Professionalism in Medicine: Results of a National Survey of Physicians

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Background: The prospect of improving care through increasing professionalism has been gaining momentum among physician organizations. Although there have been efforts to define and promote professionalism, few data are available on physician attitudes toward and conformance with professional norms.

Objective: To ascertain the extent to which practicing physicians agree with and act consistently with norms of professionalism.

Design: National survey using a stratified random sample.

Setting: Medical care in the United States.

Participants: 3504 practicing physicians in internal medicine, family practice, pediatrics, surgery, anesthesiology, and cardiology.

Measurements: Attitudes and behaviors were assessed by using indicators for each domain of professionalism developed by the American College of Physicians and the American Board of Internal Medicine. Of the eligible sampled physicians, 1662 responded, yielding a 58% weighted response rate (adjusting for noneligible physicians).

Results: Ninety percent or more of the respondents agreed with specific statements about principles of fair distribution of finite resources, improving access to and quality of care, managing conflicts of interest, and professional self-regulation. Twenty-four percent disagreed that periodic recertification was desirable. Physician behavior did not always reflect the standards they endorsed. For example, although 96% of respondents agreed that physicians should report impaired or incompetent colleagues to relevant authorities, 45% of respondents who encountered such colleagues had not reported them.

Limitations: Our measures of behavior did not capture all activities that may reflect on the norms in question. Furthermore, behaviors were self-reported, and the results may not be generalizable to physicians in specialties not included in the study.

Conclusion: Physicians agreed with standards of professional behavior promulgated by professional societies. Reported behavior, however, did not always conform to those norms.

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Attempts to improve the quality and efficiency of health care have primarily relied on government regulation, financial incentives, public reporting, and competition (1–8). So far, these approaches have not resolved the problems of cost, access, and quality in the U.S. health care system (9).

As a complementary approach to addressing these issues, physician groups have been focusing on promoting medical professionalism among physicians (10). In 2002, the American Board of Internal Medicine and other groups published a Charter on Professionalism ("the Charter"), which has been embraced by many professional organizations in the United States and other countries (11, 12).

The Institute on Medicine as a Profession Survey on Medical Professionalism was developed to enhance understanding of physicians' attitudes toward professional norms in the Charter, the extent to which they conform to those norms in daily work, and the factors that may influence professional behaviors. We report the results of that survey.

Methods

Definition of "Professionalism"

Several definitions of "professionalism" exist (13–18). However, many of these definitions have not been put into effect or endorsed by professional societies. For this investigation, we use the definition in the American Board of Internal Medicine's Charter on Professionalism, because it has been embraced by many organizations nationally and internationally (11, 12).

Survey Design and Testing

We developed a preliminary set of questions based on a focus group with physicians in which we probed how best to measure physicians' attitudes and behaviors. The survey was revised on the basis of the results of 8 cognitive interviews. The goal of cognitive interviews is to find out how respondents understand and respond to survey items. A cognitive interview involves a researcher reading questions to respondents, having them answer the questions, and then attempting to determine the cognitive processes that the respondents used to formulate their response. Understanding respondents' cognitive processes allows the researcher to sense discrepancies between the way respondents performed a task and the way researchers envision the task will be performed (19). The final survey was ap-

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Context

Whether practicing physicians conform to norms of professionalism is unknown.

Contribution

This survey of 3504 practicing physicians in the United States found that most physicians agreed with principles regarding fair distribution of resources, access to and quality of care, conflicts of interest, and self-regulation that were proposed by professional societies in 2002. Self-reported behaviors, however, showed that about one half did not follow self-regulation principles and that about one third would order unneeded magnetic resonance imaging for back pain in response to a patient's request.

Implication

Although physicians generally agree with proposed professional norms, they do not always follow all of them.

—The Editors

proved by the institutional review board of the investigators' institution.

Measures of Professionalism

Attitudes Related to Professionalism

Several questions measured physicians' support for professional norms. **Table 1** shows the survey questions and their associated dimensions of professionalism.

Behaviors Related to Professionalism

Table 2 shows the survey questions about self-reported behaviors associated with professional norms in the Charter. We did not seek to cover every conceivable behavior related to all 10 norms. Instead, we asked about selected behaviors that were particularly salient and had substantial face validity as tracer measures of conformance to professionalism norms. Thus, our results do not provide a comprehensive assessment of the "professionalism" of respondents but instead provide the basis for exploring factors that may influence physicians' behaviors related to professionalism.

Survey Sample

The sampling frame was the 2003 American Medical Association Masterfile. We selected all physicians in 3 primary care specialties (general internal medicine, family practice, pediatrics) and 3 non–primary care specialties (cardiology, anesthesiology, general surgery). We chose the 3 primary care specialties because they represent almost all primary care physicians in the United States, and we chose the non–primary care specialties because they represent a medical specialty, an inpatient specialty, and surgery. We excluded osteopathic physicians, resident physicians, and physicians in federally owned hospitals. From this list of 271 148 physicians, we randomly selected 3504 who were distributed equally among the 6 specialties. We selected equal numbers of physicians in each specialty in order to have sufficient statistical power to examine specialty-specific associations.

Survey Administration

As described elsewhere (20), the survey was administered between November 2003 and June 2004. Sampled physicians were sent a survey instrument, a cover letter, a fact sheet describing the study, a postage-paid return envelope, and a prepaid incentive check for $20. Of the 3504 sampled physicians, 337 were ineligible because they were dead, out of the country, practicing a nonsampled specialty, on leave, or not providing patient care. This yielded a raw eligibility estimate of 90.3%. Of the 3167 eligible physicians, 1662 completed a questionnaire, for an overall raw response rate of 52%. The weighted overall response rate was 58% (43% in cardiology, 57% in anesthesiology, 55% in family practice, 54% in surgery, 52% in internal medicine, and 64% in pediatrics) (21). The weighted overall response rate was calculated as follows: completed interviews/(completed interviews + partial interviews) + (refusals + noncontacts + other) + (eligibility estimate × unknown eligibility physicians). Physicians were classified as "unknown eligibility" if no information was obtained about their eligibility either directly from the physician or from a gatekeeper. No physicians were classified as "other." The specialty-specific weighted response rates account for the differential rates of eligibility within each specialty.

Statistical Analysis

The primary analyses were multivariable and focused on the determinants of reported behaviors related to selected policy-relevant domains of professionalism, such as improving quality of and access to care, maintaining professional competence, managing conflicts of interest, and self-regulation. The 3 independent variables were physician specialty (general internal medicine, family practice, pediatrics, cardiology, anesthesiology, or general surgery), primary practice location (solo or 2-person practice, single specialty group, multispecialty group, staff- or group-model HMO, university or medical school, hospital, and other), and primary reimbursement mechanism (fee-for-service, partial capitation, full capitation, salary, and other).

We ran 3 separate logistic regression models for each professional behavior. Model 1 included gender and specialty as predictors. In models 2 and 3, we examined the effects of primary practice organizations and reimbursement mechanisms while controlling for gender and specialty. In reporting the multivariate analyses, we show regression-adjusted percentages with the corresponding 95% CIs. We report the results of the regression models as the percent predicted to make a given response by each model. For models 2 and 3, these percentages are adjusted for gender and specialty by holding the proportion within each specialty and the proportion of women constant (**Table 2**)

across levels of the predictor variable. The CIs were calculated using the standard error of the fitted values.

All analyses were conducted by using Stata statistical software (Stata, College Station, Texas), and we incorporated Stata's survey commands (22). Data were weighted to reflect sampling probability. The sample weights were calculated as the inverse probability of selection within a survey stratum (physician specialty).

Role of the Funding Source

This study was funded by a grant from the Institute on Medicine as a Profession. The funder had no role in the design, conduct, and analysis of the study or in the decision to submit the manuscript for publication.

Results

Respondent Characteristics

Table 3 shows the weighted characteristics of the respondents. To assess how representative our respondents were, we compared our results with characteristics of all physicians in the American Medical Association database. We found that our respondents were similar to U.S. physicians in terms of gender and foreign medical education status. Our respondents were less likely to be Asian or white than all U.S. physicians. This may be due to the fact that 25% of physicians in the American Medical Association database are classified as "unknown race or ethnicity."

Attitudes toward Professional Norms

More than 90% of physicians agreed with 8 of the 12 normative statements regarding professionalism posed in the survey (**Table 1**). Agreement fell below 80% only for the question about periodic recertification.

Self-reported Behaviors Illustrative of Professional Norms

The extent to which behaviors were consistent with professional norms varied with the specific norm (**Table 2**). For example, physicians reported a high level of conformance with the tenet of honesty with patients: Fewer than 1% reported that they had told patients something that was untrue, and only 3% reported that they had withheld information from patients or family that those individuals should have known. Eleven percent reported breaching patient confidentiality.

Seventy-four percent of physicians reported delivering free care in a setting that serves an underserved sector in

Table 1. **Attitudes toward Professionalism***

Domain	Respondents Who Agree (95% CI), %
Just distribution of finite resources	
Physicians should minimize disparities in care due to patient race or gender.	98 (97.0–98.5)
Increasing scientific knowledge	
Physicians should encourage the participation of their patients in clinical trials.	83 (78.8–87.2)
Honesty with patients	
Physicians should disclose all significant medical errors to affected patients and/or guardians.	85 (80.9–88.5)
Improving access to care	
Physicians should provide necessary care regardless of the patient's ability to pay.	93 (90.4–95.6)
Physicians should advocate legislation to assure that all people in the United States have health care insurance coverage.	86 (80.1–91.9)
Improving quality of care	
Physicians should participate in peer evaluations of the quality of care provided by colleagues.	93 (91.4–95.6)
Physicians should be willing to work on quality improvement initiatives.	98 (96.8–98.2)
Maintaining appropriate relationship with patients†	
Please rate the appropriateness of sexual relationships between adult patients and physicians.	91 (88.1–93.0)
Maintaining professional competence	
Physicians should undergo recertification examinations periodically throughout their career.	77 (63.4–90.0)
Maintaining trust by managing conflicts of interest	
Physicians should put the patient's welfare above the physician's financial interests.	96 (95.0–96.9)
Fulfilling professional responsibilities, including self-regulation	
Physicians should report all instances of significantly impaired or incompetent colleagues to hospital, clinic, or other relevant authorities.	96 (94.8–96.5)
Physicians should report all significant medical errors they observe to hospital, clinic, or other relevant authorities.	93 (90.4–95.4)

* Unless otherwise noted, these items were preceded by the stem, "Please indicate how much you agree with each of the following statements:" The response categories for these measures were "1. Completely agree, 2. Somewhat agree, 3. Somewhat disagree, 4. Completely disagree." In analyses, the "Completely agree" and "Somewhat agree" responses were coded as 1 and the "Somewhat disagree" and "Completely disagree" were coded as 0.
† The response categories for this item were 0. Never, 1. Rarely, 2. Sometimes, 3. Usually, 4. Always. In analyses, "Never" was coded as 0 and all other responses were coded as 1. For this item, 91% of respondents answered "Never."

Table 2. **Professional Behaviors***

Domain	Percentage of Respondents (95% CI)
Just distribution of finite resources	
Scenario: An otherwise healthy, long-term patient presents with his first episode of low back pain, lasting 2 days, with onset following some work around the house. He has no neuromuscular signs or symptoms. You explain to him that his symptoms will likely resolve with rest and analgesia and that you don't think any further investigation is warranted at this stage. However, the patient is convinced that he has a herniated disc and is quite insistent that he should have an MRI scan. Would you... 1. Order the MRI, 2. Order the MRI scan, but say that you are doing so reluctantly, 3. Refuse to order the MRI scan at this time.	36 (25.9–46.6) selected answer 1 or 2
In the last 3 years, have you looked for possible disparities in care due to race or gender in your practice, clinic, hospital, or other health care setting?	25 (17.5–31.7) answered "Yes"
Increasing scientific knowledge	
In the last 3 years, have you served as a reviewer for a professional journal?	10 (6.2–13.8) answered "Yes"
In the last 3 years, have you encouraged 1 or more patients to enroll in a clinical trial?	41 (29.7–53.0) answered "Yes"
Honesty with patients	
In the last 3 years, have you told a patient's family member something about a medical issue that wasn't true?	<1 (0.2–1.1) answered "Yes"
In the last 3 years, have you withheld information that a patient or a patient's family should have known about a medical issue?	3 (1.8–4.4) answered "Yes"
Improving access to care	
Are you currently accepting uninsured patients who are unable to pay?	69 (56.1–80.9) answered "Yes"
What percentage of your patients is uninsured and unable to pay, or covered by Medicaid?†	Mean: 28 (21.2–34.2)
In the last 3 years, have you provided care, with no anticipation of reimbursement, in a setting serving poor and underserved patients?	74 (70.0–78.3) answered "Yes"
Improving quality of care	
Please rate the extent to which you feel prepared to contribute to formal, organized quality improvement efforts.‡	85 (80.2–89.5) answered "Very prepared" or "Somewhat prepared"
In the last 3 years, have you participated in a formal medical error reduction initiative in your office, clinic, hospital, or other health care setting?	53 (44.8–61.6) answered "Yes"
In the last 3 years, have you reviewed another physician's medical records for quality improvement reasons?	56 (48.0–64.4) answered "Yes"
Maintaining professional competence	
Please rate the extent to which you feel prepared to critically evaluate new clinical knowledge.‡	88 (84.4–91.8) answered "Very prepared" or "Somewhat prepared"
In the last 3 years, have you undergone competency assessment by a provider organization or health plan?	33 (27.6–39.4) answered "Yes"
Protecting patient confidentiality	
In the last 3 years, have you inappropriately revealed information about a patient?	11 (7.4–14.7) answered "Yes"
Maintaining trust by managing conflicts of interest	
Scenario: You and your partners have invested in a local imaging facility near your suburban practice. When referring patients for imaging studies, would you . . . 1. Refer your patients to this facility? 2. Refer your patients to this facility and inform patients of your investment? 3. Refer patients to another facility?	24 (19.7–28.2) selected answer 1
Fulfilling professional responsibilities, including self-regulation	
In the last 3 years, have you had direct personal knowledge of a physician who was impaired or incompetent in your hospital, group, or practice? If yes, how often did you report that physician to a hospital, clinic, professional society, or other relevant authority? (1. Always, 2. Usually, 3. Sometimes, 4. Never)	45 (34.1–55.4) selected answer 2, 3, or 4, indicating that they had not reported at least once
Other than the care you or your family received, in the last 3 years have you had direct personal knowledge of a serious medical error in your hospital, group, or practice? If yes, how often did you report that error to a hospital, clinic, professional society, or other relevant authority? (1. Always, 2. Usually, 3. Sometimes, 4. Never)	46 (36.8–56.1) selected answer 2, 3, or 4

* Unless otherwise noted, the response categories for these items were "Yes" and "No."
† This variable was calculated from answers to 2 questions: "What percentage of your patients is uninsured and unable to pay?" and "What percentage of your patients is covered by Medicaid?"
‡ "Prepared" is defined as having the necessary skills and ability. Options were 1. Very prepared; 2. Somewhat prepared; 3. Somewhat unprepared; or 4. Very unprepared.

the past 3 years, and 69% said they were accepting Medicaid or uninsured patients. Furthermore, 28% of physicians' patients were on Medicaid or were uninsured.

Regarding maintenance of professional competence, 88% of physicians felt prepared to evaluate new clinical information. One third of physicians (33%) had participated in competency assessment by a provider or health plan group in the past 3 years.

In terms of improving the quality of care, 85% felt prepared to participate in formal organized quality improvement initiatives. In the past 3 years, 56% had reviewed another physician's medical records for quality im-

provement purposes, and 53% had participated in a formal error reduction initiative.

With regard to professional self-regulation, 45% of those with direct personal knowledge of a physician in their hospital group or practice who was impaired or incompetent did not always report that physician. Of those with direct personal knowledge of a serious medical error, 46% did not report that error to authorities on at least 1 occasion.

In response to a hypothetical scenario about the distribution of finite resources, 36% of physicians said that they would order unneeded magnetic resonance imaging for back pain in response to patient request. One quarter said that they had looked for possible disparities in their care on the basis of race or gender in their practice, clinic, hospital, or other health care setting.

Multivariable Analyses

Table 4 reports results of multivariable analyses. Specialty was related to self-reported levels of conformance with professional norms, although the influence of specialty varied. For example, cardiologists, surgeons, and anesthesiologists were more likely to report being prepared to evaluate new clinical information (maintaining professional competence). Although cardiologists had fewer Medicaid and uninsured patients than family practitioners did, they were more likely than family practitioners to have provided uncompensated care in a setting serving poor and underserved patients. Cardiologists, together with anesthesiologists and surgeons, were also more likely than the other specialties to accept new uninsured patients (improving access to care). Family practitioners and pediatricians were least likely to report having participated in a formal medical error reduction initiative. However, these physicians, along with internists, were most likely to have undergone competency assessment in the past 3 years.

Practice setting also was associated with some differences in reported behavior regarding professional norms. After we controlled for sex and specialty, physicians practicing in staff-model HMOs were least likely to have provided care without expectation of reimbursement in settings serving the poor and underserved in the last 3 years. Physicians in solo practice were least likely to have participated in a formal medical error reduction initiative and to have reviewed another physician's medical records for quality improvement (improving quality of care).

Physicians' primary reimbursement mechanism was related to several self-reported behaviors assessed in our survey. For example, those in capitation payment arrangements were most likely to have undergone competency assessment by a provider or a health plan in the past 3 years, whereas those who were salaried were least likely to have done so. At the same time, those in fee-for-service arrangements had the smallest proportion of poor and uninsured patients.

Table 3. **Respondent Characteristics**

Characteristic	Physicians, *n*	Weighted Proportion, %
Personal		
Sex		
Male	1248	73.4
Female	403	26.5
Race		
Black	63	4.2
Hispanic	59	3.7
Asian	248	15.4
White	1194	71.8
Other	72	4.9
Professional		
Specialty		
Anesthesiology	289	12.0
Cardiology	229	7.1
Family practice	298	23.9
Internal medicine	256	31.6
Pediatrics	323	17.1
Surgery	267	8.2
Primary practice organization		
Solo or 2 person	367	23.0
Group	740	41.5
Staff-model HMO	69	5.6
University/medical school	370	21.5
Other	22	6.5
Primary reimbursement mechanism		
Fee-for-service	772	43.6
Capitation (full or partial)	145	8.9
Salaried	598	38.9
Other	131	8.6

Discussion

We believe that ours is the first effort to broadly assess U.S. physicians' support for and conformance to professional norms. Several notable findings have emerged. First, we found widespread attitudinal and behavioral support for professional norms. This finding suggests that the professional aspirations embodied in the Charter are relevant and meaningful to physicians and thus enhances their validity. It also suggests that advocates of increasing professionalism among physicians do not face the task of convincing physicians that the norms of professionalism are valid.

Second, we do not regard our data on self-reported behaviors as sufficient to judge the overall professionalism of respondents or to conclusively assess their adherence to particular norms. Nevertheless, according to selected indicators, the extent to which physicians' self-reported behaviors conformed to norms varied with the norm. Physicians report behaviors that are consistent with the tenets of being honest with patients and protecting patient confidentiality. However, for other norms, there were gaps between physicians' beliefs and what they reported doing. These gaps were greatest in the area of self-regulation, where almost one half of physicians who were aware of an impaired or incompetent colleague did not bring that colleague to the attention of authorities. Physician behavior also differed

Table 4. **Results of Multivariable Analyses**

Characteristic	Adjusted Proportion of Respondents (95% CI), %			
	Maintenance of Professional Competence		Professional Self-Regulation	
	Undergone Competency Assessment by a Provider or Health Plan in the Past 3 Years	Was Prepared to Evaluate New Clinical Information	Always Reported Personal Knowledge of a Physician Who Was Impaired or Incompetent to Any Relevant Authority	Always Reported Direct Personal Knowledge of a Serious Medical Error to Any Relevant Authority
Specialty†				
Anesthesiology	21.6 (19.1–24.1)	92.8 (91.2–94.3)	67.6 (62.4–72.7)	46.5 (42.3–50.8)
Cardiology	27.4 (24.4–30.4)	94.9 (93.4–96.4)	44.0 (37.1–51.0)	36.6 (31.8–41.4)
Surgery	25.8 (23.1–28.6)	90.9 (89.1–92.7)	62.6 (56.8–68.4)	48.1 (43.7–52.6)
Internal medicine	36.6 (33.6–39.7)	88.1 (86.0–90.1)	58.4 (50.6–66.3)	61.6 (56.4–66.9)
Family practice	36.4 (33.6–39.2)	84.6 (82.5–86.7)	43.2 (36.1–50.3)	51.0 (46.1–55.9)
Pediatrics	38.1 (35.3–40.9)	86.1 (84.1–88.1)	57.4 (48.7–66.2)	65.1 (59.8–70.3)
Primary practice organization‡				
University/medical school	30.6 (28.0–33.1)	93.4 (92.0–94.7)	63.7 (56.8–70.7)	61.8 (57.9–65.7)
Staff-model HMO	38.9 (32.9–44.8)	86.7 (82.7–90.7)	86.7 (74.0–99.3)	71.2 (62.5–79.9)
Group	32.5 (30.5–34.4)	87.6 (86.2–89.0)	57.7 (52.9–62.5)	51.2 (47.8–54.7)
Solo or 2-person	35.5 (32.9–38.2)	87.3 (85.4–89.1)	45.0 (38.6–51.4)	49.4 (44.4–54.5)
Other	33.1 (28.6–37.7)	86.5 (83.3–89.8)	42.9 (33.1–52.7)	50.7 (43.0–58.3)
Primary reimbursement mechanism‡				
Fee-for-service	32.5 (30.6–34.4)	86.8 (85.4–88.2)	55.1 (50.4–59.9)	48.0 (44.6–51.3)
Capitation	41.5 (37.2–45.7)	86.9 (84.0–89.8)	55.7 (45.8–65.7)	48.5 (41.5–55.5)
Salaried	31.8 (29.8–33.8)	91.3 (90.1–92.5)	56.3 (50.7–62.0)	64.6 (61.3–67.9)
Other	34.4 (30.1–38.7)	86.5 (83.5–89.5)	50.5 (41.6–59.4)	48.7 (40.6–56.9)

* Estimated mean proportion of patients.
† Adjusted for sex.
‡ Adjusted for sex and specialty.

from their beliefs in managing financial conflict of interest, because a larger majority would refer patients to an imaging facility in which they had a financial interest, and one quarter would not inform patients of this potential conflict of interest. Such behavior could be illegal under federal Medicare statutes concerning self-referral. This suggests that physicians may not be adequately aware of the legal restrictions on their behavior.

Another area of discordance involved the distribution of limited resources. More than one third of physicians reported they would accommodate a patient who badly wanted a test, even when they knew the test was unnecessary, thus potentially wasting scarce medical resources. Gaps also existed between physicians' attitudes toward quality improvement and their participation in related activities (23). However, factors external to the physician, such as practice organization, influenced participation in certain quality-related activities. We do not take a negative view of these associations. For example, it is not a physician's sole responsibility if a policy of the organization in which he or she works limits his or her participation in certain professional behaviors, such as caring for the poor or undergoing competency assessment.

Our findings also highlighted factors that are associated with self-reported conformance to norms, and thus offer potential guidance for physician leaders and policymakers who wish to promote conformance to professional standards. In particular, reported conformance to norms varied across subgroups of physicians. This suggests that the focus of programs encouraging professionalism may need to vary accordingly. For example, cardiologists and surgeons might benefit from education on managing conflict of interest and federal restrictions on self-referral. These groups may also benefit from assistance with professional self-regulation and, in particular, the reporting of serious medical errors.

Further research is needed to explore the reasons for the differences we found among specialties, which could arise from self-selection of individuals into particular specialties, from training experiences, or from environmental influences not accounted for in our study. We controlled for certain aspects of payment method and organization, but we could not measure all relevant factors. For example, cardiologists may earn a larger proportion of their income from imaging than physicians in many other specialties and therefore be more likely to have financial involvements in imaging facilities. Physicians in primary care specialties have struggled recently to maintain their incomes, which may account for their decreased willingness to provide unreimbursed care.

Practice setting and form of reimbursement, independent of specialty, were associated with behaviors related to professional norms. Physicians paid on a fee-for-service basis may face greater challenges with managing conflict of

Table 4—Continued

Adjusted Proportion of Respondents (95% CI), %					
Improve Access to Care			Improve Quality of Care		
Provided Care without Reimbursement in a Setting Serving Poor and Underserved Patients in the Past 3 Years	Currently Accepting New Uninsured Patients	Accepting Patients on Medicaid or Uninsured and Unable to Pay*	Prepared to Contribute to Formal, Organized Quality Improvement Efforts	Participated in a Formal Medical Error Reduction Initiative in the Past 3 Years	Reviewed Another Physician's Medical Records for Quality Improvement Reasons in the Past 3 Years
74.2 (71.6–76.9)	89.8 (87.9–91.7)	23.3 (20.3–26.4)	89.6 (87.7–91.4)	59.7 (56.7–62.6)	65.3 (62.4–68.2)
82.7 (80.1–85.2)	82.7 (80.1–85.4)	20.3 (17.0–23.6)	91.9 (90.0–93.7)	55.1 (51.7–58.4)	56.8 (53.4–60.1)
83.9 (81.6–86.2)	81.2 (78.6–83.7)	24.6 (21.6–27.7)	90.3 (88.4–92.1)	59.2 (56.1–62.3)	61.4 (58.3–64.5)
71.3 (68.4–74.2)	59.2 (55.8–62.6)	25.9 (22.7–29.1)	82.8 (80.5–85.2)	57.7 (54.6–60.8)	51.6 (48.5–54.8)
73.3 (70.7–75.9)	64.9 (61.8–67.9)	26.7 (23.6–29.8)	85.8 (83.8–87.8)	43.9 (41.0–46.8)	61.7 (58.8–64.5)
72.1 (69.5–74.7)	61.2 (58.2–64.3)	39.6 (36.6–42.6)	78.4 (76.0–80.8)	50.0 (47.1–52.9)	48.5 (45.6–51.4)
79.5 (77.2–81.7)	82.6 (80.2–84.9)	28.7 (25.4–32.0)	86.3 (84.4–88.2)	56.1 (53.3–58.9)	52.5 (49.7–55.3)
53.5 (47.4–59.6)	35.8 (28.9–42.8)	28.3 (25.0–31.5)	88.1 (84.4–91.9)	61.7 (55.7–67.7)	69.9 (64.3–75.5)
72.1 (70.2–73.9)	68.0 (65.9–70.1)	26.0 (22.7–29.2)	84.7 (83.2–86.2)	56.3 (54.2–58.3)	60.3 (58.3–62.3)
77.2 (74.8–79.5)	63.9 (61.0–66.8)	27.1 (23.9–30.4)	84.9 (82.9–86.9)	43.5 (40.7–46.2)	50.4 (47.6–53.2)
78.8 (74.9–82.7)	84.5 (80.5–88.6)	28.1 (24.8–31.4)	85.7 (82.3–89.1)	52.2 (47.3–57.0)	54.8 (50.0–59.7)
75.1 (73.3–76.9)	67.4 (65.2–69.5)	21.0 (17.7–24.4)	85.7 (84.3–87.1)	51.4 (49.3–53.4)	57.8 (55.8–59.9)
76.0 (72.3–79.7)	60.8 (56.2–65.4)	25.5 (20.7–30.3)	80.8 (77.4–84.2)	45.6 (41.2–49.9)	57.3 (53.0–61.5)
72.5 (70.6–74.4)	74.6 (72.5–76.7)	35.0 (31.4–38.6)	84.9 (83.4–86.5)	57.7 (55.5–59.8)	56.5 (54.4–58.7)
75.7 (71.9–79.6)	68.3 (63.4–73.1)	31.1 (26.0–36.1)	88.7 (85.9–91.5)	52.4 (47.9–56.9)	48.4 (43.9–52.8)

interest and with professional self-regulation (reporting serious errors). These findings suggest that structural factors of the U.S. health care system probably exert independent effects on the professional activities and attitudes of physicians.

Our study has several limitations. Our measures of behavior did not capture all activities that may reflect on the norms in question. In future investigation, it might be helpful for specialty organizations to develop measures that represent a consensus of affected physicians on how best to quantify both professional attitudes and related behaviors. Another limitation is that we relied on self-reported behaviors, which probably resulted in overreporting of socially desirable activities. Also, although our overall response rate is acceptable, specialty-specific comparisons should be made with caution. This limitation is particularly salient for cardiologists, who had the lowest response rate among the specialties we surveyed. Furthermore, caution is warranted when considering the potential interactions between sex and other variables, such as specialty. With respect to reporting impaired colleagues and errors, we did not ask whether others had reported the impaired colleagues or errors in question. Finally, our study should not be regarded as an assessment of the effects of the American College of Physicians and American Board of Internal Medicine Charter on Professionalism. The survey was probably conducted too soon after the promulgation of the Charter to be a useful indicator of its influence.

Our findings give reason for both optimism and concern. Professional leaders, private managers, and public officials might find reassurance in the near-universal acceptance of key professional norms. At the same time, however, our findings suggest opportunities for increasing levels of professional conformance to these norms, at least in the selected areas we probed. Methods for improving the professionalism of physicians should be explored in future research and may need to vary in design and focus with physician specialty, practice setting, and method of payment.

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