

Redesigning Residency Training in Internal Medicine: The Consensus Report of the Alliance for Academic Internal Medicine Education Redesign Task Force

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Abstract

Because of numerous criticisms of the content and structure of residency training, redesigning graduate medical education (GME) has become a high priority for the internal medicine community. From 2005 to 2007, the leadership of the internal medicine community, working under the auspices of the Alliance for Academic Internal Medicine Education Redesign Task Force, developed six recommendations it will pursue to improve residency education: (1) focus education around a "core" of internal medicine, which provides the framework for both the structure and content of residents' educational experiences, (2) fully adopt competency-

based evaluation and advancement, which will enhance training by focusing on individual learners' needs, (3) allow for increased, resident-centered education beyond the internal medicine core, because different types of practice require customized knowledge and skills, (4) improve ambulatory training by providing patient-centered longitudinal care that addresses the conflict between inpatient and outpatient responsibilities, (5) use new faculty models that emphasize the creation of a core faculty, and (6) align institutional and programmatic resources with the goals of redesign, balancing the clinical mission of the institution with the educational goals of residency training.

Adoption of these recommendations will require significant efforts, including pilot projects, faculty development, changes in accreditation requirements, and modifications of GME funding systems. Opportunities are ample for individual programs to develop creative approaches based on the framework for educational redesign outlined in this article, and for these educational and clinical redesign initiatives to work hand-in-hand for the benefit of patients, faculty, trainees, and institutions.

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Observers within and outside of the medical profession have criticized graduate medical education (GME) in general, and internal medicine residency and fellowship education in particular, for many years. These critiques have addressed the three fundamental elements of GME by articulating deficits in the content of training (e.g., lack of preparation in cultural competence, caring for elderly patients), the structure of GME (e.g., the length and location of training), and the unstable and perennially threatened GME funding system. List 1 provides an overview of the critiques of GME that have fueled efforts at educational redesign. In this article, we summarize the reasons for proposed educational redesign, outline the specific recommendations for

reform that the Alliance for Academic Internal Medicine (AAIM) Education Redesign Task Force believes will best meet the training needs of future specialists and subspecialists in internal medicine, provide examples of how the recommendations will change training, and raise considerations for the implementation of the recommendations.

The reasons for educational redesign in internal medicine have been well outlined in publications during the past one to two years by several internal medicine stakeholder organizations.¹⁻⁴ This scholarship has identified a set of principles that provide guidance to redesign efforts, and, to a greater or lesser extent, it has offered specific suggestions for training reform. Two such articles, published in the same issue of the *Annals of Internal Medicine* and reflecting positions taken by the Association of Program Directors in Internal Medicine¹ and the American College of Physicians (ACP),² were accompanied by an editorial that challenged the internal medicine community to go beyond

problem identification by implementing solutions in a timely and effective fashion.⁵

When the editorial in the *Annals of Internal Medicine* appeared in 2006, three forces had already been moving the internal medicine community toward instituting substantial change in internal medicine residency education. The first force emerged in 2005 when the organizational stakeholders in internal medicine formed the Education Redesign Task Force to advance the process of redesign under the umbrella of the AAIM,* with additional representation from the ACP and the American Board of Internal Medicine (ABIM). The task force began to outline and implement strategies for reform while simultaneously articulating the value of

Please see the end of this article for information about the authors and members of the task force.

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*The member organizations of AAIM are the Association of Professors of Medicine (APM), the Association of Program Directors in Internal Medicine (APDIM), the Association of Specialty Professors (ASP), the Clerkship Directors in Internal Medicine (CDIM), and the Administrators of Internal Medicine (AIM).

List 1

Major Factors Fueling Educational Redesign of GME in Internal Medicine*

- Scientific advances have highlighted the need for excellent lifelong learning skills and a solid foundation in patient care.
- Further specialization in internal medicine drives the field to consider how to maintain its cohesiveness.
- Changing approaches to the delivery of health care have raised questions about the appropriate roles of physicians as well as the need for better coordination skills.
- The disconnect between education and practice continues to challenge teaching institutions to provide more relevant educational experiences.
- Medicare regulations for counting residents in nonhospital settings for GME payment have raised concerns about hospitals calling for limitations on ambulatory educational time.
- The patient safety movement has advanced the call for using simulation and adopting more patient-centered approaches.
- The potential shortage of physicians leads educators and hospital administrators to consider whether and how to expand GME programs.
- Increased debt by U.S. medical school graduates has negatively affected the pool of students selecting careers in internal medicine.
- Decreased interest in primary care and internal medicine has caused the discipline to look at educational and financial solutions to increase the attractiveness of the specialty.
- Links between GME and CME have become more critical with competency-based credentialing and the recertification process.

*This list enumerates a number of factors that have recently stimulated discussions concerning educational redesign in internal medicine. Several factors are repeated from earlier episodes of redesign activity while others are new to this period. The recommendations of the Alliance for Academic Internal Medicine Education Redesign Task Force take into consideration these and other factors.

internal medicine and confronting the realities of the current environment for training.

The second force stimulating change has been a new ABIM initiative that aims to recognize competence in the focused practice of internal medicine (e.g., hospital medicine, comprehensive care internal medicine, or HIV care) through the ABIM Maintenance of Certification (MOC) process. In June 2006, as part of its policy on New and Emerging Disciplines in Internal Medicine,⁶ the ABIM introduced a new certification category, called *Recognition of Focused Practice*, which will use the MOC process to acknowledge internists' proficiency in a focused area of practice obtained through experience and time in practice rather than through additional fellowship training. The concept of recognizing focused practice was considered initially for physicians who focus their practice in hospital medicine, and it applies equally well to internists who focus their practice on providing longitudinal care for a panel of patients with acute and/or chronic illness. Distinguishing internists according to the focus of different areas of practice within internal medicine has emphasized the need to identify a "core" of internal medicine that is common to all internists, including subspecialists.

However, the ideal internal medicine training model should go beyond teaching this core and must provide additional experiences that are resident centered and tailored toward helping each resident define and advance according to his or her ultimate career plans and goals.

The third force, which represents the initial implementation of a training redesign process, has been the Educational Innovations Project (EIP) of the Residency Review Committee for Internal Medicine (RRC-IM).⁷ The twin goals of the EIP are to "integrate medical education, resident educational outcomes, and quality improvement in patient care" and to "advance competency-based education and outcomes-based assessment." Structurally, the EIP mechanism represents one way in which accreditation and educational quality improvement can be linked longitudinally. Internal medicine residency programs had to meet threshold criteria (notably, an excellent accreditation history) and then apply to become part of the EIP. Acceptance into the EIP provided programs a 10-year accreditation period (the longest period available to residency programs outside the EIP is five years) as well as the ability to operate under accreditation program requirements somewhat less constraining

than the requirements applicable to residency programs not in the EIP. In exchange, residency programs in the EIP are required to file annual updates on the status of quality-improvement initiatives, participate in an annual meeting for all EIP-participating residencies, and present abstracts on the improvement projects. The RRC-IM accepted proposals from 17 training internal medicine residency programs in the first EIP application process, and the committee accepted an additional four programs in a second application cycle.

These three forces catalyzing educational reform converged within the context of tremendous changes and challenges to health care delivery, including mandates to improve the processes and outcomes of care delivery. Integrating efforts to redesign training with the need to improve both the quality of care and the efficiency of its delivery provides an opportunity to meet multiple goals, creating a "quadruple win" for patients, educators, trainees, and health systems. Together, the convergence of all these forces is moving residency training to a period of true reform. The building momentum for change will hopefully address the call by Schroeder and Sox to "putt or get off the green"⁵ and will simultaneously improve the quality of residency training, the satisfaction of residents as they go through training, and the patient care delivered in training settings.

The Consensus Building Process

The AAIM Board of Directors charged the AAIM Education Redesign Task Force (including representatives of the AAIM, ACP, and ABIM) with developing overall recommendations for redesigned training across the continuum of internal medicine and defining the core of internal medicine. This internal medicine core was intended to identify the knowledge, skills, and attitudes contained in the six general competencies identified by the Accreditation Council for Graduate Medical Education (ACGME) and the American Board of Medical Specialties (ABMS) in which all internal medicine residents should achieve proficiency during training, independent of their ultimate career goals. Similarly, all internists should maintain these internal-medicine-specific competencies

over time, irrespective of their careers as generalists or subspecialists, as ambulatory or hospital-based internists, as “cognitive” or procedure-focused specialists, or as clinicians in rural or urban communities.

To develop the internal medicine core, the task force initially examined residency curricula from around the country for common themes. Task force subcommittees developed internal medicine competency statements using the framework of the six ACGME/ABMS competencies. These competencies are medical knowledge, patient care, interpersonal and communication skills, professionalism, systems-based practice, and practice-based learning and improvement. The task force invited comment on preliminary drafts of the internal medicine competencies through direct invitation to experts in these fields and other internal medicine stakeholder organizations (including subspecialty societies), postings on the AAIM Web site, discussions at several subspecialty training program director meetings, and two national conferences (Dallas, 2005; Philadelphia, 2006). A near-final draft was then distributed to AAIM members and internal medicine specialty and subspecialty societies for another round of comments in April 2007. The internal medicine competencies and six recommendations discussed in this paper were subsequently approved by the AAIM organizations during April and May 2007. The contents of internal medicine core will be discussed in general terms in this paper, and the detailed content is posted on the AAIM Web site.⁸ Additionally, the AAIM Education Redesign Task Force agreed to adopt the ABIM Foundation–ACP Foundation–European Federation of Internal Medicine’s document entitled *Medical professionalism in the new millennium: a physician charter*⁹ as the expression of competence in professionalism applicable to all internists.

Major Consensus Statements from the Task Force

The task force produced six consensus statements on redesigning residency training in internal medicine that correspond to the full recommendations

approved by the AAIM organizations (List 2).

Consensus Statement 1

Graduate and continuing medical education should be organized around a core of internal medicine. The core of internal medicine defines the minimum level of knowledge, skills, and attitudes that a resident must attain for advancement to independent practice, fellowship, or other internal medicine career pathways. In addition, all internists, including internal medicine subspecialists, should maintain proficiency in the core throughout their careers, regardless of their ultimate career pathway or scope of practice. The internal medicine core therefore provides a framework for building the structure and content of formal training, evaluation, certification, continuing medical education, and maintenance of certification. Unlike the ACGME competencies in interpersonal and communication skills, professionalism, systems-based practice, and practice-based learning and improvement, which apply to all specialties of medicine, the medical knowledge competency and, to an extent, the patient care competency, are more discipline specific. Consequently, the task force focused on defining the core content of the medical knowledge competency specifically for internal medicine. Broad categories within this core content are provided in List 3.

Being competent in the core of internal medicine does not completely define what it means to be an internist, nor does it define the length of time required for training at the residency or fellowship level. As a set of competencies that are equally applicable to interventional cardiologists and to general internists who exclusively practice ambulatory medicine, the internal medicine core provides a nidus around which the layers of other competence required by specific fields are developed. Because the goal of residency training is preparation for entry into practice or specialization, residents must develop proficiency in the core and competence in additional areas that are specific to their eventual scope of practice, whether in general internal medicine or a subspecialty.

The internal medicine core focuses on the cognitive skills of diagnostic reasoning, clinical examination, and the strategic use

of testing and consultation to make diagnoses and to implement treatment. Application of these skills requires sufficient knowledge, experience, and creativity to customize care plans for complex or unusual conditions. Internists can make unique contributions as investigators of the best strategies for individual treatment and also as change agents for systematic improvements in care. Internists must rely on measurement to ensure that they are achieving their therapeutic goals and not just following the bias of their own ideas or prior experience. This philosophy is at the heart of the internist’s approach and is integral to the competency of practice-based learning and improvement.

Adopting the core competencies framework developed by the task force will change the structure and content of internal medicine residency training in two important ways. First, by narrowing the required set of competencies for all residents, the core provides training programs a means by which they can filter out training that is redundant, excessive, or unnecessary. For instance, the internal medicine core competencies can be used to eliminate required experiences in transplantation and to minimize required experiences in emergency medicine. Second, these competencies facilitate innovation in GME. By changing (or at least challenging) the mindset from which program directors, faculty, and residents approach residency education, the concept of a core of internal medicine should allow more room for experimentation. These two changes can lead to many effects. The task force believes a significant effect will be the freeing of curricular time in the residency program that can be used to train residents in competencies more closely oriented to their future professional needs.

Consensus Statement 2

Graduate medical education in internal medicine should fully adopt and implement competency-based education, evaluation, and advancement. The acquisition of competence is progressive throughout training and during a lifetime of practice; therefore, the internal medicine core framework can be used as a basis for defining the increase in complexity of thought and action that is expected of the resident as training proceeds. Using the Dreyfus model¹⁰ of progressive stages of competency, the task force agreed that

List 2

AAIM Education Redesign Task Force Recommendations*

1. Graduate and continuing medical education should be organized around a core of internal medicine.
 - The core should be used as a basis for education and evaluation throughout the lifetime of all internists, including residency, fellowship, continuing medical education, initial certification, subspecialty certification, and maintenance of certification.
 - Internal medicine residents should develop proficiency in the core and competence in career-oriented preparation during the course of their 36-month residencies.
 - Subspecialty fellowships should ensure fellows' ongoing proficiency in the core competencies and should reevaluate those competencies.
 - Assessment of ongoing proficiency in the core competencies should be tailored to the scope of practice of general internists and subspecialists.
2. Graduate medical education programs in internal medicine should fully adopt and implement competency-based education, evaluation, and advancement.
 - Residency education in internal medicine should remain a minimum of 36 months in duration; residents should be advanced within that period on the basis of evaluations of their competencies.
 - Residency and fellowship programs should clearly define criteria for advancement and use competency-based evaluation tools to assess progress against these criteria.
 - Residency and fellowship programs should identify, train, and support faculty who champion education in the competencies.
3. Graduate medical education programs should adopt and implement trainee-centered educational approaches.
 - Programs should develop pilot studies that will allow trainees to explore education that anticipates their future career in internal medicine.
 - Residency programs that wish to pursue resident-centered pathways (RCPs) should be allowed to do so.
 - Create RCPs under the auspices of internal medicine residency programs.
 - Create RCP experiences with a more structured and demanding curriculum and evaluation than current electives.
 - Allow residents to pursue RCPs assuming their acquisition of the core competencies is meeting expectations.
 - Protect residents' time during RCP experiences from competing demands.
4. Ambulatory education for internal medicine residents should be improved.
 - Ambulatory education should be designed so that it is patient centered and attractive to residents by eliminating (or at least substantially reducing) the current conflict between inpatient and outpatient responsibilities.
 - Ambulatory block rotations should be developed to avoid the conflict between inpatient and outpatient responsibilities.
 - Ambulatory block rotations should have structured curricula and rigorous assessment that assures residents' acquisition of competency in the longitudinal care of ambulatory patients.
 - Experience in different types of ambulatory settings should be encouraged.
 - New models for care delivery involving residents in the ambulatory setting should be encouraged, including better use of team-based systems for care.
5. Training programs should adopt new models for using faculty in fostering the education and professional development of trainees.
 - A "core faculty" could be developed at each institution, consisting of clinician-educators who have substantial responsibility for the clinical education of residents.
 - Adequate support should be provided for the core faculty and for the broad group of faculty who serve as teaching attendings, clinic attendings, and supervisors.
 - A series of educational competencies, analogous to the ACGME/ABMS competencies for trainees, should be developed for the faculty.
6. Institutional and programmatic resources must be aligned with the goals and objectives of educational redesign to ensure the successful implementation of redesign efforts.
 - The Alliance for Academic Internal Medicine (AAIM) and its partners should document the flow of funds in teaching institutions to identify best practices for financing medical education, and it should disseminate this information to other teaching institutions.
 - The AAIM and its partners should commission an economic cost-benefit analysis of residency education comparing the current system for residency education to potential alternative models.
 - The AAIM and its partners should quantify the dysfunctional care delivery systems in teaching institutions, and they should explain how these broken systems negatively affect students, residents, fellows, and patients.

*This list provides the major recommendations of the AAIM Education Redesign Task Force. These recommendations were approved by all of the alliance organizations in April and May 2007. The authors encourage readers to consider the total effect of the recommendations rather than the effect of individual recommendations.

residency education should ensure that residents achieve the proficient stage on completion of training. It further agreed that the core set of competencies could guide the design of continuing medical education and evaluation of physicians for MOC to ensure that internists remain at least at the proficient stage and,

hopefully, advance to the expert stage during their careers.

The evaluation of performance should evolve to a process that is more sophisticated and intensive than has been used in the past. Learners should keep and continuously expand and refine

portfolios of performance that contain formative and summative evaluations, qualitative and quantitative evaluations, and reflections on action. All six internal medicine competencies must be evaluated using valid tools or instruments, which often assess more than one competency at a time. In this model, faculty become

List 3

Broad Categories of Internal Medicine Core Content within the Medical Knowledge Core Competency*

- Evaluation of the patient with an undiagnosed and undifferentiated presentation, leading to development of a preliminary differential diagnosis for any symptom or set of symptoms.
- Treatment of medical conditions commonly managed by internists, particularly chronic medical conditions, including the use of standards and clinical guidelines when they exist.
- Basic preventive care.
- Interpretation of basic clinical tests and images.
- Recognition and initial management of emergency medical problems.
- Use of common pharmacotherapy.
- Knowledge and skills related to relevant nonclinical topics.
- Appropriate use and performance of diagnostic and therapeutic procedures.

*The Alliance for Academic Internal Medicine task force identified and defined eight areas of medical knowledge applicable to all internists. This core knowledge should be developed during residency and maintained throughout a lifetime of practice by all internists, including general internists and internal medicine specialists.

coaches, providing continuous formative feedback and scheduled intermittent summative feedback that can guide the resident and, if necessary, lead to positive remediation. The approach poses substantial challenges to implementation, including the need for increased financial and infrastructural resources, for development and dissemination of education and evaluation tools, and for effective faculty development to ensure that faculty are proficient in using competency-based evaluations and in providing constructive feedback.

The AAIM task force recognized a tension between time-based and competency-based requirements for completion of residency. For instance, a true competency-based education would allow residents to graduate after they had become competent in all domains. This might be two years for some and three to four years for others. In contrast, a time-based program, as is currently in place, requires trainees to remain in the training program for three years, even if they achieve proficiency at an earlier time. The task force felt that, although some residents might achieve some competencies earlier than others, maintaining the residency program at a minimum of three years is appropriate. The rationale was that (1) residents might not mature in all competencies at the same rate, needing improvement in one or another competency, (2) three years allows a greater breadth of training experience, (3) most residents take more than two years to achieve proficiency, and (4) those residents who are considered proficient earlier could consolidate their skills and move toward

a higher level of achievement. Use of competency standards could enhance training by focusing on individual learners' needs, identifying residents in need of remediation or skills training earlier, and allowing programs to identify those few learners who need additional training before graduation. The timing of transitions during the course of established training experiences will also be a challenge. It should be recognized that these transitions take many forms, including increased responsibility within a rotation, different responsibilities for similar rotations (i.e., expecting more of residents on their fourth general internal medicine ward rotation versus their first rotation), and the traditional increase in expectations from year to year of the residency.

The task force also recognizes that there is a critical element of evaluation that goes beyond assessment of a trainee's ability to demonstrate competence in the six specific domains defined by the ACGME and ABMS. This additional element is the trainee's actual performance in clinical situations, which is best assessed by experienced clinical faculty observing residents in the actual evaluation and care of patients.^{11,12} The importance of appropriate faculty involvement in this component of residents' evaluation is also addressed Consensus Statement 5, which discusses faculty models.

Consensus Statement 3

Graduate medical education programs should adopt and implement trainee-centered educational approaches. Although the task force believes there is a core of knowledge, skills, and attitudes that

defines competence in internal medicine and is common to all internists, the task force also recognizes that different types of practice require specialized or customized knowledge and skills. These eventual career options are often grouped according to the focus of internal medicine practice, such as hospital medicine, ambulatory practice, comprehensive general internal medicine with both ambulatory and hospital-based components, or subspecialty medicine. In addition, however, career options also offer varied opportunities in terms of clinical patient care, teaching, research, administration, and a focus in health care delivery or public health. While achieving proficiency in the core of internal medicine, trainees could benefit from exploring career options in internal medicine and focusing a portion of their training on those specific experiences and aspects of internal medicine that will best meet their needs vis-à-vis their ultimate career goals.

One means to achieve this focus is through offering *resident-centered pathways* (RCPs) during the course of internal medicine residencies. RCPs would help address the training-practice gap by providing tailored educational experiences to residents who have achieved proficiency in the core. The task force envisions that RCPs will consist of a series of educational experiences aimed at preparing residents for their careers. The task force recognizes that some residencies have historically constructed such experiences, and most residencies currently include months of elective experiences to enable their residents to do so. However, the task force believes it is now an appropriate time to encourage discussions of well-designed, career-oriented training across the spectrum of internal medicine residencies.

For those residents who are not pursuing further fellowship training, the RCP should allow focus on well-designed educational opportunities and experiences that are particularly relevant to their career and scope of practice after residency. For residents who will be obtaining subsequent subspecialty fellowship training, the RCP should not be considered early entry into the subspecialty, nor should it duplicate rotations the resident will experience during fellowship. Rather, the customized experiences during the RCP should be

designed to complement both the core component of internal medicine residency and the trainee's later fellowship, and it should give the resident additional, focused experience that will eventually enhance performance in the chosen subspecialty. For example, subspecialists who ultimately provide care to their patients outside of the subspecialty (i.e., provide principal care) might benefit from a traditional balance of inpatient and outpatient care across the spectrum of internal medicine. In another example, a resident who contemplates an eventual career as an interventional cardiologist might use an RCP to extend proficiency in such areas as coagulation/anticoagulation, diabetes and lipid disorders, nutrition, and other aspects of patient care relevant to future career goals. The above being stated, the task force adamantly believes RCPs should not become *de facto* criteria for acceptance to subsequent subspecialty training or future employment.

For RCPs to be successful, they must be well organized and have a thoughtfully planned structure and well-defined goals. Each RCP should identify educational goals, specific types of experiences, and a curriculum. This can ideally be done for a limited number of RCPs that are categorized according to type of practice (e.g., ambulatory, hospital based, subspecialty) or type of activity (e.g., clinical practice, teaching, research, health care delivery, or population-based care). Additionally, even though there may be a discrete, concentrated time during training for RCPs, such pathways should ideally be designed to also include a longitudinal component that extends during other periods of training. This broader approach to planning ensures that the individualized career pathway will not just represent a cobbling together of selective rotations. Although RCPs for future subspecialists should ideally be developed as a joint venture between the training program faculty leadership and representatives from the relevant subspecialty disciplines, the program director must ultimately retain oversight of RCPs and integrate them effectively with the overall training program.

Consensus Statement 4

Ambulatory training for internal medicine residents should be improved. Substantial

improvement is warranted to provide an experience that better develops trainees' competence in the comprehensive and coordinated care of ambulatory patients, particularly those with chronic illnesses. Although such training is not specifically intended to create an ambulatory general internist, it must ensure that all internists are able to apply the principles and practices of internal medicine in an ambulatory environment.

At present, there is consensus that the quality of ambulatory care training, which is frequently carried out in poorly functioning clinic settings, is often suboptimal. Despite the fact that most health care in the United States is provided in the outpatient setting, ambulatory training remains a lesser component of residency training than inpatient care, both in time and perceived importance. In addition, the typical weekly longitudinal outpatient clinic held during inpatient rotations presents a difficult conflict for residents, who must simultaneously balance inpatient and outpatient responsibilities.

The task force recommends that ambulatory experiences be redesigned so that residents can provide patient-centered, longitudinal care using a model that eliminates (or at least substantially reduces) the current conflict between inpatient and outpatient responsibilities. Potential models include (1) frequent interspersing of ambulatory blocks between inpatient blocks, or (2) a prolonged, continuous period of ambulatory training. The training setting should contain the staffing and information technology necessary for the resident to learn how to function as a competent physician in a patient-centered medical home, as described by the American Academy of Family Physicians–American Academy of Pediatrics–ACP–American Osteopathic Association consensus recommendation.¹³ Residents will need experience working in ambulatory care teams for management of patients needing primary care as well as long-term coordination of complex medical care. The curriculum and setting must provide training in population-based medical care that uses registries to track performance and to improve the quality of care, not only for individual patients but also for the entire panel receiving care from the practice. Such an environment provides

the resources for practice-based learning and improvement.

Using ambulatory block rotations as the central component of ambulatory training provides an excellent opportunity for delivery of structured curricula and for rigorous assessment that ensures residents' acquisition of competency in the longitudinal care of ambulatory patients. These rotations should be designed so that residents not only are providing longitudinal care to general medical patients but also are working in well-structured and educationally effective ambulatory subspecialty practices. Such subspecialty experiences would expose residents to a broad variety of subspecialty disease problems as they are followed in the outpatient setting, and they also should provide a chance for residents to better understand subspecialty career options. Residents should have an opportunity to experience different types of ambulatory settings, including teaching hospital clinics, community health centers, and private practices. New models for care delivery involving residents in the ambulatory setting should be encouraged, including better use of team-based systems of care.

Consensus Statement 5

Training programs should adopt new models for utilizing faculty in fostering the education and professional development of trainees. For example, a core faculty could be developed at each institution, consisting of clinician–educators who have substantial responsibility not only for the clinical education of residents, but also for broader aspects of their professional development. Educational activities and responsibilities should be formally recognized as a primary academic contribution and as an important demonstration of scholarship by the core faculty. In addition, a series of educational competencies, analogous to the ACGME/ABMS competencies for trainees, should be developed for the core faculty.

However, despite the importance of a core faculty that has substantial responsibility for supervision, evaluation, and mentoring of trainees, core faculty should not be the only educators who teach and interact with trainees. Residents should be exposed to a wide variety of faculty with varied clinical,

academic, and research interests, so that their role models are not just a small group of clinician–educator core faculty. Use of a core faculty should not be viewed as diminishing the teaching responsibility of other, noncore faculty but, rather, as expanding the responsibilities of a select group of talented clinician–educators who are particularly interested in and committed to the training and professional development of residents.

Although financial support should ideally be provided to all faculty for their teaching responsibilities, such support is particularly critical for the core faculty, because their extensive time with teaching and supervision of trainees clearly limits their ability to generate revenue through clinical practice or research.

Consensus Statement 6

Institutional and programmatic resources must be aligned with the goals and objectives of educational redesign to ensure the successful implementation of redesign efforts. Such an alignment will necessitate new financial arrangements. The task force and RRC-IM's EIP emphasize that highest-quality medical education must be linked to highest-quality clinical care. In reality, the clinical mission of most teaching hospitals has exceeded the capacity of resident physicians alone to provide safe, appropriate care for all patients. This imbalance stems from a relatively stable number of residents, despite the progressively increasing size and complexity of the patient population and the increased innovation and subspecialization in such areas as bone marrow transplantation and cardiac electrophysiology. Additionally, resident duty hours regulations have shifted work away from residents and onto other health care providers. Finally, teaching hospitals often provide a significant proportion of indigent care in this country, and the absolute number of indigent patients has increased.

In many cases, teaching hospitals have hired additional physicians and physician extenders to create nonteaching services to accommodate the increased numbers of patients and the increased responsibilities in patient care that exceed what residents can provide. However,

residency programs and hospitals will face additional resource challenges as they evolve to simultaneously meet the educational needs of the residents and adhere to the limitations posed by duty hours regulations and patient census restrictions.

Examples Illustrating Synthesis of the Recommendations

Each of the six recommendations noted above carries multiple implications for internal medicine residency education. When combined, the effects of these implications are amplified. This amplification is best illustrated in the following examples.

Example 1: combining recommendations 1, 2, 3, and 4. Resident Jones begins her internal medicine residency by joining a six-member resident team responsible for the longitudinal care, both inpatient and outpatient, of a panel of patients. The third-year residents on this team have cared for these patients throughout the course of their residency. Through a series of inpatient and ambulatory block rotations in her first year of residency, Dr. Jones builds relationships with these patients herself, learning from them and honing her interpersonal and communication skills. She also avails herself of the opportunity to rotate through a variety of outpatient subspecialty clinics, and she develops an interest in cardiology. With mentorship from her faculty counselor, and because of her solid advancement in attaining proficiency in the core of internal medicine, Dr. Jones plans her second year of residency in which, for a majority of the time, she will combine ongoing traditional inpatient and outpatient rotations with a sampling of well-coordinated electives pertinent to her career interest. Throughout this period, she and her faculty counselor compile a record of her evaluations, which includes her self-assessments, Internal Medicine In-Training Examination results, plans for a quality-improvement project, patient evaluations from her clinic, and summative assessments from her faculty counselor. Reviewing this material during the course of Dr. Jones' second year, she and her counselor determine that her exposure to excellent care of elderly patients has not been ideal, and, as such, they arrange a third-year rotation with the geriatric medicine division.

Example 2: combining recommendations 1, 2, and 5. Attending Physician Humphrey has benefited greatly from the faculty development sessions organized by the core faculty in her residency program. The latest sessions have focused on

reviewing the core of internal medicine and the benchmarks of resident performance in attaining proficiency in the core her residency program has defined. Using an evaluation tool being studied by her residency program as part of a collaborative medical education research project, Dr. Humphrey directly observes Second-Year Resident Costa run a meeting for the family of an elderly patient with severe dementia and other comorbidities. Although Dr. Humphrey notes that Dr. Costa's handling of the situation with the family was adequate, Dr. Humphrey later uses her observations and the program's standard for proficiency in interpersonal and communication skills to remediate concerns she has about the clarity of Dr. Costa's description of the patient's prognosis and options other than institutionalization that might best meet the family's needs.

Implications of Redesigning the Training Paradigm

Changing GME to more closely meet the educational needs of residents will create resource challenges. Perhaps most important among these is the requirement to cover service needs that have traditionally been provided by residents. This may be done by use of hospitalists, nurse practitioners, physician's assistants, and other qualified health care professionals; the cost and availability of these providers, may, however, raise other coverage issues. In some instances, innovative adjustments in service schedules may solve this challenge. Addressing the health care service needs exposed through the educational redesign process can also provide institutional and program leaders the opportunity to consider redesigning service delivery for improved quality and access.

There will be increased need for advising residents. As residents pursue more "customized" training experiences, planning will be required to make sure there are sufficient patients of various types to fill the training demands of the residents. This may vary from year to year as residents' career pathways vary. Moreover, as there will inevitably be disproportionate interest in some pathways because of national trends and local program strengths, thoughtful approaches to areas of over- or undersubscription will be required. One additional aspect of allowing for RCPs may be to push some career decisions to an earlier point in time. Assisting

residents in making thoughtful decisions at an appropriate stage in training will put additional responsibilities on mentors, program directors, and others, and they must be prepared to fill this expanded role. The AAIM will work with the educational community to continue to improve the fellowship selection process to account for these changes.

Implementing Educational Redesign

The history of efforts to redesign education in internal medicine illustrates the necessity of systematic change of local and national regulatory policies and cultural attitudes to create fertile ground and impetus for change. At the same time, systematic change must necessarily be complemented by local change at forward-thinking residency programs and institutions.

Prior efforts to emphasize ambulatory training in internal medicine exemplify how systematic and local changes complement each other. The rise of primary care internal medicine residencies that included an increased emphasis on ambulatory medicine ultimately contributed to moves by the RRC-IM to mandate ambulatory education for all residents, initially at 25% and now 33% of overall residency time. During the past two years, sparked to some extent by the task force's efforts, a number of residencies have discussed the creation of career-oriented experiences for residents interested in pursuing global health and care of uninsured patients. While internal medicine stakeholder organizations pursue regulatory changes at a national level to facilitate these types of career development options, the early experience of individual programs will ultimately help all residencies understand how best to create RCPs.

National organizations like the AAIM encourage these local innovations by contributing to the professional development of internal medicine educators. The task force envisions that the AAIM and its partners will strengthen their efforts to develop faculty skills in teaching, curricular development, clinical quality improvement, and evaluation of the competencies expected of physicians-in-training. To further its recommendation on the alignment of

resources, the task force will also work with AAIM leadership to commission studies of the costs and benefits of training programs as well as case studies of successful efforts that combine innovative educational and clinical improvement while redesigning training. These efforts will be furthered by the development of several pilot projects to test mechanisms for overcoming barriers to educational change.

Undertaking many of these changes will challenge the internal medicine educational community to become more active advocates with Congress and federal agencies for modifications in Medicare's GME payment policy. However, other changes, particularly those related to accreditation, may be more readily accomplished, as the timing of the task force's recommendations in spring 2007 coincides with the commencement of the process for revising the ACGME accreditation requirements for internal medicine residencies and fellowships.

The AAIM Education Redesign Task Force recognizes that issuing recommendations only represents the end of the first step in educational redesign, not the conclusion of the entire process. Full-scale implementation of these recommendations by every residency is the goal for the redesign process, but such a goal can never be achieved without concerted national efforts to align resources, regulations, and career development efforts with the goals of redesign. The overall context of health care will, of course, ultimately play a significant role in the process, particularly as local or state health care reforms continue to develop, and if future national political leaders are able to move national health care reform forward. Meanwhile, the AAIM will continue its efforts at addressing the resource, regulatory, and career development hurdles to educational reform.

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Disclaimer

The authors take complete responsibility for the views presented in this article.

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Did You Know?

In the 1960s, the University of Pennsylvania School of Medicine developed cognitive therapy, in which empirical hypothesis testing is used to correct psychological disorders.

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