standards could be further refined to reflect the changing educational and practice environments and address the needs of the physicians it is intended to support.

The recently approved 2015 ABMS standards for MOC are the result of this refinement process. These standards (available at www.abms.org) include general standards pertaining to the member boards themselves, outlining expectations for them to incorporate all six ABMS–ACGME core competencies throughout their MOC programs, to enhance the value and relevance of their MOC programs for their diplomates by being sensitive to time, administrative burden, and cost, and to engage in continuous quality improvement of their MOC programs, in part through regular review incorporating input from diplomates and the public. The new standards place greater emphasis on professionalism and patient safety, and they include a requirement that examinations assess physicians' judgment as well as knowledge.

An audio interview on MOC with Steven Weinberger of the American College of Physicians is available at NEJM.org

The 2015 standards retain program elements that incorporate both physician self-assessment and assessment by the boards. They also encourage innovation. In the area of lifelong learning, for example, some boards are e-mailing "questions of the week" to stimulate learning through self-assessment activities. Thanks to technological advances, some boards are investigating the possibility of developing a secure examination that can be delivered in various settings and for expanding access to approved reference materials during the examination process. Under the new standards, boards are also expected to provide feedback from the examination to guide physicians' self-assessment and individual learning; they are also expected to provide MOC credit for meaningful participation in system- and team-based quality-improvement activities in physicians' practice settings.

We see the 2015 MOC standards as providing the medical community, the member boards, and ABMS with an opportunity to work together to positively affect the care of patients and communities, to support the social compact between the public and the profession, and thereby to help maintain medicine as a profession and support physicians throughout their careers. We believe that high standards of specialty certification are important to health care, and we hope our medical-community partners will work with us to continue to evolve our certification systems to ensure that the standards they set continue to be highly valued in the future.

Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

From the American Board of Medical Specialties, Chicago.

1. Davis DA, Mazmanian PE, Fordis M, Van Harrison R, Thorpe KE, Perrier L. Accuracy of physician self-assessment compared with observed measures of competence: a systematic review. JAMA 2006;296:1094-102.
2. Wittich CM, Reed DA, Ting HH, et al. Measuring reflection on participation in quality improvement activities for maintenance of certification. Acad Med 2014;89:1392-7.
3. Peterson LE, Blackburn BE, Puffer JC, Phillips RL Jr. Family physicians' quality interventions and performance improvement through the ABFM diabetes performance in practice module. Ann Fam Med 2014;12:17-20.
4. Vernacchio L, Francis ME, Epstein DM, et al. Effectiveness of an asthma quality improvement program designed for maintenance of certification. Pediatrics 2014;134(1):e242-e248.
5. Gorzkowski JA, Klein JD, Harris DL, et al. Maintenance of Certification Part 4 Credit and recruitment for practice-based research. Pediatrics 2014;134:747-53.

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Boarded to Death — Why Maintenance of Certification Is Bad for Doctors and Patients

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In January 2014, the American Board of Internal Medicine (ABIM) changed its certification policies for physicians. Instead of being listed by the ABIM as "certified," physicians are now listed as "certified, meeting maintenance of certification (MOC) requirements" or "certified, not meeting MOC requirements." MOC requirements include ongoing engagement in various medical knowledge, practice-assessment, and patient-safety activities, on which physicians are assessed every 2 years, and passage of a secure exam in one's specialty every 10 years.

My personal frustration in trying to fulfill the new MOC requirements ultimately led me to create a Web-based petition that now has more than 19,000 anti-MOC signatures and contains thousands of comments against the new MOC requirements (www.nomoc.org). A recent second petition with nearly 6000 signatures advocates taking a "pledge of noncompliance" with the requirements.

Although the ABIM argues that there is evidence supporting the value of MOC, high-quality data supporting the efficacy of the program will be very hard, if not impossible, to obtain. In fact, close examination of the reports cited by the ABIM reveals that the data are ambiguous at best: in a meta-analysis of 33 studies, 16 described a significant association between certification status and positive clinical outcomes, 14 found no association, and 3 found a negative association. Moreover, the authors of the meta-analysis concluded that the research methods of most published studies on this topic are inadequate.[1] Almost all published studies evaluate initial board certification, not recertification or MOC,[2] and the rigorous requirements for initial certification should not be equated with the busywork required for the MOC every 2 years. One of the few studies examining lapsed certification showed no effect of physicians' certification status on patient outcomes after coronary intervention.[3] Two very recent studies found no association between recertification and performance or quality measures; one, conducted by ABIM members, found a minor reduction in cost of care.[4] No study provided level A data, and these findings relate only to recertification, not the controversial new MOC requirements.

The ABIM claims that a majority of certified physicians have already signed up for MOC, which they interpret as support for the program, but MOC is mandated by the ABIM for recently certified physicians and perceived as a job-security requirement by many others — physician interest is either required or motivated by fear. Indeed, in a 2010 *Journal* feature that allowed physicians to express their opinions on MOC, many respondents commented that "the exercise was only marginally relevant to their day-to-day practice and that it took their time away from patients and other learning activities."[5] These problems are especially frustrating in light of other ongoing tasks that hospital-based physicians are required to complete. For example, to maintain my hospital privileges I must complete 14 separate computer modules on various subjects either annually or every 2 years. In addition, my annual bonus is tied to my performance on practice-improvement activities, including formal surveys of patient satisfaction, low-density lipoprotein cholesterol control, blood-pressure control, and various core measures for hospitalized patients. Adding continuous ABIM MOC activities, which have no documented efficacy, to this already overwhelming list is onerous and diminishes the time physicians have for patient care.

Although some members of the medical community believe that it's not unreasonable to ask physicians to formally document their fund of knowledge every 10 years, others strongly believe that the exam questions are not relevant to their practice or a reliable gauge of physicians' knowledge. The ABIM describes its tests as using "psychometrics" leading to "high reliability and reproducibility,"[2] but no clear correlation between these test results and patient outcomes has been documented. Furthermore, many physicians believe that closed-book tests are no longer relevant, since physicians can now easily turn to online resources, as well as their colleagues, while caring for patients.

The ABIM has grown into a large business enterprise. The economics of certification are exposed on the ABIM's Internal Revenue Service Form 990, which is required of all not-for-profit organizations (www.guidestar.org). In 2012, the year of its latest filing, the ABIM received more than $55 million in fees from physicians seeking certification. Several of its board members and its chief executive officer are highly compensated. Many respondents to the *Journal* feature expressed the view that "the MOC program was essentially a money-generating activity for the ABIM."[5] Much of the U.S. health care system is now focused on value, and physicians are working hard to provide better patient care at lower cost. MOC provides the opposite — an activity with no proven efficacy, at a high cost. MOC fees range from $2,715 to $3,335 every 10 years; on top of these are costs for travel to testing centers, review courses, and time spent away from practice. I believe that, like the rest of the medical community, the ABIM should focus on efficacy while cutting its costs and lowering its fees.

We all support lifelong learning, but an excellent alternative to MOC already exists: continuing medical education (CME). Currently, medical licensure for physicians requires an annual minimum of approximately 25 hours of CME, depending on the state. Physicians accept this requirement because they perceive it as having value. Organizations providing recognized CME programs are regulated by the Accreditation Council for Continuing Medical Education, which requires each CME offering to provide an "educational gap analysis," a needs assessment, information about speakers' potential conflicts of interest, and course evaluations, as well as meeting other performance standards. CME offerings must compete with one another, and they therefore provide choice. If physicians do not perceive value in a particular CME offering, they will go elsewhere — a situation in stark contrast with the ABIM monopoly on MOC.

There are many opinions about how MOC should be changed. My main recommendation would be to allow 25 annual hours of CME to be substituted for the current MOC requirements that need to be met every 2 years. Doing so would eliminate, or make optional, the busywork modules that have little practical value, including all medical knowledge, practice-improvement, and patient-safety modules. The charges for these new MOC activities should be nominal — perhaps $100 per year for tracking a physician's annual CME attendance. I also believe that the ABIM website should be vastly simplified so that administrative tasks become less onerous. Finally, I believe that the ABIM should work to cut its costs and, correspondingly, substantially reduce the initial certification and recertification fees paid by physicians.

The ABIM is now under fire. Some 63% of respondents to the 2010 *Journal* feature opposed MOC.[5] In a survey by the American College of Cardiology (ACC), nearly 90% of the respondents opposed the new MOC requirements, and ACC leaders are now engaged in discussions with the ABIM to change MOC. The ABIM has been formally criticized for the new requirements by several important physician groups, including the American College of Physicians and the American Association of Clinical Endocrinologists (which has formally asked the ABIM to "suspend its new MOC requirements"). The Association of American Physicians and Surgeons filed a lawsuit against the American Board of Medical Specialties (the parent organization of the ABIM) for restraining trade and causing a reduction in patient access to physicians. At a recent American Medical Association meeting in Chicago, delegates voted to oppose making MOC mandatory as a condition of medical licensure.

Regardless of how the MOC issue is resolved, the recent focus on the ABIM has shed a bright light on how medicine is regulated in the United States. The ABIM is a private, self-appointed certifying organization. Although it has made important contributions to patient care, it has also grown into a $55-million-per-year business, unfettered by competition, selling proprietary, copyrighted products. I believe we would all benefit if other organizations stepped up to compete with the ABIM, offering alternative certification options.

More broadly, many physicians are waking up to the fact that our profession is increasingly controlled by people not directly involved in patient care who have lost contact with the realities of day-to-day clinical practice. Perhaps it's time for practicing physicians to take back the leadership of medicine.

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From the Scripps Clinic and the Scripps Prebys Cardiovascular Institute, La Jolla, CA.

1. Sharp LK, Bashook PG, Lipsky MS, Horowitz SD, Miller SH. Specialty board certification and clinical outcomes: the missing link. Acad Med 2002;77:534-42.
2. Holmboe ES, Lipner R, Greiner A. Assessing quality of care: knowledge matters. JAMA 2008;299:338-40.
3. Fiorilli PN, Minges K, Herrin J, et al. Association of Interventional Cardiology board certification and in-hospital outcomes of patients undergoing percutaneous coronary interventions. J Am Coll Cardiol 2014;63:2904-5.
4. Lee T. Certifying the good physician, a work in progress. JAMA 2014;312:2340-2.
5. Kritek PA, Drazen JM. Clinical decisions: American Board of Internal Medicine maintenance of certification program — polling results. N Engl J Med 2010;362(15):e54.

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