AJNR

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AJNR Am J Neuroradiol 2008, 29 (2) 224-227
doi: https://doi.org/10.3174/ajnr.A0824
http://www.ajnr.org/content/29/2/224

PRACTICE ECONOMICS

Maintenance of Certification: Current Attitudes of Members of the American Society of Neuroradiology

D.M. Yousem

BACKGROUND AND PURPOSE: The maintenance of certification (MOC) process has begun in radiology, and many physicians will be affected by it. We sought to assess the compliance with and knowledge of the MOC steps by American Society of Neuroradiology (ASNR) members.

MATERIALS AND METHODS: An on-line survey was distributed via e-mail to the members of the ASNR for whom e-mail addresses were available. The survey addressed 3 components of the MOC currently implemented: 1) MOC cognitive examinations, 2) self-assessment modules (SAMs), and 3) continuing medical education (CME) credits.

RESULTS: The response rate was 1020/2662 (38.3%). Of those responding, 11% stated that they either do not support the MOC examination (8%) or were unaware of it (3%), 21.4% of respondents have completed an SAM module, but >30% were unaware that they had to complete SAMs or did not know where they were offered. Many members will receive most of their 25 required CME hours for 2007 from sources besides the ASNR annual meeting. Of the small proportion of respondents who made comments (247/1020, 24.2%), those about the MOC process were favorable in 6.1% (15/247), unfavorable in 46.6% (115/247), and neutral in 47.4% (117/247).

CONCLUSION: The MOC process remains poorly understood, with limited compliance. The radiology societies should spend additional effort publicizing the requirements and offering support and products aimed at allowing their members to achieve compliance in a reasonable cost-effective fashion.

The goal of certifying the subspecialty of neuroradiology largely began to be implemented in 1995 with the development of the Certificate of Added Qualification (CAQ) in neuroradiology. Initially, there was a period of grandfathering, whereby individuals whose practice was predominantly neuroradiology but who had never been fellowship-trained were allowed to sit for the neuroradiology CAQ. From a political standpoint, this certification was thought to be an opportunity to establish credentials independent of senior membership in the American Society of Neuroradiology (ASNR) and also to bolster the preeminence of the subspecialists in neuroradiology.

The success of the CAQ process remains debatable. However, other forces entered this subspecialty certification initiative largely as a result of the report on errors in medicine of the Institute of Medicine, which led to a critical look at physicians' maintenance of competence.[1,2] The American Board of Medical Specialties (ABMS) subsequently began to demand that certification be time-limited and that maintenance of certification (MOC) include other requirements besides simply passing a cognitive test.[3] The processes of self-assessment, continuing medical education (CME), and practice improvement measures were introduced along with the cognitive test as a means of addressing the core competencies in physician quality. The ABMS, therefore, proposed a program consisting of 4 components: 1) professional standing, 2) lifelong learning and self-assessment, 3) cognitive expertise, and 4) practice performance improvement.[4] Incorporated into these paradigms were the previously invoked 6 core competencies (medical knowledge, patient care, interpersonal skill, professionalism, practice-based learning and self-improvement, and systems-based practice), which were determined to be key elements to continuous quality improvement. These 6 competencies were previously implemented in trainee evaluations and are now being applied to practicing physicians.[4] The American Board of Radiology (ABR) reflected the ABMS guidelines by requiring recertification testing at 10-year intervals, promoting the development of self-assessment modules (SAMs), developing requirements of 25 CME hours on average per year for 10 years, and initiating practice quality–improvement initiatives.[3]

Anecdotal ASNR member responses to the directives of the ABR that were reported to the ASNR executive committee ranged from anger at the imposition to confusion with the implementation of the MOC process. Because the 1995 and 1996 CAQ (now renamed "Subspecialty Certification") classes came due in 2005 and 2006, 10 years later, there has been a scramble to understand the process of maintaining one's certification. The ASNR, in an effort to better understand the attitudes about and compliance with the MOC requirements, developed a survey that was distributed to its membership regarding the process. These data will be used to develop programs to serve its members' needs. The purpose of this article is to present the results of that survey, to extend the education process about the MOC to its members, and to propose steps to be taken by the society to enhance the adherence to the MOC process by the rank and file.

Methods

In late December 2006 and early 2007, an on-line survey (Table) was developed and distributed to the membership of the ASNR by way of an e-mail notification. There were 2912 e-mail addresses available in

Received April 8, 2007; accepted after revision June 26.

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DOI 10.3174/ajnr.A0824

Survey questions
1. Have you taken the American Board of Radiology subspecialty maintenance of certification (MOC) examination?
2. If yes, in what year?
3. If NO, why have you not taken the recertification test?
● I am scheduled for it in 2007 at a locale other than the 2007 ASNR meeting in Chicago.
● I am scheduled for it in 2007 at the 2007 ASNR meeting in Chicago, June 14.
● I no longer practice neuroradiology as >50% of average workload.
● I do not support the process of maintenance of certification or do not find it valuable.
● I plan to retire shortly.
● I was unaware I had to take the maintenance of certification exam (for more information see http://www.theabr.org/NEURO_home.htm).
● Other (please specify).
4. Do you plan to take the neuroradiology subspecialty maintenance of certification test when it is offered Thursday, June 14, in Chicago at the ASNR meeting?
5. Have you completed self-assessment modules (SAMs) as part of the maintenance of certification (MOC) process? (20 SAMs required in 10-year period) (See ASNR eCME for online SAMs.)
6. If yes, how many?
7. If NO, I have not completed any self assessment modules (SAMs) because:
● I no longer practice neuroradiology as >50% of average workload.
● I do not support the process of maintenance of certification with its requirement of 20 SAMs in 10 years.
● I plan to retire soon.
● I was unaware I had to complete SAMs for MOC (for more information see http://www.theabr.org/NEURO_home.htm).
● I do not know where SAMs are offered.
● I plan to take them at a later date.
● Other (please specify).
8. Do you plan to attend any of the 5 proposed SAM sessions that will be presented at the ASNR's annual meeting in Chicago, June 9–14, 2007?
9. Will you receive the majority of your 50 CME credit-hour annual requirements for maintenance of certification at the ASNR 2007 meeting (39 hours are offered)?
10. Other comments about the MOC process:

the membership data base of the ASNR, and each of these was sent a notice to answer the on-line survey on the topic of the MOC. Sixty-nine percent of those surveyed (2009 of 2912) were senior members of the ASNR by virtue of having passed the Subspecialty Certification (CAQ) examination or having completed a neuroradiology fellowship. Two hundred fifty e-mail addresses returned as not valid left a potential survey responder pool of 2662. Two reminders were sent to nonresponders for 3 weeks before the survey was closed to responses on January 23, 2007.

The survey consisted of 9 questions regarding the MOC process, addressing the recertification examination, the self-assessment modules, and the CME requirements. It was a multiple-choice questionnaire with the opportunity to provide commentary for 2 of the 9 questions, followed by an open-ended comment section for the tenth question. The responses in the open-ended comment section were graded by the author of the survey as to whether the statements were favorable, neutral, or unfavorable toward the MOC process. The unfavorable comments were then subdivided into the most common themes of the negative thoughts expressed.

Results

The response rate for the number of valid e-mail addresses was 1020/2662 (38.3%). Not all respondents answered all questions in the survey. Among the respondents, 68 identified themselves as ineligible for the MOC process because they were not practicing in the United States ($n = 38$), were not subspecialty certified in neuroradiology ($n = 27$), or for other reasons ($n = 3$).

Four hundred nineteen of the respondents stated that they had taken the MOC examination. This reflects a confusion on the part of the survey respondents: Some may have responded believing that the initial Subspecialty Certification was included in this question.

A significant number of responders ($n = 330$) answered that they were not due for the 10-year recertification test, reflecting an understanding of the differentiation between the MOC recertification and the initial Subspecialty Certification. Of those 615 respondents who stated that they had not taken the MOC recertification test, in addition to the 330 mentioned previously and the 68 who stated that they were not eligible for the test, there were 49 (8%) individuals who answered that they did not support the MOC process and 19 individuals who either were no longer engaging in neuroradiology as >50% of their practice, were retiring soon, or were unaware of the MOC process.

Only 217 (21.4%) of 1012 people responding said that they had completed SAMs, and of those responding in the affirmative, most had fewer than 2 SAMS to their credit (140 of 217 responding, 64.5%). The reasons for not obtaining SAMs were similar to those for not taking the MOC test except that most were deferring taking the SAMs to a later date (304 of 802 responding, 37.9%) or simply did not know they had to complete SAMs (173 of 802, 21.6%). Of those planning to attend the annual ASNR meeting in 2007 ($n = 483$), 433 (89.6%) planned to attend the SAM sessions that were offered. Only 29.7% (295/993) of members said that they would use the annual ASNR meeting as their primary source for obtaining CME credits for 2007.

The open-ended opportunity for commentary on the MOC process yielded 249 responses. Of these, 247 could be graded into categories of favorable, neutral, or unfavorable toward the MOC. Two were questions directed toward the survey author. Fifteen of the 247 comments (6.1%) were favorable toward the process, 115 (46.6%) were unfavorable, and 117 (47.4%) were graded as neutral. The most common criticism of the MOC program was that it was too costly ($n =$

54, 47.0% of unfavorable comments). Other frequent statements reflected confusion about the requirements ($n = 41$, 35.7%). The inconvenient/onerous nature ($n = 30$, 26.1%), or the poor communication about the process ($n = 20$, 17.4%). Of the confusing aspects of the MOC process, the personal practice quality–improvement component was most frequently cited.

Discussion

Despite the effort of the ABR, the American College of Radiology, the Radiologic Society of North America, and the ASNR, there continues to be a great deal of confusion and ambiguity about the MOC program. The bewilderment by the members of the ASNR who responded to this survey is exemplified by the confusion between the MOC recertification examination and the initial Subspecialty Certification examination. Members of the ASNR may not understand that the initial testing is time-limited to 10 years and that a new cognitive examination will be required for every 10 years in practice. The ABR has exacerbated this ambiguity by not clarifying that although one's initial Subspecialty Certification examination (say for a graduate of a neuroradiology fellowship) may be focused entirely in neuroradiology, the recertification MOC process will be a cognitive test based on the actual breakdown of one's practice pattern. This has been a bit of a moving target, and the ABR Website has not been kept current with the changing policies. Thus, although one may be subspecialty certified in neuroradiology a year after fellowship, if one subsequently engages in a practice that is 30% neuroradiology, 20% musculoskeletal, and 50% abdominal imaging, the 10-year MOC examination will reflect questions according to these percentages, not the initial Subspecialty Certification. These are concepts still being developed and promulgated by the ABR. As to general radiologists with lifelong certificates (grandfathered before subspecialty certification and general certification), they are not required to participate in the MOC but are strongly encouraged to do so. Lifetime certificates (time-unlimited certificates) were issued in Diagnostic Radiology before 2002.[3]

The ASNR has tried, through letters from its past presidents, discussions at the annual meeting, editorials in the *American Journal of Neuroradiology*, and e-newsletters, to publicize the requirements of the MOC process, but confusion still prevails.[5-7] In summary, the MOC is a severalfold process that includes the following: 1) passing the cognitive test of medical knowledge, 2) completing 20 SAMs in the 10-year period, 3) documenting 250 category 1 CME hours during 10 years with at least 70% in specialty-specific or related areas, and 4) engaging in practice quality–improvement measures. In addition, keeping up current and unrestricted state licensure is deemed necessary for maintaining certification as part of the "professional standing" requirement.

The SAMs and the CMEs should be in areas that reflect actual practice activities, but at least 20% must be in areas of general concern (usually reflecting medical ethics, radiation physics, radiation safety, consent procedures, contrast complications, etc). SAMs must be approved by the ABR and consist of instructional content followed by multiple-choice questions, with immediate feedback to the respondent individually and in a group data fashion. It is not necessary to answer the questions correctly. The idea with SAMs is to use the knowledge and the results of the SAM questions to guide additional learning in a field of weakness. Self-awareness and self-reflection are the goals of the SAMs.[8] Twenty SAMs must be taken during 10 years, but only 4 can be credited in any 1 year. Twenty percent of SAMs (4 during 10 years) must be of general knowledge categories (consent, contrast administration, reactions, radiation physics, etc). For dedicated neuroradiologists, 80% of SAMs or 16 during 10 years will be from the neuroradiology clinical content category. The specifics of each of these components are well-documented on the ABR Website and have been explained in various publications.

The negativism that has been expressed toward the MOC in general and the ABR specifically is reflected in the results in this survey, in which the open comments tended to be overwhelmingly (>7 to 1) harsh as opposed to positive toward the MOC. It is possible that those with the strongest opinions about this issue were more likely to respond to the survey and to provide personal comments, so this introduces a potential bias to the results of this open-ended survey. Although, to our knowledge, no directed surveys similar to this one have been previously published in the literature, there are data suggesting that 23% of general internists and 14% of internal medicine subspecialists did not renew their respective certificates. Reasons for not renewing are ascribed to the burdensome time commitment, expense, unreasonable requirements, and lack of mandate by employers.[9]

According to ABR records, 496 (74.8%) of the possible 663 individuals who took the neuroradiology Subspecialty Certification test in 1995 and are still living have renewed their subspecialty certificate. For the 1996 certificate class, 419 (62.5%) of 670 eligible living applicants have taken the recertification test (personal communication, Glenn Forbes; June 2007). These numbers may be skewed slightly lower than predicted by 1) retiring radiologists, 2) radiologists who are no longer just doing neuroradiology, 3) people who are deferring for a year or 2 before renewing, 4) people who are at the age where they knowingly are deferring renewal, and 5) people who are simply unaware of the MOC process.

The process of physicians regulating themselves is a beneficial opportunity as opposed to having a governmental body imposing its own criteria on the profession. Setting reasonable standards by which radiologists hold themselves accountable is the charge of the ABR and has staved off that alternative. Nonetheless, the feelings toward the MOC process have been couched in the perception of high cost ($2700 over 10 years) and the restricted number of locations available for taking the computer-based examination.[6] Suspicions/allegations that the MOC represented a covert income source for the ABR or even the ASNR have been expressed in the print media as well as in comments to this survey. These suspicions as to the motives of the ABR are unfounded because this mandate arose from and was imposed by the ABMS as a response to the public outcry for quality medical care. Some still are calling for the ABR to justify the high cost and inconvenience of the process, and this has led to the ASNR offering to provide the MOC cognitive test at its annual meeting.[6]

Others have misunderstood the rationale for the MOC process. Some of the comments reflected the notion that the CAQ and the MOC have failed in their unstated goal of main-

taining turf in neuroradiology. The notion that the MOC process was a step toward protecting the subspecialty is misguided. The MOC initiative was, in fact, a response to a public demand for verification of the quality of the medical care it was receiving and has been carried across all fields of medicine.[10] The idea was not to fortify boundaries within the medical profession but to address the concern that standards of education, practice, knowledge base, and expertise were not being sustained by physicians after their initial training. Until the MOC program, the main demand placed on physicians was CME hours, which equated, in some members of the public if not the medical community, to a ski course and/or an annual society meeting a year. The medical profession was asked to put some teeth into their professional acumen maintenance. Was this not a worthy goal?

In addition, the MOC developed, at the same time, the core competencies that were being espoused for trainees and then members of the entire medical profession. The need to address these issues of medical knowledge, communication skills, professionalism, system-based practices, practice-based learning, and patient care through the MOC process led to the formulation as it is currently constructed. Thus, the cognitive test and CME requirements address medical knowledge and patient care. The SAMs include elements of practice-based learning and system-based practice. The practice-improvement programs are oriented toward communication skills (eg, report turnaround times) and professionalism as well as the other competencies. Maintaining licensure and credentials also helps to ensure professionalism and system-based practices.

What can the ASNR do? Our role in reducing the confusion about the MOC requirements and the rationale for them can be addressed by greater communication with our membership by redoubling efforts to notify and educate physicians. We must continue to publicize the process and educate the membership because with repetition, the MOC process will become understandable. Our annual meeting is already a source for SAM credits (6 SAMs offered at the 2007 meeting), but our Website offerings should be expanded to provide greater opportunity for the members to meet requirements without having to leave their homes. The same can be true for the CME requirements, either through the annual meeting (which typically can provide >35 hours of CME category 1 credit) or through on-line offerings. This year also marks the second year that the MOC examination was offered at our annual meeting, and this may be expanded to other venues to make taking the examination more convenient. Although the 2006 annual meeting saw fewer than 20 attendees sit for their MOC examination, this year all 60 available openings were occupied for the test. Members of the ASNR should be vetted as proctors for the examination so that regional testing can take place more easily at sites with appropriate monitors and testing facilities.

Although the ASNR leadership has a mature notion of how to assist the rank and file with regard to the CME, SAM, and MOC examination components to maintaining competency, the ASNR must address the practice quality–improvement program mandate, which has recently been clarified by the ABR. The commitment to improve must include participating in a project as of 2008. In the first MOC cycle, the only way to "fail" is not to participate. Participation includes defining a project, engaging in it, having measurable results, implementing changes, and retesting to assess for improvement. If performance does not improve, the candidate will still earn his MOC certificate; however, the subspecialist must respond by looking at modifying the improvement plan to make it more effective.

If we do not embrace the MOC process, what are the consequences? Although some may fear a decrease in the quality of care we provide in neuroradiology, this is likely to be unfounded. Nonetheless, this may spur some physicians toward continuous self-improvement in knowledge and skills, for which they would not be otherwise motivated. However, the biggest fear is that of having the process taken away from the radiology profession as stated by Michael Darcy: "If a significant proportion of radiologists do not participate in the ABR MOC program, then outside entities will view it as a failure. Licensing boards and other regulatory and advisory agencies will feel justified in trying to impose on physicians their own vision of MOC. . . . It is better to make changes that we can live with than have others dictate changes that may be far less palatable."[10]

Conclusion

A survey of the ASNR membership demonstrates that there continues to be a knowledge gap with respect to the MOC process and its requirements. Compliance to date has been limited possibly out of ignorance of the mandates and in part due to resistance to the process because of its cost and inconvenience. The ASNR must play a larger role in explaining the MOC system to the membership and also in providing the resources so that fulfilling the requirements is straightforward and expeditious.

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COMMENTARY

Maintaining Subspecialty Certification in Neuroradiology

The survey report by Dave Yousem in this issue of the *American Journal of Neuroradiology* is a helpful window into the current level of understanding and acceptance of Maintenance of Certification (MOC) by members of the American Society of Neuroradiology (ASNR). We appreciate the invitation from the editors to provide additional perspective.

Most neuroradiologists understand that MOC was not created by the American Board of Radiology (ABR). The American Board of Medical Specialties now requires all member boards to administer a process of MOC, responding to the concerns and expectations of patients, payers, and governments for monitoring and assurance of quality and safety in health care. Our colleagues in all specialties of medicine are adapting to new MOC requirements that have the same components as the MOC program sponsored by the ABR.

Considering the natural reaction of most people to a process that will consume time and money, we view the overall acceptance of MOC by neuroradiologists as encouragingly professional. Some of the survey comments about MOC were quite positive. As Dr. Yousem notes, 115 respondents offered comments characterized as "negative," a relatively small proportion of the 2662 surveyed and 1020 responding.

More importantly, a large proportion of eligible neuroradiologists are, in fact, engaged in MOC. Of the cohort of neuroradiologists that was subspecialty certified in 1995, when the examination was first offered, more than 80% of those aged 60 years or younger have taken the recertification examination and are enrolled in ongoing MOC. For the 1996 cohort, the percentage is about 70%. These numbers will likely increase, because each diplomate has a 3-year grace period during which an expired subspecialty certificate can be reinstated simply by passing the MOC examination.

Objective evidence that most neuroradiologists engage in MOC is solid, but the negative comments registered in Dr. Yousem's survey are important and merit a response. Several respondents criticized the inconvenience and cost of traveling to take the MOC examination. The ABR is very aware of these concerns and has been working for several years to increase the geographic availability of MOC testing. The MOC examination for neuroradiology is now given at the annual meetings of the Radiological Society of North America and the ASNR. (Approximately 60 neuroradiologists completed the test at the most recent meetings of each of these societies.) The ABR is also working with national testing centers to enable the administration of MOC examinations with high-image quality that are geographically closer to the homes of most diplomates.

Another frequent complaint is the cost of enrolling in MOC. The ABR has carefully studied the anticipated expense of information technology and personnel needed to administer the MOC process. Fees are determined accordingly and will be adjusted as actual expenses are defined more clearly. The annual fee is not primarily a prepayment of the examination fee, or an administrative fee for registering CME credits. It is mainly the assessment necessary to fund the ongoing development and maintenance of an MOC infrastructure. No separate examination fee will be charged. It may be reassuring to radiologists to know that the MOC fee of the ABR is in the middle of the range of fees in all specialties.

Confusion about self-assessment modules (SAMs) seems to be decreasing as subspecialty societies offer more of them at meetings and on-line. The ASNR is doing an excellent job in this regard. It is not surprising that practice quality improvement (PQI), the ABR's program for Component 4 of MOC and the last to be introduced, is now engendering the most confusion. However, as with the initial apprehension about SAMs, this confusion will almost certainly diminish as our professional organizations become engaged in supporting PQI for their members.

The MOC examination itself is continually reviewed and adjusted. Cases with relatively poor statistics or suboptimum image quality are noted and replaced. All new cases and questions are reviewed by a group of neuroradiology raters before being added to the examination pool. The ABR also conducts routine exit surveys of test takers. On a consistent basis, 70% to 75% of candidates rate the appropriateness, clarity, and image quality of the neuroradiology MOC examination at the 2 highest levels (of 5); fewer than 10% rate these features of the examination at the 2 lowest levels.

Beginning in 2010, neuroradiologists who wish to renew both their subspecialty certification and their time-limited general certification in diagnostic radiology will be able to do so by taking a single examination. This test will have content modules that are matched to the largest components of the neuroradiologists' practice. A minimum of 50% of the clinical content of the examination will be required to be in the subspecialty area for which the diplomate wishes to maintain certification. (There will be special policies and procedures for participants renewing more than 1 subspecialty certificate.) As of 2010, 20% of the MOC examination for every radiologist will cover general topics, such as radiation safety and treatment of reactions from contrast material.

As neuroradiologists come to understand that the subspecialty MOC process is an integrated route to maintenance of both subspecialty and general diagnostic radiology certification, the number of radiologists who register for the initial subspecialty examination (formerly called the *Certificate of Added Qualifications* examination) is increasing. From 2003 to 2005, approximately 80 candidates took the initial subspecialty examination in neuroradiology. In 2006, the number jumped to 134, and 160 candidates are registered for 2007. These numbers indicate further evidence of increasing engagement by neuroradiologists in the MOC process.

The Executive Committee of the ASNR deserves credit for working diligently to help members understand MOC and meet the requirements. To this end, the ABR welcomes continued dialogue and partnership with the ASNR.

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DOI 10.3174/ajnr.A0808