.9 to 1.4) | | 1.2 (0.9 to 1.5) |
| Nonprocedural Specialty | 1.0 (0.8 to 1.3) | | 1.1 (0.8 to 1.4) | 0.8 (0.6 to 1.0) | | 0.8 (0.5 to 1.0) | 1.0 (0.8 to 1.4) | | 1.3 (0.8 to 1.4) |
| Non-Clinical | 0.7 (0.4 to 1.2) | | 0.6 (0.3 to 1.2) | 0.8 (0.3 to 1.7) | | 0.7 (0.3 to 1.7) | 1.2 (0.6 to 2.3) | | 1.3 (0.7 to 2.7) |
| Other | 0.7 (0.3 to 1.7) | | 0.7 (0.3 to 1.9) | 0.6 (0.2 to 2.2) | | 0.7 (0.2 to 2.3) | 1.0 (0.4 to 2.7) | | 1.0 (0.3 to 2.8) |
| **Political Self-Characterization** | | <0.0001 | | | <0.0001 | | | <0.0001 | |
| Very/Somewhat | Ref | | Ref | Ref | | Ref | Ref | | Ref |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Conservative | | | | | | | | | |
| Independent/ Moderate | 1.3* (1.1 to 1.6) | | 1.3* (1.1 to 1.6) | 1.2 (0.9 to 1.6) | | 1.2 (0.9 to 1.6) | 1.2 (0.9 to 1.5) | | 1.1 (0.9 to 1.4) |
| Very/Somewhat Liberal or Progressive | 1.8* (1.5 to 2.3) | | 1.7* (1.4 to 2.1) | 2.3* (1.8 to 2.9) | | 2.2* (1.7 to 2.9) | 1.3* (1.1 to 1.7) | | 1.3 (1.0 to 1.6) |
| **Practice Setting Type** | | 0.59 | | | 0.07 | | | 0.20 | |
| Small/solo | Ref | | Ref | Ref | | Ref | Ref | | Ref |
| Group/HMO | 1.1 (0.9 to 1.4) | | 1.1 (0.8 to 1.3) | 1.3 (1.0 to 1.7) | | 1.2 (0.9 to 1.7) | 1.0 (0.8 to 1.3) | | 0.9 (0.7 to 1.2) |
| City/state/federal government | 1.2 (0.9 to 1.7) | | 1.1 (0.8 to 1.5) | 1.4* (1.0 to 2.1) | | 1.4 (0.9 to 2.0) | 1.3 (1.0 to 1.8) | | 1.2 (0.8 to 1.7) |
| Medical school | 1.3 (0.7 to 2.4) | | 1.2 (0.6 to 2.2) | 1.4 (0.7 to 2.7) | | 1.2 (0.6 to 2.5) | 0.7 (0.4 to 1.5) | | 0.6 (0.2 to 1.2) |
| Other non-patient care | 1.5 (0.6 to 3.8) | | 1.1 (0.4 to 3.0) | 2.9* (1.2 to 7.2) | | 3.0* (1.2 to 7.8) | 0.7 (0.2 to 2.2) | | 0.7 (0.2 to 2.3) |
| **Practice Compensation Type** | | | | | 0.005 | | | 0.14 | |
| Billing only | Ref | 0.06 | Ref | Ref | | Ref | Ref | | Ref |
| Salary/Salary plus bonus | 1.2 (1.0 to 1.5) | | 1.2 (1.0 to 1.4) | 1.4* (1.1 to 1.7) | | 1.4* (1.1 to 1.7) | 1.2* (1.0 to 1.5) | | 1.2 (0.9 to 1.4) |
| Other | 1.1 (0.6 to 1.5) | | 1.1 (0.8 to 1.7) | 1.1 (0.7 to 1.8) | | 1.0 (0.6 to 1.6) | 1.1 (0.8 to 1.6) | | 1.0 (0.7 to 1.6) |
| **Major Barriers to Engaging Patients in SDM**[†] | | | | | | | | | |
| Patient Confusion | 1.0 (0.8 to 1.2) | 0.89 | 1.0 (0.9 to 1.2) | 1.0 (0.8 to 1.2) | 0.99 | 1.0 (0.8 to 1.3) | 1.0 (0.8 to 1.2) | 0.86 | 1.0 (0.8 to 1.2) |
| Lack of patient interest in playing an active role | 1.1 (0.9 to 1.3) | 0.50 | 1.1 (0.9 to 1.4) | 1.0 (0.8 to 1.2) | 0.80 | 1.0 (0.8 to 1.3) | 1.0 (0.8 to 1.2) | 0.88 | 1.0 (0.8 to 1.3) |
| Lack of adequate time with the patient | 1.3* (1.1 to 1.5) | 0.008 | 1.2 (1.0 to 1.4) | 1.2 (0.9 to 1.4) | 0.16 | 1.1 (0.9 to 1.4) | 1.1 (0.9 to 1.3) | 0.45 | 1.0 (0.9 to 1.3) |
| Administrative burdens | 1.0 (0.8 to 1.2) | 0.92 | 1.0 (0.9 to 1.3) | 1.2 (1.0 to 1.5) | 0.10 | 1.3* (1.0 to 1.6) | 1.4* (1.1 to 1.7) | 0.001 | 1.4* (1.1 to 1.7) |
| Inability to individualize risk | 0.9 (0.8 to 1.2) | 0.61 | 0.9 (0.8 to 1.2) | 1.2 (1.0 to 1.6) | 0.09 | 1.2 (0.9 to 1.6) | 1.5* (1.2 to 1.8) | 0.0007 | 1.5* (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* (1.5-2.9) | <0.0001 | 2.1* (1.4 to 3.0) | 1.5* (1.1 to 2.1) | 0.008 | 1.5* (1.1 to 2.1) | 2.1* (1.5 to 2.8) | <0.0001 | 2.0* (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.)

# 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.~~5~~4; 95% CI 1.~~3~~ 1 to 1.~~9~~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,[1] has been advanced as a way to promote respect for patients, encourage greater patient engagement in their care, and improve adherence and outcomes.[2] 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.[3-5] In addition, there is some evidence that using certain SDM tools like DAs can reduce utilization of discretionary procedures [6] and perhaps even reduce overall health care expenditures and utilization.[5-7]

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.[8] The Patient Protection and Affordable Care Act (ACA) introduced several provisions to promote the use of SDM[9] including CMS innovation initiatives aimed at testing SDM as a means of reducing discretionary procedures and lowering costs.[8] While general barriers to SDM in physician practice have been described,[10] 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

Physician Masterfile using the Tailored Design Method[11] including a $20 bill with the first mailing only. Second and third mailings were sent to non-responders at six-week intervals.

*Survey Instrument*

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

*Measures*

Three ~~Specific~~outcome measures ~~items~~ assessed respondents attitudes toward SDM and cost. First we assessed ~~in this manuscript include~~ respondents' level of enthusiasm (not, somewhat, very) for SDM as a ~~several potential~~ strategy~~ies~~ to reduce health care costs. W~~In this list w~~e operationalized that ~~o~~ idea ~~of SDM~~ in the phrase, "Promoting better conversations with patients" as a means of lowering health care costs. Second, w~~W~~e also asked respondents' degree of agreement with "Decision support tools that show costs would be helpful in my practice" (strongly disagree, moderately disagree, moderately agree, strongly agree); and

finally, we asked "Should promoting shared decision-making be legislated to control overall health care costs" (yes/no).

We examined physician demographics (age, sex, region, specialty type, and political self-characterization), practice characteristics (compensation type, predominant practice setting type), as well as~~and~~ perceived barriers to SDM drawn from the literature ("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] *patient confusion, inability to individualize risk, lack of patient interest in playing an active role, lack of supportive systems, lack of adequate time with the patient, administrative burdens, financial pressure to do better paying activities, other*) as important covariates.

*Analysis*

Using SAS 9.2 (Cary, NC), we calculated response distributions for all items related to SDM previously described. We performed bivariate and multivariate tests of association (i.e. unadjusted and adjusted logistic regression models) to examine associations between physician characteristics (sex, age, region of practice, specialty, practice setting type, compensation type, and political self-characterization) as well as attitudes about barriers to SDM (independent measures) and their views on each of the three dimensions of SDM as a cost-containment strategy (dependent measures) described above. The dependent measures assessing enthusiasm for "better conversations" as a cost-containment strategy and "Decision support tools that show costs would be helpful in my practice" were subsequently dichotomized for ease of presentation (very enthusiastic vs. all others and strongly agree vs. all others, respectively).

Variables included in multivariate logistic regression models were determined based upon those characteristics of physicians that we *a priori* hypothesized would be associated with our dependent variables (i.e. age, sex, region of practice, specialty type, and political self-characterization), as well as physician characteristics and survey items that were empirically

found in bivariate analyses to be significantly associated with our three dependent variables of interest (i.e. practice setting, practice compensation type, and perceived barriers to implementing SDM). Therefore, for each dependent variable, we first ran a "base model" containing only those variables for which we were adjusting (age, sex, region of practice, specialty type, and political self-characterization), and then subsequently conducted separate multivariable models testing the association between each individual characteristic/attitude and the dependent variable while controlling for age, sex, region of practice, specialty type, and political self-characterization.

~~The funding source had no role in the development, implementation, or analysis of data in this study.~~

## RESULTS

2556 physicians responded to the survey (65% response rate).[16] 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[17]. 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.

In separate multivariable models adjusted for age, sex, region, specialty and political self-characterization, respondents reporting salary/salary + bonus compensation compared with billing-only had a greater odds of strongly agreeing that decision support tools that show costs would be helpful in their practice (OR 1.~~5~~4; 95% CI 1.~~3~~ 1 to 1.~~9~~7). Respondents identifying themselves as "very or somewhat liberal or progressive" also had higher odds than those self-described as "very or somewhat conservative" of strongly agreeing that decision support tools that show cost would be helpful (ORs ~~1.7~~2.2; 95% CIs 1.~~3~~ 7 to 2.~~1~~9), as well as expressing strong enthusiasm for promoting better conversations with patients (OR 1.7; 95% CI 1.4 to 2.1). (Table 4)

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

with patientsadministrative burdens (OR 1.23; 95% CI 1.0 to 1.56) and financial pressureslack of supportive systems (OR 1. 45; 95% CI 1.0 1 to 2.11.8) as barriers to SDM also had significantly higher odds of strongly agreeing that decision support tools that showshowing 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,[18-22] 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,

patient-centered strategy for achieving higher quality care that may also~~to~~ 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[23] 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 making could vary depending on the decision faced, from those with high stakes (e.g., major surgery) to more routine circumstances (treatment for allergic rhinitis). In addition, physicians may misjudge patient confusion for lack of interest in playing an active role, or may exhibit recall bias when responding to items about barriers to SDM. Moreover, how questions about SDM are framed – in this and in other studies – could lead to discrepant results. Furthermore, these data suggest that a majority of US physicians are fully on-board with SDM despite data from the DECISIONS study and others like it suggesting SDM is by no means the norm in routine practice.

*Strengths and Limitations of This Study*

The limited nature of the single item self-reported measures presented here restrict our inferences. Regarding the substantive findings of the study, several questions persist. ~~In particular~~, ~~I~~it is unclear why physicians disagree with legislating SDM as a means of controlling health care costs when they are enthusiastic about it as a cost-containment measure. Do physicians resist infringement on their autonomy generally? Do they resist any potentially punitive regulatory measures? Do they fear "big brother" government intrusion? It is possible

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 and 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*

*enthusiasm for "promoting better conversations with patients" as a means to promote cost-containment)* do not evoke a clear social desirability bias, that possibility cannot be excluded. This approach did not (and ~~arguable~~ arguably could not accurately) assess actual behavior. The AMA Masterfile is the most comprehensive listing of US physicians, but relies on physician self-report for key practice characteristics. For instance, specialty data listed in the AMA Masterfile lists self-reported specialty that is not verified with specialty boards. The estimates ~~Furthermore, the descriptive statistics~~ reported here may not fully reflect all US physician opinion.

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*Conclusions and Policy Implications*

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

**ACKNOWLEDGEMENTS**

All authors have completed the ICMJE uniform disclosure form at www.icmje.org/coi_disclosure.pdf and declare that they have no non-financial interests that may be relevant to the submitted work. This work was funded by a grant from the Faculty Scholars Program of the Greenwall Foundation, the Mayo Clinic Program in Professionalism and Ethics, and an Early Career Development Award from the Mayo Clinic Foundation. Dr. Hurst is funded by a grant from the Swiss National Science Foundation (PP00P3_123340). None of the funders had a role in the design and conduct of the study; collection, management, and interpretation of the data; and preparation, review or approval of the manuscript. All authors, external and internal, had full access to all the data (including statistical reports and tables) in the study and can take responsibility for the integrity of the data and the accuracy of the data analysis.

**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.

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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.

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

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

| | |
|---|---|
| | |

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. (%) |
|---|---|
| *Level of enthusiasm for "promoting better conversations with patients" as a means to promote cost-containment.(n = 2486)* | |
| Not enthusiastic | 80 (3) |
| Somewhat enthusiastic | 745 (30) |
| Very enthusiastic | 1661 (67) |
| *Decision support tools that show costs would be helpful in my practice.(n = 2461)* | |
| Strongly disagree | 251 (10) |
| Somewhat disagree | 487 (20) |
| Somewhat agree | 1240 (50) |
| Strongly agree | 483 (20) |
| *Promoting SDM should be legislated as a means of controlling health care costs.(n = 2435)* | |
| Yes | 593 (24) |
| No | 1842 (76) |
| ~~*Which of the following is a major barrier to you more actively engaging patients in a process of shared decision-making?* (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** |
| **Age (years)** | | 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) | |
| **Sex** | | <0.0001 | | 0.24 | | 0.19 |
| Male (n=1734) | 1097 (63) | | 1199 (70) | | 405 (24) | |
| Female (n=752) | 564 (75) | | 524 (70) | | 188 (26) | |
| **Region** | | 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) | |
| **Primary Specialty** | | 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) | |
| **Political Self-Characterization** | | <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) |
| **Age (years)** | 1.0 (0.99 to 1.01) | | 1.0 (0.98 to 1.01) | 1.0 (0.99 to 1.02) | | 1.0 (0.99 to 1.02) | 0.98* (0.97 to 0.99) | | 0.98 (0.97 to 1.0) |
| **Sex** | | <0.0001 | | | 0.13 | | | <0.0001 | |
| Male | Ref | | Ref | Ref | | Ref | Ref | | Ref |
| Female | 1.7* (1.4 to 2.1) | | 1.7* (1.3 to 2.0) | 1.2 (1.0-1.5) | | 1.1 (0.9 to 1.4) | 1.1 (0.9 to 1.4) | | 1.0 (0.8 to 1.2) |
| **Region** | | 0.99 | | | 0.002 | | | 0.99 | |
| Midwest | Ref | | Ref | Ref | | Ref | Ref | | Ref |
| South | 1.0 (0.8 to 1.3) | | 1.0 (0.8 to 1.2) | 0.7* (0.5 to 0.9) | | 0.7* (0.5 to 0.9) | 1.0 (0.7 to 1.2) | | 0.9 (0.7 to 1.2) |
| West | 1.0 (0.8 to 1.3) | | 0.9 (0.7 to 1.1) | 1.0 (0.8 to 1.4) | | 0.9 (0.7 to 1.3) | 1.0 (0.8 to 1.4) | | 1.0 (0.8 to 1.3) |
| Northeast | 1.0 (0.8 to 1.3) | | 0.9 (0.7 to 1.2) | 0.7* (0.5 to 0.9) | | 0.6* (0.5 to 0.9) | 1.1 (0.9 to 1.5) | | 1.1 (0.8 to 1.5) |
| **Primary Specialty** | | 0.05 | | | 0.33 | | | 0.05 | |
| Primary Care | Ref | | Ref | Ref | | Ref | Ref | | Ref |
| Surgery | 0.7* (0.6 to 0.9) | | 0.9 (0.7 to 1.1) | 0.8 (0.6 to 1.1) | | 0.9 (0.7 to 1.2) | 0.7* (0.5 to 0.9) | | 0.7* (0.6 to 1.0) |
| Procedural Specialty | 0.9 (0.7 to 1.1) | | 1.0 (0.8 to 1.2) | 0.8 (0.6 to 1.0) | | 0.8 (0.6 to 1.1) | 1.1 (0.9 to 1.4) | | 1.2 (0.9 to 1.5) |
| Nonprocedural Specialty | 1.0 (0.8 to 1.3) | | 1.1 (0.8 to 1.4) | 0.8 (0.6 to 1.0) | | 0.8 (0.5 to 1.0) | 1.0 (0.8 to 1.4) | | 1.3 (0.8 to 1.4) |
| Non-Clinical | 0.7 (0.4 to 1.2) | | 0.6 (0.3 to 1.2) | 0.8 (0.3 to 1.7) | | 0.7 (0.3 to 1.7) | 1.2 (0.6 to 2.3) | | 1.3 (0.7 to 2.7) |
| Other | 0.7 (0.3 to 1.7) | | 0.7 (0.3 to 1.9) | 0.6 (0.2 to 2.2) | | 0.7 (0.2 to 2.3) | 1.0 (0.4 to 2.7) | | 1.0 (0.3 to 2.8) |
| **Political Self-Characterization** | | <0.0001 | | | <0.0001 | | | <0.0001 | |
| Very/Somewhat | Ref | | Ref | Ref | | Ref | Ref | | Ref |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Conservative | | | | | | | | | |
| Independent/ Moderate | 1.3* (1.1 to 1.6) | | 1.3* (1.1 to 1.6) | 1.2 (0.9 to 1.6) | | 1.2 (0.9 to 1.6) | 1.2 (0.9 to 1.5) | | 1.1 (0.9 to 1.4) |
| Very/Somewhat Liberal or Progressive | 1.8* (1.5 to 2.3) | | 1.7* (1.4 to 2.1) | 2.3* (1.8 to 2.9) | | 2.2* (1.7 to 2.9) | 1.3* (1.1 to 1.7) | | 1.3 (1.0 to 1.6) |
| **Practice Setting Type** | | 0.59 | | | 0.07 | | | 0.20 | |
| Small/solo | Ref | | Ref | Ref | | Ref | Ref | | Ref |
| Group/HMO | 1.1 (0.9 to 1.4) | | 1.1 (0.8 to 1.3) | 1.3 (1.0 to 1.7) | | 1.2 (0.9 to 1.7) | 1.0 (0.8 to 1.3) | | 0.9 (0.7 to 1.2) |
| City/state/federal government | 1.2 (0.9 to 1.7) | | 1.1 (0.8 to 1.5) | 1.4* (1.0 to 2.1) | | 1.4 (0.9 to 2.0) | 1.3 (1.0 to 1.8) | | 1.2 (0.8 to 1.7) |
| Medical school | 1.3 (0.7 to 2.4) | | 1.2 (0.6 to 2.2) | 1.4 (0.7 to 2.7) | | 1.2 (0.6 to 2.5) | 0.7 (0.4 to 1.5) | | 0.6 (0.2 to 1.2) |
| Other non-patient care | 1.5 (0.6 to 3.8) | | 1.1 (0.4 to 3.0) | 2.9* (1.2 to 7.2) | | 3.0* (1.2 to 7.8) | 0.7 (0.2 to 2.2) | | 0.7 (0.2 to 2.3) |
| **Practice Compensation Type** | | | | | 0.005 | | | 0.14 | |
| Billing only | Ref | 0.06 | Ref | Ref | | Ref | Ref | | Ref |
| Salary/Salary plus bonus | 1.2 (1.0 to 1.5) | | 1.2 (1.0 to 1.4) | 1.4* (1.1 to 1.7) | | 1.4* (1.1 to 1.7) | 1.2* (1.0 to 1.5) | | 1.2 (0.9 to 1.4) |
| Other | 1.1 (0.6 to 1.5) | | 1.1 (0.8 to 1.7) | 1.1 (0.7 to 1.8) | | 1.0 (0.6 to 1.6) | 1.1 (0.8 to 1.6) | | 1.0 (0.7 to 1.6) |
| **Major Barriers to Engaging Patients in SDM**† | | | | | | | | | |
| Patient Confusion | 1.0 (0.8 to 1.2) | 0.89 | 1.0 (0.9 to 1.2) | 1.0 (0.8 to 1.2) | 0.99 | 1.0 (0.8 to 1.3) | 1.0 (0.8 to 1.2) | 0.86 | 1.0 (0.8 to 1.2) |
| Lack of patient interest in playing an active role | 1.1 (0.9 to 1.3) | 0.50 | 1.1 (0.9 to 1.4) | 1.0 (0.8 to 1.2) | 0.80 | 1.0 (0.8 to 1.3) | 1.0 (0.8 to 1.2) | 0.88 | 1.0 (0.8 to 1.3) |
| Lack of adequate time with the patient | 1.3* (1.1 to 1.5) | 0.008 | 1.2 (1.0 to 1.4) | 1.2 (0.9 to 1.4) | 0.16 | 1.1 (0.9 to 1.4) | 1.1 (0.9 to 1.3) | 0.45 | 1.0 (0.9 to 1.3) |
| Administrative burdens | 1.0 (0.8 to 1.2) | 0.92 | 1.0 (0.9 to 1.3) | 1.2 (1.0 to 1.5) | 0.10 | 1.3* (1.0 to 1.6) | 1.4* (1.1 to 1.7) | 0.001 | 1.4* (1.1 to 1.7) |
| Inability to individualize risk | 0.9 (0.8 to 1.2) | 0.61 | 0.9 (0.8 to 1.2) | 1.2 (1.0 to 1.6) | 0.09 | 1.2 (0.9 to 1.6) | 1.5* (1.2 to 1.8) | 0.0007 | 1.5* (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* (1.5-2.9) | <0.0001 | 2.1* (1.4 to 3.0) | 1.5* (1.1 to 2.1) | 0.008 | 1.5* (1.1 to 2.1) | 2.1* (1.5 to 2.8) | <0.0001 | 2.0* (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

Coding Check:

Include:

# Physicians, Health Care Costs, and Society

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)

5
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?**

6
1 ☐ Yes
2 ☐ No

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

7
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."

8
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?**

9-10
0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐
No fatigue — 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.**

11
- 1 ☐ Strongly disagree
- 2 ☐ Moderately disagree
- 3 ☐ Moderately agree
- 4 ☐ Strongly agree

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

12
- 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?**

13
- 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 |
|---|---|---|---|---|---|---|
| 14 **Lab tests** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 15 **Routine X-ray** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 16 **MRI** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 17 **Screening test** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 18 **Referral to a specialist** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 19 **Referral to an ICU** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 20 **Prescription drugs** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 21 **Referral for surgery** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 22 **Referral for dialysis** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 23 **Hospital admission** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |

## 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.**

24
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.**

25
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.**

26
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 responsibility | Some responsibility | Major responsibility |
|---|---|---|---|
| 27 **Government** | 0 ☐ | 1 ☐ | 2 ☐ |
| 28 **Health insurance companies** | 0 ☐ | 1 ☐ | 2 ☐ |
| 29 **Patients** | 0 ☐ | 1 ☐ | 2 ☐ |
| 30 **Physician professional societies** | 0 ☐ | 1 ☐ | 2 ☐ |
| 31 **Individual practicing physicians** | 0 ☐ | 1 ☐ | 2 ☐ |
| 32 **Hospitals and health systems** | 0 ☐ | 1 ☐ | 2 ☐ |
| 33 **Employers** | 0 ☐ | 1 ☐ | 2 ☐ |
| 34 **Pharmaceutical and device manufacturers** | 0 ☐ | 1 ☐ | 2 ☐ |
| 35 **Trial lawyers** | 0 ☐ | 1 ☐ | 2 ☐ |

## 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

## 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 enthusiastic | Somewhat enthusiastic | Very enthusiastic |
|---|---|---|---|---|
| 56 | Expanding access to free preventive care | 0 ☐ | 1 ☐ | 2 ☐ |
| 57 | Promoting head-to-head trials of competing treatments | 0 ☐ | 1 ☐ | 2 ☐ |
| 58 | Paying a network of practices a fixed, "bundled" price for managing all care for a defined population | 0 ☐ | 1 ☐ | 2 ☐ |
| 59 | Expanding electronic health records | 0 ☐ | 1 ☐ | 2 ☐ |
| 60 | Allowing Medicare payment cuts to doctors to take effect | 0 ☐ | 1 ☐ | 2 ☐ |
| 61 | Rooting out fraud and abuse | 0 ☐ | 1 ☐ | 2 ☐ |
| 62 | Eliminating fee-for-service payment models | 0 ☐ | 1 ☐ | 2 ☐ |
| 63 | Penalizing providers for avoidable readmissions | 0 ☐ | 1 ☐ | 2 ☐ |
| 64 | Expanding access to quality and safety data | 0 ☐ | 1 ☐ | 2 ☐ |
| 65 | Promoting better conversations with patients | 0 ☐ | 1 ☐ | 2 ☐ |
| 66 | High deductible health plans | 0 ☐ | 1 ☐ | 2 ☐ |
| 67 | Higher patient co-pays | 0 ☐ | 1 ☐ | 2 ☐ |
| 68 | Promoting continuity of care | 0 ☐ | 1 ☐ | 2 ☐ |
| 69 | Limiting corporate influence on physician behavior | 0 ☐ | 1 ☐ | 2 ☐ |
| 70 | Reducing compensation for the highest-paid specialties | 0 ☐ | 1 ☐ | 2 ☐ |
| 71 | Limiting access to expensive treatments with little net benefit | 0 ☐ | 1 ☐ | 2 ☐ |
| 72 | Promoting chronic disease care coordination | 0 ☐ | 1 ☐ | 2 ☐ |
| 73 | Using cost-effectiveness data to determine available treatments | 0 ☐ | 1 ☐ | 2 ☐ |

**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 |
|---|---|---|---|---|---|
| 78 | I am aware of the costs of the tests/treatments I recommend | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 79 | I try not to think about the cost to the health care system when making treatment decisions | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 80 | I should sometimes deny beneficial but costly services to certain patients because resources should go to other patients that need them more | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 81 | I should be solely devoted to my individual patients' bests interests, even if that is expensive | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 82 | The cost of a test or medication is only important if the patient has to pay for it out of pocket | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 83 | Doctors are too busy to worry about costs of tests and procedures | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 84 | Cost to society is important in my decisions to use or not to use an intervention | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 85 | Physicians should adhere to clinical guidelines that discourage the use of interventions that have a small proven advantage over standard interventions but cost much more | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 86 | It is my responsibility to promote cost consciousness in my daily care of patients | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 87 | Trying to contain costs is the responsibility of every physician | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 88 | There is currently too much emphasis on costs of tests and procedures | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 89 | Doctors need to take a more prominent role in limiting use of unnecessary tests | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 90 | It is unfair to ask physicians to be cost-conscious and still keep the welfare of their patients foremost in their minds | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |

## 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?**

| | WHETHER OR NOT SOMEONE... | Not at all relevant | Not very relevant | Slightly relevant | Somewhat relevant | Very relevant | Extremely relevant |
|---|---|---|---|---|---|---|---|
| 91 | Suffered emotionally | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 92 | Was treated differently than others | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 93 | Violates standards of purity and decency | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 94 | Is good at math | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 95 | Cared for someone weak or vulnerable | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 96 | Acts unfairly | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 97 | Does something disgusting | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |

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

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

## MORE ABOUT YOU

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

105
- 1 ☐ Very dissatisfied
- 2 ☐ Somewhat dissatisfied
- 3 ☐ Satisfied
- 4 ☐ Very satisfied

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

106
- 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?**

107
- 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?**

108
- 1 ☐ Yes
- 2 ☐ No

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

109
- 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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BMJ open

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



| | |
|---|---|
| Journal: | *BMJ Open* |
| Manuscript ID: | bmjopen-2013-004027.R2 |
| Article Type: | Research |
| Date Submitted by the Author: | 04-Dec-2013 |
| Complete List of Authors: | Tilburt, Jon; Mayo Clinic,<br>Wynia, Matthew; American Medical Association, Institute for Ethics<br>Montori, Victor; Mayo Clinic, Knowledge and Encounter Research Unit<br>Thorsteinsdottir, Bjorg; Mayo Clinic,<br>Egginton, Jason; Mayo Clinic,<br>Sheeler, Robert; Mayo Clinic,<br>Liebow, Mark; Mayo Clinic,<br>James, Katherine; Mayo Clinic,<br>Goold, Susan; University of Michigan, |
| Primary Subject Heading: | Health policy |
| Secondary Subject Heading: | Patient-centred medicine, Ethics |
| Keywords: | Health policy < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Quality in health care < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, MEDICAL ETHICS |
| | |

# 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

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,[1] has been advanced as a way to promote respect for patients, encourage greater patient engagement in their care, and improve adherence and outcomes.[2] 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.[3-5] In addition, there is some evidence that using certain SDM tools like DAs can reduce utilization of discretionary procedures [6] and perhaps even reduce overall health care expenditures and utilization.[5-7]

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.[8] The Patient Protection and Affordable Care Act (ACA) introduced several provisions to promote the use of SDM[9] including CMS innovation initiatives aimed at testing SDM as a means of reducing discretionary procedures and lowering costs.[8] While general barriers to SDM in physician practice have been described,[10] 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

Physician Masterfile using the Tailored Design Method[11] including a $20 bill with the first mailing only. Second and third mailings were sent to non-responders at six-week intervals.

*Survey Instrument*

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

*Measures*

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

We examined physician demographics (age, sex, region, specialty type, and political self-characterization), practice characteristics (compensation type, predominant practice setting

type), as well as perceived barriers to SDM drawn from the literature ("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] *patient confusion, inability to individualize risk, lack of patient interest in playing an active role, lack of supportive systems, lack of adequate time with the patient, administrative burdens, financial pressure to do better paying activities, other*) as important covariates of their receptivity to SDM being used as a cost-containment strategy.

*Analysis*

Using SAS 9.2 (Cary, NC), we calculated response distributions for all items related to SDM previously described. We performed bivariate and multivariate tests of association (i.e. unadjusted and adjusted logistic regression models) to examine associations between physician characteristics (sex, age, region of practice, specialty, practice setting type, compensation type, and political self-characterization) as well as attitudes about barriers to SDM (independent measures) and their views on each of the three dimensions of SDM as a cost-containment strategy (dependent measures) described above. The dependent measures assessing enthusiasm for "better conversations" as a cost-containment strategy and "Decision support tools that show costs would be helpful in my practice" were subsequently dichotomized for ease of presentation (very enthusiastic vs. all others and strongly agree vs. all others, respectively). Variables included in multivariate logistic regression models were determined based upon those characteristics of physicians that we *a priori* hypothesized would be associated with our dependent variables (i.e. age, sex, region of practice, specialty type, and political self-characterization), as well as physician characteristics and survey items that were empirically found in bivariate analyses to be significantly associated with our three dependent variables of interest (i.e. practice setting, practice compensation type, and perceived barriers to implementing SDM). Therefore, for each dependent variable, we first ran a "base model" containing only those variables for which we were adjusting (age, sex, region of practice,

specialty type, and political self-characterization), and then subsequently conducted separate multivariable models testing the association between each individual characteristic/attitude and the dependent variable while controlling for age, sex, region of practice, specialty type, and political self-characterization.

## RESULTS

2556 physicians responded to the survey (65% response rate).[16] 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[17]. 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 to shared decision making" are summarized in Table 1.

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.

In separate multivariable models adjusted for age, sex, region, specialty and political self-characterization, respondents reporting salary/salary + bonus compensation compared with billing-only had a greater odds of strongly agreeing that decision support tools that show costs would be helpful in their practice (OR 1.4; 95% CI 1.1 to 1.7). Respondents identifying themselves as "very or somewhat liberal or progressive" also had higher odds than those self-described as "very or somewhat conservative" of strongly agreeing that decision support tools that show cost would be helpful (ORs 2.2; 95% CIs 1.7 to 2.9), as well as expressing strong enthusiasm for promoting better conversations with patients (OR 1.7; 95% CI 1.4 to 2.1). (Table 4)

Several perceived barriers to shared decision making were independently associated with respondents' enthusiasm about promoting better conversations with patients as a cost-containment strategy, whether decision support tools showing costs would be helpful, and whether SDM should be legislated to control health care costs. In logistic regression models adjusted for sex, age, region, specialty, and political self-characterization, those who selected "lack of supportive systems" as a perceived barrier to SDM had twice the odds (OR 2.1; 95% CI 1.4 to 3.0) as others to be very enthusiastic about promoting better conversations with patients as a means of reducing health care costs. Respondents who perceived administrative burdens (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 barriers to SDM also had significantly higher odds of strongly agreeing that decision support tools 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,[18-22] 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[23] 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 making could vary depending on the decision faced, from those with high stakes (e.g., major surgery) to more routine circumstances (treatment for allergic rhinitis). In addition, physicians may misjudge patient confusion for lack of interest in playing an active role, or may exhibit recall bias when responding to items about barriers to SDM. Moreover, how questions about SDM are framed – in this and in other studies – could lead to discrepant results. Furthermore, these data suggest that a majority of US physicians are fully on-board with SDM despite data from the DECISIONS study and others like it suggesting SDM is by no means the norm in routine practice.

*Strengths and Limitations of This Study*

The limited nature of the single item self-reported measures presented here restrict our inferences. Regarding the substantive findings of the study, several questions persist. , It is unclear why physicians disagree with legislating SDM as a means of controlling health care costs when they are enthusiastic about it as a cost-containment measure. Do physicians resist infringement on their autonomy generally? Do they resist any potentially punitive regulatory measures? Do they fear “big brother” government intrusion? It is possible 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. These data do not answer whether physicians resist legislating SDM, but only that they oppose such actions as a cost-containment strategy. Ascertaining 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. And while self-reported barriers to SDM were not the focus of this survey, we thought it was important to include them as potential key covariates for respondents' judgments about SDM as a cost-containment strategy. For instance, those who feel their work environment is not supportive of SDM may find legislating it the only viable option for change.

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 enthusiasm for "promoting better conversations with patients" as a means to promote cost-containment)* do not evoke a clear social desirability bias, that possibility cannot be excluded. This approach did not (and arguably could not accurately) assess actual behavior. The AMA Masterfile is the most comprehensive listing of US physicians, but relies on physician self-report for key practice characteristics. For instance, specialty data listed in the AMA Masterfile lists

self-reported specialty that is not verified with specialty boards. The estimates reported here may not fully reflect all US physician opinion.

*Conclusions and Policy Implications*

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

## ACKNOWLEDGEMENTS

All authors have completed the ICMJE uniform disclosure form at www.icmje.org/coi_disclosure.pdf and declare that they have no non-financial interests that may be relevant to the submitted work. This work was funded by a grant from the Faculty Scholars Program of the Greenwall Foundation, the Mayo Clinic Program in Professionalism and Ethics, and an Early Career Development Award from the Mayo Clinic Foundation. Dr. Hurst is funded by a grant from the Swiss National Science Foundation (PP00P3_123340). None of the funders had a role in the design and conduct of the study; collection, management, and interpretation of the data; and preparation, review or approval of the manuscript. All authors, external and internal, had full access to all the data (including statistical reports and tables) in the study and can take responsibility for the integrity of the data and the accuracy of the data analysis.

## Contributorship:

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.

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 and declare that they have no non-financial interests that may be relevant to the submitted work.

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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.

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

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

| | |
|---|---|

* 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).

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

| Survey Item | No. (%) |
|---|---|
| *Level of enthusiasm for "promoting better conversations with patients" as a means to promote cost-containment.(n = 2486)* | |
| Not enthusiastic | 80 (3) |
| Somewhat enthusiastic | 745 (30) |
| Very enthusiastic | 1661 (67) |
| *Decision support tools that show costs would be helpful in my practice.(n = 2461)* | |
| Strongly disagree | 251 (10) |
| Somewhat disagree | 487 (20) |
| Somewhat agree | 1240 (50) |
| Strongly agree | 483 (20) |
| *Promoting SDM should be legislated as a means of controlling health care costs.(n = 2435)* | |
| 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** |
| **Age (years)** | | 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) | |
| **Sex** | | <0.0001 | | 0.24 | | 0.19 |
| Male (n=1734) | 1097 (63) | | 1199 (70) | | 405 (24) | |
| Female (n=752) | 564 (75) | | 524 (70) | | 188 (26) | |
| **Region** | | 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) | |
| **Primary Specialty** | | 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) | |
| **Political Self-Characterization** | | <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) |
| **Age (years)** | 1.0 (0.99 to 1.01) | | 1.0 (0.98 to 1.01) | 1.0 (0.99 to 1.02) | | 1.0 (0.99 to 1.02) | 0.98* (0.97 to 0.99) | | 0.98 (0.97 to 1.0) |
| **Sex** | | <0.0001 | | | 0.13 | | | <0.0001 | |
| Male | Ref | | Ref | Ref | | Ref | Ref | | Ref |
| Female | 1.7* (1.4 to 2.1) | | 1.7* (1.3 to 2.0) | 1.2 (1.0-1.5) | | 1.1 (0.9 to 1.4) | 1.1 (0.9 to 1.4) | | 1.0 (0.8 to 1.2) |
| **Region** | | 0.99 | | | 0.002 | | | 0.99 | |
| Midwest | Ref | | Ref | Ref | | Ref | Ref | | Ref |
| South | 1.0 (0.8 to 1.3) | | 1.0 (0.8 to 1.2) | 0.7* (0.5 to 0.9) | | 0.7* (0.5 to 0.9) | 1.0 (0.7 to 1.2) | | 0.9 (0.7 to 1.2) |
| West | 1.0 (0.8 to 1.3) | | 0.9 (0.7 to 1.1) | 1.0 (0.8 to 1.4) | | 0.9 (0.7 to 1.3) | 1.0 (0.8 to 1.4) | | 1.0 (0.8 to 1.3) |
| Northeast | 1.0 (0.8 to 1.3) | | 0.9 (0.7 to 1.2) | 0.7* (0.5 to 0.9) | | 0.6* (0.5 to 0.9) | 1.1 (0.9 to 1.5) | | 1.1 (0.8 to 1.5) |
| **Primary Specialty** | | 0.05 | | | 0.33 | | | 0.05 | |
| Primary Care | Ref | | Ref | Ref | | Ref | Ref | | Ref |
| Surgery | 0.7* (0.6 to 0.9) | | 0.9 (0.7 to 1.1) | 0.8 (0.6 to 1.1) | | 0.9 (0.7 to 1.2) | 0.7* (0.5 to 0.9) | | 0.7* (0.6 to 1.0) |
| Procedural Specialty | 0.9 (0.7 to 1.1) | | 1.0 (0.8 to 1.2) | 0.8 (0.6 to 1.0) | | 0.8 (0.6 to 1.1) | 1.1 (0.9 to 1.4) | | 1.2 (0.9 to 1.5) |
| Nonprocedural Specialty | 1.0 (0.8 to 1.3) | | 1.1 (0.8 to 1.4) | 0.8 (0.6 to 1.0) | | 0.8 (0.5 to 1.0) | 1.0 (0.8 to 1.4) | | 1.3 (0.8 to 1.4) |
| Non-Clinical | 0.7 (0.4 to 1.2) | | 0.6 (0.3 to 1.2) | 0.8 (0.3 to 1.7) | | 0.7 (0.3 to 1.7) | 1.2 (0.6 to 2.3) | | 1.3 (0.7 to 2.7) |
| Other | 0.7 (0.3 to 1.7) | | 0.7 (0.3 to 1.9) | 0.6 (0.2 to 2.2) | | 0.7 (0.2 to 2.3) | 1.0 (0.4 to 2.7) | | 1.0 (0.3 to 2.8) |
| **Political Self-Characterization** | | <0.0001 | | | <0.0001 | | | <0.0001 | |
| Very/Somewhat | Ref | | Ref | Ref | | Ref | Ref | | Ref |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Conservative | | | | | | | | | |
| Independent/ Moderate | 1.3* (1.1 to 1.6) | | 1.3* (1.1 to 1.6) | 1.2 (0.9 to 1.6) | | 1.2 (0.9 to 1.6) | 1.2 (0.9 to 1.5) | | 1.1 (0.9 to 1.4) |
| Very/Somewhat Liberal or Progressive | 1.8* (1.5 to 2.3) | | 1.7* (1.4 to 2.1) | 2.3* (1.8 to 2.9) | | 2.2* (1.7 to 2.9) | 1.3* (1.1 to 1.7) | | 1.3 (1.0 to 1.6) |
| **Practice Setting Type** | | 0.59 | | | 0.07 | | | 0.20 | |
| Small/solo | Ref | | Ref | Ref | | Ref | Ref | | Ref |
| Group/HMO | 1.1 (0.9 to 1.4) | | 1.1 (0.8 to 1.3) | 1.3 (1.0 to 1.7) | | 1.2 (0.9 to 1.7) | 1.0 (0.8 to 1.3) | | 0.9 (0.7 to 1.2) |
| City/state/federal government | 1.2 (0.9 to 1.7) | | 1.1 (0.8 to 1.5) | 1.4* (1.0 to 2.1) | | 1.4 (0.9 to 2.0) | 1.3 (1.0 to 1.8) | | 1.2 (0.8 to 1.7) |
| Medical school | 1.3 (0.7 to 2.4) | | 1.2 (0.6 to 2.2) | 1.4 (0.7 to 2.7) | | 1.2 (0.6 to 2.5) | 0.7 (0.4 to 1.5) | | 0.6 (0.2 to 1.2) |
| Other non-patient care | 1.5 (0.6 to 3.8) | | 1.1 (0.4 to 3.0) | 2.9* (1.2 to 7.2) | | 3.0* (1.2 to 7.8) | 0.7 (0.2 to 2.2) | | 0.7 (0.2 to 2.3) |
| **Practice Compensation Type** | | | | | 0.005 | | | 0.14 | |
| Billing only | Ref | 0.06 | Ref | Ref | | Ref | Ref | | Ref |
| Salary/Salary plus bonus | 1.2 (1.0 to 1.5) | | 1.2 (1.0 to 1.4) | 1.4* (1.1 to 1.7) | | 1.4* (1.1 to 1.7) | 1.2* (1.0 to 1.5) | | 1.2 (0.9 to 1.4) |
| Other | 1.1 (0.6 to 1.5) | | 1.1 (0.8 to 1.7) | 1.1 (0.7 to 1.8) | | 1.0 (0.6 to 1.6) | 1.1 (0.8 to 1.6) | | 1.0 (0.7 to 1.6) |
| **Major Barriers to Engaging Patients in SDM**[†] | | | | | | | | | |
| Patient Confusion | 1.0 (0.8 to 1.2) | 0.89 | 1.0 (0.9 to 1.2) | 1.0 (0.8 to 1.2) | 0.99 | 1.0 (0.8 to 1.3) | 1.0 (0.8 to 1.2) | 0.86 | 1.0 (0.8 to 1.2) |
| Lack of patient interest in playing an active role | 1.1 (0.9 to 1.3) | 0.50 | 1.1 (0.9 to 1.4) | 1.0 (0.8 to 1.2) | 0.80 | 1.0 (0.8 to 1.3) | 1.0 (0.8 to 1.2) | 0.88 | 1.0 (0.8 to 1.3) |
| Lack of adequate time with the patient | 1.3* (1.1 to 1.5) | 0.008 | 1.2 (1.0 to 1.4) | 1.2 (0.9 to 1.4) | 0.16 | 1.1 (0.9 to 1.4) | 1.1 (0.9 to 1.3) | 0.45 | 1.0 (0.9 to 1.3) |
| Administrative burdens | 1.0 (0.8 to 1.2) | 0.92 | 1.0 (0.9 to 1.3) | 1.2 (1.0 to 1.5) | 0.10 | 1.3* (1.0 to 1.6) | 1.4* (1.1 to 1.7) | 0.001 | 1.4* (1.1 to 1.7) |
| Inability to individualize risk | 0.9 (0.8 to 1.2) | 0.61 | 0.9 (0.8 to 1.2) | 1.2 (1.0 to 1.6) | 0.09 | 1.2 (0.9 to 1.6) | 1.5* (1.2 to 1.8) | 0.0007 | 1.5* (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* (1.5-2.9) | <0.0001 | 2.1* (1.4 to 3.0) | 1.5* (1.1 to 2.1) | 0.008 | 1.5* (1.1 to 2.1) | 2.1* (1.5 to 2.8) | <0.0001 | 2.0* (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.)

# 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,[1] has been advanced as a way to promote respect for patients, encourage greater patient engagement in their care, and improve adherence and outcomes.[2] 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.[3-5] In addition, there is some evidence that using certain SDM tools like DAs can reduce utilization of discretionary procedures [6] and perhaps even reduce overall health care expenditures and utilization.[5-7]

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.[8] The Patient Protection and Affordable Care Act (ACA) introduced several provisions to promote the use of SDM[9] including CMS innovation initiatives aimed at testing SDM as a means of reducing discretionary procedures and lowering costs.[8] While general barriers to SDM in physician practice have been described,[10] 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

Physician Masterfile using the Tailored Design Method[11] including a $20 bill with the first mailing only. Second and third mailings were sent to non-responders at six-week intervals.

*Survey Instrument*

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

*Measures*

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

We examined physician demographics (age, sex, region, specialty type, and political self-characterization), practice characteristics (compensation type, predominant practice setting type), as well as perceived barriers to SDM drawn from the literature ("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] *patient confusion, inability to individualize risk, lack of patient interest in playing an active role, lack of supportive systems, lack of adequate time with the patient, administrative burdens, financial pressure to do better paying activities, other*) as important covariates of their receptivity to SDM being used as a cost-containment strategy.

*Analysis*

Using SAS 9.2 (Cary, NC), we calculated response distributions for all items related to SDM previously described. We performed bivariate and multivariate tests of association (i.e. unadjusted and adjusted logistic regression models) to examine associations between physician characteristics (sex, age, region of practice, specialty, practice setting type, compensation type, and political self-characterization) as well as attitudes about barriers to SDM (independent measures) and their views on each of the three dimensions of SDM as a cost-containment strategy (dependent measures) described above. The dependent measures assessing enthusiasm for "better conversations" as a cost-containment strategy and "Decision support tools that show costs would be helpful in my practice" were subsequently dichotomized for ease of presentation (very enthusiastic vs. all others and strongly agree vs. all others, respectively). Variables included in multivariate logistic regression models were determined based upon those characteristics of physicians that we *a priori* hypothesized would be associated with our dependent variables (i.e. age, sex, region of practice, specialty type, and political self-characterization), as well as physician characteristics and survey items that were empirically found in bivariate analyses to be significantly associated with our three dependent variables of interest (i.e. practice setting, practice compensation type, and perceived barriers to

implementing SDM). Therefore, for each dependent variable, we first ran a "base model" containing only those variables for which we were adjusting (age, sex, region of practice, specialty type, and political self-characterization), and then subsequently conducted separate multivariable models testing the association between each individual characteristic/attitude and the dependent variable while controlling for age, sex, region of practice, specialty type, and political self-characterization.

## RESULTS

2556 physicians responded to the survey (65% response rate).[16] 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[17]. 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 to ~~cited to "actively engaging patients in a process of~~ "shared decision making" are summarized in Table 1. ~~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.

In separate multivariable models adjusted for age, sex, region, specialty and political self-characterization, respondents reporting salary/salary + bonus compensation compared with billing-only had a greater odds of strongly agreeing that decision support tools that show costs would be helpful in their practice (OR 1.4; 95% CI 1.1 to 1.7). Respondents identifying themselves as "very or somewhat liberal or progressive" also had higher odds than those self-described as "very or somewhat conservative" of strongly agreeing that decision support tools that show cost would be helpful (ORs 2.2; 95% CIs 1.7 to 2.9), as well as expressing strong enthusiasm for promoting better conversations with patients (OR 1.7; 95% CI 1.4 to 2.1). (Table 4)

Several perceived barriers to shared decision making were independently associated with respondents' enthusiasm about promoting better conversations with patients as a cost-containment strategy, whether decision support tools showing costs would be helpful, and whether SDM should be legislated to control health care costs. In logistic regression models adjusted for sex, age, region, specialty, and political self-characterization, those who selected "lack of supportive systems" as a perceived barrier to SDM had twice the odds (OR 2.1; 95% CI 1.4 to 3.0) as others to be very enthusiastic about promoting better conversations with patients as a means of reducing health care costs. Respondents who perceived administrative burdens (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 barriers to SDM also had significantly higher odds of strongly agreeing that decision support tools 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,[18-22] 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[23] 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 making could vary depending on the decision faced, from those with high stakes (e.g., major surgery) to more routine circumstances (treatment for allergic rhinitis). In addition, physicians may misjudge patient confusion for lack of interest in playing an active role, or may exhibit recall bias when responding to items about barriers to SDM. Moreover, how questions about SDM are framed – in this and in other studies – could lead to discrepant results. Furthermore, these data suggest that a majority of US physicians are fully on-board with SDM despite data from the DECISIONS study and others like it suggesting SDM is by no means the norm in routine practice.

*Strengths and Limitations of This Study*

The limited nature of the single item self-reported measures presented here restrict our inferences. Regarding the substantive findings of the study, several questions persist. , It is unclear why physicians disagree with legislating SDM as a means of controlling health care costs when they are enthusiastic about it as a cost-containment measure. Do physicians resist infringement on their autonomy generally? Do they resist any potentially punitive regulatory measures? Do they fear "big brother" government intrusion? It is possible 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. These data do not answer whether physicians resist legislating SDM, but only that they oppose such actions as a cost-containment strategy. Ascertaining 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. And while self-reported barriers to SDM were not the focus of this survey, we thought it was important to include them as potential key covariates for respondents' judgments about SDM as a cost-containment strategy. For instance, those who feel their work environment is not supportive of SDM may find legislating it the only viable option for change.

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

This approach did not (and arguably could not accurately) assess actual behavior. The AMA Masterfile is the most comprehensive listing of US physicians, but relies on physician self-report for key practice characteristics. For instance, specialty data listed in the AMA Masterfile lists self-reported specialty that is not verified with specialty boards. The estimates reported here may not fully reflect all US physician opinion.

*Conclusions and Policy Implications*

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

## ACKNOWLEDGEMENTS

All authors have completed the ICMJE uniform disclosure form at www.icmje.org/coi_disclosure.pdf and declare that they have no non-financial interests that may be relevant to the submitted work. This work was funded by a grant from the Faculty Scholars Program of the Greenwall Foundation, the Mayo Clinic Program in Professionalism and Ethics, and an Early Career Development Award from the Mayo Clinic Foundation. Dr. Hurst is funded by a grant from the Swiss National Science Foundation (PP00P3_123340). None of the funders had a role in the design and conduct of the study; collection, management, and interpretation of the data; and preparation, review or approval of the manuscript. All authors, external and internal, had full access to all the data (including statistical reports and tables) in the study and can take responsibility for the integrity of the data and the accuracy of the data analysis.

**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.

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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.

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

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

| | |
|---|---|

* 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).

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

| Survey Item | No. (%) |
|---|---|
| *Level of enthusiasm for "promoting better conversations with patients" as a means to promote cost-containment.(n = 2486)* | |
| Not enthusiastic | 80 (3) |
| Somewhat enthusiastic | 745 (30) |
| Very enthusiastic | 1661 (67) |
| *Decision support tools that show costs would be helpful in my practice.(n = 2461)* | |
| Strongly disagree | 251 (10) |
| Somewhat disagree | 487 (20) |
| Somewhat agree | 1240 (50) |
| Strongly agree | 483 (20) |
| *Promoting SDM should be legislated as a means of controlling health care costs.(n = 2435)* | |
| 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** |
| **Age (years)** | | 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) | |
| **Sex** | | <0.0001 | | 0.24 | | 0.19 |
| Male (n=1734) | 1097 (63) | | 1199 (70) | | 405 (24) | |
| Female (n=752) | 564 (75) | | 524 (70) | | 188 (26) | |
| **Region** | | 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) | |
| **Primary Specialty** | | 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) | |
| **Political Self-Characterization** | | <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)** |
| **Age (years)** | 1.0 (0.99 to 1.01) | | 1.0 (0.98 to 1.01) | 1.0 (0.99 to 1.02) | | 1.0 (0.99 to 1.02) | 0.98* (0.97 to 0.99) | | 0.98 (0.97 to 1.0) |
| **Sex** | | <0.0001 | | | 0.13 | | | <0.0001 | |
| Male | Ref | | Ref | Ref | | Ref | Ref | | Ref |
| Female | 1.7* (1.4 to 2.1) | | 1.7* (1.3 to 2.0) | 1.2 (1.0-1.5) | | 1.1 (0.9 to 1.4) | 1.1 (0.9 to 1.4) | | 1.0 (0.8 to 1.2) |
| **Region** | | 0.99 | | | 0.002 | | | 0.99 | |
| Midwest | Ref | | Ref | Ref | | Ref | Ref | | Ref |
| South | 1.0 (0.8 to 1.3) | | 1.0 (0.8 to 1.2) | 0.7* (0.5 to 0.9) | | 0.7* (0.5 to 0.9) | 1.0 (0.7 to 1.2) | | 0.9 (0.7 to 1.2) |
| West | 1.0 (0.8 to 1.3) | | 0.9 (0.7 to 1.1) | 1.0 (0.8 to 1.4) | | 0.9 (0.7 to 1.3) | 1.0 (0.8 to 1.4) | | 1.0 (0.8 to 1.3) |
| Northeast | 1.0 (0.8 to 1.3) | | 0.9 (0.7 to 1.2) | 0.7* (0.5 to 0.9) | | 0.6* (0.5 to 0.9) | 1.1 (0.9 to 1.5) | | 1.1 (0.8 to 1.5) |
| **Primary Specialty** | | 0.05 | | | 0.33 | | | 0.05 | |
| Primary Care | Ref | | Ref | Ref | | Ref | Ref | | Ref |
| Surgery | 0.7* (0.6 to 0.9) | | 0.9 (0.7 to 1.1) | 0.8 (0.6 to 1.1) | | 0.9 (0.7 to 1.2) | 0.7* (0.5 to 0.9) | | 0.7* (0.6 to 1.0) |
| Procedural Specialty | 0.9 (0.7 to 1.1) | | 1.0 (0.8 to 1.2) | 0.8 (0.6 to 1.0) | | 0.8 (0.6 to 1.1) | 1.1 (0.9 to 1.4) | | 1.2 (0.9 to 1.5) |
| Nonprocedural Specialty | 1.0 (0.8 to 1.3) | | 1.1 (0.8 to 1.4) | 0.8 (0.6 to 1.0) | | 0.8 (0.5 to 1.0) | 1.0 (0.8 to 1.4) | | 1.3 (0.8 to 1.4) |
| Non-Clinical | 0.7 (0.4 to 1.2) | | 0.6 (0.3 to 1.2) | 0.8 (0.3 to 1.7) | | 0.7 (0.3 to 1.7) | 1.2 (0.6 to 2.3) | | 1.3 (0.7 to 2.7) |
| Other | 0.7 (0.3 to 1.7) | | 0.7 (0.3 to 1.9) | 0.6 (0.2 to 2.2) | | 0.7 (0.2 to 2.3) | 1.0 (0.4 to 2.7) | | 1.0 (0.3 to 2.8) |
| **Political Self-Characterization** | | <0.0001 | | | <0.0001 | | | <0.0001 | |
| Very/Somewhat | Ref | | Ref | Ref | | Ref | Ref | | Ref |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Conservative | | | | | | | | | |
| Independent/ Moderate | 1.3* (1.1 to 1.6) | | 1.3* (1.1 to 1.6) | 1.2 (0.9 to 1.6) | | 1.2 (0.9 to 1.6) | 1.2 (0.9 to 1.5) | | 1.1 (0.9 to 1.4) |
| Very/Somewhat Liberal or Progressive | 1.8* (1.5 to 2.3) | | 1.7* (1.4 to 2.1) | 2.3* (1.8 to 2.9) | | 2.2* (1.7 to 2.9) | 1.3* (1.1 to 1.7) | | 1.3 (1.0 to 1.6) |
| **Practice Setting Type** | | 0.59 | | | 0.07 | | | 0.20 | |
| Small/solo | Ref | | Ref | Ref | | Ref | Ref | | Ref |
| Group/HMO | 1.1 (0.9 to 1.4) | | 1.1 (0.8 to 1.3) | 1.3 (1.0 to 1.7) | | 1.2 (0.9 to 1.7) | 1.0 (0.8 to 1.3) | | 0.9 (0.7 to 1.2) |
| City/state/federal government | 1.2 (0.9 to 1.7) | | 1.1 (0.8 to 1.5) | 1.4* (1.0 to 2.1) | | 1.4 (0.9 to 2.0) | 1.3 (1.0 to 1.8) | | 1.2 (0.8 to 1.7) |
| Medical school | 1.3 (0.7 to 2.4) | | 1.2 (0.6 to 2.2) | 1.4 (0.7 to 2.7) | | 1.2 (0.6 to 2.5) | 0.7 (0.4 to 1.5) | | 0.6 (0.2 to 1.2) |
| Other non-patient care | 1.5 (0.6 to 3.8) | | 1.1 (0.4 to 3.0) | 2.9* (1.2 to 7.2) | | 3.0* (1.2 to 7.8) | 0.7 (0.2 to 2.2) | | 0.7 (0.2 to 2.3) |
| **Practice Compensation Type** | | | | | 0.005 | | | 0.14 | |
| Billing only | Ref | 0.06 | Ref | Ref | | Ref | Ref | | Ref |
| Salary/Salary plus bonus | 1.2 (1.0 to 1.5) | | 1.2 (1.0 to 1.4) | 1.4* (1.1 to 1.7) | | 1.4* (1.1 to 1.7) | 1.2* (1.0 to 1.5) | | 1.2 (0.9 to 1.4) |
| Other | 1.1 (0.6 to 1.5) | | 1.1 (0.8 to 1.7) | 1.1 (0.7 to 1.8) | | 1.0 (0.6 to 1.6) | 1.1 (0.8 to 1.6) | | 1.0 (0.7 to 1.6) |
| **Major Barriers to Engaging Patients in SDM**[†] | | | | | | | | | |
| Patient Confusion | 1.0 (0.8 to 1.2) | 0.89 | 1.0 (0.9 to 1.2) | 1.0 (0.8 to 1.2) | 0.99 | 1.0 (0.8 to 1.3) | 1.0 (0.8 to 1.2) | 0.86 | 1.0 (0.8 to 1.2) |
| Lack of patient interest in playing an active role | 1.1 (0.9 to 1.3) | 0.50 | 1.1 (0.9 to 1.4) | 1.0 (0.8 to 1.2) | 0.80 | 1.0 (0.8 to 1.3) | 1.0 (0.8 to 1.2) | 0.88 | 1.0 (0.8 to 1.3) |
| Lack of adequate time with the patient | 1.3* (1.1 to 1.5) | 0.008 | 1.2 (1.0 to 1.4) | 1.2 (0.9 to 1.4) | 0.16 | 1.1 (0.9 to 1.4) | 1.1 (0.9 to 1.3) | 0.45 | 1.0 (0.9 to 1.3) |
| Administrative burdens | 1.0 (0.8 to 1.2) | 0.92 | 1.0 (0.9 to 1.3) | 1.2 (1.0 to 1.5) | 0.10 | 1.3* (1.0 to 1.6) | 1.4* (1.1 to 1.7) | 0.001 | 1.4* (1.1 to 1.7) |
| Inability to individualize risk | 0.9 (0.8 to 1.2) | 0.61 | 0.9 (0.8 to 1.2) | 1.2 (1.0 to 1.6) | 0.09 | 1.2 (0.9 to 1.6) | 1.5* (1.2 to 1.8) | 0.0007 | 1.5* (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* (1.5-2.9) | <0.0001 | 2.1* (1.4 to 3.0) | 1.5* (1.1 to 2.1) | 0.008 | 1.5* (1.1 to 2.1) | 2.1* (1.5 to 2.8) | <0.0001 | 2.0* (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

Coding Check:

Include:

# Physicians, Health Care Costs, and Society

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)

5
- 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?**

6
- 1 ☐ Yes
- 2 ☐ No

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

7
- 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."

8
- 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?**

9-10

0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐

0 = No fatigue; 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.**

11
- 1 ☐ Strongly disagree
- 2 ☐ Moderately disagree
- 3 ☐ Moderately agree
- 4 ☐ Strongly agree

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

12
- 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?**

13
- 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 |
|---|---|---|---|---|---|---|
| 14 **Lab tests** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 15 **Routine X-ray** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 16 **MRI** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 17 **Screening test** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 18 **Referral to a specialist** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 19 **Referral to an ICU** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 20 **Prescription drugs** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 21 **Referral for surgery** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 22 **Referral for dialysis** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 23 **Hospital admission** | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |

## 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 responsibility | Some responsibility | Major responsibility |
|---|---|---|---|
| **Government** | 0 ☐ | 1 ☐ | 2 ☐ |
| **Health insurance companies** | 0 ☐ | 1 ☐ | 2 ☐ |
| **Patients** | 0 ☐ | 1 ☐ | 2 ☐ |
| **Physician professional societies** | 0 ☐ | 1 ☐ | 2 ☐ |
| **Individual practicing physicians** | 0 ☐ | 1 ☐ | 2 ☐ |
| **Hospitals and health systems** | 0 ☐ | 1 ☐ | 2 ☐ |
| **Employers** | 0 ☐ | 1 ☐ | 2 ☐ |
| **Pharmaceutical and device manufacturers** | 0 ☐ | 1 ☐ | 2 ☐ |
| **Trial lawyers** | 0 ☐ | 1 ☐ | 2 ☐ |

## 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

## 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 enthusiastic | Somewhat enthusiastic | Very enthusiastic |
|---|---|---|---|---|
| 56 | Expanding access to free preventive care | 0 ☐ | 1 ☐ | 2 ☐ |
| 57 | Promoting head-to-head trials of competing treatments | 0 ☐ | 1 ☐ | 2 ☐ |
| 58 | Paying a network of practices a fixed, "bundled" price for managing all care for a defined population | 0 ☐ | 1 ☐ | 2 ☐ |
| 59 | Expanding electronic health records | 0 ☐ | 1 ☐ | 2 ☐ |
| 60 | Allowing Medicare payment cuts to doctors to take effect | 0 ☐ | 1 ☐ | 2 ☐ |
| 61 | Rooting out fraud and abuse | 0 ☐ | 1 ☐ | 2 ☐ |
| 62 | Eliminating fee-for-service payment models | 0 ☐ | 1 ☐ | 2 ☐ |
| 63 | Penalizing providers for avoidable readmissions | 0 ☐ | 1 ☐ | 2 ☐ |
| 64 | Expanding access to quality and safety data | 0 ☐ | 1 ☐ | 2 ☐ |
| 65 | Promoting better conversations with patients | 0 ☐ | 1 ☐ | 2 ☐ |
| 66 | High deductible health plans | 0 ☐ | 1 ☐ | 2 ☐ |
| 67 | Higher patient co-pays | 0 ☐ | 1 ☐ | 2 ☐ |
| 68 | Promoting continuity of care | 0 ☐ | 1 ☐ | 2 ☐ |
| 69 | Limiting corporate influence on physician behavior | 0 ☐ | 1 ☐ | 2 ☐ |
| 70 | Reducing compensation for the highest-paid specialties | 0 ☐ | 1 ☐ | 2 ☐ |
| 71 | Limiting access to expensive treatments with little net benefit | 0 ☐ | 1 ☐ | 2 ☐ |
| 72 | Promoting chronic disease care coordination | 0 ☐ | 1 ☐ | 2 ☐ |
| 73 | Using cost-effectiveness data to determine available treatments | 0 ☐ | 1 ☐ | 2 ☐ |

**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 |
|---|---|---|---|---|---|
| 78 | I am aware of the costs of the tests/treatments I recommend | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 79 | I try not to think about the cost to the health care system when making treatment decisions | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 80 | I should sometimes deny beneficial but costly services to certain patients because resources should go to other patients that need them more | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 81 | I should be solely devoted to my individual patients' bests interests, even if that is expensive | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 82 | The cost of a test or medication is only important if the patient has to pay for it out of pocket | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 83 | Doctors are too busy to worry about costs of tests and procedures | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 84 | Cost to society is important in my decisions to use or not to use an intervention | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 85 | Physicians should adhere to clinical guidelines that discourage the use of interventions that have a small proven advantage over standard interventions but cost much more | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 86 | It is my responsibility to promote cost consciousness in my daily care of patients | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 87 | Trying to contain costs is the responsibility of every physician | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 88 | There is currently too much emphasis on costs of tests and procedures | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 89 | Doctors need to take a more prominent role in limiting use of unnecessary tests | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |
| 90 | It is unfair to ask physicians to be cost-conscious and still keep the welfare of their patients foremost in their minds | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ |

## 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?**

| | WHETHER OR NOT SOMEONE... | Not at all relevant | Not very relevant | Slightly relevant | Somewhat relevant | Very relevant | Extremely relevant |
|---|---|---|---|---|---|---|---|
| 91 | Suffered emotionally | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 92 | Was treated differently than others | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 93 | Violates standards of purity and decency | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 94 | Is good at math | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 95 | Cared for someone weak or vulnerable | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 96 | Acts unfairly | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |
| 97 | Does something disgusting | 0 ☐ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |

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

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

## MORE ABOUT YOU

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

105
- 1 ☐ Very dissatisfied
- 2 ☐ Somewhat dissatisfied
- 3 ☐ Satisfied
- 4 ☐ Very satisfied

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

106
- 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?**

107
- 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?**

108
- 1 ☐ Yes
- 2 ☐ No

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

109
- 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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