



# GRADUATE MEDICAL EDUCATION IN THE UNITED STATES

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Josiah Macy, Jr. Foundation  
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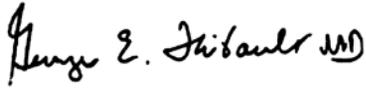


# Preface

The celebration of the 100th anniversary of the Flexner Report on Medical Education in the United States and Canada, along with the passage of historic legislation to improve access to healthcare in this country, makes this a particularly relevant time to review the state of graduate medical education in the United States. Graduate medical education is the necessary gate through which all physicians must pass to practice medicine in this country. It is, therefore, a critical determinant of the size, skill, specialty and geographic distribution of the nation's physician work force. If the public wants and needs any change in the composition, distribution or capabilities of this workforce these changes would likely need to be mediated, at least in part, through changes in the graduate medical education system.

Before contemplating recommendations about change in the graduate medical education system, we must first understand how it has evolved over the past century, what the strengths and weaknesses are in the current structure, and what recommendations for changes have been made in the past. This report is designed to address these issues. It provides a thorough review of the regulatory and standard-setting roles of professional organizations and the government in the evolution of graduate medical education in the United States. Dr. Whitcomb writes with insight and authority based on his long history of leadership roles in academic medicine and with the Association of American Medical Colleges.

This review is a necessary prelude to asking the question about whether the system, as currently constituted, is meeting the needs of the public. That was the question asked about the nation's medical schools when Henry Pritchett and the Carnegie Foundation for the Advancement of Teaching commissioned the Flexner Report, and the public good is still the appropriate standard by which we should judge the success of our educational enterprises. We hope this study will help stimulate and provide a firm foundation for these discussions going forward.

A handwritten signature in black ink that reads "George E. Thibault M.D." The signature is written in a cursive style with a large initial 'G' and a distinct 'M.D.' at the end.

George E. Thibault, M.D.  
*President, Josiah Macy, Jr. Foundation*

# Graduate Medical Education in the United States

In 1910, the Carnegie Foundation for the Advancement of Teaching issued the Flexner Report (*Medical Education in the United States and Canada*), one of the most important and influential reports the Foundation has ever published. The Foundation had two specific purposes in mind when it commissioned the report. First, it wanted to call attention to the fact that many of the country's medical schools were producing doctors who were not adequately prepared to enter the practice of medicine. And second, it wanted to make clear to the medical profession that, because members of the public were not in a position to differentiate between well-trained and inadequately trained practitioners, the profession had a responsibility to correct the inadequacies in the ways doctors were being educated. Henry S. Pritchett, the Foundation's president, made this point clear in his introduction to the Flexner Report:

The interests of the general public have been so generally lost sight of in this matter that the public has in large measure forgot that it has any interests to protect. And yet in no other way does education more closely touch the individual than in the quality of medical training which the institutions of the country provide. Not only the personal well-being of each citizen, but national, state, and municipal sanitation rests upon the quality of the training which the medical graduate has received. The interest of the public is to have well trained practitioners in sufficient number for the needs of society.

It is hoped that both the purpose of the Foundation and its point of view as thus stated may be remembered in any consideration of the report which follows, and that this publication may serve as a starting-point both for the intelligent citizen and for the medical practitioner in a new national effort to strengthen the medical profession and rightly to relate medical education to the general system of schools of our nation.

The Flexner Report not only identified the inadequacies that existed in the educational programs provided by many medical schools at that time but also set forth recommendations on how medical schools should be organized and their educational programs structured to adequately prepare graduates for medical practice. Over the course of the next two decades, the Flexner Report had a profound impact on the nature of the country's medical schools and on the educational programs they conducted. Indeed, the key recommendations contained in the Report continue to influence the design and conduct of the undergraduate medical education programs conducted by medical schools in this country today.

Viewed in the context of today's medicine, it is surprising that the Flexner Report did not address the role that graduate medical education was playing in preparing medical school graduates for practice. The reason for that apparent omission is simple: At the time the Report was written no organized approach existed in this country for providing medical school graduates with advanced clinical training (structured internship and residency training programs). This was the case even though many medical school graduates felt that they were unprepared to enter practice when they completed medical school. Indeed, many graduates sought opportunities to gain additional clinical experience either by serving as interns at hospitals in this country or by spending time observing the practice of clinical medicine in teaching hospitals in various European countries.

Although Flexner did not discuss graduate medical education in any detail in his Report, he clearly recognized that medical school graduates would ultimately need to engage in additional clinical training to be prepared for practice. The Report contains a short chapter in which Flexner discusses the status of what were referred to at the time as postgraduate schools—that is, schools that provided short courses that doctors could take to acquire either a particular clinical skill or certain additional knowledge that they felt they needed to care for the kinds of patients they would

encounter in their practice. In this chapter, Flexner suggested that the postgraduate schools would not be needed if medical schools corrected the deficiencies in the ways they were preparing students for practice. But importantly, he went on to state that advanced clinical training would ultimately become an important element in preparing doctors for clinical practice. Indeed, he predicted that graduate instruction in medicine would become “advanced and intensive,” with medical schools using teaching hospitals “for the elaboration of really thorough training in specialties resting on a solid undergraduate education.”

Flexner recognized that educational programs offered by medical schools would not continue over time to be responsible for preparing students for clinical practice but that an “advanced and intensive” form of medical education would ultimately be required for that purpose. As he predicted, the responsibility for ensuring that doctors are adequately prepared for clinical practice now rests with the country’s graduate medical education system. Because the year of this publication (2010) marks the one hundredth anniversary of the publication of the Flexner Report, it seems appropriate to focus attention on the nature of the country’s graduate medical education system at this time.

In keeping with Henry Pritchett’s rationale in commissioning the Flexner Report, the ultimate purpose of this document is to provide background information that will encourage the creation of a more accountable graduate medical educational system—that is, a system that functions primarily to serve the public interest. In considering how well the system is functioning, it is important to recognize that the system serves the public’s interest in two extremely important and distinct ways. First, the system is responsible for ensuring that medical school graduates are prepared for the practice of one of the specialties of medicine, thereby contributing to the quality of medical care provided in this country. Second, the system serves as the critical determinant of the number and specialty mix of the cohort of physicians that enter practice each year, thereby contributing, albeit somewhat indirectly, to the population’s access to needed healthcare services. This document identifies shortcomings in how the current system is meeting those responsibilities.

The document begins by describing the current system. Although Flexner recognized that future practitioners would require a period of intense training before entering practice, he probably could not have envisioned

the kind of graduate medical education system that exists today. This document provides a historical overview of how the system evolved during the hundred years since the Flexner Report was published. Gaining an understanding of how the system evolved is important because efforts to reform the current system are not likely to be successful unless they are informed by insight into the forces that shaped it. And finally, this document discusses several important challenges that the system currently faces.

# The Current Graduate Medical Education System

The country's graduate medical education system provides the organizational framework within which medical school graduates obtain the training required to prepare them for the practice of medicine in a particular specialty or subspecialty. The system is large and complex. The size of the system is reflected by the number of specialty and subspecialty programs in existence, the number of residents in training in those programs, and the number of institutions that serve as program sponsors. The complexity of the system is reflected by the variable nature of the undergraduate medical education programs completed by those who enter residency training each year; the process by which individual programs are approved to provide training in a particular specialty or subspecialty (accreditation); the process by which institutions are approved to sponsor programs (institutional review); the diverse nature of the institutions that serve as program sponsors; the variation in the size and specialty mix of the programs sponsored by different institutions; and the variable sources of funding that are available to cover costs incurred by institutions that serve as sites for the training of residents.

## Residents in Training

Approximately 110,000 medical residents are now in graduate medical education programs in the United States. Approximately 85 percent

of the residents are enrolled in core programs that lead to initial board certification in a specialty; the remaining 15 percent are enrolled in subspecialty programs. Approximately 25,000 residents are enrolled in the first year of training provided by core specialty programs. Of those, approximately 75 percent are recent graduates of U.S. allopathic or osteopathic medical schools; the remaining 25 percent are graduates of medical schools located outside of the United States [i.e., international medical graduates (IMGs)]. The citizenship status of the IMGs who have recently entered residency training in the country is variable. Approximately 25 percent are U.S. citizens who attended a medical school in another country, and an additional 15 percent are permanent residents of the United States who have not yet become citizens. Almost 30 percent of the IMGs entering training are known to be citizens of foreign countries; the citizenship status of the remaining 30 percent is unknown.

The undergraduate medical education experience of those who apply to enter a residency program in the United States is diverse. Slightly more than half of the applicants will be, or are already, graduates of a U.S. medical school. Approximately 85 percent of those applicants have graduated from an allopathic medical school, while the remaining 15 percent are graduates of an osteopathic medical school. Graduates of medical schools located outside the United States can apply for residency training in the United States provided that the school they attended is recognized by the World Health Organization and they have met the requirements established by the Educational Commission for Foreign Medical Graduates. As a result, almost 45 percent of those who apply to enter a residency program in the United States have graduated from a foreign medical school. U.S. citizens who attended a foreign medical school, most often in the Caribbean region, account for approximately one third of those applicants.

Medical school graduates gain entry to the system in several ways. The overwhelming majority of the graduates of medical schools in this country gain access by participating in the National Resident Matching Program (NRMP). This program allows senior medical students to submit to the NRMP a list of preferences for future training based on their choice of specialty and the desire to train in specific programs. The student preference list is then matched with lists of preferred candidates submitted by individual training programs. Approximately 85 percent of the graduating students are matched to one of their top three choices. In

addition to the approximately 19,000 U.S. medical school seniors who participate in the match, more than 15,000 graduates of non-U.S. medical schools also participate. Over 40 percent of the graduates of non-U.S. schools are matched with a program. Each year, a number of positions (generally over 1,000) are not filled by the match process. Medical school graduates who chose not to participate in the match, or who failed to be matched to a position, can vie for those positions. In the aggregate, approximately 19,000 U.S. graduates secure an entry-level position in a specialty residency program through the matching process.

## Residency Programs

The graduate medical education system is composed of over 8,500 individual residency programs. Approximately 46 percent of the programs provide training in one of the 26 clinical disciplines designated as core specialties, whereas 54 percent provide training in one of the more than 100 clinical disciplines designated as subspecialties. A relatively small number of programs provide training in several different specialties (combined programs), and some provide only a year of general training (transitional year programs) required by several disciplines before specialty training.

For an allopathic residency program to train medical school graduates for practice in the United States, the program must be accredited by the Accreditation Council for Graduate Medical Education (ACGME). The ACGME is an independent, not-for-profit corporation that has five corporate members: the American Medical Association (AMA), the Association of American Medical Colleges (AAMC), the American Hospital Association (AHA), the American Board of Medical Specialties (ABMS), and the Council of Medical Specialty Societies (CMSS). The role of the member organizations is largely, but not entirely, limited to nominating individuals to serve on the board of directors. To be accredited by the ACGME, a program must be deemed to be in compliance with the standards for training developed by a specialty-specific Residency Review Committee (RRC). The RRCs are composed of individuals appointed by the AMA and the specialty's certifying board. In some cases, the specialty's primary professional society also appoints RRC members. At present, the ACGME is the only body that has authority over the establishment of new graduate medical education programs, as well as the size of programs. When making accreditation decisions, the ACGME does not take into

consideration, or attempt in any way, to influence the aggregate number, size, or specialty mix of programs.

## Institutional Settings

More than 1,500 institutions now serve as training sites for residents. Although some residency programs are based in ambulatory settings, laboratories, or public health settings, the great majority are based in hospitals. Significant differences exist among hospitals in the nature of their patient populations, the infrastructure available to support programs, and access to sources of funding. Most teaching hospitals are not-for-profit, community-based general hospitals. However, some of the hospitals that serve as training sites for residents are for-profit institutions; some are municipal or county owned; some are children's hospitals; some are specialty hospitals; and some are Veterans Administration (VA) or military hospitals. The variable nature of the hospitals that serve as the primary sites for training programs contributes to the complexity of the system.

The ACGME is also responsible for determining that an institution complies with financial and administrative requirements for sponsorship of residency programs. Fewer than 700 of the institutions that serve as training sites are designated as program sponsors. Although most of the sponsoring institutions are individual hospitals, several are large health systems that sponsor all of the programs based in the system's hospitals. In addition, about half of the country's medical schools serve as institutional sponsors for programs based in affiliated hospitals. Slightly more than half of the sponsoring institutions sponsor more than one program, while the remaining sponsor only a single program. Several of the sponsoring institutions are responsible for more than 100 programs. Approximately 15 sponsoring institutions have more than 1,000 residents enrolled in the programs for which they are responsible.

If an institution sponsors more than a single program, it must be reviewed by the ACGME's Institutional Review Committee (IRC) to ensure that it complies with the institutional requirements established by the ACGME. A sponsoring institution must designate an individual to oversee the institution's residency programs. This individual is known as the Designated Institutional Official (DIO). An institution must also establish its own institutional review committee (graduate medical education

committee) that is responsible for conducting regular reviews of accredited programs to ensure that they remain in compliance with RRC standards during the period between RRC reviews. An institution that does not meet the requirements established by the ACGME may not continue to serve as a program sponsor.

## Regional Distribution

The distribution of training programs and the number of residents in training varies greatly across the country. The uneven distribution of programs is due in part to differences in the regional distribution of the country's population. However, the distribution remains unequal even when differences in regional population are taken into consideration. When corrected for population, the New England and Middle Atlantic regions have more than twice the number of residents in training than do most of the other U.S. regions. The proportion of programs also varies regionally. For example, almost 13 percent of all of the programs in the country and over 14 percent of all of the residents in training are in the state of New York. Pennsylvania, Texas, Ohio, Illinois, and Massachusetts rank next in order for both the number of programs and the number of residents in training.

The variation in program activity reflects to a significant degree the fact that individual institutions can make independent decisions as to whether they wish to be involved in sponsoring graduate medical education programs, and if they want to be sponsors, the size and specialty mix of the programs they wish to sponsor. An institution that is able to meet the ACGME standards for accreditation of individual programs is free to establish whatever programs it wishes. The number of trainees that may be enrolled in any program is subject to control through the accreditation process, based solely on the resources available to support the educational program. Thus, the number of programs in a particular city, state, or region, and the number of trainees in those programs, reflects decisions made over the years by individual institutions about the degree to which they wish to be involved in graduate medical education.

The distribution of graduate medical education programs reflects to a significant degree the location of medical schools and the degree to which medical schools and their affiliated teaching hospitals have over time become major academic medical centers. This situation exists because the

medical staff of a teaching hospital that is a major affiliate of a medical school is largely composed of members of the school's clinical faculty, for whom the presence of resident physicians provides them with the time to pursue their various academic activities. Because the clinical faculty focus much of their teaching and research activities on issues related to a particular clinical specialty, it is not surprising that the institutions in which they work would sponsor a large number of specialty and subspecialty programs. Indeed, the emergence of new subspecialty training programs is largely due to the involvement of medical school faculty in the development of those fields in the institutions in which they work.

## Financing

A number of factors contribute to the cost of conducting graduate medical education within a given institution. The largest factor is the stipend and benefits provided to the residents in training. However, any expense that an institution incurs in supporting graduate medical education—primarily faculty teaching time and infrastructure support—will contribute to its program costs. Therefore, the size of an institution's graduate medical educational enterprise—that is, the number and size of the institution's specialty and subspecialty programs—will determine the cost to the institution. Accordingly, the ability to cover the cost incurred will be a major determinant of the size of an institution's graduate medical education program activity.

The methods in place for financing the costs institutions incur in serving as training sites for residents contribute to the complexity of the graduate medical education system in the country as a whole, as institutions have variable funding patterns. This situation exists for two reasons: 1) the nature of the policies in place for determining whether an institution is eligible to receive funds from certain funding sources; and 2) the nature of the formulas in place for determining the amount of funding that might be received from those sources. As a result, different institutions face different financial challenges. The variable nature of the funding available in an individual institution to support graduate medical education makes it difficult to maintain a system that also serves the best interests of the public.

The federal government is the primary source of funding for graduate medical education. The Medicare program provides by far the greatest

amount of financial support. The amount of funding that individual hospitals receive from the Medicare program varies considerably, based not only on the aggregate size of an institution's graduate medical education program activity but also on the cost per resident to the individual institution. As a result of historical funding patterns, the amount currently paid to different hospitals on a per-resident basis varies from 70 percent to 130 percent of the national mean.

The federal government provides additional support for graduate medical education through special funding for programs conducted by free-standing children's hospitals, programs supported by the VA and Department of Defense, and special grants targeted at training in select specialties (i.e., family medicine, general internal medicine, and general pediatrics). In addition, all but a few states support graduate medical education through their Medicaid programs, and the federal government contributes to that support by providing matching funds in a manner consistent with state-specific formulas. A number of states also have programs in place that provide support for training in select specialties.

## The Public Interest

Given the ways in which the graduate medical education system is funded, the public has a legitimate interest in how the system functions. The public needs to be assured that the system produces physicians who are prepared to provide high-quality care, and that it is contributing to the production of a physician workforce that is adequate in size and has an appropriate specialty mix. At present, decisions made by individual institutions and the process by which individual programs are accredited are the only factors that determine the number of programs, the size of individual programs, and the specialty mix of the programs. The accreditation of each individual program is based solely on the degree to which that program complies with standards established by the specialty-specific RRCs operating under the purview of the ACGME. Consequently, multiple professional organizations, each with its own vested interest, are in a position to exert influence over how various elements of the system function. Currently, no forum exists to bring together members of the profession and government policymakers to discuss, debate, and reach agreement on reforms that might improve the degree to which the system serves the public interest.

Given the complex nature of the country's graduate medical education system and the critically important ways that the system contributes to the availability of high-quality healthcare, it is also remarkable that there is not a body responsible for oversight of all aspects of the system. Indeed, because the system is largely supported by state and federal funds, it is truly remarkable that a government body has not been established to provide direct oversight. Two federal advisory bodies are charged to make recommendations on issues that relate to how the system functions—the Council on Graduate Medical Education (COGME) and the Medicare Payment Advisory Commission (MedPAC). However, as advisory bodies they have no authority to effect changes on their own. For their recommendations to be implemented, the Department of Health and Human Services must generate an appropriate rule within the scope of its rule-making authority, or Congress must pass enabling legislation. Over the years, both bodies have issued recommendations for major reforms that have been largely ignored. Given the current situation, it is virtually impossible to gain approval for making changes that might be needed to ensure that the system better serves the public interest.

# Evolution of the System

The information provided in the previous section makes it clear that the country's graduate medical education system is extremely large and complex. Over the course of the past century, the system underwent a series of major changes, leading to the system that exists today. To gain an understanding of why the system exists as it now does, one must understand how the system evolved, and why it evolved the way that it did. It is particularly important to recognize that key elements of the system that exists today reflect compromises that various professional organizations agreed to in the past to address specific issues that existed at the time. Given that the circumstances that shaped those compromises no longer exist, there is no reason to believe that the elements of the system established by those compromises reflect the best approaches for addressing concerns about how the system is functioning today. Thus, developing an understanding of how the system evolved over time, with an emphasis on the nature of the forces that shaped the system, provides an important framework for considering how the system might be changed to address the critical challenges now being faced.

The nature of the current system can best be understood by highlighting how it evolved during three distinct historical periods. Because the Flexner Report describes the state of medical education at the beginning of the twentieth century, the time of its publication provides an important point of departure for considering how the graduate medical education system

evolved. The first phase of the evolutionary process spanned the period from the publication of the Report in 1910 to 1940. Events that occurred during that period, primarily the development of specialty certifying boards, created the foundation for the development of an organized approach for structuring advanced clinical training. That framework continues to exert a major influence on the nature of the training that medical school graduates undergo before entering practice. The second phase of the evolutionary process extended from the end of World War II to 1980; the third phase began in 1981 and continues to the present.

To a great extent, the system that exists today was shaped by two primary forces. First, professional organizations played a key role in establishing fundamental approaches for ensuring the quality of the training being provided by residency programs. Second, actions taken by the federal government played a key role in promoting the growth of the system and how it is financed and focused attention on the degree to which the system was producing an appropriate physician workforce. Events that occurred during each of the three periods are described in the sections that follow. Key events that occurred across the three periods of time, which relate to the role of professional organizations and the role of government in the evolution of the system, are presented in chronological order in Tables 1 and 2 (pages 60–63).

## PHASE I: SETTING THE STAGE (1910–1940)

In the early years of the twentieth century, relatively few opportunities were available for medical school graduates to receive advanced clinical training in a structured educational program. Nevertheless, the majority of graduates sought some kind of additional clinical experience prior to entering practice. Many graduates spent time as interns in hospitals in this country, as observers in hospitals in various European countries, or taking short courses at postgraduate schools. Given concerns about the specialty orientation of today's system, it is interesting to note that even before specialty training began to evolve in any organized way, some of those pursuing advanced clinical training experiences were intent on learning how to care for patients with particular clinical conditions, or how to develop particular clinical skills. Thus, even though the great majority of doctors graduating from medical schools in the early years of the twentieth century would enter general practice, there were already graduates who

were interested in developing a specialty practice of some kind, and many practicing physicians were identifying themselves as specialists even though they had no formal training in a specialty.

The kind of advanced clinical training that was available in the years following the publication of the Flexner Report was clearly quite different from the kind of training that evolved in later years for the simple reason that no framework was in place at that time for defining the nature of the educational experiences that the programs should provide to prepare a medical school graduate for practice. The AMA, established in 1847 for the explicit purpose of improving medical education in this country, and the AMA's Council on Medical Education (CME), established in 1904, helped to define the ways in which medical education would be addressed by the profession in the decades following the publication of the Flexner Report. The CME played a critical role in the early development of graduate medical education. In 1919 the CME began publishing standards for internships, and in 1928 it began to disseminate standards for residency and fellowship training. Nevertheless, no systematic review process was in place to determine the educational quality of individual programs.

The internship experiences at that time were not structured educational programs. Most of the hospitals that offered internships were small institutions that primarily provided care for poor individuals who were unable to obtain care in any other way. The medical school graduates who served as interns in those institutions were primarily there to care for those patients, and they received relatively little direct supervision as they went about their daily clinical chores. Programs providing advanced clinical training in a given specialty—somewhat akin to today's residency programs—existed in only a few institutions. A coherent approach for providing specialty training could not be established until an agreement was reached within the profession on an approach for defining the scope of practice that would be associated with a given specialty.

The evolution of specialties as distinct fields of medicine required the emergence of professional organizations that would define the clinical domain of a specialty and establish methods for documenting that practitioners were qualified to practice that specialty. Although specialty-oriented groups began to appear in the early years of the nineteenth century, the major specialty organizations that exist today did not begin to

appear until the early years of the twentieth century. The American College of Surgeons (ACS) and the American College of Physicians (ACP), the two largest specialty societies, were established in 1913 and 1915, respectively. The establishment of these specialty societies marked an important beginning of organized efforts to delineate certain domains of medical practice as being distinct from general practice, the dominant form of practice at the time. However, because the clinical specialties were not fully developed until after World War II, no coherent approach was in place during the 1920s and 1930s for determining how medical school graduates should be prepared for the practice of a particular specialty.

In the early 1930s, the CME began to address this issue by establishing a number of specialty-oriented committees to develop training standards in distinct specialties. The emergence of major specialty societies began to challenge the traditional role of the AMA in determining how medical education was organized and conducted. The conflict that the emergence of specialty organizations created was reflected in the approaches that developed for determining the standards for an institution to be deemed capable of offering an internship or a residency program in a particular clinical discipline. Although the CME established the specialty committees noted above in the early 1930s, the ACS began to publish its own standards for residency training in surgery in the late 1930s and to approve hospitals involved in sponsoring surgery residencies. Indeed, from 1937 until after the end of World War II, the ACS and the CME independently evaluated surgical training programs. It became apparent early on that competing approaches for establishing standards for residency training and approving individual programs were not sustainable.

The specialty boards—the organizations that have had the greatest impact on the emergence of what are now recognized as major clinical specialties—evolved relatively slowly throughout the period. The first specialty board, the American Board of Ophthalmic Examination (precursor to the American Board of Ophthalmology), was established in 1916. By 1933, only five specialty boards had been established, although others were already under development. The CME recognized that the emergence of new specialty boards was a reality that could not be ignored. In an effort to retain some degree of involvement in the process that was leading to specialization within the profession, the CME agreed in 1933 to begin to approve newly established specialty boards.

The following year, the existing boards established the Advisory Board for Medical Specialties (ABMS) to assist evolving specialties in the development of new boards. At that time, the CME reached an agreement with the existing boards establishing that the ABMS would conduct the initial review of a proposal of a new board before it could be submitted to the CME for action. During the years from 1934 to 1945, ten more certifying boards were established. Of note, two of the largest boards—the American Board of Internal Medicine (ABIM) and the American Board of Surgery (ABS)—were not established until 1936 and 1937, respectively.

Throughout the 1930s, programs in a given specialty continued to vary in length, and the nature of the training experiences provided was often quite variable. There was a clear need for a uniform approach for standardizing training experiences. Recognizing this need, the CME, ACP, and the ABIM reached an agreement in 1939 to establish a cooperative approach for overseeing training in internal medicine. The cooperative committee that was proposed did not become operational at the time because of the onset of the war, but the establishment of the committee set the stage for the development of a more effective approach for evaluating residency training, which would occur following the war's end.

In 1937, the ABMS established the Commission on Graduate Medical Education for the purpose of conducting a study to determine how the advanced clinical training of medical school graduates was being conducted. The study focused attention on the shortcomings of existing internship experiences and identified issues to be addressed in the evolution of specialty training programs. The Commission's report, published in 1940, presented recommendations for how internships and residency programs could be improved. The Commission expressed concern that too many internships and residencies were organized primarily for the purpose of providing coverage of clinical services and that many lacked adequate educational experiences. The report also highlighted the need for standardization of training, noting that internships and residencies in the same specialty varied in length. The ABMS recommended that by 1942 all residencies should be at least three years in duration.

Although the specialties of medicine were not yet fully developed at the outbreak of World War II, the role of specialty medicine had already become well established in this country. Indeed, at that time only a small

percentage of the medical school graduates were planning to enter general practice following completion of an internship and over 500 hospitals were offering residency positions. The practice of the military at the beginning of the war provided clear evidence that the value of specialty medicine was widely recognized. Physicians who had completed some form of specialty training received a higher rank on entering the military than did general practitioners.

## PHASE II: THE SYSTEM TAKES SHAPE (1945–1980)

World War II had an important impact on the evolution of the country's graduate medical education system. The military's experience with the medical care provided to troops who were injured or ill during the war convinced the military leadership that doctors who had received training in a specialty discipline were far more capable of providing this level of care than were doctors who were trained to be general practitioners. This attitude reinforced the general view within the profession in the years leading up to the war that training in specialty disciplines was necessary as a means to improve the quality of medical care.

However, when the war ended in 1945, the approaches being used for developing standards for training and for approving training programs in the emerging clinical specialties remained variable, largely because the profession had not yet established a method for coordinating and providing oversight of those activities. At the same time, approaches for certifying physicians in a given specialty, based in part on successful completion of an approved training program, were not yet fully developed. Leaders within the profession recognized that those situations needed to be addressed.

Thus, it is not surprising that the graduate medical education system underwent major changes in the decades that followed World War II. This restructuring resulted primarily from a series of separate and unrelated actions taken by the federal government, various professional organizations, hospitals, and medical schools. Those actions led collectively to a marked increase in the number of medical school graduates seeking residency training; the number of residents in training; the number of internship, specialty, and subspecialty programs in existence; and the

development of a more organized approach for establishing standards for accreditation.

## Educational Standards

When World War II came to an end, the development of standards for training in various specialties, as well as the process for approving hospitals to offer specialty training, was still largely controlled by the CME. However, because a number of the specialty boards established during the 1930s began after the war ended to develop criteria for certifying physicians as specialists, it was apparent that specialty organizations would over time become increasingly involved in developing training standards. As noted previously, the ACS had already begun to publish its own standards for training in surgery and its own list of hospitals approved to provide surgical training. The CME recognized that, because the specialty boards controlled the process by which physicians were certified as specialists, they would not be able to compete in this area. Accordingly, the CME recognized that, to retain a role in the process, it would need to establish partnerships with specialty organizations.

Thus, following the end of World War II, the movement to develop cooperative approaches for overseeing training in various specialties began in earnest. The effort began in 1947 when the CME, ABIM, and ACP initiated formal talks about activating the Conference Committee on Graduate Training in Internal Medicine, which had originally been formed in 1939 but did not become operational due to the outbreak of World War II. The talks led to the Committee becoming operational in 1949. The following year, the CME, ABS, and ACS agreed to begin formal discussions to establish a similar cooperative approach for overseeing training in surgery. The Conference Committee on Graduate Training in Surgery was established in 1953. That same year, the internal medicine conference committee decided to change its name to the Residency Review Committee (RRC), and the boards of five other specialties expressed interest in partnering with the CME in the formation of a RRC in their own specialty.

In the years that followed, RRCs were established in virtually all of the specialties that had formed certifying boards. Unlike the RRCs in internal medicine and surgery, the majority of the new RRCs were formed as organizations that were jointly sponsored by the CME and the certifying

board of the specialty. With few exceptions, major specialty societies did not participate as members of the RRC in their specialty. Each of the participating organizations appointed individuals to serve on the RRC, and the actions of the RRCs were subject to approval by each of the sponsors. Thus, with the advent of RRCs, the certifying boards no longer played a direct role in approving individual programs to provide training in the specialty. However, the boards continued to influence the development of training standards through their development of criteria for specialty certification.

In 1963, the AMA appointed a special commission—the Citizens Commission on Graduate Medical Education (CCGME)—to review the status of graduate medical education in the United States. The Commission was chaired by John Millis, at the time the President of Western Reserve University in Cleveland. The Commission's report, issued in 1966, included a series of recommendations that had a dramatic impact on the evolution of graduate medical education. Of particular importance, the report called for the establishment of an independent commission that would be responsible for coordinating decisions regarding the conduct of graduate medical education. This recommendation was intended to provide a mechanism for countering the narrow interests held by individual specialties and their effects on determining the standards for individual training programs.

Although the AMA opposed the establishment of the kind of independent commission recommended in what came to be known as the Millis Report, it recognized the possibility that the government might adopt that recommendation. Accordingly, in 1970, the AMA proposed that various professional organizations cooperate in forming a body to provide oversight of the graduate medical education system. Thus, in 1972, five of the major professional organizations that were involved in the conduct of graduate medical education (AMA, AAMC, AHA, ABMS, and CMMS) agreed to form the Coordinating Committee on Medical Education (CCME). The organizations also agreed to the formation of a body that would be responsible for overseeing training in graduate medical education—the Liaison Committee on Graduate Medical Education (LCGME).

As its name suggests, the CCME was to coordinate how medical education was conducted across the continuum of the educational process. Thus,

the Liaison Committee on Medical Education (LCME), which had been in place since 1942 to establish standards for undergraduate medical education, was to report to the CCME, as was the newly formed LCGME. Several years later, a Liaison Committee on Continuing Medical Education (LCCME) was formed with the intent that it would also operate under the aegis of the CCME. Given the CCME's apparent scope of responsibility for overseeing the continuum of medical education, it is interesting to note that at its first meeting in 1972, the CCME members established two priorities for the Council: the financing of graduate medical education and the development of policies that would govern the distribution of physicians among the various specialties. Indeed, during its lifetime, the CCME focused its efforts on producing reports on physician workforce issues, including the role of foreign medical school graduates in graduate medical education, and engaged in formal discussions with government agencies about those issues.

The newly formed LCGME was to coordinate decision making regarding the conduct of graduate medical education. In reality, the Committee's authority over the conduct of graduate medical education was limited, largely because the RRCs continued to operate as independent entities. Consequently, decisions made by the LCGME that could affect the ways in which training standards were being developed or applied often led to conflicts with the RRCs. In addition, any decisions made by the LCGME were subject to approval by the CCME and each of the LCGME's sponsoring organizations. This overlap in areas of responsibility made oversight of graduate medical education burdensome.

These conflicts led to an agreement among the five sponsors of the CCME and LCGME in 1980 to restructure the two organizations. The CCME was converted to the Council for Medical Affairs (CFMA), and the LCGME was converted to the Accreditation Council for Graduate Medical Education (ACGME). The ACGME's activities related to oversight of graduate medical education continued to be subject to review by the five sponsoring organizations, but unlike the CCME, the CFMA had no authority over the ACGME.

In addition, the relationships among the various organizations involved in the process at that time were often strained, due at least in part to the degree to which the AMA was involved in the process. As noted previously, in the early decades of the twentieth century, the AMA played a critical

role in the initial development of approaches for standardizing advanced clinical training (internships and residencies). However, as specialty societies and certifying boards began to develop their own standards for training, as well as approaches for judging the quality of training being provided by individual programs, it was only natural for those organizations to believe that the role of the AMA in the process would diminish over time.

However, this was not the case. The AMA maintained a dominant role in the graduate medical education accreditation process. When the LCGME was converted to the ACGME, the AMA's scope of participation exceeded that of the other professional organizations that served as sponsors of the ACGME. The AMA served as one of the five sponsors of the organization, thereby having the right to appoint individuals to serve on the ACGME. In addition, and unlike the other sponsoring organizations, the AMA continued to have the right to appoint members to each of the specialty RRCs. Indeed, the AMA appointed as many members to each RRC as were being appointed by the specialty's certifying board. Thus, the AMA was in a position to play a role in the development of training standards in every specialty and subspecialty, and in making decisions regarding the level of compliance with those standards.

When the LCGME was established, and then when it was converted to the ACGME in 1980, certain professional organizations involved in the process strenuously opposed the AMA's position that it be allowed to continue to appoint members to RRCs and to serve as a sponsor of the accrediting body. However, to gain support for centralizing accreditation-related activities in a single organization, they agreed to allow the AMA to retain its traditional role of appointing members to the RRCs.

Throughout this period, discussions continued within the profession about the role that medical schools and universities should play in the organization of graduate medical education. This issue first surfaced during the 1920s and 1930s when residency programs were just beginning to be developed. Because medical schools were going through a period of change in response to the Flexner Report, the schools gave no serious consideration at that time to suggestions that they take responsibility for graduate medical education. In the mid-1960s, recommendations emerged once again that, because graduate medical educational programs were intended to be educational experiences, medical schools and universities

should assume greater responsibility for ensuring the quality of the programs. Indeed, some recommended that approval of the programs should be incorporated into the process used in accrediting universities, and that accreditation of individual programs should not occur. Not surprisingly, the higher education community had little interest in adopting that recommendation.

## Government Financing

The federal government became involved in financing graduate medical education shortly after the end of World War II. In 1946, Congress passed legislation that established the Department of Medicine and Surgery within the VA (established as the Veterans Bureau in 1921). Shortly thereafter, the VA was granted authority to enter into affiliation agreements with medical schools (Memorandum Number 2), which allowed individual VA hospitals to participate in the education of medical students and to provide residency program rotations for medical school graduates. This action served to increase the number of residency programs and the number of medical school graduates enrolled in specialty training programs. As the number of VA hospitals increased in the ensuing years, the number of residency program positions sponsored by the VA and the number of residents receiving training in VA hospitals also increased. By 1980, the VA was sponsoring over 7,500 positions in programs sponsored primarily by medical schools or teaching hospitals that were affiliated with a VA hospital.

The Department of Defense also began to establish residency programs in military hospitals to provide training opportunities for physicians who might be inclined toward a career in the military. It took this action in recognition of the fact that the military needed well-trained specialists to provide the kinds of care required by active duty personnel and their families, as well as military retirees. By the mid-1970s, 30 military hospitals were providing training for almost 2,000 residents in approximately 190 residency programs.

As significant as those federal programs were at the time they were established, their impact on the graduate medical education system pales in comparison to that of the establishment of the Medicare and Medicaid programs in 1965. Although the original bill establishing the Medicare program did not include language specifically authorizing the program

to fund costs associated with graduate medical education conducted in hospitals, the conference committee that was responsible for resolving issues that were not specifically addressed in the legislation agreed that the program should cover its fair share of the educational costs incurred by a hospital until such time that another funding mechanism was established.

Consequently, the Medicare program provided for the first time an explicit source of revenue that hospitals could use to support the development of new, or the expansion of existing, graduate medical education programs. Because this funding could be used to cover stipends and benefits provided to residents throughout the course of their training, it allowed institutions to increase progressively the amount that residents were paid, thereby making it easier for residents to remain in training for longer periods of time. This situation facilitated the desire of professional organizations to extend the training period required in certain clinical specialties, as well as the development of subspecialty programs that required additional periods of training. These funds played an important role in allowing major teaching hospitals to increase the number of residency positions they sponsored to accommodate the growing number of residents seeking longer periods of training.

It should also be noted that the growth during the 1960s and 1970s in government support of biomedical research and research training further fueled the progressive specialism occurring within the graduate medical education system. Support of research training for young physicians was particularly important in encouraging these individuals to pursue careers in subspecialty medicine, thereby contributing further to the development of subspecialty training programs.

## Expansion of the System

Near the end of World War II and shortly after its conclusion, the government took actions that led directly to an increase in the number of physicians seeking specialty training. In 1944, Congress passed the Serviceman's Readjustment Act (popularly known as the G.I. Bill), which provided benefits to active duty personnel returning to civilian life, including most prominently benefits that allowed veterans to attend college. It is often not recognized that the G.I. Bill also provided benefits for doctors returning to civilian life who wished to obtain additional training in a residency program. Because many of the returning physicians

could have entered general practice after leaving the service, the provisions of the Bill had the effect of supporting the training of veteran physicians in a clinical specialty. Thus, the G.I. Bill had the effect of increasing the number of specialists being trained.

Shortly thereafter, Congress passed additional legislation that further increased the number of medical school graduates seeking internships and residency training. In 1948, Congress passed the Smith-Mundt Act (U.S. Information and Educational Exchange Act), which established a program that provided opportunities for citizens of other countries to come to the United States on a temporary basis for educational purposes (as exchange visitors), or on a more permanent basis to fill occupational needs that were not being met by U.S. citizens. Although expansion of graduate medical education was not an explicit intent of the legislation, the program made it possible for international medical school graduates (IMGs) to enter the country for further medical training. As a result, the number of graduates of foreign medical schools seeking residency training in the United States began to increase in the early 1950s.

In the academic year 1950–51, almost 30,000 internship and residency positions were available in this country. Many of those positions went unfilled due to the insufficient number of medical school graduates to fill them. At that time, just over 2,000 IMGs were in training in internship and residency programs in the United States. In the academic year 1965–66, over 50,000 internship and residency positions were available, and the number of IMGs in training exceeded 11,000. The increase in the total number of medical school graduates in training reflected the fact that a larger percentage of U.S. medical school graduates were choosing to train in specialties and subspecialties that required longer periods of training. However, the influx of IMGs pursuing graduate medical education in the United States is one of the major reasons for the expansion that occurred during that period. Indeed, by the mid-1970s, the number of IMGs in training had increased to over 15,000.

Some of the IMGs seeking residency training in the United States were U.S. citizens who had attended a foreign medical school, and some were foreign citizens who had become permanent U.S. residents after immigrating when they completed medical school in their country of origin. However, most of the increase in the number of IMGs participating in graduate medical education in the United States resulted from federal

legislation passed in the 1960s and 1970s (the Mutual Educational and Cultural Exchange Act of 1961 and the Immigration and Naturalization Act Amendments of 1965 and 1970), which made it easier for foreign medical school graduates to come to the country for residency training. Provisions within the 1965 and 1970 amendments to the Immigration and Naturalization Act had a major impact on the number of IMGs and on the number staying in the country after completion of training to enter medical practice.

The cumulative effect of these government actions was a major increase in the number of training positions available during the period from 1950 to 1980. In 1950, just over 10,000 internship and almost 20,000 residency positions were available in the country. In 1980, over 60,000 residency positions were available in the United States. When considering the actual growth that occurred in the number of training positions that developed during that 30-year period, one must recognize that free-standing internships ceased to exist in 1975. Because the internship had served as the first year of advanced clinical training for all medical school graduates, regardless of whether they entered general practice or a specialty training program, the elimination of the positions brought an abrupt decline in the total number of positions, even though the number of specialty and subspecialty residency positions available had increased.

The elimination of free-standing internships in 1976 was not entirely unexpected. Although the internship had served for decades as a required year of training for those seeking to pursue a medical specialty, the value of the experience began to be questioned as structured residency programs developed in the various clinical specialties. Indeed, a comprehensive review of the internship experience conducted by the AMA in 1953 raised serious questions about the quality of the training provided by many hospitals and the value of the experiences for medical school graduates who planned to pursue training in a specialty. The review recommended that graduates planning to enter specialty training should only be required to complete a one-year internship, and that two-year internships should be required only for graduates planning to go into general practice. In subsequent years, the value of the internship for those planning to enter a specialty training program became even more suspect, contributing to the decision that it be eliminated for those graduates. The development of residency programs in family medicine contributed to the elimination of the internship for all graduates.

Finally, the number of U.S. medical school graduates seeking internships and residency training increased significantly later in the period as a result of state and federal government efforts to support the development of new medical schools and the expansion of enrollment in existing schools. Those policies led directly to the establishment of 40 new allopathic medical schools during the 1960s and 1970s. As a result of that increase, the number of medical school graduates seeking entry into graduate medical education more than doubled, resulting in a significant increase in the total number of residents in training in the years that followed.

## Efforts to Regulate the System

The CCGME issued its report in 1966, in which they recommended that an independent commission be established to provide a mechanism for coordinating decisions about how the country's graduate medical education system should function, primarily with regard to the development of standards for training. Importantly, CCGME also suggested that such a body might assume responsibility for distributing training positions among the various specialties.

In the years immediately following the publication of this report, professional organizations began to become concerned about the possibility that the government might become involved in regulating the graduate medical education system. The organizations feared that, because Congress had approved the use of Medicare funds to cover some of the costs of these educational programs, the government might decide to exert influence over how the funds should be used. As a result, individuals in leadership roles in various professional organizations worried that the government might establish an external regulatory body to carry out the recommendations included in the Millis Report.

The possibility that the government might take steps to regulate the graduate medical education system became more threatening in the early 1970s. At that time, members of Congress began to express concerns that the progressive move toward specialization would have an adverse effect on the delivery of healthcare, primarily due to an insufficient number of physicians willing to practice primary care medicine in rural and underserved urban communities. Based on that concern, Congress enacted the Comprehensive Health Manpower Act of 1971, which established federal grant programs (Title VII, Public Health Act) that

provided funding to support residency programs in general pediatrics, general internal medicine, and the emerging discipline of family medicine. Although the Title VII programs served a purpose, the funding they provided was not substantial enough to offset the impact of Medicare funding on the progressive specialty and subspecialty orientation of the graduate medical education system as a whole.

In the years that followed, key Congressional leaders became increasingly concerned that uncontrolled expansion of the graduate medical education system was likely to lead to an oversupply of physicians and an imbalance in their specialty mix. In the mid-1970s, the reauthorization of the 1971 Health Manpower legislation led to Congressional debate, with some arguing strongly that steps needed to be taken to regulate the system. Some members of Congress believed that effective regulation would not occur unless the federal government, working in conjunction with state governments, controlled the process. Others believed that the regulatory process should be controlled by the profession and suggested that the process become the responsibility of the CCME.

Prominent members of Congress, who doubted that the profession would take on the responsibility to regulate the system, introduced legislative proposals in the mid-1970s that would have established strict government regulation of the number and specialty mix of positions available on a national and regional basis. However, the Comprehensive Health Manpower Training Act of 1971, reauthorized as the Health Professions Educational Assistance Act of 1976, did not contain provisions for regulating the system because the medical profession strongly opposed government regulation. At the same time, professional organizations were unwilling to have the CCME assume a regulatory role. Instead, the Manpower Training Act included provisions that created financial incentives for medical schools to take steps to decrease enrollments, while at the same time making efforts to influence their graduates to pursue careers in primary care.

During the course of the debate over how the graduate medical education system might be regulated, government officials agreed to establish an advisory group empowered with the responsibility of analyzing the state of the physician workforce. This group would project how the increase in medical school graduates resulting from the development of new medical schools would affect the size and specialty mix of the workforce

in the future and offer recommendations on how the government should respond. This entity, the Graduate Medical Education National Advisory Committee (GMENAC), which was established within the Department of Health and Human Services (DHSS) in 1976, issued its final report in 1980. In their report, GMENAC projected that the country would have a major oversupply of physicians by 1990, with an inadequate number of primary care practitioners. The GMENAC findings, in conjunction with growing concerns about the solvency of the Medicare Trust Fund, prompted Congressional leaders once again to consider approaches that might be adopted to regulate the supply and the specialty mix of physicians emerging from the graduate medical education system.

## PHASE III: RESPONDING TO CRITICAL ISSUES (1981–2010)

In the 35-year period that followed the end of World War II, the country's graduate medical education system became reasonably well established. Perhaps most importantly, key professional organizations endorsed the concept that educational standards were needed to guide the design and conduct of residency programs in individual specialties, and that an approach had to be established to ensure that programs were in compliance with those standards. Also, the federal government agreed to provide a stable source of funding to cover some of the costs incurred by hospitals conducting residency programs.

By the end of that period, GMENAC and two other prominent committees that had been established to review aspects of the country's graduate medical education system issued their reports. As noted above, GMENAC's 1980 report projected a major oversupply of physicians by 1990 and recommended that steps be taken in the years ahead to decrease the physician supply. One of the other prominent committees, the Macy Foundation Study Group on Graduate Medical Education, established in 1978, made a number of recommendations related to the content and quality of residency training and the financing and regulation of the system. Finally, in its 1981 report, the Task Force on Graduate Medical Education, established by the AAMC in 1977, addressed five areas of special concern, most prominent of which was the quality of the training being provided and the approaches being used for the development of educational standards and accreditation of individual programs. The Task

Force also addressed issues related to the specialty mix of the system's training positions and the financing of the system. Each of these reports made clear that the system was facing major challenges that needed to be addressed.

In subsequent years, important changes were made in the organization and financing of the graduate medical education system, including changes in the development of educational standards, accreditation, and compliance. In addition, Congress passed several pieces of legislation that fundamentally changed how the Medicare program paid hospitals for the costs they incurred in sponsoring graduate medical education programs. Finally, Congressional leaders and members of the administration made several attempts to gain the support of professional organizations for establishing a regulatory mechanism that would allow the government to control both the number and specialty mix of residents in training. Although those efforts were not successful, they demonstrated the government's growing concern about Medicare funds being used to support continued expansion of the system without any assurance that the number and specialty mix of the physicians in training were appropriate. The number of programs and the number of residents in training continued to increase, in part due to a significant increase in IMGs entering the system, but the rate of increase slowed appreciably after Congress passed legislation in the mid-1990s that placed a limit on Medicare financing of new training positions in existing teaching hospitals.

## Educational Standards

The approach adopted for oversight of the educational experiences provided by residency programs with the establishment of the LCGME in 1972 turned out to be burdensome and highly ineffective. As a result, the sponsoring organizations restructured the approach in 1980 by abolishing the CCME and converting the LCGME to the ACGME. The sponsors of the ACGME, which became operational in 1981, were the five professional organizations that had served as sponsors of the LCGME. Eliminating the CCME meant that decisions made by the ACGME were no longer subject to review and approval by any oversight body, but they were subject to approval by each of the five sponsoring organizations. In essence, therefore, each of the organizations had veto power over ACGME actions that it opposed.

One should also recognize that the business of the ACGME was conducted primarily by representatives of the five sponsoring organizations. The ACGME also had a public representative, a representative from the federal government, and a representative selected by house-staff (residents) organizations, but each of the sponsoring organizations appointed four representatives. Thus, each organization had input into the development of ACGME policies in ways that insured that the vested interests of the organization were reflected in any actions ACGME took. Even if the majority of the representatives approved an action that one of the ACGME sponsors did not agree with, that organization could veto the measure when the action was submitted to the sponsors for approval.

Perhaps more importantly, the ACGME had limited authority over the development of standards for training in the various specialties and subspecialties (program requirements), or over the process by which programs were reviewed to determine their compliance with existing standards (accreditation). Those responsibilities continued to fall largely within the jurisdiction of the various RRCs. When the ACGME was established, the RRCs were not incorporated as committees of the ACGME but continued to exist as independent bodies whose members were appointed by the RRCs' parent organizations. Although the ACGME was charged with reviewing and approving the special requirements developed by individual RRCs, it did so only after they had been reviewed and approved by the RRC parent organizations (AMA, specialty boards, and specialty societies). And while the ACGME was vested with the authority to grant accreditation to individual programs, it was also granted authority to delegate that responsibility to an RRC if the RRC applied for the right to do so. During the years the ACGME functioned as originally designed, all of the RRCs were granted that authority.

Consequently, the ACGME had limited ability to provide meaningful oversight for the educational experiences provided by residency programs. To a great extent, ACGME's role was limited to the development of institutional requirements to which all residency programs, regardless of specialty, were required to conform. Before the requirements proposed by the ACGME board could be implemented, they were subject to review and approval by each of the five sponsoring organizations. Because each of the organizations had a vested interest in how certain aspects of the graduate medical education system functioned—interests that were not necessarily shared by the other sponsors—requirements developed by the

ACGME could not be implemented in some cases because of the sponsors' veto power.

Not long after the ACGME became operational in 1981, tensions surfaced within the organization due to conflicts between various sponsors on how the ACGME should address specific issues. On more than one occasion, a position adopted by the ACGME board that was viewed favorably by four of the sponsoring organizations could not be implemented because it was vetoed by a single sponsor that viewed the position as being counter to its vested interests. This conflict also surfaced during discussions about particular issues, because the members tended to advocate for positions advanced by the organization that appointed them. In fact, it was common practice for the sponsoring organizations to hold meetings with their representatives before the ACGME met to develop positions on the specific issues on the upcoming ACGME agenda.

The influence of the sponsoring organizations in the development of ACGME policies led many to believe that the sponsoring organizations had too much power over the continued evolution of the system. These individuals did not believe that it was possible for the ACGME to fulfill its responsibility as long as the five sponsoring organizations controlled the appointment of the majority of the ACGME representatives and had veto power over policies developed by the ACGME.

The ACGME also came under scrutiny due to its limited role in the accreditation process. Because the RRCs retained the power to develop accreditation standards for individual specialties and subspecialties and also to make decisions about the degree to which individual programs were in compliance with those standards, some saw the ACGME as being unnecessary. Indeed, some of the organizations that appointed members to the RRCs, particularly the specialty organizations, felt that the RRCs should be entirely independent of the ACGME. Others wished to enhance the role of the ACGME by incorporating the RRCs into the organization as committees of the ACGME board.

In the 1990s, pressure began to build within the academic medicine community for a restructuring of the ACGME. Toward the end of the decade, the leadership of the sponsoring organizations made an effort to reach agreement on how the ACGME should be changed so that it could meet its stated purpose more effectively. After a series of intense

negotiating sessions, they reached an agreement to restructure the ACGME as an independent corporation. The ACGME was incorporated in June 2000 as a separate 501(c)(3) entity. The stated purpose of the new corporation was to “develop the most effective methods to evaluate graduate medical education, to promote the quality of graduate medical education, and to deal with such matters relating to graduate medical education as are appropriate.”

The incorporation of the ACGME did result in major changes in the nature of the organization. Perhaps most important was curtailment of the power held by the five previous sponsors. With the restructuring of the organization, the previous sponsors became members of the corporation but no longer appointed the ACGME directors (previously representatives), and no longer had the power to respond to actions taken by the directors except under very limited circumstances set forth in the corporation’s bylaws. Equally important, the RRCs were embedded within the organization as ACGME committees, thereby consolidating the authority of the ACGME over the accreditation process. In reality, the ACGME became an independent body that had full authority over the nature of specialty and subspecialty residency programs as well as the nature of the institutions that sponsored those programs.

In 2009, the ACGME bylaws were amended once again. The changes made at that time placed further limits on the role of professional organizations in the accreditation process. The number of at-large directors and public directors on the ACGME board was increased. At the same time, the board was given the authority to grant organizations other than those already in existence the right to appoint members to the RRCs. The changes in the bylaws increased the ACGME’s autonomy and further consolidated its role as the body responsible for oversight of the graduate medical education system.

Nevertheless, the professional organizations that currently serve as corporate members of the ACGME are responsible to varying degrees for the structure of the organization and how it functions. Similarly, the organizations that appoint members to the various RRCs are directly responsible for the development of the standards that are applied in making accreditation decisions. Critics continue to believe that the standards that are developed reflect in some cases little more than adherence to the way training has always been conducted, whereas in other

cases the standards reflect what program directors and program faculty see as being required to maintain current practices of how patient care is provided in sponsoring hospitals.

## Government Financing

In 1982, Congress enacted legislation that dramatically changed how Medicare provided funds to support graduate medical education. Establishment of the Medicare program by Congress in 1965 meant that hospitals that were eligible to receive Medicare funds to cover the costs of care for Medicare beneficiaries could include in their cost reports some of the costs they incurred for graduate medical education programs. Historically, therefore, the Medicare program originally included payment for the costs hospitals incurred in providing graduate medical education in the amount paid for providing care to Medicare beneficiaries. The enactment of the Prospective Payment System (PPS) resulted in Medicare paying virtually all hospitals a set amount for providing care to patients with similar conditions (Diagnosis Related Groups [DRGs]). With the introduction of PPS, the direct costs incurred by a teaching hospital in conducting graduate medical education programs were excluded from the DRG-based payment. Thus, the new payment system required Medicare to make a separate payment to hospitals sponsoring graduate medical education programs to cover Medicare's share of an institution's costs for these programs. This new payment system resulted in the development of a Direct Medical Education (DME) payment to teaching hospitals to cover those costs.

Those involved in the development of the new payment system recognized that the historical costs of providing care to patients in teaching hospitals was greater than the costs incurred in caring for similar patients in non-teaching hospitals. To maintain the financial integrity of teaching hospitals, Congress agreed that Medicare would cover the extra costs the hospitals incurred by making adjustments to the DRG-based payments they were to receive. Because the calculation of the extra payment was based on a formula that determined the extra amount based in part on the ratio of the number of residents in training to the number of hospital beds, the payment became known as the Indirect Medical Education Adjustment (IMEA), even though the payment did not reflect costs incurred in sponsoring graduate medical education programs. As a result of the way the IMEA is calculated, analysts often include the amount paid

by Medicare in the amount Medicare provides to support graduate medical education. In addition, because the IMEA amount increases as the number of residents increases, many analysts view the IMEA as providing teaching hospitals an incentive to increase the number of residents in training.

The changes in the ways Medicare paid for the direct costs of graduate medical education incurred by teaching hospitals made it possible to calculate the aggregate amount that the program was spending to support graduate medical education costs. At the same time, it became possible to calculate the extra amount Medicare was paying for the care provided to beneficiaries in teaching hospitals. The explicit nature of the extra costs incurred by the program prompted policymakers within and outside government to question the rationale underlying Medicare's payment of educational costs that could not be directly linked to patient care.

In combination with growing concerns that the country was producing too many physicians, and that the specialty mix of the physicians being produced was not appropriate, concerns about the cost to the program prompted Congress once again to consider establishing a mechanism by which the federal government could regulate continued expansion of the graduate medical education system, thereby controlling the amount the government was spending in funding it. Although Congress took no action at the time to regulate the system, provisions contained in the Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA) decreased by half the amount Medicare would pay hospitals for positions in subspecialty training programs.

After almost 20 years of debate about regulation of the graduate medical education system with regard to government funding, and the number and specialty mix of the physicians completing training and entering practice, Congress decided in the mid-1990s to once again make changes in the policies governing how Medicare paid hospitals for graduate medical education costs. The Balanced Budget Act (BBA) of 1997 capped the number of residents that a teaching hospital could count in calculating its DME payment to the number reported to Medicare prior to the end of 1996. After enactment of the BBA, hospitals that increased the number of residents in the institution's specialty or subspecialty programs were responsible for covering the additional costs from another source of funds. The legislation also limited the number of residents that a hospital could count in calculating the IMEA and changed the way the IMEA was calculated.

Although the BBA effectively eliminated the ability of a teaching hospital to receive additional Medicare funds to cover the cost of adding additional residents, it did not include an approach for direct regulation of the number or specialty mix in the system as a whole. The rate of increase in new specialty programs, as well as the total number of residents enrolled in specialty and subspecialty programs, slowed following the passage of the BBA in 1997. Although the number of residents in training continued to increase, most of the increase was due to an increase in the number of residents in training in new and existing subspecialty programs. The impact of the legislation is not surprising, as provisions in the 1985 COBRA had already decreased by half the amount Medicare would pay hospitals for residents in subspecialty programs. Passage of the BBA slowed the expansion of the graduate medical education system, and little interest has been shown in the past decade in finding ways to regulate that system.

In 2000, Congress passed legislation that increased federal support for graduate medical education. The legislation authorized the DHHS to establish a program that would provide funding to support graduate medical education funding for free-standing children's hospitals—hospitals that sponsor a significant amount of the residency training in general pediatrics and pediatric subspecialties. The establishment of Medicare's approach for funding graduate medical education in the mid-1960s had led to exclusion of free-standing children's hospitals from Medicare funding to help cover the costs of their programs.

The establishment of the Children's Hospitals Graduate Medical Education (CHGME) Payment Program partially closed a major gap in the way Medicare funded graduate medical education. The funding gap existed because, under the policies governing Medicare payment to hospitals for graduate medical education costs, the program calculates what it considers to be its "fair share" of these costs incurred by a hospital largely by determining the percentage of a hospital's patient days attributable to Medicare beneficiaries. Because free-standing children's hospitals do not care for Medicare beneficiaries except under very unusual circumstances, the hospitals have had no basis for claiming Medicare DME and IMEA payments.

The amount of funding made available to the program for annual distribution to hospitals depends entirely on Congress' willingness to appropriate funds to support the program on a recurring basis. Although this approach has been proposed in the past as a means of creating a

funding source to support graduate medical education programs, key professional organizations have opposed it owing to concerns that Congress might fail to reauthorize the funding over time, creating uncertainty about the viability of individual residency programs on a long-term basis.

The federal government continues to support graduate medical training by funding programs operated by other government departments and agencies (Veterans Affairs, Department of Defense, and Public Health Service). In addition, the federal government provides funds that support graduate medical education through state Medicaid programs. All but a few states provide funds to support graduate medical education through their Medicaid programs. The federal government provides matching funds based on a formula that determines its contribution to each of the state programs. As a result, the state Medicaid programs are second only to Medicare in the amount of explicit funding they provide for graduate medical education.

## Expansion of the System

From 1980 to 2010, the number of residents in training increased dramatically. In 1980 approximately 65,000 residents were in training in specialty and subspecialty training programs; by 2010 the number had increased to approximately 110,000. This growth was due to an increase in both the number of U.S. medical school graduates and the number of IMGs entering training in core specialties, as well as an increase in the average length of training due to residents' decisions to enter subspecialty programs.

Two factors were involved in the increase in U.S. medical school graduates entering residency training. As noted previously, 40 new allopathic medical schools were established during the 1960s and 1970s. During the same period, the number of students enrolled in the schools that were in existence prior to 1960 expanded to a significant degree. The number of students graduating from U.S. medical schools more than doubled by the mid-1980s to almost 16,000 per year. As a result, an additional 8,000 U.S. medical school graduates were entering the graduate medical education system each year. Because the extra graduates remained in training for a minimum of three years, the expansion in enrollment during the 1960s and 1970s produced at a minimum an additional 24,000 residents in

training by the end of the 1980s. However, by the early 1990s a significant percentage of medical school graduates chose to train in a specialty that required more than three years of training, or to pursue additional training in a subspecialty program. Consequently, the increase in medical school enrollments that had occurred during the 1960s and 1970s actually accounted for far more than 24,000 of the additional number of residents in training after 1990.

Several other factors contributed to the increased number of residents in training. The first was a progressive increase in the number of graduates of non-U.S. medical schools seeking residencies in the United States. Changes in immigration law adopted in 1990 that made it easier for foreign citizens to enter the country using an H-1B visa resulted in a substantial increase during the 1990s in the number of foreign-born IMGs seeking residency training in the United States. At present, almost a third of applicants for residency training are graduates of medical schools located outside of the United States, and approximately a fourth of the residents now in training in the United States are graduates of non-U.S. medical schools.

Of particular interest, the percentage of U.S. citizen IMGs seeking residency training in this country began to increase in the 1980s, largely due to the continued growth of enrollments in medical schools located in the Caribbean. At present, two Caribbean schools, both established in the late 1970s, have a larger number of their graduates enrolled in residency programs in this country than does any single U.S. school. In addition, during the past decade an increasing number of osteopathic medical school graduates began to apply for entry into allopathic residency programs. At present, more than half of osteopathic medical school graduates are choosing to enroll in allopathic training programs. As a result, osteopathic graduates now comprise over seven percent of the new residents entering a core program. U.S. citizens now entering residency training in this country might be graduates of a U.S. allopathic or osteopathic medical school or a medical school located in a foreign country, primarily in the Caribbean region.

## Proposals for Regulating the System

As noted previously, key Congressional leaders had become concerned in the early 1970s that the country's graduate medical education system

was producing too many physicians, and that the specialty mix would not serve the public's needs for healthcare services. The debate that occurred during the mid-1970s over how the system might be regulated to produce a more socially responsive workforce essentially ended with the passage of the Health Manpower Act of 1976 and the establishment that same year of GMENAC. However, the debate resumed after GMENAC's projection that the country would have a large surplus of physicians by 1990.

Beginning in 1984, key members of Congress began to introduce legislative proposals that would have changed how graduate medical education was being funded, thereby providing a mechanism for regulating the graduate medical education system. One of the bills would have eliminated direct Medicare payment to hospitals for graduate medical education–related costs. The bill proposed instead that hospitals would have to apply to a state regulatory body for approval of their programs and that states would be required to apply to DHHS for funds to support the programs they approved. Another bill would have required hospitals to meet federal regulatory requirements governing the size and specialty mix of their graduate medical education programs in order to receive funds to support these programs. Other bills that were introduced would have allowed funding only for the support of residents in programs leading to initial board certification, while at the same time largely eliminating support for positions filled by graduates of non-U.S. medical schools. Due to strong opposition from the professional organizations involved in the oversight of the graduate medical education system, none of the proposed legislative provisions was adopted by Congress itself. Instead, as it had done in establishing GMENAC in 1976, Congress established an advisory body that was charged to inform and advise both the administration and Congress on physician workforce issues. The Council on Graduate Medical Education (COGME) was established by a provision included in the COBRA legislation of 1985.

In its first report, issued in 1988, COGME did not take a definitive stand on the state of the physician workforce but indicated that more analysis was needed before doing so. After completing a detailed analysis, COGME issued a report in 1992 that projected a major oversupply of physicians in the United States. COGME recommended that the number of graduate medical education positions be capped at 110 percent of the number of U.S. medical school graduates and that at least 50 percent of the positions had to be assigned to programs in specialties designated as primary care

specialties. COGME also called for the establishment of a National Physician Workforce Commission that would collaborate with state commissions to regulate the graduate medical education system. Although Congress took no action, the recommendations included in the report provided a framework for recommendations on the physician workforce that later were included in the national healthcare reform proposal (Health Security Act) developed during the Clinton administration, which came to power in 1993.

The Health Security Act included provisions that would have established a National Council on Graduate Medical Education within DHHS, whose responsibility would have been to designate the number of positions to be funded on a specialty-specific basis from a Health Professions Workforce Account. The account was to be created by pooling funds from the Medicare Trust Fund and from the Regional and Corporate Alliances established by the bill to provide health insurance on a national basis. Once again, professional organizations strongly opposed the workforce provisions of the bill. The Health Security Act failed to gain any meaningful support in either the Senate or the House of Representatives.

Following the failure to pass the Health Security Act, members of Congress continued to consider various options for regulating graduate medical education by eliminating direct Medicare payment to teaching hospitals. The various proposals would have created a Graduate Medical Education Fund, similar to the one proposed in the Health Security Act, or a voucher system that would have allowed government regulation of the future supply of physicians by limiting funding to medical school graduates for training in specific disciplines. Neither of those approaches, both of which were strongly opposed by professional organizations, received any support.

Efforts to regulate the graduate medical education system proposed in the 1980s and 1990s failed in each case because key professional organizations were unwilling to accept any form of government regulation of the system. The organizations took that position despite the fact that the government was providing most of the funds that institutions used to cover costs they incurred in conducting graduate medical education programs. However, six of the major professional organizations involved in graduate medical education did issue a statement in 1997 in which they acknowledged that the country was facing a major oversupply of physicians. They endorsed a recommendation that had been advanced earlier in the decade by

COGME calling for the number of entry-level positions in the graduate medical education system to be limited to 110 percent of the number of U.S. medical school graduates, with 50 percent of the positions allocated for specialties designated as primary care specialties. Congress took no action to regulate the number of positions but did limit funding for new positions in the BBA of 1997.

In addition to efforts at a national level, government officials in several states who had become concerned about the impact of physician supply on healthcare in their state, established state workforce commissions. The first—the Advisory Graduate Medical Education Council of New Jersey—was established in 1977. The New York State Council on Graduate Medical Education was established in 1987. Over the years these bodies have undertaken a number of projects and published a number of reports focused on the organization of graduate medical education within the state and how it was serving the healthcare needs of the state population. These bodies have also played a role in determining how the states would participate in the funding of graduate medical education.

More recently, In 1997 the Utah State Legislature established the Utah Medical Education Council and charged it with assessing Utah's healthcare workforce needs. The Council was successful in obtaining a waiver from the Medicare program that allowed it to exert considerable control over the distribution of Medicare funds that had traditionally been paid directly to hospitals to cover some of the institutions' graduate medical education costs. The waiver allowed the Council to distribute funds to support the development or expansion of graduate medical education programs that would train physicians in specialties deemed to be needed to serve the public's interest. Given the small size of Utah's graduate medical education enterprise, the waiver had a limited impact on other states as they considered options for reallocating graduate medical education positions among specialties.

# Contemporary Challenges

The primary responsibility of the graduate medical education system is to ensure that physicians completing residency training are prepared to provide high-quality care to the patients they will encounter on entering practice in the specialty in which they received their training. Given the nature of the social contract that exists between the profession and society at large, the medical profession is clearly accountable for ensuring that the system fully meets this responsibility. Therefore, the various organizations that represent the profession through their involvement in the graduate education system must provide the leadership to address concerns about how the system is preparing doctors for practice. As in the past, concerns continue to be expressed about what constitutes the best approach to establish the educational standards that programs must meet to be accredited and the process involved in judging that programs comply with those standards. ACGME's recent efforts to create an accrediting body that has more public representatives on its board of directors reflect an awareness of the influence that a select group of organizations has over the process.

The graduate medical education system is also responsible for contributing to the development of a physician workforce that is capable of meeting the needs of the population for healthcare services. To that end, the workforce must be adequate in size, and it must be composed of a specialty mix that is aligned with the kinds of services the public needs. The government

clearly has an important role to play in achieving this policy objective. But, in order for the government to be successful in this effort, the responsible professional organizations must be willing to form partnerships with the government to ensure that the system is organized in a way that best serves the public interest. The continued presence of a “cap” on the number of residency positions that Medicare will fund reflects an unwillingness on the part of government officials simply to once again provide open-ended funding for continued expansion of the system without a commitment by the profession to agree on how additional positions might be allocated among the specialties.

In addition to efforts to link the funding of graduate medical education to workforce objectives, government officials are beginning to consider ways to link funding to evidence of the educational quality of the programs being funded—that is, to provide funding based on evidence that the programs are producing physicians who are prepared to provide high-quality care to the patients they will encounter in their practices. For example, in the early years of this decade, the Agency for Healthcare Research and Quality embarked on an initiative designed to identify practice performance measures that could be used to judge how well individual programs were meeting that critical objective. When Congress reauthorized the CHGME Payment Program in 2006, it included provisions that required participating hospitals to submit an annual report in which they identify the types of programs and curriculum changes that have been made to improve the quality and safety of the care being provided. Finally, MedPAC recently published recommendations that would empower the DHHS Secretary to develop educational standards that graduate medical education programs would need to meet to receive full Medicare funding.

## Preparing Physicians for Practice

It seems self-evident that residency programs should be designed and conducted in ways that ensure that residents are capable of providing high-quality care to the kinds of patients they will encounter on entering practice in their specialty. It is clear from a review of how the system evolved during the course of the past century that the profession has made an effort to structure the system in ways that would ensure the quality of the training experiences. To that end, professional organizations recognized early on the need to provide guidance on the design of programs in the

individual medical specialties and subspecialties and for determining how they were actually being conducted. Unfortunately, the approaches that were adopted over the years—approaches that ultimately led to the development of ACGME as a national accrediting body—were too often the result of compromises reached by various professional organizations on how each would maintain a role in the process, rather than agreement among the organizations on the optimal approach for achieving the stated objectives.

In recent years, concerns about the quality of residency training have been expressed by a number of special task forces and committees. The Institute of Medicine, the Commonwealth Fund, AAMC, and AMA have issued reports calling for fundamental changes in residency training. During the same period, organizations representing certain specialties (internal medicine, surgery, and family medicine) embarked on residency redesign initiatives that would represent a consensus on the kinds of changes that should be implemented in training for these specialties. Finally, studies have shown that residents too often complete training without being adequately prepared to care for patients of the type that are commonly seen in the practice of their specialty. Despite these critiques, no substantive changes have been made in the design and conduct of residency training. It is now imperative for the profession to take steps to ensure that the training required in individual specialties is tailored to prepare residents for the realities of clinical practice in the twenty-first century. To achieve that goal, it will be necessary to restructure the way that training standards are developed and applied in making accreditation decisions.

## Creating an Optimal Physician Workforce

A substantial body of evidence reveals that the country faces a critical shortage of physicians. Although total agreement may not have been reached on this point, the evidence is convincing. For example, a number of states have reported that they are experiencing significant shortages that are likely to grow more serious as aging members of the workforce retire; a number of specialty organizations have issued reports documenting shortages; and individual workforce analysts, as well as the COGME, have projected a growing shortage in the aggregate number of physicians in the coming years.

Although some dispute the integrity of the interpretations represented in these reports, two facts are indisputable. First, in relation to the size of the population, the aggregate size of the workforce will begin to decline during the coming decade. This projection reflects the fact that continued growth in the country's population will exceed the growth in the number of physicians entering practice upon completion of residency training. Second, the aggregate size of the physician workforce in the United States is smaller than that in any other industrialized country except for Canada. Consequently, it is reasonable to conclude that the country needs to produce more physicians.

As noted previously, both the government and the profession have a responsibility to work together in constructive ways to ensure that the graduate medical education system is producing a workforce that is adequate in size and composed of an appropriate specialty mix. In that regard, it is important to note that while there is evidence that physician shortages exist in a number of core specialties, there is general agreement that the lack of an adequate number of primary care physicians is the most important challenge facing the country's healthcare system. Given current circumstances—primarily the limits on government funding to cover some of the costs incurred in establishing new residency positions—it will not be possible to meet this challenge unless both government officials and members of the profession understand the need for additional positions, as well as what will be required to create them. The government is unlikely to agree to provide additional funding for graduate medical education unless the profession commits to specific terms defining how the funds can be used. Therefore, the profession must be willing to depart from past practices and commit to cooperating with the government in creating an approach for accomplishing this goal.

To that end, it is essential that the professional organizations recognize that it is not reasonable to adopt past practices and advocate that no controls be placed on how new positions might be incorporated into the system. At present, that approach is reflected by policy positions that call for Congress to remove the limits (caps) placed on the number of positions that Medicare will contribute to funding, which were established in the BBA of 1997. Those caps have clearly slowed the rate of growth in the number of positions in the system. However, as noted previously, these limits have affected growth in positions in core specialties to a greater degree than growth in subspecialty positions. It is reasonable to assume, therefore,

that removal of the caps would only spur the development of additional positions in existing subspecialties and lead to the development of new subspecialty programs.

But in order to increase the aggregate supply of physicians—that is, the number of physicians entering practice on completion of residency training—the number of entry-level positions (PGY-1) in the core specialties must be increased, and the increase in PGY-1 positions must be accompanied by a corresponding increase in the number of positions required for residents to meet certification requirements (PGY-2, PGY-3, etc.). Thus, the professional organizations involved in shaping physician workforce policy must be willing to enter into an agreement with government policymakers that would direct additional government funding for graduate medical education to the expansion of the existing core specialty programs, or the establishment of new programs, rather than expanding the number of positions devoted to subspecialty training. The profession needs to recognize the degree of urgency to accomplishing this end.

At present, the country's existing medical schools are increasing enrollments at the same time that new schools are being established. As a result, the total number of graduates from allopathic and osteopathic medical schools will soon equal or exceed the number of entry-level positions in the graduate medical education system. As a result of the increase in U.S. medical school graduates, IMGs who wish to receive residency training in this country will find it increasingly difficult to do so. Although at present IMGs fill almost one fourth of the PGY-1 positions available each year, most of those positions will be filled in a few years by the increasing number of U.S. medical school graduates seeking residency training. This phenomenon will have important implications for some U.S. medical school graduates who wish to train in a preferred specialty. The lack of PGY-1 positions across the core specialties will make it impossible for some graduates of U.S. schools to train in the specialty of their choice, as the only option available to them will be to fill positions currently being filled by IMGs.

Professional organizations must understand that attempts to reach an agreement with the government on how to increase the number of entry-level positions in the graduate medical education system will likely be

affected by the history of such interactions. As noted previously, the federal government tried, beginning in the 1970s and continuing through most of the 1990s, to reach agreement with the profession on how the graduate medical education system should be regulated in order to control both the number of positions existing in the system and the distribution of those positions among the various specialties and subspecialties. During that period, the government also established expert panels to conduct physician workforce analyses (GMENAC and COGME) to guide decisions regarding the kinds of programs that were needed to ensure that the needs of the public would be met. Nevertheless, the profession was unwilling to enter into an agreement with the government on how the funds might be used to shape the size and specialty mix of the positions existing within the system.

Because of the government's current position on financing for graduate medical education, an agreement must be reached if the graduate medical education system is to meet the challenge it faces—that is, to increase the number of entry-level positions. Against this background, the profession must now seek an agreement with the government to provide additional funding for graduate medical education so that new specialty programs can be developed, or the size of existing programs increased. In return, it seems likely that the profession will have to agree that the funds can only be used to support program development on a specialty-specific basis. One key issue will be how this regulation will occur. Will new positions be distributed by a federal regulatory body or by a regulatory body under the control of professional organizations?

Another critically important issue that has received little attention to date is whether there are institutions that would be willing to sponsor the additional positions that are required. Institutions that already serve as teaching hospitals may be unable to increase the size of their core programs due to the lack of an adequate patient base or limitations in other resources that would be required to expand the number of residents in training. Institutions that are not currently teaching hospitals may have no interest in taking on the responsibility of sponsoring new residency programs. This lack of interest may be due to an unwillingness to make the financial commitment necessary to develop new programs and to maintain them over time. The unwillingness of an institution's medical staff to become involved in supervising resident physicians, or having residents involved

in the care of their patients under the direction of designated faculty, is an additional factor that might prevent an institution from becoming a teaching hospital.

No data are available that provide insight into how widespread this attitude might be. But experience in several regions where new medical schools have been established with an understanding that they would work with local hospitals to develop new residency programs suggests that it is a serious issue. To date, the new schools have been largely unsuccessful in their efforts to establish programs in the communities where they are located. Further research is needed to determine which of the factors noted above are most important and how they might be addressed in ways that would provide opportunities for the development of new programs.

# Summary

The country's graduate medical education system has evolved during the past century into a very large and complex enterprise. The system has a critically important impact on the delivery of healthcare in the United States. It is responsible for preparing medical school graduates for the practice of medicine, and it determines the number and specialty mix of physicians entering practice each year. Thus, the system affects not only the quality of care provided by practicing physicians but also the degree to which individuals are able to gain access to needed healthcare services. Given the nature of its responsibilities to the public, and the fact that the public provides most of the funds that cover the costs of operating the graduate medical education system, it is remarkable that the system is not accountable at present to any public authority. The system is now facing a set of challenges that can only be met successfully if appropriate leaders within the medical profession are willing to acknowledge the critical importance of the challenges and to enter into substantive discussions with representatives of the public (government officials) on how the challenges should be addressed.

Given the length of the process currently required to prepare a physician for the practice of medicine, it is important for the profession to begin engaging representatives of the public in discussions on how to proceed. In that regard, it is disconcerting that during the year-long

debate on how to reform the country's healthcare system, no substantive consideration was given to the issues involving graduate medical education. The lack of interest in the issues on the part of government officials and policymakers in the private and public sectors, and the inability of major professional organizations to enter the debate in a meaningful way, signifies that the gap would need to be overcome before any substantive discussions could take place about the nature of the graduate medical education system.

Absent meaningful engagement in the near future between leaders from within the medical profession and representatives of the public, it seems likely that the country will continue to experience problems with the quality of medical care and that more and more citizens will be unable to obtain the care they need in a reasonable timeframe due to an inadequate number of practicing physicians in their communities. These issues must be addressed. Although the specific issues involved today are different than those that prompted the Carnegie Foundation for the Advancement of Teaching to commission the Flexner Report one hundred years ago, these issues are no less serious. It is time for the profession, particularly the academic medicine community, to focus its attention on the issues in a way that is comparable to how the profession addressed the shortcomings that existed in the preparation of doctors for practice at the beginning of the twentieth century.

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*Note:* In addition to the reports listed above, all of the reports and resource papers published by the Council on Graduate Medical Education during the years from 1988 to 2010 provided important information about the country's graduate medical education system.

## **Table 1.** Development of Educational Standards for Residency Training: Key Events

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1916	First certifying board established
1919	AMA CME published first version of “Essentials of Approved Internship”
1928	AMA CME published first version of “Essentials of Approved Residencies and Fellowships”
1934	Advisory Board for Medical Specialties established
1937	ACS published “Fundamental Requirements for Graduate Training in Surgery”
1939	AMA, CME, ABIM, ACP agreed to form cooperative committee on training in internal medicine
1940	Commission on Graduate Medical Education published report
1948	ABMS and AMA CME formed Liaison Committee for Specialty Boards
1949	Conference Committee on Graduate Training in Internal Medicine established
1953	Conference Committee on Graduate Training in Surgery established
1953	Internal Medicine Conference Committee renamed Residency Review Committee
1966	Millis Report published
1970	ABMS renamed American Board for Medical Specialties
1972	Liaison Committee on Graduate Medical Education formed

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1980	LCGME converted to Accreditation Council for Graduate Medical Education
2000	ACGME converted to a corporate entity with RRCs embedded as committees
2009	ACGME bylaws changed to increase the number of public members and allow Board to grant organizations the right to appoint members to RRCs

## Abbreviations

ABIM	American Board of Internal Medicine
ABMS	American Board of Medical Specialties
ACGME	Accreditation Council for Graduate Medical Education
ACP	American College of Physicians
ACS	American College of Surgeons
AMA CME	American Medical Association Council on Medical Education
LCGME	Liaison Committee on Graduate Medical Education
RRC	Residency Review Committee

## **Table 2.** The Role of the Federal Government in the Development of the Graduate Medical Education System: Key Events

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1946	Federal government established Veterans Administration (VA) Department of Medicine and Surgery and granted VA hospitals the authority to affiliate with medical schools and teaching hospitals
1948	Smith-Mundt Act established exchanged visitor program that allowed IMGs to come to U.S. for residency training
1963	Health Professions Educational Assistance Act provided federal funds to assist in the development of new medical schools and the expansion of existing schools
1965	Mutual Educational and Cultural Exchange Act made it easier for IMGs to come to the U.S. for residency training
1965	Federal government established Medicare and Medicaid programs
1971	Comprehensive Health Manpower Training Act provided funds for grant program in support of training in family medicine
1976	Federal government established Graduate Medical Education National Advisory Committee
1976	Health Professions Educational Assistance Act provided funds for grant program in support for training in family medicine, general internal medicine, and general pediatrics
1980	GMENAC issued final report that projected large excess of physicians by 1990
1985	Consolidated Budget Reconciliation Act made changes in how Medicare would pay graduate medical education costs
1985	Federal government established Council on Graduate Medical Education

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- 1990 Amendment to immigration law made it easier for IMGs to use H-1B Visa for entry into country for graduate medical education
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- 1992 Second COGME Report projected large excess of physicians in the future and recommended that the government limit the number of entry-level positions and the number of IMGs that could enter graduate medical education programs
- 
- 1994 Health Security Act proposed major changes in government funding of graduate medical education and proposed a system for regulation of the number and specialty mix of funded positions
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- 1997 Balanced Budget Amendment limited Medicare funding for new positions
- 
- 2000 Congress provided funds to establish program for supporting residency training in free-standing children's hospitals
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Abbreviations:

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- COGME Council on Graduate Medical Education
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- GMENAC Graduate Medical Education National Advisory Committee;
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- IMG international medical graduate
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