Clinical Experience and Quality of Health Care

TO THE EDITOR: Choudhry and colleagues’ paper may be technically flawed, but more important, in our view it is potentially destructive (1). Behind the mask of “evidence-based medicine,” the authors reviewed 59 articles, selected by their own peculiar process from hundreds of potential papers relevant to the subject. They then analyzed this sample according to 4 criteria: knowledge; adherence to standards of practice for diagnosis, screening, and prevention; adherence to standards of appropriate therapy; and outcomes. They concluded that physicians who have been practicing longer may be at risk for providing lower-quality care and may need quality improvement interventions.

This “systematic review” was not in the least systematic. Of 245 articles retrieved by an Internet search engine, the authors excluded 167 for various arbitrary reasons and excluded 3 others for reasons that were not characterized. To the 78 papers that remained, the authors added 9 articles from their personal archives and 35 more from a reference list search. Of the 122 papers discovered by this circuitous route, the authors excluded 63 more because the practice variation or outcomes were not clearly related to quality of care or because the relationship between length of time in practice or physician age and outcomes was not reported. Four additional papers were excluded for other reasons. This extraordinary process yielded the 59 articles that were the subject of the paper.

All 4 of the authors’ criteria indicate the core weakness of measuring quality in an evidence-based manner. The first criterion, knowledge, would be more accurately described as “information.” If patients desired and sought only information, they could consult the Internet rather than a physician. The next 2 criteria, adherence to standards of practice for diagnosis, screening, and prevention and adherence to standards of practice for therapy, are also superficial gauges of quality medicine. Patients do not seek consultation for a more fastidious application of standards; they look to us for a wise, compassionate analysis of their problem. Certainly, a patient would be in better hands with a doctor who did not know the newest therapy for a disorder but did know how to recognize the disorder itself. Knowledge of practice standards is not wisdom. If our strength as physicians were the ability to recite the latest practice standards and drug names, sick patients would be right to avoid us.

Finally, Choudhry and colleagues concluded that older physicians produce worse outcomes than younger ones. However, they failed to exclude articles that did not correct for patient age and disease severity. Had they done so, they would have had virtually nothing to review. Older doctors usually have older and sicker patients. If this is not taken into account, interpretation of all such studies is flawed from the beginning. Even in the era of evidence-based medicine, the mortality rate remains 1 per person. Do the authors really believe that if we all had younger doctors, the mortality rate would fall?

The crux of the issue is the value of experience and the methods by which one obtains it. No one argues for the repetition of mistakes masquerading as experience. But age brings 2 things: graciousness by which one obtains it. No one argues for the repetition of mistakes and time to realize that fads in treatment and medical reform come and go. Any physician, young or old, who fails to carefully observe and assess his or her own patients is a limited physician. The ability to examine clinical data and choose the singular, salient features marks clinical maturity and creates value, allowing a clarity that cuts through the complexity of many medical problems. For some physicians, lack of confidence in their own judgment and dependence on tests to solve problems have led to a dismal reliance on authoritative solutions.

Choudhry and colleagues’ review glorifies information, algorithms, and consensus criteria and has the unfortunate, probably unintended effect of diminishing experience and judgment. However, its publication is perhaps not unexpected. It is part and parcel of an unfortunate course of events in medicine where quantification inadvertently undermines quality while masquerading as evidence.

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Potential Financial Conflicts of Interest: None disclosed.

Reference

TO THE EDITOR: The review by Choudhry and colleagues on physicians’ clinical experience versus the quality of their care (1) created headlines. Most media coverage suggested that older doctors are dumber than younger ones (2). However, such conclusions appear to go beyond the data provided in the article.

Choudhry and colleagues did not use a priori standards to exclude original articles of poor methodologic quality or to rate the methodologic quality of any article they did review. Such standards are available (3, 4). Thus, the review article included original articles whose criteria for physician performance were not evidence-based, such as tests of knowledge not related to the physicians’ practices. Furthermore, the review included articles regardless of their study architecture, age, sample size, patient selection criteria, whether and how they controlled for patients’ characteristics, and their effect size and its precision. Thus, the review’s results could have been biased by including data from poorly designed or poorly performed original studies and from original studies that are unlikely to be generalizable to modern physicians.

For example, consider the 13 original articles that used chart audit to assess adherence to standards of treatment. Only 6 showed a consistently negative effect of increasing age. Of these, 1 was published 34 years ago and included only 37 physicians, 1 did not account for the severity of the patients’ symptoms and had a very small effect size (odds ratio, 1.12 [95% CI, 1.01 to 1.24]), and 1 used a standard of care for inappropriate drug selection that might be debated. Another used that same debatable standard, did not adjust for patients’ clinical characteristics, and had a very small effect size (odds ratio, 1.14). One was published 21 years ago and used practice standards defined by consensus, not evidence, and another was pub-
lished 20 years ago, included only 66 physicians, and again used practice standards defined by a panel, not evidence. The results of the review may have been biased by the methodologic weaknesses of the original articles it included. Its key conclusion, that older doctors’ performance is worse than that of younger ones, was not well supported by the evidence it presented. We agree that physicians’ professional values mandate serious, ongoing examination of our own performance. However, the principles of clinical epidemiology apply to such studies just as they apply to studies of patients. We should not rush to negative conclusions about physician performance without examining the strength of the relevant evidence.

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Potential Financial Conflicts of Interest: None disclosed.

References

TO THE EDITOR: As I sat at my kitchen table eating a cold dinner after a 12-hour day spent seeing 30 patients, doing 5 preventive medicine physicals and 2 urgent pre-ops, answering over 20 telephone calls, and sending 2 patients to the emergency department from the office, I read Choudhry and colleagues’ article (1) with great interest. Next to me sat my 20-year-old son, who is as old as I have been in internal medicine practice. I finished the article and said to him, “There will be an editorial calling for more frequent testing of physicians.” Sure enough, there was the editorial by Dr. Weinberger (2) to him, “There will be an editorial calling for more frequent testing of physicians.” Sure enough, there was the editorial by Dr. Weinberger (2).

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Potential Financial Conflicts of Interest: None disclosed.

References

To the Editor: The article by Choudhry and colleagues (1) showing a consistent negative relationship between experience and performance is controversial. Although few will be surprised that recent graduates do better on knowledge tests or are more likely to adhere to practice guidelines, the relationship to patient outcomes, particularly mortality, is much more difficult to dismiss. In particular, the single unequivocal study, by Norcini and colleagues (2), observed “a 0.5% increase in mortality for every year [since graduation].” Taken at face value, this is a terrifying statistic. If a recent graduate has a 10% in-hospital mortality rate, then someone who has been practicing for 30 years has a mortality rate of \((10 + 30) \times 0.5\), or 25%, 2.5 times as much.

In fact, the statistic is too bad to be true. Norcini and colleagues’ data are actually relative risks, not absolute risks. In their Table 2, the weight for years since graduation is 0.005%. By comparison, certification has a coefficient of 0.15 and specialty training has a coefficient of 0.25. Norcini and colleagues also state that certification was associated with a 15% relative reduction in mortality and specialization with a 25% to 26% reduction. Thus, a year in practice is associated with a relative increase in mortality of 0.005, so 20 years in practice equals a relative increase in risk of about \((20 \times 0.005)\), or 0.10, and an absolute increase in mortality rate of about 1%. In a subsequent study by Norcini and colleagues (3) in which they used similar data, the effect of experience was smaller still (0.002%) and not statistically significant.
These results are consistent with those of the only other positive study of mortality cited by Choudhry and colleagues. In that study (4), relative risk for years since training was small and nonlinear, resulting in a decrease to about 0.9 after 5 to 15 years of practice and climbing to 1.1 after 20 years of practice and 1.3 after 30 years.

The relationship between years in practice and “hard” patient outcomes is weak. Thirty to 50 years of practice has no more impact on outcome than passing the certification examination or 2 years of subspecialty training.

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Potential Financial Conflicts of Interest: None disclosed.

References

TO THE EDITOR: I was surprised that Choudhry and colleagues (1) reported no potential financial conflicts of interest. One of the authors and his wife serve as co-editors in chief of the adult primary care section of UpToDate (2), described on its Web site as being “a comprehensive evidence-based clinical information resource available to physicians on the internet, CD-ROM, and Pocket PC. . .designed to get physicians the concise, practical answers they need when they need them the most—at the point of care” (3).

In interviews following the article’s publication, this author identified computerized databases as a principal solution to the quality problems identified by the review, although the article itself contains little evidence to support such a contention. While he did not specifically refer to the product UpToDate, such phrases as “up to date,” “at the time of care,” and others identical to or highly reminiscent of those used in official descriptions of UpToDate do appear in the interviews and immediately brought that product to my mind (4, 5). If UpToDate were a drug rather than an information database, the author was employed by or associated with its manufacturer, he might be criticized for his failure to report that connection. The author’s employer has a clear financial interest in the subject matter of a manuscript that identifies traditional, competing continuing medical education techniques as “largely ineffective” and prompts interviews in which the answer to the “problem” identified in the review conveniently includes products that sound a lot like UpToDate.

I am sure the author’s intentions are laudable and that the failure to report a connection with UpToDate was an oversight, but there seems to be a double standard, unrecognized at the highest levels of academia, about what poses a potential financial conflict of interest. Readers of this article and reporters who conducted interviews with the author because of it were denied the chance to consider whether this potential financial conflict influenced the focus of the review or the framing of recommended solutions.

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Potential Financial Conflicts of Interest: Dr. Loder has been a paid and unpaid consultant and content developer for commercial and non-profit continuing medical education projects.

References

IN RESPONSE: Drs. Samuels and Ropper raise concerns that our search strategy was “not in the least systematic” and was “circuitsous.” We identified studies from multiple sources and applied explicit inclusion and exclusion criteria; this process and its reporting are precisely what make our review systematic. We used methods recommended by the Cochrane Collaboration (1), which are similar to those frequently presented in the clinical literature.

Drs. Samuels and Ropper take issue with the outcomes we evaluated, asserting that “[p]atients do not seek consultation for a more fastidious application of standards.” We agree that many aspects of health care do not fit into clinical practice guidelines and that expert consultation by appropriately trained physicians probably leads to better care in these situations. However, an important aspect of quality is, in our opinions, application of the best available research evidence to the care of patients. This evidence is tailored to individual patients, to be sure, but applies to most patients most of the time.

Drs. Poses and Diaz indicate that our results could have been biased by inclusion of data from poorly designed original studies. However, we did exclude the smallest studies and those that simply reported practice variation; we also identified which studies adjusted for patient and physician covariates (our Tables 2 through 4). We reported that restricting our analysis to higher-quality studies did not change our results. Unfortunately, accepted methods for incorporating quality scores into systematic reviews of heterogeneous observational studies are not yet available. Even in reviews of clinical trials, different scales generate widely discrepant results (2).

Dr. Szabo notes that the studies in our review were published over a large time span and that restricting the analysis to studies published within the past 5 years demonstrates that “over 50% (8 of 15) actually showed a neutral or positive effect.” This statement deserves clarification. Of the 18 studies that were published in 2000 or later, 6 showed a consistently negative association between length
of time in practice and performance, 4 showed partially negative results, and 8 showed no association. Dr. Szabo’s suggestion that older physicians are busier and have less time to read clinical practice guidelines may be a partial explanation for our findings and merits study.

Drs. Norman and Eva clarify Norcini and colleagues’ results about the impact of years in practice on acute myocardial infarction mortality by pointing out that they are relative, not absolute, risks. We agree that in absolute terms the adjusted effect sizes from this study are modest, although the magnitude of this effect is similar to the impact of volume on outcomes.

Finally, Dr. Loder suggests that one of us failed to disclose his role as an editor of UpToDate. However, as Dr. Loder points out, we did not mention this particular textbook or any other in our article. In any case, editors and authors of textbooks, unlike authors with ties to companies selling drugs and devices, have so far not been asked to declare this as a conflict. Our comments on the limitations of traditional continuing medical education are based on available research evidence, which was summarized in one of the references we cited (3).

Delivering high-quality care is the primary goal of all health care providers. We believe that care should be guided by the best available evidence. These thought-provoking letters illustrate the importance of reenergizing our efforts to establish effective quality-improvement evidence. These thought-provoking letters illustrate the importance of reenergizing our efforts to establish effective quality-improvement evidence for physicians of all ages and specialties.

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Potential Financial Conflicts of Interest: None disclosed.

References

IN RESPONSE: We are glad that potential conflicts of interest related to Choudhry and colleagues’ provocative article have been addressed (1). The intent of our required conflict-of-interest disclosure forms is to have authors disclose any financial interest or potential financial conflict between authors, authors’ employees, or authors’ institutions and subject matter or materials discussed in manuscripts.

The Editors

Reference

“Practice Makes Perfect”. . .or Does It?

TO THE EDITOR: I read with great interest the editorial “ ‘Practice Makes Perfect’. . .or Does It?” (1). I am heartened by the collaborative spirit expressed by Dr. Weinberger, who represented the American College of Physicians (ACP), and Drs. Duffy and Cassel, who represented the American Board of Internal Medicine (ABIM). I agree with the shared visions expressed and the goal of identifying ways to “maintain the highest quality of care throughout a career that spans several decades.” I further agree that maintenance of certification is a tool that has great potential toward furthering the stated goal.

I also have a nagging and uncomfortable feeling that there are aspects of the maintenance of certification process that, as well intentioned as I know they are, may be counterproductive in the long run and in some ways miss the mark in achieving the ultimate goals: effective transfer of current knowledge to physicians as they mature in their careers and maintenance of the highest standards of care in the practice of medicine.

Specifically, I am concerned that the process remains needlessly complex and difficult to navigate for busy practitioners, especially those who are farthest along in their careers; that subspecialists in internal medicine will increasingly choose not to recertify in general medicine as the process is currently structured; that some, perhaps many, generalists will evaluate the current process, especially the high-stakes secure multiple choice examination that concludes each recertification cycle, as having a low value and therefore choose not to recertify (especially late in their careers); and that by adhering to the notion of a high-stakes secure examination as a key component of recertification, ABIM is missing an opportunity to make recertification a much better accepted and more widely used tool to achieve the lofty goals that underlie the endeavor.

As our focus sharpens on how physicians must participate in improving the quality of health care in the United States, we also need to make sure that our efforts do not have unintended adverse consequences. Our professional societies and certifying organizations need to work together to create tools that treat physicians as mature adult learners who embrace the professional obligation to grow and learn throughout their careers in medicine. There needs to be recognition that, at a time when interest in general internal medicine as a career choice is seriously declining, maintenance of certification must be carefully structured as a benefit, not an impediment, to viewing such a career positively. I hope to see the maintenance of certification process evolve further as the collaborative efforts between ABIM and the College continue.

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Potential Financial Conflicts of Interest: None disclosed.

Reference

TO THE EDITOR: I do not necessarily disagree with Weinberger and colleagues’ editorial (1). I recently became recertified and found the experience useful; I am also a proud dues-paying member of the
American College of Physicians. What I do object to is that Drs. Weinberger, Duffy, and Cassel claimed that they had no potential financial conflicts of interest. Although they themselves may not personally financially benefit from recertification, the organizations they represent do. As an example, the American Board of Internal Medicine (ABIM) “self-assessment” modules link directly to the College Web site, which requires College membership. In fact, membership can save a tremendous amount of time because it gives the test taker direct links to the answers in the self-assessment modules. This is despite the fact that many physicians use other programs, such as UpToDate, to stay current in their clinical practice and may have no other need to join the College. There is more than a hint of financial conflict of interest in the College and ABIM promoting tests that they produce and charge for and in the College creating review programs that, because of the relationship between the 2 organizations, are more “tailored” to the test than those of competitors. There is a financial conflict of interest in having a relationship between a professional organization and a testing organization.

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Potential Financial Conflicts of Interest: None disclosed.

Reference

IN RESPONSE: Dr. Neubauer raises important concerns emphasizing fundamental principles that ABIM is working to accomplish with maintenance of certification and that the College believes are important for all internists. Reducing the complexity of the process and making maintenance of certification in the core discipline of internal medicine attractive to subspecialists are goals that both organizations strongly support. The secure examination component of maintenance of certification can cause anxiety, particularly if there is a perception that physicians will be tested on obscure factual knowledge or on information that is not relevant to their practice. The ABIM and the College are now working together through a joint committee to reduce the anxiety about the examination, to improve its composition and content, and to provide more accurate information about the examination and how it is developed. Specifically, among the goals of the joint working committee are the following: 1) clarifying important differences between the content of the certification examination and the content of the maintenance of certification examination; 2) stressing that the maintenance of certification examination is testing physician judgment rather than factual recall; and 3) developing and refining questions to focus on core content that is clinically relevant to both general internists and subspecialists. Detailed information is available at www.abim.org.

Although none of the authors of the editorial has a personal financial conflict of interest relating to the editorial’s content, Dr. Breite is correct that there are potential institutional conflicts of interest for the ABIM and the College when discussing physician education and maintenance of certification. These conflicts were indeed noted by the authors from both organizations on the disclosure forms that we completed and submitted. Nonetheless, we would disagree that there is a conflict of interest in having the 2 organizations work together to improve the maintenance of certification process. Development of questions by the ABIM and creation of educational materials by the College are entirely independent processes, with strict guidelines prohibiting a physician’s participation in both processes. Most strongly, we believe each organization has a responsibility to contribute in its own way to enabling physicians to maintain and improve their knowledge and skills.

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Potential Financial Conflicts of Interest: Dr. Weinberger is an employee of the American College of Physicians. Drs. Duffy and Cassel are employees of the American Board of Internal Medicine.

CORRECTION

Correction: “Practice Makes Perfect”...or Does It?
Authors of the editorial titled “Practice Makes Perfect”...or Does It?” are employed by the American College of Physicians and the American Board of Internal Medicine. Annals erred in indicating that these potential financial conflicts of interest were not disclosed to the journal.

Reference