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US Internists' Awareness and Use of Overtreatment Guidelines: a National Survey

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Abstract

Objectives—To assess physician views of overtreatment guidelines, estimate self-perceived practice according to select guidelines, and measure whether perceived adoption of the guidelines influences propensity to recommend a targeted service.

Study Design—A cross-sectional survey mailed July 2014 – January 2015 to 902 internists who completed residency 2003–2013 randomly selected from the American Medical Association Masterfile.

Methods—Poisson regression was used to model the rate of recommending a service targeted by the guidelines according to the level of guideline adoption.

Results—A total of 456 physicians responded (response rate = 51%). Most agreed that they were "familiar with overtreatment guidelines" (88.5%), "comfortable bringing up overtreatment guidelines in discussions with patients" (79.9%), and that "overtreatment guidelines are useful in their practice" (81.6%). Physicians in the highest tertile of guideline adoption reported double-digit rates of recommending antibiotics for sinusitis (29.7%), mammogram at end-of-life (16.5%), and ECG testing for asymptomatic patients (11.0%). Compared to physicians in the bottom tertile of guideline adoption, they reported lower rates of recommending x-rays (−12.0%, 95% CI −19.4% to −4.5%, p=0.002) or MRI (−4.8%, 95% CI −8.1% to −1.5%, p=0.004) for low back pain, and cardiac testing for asymptomatic patients (−10.2%, 95% CI −18.9% to −1.5%, p=0.02).

Conclusions—In a national survey, US internal medicine physicians who completed residency in the past decade reported high levels of adoption of overtreatment guidelines. Even physicians who reported the highest levels of guideline adoption, however, reported recommending services targeted by the guidelines in their practice.

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Keywords

practice guidelines; physician behavior; healthcare utilization

Overtreatment in medicine, defined as “the waste that comes from subjecting patients to care that, according to sound science and the patients’ own preferences, cannot possibly help them[1]”, is estimated to account for nearly 30% of healthcare spending.[2] Increasing recognition that the diagnostic and therapeutic interventions that physicians order are in some instances unnecessary[3] has culminated in widely disseminated overtreatment guidelines such as the Choosing Wisely campaign.[4] Started in 2012, the campaign partnered with specialty societies to disseminate lists of potentially avoidable tests, treatments and procedures to physicians and patients.[4]

In a 2014 telephone survey of 600 physicians about Choosing Wisely, 38% reported having seen or heard about the Choosing Wisely campaign and 81% reported feeling “very comfortable” about “talking to patients about why they should avoid an unnecessary test or procedure.”[5] Despite the early positive response from practicing physicians, there is little evidence that guidelines alone influence physicians’ ordering decisions. In fact, a recent report using commercial health plan claims data to evaluate utilization of seven services targeted by the guidelines failed to detect a meaningful decline in their use.[6] However, the study looked at global use of services by health plan beneficiaries without accounting for physician characteristics. For instance, a 2012 study of Massachusetts health plan data found that physicians with fewer than ten years of experience had the highest cost profiles compared to those of more senior physicians.[7] Whether physicians’ views and perceived adoption of overtreatment guidelines influence their propensity to recommend a targeted service remains unknown.[8]

To explore possible explanations behind higher cost profiles of more junior physicians, we surveyed recent internal medicine residency graduates about their adoption of overtreatment guidelines. Our specific objectives were to (1) assess physician views of overtreatment guidelines using a novel 5-item scale, (2) estimate self-perceived practice according to select guidelines using hypothetical patient presentations, and (3) measure whether perceived adoption of overtreatment guidelines influences a physician’s decision to recommend a targeted service.

Methods

Survey Development

A literature review revealed no previously validated instruments evaluating physician attitudes toward overtreatment guidelines. To identify potential items for cognitive testing, we reviewed the literature, combed references from previously reported studies of physician views,[9–19] and interviewed experts. Items were developed to assess (1) physician awareness, agreement, and use of overtreatment guidelines; (2) self-perceived propensity to recommend a service targeted by the guidelines; and (3) other potential confounders of physician practice identified in prior studies. We conducted two cycles of cognitive pilot testing to

calibrate the wording so as to detect differences among physicians about these topics. After initial think aloud reviews with local practicing physicians followed by revisions, we performed broader pilot testing with 100 internal medicine physicians randomly selected from the American Medical Association (AMA) Masterfile.

The final survey included questions about physician demographics, practice characteristics, attitudes known to influence overtreatment, views on overtreatment guidelines (awareness of, agreement with, and usefulness in practice), and self-reported practice in specific clinical scenarios related to the guidelines (Appendix A). Self-reported practice was assessed using fill-in-the-blank questions asking physicians to estimate the percentage of his or her patients to whom the physician recommended a specific test or treatment. Specifically, respondents were presented with brief descriptions of patient presentations: (1) with low back pain, (2) with acute sinusitis, (3) for cancer screening with a life expectancy of less than 10 years, (4) for cardiac screening in asymptomatic routine care, and (5) with a low pre-test probability of venous thromboembolism. For example, when asked “For what percentage of patients with acute low back pain do you order the following?”, the respondent would fill in a percent for x-ray, magnetic resonance imaging (MRI), physical therapy, acetaminophen or anti-inflammatories, or opioids. The approach of asking fill-in-the-blank questions about treatment decisions has been shown to have high criterion validity (correlate with actual practice on similar patients) in prior studies.[20,21] To establish content validity, these items were tested by 11 clinical and survey design experts including practicing primary care clinicians, researchers, and experts in survey design.

Study Sample

Using the AMA Masterfile, we prescreened 2,170 randomly selected internal medicine physicians who completed training within the last 10 years to confirm qualifying specialty, mailing address, and that the physician was actively seeing patients at least 20 hours a week. The final sample included 902 internal medicine physicians who were mailed a paper survey between July 2014 through January 2015 using a modified Dillman method.[22] The initial mailing was done by first class mail accompanied by a $2 bill and followed by two reminder mailings approximately 6 weeks apart.

Overtreatment Guidelines Adoption (OGA) Scale

A set of 9 questions assessed physicians’ attitudes toward overtreatment guidelines and cost-containment in general. Six questions focused on: (1) awareness of, (2) agreement with, and (3) perceived usefulness of overtreatment guidelines; (4) comfort denying patient requests for tests or treatments; (5) comfort discussing costs with patients; and (6) self-perception of cost-consciousness. These were assessed using a four-point Likert scale from strongly disagree to strongly agree. A second set of three questions assessed how frequently: (1) physicians discussed costs, (2) physicians used guidelines in practice, and (3) physicians found guidelines useful. These were measured using a five-point Likert scale of frequency. To summarize overtreatment guidelines adoption and measure physician attitudes toward guidelines separately from general attitudes toward cost-containment, we developed two subscales: a 5-item Overtreatment Guidelines Adoption (OGA) subscale and a 4-item Cost-containment subscale, using standard factor analysis techniques (Appendix B). The OGA

subscale possible values ranged between 5 and 22. Higher scale scores reflected higher degree of adoption of overtreatment guidelines. The OGA subscale had high internal consistency with Cronbach alpha of 0.82 and rotated loadings of 0.44–0.75. Principal components analysis supported a separate Cost-containment subscale of four questions related to costs (Cronbach alpha 0.76, rotated loadings 0.51–0.70).

Outcome Variables

Our main outcome measures were self-reported percentages of patients who were recommended eight services targeted by five overtreatment guidelines. The guidelines were selected because they described common clinical scenarios in internal medicine, were released at least 2 years prior to our survey, and were endorsed by multiple societies (Table 1). We asked physicians to fill in the blank with the percentage of their patients with each presentation who they recommend a particular service. The options included services targeted by overtreatment guidelines as well as other management options commonly offered to patients in each clinical context. The following tests and treatments were measured: x-ray and MRI imaging for acute low back pain; antibiotics for mild-to-moderate sinusitis; breast, prostate, and colon cancer screening for patients with life expectancy of less than 10 years; ECG testing for asymptomatic patients; and CT scan as the initial test for low risk patients with possible venous thromboembolism (VTE). Services that were recommended to fewer than 5% of patients (Papanicolaou test for cervical cancer and stress test for cardiac testing in asymptomatic patients) were excluded from analysis.

Other Variables

Physician demographics as well as physician attitudes, reimbursement and practice characteristics that may confound the relationship between physician views of and practice according to overtreatment guidelines were included in the analysis. Physician demographics included age, gender, and race. Other physician characteristics included practice region, type of practice, compensation type, financial incentives (quality, patient satisfaction, utilization review, and productivity), insurance mix (any patients with Medicaid insurance), and attitudes (comfort with clinical uncertainty, satisfaction with practice of medicine, and malpractice concerns). These items were either drawn from the AMA Masterfile (age and gender), or included as survey items using questions drawn from previously validated surveys of physicians.

Analysis

Responses were entered into REDCap electronic data capture tool hosted at the University of Pennsylvania.[23] Ten percent of entries were double entered with perfect concordance. The data were exported into and all analyses were conducted using STATA version 13.0 (StataCorp, College Station, TX).

We used the American Association for Public Opinion Research RR2 response rate definition.[24] Nonresponse bias was assessed comparing respondents to non-respondents and early to late respondents using the Pearson χ^2 test.

The reported percentages of patients who were recommended a particular test or treatment indicated a discrete number of events over a constrained range (0–100%) and were positively skewed. Thus, the reported percentages were converted into a count variable based on a denominator of 100 (i.e. 10% was converted to 10 out of 100) and modeled using Poisson regression. The independent variable of interest was a trichotomized OGA scale. Other variables in the model included a scale of physician attitudes toward cost-containment in general (measured using the Cost-containment subscale), physician demographics, practice characteristics, and attitudes previously shown to be associated with overuse (i.e., *Other Variables*). Predicted percent of patients being recommended a particular test or treatment were estimated. Bootstrapping with 1000 iterations was used to estimate confidence intervals.

This study was reviewed and approved by the University of Pennsylvania Institutional Review Board.

Results

Of the 902 potential respondents, 456 (51%) returned a completed survey. No differences between respondents and non-respondents were observed by age, gender, region of current practice, or practice setting (Table 2). Aside from Asian or Asian-American respondents being over-represented among late responders, there were no differences in gender, primary compensation, organization or setting of practice, or self-reported attitudes or satisfaction with medicine between early and late responders (eTable 1). Nearly half of the respondents self-characterized primary compensation type as salary with bonus (49.5%), followed by billings (28.1%), and salary only (20.9%), and the majority reported compensation being linked to quality of care (62.9%) or productivity (65.1%) (Table 3). Fewer than 5% of respondents (4.2%) completed residency in 2013. Other characteristics of the respondents' practice are reported in Table 3.

Respondents' attitudes toward cost containment are shown in Table 4. Most of the respondents (88.5%) considered their practice style as cost conscious. One in four (25.1%) reported discomfort discussing costs of care with patients and 34.7% said they would not feel comfortable making a patient unhappy by denying a request for unnecessary care.

Respondents generally reported high levels of awareness, familiarity and use of overtreatment guidelines (Table 4). Most (88.5%) reported being familiar with overtreatment guidelines in their specialty, 81.6% reported that the guidelines were useful in their practice, and 79.9% felt comfortable bring up overtreatment guidelines in discussions with patients. However, less than 30% of respondents rated their agreement with these statements as "strong". Respondents generally reported using overtreatment guidelines in practice with high frequency: 30.9% reported bringing up the guidelines in discussions with patients "frequently" or "always" and 44.2% reported bringing up the guidelines "occasionally". About forty percent of respondents (41.1%) found the guidelines useful in practice "frequently" or "always", and 42.4% found the guidelines "occasionally" useful in practice. When individual responses were combined into the 5-item OGA subscale, the mean scale score was 15.6 (SD 3.0) and the median 16 (IQR 14–18, observed range 5–22).

In the fully adjusted models, respondents in the middle or top third of OGA subscale scores reported lower rates of recommending a test or treatment targeted by the guidelines for imaging for low back pain, antibiotics for sinusitis, and cardiac testing for asymptomatic patients compared to the respondents in the bottom third of OGA scores (Figure 1). Physicians in the highest tertile of guideline adoption reported double-digit rates of recommending antibiotics for sinusitis (29.7%), mammogram at end-of-life (16.5%), and ECG testing for asymptomatic patients (11.0%). Physicians with OGA scores in the top third had significantly lower predicted rates of recommending x-rays (−12.0%, 95% CI −19.4% to −4.5%, p=0.002) or MRI (−4.8%, 95% CI −8.1% to −1.5%, p=0.004) for low back pain, and ECG for asymptomatic patients (−10.2%, 95% CI −18.9% to −1.5%, p=0.02) compared to physicians in the bottom third of OGA scores. Physicians in the top third of OGA scale scores had lower predicted rates of recommending antibiotics for sinusitis (−6.9%, 95% CI −13.0% to −0.8%, p=0.03) and ECG for asymptomatic patients (−8.7%, 95% CI −15.9% to −1.4%, p=0.02) compared to physicians in the bottom third of OGA scale scores. The differences in predicted probabilities across the tertiles of OGA scale scores were not significant for cancer screening and imaging as the initial test for patients at a low risk of VTE (Figure 1).

The association between physician cost-consciousness and percentage of patients recommended a test or treatment targeted by the guidelines was not consistent: physicians in the top third of cost-consciousness scale scores reported lower rates of prescribing antibiotics for sinusitis and recommending mammography at the end of life, but this association was not observed for the other guidelines (eTable 2). Other factors associated with recommending services targeted by the guidelines were physician age, practice region, type and setting, treating patients with Medicaid, and satisfaction with medicine as a profession (eTable 2).

Discussion

In this survey study of physician views of overtreatment guidelines, internal medicine physicians generally reported high levels of awareness, agreement, and use of the guidelines in everyday practice and their attitudes toward the guidelines were distinct from their attitudes toward cost-containment. In addition, physicians who reported greater adoption of overtreatment guidelines recommended fewer tests or treatments targeted by some overtreatment guidelines even after accounting for physicians' overall cost-consciousness. Even physicians who reported the highest levels of guideline adoption, however, reported recommending services targeted by the guidelines in their practice.

Although most physicians generally reported agreement with overtreatment guidelines, only about a third of the respondents rated their agreement as "strong" or reported using the guidelines frequently, suggesting considerable ambiguity in physician's attitudes toward overtreatment. Consistent with this finding, recommended rates of some of the services targeted by the guidelines (e.g., x-rays for low back pain and antibiotics for acute sinusitis) were high even for physicians in the top third of overtreatment guidelines adoption. On other hand, most of the respondents (88.5%) assessed their practice style as cost conscious. These findings suggest that even among physicians who generally have positive attitudes toward

cost-containment, perceptions of the utility of overtreatment guidelines are poor, potentially limiting their impact on physician behavior. In light of these findings, the lack of a consistent decrease in the use of tests and treatments targeted by the Choosing Wisely campaign is not surprising.[6] Of note, while some of the guidelines (e.g., cancer screening) categorically recommend against testing when patients meet certain criteria, many guidelines implicitly or explicitly allow for exceptions (e.g., for worsening symptoms or prolonged duration in acute sinusitis). These important distinctions were difficult to capture in a survey question that did not ascertain how frequently physicians see patients that meet the exclusion criteria in the guidelines. Nevertheless, it is unlikely that the variation and high rates of targeted services reported by some of the respondents would be fully explained by variation in case mix. Of note, the four services for which we did not observe an association with the OGA scale scores (e.g., mammography, colonoscopy and prostate cancer screening and imaging for venous thromboembolism) were targeted by guidelines that were relatively categorically worded in that they did not include exceptions in certain patient presentations or for duration of symptoms. This is in contrast to the other four services which were targeted by the guidelines that were worded to include exceptions for certain patient presentations (e.g., such as antibiotics for acute sinusitis, which recommended against ordering antibiotics “unless” symptoms lasted longer than seven days or worsen or acute low back pain that is “nonspecific”). This suggests that guidelines that are more categorically worded may be less likely to influence physician behavior. However, our study was not powered to determine the significance of this pattern and future research should evaluate the effect of guideline wording on physician behavior.

The eight tests and treatments evaluated in this study were selected to correspond to recommendations of the Choosing Wisely campaign, which has particular advantages including widely disseminated endorsement by multiple professional physician organizations. All of the recommendations included in the study were proposed by three or more specialty societies. The Choosing Wisely campaign leaves the mechanism of endorsement up to the society, emphasizing the grassroots characteristics of the campaign. Specialty societies play a lead role in developing the lists of recommendations, an approach designed to appeal to physician professionalism and establish specialty-endorsed norms of care. However, a review of the recommendations by the first 25 professional societies that participated in Choosing Wisely raised concerns that societies may be reluctant to endorse recommendations limiting the use of services that are highly lucrative to the specialty.[25] Furthermore, the extent of regional and local professional groups’ involvement in the development of national specialty societies’ Choosing Wisely recommendations is not clearly mandated by the campaign. Hence, regional variation in the propensity of physicians to recommend some services may be less responsive to guidelines endorsed at the national level. Although practice region was significantly associated with only one of the eight services evaluated (ECG for asymptomatic patients), local costs may influence physicians’ recommendations of specific tests and treatments. Future studies should assess how physician perceptions of costs influence their recommendation of services targeted by overtreatment guidelines.

Even in the cases where relatively strong consensus exists regarding the evidence base for optimal care such as the overtreatment guidelines evaluated in this study, complex interplay

of environmental and personal factors play a role in physician recommendations.[26] Whereas overtreatment guidelines target intrinsic motivation – practicing evidence-based care; policy-level interventions typically focus on extrinsic motivators such as value-based payments, bundling of payments, or other types of monetary incentives.[27,28] Our findings provide empiric evidence supporting the importance of evaluating the effect of intrinsic and extrinsic motivators of physician behavior within the context of practice environment and physician characteristics. While in theory a mix of incentives could be calibrated to achieve value-based care, in practice these factors are in flux and at times in conflict with each other. Although the current study evaluated adoption of overtreatment guidelines within the context of environmental-, practice-, and physician-level factors,[29] we were unable to evaluate actual physician practice or compare the relative effect of alternative motivators. Behavioral theory suggests that getting physicians to de-adopt practices is more challenging than the adoption of healthcare innovations.[30] Moreover, physicians often lack self-awareness of the non-clinical factors that may influence their behavior.[31] Although overtreatment guidelines that are evidence-based and disseminated in a transparent way may be successful in engaging physicians to consider these issues, the sheer spectrum of factors that influence physician behavior suggests that overtreatment guidelines alone are unlikely to produce a sizeable impact on overuse.

Our findings have a number of limitations. Alternative explanations of the observed associations between overtreatment guideline adoption and the rate of recommending targeted services include variation in patient case mix, social desirability bias (i.e., under-reporting undesirable behaviors such as the use of services targeted by the guidelines in our study), and recall bias. Although case vignettes with open-ended answer options have high criterion validity (correlate with actual practice on similar patients),[20,21] reported practice may not represent actual physician recommendations to their patients. However, the proximity of questions about practice patterns and overtreatment guidelines in the questionnaire may have primed respondents to under-report overtreatment. Concerns about priming and desirability bias suggest that the rates of recommending services targeted by the overtreatment guidelines may be underestimated in this study. While we obtained a relatively high response rate for a physician survey and our respondents were similar to the general population, non-respondents as well as early and late respondents, potential for response and selection bias remains. Lastly, despite efforts to confirm physician eligibility during pre-screening, specialty and contact information in the AMA Masterfile might be inaccurate introducing respondents outside of our target sample. In fact, a recent comparison of AMA Masterfile physician contact information to other databases found that only 37% were accurate.[32]

Conclusions

In a national survey, the majority of US internal medicine physicians reported positive attitudes toward overtreatment guidelines in their specialty. However, physicians' recommendations in guideline-specific standardized patient cases varied. Physician propensity to recommend low value services was explained in part by physician and practice characteristics. Complexities of physician decision-making may explain an observed lack of reduction in the utilization of tests and treatments targeted by widely disseminated

overtreatment guidelines such as the Choosing Wisely. Guidelines or similar broad educational interventions by physician organizations are unlikely to reduce physician-level variation in the utilization of low-value services. Furthermore, interventions to reduce low-value care should be evaluated within the context of health system, practice, and physician-level factors to avoid unanticipated effects.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Take-Away Points

This research surveyed US internists who graduated residency in 2003–2013 about their views of overtreatment guidelines or recommendations against the use of tests and procedures.

Key findings

- US internists reported high levels of awareness, agreement, and use of overtreatment guidelines.
- Even physicians who reported the highest levels of guideline adoption, however, reported recommending services targeted by the guidelines in their practice.
- This research highlights the challenge of evidence-based de-implementation of medical tests and treatments in everyday practice.

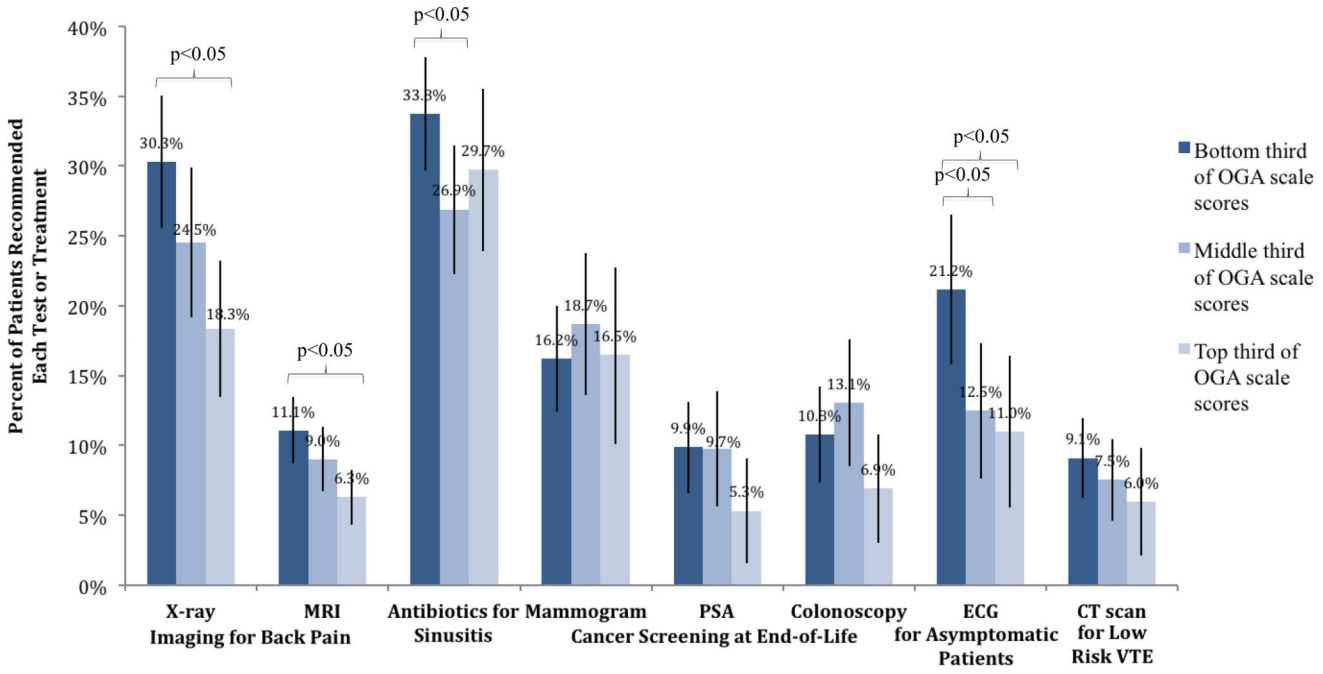

Figure.

Predicted Percent of Patients with Each Condition Recommended a Service Targeted by Overtreatment Guidelines

Table 1

Overtreatment Guidelines[a] Related to Reported Practices in Survey

Targeted Practice	Guidelines Example	Societies with Similar Guidelines
Imaging for Back Pain	Don't obtain imaging studies in patients with non-specific low back pain	ACP (2012); AAFP (2012); ACEP (2014); American Association of Neurological Surgeons and Congress of Neurological Surgeons (2014); American College of Occupational and Environmental Medicine (2014); American Society of Anesthesiologists – Pain Medicine (2014)
Antibiotic Prescribing for Acute Sinusitis	Don't routinely prescribe antibiotics for acute mild-to-moderate sinusitis unless symptoms last for seven or more days, or symptoms worsen after initial clinical improvement	AAFP (2012); American Academy of Allergy, Asthma & Immunology (2012); ACEP (2014)
Cancer Screening at End-of-Life	Don't recommend cancer screening in adults with life expectancy of less than 10 years	SGIM (2013); AMDA – The Society for Post-Acute and Long-Term Care Medicine (2015); American College of Preventative Medicine (2015); American Geriatrics Society (2014); American Society of Clinical Oncology (2013); American College of Surgeons (2013); AAFP (2013); American Society of Nephrology (2012)
Cardiac Testing	Don't order annual electrocardiograms or any other cardiac screening for low-risk patients without symptoms	ACP (2012); AAFP (2012); American College of Cardiology (2012); The Society of Thoracic Surgeons (2013); American Society of Echocardiography (2013); American Society of Nuclear Cardiology (2012)
Imaging for Venous Thromboembolism	In patients with low pretest probability of venous thromboembolism, obtain a high-sensitive D-dimer measurement as the initial diagnostic test; don't obtain imaging studies as the initial diagnostic test	ACP (2012); ACEP (2014); American College of Chest Physicians and American Thoracic Society (2013)

ACP - American College of Physicians; AAFP - American Academy of Family Physicians; ACEP - American College of Emergency Physicians; SGIM - Society of General Internal Medicine

[a]American Board of Internal Medicine (ABIM). Choosing Wisely: An Initiative of the ABIM Foundation. http://www.choosingwisely.org/ Accessed on September 11, 2015

Table 2

Characteristics of Physicians to Whom a Survey was Mailed: Comparing Respondents and Non-Respondents

	Overall Sample (n=902)	Respondents (n=456)	Non-respondents (n=446)	P-value
Gender				
Male	460 (51.0)	236 (52.6)	224 (50.7)	0.51
Female	433 (48.0)	213 (47.4)	220 (49.3)	
Age, mean (SD)	40.7 (7.2)	40.3 (7.6)	41.1 (6.9)	0.13
Region current practice				
South	283 (31.4)	149 (33.5)	134 (30.0)	
Midwest	188 (20.8)	95 (21.4)	93 (20.9)	0.61
Northeast	232 (25.7)	108 (24.3)	124 (27.8)	
West	185 (20.5)	93 (20.9)	92 (20.6)	
Practice setting type				
Group/HMO	471 (52.2)	255 (28.3)	216 (23.9)	0.07
Small/solo	81 (9.0)	32 (3.5)	49 (5.4)	
City/state/federal government	7 (0.8)	5 (0.6)	2 (0.2)	
Medical school	8 (0.9)	4 (0.4)	4 (0.4)	

Table 3

Respondents Characteristics (n=456)

	No (%)
Race (n=452)	
Asian or Asian-American	124 (27.4)
Black or African-American	24 (5.3)
White or Caucasian	258 (57.1)
Other	46 (10.2)
Hispanic/Latino	26 (5.8)
Primary compensation (n=455)	
Billing only	128 (28.1)
Salary only	95 (20.9)
Salary plus bonus	225 (49.5)
Other	7 (1.5)
Compensation linked to…	
Quality of care measures	287 (62.9)
Patient satisfaction	196 (42.9)
Utilization review	91 (20.0)
Productivity measures	297 (65.1)
Other	27 (5.9)
Outpatient vs. Inpatient	
Exclusively outpatient	185 (40.6)
Mostly (>50%) outpatient	113 (24.8)
50% outpatient/50% inpatient	24 (5.3)
Mostly (>50%) inpatient	134 (29.4)
Patients insured by …	
Medicaid, mean (SD)	16.9 (16.6)
Medicare, mean (SD)	38.6 (21.4)
Dual coverage (Medicare/Medicaid), mean (SD)	14.5 (15.8)
Uninsured, mean (SD)	8.9 (13.5)
Private, mean (SD)	31.1 (27.9)
Agreement with following statements…	
My enjoyment of the practice of medicine is substantially lessened because of the threat of lawsuits	261 (57.2)
I am generally satisfied with practicing medicine	369 (80.9)
I find the uncertainty involved in patient care disconcerting	254 (55.7)

Table 4

Physician Responses to Questions about Overtreatment Guidelines Adoption and Costs of Care

Please indicate your degree of agreement or disagreement with the following statements:	No (%)				
	Strongly disagree		Moderately disagree	Moderately agree	Strongly agree
I am familiar with overtreatment guidelines in my specialty[a] (n=452)	7 (1.6)		45 (10.0)	270 (59.7)	130 (28.8)
Overtreatment guidelines are useful in my practice[a] (n=450)	11 (2.4)		72 (16.0)	246 (54.7)	121 (26.9)
I am comfortable bringing up overtreatment guidelines in my discussions with patients[a] (n=452)	17 (3.8)		74 (16.4)	231 (51.1)	130 (28.8)
I am comfortable discussing costs of care with my patients (n=451)	22 (4.9)		91 (20.2)	204 (45.2)	134 (29.7)
I am comfortable making a patient unhappy by denying a request for unnecessary tests or treatments (n=453)	23 (5.1)		134 (29.6)	227 (50.1)	69 (15.2)
In general, my practice style is cost conscious (n=451)	5 (1.1)		47 (10.4)	293 (65.0)	106 (23.5)
Please check the appropriate box:	Never	Rarely	Occasionally	Frequently	Always
How often do you discuss costs of care with patients? (n=453)	11 (2.4)	66 (14.6)	193 (42.6)	164 (36.2)	19 (4.2)
How often do you bring up overtreatment guidelines in your discussions with patients?[a] (n=453)	21 (4.6)	92 (20.3)	200 (44.2)	132 (29.1)	8 (1.8)
How often do you find overtreatment guidelines useful in your practice?[a] (n=450)	12 (2.7)	62 (13.8)	191 (42.4)	159 (35.3)	26 (5.8)

[a]Included in the OGA sub-scale