



Summary: A Narrative Review of the Development and Outcomes of ABMS Member Board Continuing Certification Programs, 2000–2024¹

Certification and the Evolution of ABMS Recertification

Following a decade of testing new approaches to assessment, a period of extensive consultation in close collaboration with professional specialty societies, patients and other stakeholders, and drawing on a wide variety of research in the learning and testing sciences, the American Board of Medical Specialties (ABMS) adopted new standards for a process of continuing certification (previously known as Maintenance of Certification or MOC), which became effective in 2024.¹ This review describes the research that informed each phase in the evolution of continuing certification, as well as available research on the relationship between continuing certification and patient care and outcomes.

Through the eras of continuing certification programs, the purpose has remained the same: to verify that the bearer of a certificate from an ABMS Member Board has demonstrated the knowledge, skills, and conduct required for safe and effective practice in a specialty.

Why is it Necessary to Revalidate Certification?

Several lines of research suggest the need for an ongoing objective assessment of current professional knowledge.

- The decline of medical knowledge and clinical skills with distance from formal training.^{2,3,4,5}
- The accelerated pace and growth in medical science makes it difficult to keep up to date.^{6,7,8}
- The challenge of implementing new evidence in practice, with research suggesting that it takes an average of 17 years for new evidence to move into practice.^{9,10}
- The low correlation between self-assessment and external assessment of expertise.^{11,12,13}

Additionally, patients report that board certification is important to their choice of physician. Patients expect physicians to demonstrate that they are up to date with their medical specialty on a regular basis, with patient surveys showing that 95% of patients agree that physicians should participate in assessment and education programs to ensure they are current in their knowledge and skills for the specialty.^{14,15}

Continuing Certification, Patient Care, and Patient Outcomes

Studies show positive associations between MOC and clinical outcomes. For example:

- **Lower disciplinary rates** among certified physicians. Physicians participating in continuing certification are less likely to be subject to disciplinary actions by state medical licensing boards than those not participating. This finding has been confirmed in studies across Anesthesiology,^{16,17,18} Emergency Medicine,¹⁹ Family Medicine,²⁰ Internal Medicine,²¹ Ophthalmology,²² Physical Medicine and Rehabilitation,²³ and Surgery.^{24,25}
- **Better adherence to guidelines.** Studies have shown that participation in continuing certification is associated with better adherence to clinical guidelines and treatment protocols,^{26,27} better management of patients with diabetes²⁸ and asthma,²⁹ and more

¹ Access full report at: <https://www.abms.org/about-abms/serving-the-public-and-the-profession/#research>

consistent mammography screening,³⁰ as well as more efficient use of chest imaging in the emergency department.³¹

- **More efficient care and improved outcomes.** Studies have shown that higher knowledge scores on MOC exams were associated with lower risk of adverse outcomes (e.g., lower risk of death, lower risk of hospitalization)³² and that specific board certification (i.e., American Board of Emergency Medicine) was associated with significantly lower odds of a missed diagnosis of acute myocardial infarction.³³ Hospitalized patients treated by physicians who demonstrated more medical knowledge and judgment through higher scores on the American Board of Internal Medicine's continuous knowledge assessment, known as the Longitudinal Knowledge Assessment (LKA[®]), were less likely to die within seven days of admission or be readmitted within seven days of discharge.³⁴

Longitudinal Assessment

In response to physicians and their professional organizations contesting the value of single point-in-time examinations (e.g., costly, burdensome, little feedback), the Boards developed new forms of “longitudinal assessment” between 2014 and 2021. These deliver test items conveniently online on a periodic basis (e.g., quarterly, semi-annually) with immediate feedback to support learning. Some boards deliver their assessments annually or biannually with content designed to maintain core knowledge and acquire new and emerging science.

Two foundational areas of research informed the development of this new approach to assessment. The first was research in the medical education community about how best to understand, assess, and improve clinical competence.³⁵ The second was research about the value of testing in learning and retention.³⁶ Substantial psychological literature in cognitive psychology, educational psychology, and testing science demonstrates how testing can benefit learners and improve long-term retention.^{37,38,39}

These new approaches address the learning needs of physicians by curating new evidence and guidelines reflecting the most up-to-date practices in the specialty to optimize patient outcomes. They offer more customizable assessments, improved physician experience, and an enhanced focus on diagnostic and patient management skills.

Looking Forward

The new ABMS standards require the Boards to offer assessment alternatives to the point-in-time test; evaluate program effectiveness; be more intentional about their program goals; collaboration with specialty societies to establish quality and safety objectives; and deliver enhanced value to participating physicians.⁴⁰

The ABMS and its member boards are committed to research and evaluation of their certification programs to inform their continued improvement and build the evidence base supporting its structure. No other certifying physician certifying boards have such an evidence base supporting the value of their certification programs.

These programs will continue to evolve. Ongoing feedback from participating physicians, patients, and public stakeholders; growing research on competency assessment and its relationship to learning and improvement; and further research on the relationship between certification and clinical performance will inform progress of the Boards' continuing certification programs.

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