

31. Assessment of clinical competence of the allergist/immunologist

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The assessment of physician performance is increasingly central to the practice of medicine. Participation in such assessment is a manifestation of adherence by the physician to the highest standards of professionalism. The goal of physician assessment is to assure patients and their families, the public, fellow physicians, and ourselves that we are continuing to perform at the highest levels possible. Traditionally, trainees have been assessed by their program directors, and the methods for such assessment are in place and have, in some cases, been validated against outcomes. Assessment of practicing physicians is a newer concept and arose as a response to the needs of physicians to demonstrate accountability and the demands of the public and regulatory bodies. The leadership of the medical profession and the certifying boards are committed to effective and appropriate assessment and are in the process of implementing physician assessments. To do so, multiple innovative and exciting new evaluative tools are under development. This review discusses the history, background, and current state of the art in this arena. (*J Allergy Clin Immunol* 2003;111:S774-8.)

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The preceding contributions to this primer detail the diverse domains of clinical and laboratory expertise, mastery of which is a prerequisite for the practitioner of the discipline of allergy and immunology. The mechanisms by which such mastery is assessed and documented have evolved over time. Recent developments, including reports from the Institute of Medicine on errors in clinical practice,^{1,2} the “consumer movement” that has raised patient expectations, together with the increasing scrutiny of physician and health system performance by third parties, has brought this issue increasingly into the forefront of medicine. This review will focus on current expectations of performance for initial certification and for the “maintenance of certification” as a specialist in the discipline of allergy and immunology, and the mechanisms by which physician performance in meeting these expectations can be assessed. The richness of allergy and immunology permits a variety of career tracks including practice, research both in academia and industry, and administration. However, the clinical performance criteria for all allergists and immunologists must be identical

Abbreviations used

ABAI:	The American Board of Allergy and Immunology
ABFP:	The American Board of Family Practice
ABIM:	The American Board of Internal Medicine
ABMS:	The American Board of Medical Specialties
ABP:	The American Board of Pediatrics
ACGME:	The Accreditation Council for Graduate Medical Education
RRC A/I:	The Residency Review Committee for Allergy and Immunology
TPD:	Training program director

if the profession, in general, and our specialty, in particular, are to assure our patients and the public of our commitment to the highest standards of clinical care.

FELLOWSHIP TRAINING

Fellowship training in allergy and immunology is directly overseen by 2 complementary organizations, and indirectly by a third. The first, the Accreditation Council for Graduate Medical Education (ACGME), is responsible for assuring that training programs, and their sponsoring institutions meet both the institutional and program requirements for training in each specific discipline. Thus, the ACGME is responsible for promulgating standards that hospitals (or other sponsors of training) and training programs must meet in order to be permitted to offer training. Such standards include appropriate institutional support, sufficient clinical and infrastructure resources, documented curricular and educational commitment, and safe work/environmental standards. In addition the ACGME identifies for each individual discipline specific “special” requirements. These special requirements include the distribution of effort of trainees into clinical and research/scholarly pursuits; the required availability and magnitude of teaching and research resources; and the specific disease entities, clinical/technical procedures, and laboratory methods each trainee must experience and master during training. Additional opportunities, which should be available, are also described. Compliance with these standards is assessed by regular on-site review of both the institution and the department/division offering training, by specially trained reviewers. The Residency Review Committee for Allergy and Immunology (RRC A/I) is made up half by members selected by the ACGME and half by the American Board of Allergy and Immunology (ABAI). These reviewers assess compliance with standards and report to the ACGME RRC A/I. The RRC A/I then

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reviews the reviewers' report and either fully accredits the program for up to 5 years or, in the case of failure of the program to meet standards, suggests probationary status with an opportunity to address specific shortcomings, or may even disaccredit programs.

The second organization involved in training is the ABAI. In contrast to the ACGME and its component RRC A/I, which accredit programs, the ABAI credentials (certifies) individuals. The board movement had its beginning in the early decades of the 20th century. The initial board for allergy was founded in 1941, with the development of a subspecialty Board of Allergy within the American Board of Internal Medicine (ABIM). In 1944, the American Board of Pediatrics (ABP) followed suit. In 1971, after decades of wrangling, a new ABAI was developed.³ This new effort brought the internist-allergist and the pediatrician-allergist programs together in a conjoint board sponsored by both the ABIM and the ABP. Since its inception, the ABAI has certified over 4000 physicians as its diplomates. Initially, ABAI certificates were time unlimited, but since 1989 new certificates have been limited in duration to 10 years, after which recertification is required. In 1986, along with the ABIM and ABP, the ABAI began sponsoring a certificate of special qualifications in Diagnostic Laboratory Immunology, which in 1990 was renamed Clinical and Laboratory Immunology. These certificates are also time limited.

The third organization involved in both initial certification and in the maintenance of certification is the American Board of Medical Specialties (ABMS). This organization is an affiliation of all of the approved certifying boards, and it serves as a central body to coordinate the policies and practices of the member boards. Most recently the ABMS and its constituent boards, in concert with the ACGME, have been active in the development of a set of general competencies against which physician performance is to be judged. These competencies are patient care, medical knowledge, interpersonal and communication skills, professionalism, practice-based learning and improvement, and systems-based practice. Each board and training program is expected to utilize these general categories and assess physician performance within the domains in a manner pertinent to that specialty.

INITIAL BOARD CERTIFICATION

Prior to 1970, many certifying boards directly assessed the clinical performance of residents. This assessment was a component of a 2-part board examination, one part a proctored examination testing knowledge of the specific discipline and the second a witnessed clinical encounter. Since that time, the ABIM and ABP have discontinued the requirement for a directly observed patient encounter as part of their board examinations, and this requirement was never part of the ABAI certification process. The ABAI has, from its inception, administered only a secure, statistically valid, knowledge-based examination to its candidates for certification. To assure the board, the public, and patients of the clinical qualifications of prospective diplo-

mates, the ABAI has relied upon the judgement of a training program director (TPD). This partnership has been formalized, and before granting admission to the secure examination, the ABAI must be assured that the candidate has met the standards expected of a practitioner of the discipline of allergy and immunology. Formally, this assurance has taken the form of biannual reports by the program director to the ABAI. These reports grade, on a 9-point scale, the clinical competence of the trainee in the domains of medical knowledge, clinical judgment, clinical skills in history taking and physical examination, humanistic qualities, professional attitudes, medical care including the utilization of tests and procedures, commitment to scholarship, and work habits. These reports are complimented by a report of the proctored acquisition by the candidate of procedural skills required for the practice of allergy and immunology. With the advent of the 6 domains of physician performance noted above, the format of these reports will change, but the fundamental responsibility of assessment of such performance by the TPD will continue.

The entire process of resident/fellow performance assessment has been increasingly directed toward outcome measures, as opposed to process. Rather than assess the specific number of hours devoted to a particular activity, or counting the number of procedures performed or patients with a given diagnosis seen, TPDs are increasingly expected to assess the mastery by trainees of domains of knowledge and skills necessary for the practice of our discipline. This change in focus, from process to outcome, has necessitated the development of new tools of assessment. In some domains, valid tools of assessment are available, but unfortunately in some they are either not yet available or await validation.

Patient care

For some domains, close observation and interpersonal interaction of trainee and the faculty are sufficient to permit valid assessment of performance. Thus, the ability of fellows to provide compassionate, caring, respectful, appropriate, and effective care in disease management and prevention can be best assessed observationally. Such observations can be supplemented with chart reviews assessing decision making, medical plans, and appropriate selection of tests and procedures, with written exercises in development of management plans, and by the presentation of cases and the discussion of the clinical problems, such cases raised in clinical review sessions. To document that an appropriately broad case mix has been seen by an individual trainee, case logs may be employed. The proper use of preventative services, such as immunization, can be assessed utilizing both chart review and patient report. The proper use and performance of technical procedures is best assessed by direct observation by faculty skilled in the specific procedure in question, supplemented by a log of procedures performed and their indication and complications, if any. For some procedures, simulated patients or virtual-reality technology may soon become available and could prove particularly useful in the assessment of the stepwise acquisition of competence and in judgment of

current practical skill. Faculty observations may also be supplemented by soliciting patient and family feedback regarding trainee performance. In addition, in programs of sufficient size, peer feedback can be employed to help define clinical performance. These latter techniques have been validated in the assessment of practitioner performance in internal medicine.^{4,5}

Medical knowledge

The acquisition and appropriate utilization of medical knowledge including cutting-edge genetics, pharmacology, and population-based sciences has long been defined utilizing candidate performance on statistically validated secure examinations. Prior to engaging in such high stakes examinations, a view of the growth of knowledge and, most importantly, the identification of areas of weakness can be identified and addressed utilizing in-training examinations. Additionally, evidence of critical and analytical thinking can be identified by reviewing patient medical records and by the performance of the trainee in the mandatory scholarly and research components of the training program.

Interpersonal and communication skills

Interpersonal and communication skills, including the ability to listen to the patient and their family, and to provide support and counsel, can be assessed by direct (in-room) observation of the interaction of the trainee with patients. These observations can be supplemented by the review of videotaped patient care interactions, supplemented by judgment as to how the trainee met a predefined set of criteria (checklist). Finally, patient feedback may be solicited directly or via questionnaire.

Professionalism

Professionalism, 1 of the 6 domains of physician performance, is receiving increasing attention and emphasis in our often ethically challenged society.⁶ Some aspects of professionalism are embedded in other domains of performance. For example, the commitment to competence and knowledge is at the core of medical knowledge and patient care, and the commitment to improving quality of care is a key part of practice-based learning and improvement. Others, such as physician commitments to honesty, confidentiality, maintenance of appropriate relations with patients and their families, just use of finite resources, and management of conflicts of interest and one's professional responsibilities stand apart and must be independently assessed. Performance in this domain can use hospital, medical, professional society, and community feedback, including identification of legal issues. Probably most practical and important to the trainee is faculty assessment, patient- and peer-review supplemented where possible, by reviews obtained from nurses, students, and other personnel who interact with the trainee.

Practice-based learning and improvement

Practice-based learning and improvement is a new area of performance assessment, and one for which validated

tools are not yet available. This domain reflects the growing focus on identifying and removing sources of error in a nonpejorative manner, and is a skill that will foster lifelong learning in the trainee and practitioner. Proper utilization of this technique requires analysis of one's own practice and comparison of performance against evidence-based/expert guidelines or against normative data obtained from peers. After the initial analysis and comparison, regardless of the level of performance, the trainee is expected to develop a plan for improvement and a mechanism whereby the effectiveness of such a plan can be measured. After objective assessment of improvement (or lack thereof) further analysis and appropriate modification of the improvement plan are employed to attain and initially exceed set goals for improvement. Current techniques available to assess such activities include chart reviews, observation of behaviors employed by trainees, and use of specific exercises. In such exercises, particular issues may be raised (eg, written care plans for asthmatic patients, appropriate prescribing of glucocorticoid inhalers for asthmatic patients) and trainee performance in the area assessed, plans for improvement developed and pursued, and performance improvement documented. To date, these techniques have been used in a variety of quality-improvement processes, but their universal application to trainee performance has not yet begun.

Systems-based practice

The recognition of our increasingly complex health care system and of the important contributions that various members of the health care team can bring to the appropriate care of any specific patient has led to the definition of a new domain of physician performance: systems-based practice. Thus, trainees are expected to understand the various systems of practice and delivery of health care and their implications for the financing of the health care enterprise in general, and of individual patients, specifically. In addition, trainees must know how to utilize the various ancillary and support services of staff and other health care professionals and to be able to advocate effectively for the appropriate access to health care resources for their patients. Examples of such activities pertinent to the practice of allergy and immunology include: advocacy for a patient with asthma to receive necessary nonformulary medications from her managed care plan; coordinating with an infusion center and nursing staff the provision of intravenous immunoglobulin for a patient with humoral immune deficiency; and developing an educational program for nurses of primary care physicians enabling them to administer allergen immunotherapy to patients in primary care physician practices. No validated tool exists to judge trainee performance in this domain. Components of performance can be assessed utilizing global ratings from those who interact with the trainee, from review of medical records, and from in-training examinations that ask questions regarding trainee comprehension of various aspects of the health care system. Log books documenting appropriate and effective advocacy on behalf of specific patients may also be maintained.

The complete assessment of competence of fellows-in-training in allergy and immunology requires a partnership between the board and the TPD. To the training programs has been delegated the direct assessment of clinical performance, while the board retains overall responsibility for judging the qualifications of the candidate and for the construction, administration, and validation of the secure cognitive examination. This partnership has worked well, and the public and patients seeking care from our trainees have been well served. The reorganization of the evaluative process into the 6 domains of clinical performance promises additional sophistication in assessment. When tools have been developed that adequately assess the most complex of these new areas (practice-based learning and improvement, and systems-based care) the validity and breadth of trainee performance will be further enhanced. Increasing the depth and breadth of clinical performance evaluation underscores the commitment of the discipline to the highest levels of professionalism and increases the probability that only the highest-quality clinicians will exit training.

MAINTENANCE OF CERTIFICATION

Initially, board certification was a one-time event, good for the professional lifetime of the practitioner. A number of influences, however, have made this previous approach to certification untenable. From its inception, the American Board of Family Practice (ABFP) has issued only time-limited certificates, requiring diplomates to recertify every 7 years.⁷ This program was instituted because, in the view of the founders of the ABFP, the rapid and continual expansion of the body of medical knowledge made an examination taken at the end of training insufficient to serve as evidence of scholarship and commitment to excellence for a lifetime of practice. In fact, the ABFP recognized that a cognitive exam was not enough and began to perform chart reviews in its recertification program at an early date. In the 1980s, other boards began to share this opinion. For example, the ABIM⁸ and ABP instituted a time-limited certificate for diplomates in 1990 and the ABAI in 1989.⁷ All 3 boards did so to better assure the public and patients of the ongoing scholarship and commitment of physicians in these disciplines. For legal and ethical reasons, this new approach was launched only for those certifying after a specific date. The debate over health care launched during the Clinton administration and public concern over the shift to managed care with its perceived emphasis in some of its manifestations on profit over care resulted in patient and public expectations for increased evidence of physician accountability. Additionally, organizations that assess the performance of hospitals and health plans, spurred on by documentation of excessive variation in physician use of resources,⁹ began to discuss mechanisms to assess physician quality, and in some instances plans were implemented. In some cases, these plans seemed more directed to marketing purposes or risk management, rather than as a coordinated pro-

gram to truly assess the breadth of physician practice performance. However, these early attempts led others to propose appropriately broad and sophisticated assessments. In the mid-1990s, the American Medical Association launched a program to accredit physician practices, but concerns over the ability of a membership organization to independently evaluate physicians and its high cost of development prevented its establishment. This attempt, however, in concert with the maturing recertification movement, led some to propose a broader, more independent and physician-led process to accomplish the goals of assessing physician performance within the context of recertification.¹⁰ Such assessments were believed to benefit the public, patients, and physicians by assuring ongoing commitments of physicians to scholarship and the highest standards of professionalism in clinical practice. Moreover, the independence of the boards, their physician leadership, and their expertise in assessment made this approach logical and appealing. As the need for continued assessment of physician performance became accepted, the ABMS began to develop a program of maintenance of certification required for all certifying boards. This program will require all boards to assess professional standing, life-long learning and self-assessment, cognitive expertise, and practice performance for all diplomates wishing to recertify. In this program, the ABMS and its member boards have been encouraged to work closely with their professional societies to develop complementary educational programs and practice assessment tools appropriate to the specific discipline. All maintenance of certification programs are encouraged to add value to the physician participating in the program. Value may be added by "simplifying the work necessary to care for patients; improving the efficiency of practice; improving patient, staff, and physician satisfaction; and reducing duplicate assessment efforts by serving as the benchmark standard that would fill requirements of multiple assessment processes."¹¹

Professional standing is to be assessed by requiring all seeking recertification to possess an unrestricted license to practice medicine. Several boards also require evidence of good standing as reported by hospital and/or health care organizations' credentialing bodies.

Life-long learning and self-assessment can be assessed in several ways. Some boards allow credit for participation in classic continuing medical education programs. Others have developed tools that enable physicians to query their own patient records to assess their performance against national norms or expert/evidence-based guidelines and to design programs to improve performance based on their findings. For example, the ABIM has launched a program in which physicians can assess their patient records for appropriate use of preventative services, and then design programs for improvement. Additionally, clinical skills can be measured in novel testing methods linked to educational programs. Again, the ABIM has developed a CD ROM-based physical examination module in which physicians observe clinical signs and answer questions based upon their interpretation of

such signs. Such a module could be linked to offerings of professional societies enabling test takers, while taking the examination, to learn from societies experienced in educational programming. Finally, societies and boards can develop linked educational materials and cognitive examinations focusing on the newest procedures, medications, and clinical insights, thereby enabling test takers to demonstrate that they are "keeping up" with the rapid changes in their specialties. Currently, no board is using this aspect of assessment to make a "pass/fail" decision on candidates for recertification.

Assessment of cognitive expertise has long been the domain of certifying boards. The administration of a secure, statistically validated examination at some point during the recertification process is essential for face validity. Such examinations should focus exclusively on clinically established and relevant issues. To assure such relevance, some boards (eg, ABAL, ABIM) have had practicing physicians review and rate all prospective questions for clinical relevance and validity, and the boards chose only those questions that were highly rated. Interestingly, in this new paradigm, the cognitive examination is not a "final" examination, but rather a component of an overall evaluation of a physician's commitment to quality practice.

The most intriguing, difficult, yet promising area of maintenance of certification programs is the assessment of physician practice. As for those in training preparing for their initial board certification, the 6 domains of general competency (patient care, medical knowledge, professionalism, interpersonal and communication skills, practice-based learning and improvement, and systems-based practice) are the components of physician performance in practice to be assessed. The ABMS and its member boards have as their goal to assess the activities of a diplomate related to patients and patient care. Such assessments should use measurements based on evidence-based guidelines, expert consensus, or peer norms. They should compare an individual's practice to that of their peers and enable the practitioner to develop plans for practice improvement based upon initial assessments. Evaluative tools should use proven and valid educational and assessment methods and evaluate each of the 6 domains of competency, at least once during the maintenance-of-certification cycle. This bold undertaking has just begun. As for life-long learning, no board is currently utilizing this component of the program to make a "pass/fail" decision on recertification.

Several boards have developed innovative programs to assess the domains of competency. For example, to assess professionalism the ABIM has developed a patient- and peer-assessment tool. Using this tool, physicians can ask their patients and physicians with whom they interact to rate their performance on a number of relevant clinical functions and behaviors. Such ratings will be fed back to the practitioner, compared to discipline-specific normative data, and improvement plans developed for any areas of importance to the practitioner.

Some boards are collaborating with developers of procedural model systems, such as virtual bronchoscopy or

flexible sigmoidoscopy devices, to enable physicians to demonstrate their mastery of both the cognitive and procedural aspects of a clinical domain.

Practice-based learning and improvement methods to date have employed focused physician review of patient charts. Specific disease management processes (asthma, diabetes, heart failure) and preventative skills are examples of the types of programs under development to assess this domain.

CONCLUSION

The assessment of physician performance demonstrates a life-long commitment of physicians to the highest ethical principles of professionalism. Assuring patients of a commitment to scholarship, learning, and performance maintenance and enhancement are the goals of such assessments. During the initial training period, this process is managed by the faculty of the training program under the leadership of the TPD, complemented by the oversight of the certifying board. Once a physician enters practice, there is no comparable body to continually monitor and assist in performance enhancement. Recognizing the need for continuing physician accountability, the profession has developed a thorough and responsible program in which individual physician participation and self-directed learning/assessment/performance enhancement is the cornerstone. A commitment to such a program provides evidence that the profession recognizes that the era of self-proclaimed excellence is over (if it ever existed). We have fully entered the era of physician accountability—the highest manifestation of professionalism.

REFERENCES

1. Institute of Medicine. In: Kohn L, Corrigan J, Donaldson J, editors. *To err is human: building a safer health system*. Washington (DC): National Academy Press; 2000.
2. Institute of Medicine Committee on Quality of Health Care in America. *Crossing the quality chasm: a new health system for the 21st century*. Washington (DC): National Academy Press; 2001.
3. Wasserman SI. The allergist in the new millennium. *J Allergy Clin Immunol* 2000;105:3-8.
4. Ramsey PG, Wenrich MD, Carline JD, Inui TS, Larson EB, LoGerfo JP. Use of peer ratings to evaluate physician performance. *JAMA* 1993;269:1655-60.
5. Webster G. Final report of the patient satisfaction questionnaire project. Philadelphia (PA): American Board of Internal Medicine; 1989.
6. The ABIM Foundation, ACP-ASIM Foundation, and European Federation of Internal Medicine. *Medical professionalism in the new millennium: a physician charter*. *Ann Intern Med* 2002;136:243-6.
7. The American Board of Medical Specialties Research and Education Foundation 2001 Annual Report and Reference Handbook. Evanston (IL): ABMS Evanston IL; 2001.
8. Glascock RJ, Benson JA Jr, Copeland RB, Godwin HA Jr, Johanson WG Jr, Point W, et al. Time-limited certification and recertification: the program of the American Board of Internal Medicine. The Task Force on Recertification. *Ann Intern Med* 1991;114:59-62.
9. Wennberg JD, Cooper MM. *The Dartmouth Atlas of Health Care in the United States*. Chicago (IL): AHA Press; 1999.
10. Wasserman SI, Kimball HR, Duffy FD. Recertification in internal medicine: a program of continuous professional development. *Ann Intern Med* 2000;133:202-8.
11. Editorial: Maintenance of Certification (MOC) Update. *The ABMS Record* 2002;11:3,8.