What Is an Acceptable Annual Increase in Malpractice Premiums? The Physician Perspective

Donna M. Windish, MD, MPH, Steven J. Kravet, MD, MBA, Darcy A. Reed, MD, MPH, Rachel B. Levine, MD, MPH, Leah Wolfe, MD, and Scott M. Wright, MD

Abstract

- **Objective:** To determine what annual increase in malpractice premiums would be acceptable to academic physicians at a large institution.
- **Methods:** All 270 full-time physician faculty in the department of medicine at Johns Hopkins University School of Medicine in 2004 were invited to participate in this study. A contingent valuation approach was used to assess willingness to accept a specified increase in annual premiums. The median acceptable malpractice rate increase was calculated using logistic regression and assessed the influence of faculty characteristics using multivariable regression.
- **Results:** 197 (73%) faculty responded. Thirty percent were female and two thirds were clinician-investigators. The median acceptable annual increase in malpractice premiums was 6.4%. Clinician-educators were more likely than clinician-investigators to accept any of the proposed annual increase in premiums (odds ratio [OR], 3.23 [95% confidence interval [CI], 1.18–8.87]). Compared with their younger counterparts, older male faculty were more willing to accept any of the assigned rates (OR, 30.3 [95% CI, 2.53–361.22]). Older female faculty were 90% less likely to accept any suggested rate increase compared with older male faculty (OR, 0.10 [95% CI, 0.02–0.59]).
- **Conclusion:** Academic physicians believe that small annual increases in malpractice rates are acceptable. Knowing what physicians judge to be acceptable is relevant for understanding the frustration associated with recent rate increases and may be pertinent to efforts aimed at moving toward a resolution of the malpractice crisis.

The impact of increased malpractice premiums has been widely publicized, especially during the 2004 election year. Higher rates have led some physicians to limit their patient practices, relocate, or retire early [1–5]. Rising rates and fear of litigation have led some physicians to practice “defensive medicine,” which causes overutilization of resources (eg, unnecessary consultations and testing) and reduced care (eg, avoidance of high-risk procedures, refusal to treat certain patients) [6].

Malpractice rates have risen steadily at many academic medical institutions in recent years such that premiums now account for an increasing percentage of income generated from patient care activities [3,7]. Rates increased nationally in 2001–2002 by 15% for physicians in general surgery, internal medicine, and obstetrics/gynecology but totaled over 100% for these same specialists in certain states [8]. To avoid loss of physician services, some hospitals have provided medical malpractice subsidies to their clinically active physicians [9]. To offset incurred costs, leaders at academic medical institutions are considering a variety of plans to decrease malpractice expenses [3]. Strategies may include asking faculty with limited clinical involvement and those whose practices fail to generate positive income to stop providing medical care. Whatever decisions are made, academic institutions and their clinically active physicians will need to work together in addressing this issue given its potential impact on salaries, expenses, and patient care.

Given all of the factors that contribute to malpractice premiums and the potential direct effects of increased rates on clinical faculty, we conducted this study to better understand what annual increase in malpractice premiums would be judged as acceptable by physicians in the department of medicine at a large academic institution.

**Methods**

In May 2004, we sent a survey with a letter via interoffice mail to the 270 full-time clinically active physicians in the department of medicine at Johns Hopkins University School of Medicine inviting them to participate in the study. The
survey asked faculty to indicate their age, gender, specialty, academic rank, faculty role (clinician-investigator or clinician-educator) and the amount of time spent in clinical and non-clinical activities including research. We asked faculty to tell us if malpractice rates at our institution had changed between the 2003–4 and 2004–5 academic years and, if so, to indicate the amount and direction of the change.

To determine what would be an acceptable annual increase in malpractice premiums, we used contingent valuation. Contingent valuation was initially developed to assess questions of environmental interest for items that are difficult to quantify in monetary terms, such as water quality and wildlife preservation [10,11]. In recent years, contingent valuation has been used to determine cost preferences for health care workers and patients with regard to personal health and health care commodities [12,13]. Contingent valuation is based on the premise that precise preference estimates are subject to survey bias, including anchoring bias when using scales and question framing effects when using open-ended questions [14]. In order to minimize these biases, subjects are given a question with a single response choice, which they can accept or reject. From this information, the median acceptance of the stated question is calculated. Pilot testing was conducted and confirmed that the question being asked was clear and unambiguous.

In this study, we asked: “Given all of the factors that contribute to the establishment of malpractice premiums for physicians in their clinical work, do you think that an annual increase of X% in malpractice premiums is acceptable?” The respondents were asked to answer “yes” or “no” to the question, indicating whether or not the stated annual rate of increase (X%) was acceptable. Surveys were administered such that individuals were randomly assigned to 1 of 5 possible rate percentage increases (2.5%, 5%, 7.5%, 10%, and 15%). The lowest amount reflected the current average annual inflation rate in the United States at the time of the survey [15]. The largest proposed rate increase (15%) represented the lowest number that the study team believed almost all physicians would judge to be an unacceptably high annual increase.

We administered the surveys in May 2004. Up to 2 follow-up contacts were made to encourage full participation. Respondents placed completed surveys in addressed institutional envelopes provided.

### Statistical Analysis

For each malpractice rate assigned, we calculated the proportion of respondents finding the proposed annual percent increase to be acceptable. We performed a logistic regression analysis to evaluate the relationship between a faculty member’s willingness to accept a specific annual malpractice rate increase with each of the successively higher proposed rates. Using this model, the median acceptable annual rate increase was estimated as the percent increase that 50% of the respondents would judge to be acceptable. We also calculated the median increase in rates physicians deemed acceptable based on faculty characteristics.

We performed univariable and multivariable logistic regression analyses to determine if the acceptance of the specified malpractice rate increases were related to age (younger versus older than mean age), gender, academic rank (associate professor and professor versus other ranks), faculty role (clinician-educator versus clinician-investigator), or time dedicated to research (≥50% versus < 50%). Modeling included assessment of potential interaction between respondent characteristics. All analyses were performed using Stata Statistical Software: Release 8.2 (Stata Corporation, College Station, TX, 2004).

The Johns Hopkins Bayview institutional review board approved the study protocol. It should be noted that individual divisions and departments within Johns Hopkins University School of Medicine pay the malpractice insurance premiums for their clinically active physicians.

### Results

#### Study Population

Of the 270 physicians surveyed, 197 (73%) answered the question regarding what is an acceptable annual increase in malpractice premiums. Two thirds of respondents described themselves as clinician-investigators. Respondents’ academic rank included 40% assistant professors, 25% associate professors, and 25% professors. Faculty reported spending an

### Table 1. Characteristics of Physician Respondents (n = 197)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n (%)</th>
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<tbody>
<tr>
<td>Mean age ± SD, yr</td>
<td>46.0 ± 10.1</td>
</tr>
<tr>
<td>Women, n (%)</td>
<td>60 (30.4)</td>
</tr>
<tr>
<td>Academic rank, n (%)</td>
<td></td>
</tr>
<tr>
<td>Instructor</td>
<td>20 (10.1)</td>
</tr>
<tr>
<td>Assistant professor</td>
<td>78 (39.6)</td>
</tr>
<tr>
<td>Associate professor</td>
<td>50 (25.4)</td>
</tr>
<tr>
<td>Professor</td>
<td>49 (24.9)</td>
</tr>
<tr>
<td>Description of faculty role, n (%)</td>
<td></td>
</tr>
<tr>
<td>Clinician-investigator</td>
<td>129 (65.5)</td>
</tr>
<tr>
<td>Clinician-educator</td>
<td>58 (29.4)</td>
</tr>
<tr>
<td>Average percent time spent in work activities, %</td>
<td></td>
</tr>
<tr>
<td>Research</td>
<td>40.0</td>
</tr>
<tr>
<td>Direct patient care without learners</td>
<td>20.9</td>
</tr>
<tr>
<td>Patient care with learners</td>
<td>17.7</td>
</tr>
<tr>
<td>Administrative duties</td>
<td>13.6</td>
</tr>
<tr>
<td>Teaching without patient care</td>
<td>7.3</td>
</tr>
</tbody>
</table>

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average of 40% of their time on research (Table 1). Nonresponders were not different from respondents with respect to gender or academic rank (both, \( P > 0.05 \)).

The majority of respondents (99.5%) indicated that malpractice premiums at our institution had increased from the 2003–4 to the 2004–5 academic year. The average rate increase estimated by faculty was 29% (± 23.6%).

Acceptability of Proposed Increases in Annual Malpractice Premiums

The Figure shows the proportion of faculty who judged the proposed annual increases in malpractice rates to be acceptable. The odds ratio (OR) for willingness to accept a specific annual increased rate as compared with the next proposed rate was 0.77 (95% confidence interval [CI], 0.71–0.84; \( P < 0.001 \)). Thus, for example, the odds of a physician judging an annual malpractice rate increase of 10% to be acceptable was approximately one fifth less than the odds of a physician accepting an increase of 7.5%.

Using simple logistic regression, we found that the projected median annual increase in malpractice rates that respondents would find acceptable was 6.4%. Thus, half of the study subjects would have been expected to agree with 6.4% as an acceptable annual rate of increase in malpractice rates. Twenty-five percent of respondents would have found an annual increase in malpractice premiums of 10.6% to be acceptable. Seventy-five percent of respondents would have found 2.2% to be an acceptable annual increase.

Univariable Analyses

In the univariable logistic regression analyses, female faculty were statistically significantly less willing to accept increases in annual malpractice rates in comparison with male faculty (median acceptable annual rate increase, 4.2% versus 7.3%; \( OR, 0.51 \) [95% CI, 0.27–0.97]) (Table 2). Older faculty were more likely to accept increases in annual malpractice rates than were the younger faculty (8.1% versus 5.0%; \( OR, 2.23 \) [95% CI, 1.27–4.07]). Associate professors and professors were similarly more accepting of higher rates compared with other ranked faculty (7.7% versus 5.0%; \( OR, 2.09 \) [95% CI, 1.18–3.72]).

Multivariable Analyses

We created a multivariable logistic model including all faculty characteristics. Our modeling revealed a statistically significant interaction between age and gender (\( P = 0.009 \)). When considering this interaction in the model and after controlling for other variables, we found a statistically significant increased willingness to accept higher annual malpractice premiums in (1) older male faculty compared with younger men, (2) clinician-educators compared with clinician-investigators, and (3) faculty with less than 50% research effort compared with those with greater effort devoted to research (Table 3).

Discussion

In the United States, steep increases in malpractice premiums
have profoundly affected physicians and the patients they serve. Because academic institutions represent sizeable multispeciality groups with very large numbers of physicians, increases in malpractice premiums have generated significant cost escalation. While many parties are embroiled in the malpractice quandary, this study has determined the annual increase in malpractice rates deemed to be acceptable by academic physicians in a large department of medicine. This group’s perspective is notable because (1) physician frustration effects the quality of care that is delivered, and (2) they are heavily involved in training/role modeling and shaping the viewpoints of the next generation of physicians (both academic and those who will work in our communities).

The annual increase deemed acceptable by academic physicians in our study was 6.4%. This value is almost sixfold less than the increase experienced at Johns Hopkins in past years with rates rising annually by 40%, 33%, and 36%, respectively since 2002. Unfortunately, this discrepancy would be most relevant if there was a “just price” based on the costs of inputs related to malpractice premiums. Instead, basic economic tenets teach us that supply and demand set the market price [16]. However, rates are not market-driven; they are actuarially determined, primarily by loss experience (claims).

Medical malpractice liability and increased premiums were determined to be the largest primary concern of physicians in a recent American Medical Association survey [17]. Some physician have become actively involved in efforts attempting to introduce malpractice reform. The higher rates are due to multiple factors, none more important than the dramatic increases in medical malpractice claims costs [18,19]. The effects of high premiums extend beyond the monetary costs incurred by individual physicians and institutions. Increased malpractice rates raise health insurance costs for patients and negatively influence access to care [20,21]. Even more devastating is the potential influence that higher premiums may play in doctor-patient relationships, medical decision making, and quality of care [22]. Fear of litigation can decrease patient-physician trust and can lead to defensive medicine practices. Defensive medicine is believed to cause physicians to order more tests, increase referrals to specialists, and increase prescription writing practices when these actions are not indicated [6,23]. Instead of promoting safety, these practices may compromise quality of care and contribute to increased health care costs.

Several limitations of this study should be considered. First, the large increases in malpractice rates in recent years may have influenced respondents’ assessment regarding what further annual increases are acceptable. Second, academic physicians may not be fully aware of the malpractice costs incurred on their behalf. In fact, our respondents’ estimation of the change in malpractice premiums from the previous year varied across a wide range (29% ± 23.6%). Third, our results may not be generalizable to physicians in other departments or at other academic centers. While the malpractice premium increase may have been more substantial for departments such as surgery or obstetrics and gynecology, the lower reimbursement rates for clinical services rendered by physicians in the department of medicine as compared with physicians in the above-mentioned departments offer reduced opportunities to make up the difference in expenses. Nevertheless, all departments at institutions across the country are trying to manage the expenses and consequences associated with these increased costs [7,24–26]. Fourth, identifying the malpractice premium judged to be acceptable by physicians may not be an “actionable concept” that would cause large numbers of physicians to leave medical practice or to drop insurance (ie, self-insure). Nonetheless, frustration with excessive premiums may cause resentment among doctors toward the profession, which may affect the quality of care provided. Finally, academic physicians are not directly paying for their malpractice premiums; the division or department generally pays for this expenditure. While one may think that academic physicians may be insulated from the direct effects of such increases, faculty members are now held accountable to generate income to cover the costs associated with their employment. Further, the scenario in clinical medicine beyond academia is not that different. Malpractice fees are expenses that are paid for by the “corporation” or “business entity;” most physicians do not have to personally pay for this.

Increased malpractice premiums affect all health care

Table 3. Multivariable Logistic Regression Analysis for the Willingness to Accept Annual Rate Increases in Medical Malpractice Premiums According to Specified Proposed Increased Rates

<table>
<thead>
<tr>
<th>Faculty Characteristic</th>
<th>Odds of Accepting a Specified Rate Increase, OR (95% CI)*</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Older vs. younger males</td>
<td>30.3 (2.53–361.22)</td>
<td>0.007</td>
</tr>
<tr>
<td>Older vs. younger females</td>
<td>2.59 (0.91–7.37)</td>
<td>0.08</td>
</tr>
<tr>
<td>Younger females vs. younger males</td>
<td>1.20 (0.47–3.04)</td>
<td>0.70</td>
</tr>
<tr>
<td>Older females vs. older males</td>
<td>0.10 (0.02–0.59)</td>
<td>0.01</td>
</tr>
<tr>
<td>Associate professors and professors vs. instructors and assistant professors</td>
<td>1.44 (0.54–3.86)</td>
<td>0.47</td>
</tr>
<tr>
<td>Clinician-educators vs. clinician-investigators</td>
<td>3.23 (1.18–8.87)</td>
<td>0.02</td>
</tr>
<tr>
<td>≥50% time devoted to research vs.&lt;50% effort</td>
<td>0.38 (0.15–0.97)</td>
<td>0.04</td>
</tr>
</tbody>
</table>

CI = confidence interval.

*Odds ratios (OR) adjusted for all covariates and the age-gender interaction.
stakeholders. The increased rates have and continue to impose significant strain on academic medical institutions and their clinicians. As physicians, we must understand the issues at hand and become part of the solution. One important step is to understand what rate the medical community finds acceptable as we advocate for ourselves in hoping to work toward a resolution of the malpractice crisis.

Corresponding author: Scott Wright, MD, Div. of GIM, Johns Hopkins Bayview Medical Center, 4940 Eastern Ave., Baltimore, MD, 21224, smwright@jhmi.edu.

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