

SOUNDING BOARD

Specialization, Subspecialization, and Subsubspecialization in Internal Medicine

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At a time when most authorities believe that the country desperately needs more generalists, the American Board of Internal Medicine (ABIM) is adding new subspecialties. Specifically, in the past 2 years the ABIM has launched certification in the fields of hospice and palliative care and advanced heart failure and has begun a process for internal-medicine certification with a focused practice in hospital medicine. The ABIM has also approved the subspecialty of adult congenital heart disease to move forward to the American Board of Medical Specialties (ABMS) for final approval. In addition, the ABIM has received requests from specialty societies to approve several new subspecialties, including medical informatics, clinical pharmacology, vascular medicine, addiction medicine, and obesity medicine. Each of these applications raises issues of a societal nature (i.e., the benefits to the public of having clear standards for emerging areas of medical specialization) versus issues of practicality (e.g., the cost of creating and maintaining certification examinations and the ongoing worry about fragmentation of care). These issues have been coupled with the concerns of different specialties that favored or opposed particular subspecialty designations. Most important, we receive clear but contradictory messages from physicians: on the one hand, “recognize what I do” (i.e., create a subspecialty for my niche practice); on the other hand, “stop fragmenting an already overfragmented system.”

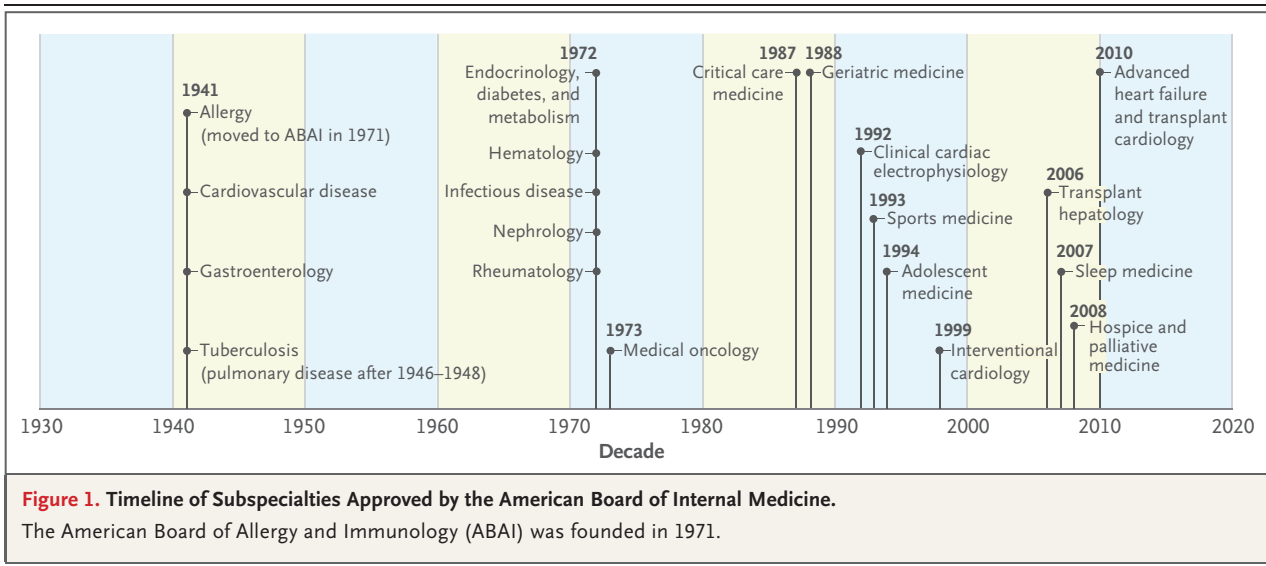
Meanwhile, accountability standards for physicians are proliferating, and maintaining board certification is requiring more of physicians.¹ Other certifying boards, such as those of surgery and pediatrics, face similar pressures. The perspective of the ABIM may be generalized to other disciplines. To understand the ABIM’s decision-making process for adding new specialties, it is

important to examine the historical and current forces behind the drive for additional examinations and performance assessments.

HISTORY OF SPECIALIZATION

Specialization has characterized scientific progress in medicine for nearly two centuries. With the centennial celebration of the hugely influential Flexner Report,² great attention has been paid to Flexner’s call for educational reform. Underlying his call for more research-based education was the growth of a scientific consensus of allopathic medicine and the physiology-based and biochemistry-based understanding of human illness leading to ever more specialization in the pursuit of greater knowledge and expertise. Articles that appeared in the *Journal*^{3,4} in 1936 and 1950 identified the creation of board certification of specialty status as an “ingenious” way for the profession, independent of government, to control the “dangers of specialism.” The authors were most concerned about unqualified practitioners claiming to be specialists and were particularly alarmed by the practice of specialist advertising, considered to be unethical at the time.

As medical scientists specialized and devoted their intellectual energies to understanding more and more about narrower topic areas, general practitioners differentiated into physicians with specific areas of expertise, devoting some or all of their work to that specific area. The first medical specialty to create its own assessment board was ophthalmology in 1917. Prompted by the growth of optometry as a separate discipline, the American Medical Association and the American Ophthalmological Society created an independent board of specialists to create standards that would recognize physicians whose knowledge and skills



demonstrated expertise in identifying and treating disorders of the eye.

Four specialties created a federation called the ABMS in 1933, which encompassed 10 specialties by 1935; the ABIM was added in 1936. By the 1970s, there were 20 specialties, including primary surgical boards in orthopedics, urology, neurosurgery, plastic surgery, and colorectal surgery. Internal medicine kept the unifying requirement of training in general internal medicine but underwent just as much subspecialization during that time. The ABIM approved requests for 4 subspecialties in the 1940s, another 6 in the 1970s, and 10 more since then (Fig. 1). Some of these subspecialties are built on further specialization of large subspecialties such as cardiology and pulmonary medicine, whereas others, including sleep medicine, sports medicine, and geriatric medicine, span multiple disciplines and allow different pathways to certification from other boards.

Throughout these decades, some leaders voiced concern that the growing fragmentation of medical care⁵ would result in the loss or undervaluing of the personal or generalist physician, who was perceived as being essential to good patient care. With more and more specialization, they worried that the generalists' practice would become too limited in scope and an unattractive choice for residents. This concern spawned the creation of a new kind of specialty in 1969 — a generalist discipline in family medicine

(called family practice at the time). It also led to calls for strengthening and repopulating general internal medicine.⁵ At the same time, other leaders in medicine saw growing specialization as strengthening internal medicine.⁶

CURRENT DRIVING FORCES

Now we are witnessing a resurgence of interest in new specialty designations and a simultaneous eruption of concern about diminishing strength and numbers in primary care specialties. What are the driving forces in the current environment? Do these forces make a stronger case for the value of new specialties? Do they outweigh the concerns about cost, fragmentation, and physician burden? What factors are determinative in these decisions?

As in earlier times, the progress of biomedical science continues to be a major factor in the emergence of new subspecialties. Advanced heart failure and transplant hepatology are two examples growing from the need for extended medical care before and after transplantation, including device management in the case of cardiology. Creation of these subspecialties reflects the recognition that there are some specific populations of patients who would benefit from highly focused knowledge and skills obtained by additional training and certification beyond that of a general cardiologist or gastroenterologist. These tertiary subspecialists also require high

patient volume to maintain proficiency in their skills and are therefore usually based at referral centers. Certification for these subspecialties is limited to specialists with training in the underlying organ-system specialty, which must be maintained. Conversely, disciplines such as geriatric medicine, palliative medicine, and hospital medicine are based on clinical needs and the organization and delivery of care rather than on scientific and technical expertise in a specific organ system. Many new and emerging subspecialties are cross-disciplinary; sleep medicine crosses six different specialties, and palliative medicine is a subspecialty option for 10 different primary specialties. We anticipate that medical informatics will probably extend just as broadly across specialties.

The demand for board certification comes in part from the profession itself, with the majority of survey respondents reporting that “professional image” was the primary reason they sought or renewed certification.⁷ All the proposals for new subspecialties have come to the board initially from specialty societies, often with support from patient groups. In the current environment of growing demands for higher standards and greater transparency, health plans and hospitals are also seeking ways to ensure that physicians have the knowledge and skills required for patients to have reasonable confidence in their capabilities, and board certification is one of the criteria frequently used for this purpose. Some health care organizations and medical groups that employ physicians require that they be certified to join the medical staff.

Although the public values board certification,⁸ most people do not understand what criteria it represents or fully appreciate that different kinds of organizations offer certificates that represent varying degrees of rigor and clinical relevance. As evidence of interest in this type of information, most Internet-based “report cards” include statements about a physician’s board certification. It is not surprising that many new organizations have emerged that offer their own versions of a certificate. We believe that the criteria and requirements for certification in a medical specialty should be public and transparent, and both the ABMS and the ABIM post such information on their respective Web sites.

CRITERIA USED TO ESTABLISH NEW SPECIALTIES OF INTERNAL MEDICINE

The policies of the ABIM for establishing new areas of specialization have been “repeatedly and exhaustively re-examined”⁶ over the years, resulting in two successive documents (in 1993 and 2006) to guide the board in deliberations about new subspecialties. The criteria currently used in considering a request for new subspecialty status in internal medicine are articulated in the 2006 report entitled *New and Emerging Disciplines in Internal Medicine—2 (NEDIM-2)*.⁹ These criteria focus on evidence that the new discipline has a definable body of knowledge and a substantial number of clinical training programs, with the reasonable expectation that clinical services in the subspecialty will play a beneficial role in patient care (Table 1). Such designations have usually required at least 1 year of accredited training. Subspecialty applications from clinical pharmacology, vascular medicine, addiction medicine, and obesity medicine have not been approved to date because they failed to meet one or more of these criteria or they were deemed insufficiently mature, as reflected by the number of training programs or practitioners in the field.

CHANGES IN PRACTICE OVER THE COURSE OF A CAREER

In the introduction to the 1998 updated version of her classic book *American Medicine and the Public Interest: A History of Specialization*,¹⁰ Rosemary Stevens opined, “Arguably, the structure of the medical profession is moving toward a system of specialties defined by the job market rather than by the professional system of specialist qualifications.” If you add “defined by the practice area in which the physician focuses and in which the patient expects expertise,” Stevens’s prediction of a specialty-medicine structure may be correct. Clear evidence of specific competencies is a core component of the consumer demand for transparency, and physician specialists themselves are asking to be certified in narrower areas of expertise than they were originally trained in. In response to these developments, maintenance of certification (MOC) — the process through which time-limited certificates are renewed — might be becoming more fluid, reflecting what *NEDIM-2* calls “rec-

Table 1. Criteria for Subspecialty Certification and for Recognition of Focused Practice.***Criteria for Subspecialty Certification**

- Represents a unique body of knowledge that cannot be fully incorporated into the parent discipline
- Has clinical applicability (i.e., the clinical practice is distinctly different from the parent discipline)
- Is based on and contributes to the research base of medicine
- Offers evidence that the discipline improves patient care
- Requires supervision and direct observation in formal training settings, generally lasting at least 12 months
- Involves complex technology or specific site-of-care skills
- Has positive value for certification in the new discipline that outweighs any negative impact on the practice of general internal medicine or an existing subspecialty

Criteria for Recognition of Focused Practice through Maintenance of Certification (MOC)

- Includes large numbers of internists who focus their practice in the discipline, while others may not practice in the focused area at all
- Meets an important social need for the discipline and offers evidence that focusing practice in the discipline improves patient care

* Criteria are adapted from *New and Emerging Disciplines in Internal Medicine — 2 (NEDIM-2)*.⁹

ognition of focused practice.” The first example of this is the ABIM’s offering of an identified hospitalist pathway for maintaining certification in internal medicine with a focused practice in hospital medicine. It is a rigorous pathway, with clear requirements for a large enough number of patients, quality and safety metrics, and an examination on hospital-based medicine. Although this pathway is approved by ABMS as a pilot offering, the ABIM and other boards, such as those in ophthalmology and radiology, have received additional requests for this kind of focused MOC option.

Greater specificity in certification and recognition of focused practice should be appealing to consumers who want to know the areas in which their physicians are skilled and experienced; taken to its logical conclusion, however, it could unravel the traditional specialty-medicine structure that Stevens described. For example, should an endocrinologist who has focused only on diabetes and, to maintain certification, has focused only on demonstrating current knowledge and performance in management of diabetes still be considered an endocrinologist? The ABMS’s role has been to define these specialty areas and, in the process, to respect the breadth of competence the public could expect from that specialist. Taking the focused-practice trend too far would mean additional, smaller areas of competence, although such a focus may

be of greater interest to the patient seeking care for a specific condition. If this approach were carried out thoughtfully, the original certificate would identify the areas of formal training with the understanding that the focus of practice could change over the course of a career. Both the original certification and the focused-practice areas would be available to the public on the Web site.

In the current consumer-centered environment, it is difficult to argue against making more specific and more evidence-based information available to the public about the specialists who provide their care. Indeed, the Center for Medicare and Medicaid Services Physician Compare database, and perhaps other publicly available databases, argues for the most meaningful information (i.e., beyond administrative and claims data) to be part of the information included.¹¹ Our challenge is to weigh the public interest in light of the traditional meaning of board certification and the benefits of making more specific physician information available against the costs of developing accurate and rigorous assessment tools. With physician practice evolving over the course of a career in medicine, the focused-practice approach may be better for consumers and may also be a way to respond to physicians’ requests to be evaluated on their actual clinical practice in addition to their designated area of training.¹²

EFFECTS ON GENERALIST PRACTICE

Despite concerns expressed by generalists in response to new subspecialty designations, it seems unlikely that primary care or generalist disciplines would be strengthened by a moratorium on creating new subspecialties. Rather, the payment system and organization of medical practice are much more important contextual drivers for advancing primary care.^{13,14} Generalist disciplines themselves are developing new knowledge standards as they evolve, including the new hospitalist designation, geriatric medicine, and the probable need for stronger emphasis on systems and information science for generalist physicians in a medical home. Medical students get the mistaken message that generalist disciplines are less intellectually exciting, when in fact, it is increasingly difficult to keep up with the breadth of knowledge needed in these fields, including clinical, technical, and managerial skills. Medical group leaders, payers, and hospitals need to be able to identify physicians with these skills as new practice models are formed. Some have called for a specific recognition, perhaps through focused practice in MOC, to recognize the specific systems, health information technology, and team-based competencies required for effective practice in a medical home or accountable care organization.¹⁵ Ultimately, primary care will be fostered through payment reform, systems reform, and stronger standards, not through diminished competition from the subspecialties.

CONCLUSIONS

New specialties can benefit both patients and physicians. However, a proliferation of specialties without adequate justification may simply confuse the public without creating a social good. Use of specified criteria, such as those articulated in the ABIM's *NEDIM* reports, can lead to rational decision-making that balances the potential benefit of recognizing more specific expertise with the detriment of fragmentation of the profession. This approach extends beyond traditional specialization, which requires formal training, to the recognition of new areas of expertise that physicians gain while in practice — that is, focused practice. Although the demands for new subspecialties come from physician groups themselves, some of their members also

complain about the burden of more requirements. To be meaningful, the criteria for establishing new specialties must be rigorous, but to be workable, they need to be aligned with other measurement and reporting requirements, such as those in pay-for-performance programs, state licensing processes, and hospital privilege issuing and credentialing. Certifying boards should continue their work with other accrediting and standard-setting organizations to make these designations as meaningful as possible to patients and physicians alike.

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